

CONSULTANCY REPORT

PROTECTION AUDIT OF 3 x 250 MW BONGAIGAON THERMAL POWER PLANT

Client's Reference: PO No.:4000337600-046-1035, Dated 18-07-2024

CPRI Report No : 2/9/PSD/RT112/2025

CLIENT:

**M/s. NTPC Limited,
3 x 250 MW Bongaigaon Thermal Power Plant,
PO Salakati, Dist. Kokrajhar, Salakati,
Assam – 783 369.**

CONSULTANT:



**POWER SYSTEMS DIVISION
CENTRAL POWER RESEARCH INSTITUTE
P.B. NO. 8066, SADASHIVANAGAR P.O
BANGALORE – 560 080
website: <http://www.cpri.res.in>**



January 2025



POWER SYSTEMS DIVISION
CENTRAL POWER RESEARCH INSTITUTE
Sir. C.V. RAMAN ROAD P.B.No.8066, BANGALORE 560080
Website: <https://cpri.res.in>

Ref. File No.: 2/9/PSD/NTPC-BgTPP/2024-25

Dated. 31-01-2025

Title	Third Party Protection audit at 3 x 250 MW NTPC - Bongaigaon Thermal Power Plant
Project Objectives	Review of Protection Scheme, Relay Settings of various element & associated systems of 3 x 250 MW NTPC - Bongaigaon Thermal Power Plant
Name and Address of the Customer	M/s. NTPC Limited, 3 x 250 MW Bongaigaon Thermal Power Plant, PO Salakati, Dist. Kokrajhar, Salakati, Assam – 783 369.
Client's Reference and Date	PO No.:4000337600-046-1035, Dated 18-07-2024.
CPRI report No:	2/9/PSD/RT112/2025
Name(s) of investigator(s) from CPRI	1. Mr. K. Marimuthu, Engineering Officer 2. Mr. Pola Somasekar reddy, Engineering Officer
Name of NTPC – BgTPP officers, associated in providing support to CPRI	1. Mr. M.Sanjeev, Additional General Manager 2. Mr. Gnyanankur Sonowal, Sr. Manager 3. Mr. Prashant K Sammeta, Sr. Manager 4. Mr. B. Dhanashekar, Dy.Manager
Report contains	Number of pages : 364
Report prepared by: Mr. K. Marimuthu Engineering Officer Power Systems Division, CPRI Signature: 	Report Approved by: Dr. J. Sreedevi Additional Director & HoD Power Systems Division, CPRI Signature: 

ACKNOWLEDGEMENT

CPRI wishes to thank NTPC, Bongaigaon Thermal Power Plant for awarding the contract of Third Party Protection audit of 3 x 250 MW Bongaigaon Thermal Power Plant vide PO No. 4000337600-046-1035, Dated 18-07-2024 to CPRI. CPRI wishes to thank all the Officers/Engineers of NTPC – BgTPP who were associated in this work for their co-operation in providing the required data and for their interaction during the visit to the Thermal power plant. CPRI Team specially thank the following personnel for their excellent co-operation without which this work would not have been possible,

1. Mr. M.Sanjeev, Additional General Manager
2. Mr. Gnyanankur Sonowal, Sr. Manager
3. Mr. Prashant K Sammeta, Sr. Manager
4. Mr. B. Dhanashekar, Dy.Manager

CHAPTER-1

PROTECTION AUDIT REPORT OF NTPC, BONGAIGAON 400/220kV SWITCHYARD

Minutes of Meeting

MoM Between	Date
CPRI, Bangalore & NTPC, Bongaigaon Thermal Power Plant	27.09.2024

1. Participants:

Organization	Name
CPRI, Bangalore	Shri K. Marimuthu, Engineering Officer
	Shri Pola Somasekar reddy, Engineering Officer
NTPC, Bongaigaon Thermal Power Plant	Shri M.Sajeev, Addl. General Manager
	Shri Gnyanankur Sonowal, Sr. Manager
	Shri Prashant K Sammeta, Sr. Manager
	Shri B. Dhanasekhar, Dy. Manager

2. Meeting Details:

Subject:	Visit for Protection Audit of NTPC, Bongaigaon Thermal Power Plant from 24.09.2024 to 27.09.2024
Reference:	PO # 4000337600, dt: 18/07/2024

3. Notes of Meeting:

- CPRI officers were briefed about the 3 x 250 MW Thermal Power Plant.
- During the protection audit work, the existing settings of Numerical protection IEDs of lines, ICTs, Bus bar protection, Generators, Transformers and 33/11/6.6 kV panels IEDs were downloaded for setting review.
- CPRI officers went around 400/220kV Switchyard to check the maintenance of the substation and measured the DC voltage as below-

Location	DC Source	Positive to Negative	Positive to Earth	Negative to Earth
400kV Switchyard	DC Bank 1 (220V)	236.60	+122.31	-114.20
	DC Bank 2 (220V)	244.23	+121.24	-112.93
	DC Bank 1 (48V)	51.30	0.04	-51.26
	DC Bank 2 (48V)	50.40	0.08	-50.37
GRP 1 (Unit 1)	DC Bank 1 (220V)	235.40	+119.82	-115.53
	DC Bank 2 (220V)	235.67	+120.06	-115.49
GRP 2 (Unit 2)	DC Bank 1 (220V)	234.23	+119.44	-114.59
	DC Bank 2 (220V)	234.20	+119.01	-114.70
GRP 3 (Unit 3)	DC Bank 1 (220V)	236.00	+115.60	-120.20
	DC Bank 2 (220V)	234.34	+113.94	-120.33

- The auxiliary protection facilities like DC supply, AC Supply, DG sets were inspected and measurements taken.
 - The functioning of DRs, PLCC and SCADA were checked.
 - The available test reports of CTs, CVTs, CBs, LAs and Numerical protection IEDs are reviewed.
 - In Unit-1 Battery charger room, exhaust fan is under breakdown. It is suggested to rectify the same.
 - In Unit-3 Battery charger room, exhaust fans are to be provided at the earliest.
 - In 400/220 kV ICT-1&2 Breathers silica gel condition to be rectified.
 - The soak pits in GT yard, Misc. Service transformer & cable pits in ST yard are to be covered to avoid water / gravel accumulation at the earliest.
 - In 400kV/220kV ICT-2, 400kV OIP Bushing replacement is already planned in view of deviations in FDS values. It is to be replaced at the earliest.
- The data for protection audit of NTPC-BgTPP is collected and enclosed.

- Switchyard of 400/220kV BgTPP is being maintained properly and is neat and clean.
- The reports will be submitted based on the data collected from NTPC.

The CPRI audit officers thank the personnel of NTPC - Bongaigaon Thermal Power Plant especially Mr. Sajeew M, Mr. Gnyanankur Sonowal, Mr. Prashant K Sammeta and Mr. B.Dhanasekhar for arranging the protection audit.

CPRI, Bangalore

K. int
27/09/2024.

P.S.S.Reddy
27/09/24

NTPC-BgTPP

hnm
27/09/24

~~Prashant~~
27/9/24
Prashant Sammeta.

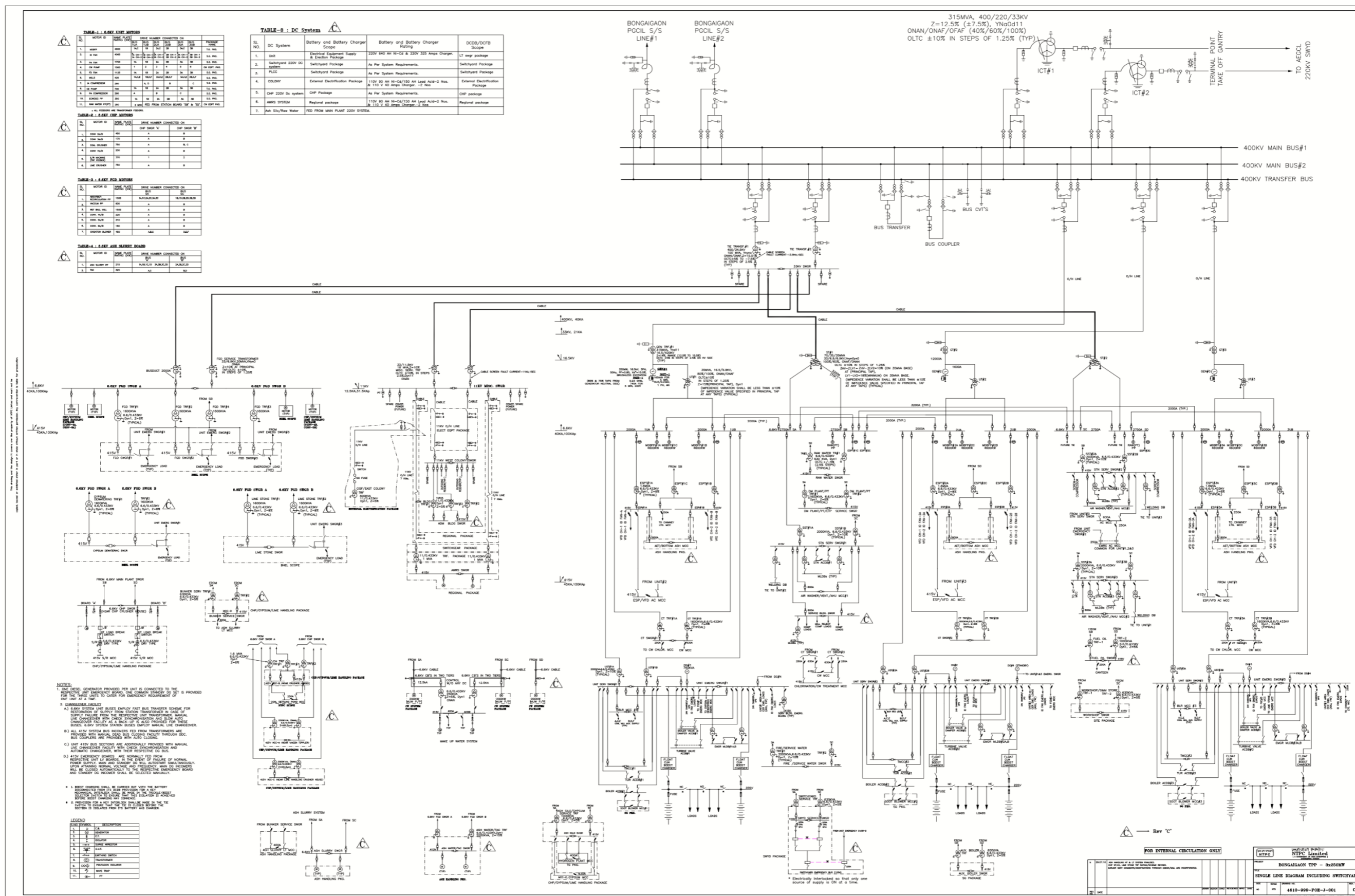
A. J.
27/09/24
B.Dhanasekhar

Sujeet
27/9/24
Sajeew.M (AGM-EMD)

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1.0: LINE DIAGRAM OF 400/220 kV SWITCHYARD, NTPC-BgTPP



1.1: PROTECTION SYSTEM OVERALL REVIEW

400/220kV SWITCHYARD – NTPC BgTPP		
DATE OF AUDIT BY CPRI TEAM : 24/09/2024 – 27/09/2024		
Sl. No	Title	Details
1	Name of Grid Substation	NTPC, BONGAIGAON
2	Highest Voltage Level	400/220 kV
3	Year of Installation	01-04-2016 (U1), 01.11.2017 (U2) & 26.03.2019 (U3)
4	No of Feeders	2*400 kV Feeders
5	No of Transformers, Make and Capacity	2*315 MVA, 420/245/33 kV, AREVA
6	Busbar Arrangement	Double Main with Transfer Bus (DMT)
7	Present Busbar Switching Status	Commissioned
8	Busbar Protection	Commissioned
9	Relay System Status	In Service
10	DC Supply System	400kV Switchyard: [1] 220 V DC System [2] 220 V DC System [3] 48 V DC System [4] 48 V DC System
11	DC Supply Capacity And Adequacy	Battery is adequate for the station load.
12	DC System Earth Fault Status	Healthy condition.
13	GPS Receiver Make & Model	Make: hopf, Model 6842
14	GPS Clock Receiver & Synchronization of Relay Status	Relays are synchronised
15	Common Event Logger Status	In-built feature in numerical relay is used
16	Line Disturbance Recorder	In-built feature in numerical relay is used
17	Fault Locator in Line	Provided
18	Breaker Failure Relay Status	Inbuilt in P743, P741
19	Circuit Breaker test reports	Available
20	Relay test reports	Available
21	General Observation of Relay and Protection System	1.1. It is recommended that all the Numerical Protection IEDs shall be tested once in 3 or 4 years as per the best practices. 1.2. It is recommended that the periodic testing of circuit breakers shall be conducted at periodic intervals.

Protection audit teams at site:

NTPC - BgTPP Team Members:

- | | | |
|---|------------------------|----------------------------|
| 1 | Mr. M.Sanjeev | Additional General Manager |
| 2 | Mr. Gnyanankur Sonowal | Sr. Manager |
| 3 | Mr. Prashant K Sammeta | Sr. Manager |
| 4 | Mr. B. Dhanashekar | Dy.Manager |

CPRI Team Members:

- | | | |
|---|---------------------------|---------------------|
| 1 | Mr. K.Marimuthu | Engineering officer |
| 2 | Mr. Pola Somasekara Reddy | Engineering officer |

1.2: Relays Used for Transmission Line, Transformer and Bus Bar Protection in Substation

1.2.1: Relays used for Transmission Line Protection

Sl. No.	Name of the Feeder	Main-I	Main-II	LBB Protection
1	Bongaigaon -1	Micom P442	Micom P542	Micom P743
2	Bongaigaon -2	Micom P442	Micom P542	Micom P743

1.2.2: Relays used for Transformer Protection:

Sl. No.	Transformer	Primary Protection		Back Up protection		
		Differential Protection	Restricted Earth Fault	Over fluxing protection	HV back up over current and Earth	LV back up Over Current and Earth
1	ICT 1	P632	P141	P632	P141	P141
2	ICT 2	P632	P141	P632	P141	P141
3	TIE 1	P632	P141	P632	P141	P141
4	TIE 2	P632	P141	P632	P141	P141
5	ST 1	T60	T60	T60	T60	T60
6	ST 2	T60	T60	T60	T60	T60

7	GT 1	P633	P143	P633	P632	P632
8	GT 2	P633	P143	P633	P632	P632
9	GT 2	P633	P143	P633	P632	P632
10	GT 3	P633	P143	P633	P632	P632
11	UT 1	P633	P143	NA	P143 & P632 (51NUT)	P143 & P632 (51NUT)
12	UT 2	P633	P143	NA	P143 & P632 (51NUT)	P143 & P632 (51NUT)
13	UT 3	P633	P143	NA	P143 & P632 (51NUT)	P143 & P632 (51NUT)

1.2.3: Relays used for BUS BAR Protection:

Sl. No.	Voltage level	Make	Model
1.	400kV	MICOM CU 741 & PU 743	P741 & P743
2.	220kV (LBB)	400kV side PU 743 of ICT	P743

2.1.Input Data for Transmission Lines - 420kV Bongaigaon ckt # 1

Sl. No.	Description	Units	Value
	Station Name	NTPC, Bongaigaon Thermal Power Plant	
1	Line Reference	Bongaigaon ckt # 1	
1.1	Line voltage level	kV	400
1.2	Name of remote substation		Powergrid Bongaigaon 400KV
2	Main 1 Protection		
2.1	Protection Type		Numerical
2.2	Model & Make		Micom P442
3	Main 2 Protection		
3.1	Protection Type		Numerical
3.2	Model & Make		Micom P542
4	Back-up Protection (Main 1)		Enabled
4.1	Protection Type		Numerical
4.2	Model & Make		Micom P442
5	CT data for Main 1		
5.1	Ratio	A/A	2000/1
5.2	Class		PS
5.3	Vk / VA burden	Vk/VA	1000/15
5.4	Rct	Ohms	10
5.5	Imag @ Vk	mA	30
6	CT data for Main 2		
6.1	Ratio		2000/1
6.2	Class		PS
6.3	Vk / VA burden		1000/15
6.4	Rct		10
6.5	Imag @ Vk		30
7	PT Ratio	kV/V	400/110
8	PROTECTED LINE DATA		
8.1	Line Length	Km	3.280
8.2	Positive seq. RESISTANCE	Ohms/Km	0.0288
8.3	Positive seq. REACTANCE	Ohms/Km	0.3077
8.4	Zero seq. RESISTANCE	Ohms/Km	0.2675
8.5	Zero seq. REACTANCE	Ohms/Km	1.0738
9	ADJACENT SHORTEST LINE DATA (from remote bus)		
9.1	Name of the substation to which the shortest adjacent line is connected		BTPS-1
9.2	Line Length of shortest adjacent line	Km	3.280
9.3	Positive seq. RESISTANCE of shortest adjacent line	Ohms/Km	0.0288
9.4	Positive seq. REACTANCE of shortest adjacent line	Ohms/Km	0.3077

9.5	Zero seq. RESISTANCE of shortest adjacent line	Ohms/Km	0.2675
9.6	Zero seq. REACTANCE of shortest adjacent line	Ohms/Km	1.0738
10	ADJACENT LONGEST LINE DATA (from remote bus)		
10.1	Name of the substation to which the longest adjacent line is connected		Balipara 3
10.2	Line Length of longest adjacent line	Km	306
10.3	Positive seq. RESISTANCE of longest adjacent line	Ohms/Km	0.01468
10.4	Positive seq. REACTANCE of longest adjacent line	Ohms/Km	0.25312
10.5	Zero seq. RESISTANCE of longest adjacent line	Ohms/Km	0.24912
10.6	Zero seq. REACTANCE of longest adjacent line	Ohms/Km	0.99936
11	Is there a transformer connected to the remote bus	Yes/No	YES
11.1	Number of Transformers		1
11.2	Voltage ratio of the Transformer	kV	-
11.3	MVA of the transformers 1	MVA	1*315 MVA
11.4	% Impedance of the transformers	%	12.5

2.2 Input Data for Transmission Lines – 420kV Bongaigaon ckt # 2

Sl. No.	Description	Units	Value
	Station Name	NTPC, Bongaigaon Thermal Power Plant	
1	Line Reference	Bongaigaon ckt # 2	
1.1	Line voltage level	kV	400
1.2	Name of remote substation		Powergrid Bongaigaon 400KV
2	Main 1 Protection		
2.1	Protection Type		Numerical
2.2	Model & Make		Micom P442
3	Main 2 Protection		
3.1	Protection Type		Numerical
3.2	Model & Make		Micom P542
4	Back-up Protection (Main-1)		Enabled
4.1	Protection Type		Numerical
4.2	Model & Make		Micom P442
5	CT data for Main 1		
5.1	Ratio	A/A	2000/1
5.2	Class		PS
5.3	Vk / VA burden	Vk/VA	1000/15
5.4	Rct	Ohms	10
5.5	Imag @ Vk	mA	30
6	CT data for Main 2		
6.1	Ratio		2000/1
6.2	Class		PS
6.3	Vk / VA burden		1000/15
6.4	Rct		10
6.5	Imag @ Vk		30
7	PT Ratio	kV/V	400/110
8	PROTECTED LINE DATA		
8.1	Line Length	Km	3.280
8.2	Positive seq. RESISTANCE	Ohms/Km	0.0288
8.3	Positive seq. REACTANCE	Ohms/Km	0.3077
8.4	Zero seq. RESISTANCE	Ohms/Km	0.2675
8.5	Zero seq. REACTANCE	Ohms/Km	1.0738
9	ADJACENT SHORTEST LINE DATA (from remote bus)		
9.1	Name of the substation to which the shortest adjacent line is connected		BTPS-2
9.2	Line Length of shortest adjacent line	Km	3.280
9.3	Positive seq. RESISTANCE of shortest adjacent line	Ohms/Km	0.0288
9.4	Positive seq. REACTANCE of shortest adjacent line	Ohms/Km	0.3077

9.5	Zero seq. RESISTANCE of shortest adjacent line	Ohms/Km	0.2675
9.6	Zero seq. REACTANCE of shortest adjacent line	Ohms/Km	1.0738
10	ADJACENT LONGEST LINE DATA (from remote bus)		
10.1	Name of the substation to which the longest adjacent line is connected		Balipara 4
10.2	Line Length of longest adjacent line	Km	306
10.3	Positive seq. RESISTANCE of longest adjacent line	Ohms/Km	0.01468
10.4	Positive seq. REACTANCE of longest adjacent line	Ohms/Km	0.25312
10.5	Zero seq. RESISTANCE of longest adjacent line	Ohms/Km	0.24912
10.6	Zero seq. REACTANCE of longest adjacent line	Ohms/Km	0.99936
11	Is there a transformer connected to the remote bus	Yes/No	YES
11.1	Number of Transformers		1
11.2	Voltage ratio of the Transformer	kV	-
11.3	MVA of the transformers 1	MVA	1*315 MVA
11.4	% Impedance of the transformers	%	12.5

3. Transmission line protective relay settings review

Description	Existing Setting	Reviewed Setting
Line Name	Bongaigaon ckt # 1	
MainI/II	Main-I	
Relay	Micom P442	
ZONE1	Forward	Forward
ZONE 1 Settings (0.8*protected line)	0.467	0.446
R1G (Resistive reach for ph-earth fault)	33.87	4.460
R1Ph (Resistive reach for ph-ph fault)	25.4	4.460
kZ1 residual compensation factor	0.918	0.866
KZ1 residual compensation angle	-3.1	-11.966
tZ1 (time-delay for Zone 1) (s)	0	0
ZONE 2	Forward	Forward
ZONE 2 Settings (1.5*protected line)	18.05	0.836
R2G (Resistive reach for ph-earth fault)	33.87	8.362
R2Ph (Resistive reach for ph-ph fault)	25.4	8.362
kZ2 residual compensation factor	0.918	0.866
KZ2 residual compensation angle	-3.1	-11.97
tZ2 (time-delay for Zone 2) (s)	0.4	0.35
ZONE 3	Forward	Forward
ZONE 3 Settings (1.2*Protected line + 1.2* Adjacent longest line)	28.52	51.875
R3G (Resistive reach for ph-earth fault)	33.87	14.742
R3Ph (Resistive reach for ph-ph fault)	25.4	11.056
kZ3 residual compensation factor	0.918	0.866
KZ3 residual compensation angle	-3.1	-11.966
tZ3 (time-delay for Zone 2) (s)	1	1
ZONE 4	Reverse	Reverse
ZONE 4 Settings	0.117	0.111
R4G (Resistive reach for ph-earth fault)	33.87	14.742
R4Ph (Resistive reach for ph-ph fault)	25.4	11.056
tZ4 (time-delay for Zone 2) (s)	1	0.500
Power Swing Settings		
ΔR	5.08	2.948
ΔX	5.08	2.948
Unblocking time-delay (s)	2	0-30
SOTF		
SOTF Delay (s)	110	110

Description	Existing Setting	Reviewed Setting
Line Name	Bongaigaon ckt # 1	
MainI/II	Main-II	
Relay	Micom P543	
ZONE1	Forward	Forward
Z1 Ph Reach (0.8*protected line)	0.47	0.435
Z1 Ph Angle	85	84.695
R1Ph (Resistive reach for ph-ph fault)	25.4	4.351
R1G(Resistive reach for ph-earth fault)	33.87	4.351
kZ1 residual compensation factor	0.92	0.866
KZ1 residual compensation angle	-3.0	-11.966
tZ1 (time-delay for Zone 1) (s)	0	0
ZONE2	Forward	Forward
Z2 Ph Reach (1.5*protected line)	18.05	0.816
Z2 Ph Angle	85	84.695
R2Ph (Resistive reach for ph-ph fault)	25.4	8.158
R2G(Resistive reach for ph-earth fault)	33.87	8.158
kZ2 residual compensation factor	0.92	0.866
KZ2 residual compensation angle	-3.0	-11.966
tZ2 (time-delay for Zone 1) (s)	0.4	0.35
ZONE 3	Forward	Forward
Z3 Ph Reach (1.2*Protected line + 1.2* Adjacent longest line)	28.52	51.859
Z3 Ph Angle	85	84.695
R3Ph (Resistive reach for ph-ph fault)	25.4	11.056
R3G(Resistive reach for ph-earth fault)	33.87	14.742
kZ3 residual compensation factor	0.92	0.866
KZ3 residual compensation angle	-3.0	-11.966
tZ3 (time-delay for Zone 1) (s)	1	1
ZONE 4	Reverse	Reverse
Z4 Ph Reach	0.12	0.054
Z4 Ph Angle	85	84.695
R4G (Resistive reach for ph-earth fault)	33.87	14.742
R4Ph (Resistive reach for ph-ph fault)	25.4	11.056
tZ4 (time-delay for Zone 2) (s)	1	0.500
Power Swing Settings		
PSB Status	Blocking	Blocking
Zone 1 Ph. PSB	Allow Trip	Allow Trip
Unblocking time-delay (s)	2	0.1 - 20
Reset Delay	200 ms	0.5 – 2.0s
SOTF		
SOTF Delay (s)	110	110

Description	Existing Setting	Reviewed Setting
Line Name	Bongaigaon ckt # 2	
MainI/II	Main-I	
Relay	Micom P442	
ZONE1	Forward	Forward
ZONE 1 Settings (0.8*protectedline)	0.467	0.446
R1G (Resistive reach for ph-earth fault)	33.87	4.460
R1Ph (Resistive reach for ph-ph fault)	25.4	4.460
kZ1 residual compensation factor	0.918	0.866
KZ1 residual compensation angle	-3.1	-11.966
tZ1 (time-delay for Zone 1) (s)	0	0
ZONE2	Forward	Forward
ZONE 2 Settings (1.5*protectedline)	18.05	0.836
R2G (Resistive reach for ph-earth fault)	33.87	8.362
R2Ph (Resistive reach for ph-ph fault)	25.4	8.362
kZ2 residual compensation factor	0.918	0.866
KZ2 residual compensation angle	-3.1	-11.966
tZ2 (time-delay for Zone 2) (s)	0.4	0.35
ZONE 3	Forward	Forward
ZONE 3 Settings (1.2*Protected line + 1.2* Adjacent longest line)	28.52	51.875
R3G (Resistive reach for ph-earth fault)	33.87	14.742
R3Ph (Resistive reach for ph-ph fault)	25.4	11.056
kZ3 residual compensation factor	0.918	0.866
KZ3 residual compensation angle	-3.1	-11.966
tZ3 (time-delay for Zone 2) (s)	1	1
ZONE 4	Reverse	Reverse
ZONE 4 Settings	0.117	0.111
R4G (Resistive reach for ph-earth fault)	33.87	14.742
R4Ph (Resistive reach for ph-ph fault)	25.4	11.056
tZ4 (time-delay for Zone 2) (s)	1	0.500
Power Swing Settings		
ΔR	5.08	2.948
ΔX	5.08	2.948
Unblocking time-delay (s)	2	0-30
SOTF		
SOTF Delay (s)	110	110

Description	Existing Setting	Reviewed Setting
Line Name	Bongaigaon ckt # 2	
MainI/II	Main-II	
Relay	Micom P543	
ZONE1	Forward	Forward
Z1 Ph Reach (0.8*protectedline)	0.47	0.435
Z1 Ph Angle	85	84.695
R1Ph (Resistive reach for ph-ph fault)	25.4	4.351
R1G(Resistive reach for ph-earth fault)	33.87	4.351
kZ1 residual compensation factor	0.92	0.866
KZ1 residual compensation angle	-3.0	-11.966
tZ1 (time-delay for Zone 1) (s)	0	0
ZONE2	Forward	Forward
Z2 Ph Reach (1.5*protectedline)	18.05	0.816
Z2 Ph Angle	85	84.695
R2Ph (Resistive reach for ph-ph fault)	25.4	8.158
R2G(Resistive reach for ph-earth fault)	33.87	8.158
kZ2 residual compensation factor	0.92	0.866
KZ2 residual compensation angle	-3.0	-11.966
tZ2 (time-delay for Zone 1) (s)	0.4	0.35
ZONE 3	Forward	Forward
Z3 Ph Reach (1.2*Protected line + 1.2* Adjacent longest line)	28.52	51.859
Z3 Ph Angle	85	84.695
R3Ph (Resistive reach for ph-ph fault)	25.4	11.056
R3G(Resistive reach for ph-earth fault)	33.87	14.742
kZ3 residual compensation factor	0.92	0.866
KZ3 residual compensation angle	-3.0	-11.966
tZ3 (time-delay for Zone 1) (s)	1	1
ZONE 4	Reverse	Reverse
Z4 Ph Reach	0.12	0.054
Z4 Ph Angle	85	84.695
R4G (Resistive reach for ph-earth fault)	33.87	14.742
R4Ph (Resistive reach for ph-ph fault)	25.4	11.056
tZ4 (time-delay for Zone 2) (s)	1	0.500
Power Swing Settings		
PSB Status	Blocking	Blocking
Zone 1 Ph. PSB	Allow Trip	Allow Trip
Unblocking time-delay (s)	2	0-20
Reset Delay	200 ms	0.5 – 2.0s
SOTF		
SOTF Delay (s)	110	110

4.0 Transformer Protection

4.1 Input Data for Transformer Protection : ICT

Sl. No.	Description	Units	Value
Substation Name : NTPC, BONGAIGAON			
	Transformer Name		ICT-1 & 2
1	Ratings		
1.1	MVA	MVA	315
1.2	Voltage Ratio	kV/kV	400/220/33
2	Impedance	%	12.50
3	Vector Group		YNa0d11
4	NGR Data (if Present)	Ohms	-
5	OLTC Present	Yes/No	Yes
5.1	OLTC Data		
5.2	Min Tap (%)	% (-)	90
5.3	Max Tap (%)	% (+)	110
5.4	No. of Steps		17
6	Differential Protection provided	Yes/No	Yes
6.1	Differential CT Ratio		
6.2	HV CT Ratio (Main & ICT)	A/A	1000/1
6.3	LV CT Ratio (Main & ICT)	A/A	1600/1

7	Differential Relay		
7.1	Make		AREVA
7.2	Model		MICOM P632
8	REF provided	Yes/No	Yes
8.1	REF Protection CTs Ratio (Main & ICT)	A/A	HV: 1600/1 LV: NIL
8.2	Acc Class		PS
8.3	RCT (Ω)	Ohms	<5
8.4	Vk(V)	V	>1000
8.5	Im@Vk/2	mA	30
8.6	Longest sec. one way lead R Ω	Ohms	0.871
8.7	REF Relay		
8.8	Make		AREVA
8.9	Model		MICOM P141
8.10	Rstab Range (Ω)	Ohms	700
9	Over fluxing Protection provided	Yes/No	Yes
9.1	Over fluxing Protection Relay		
9.2	Make		AREVA
9.3	Model		MICOM P632
10	HV Back-up Protection provided	Yes/No	Yes
10.1	HV Back-up Protection Relay		
10.2	Make		AREVA
10.3	Model		MICOM P141

10.4	HV Back-up Protection CTs Ratio	A/A	1000/1
10.5	Acc Class		-
11	LV Back-up Protection provided	Yes/No	Yes
11.1	LV Back-up Protection Relay		
11.2	Make		AREVA
11.3	Model		MICOM P141
11.4	LV Back-up Protection CTs Ratio	A/A	-
11.5	Acc Class		-

4.2 Transformers Protection Relay Setting Review

Sl. No.	PROTECTION		ICT 1&2	
			Existing	Reviewed
1	Differential	Relay Make & Model		AREVA MICOM P632
		Biased	Match Factor HV	2.199
			Match Factor LV	1.935
			Is-HS1 (Operate value of differential current)	10.6
			Is-HS2 (Second knee of tripping characteristic)	10.6
			k1 (Gradient of tripping characteristic)	0.3
			K2 (Gradient of tripping characteristic)	0.7
2	Over Fluxing	Relay Make & Model		AREVA MICOM P632
		U Base (kV)		400
		V/Hz (Alarm set)		1.1
		T(S) (Alarm Delay)		1.1
		V/Hz>1 (Trip set)		1.5
		V/Hz>1 (Time Delay)		1.05
3	REF Protection	Relay Make & Model		AREVA MICOM P141
		Stabilizing Resistance	R stab	700
		CT Ratio	HV	1600/1
			LV	-
			NCT	REF: 1600/1
				SEF: 1600/1

4.3 Input Data for Tie Transformer Protection

Sl. No.	Description	Units	Value
Substation Name : NTPC, BONGAIGAON			
	Transformer Name		TIE -1 & 2
1	Ratings		
1.1	MVA	MVA	100
1.2	Voltage Ratio	kV/kV	400/34.5
2	Impedance	%	15.5
3	Vector Group		YNyn0
4	NGR Data (if Present)	Ohms	-
5	OLTC Present	Yes/No	Yes
5.1	OLTC Data		
5.2	Min Tap (%)	% (-)	5
5.3	Max Tap (%)	% (+)	7.5
5.4	No. of Steps		5
6	Differential Protection provided	Yes/No	Yes
6.1	Differential CT Ratio		
6.2	HV CT Ratio (Main & ICT)	A/A	500/1
6.3	LV CT Ratio (Main & ICT)	A/A	1750/1

7	Differential Relay		
7.1	Make		AREVA
7.2	Model		MICOM P632
8	REF provided	Yes/No	Yes
8.1	REF Protection CTs Ratio (Main & ICT)	A/A	HV: 1750/1 LV: NIL
8.2	Acc Class		PS
8.3	RCT (Ω)	Ohms	<8
8.4	Vk(V)	V	>1000
8.5	Im@Vk/2	mA	30
8.6	Longest sec. one way lead R Ω	Ohms	0.741
8.7	REF Relay		
8.8	Make		AREVA
8.9	Model		MICOM P141
8.10	Rstab Range (Ω)	Ohms	130
9	Over fluxing Protection provided	Yes/No	Yes
9.1	Over fluxing Protection Relay		
9.2	Make		AREVA
9.3	Model		MICOM P632

10	HV Back-up Protection provided	Yes/No	Yes
10.1	HV Back-up Protection Relay		
10.2	Make		AREVA
10.3	Model		MICOM P141
10.4	HV Back-up Protection CTs Ratio	A/A	500/1
10.5	Acc Class		-
11	LV Back-up Protection provided	Yes/No	Yes
11.1	LV Back-up Protection Relay		
11.2	Make		AREVA
11.3	Model		MICOM P141
11.4	LV Back-up Protection CTs Ratio	A/A	-
11.5	Acc Class		-

4.4 Tie Transformers Protection Relay Setting Review

Sl. No.	PROTECTION			TIE 1&2	
				Existing	Reviewed
1	Differential	Relay Make & Model		AREVA MICOM P632	
		Biased	Match Factor HV	3.464	3.464
			Match Factor LV	1.046	1.046
			Is-HS1 (Operate value of differential current)	8	7.74
			Is-HS2 (Second knee of tripping characteristic)	8	9.67
			k1 (Gradient of tripping characteristic)	0.3	0.3
			K2 (Gradient of tripping characteristic)	0.7	0.7
2	Over Fluxing	Relay Make & Model		AREVA MICOM P632	
		U Base (kV)		400	400
		V/Hz (Alarm set)		1.1	100-130%
		T(S) (Alarm Delay)		1.1	0.1 to 6
		V/Hz>1 (Trip set)		Blocked	1.5
		V/Hz>1 (Time Delay)		60	<3 s
3	REF Protection	Relay Make & Model		AREVA MICOM P141	
		Stabilizing Resistance	R stab	130	Adopted settings are stable.
		CT Ratio	HV	1750/1	
			LV	-	
			NCT	REF: 1750/1,	
				SEF: 1750/1	

5.0 DC Measurements

DC battery and chargers are very important units as they are required to operate the protection relays. In this section, the details of the batteries and chargers are provided.

Following is the measurement of DC source which was taken during the site visit:

Location	DC Source	Positive to Negative	Positive to Earth	Negative to Earth
400kV Switchyard	DC Bank 1 (220V)	236.6	122.31	-114.2
	DC Bank 2 (220V)	244.23	121.24	-112.93
	DC Bank 1 (48V)	51.3	0.04	-51.26
	DC Bank 2 (48V)	50.4	0.08	-50.37
GRP 1 (Unit 1)	DC Bank 1 (220V)	235.4	119.82	-115.53
	DC Bank 2 (220V)	235.67	120.06	-115.49
GRP 2 (Unit 2)	DC Bank 1 (220V)	234.23	119.44	-114.59
	DC Bank 2 (220V)	234.2	119.01	-114.7
GRP 3 (Unit 3)	DC Bank 1 (220V)	236	115.6	-120.2
	DC Bank 2 (220V)	234.34	113.94	-120.33

6.0 Protection Review and Recommendations:

In general, protection schemes and setting are in order. All the 400 kV lines and Transformers are protected through numerical based Protection schemes. However, some of the deviations found are given below:

1. The distance protection of Main I and Main II of Zone reach settings for Bongaigaon ckt # 1 are properly set. The Impedance reach settings of Zone 2 & Zone 3 and time delay for zone-4 of both Main-I & Main-II settings may be reviewed.
2. The distance protection of Main I and Main II of Zone reach settings for Bongaigaon ckt # 2 are properly set. The Impedance reach settings of Zone 2 & Zone 3 and time delay for zone-4 of both Main-I & Main-II settings may be reviewed.
3. The Auto-Reclose function is enabled in SCADA for both 400kV Bongaigaon lines.
4. For the calculation of resistive reach for Ph-Ph & Ph-Gnd, the Arc Resistance and Tower footing resistance are considered as 15Ω & 5Ω respectively. If the Arc Resistance and Tower footing resistance value at the substation vary based on local substation condition, then all resistive reach (Ph-Ph & Ph-Gnd) same setting may be retained.
5. Other Protection functionality for lines like Voltage supervision, Carrier communication and LBB are working satisfactory.
6. In Unit-1 Battery charger room, exhaust fan is not running. It is suggested to rectify the fault at the earliest.
7. In Unit-3 Battery charger room, exhaust fans are not provided for ventilation. Hence, it is suggested to provide at the earliest.
8. The differential protection, REF and Backup impedance protection setting for ICT 1&2 and Tie Transformer 1&2 are properly set and stable.
9. The functioning of DRs, PLCC and SCADA were checked and are in healthy condition.
10. In 400/220 kV ICT-1&2 and GTs Breathers silica gel to be replaced.
11. In GTs yard, cable pits water accumulation to be drained out at the earliest and it is suggested to take corrective measures to avoid water storage.
12. In GTs and Misc. service transformer 1&2, soak pit is filled with water. It is suggested to take corrective measures to avoid water storage. Gravel accumulation in soak pits to be corrected.
13. In ICT-2, 400kV OIP Bushing replacement is planned in view of deviations in FDS values. It is to be replaced at the earliest.

14. The Switchyard of 400/220kV BgTPP is being maintained properly and is neat and clean.
15. It is suggested to perform the third-party protection audit of substation periodically.

Note: Major difference observed between existing settings and reviewed settings are given in bold font in respective protection.

7.0 Review of reports

Review of test reports of Relays, CTs & CVTs:

Pre-commissioning/latest test reports were provided for CTs & CVTs and these were reviewed. It is recommended that pre-commissioning reports of all relays, CTs and CVTs should be kept properly and they should be mandatorily provided whenever they are required to be reviewed. The available relays test reports are reviewed. The CTs in Bay No. 405 to 407, 409 & 209 and all CVTs were tested in 2009/2010. It is also recommended that routine testing of all CTs & CVTs and relays should be carried out periodically in future.

Review of test reports of Circuit Breaker:

Test reports of all Circuit Breakers were provided and reviewed. It is recommended that pre-commissioning reports of all circuit breakers should be kept properly and they should be mandatorily provided whenever they are required to be reviewed. It is also recommended that routine testing of all circuit breakers should be carried out periodically in future.

Downloaded Relay Settings

Distance Protection

400kV Bongaigaon -1

Line I Main I



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K

Printed on: 27/09/2024 16:28:58

SYSTEM DATA	
00.01: Language:	English
00.02: Password: ****	
00.04: Description:	400KV LINE-2P442
00.05: Plant Reference:	AREVA
00.06: Model Number:	P442316B6M0500K
00.08: Serial Number:	116026T
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	1
00.0C: Plant Status:	0000000000000010
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.10: CB Trip/Close:	No Operation
00.11: Software Ref. 1:	D3.0
00.20: Opto I/P Status:	0100000000000111
00.21: Relay Status 1:	000000000000000000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.40: Relay Status 1:	00000000000000000000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	2
00.D1: Password Control:	2
00.D2: Password Level 1:	****
00.D3: Password Level 2:	****
CB CONTROL	
07.01: CB Control by:	Disabled
DATE AND TIME	
08.01: Date/Time:	2024-09-24 11:10:35.435
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Disabled
08.13: SNTP Status:	Server 1 OK
08.20: LocalTime Enable:	Fixed
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0D: Dist. Protection:	Enabled
09.10: Power-Swing:	Enabled
09.11: Back-up I>:	Enabled
09.12: Neg Sequence O/C:	Disabled
09.13: Broken Conductor:	Enabled
09.14: Earth Fault PROT:	Earth Fault O/C
09.15: Aided D.E.F:	Disabled
09.16: Volt Protection:	Enabled
09.17: CB Fail & I<:	Disabled
09.18: Supervision:	Enabled
09.19: System Checks:	Disabled
09.1A: Thermal Overload:	Disabled
09.1C: I< Protection:	Disabled
09.1D: Residual O/V NVD:	Disabled
09.1E: Freq Protection:	Disabled
09.24: Internal A/R:	Disabled
09.25: Input Labels:	Visible
09.26: Output Labels:	Visible
09.28: CT & VT Ratios:	Visible



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K

Printed on: 27/09/2024 16:28:59

09.29: Record Control: Invisible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Invisible
09.2C: Comms Settings: Invisible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Secondary
09.2F: Control Inputs: Invisible
09.35: Ctrl I/P Config: Invisible
09.36: Ctrl I/P Labels: Invisible
09.39: Direct Access: Disabled
09.50: Function Key: Invisible

CT AND VT RATIOS

0A.01: Main VT Primary: 400.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.03: C/S VT Primary: 400.0 kV
0A.04: C/S VT Secondary: 110.0 V
0A.07: Phase CT Primary: 2000 A
0A.08: Phase CT Sec'y: 1.000 A
0A.0D: MComp CT Primary: 2000 A
0A.0E: MComp CT Sec'y: 1.000 A
0A.0F: C/S Input: A-N
0A.10: Main VT Location: Line
0A.11: CT Polarity: Standard

DISTURB RECORDER

0C.01: Duration: 3.000 s
0C.02: TriggerPosition: 33.30 %
0C.03: TriggerMode: Extended
0C.04: AnalogChannel1: VA
0C.05: AnalogChannel2: VB
0C.06: AnalogChannel3: VC
0C.07: AnalogChannel4: VN
0C.08: AnalogChannel5: IA
0C.09: AnalogChannel6: IB
0C.0A: AnalogChannel7: IC
0C.0B: AnalogChannel8: IN
0C.0C: DigitalInput1: V>2 Trip
0C.0D: Input1Trigger: Trigger L/H
0C.0E: DigitalInput2: Any Trip
0C.0F: Input2Trigger: Trigger L/H
0C.10: DigitalInput3: DIST Trip A
0C.11: Input3Trigger: Trigger L/H
0C.12: DigitalInput4: DIST Trip B
0C.13: Input4Trigger: Trigger L/H
0C.14: DigitalInput5: DIST Trip C
0C.15: Input5Trigger: Trigger L/H
0C.16: DigitalInput6: DIST Fwd
0C.17: Input6Trigger: Trigger L/H
0C.18: DigitalInput7: SOTF Enable
0C.19: Input7Trigger: Trigger L/H
0C.1A: DigitalInput8: Z1
0C.1B: Input8Trigger: Trigger L/H
0C.1C: DigitalInput9: Z2
0C.1D: Input9Trigger: Trigger L/H
0C.1E: DigitalInput10: Z3
0C.1F: Input10Trigger: Trigger L/H
0C.20: DigitalInput11: Z4
0C.21: Input11Trigger: Trigger L/H
0C.22: DigitalInput12: Any Pole Dead
0C.23: Input12Trigger: Trigger L/H
0C.24: DigitalInput13: All Pole Dead
0C.25: Input13Trigger: Trigger L/H
0C.26: DigitalInput14: V>1 Trip
0C.27: Input14Trigger: Trigger L/H
0C.28: DigitalInput15: SOTF/TOR Trip
0C.29: Input15Trigger: Trigger L/H
0C.2A: DigitalInput16: Opto Label 01



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K

Printed on: 27/09/2024 16:28:59

0C.2B: Input16Trigger:	Trigger L/H
0C.2C: DigitalInput17:	Opto Label 02
0C.2D: Input17Trigger:	Trigger L/H
0C.2E: DigitalInput18:	Opto Label 03
0C.2F: Input18Trigger:	Trigger L/H
0C.30: DigitalInput19:	Man. Close CB
0C.31: Input19Trigger:	Trigger L/H
0C.32: DigitalInput20:	Opto Label 05
0C.33: Input20Trigger:	Trigger L/H
0C.34: DigitalInput21:	DIST. Chan Recv
0C.35: Input21Trigger:	Trigger L/H
0C.36: DigitalInput22:	Opto Label 06
0C.37: Input22Trigger:	Trigger L/H
0C.38: DigitalInput23:	Opto Label 07
0C.39: Input23Trigger:	Trigger L/H
0C.3A: DigitalInput24:	Opto Label 08
0C.3B: Input24Trigger:	Trigger L/H
0C.3C: DigitalInput25:	Opto Label 09
0C.3D: Input25Trigger:	Trigger L/H
0C.3E: DigitalInput26:	Opto Label 10
0C.3F: Input26Trigger:	Trigger L/H
0C.40: DigitalInput27:	Opto Label 11
0C.41: Input27Trigger:	Trigger L/H
0C.42: DigitalInput28:	Opto Label 04
0C.43: Input28Trigger:	Trigger L/H
0C.44: DigitalInput29:	Opto Label 13
0C.45: Input29Trigger:	Trigger L/H
0C.46: DigitalInput30:	Opto Label 14
0C.47: Input30Trigger:	Trigger L/H
0C.48: DigitalInput31:	Opto Label 15
0C.49: Input31Trigger:	Trigger L/H
0C.4A: DigitalInput32:	Zp
0C.4B: Input32Trigger:	Trigger L/H
COMMISSION TESTS	
0F.01: Opto I/P Status:	0100000000000111
0F.02: Relay Status 1:	00000000000000000000
0F.04: Test Port Status:	00000000
0F.06: Monitor Bit 1:	Relay Label 01
0F.07: Monitor Bit 2:	Relay Label 02
0F.08: Monitor Bit 3:	Relay Label 03
0F.09: Monitor Bit 4:	Relay Label 04
0F.0A: Monitor Bit 5:	Relay Label 05
0F.0B: Monitor Bit 6:	Relay Label 06
0F.0C: Monitor Bit 7:	Relay Label 07
0F.0D: Monitor Bit 8:	Relay Label 08
0F.0E: Test Mode:	Disable
0F.0F: Test Pattern 1:	00000000000000000000
0F.11: Contact Test:	No operation
0F.12: Test LEDs:	No operation
0F.13: Autoreclose Test:	No Operation
0F.16: Red LED Status:	000000000000000000
0F.17: Green LED Status:	000000000000000000
CB MONITOR SETUP	
10.01: Broken I^:	2.000
10.02: I^ Maintenance:	Alarms Disabled
10.04: I^ Lockout:	Alarms Disabled
10.06: No CB Ops Maint:	Alarms Disabled
10.08: No CB Ops Lock:	Alarms Disabled
10.0A: CB Time Maint:	Alarms Disabled
10.0C: CB Time Lockout:	Alarms Disabled
10.0E: Fault Freq Lock:	Alarms Disabled
10.11: Lockout Reset:	No
10.12: Reset Lockout By:	CB Close
OPTO CONFIG	
11.01: Global Nominal V:	220/250V
11.50: Opto Filter Cntl:	1111111111111111



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K











Printed on: 27/09/2024 16:28:59

11.80: Characteristic:	Standard 60%-80%
IED CONFIGURATOR	
19.70: GoEna:	Enabled
Group 1	
GROUP 1 DISTANCE ELEMENT	
30.01: GROUP 1 Line Setting:	
30.02: Line Length:	3190 m
30.04: Line Impedance:	584.0mOhm (52.93mOhm)
30.05: Line Angle:	84.80 deg (j 581.6mOhm)
30.06: GROUP 1 Zone Setting:	
30.07: Zone Status:	110110
30.08: kZ1 Res Comp:	918.0e-3
30.09: kZ1 Angle:	-3.100 deg
30.0A: Z1:	467.0 mOhm
30.0C: R1G:	33.87 Ohm
30.0D: R1Ph:	25.40 Ohm
30.0E: tZ1:	0 s
30.0F: kZ2 Res Comp:	918.0e-3
30.10: kZ2 Angle:	-3.100 deg
30.11: Z2:	18.05 Ohm
30.12: R2G:	33.87 Ohm
30.13: R2Ph:	25.40 Ohm
30.14: tZ2:	400.0 ms
30.15: kZ3/4 Res Comp:	918.0e-3
30.16: kZ3/4 Angle:	-3.100 deg
30.17: Z3:	28.52 Ohm
30.18: R3G-R4G:	33.87 Ohm
30.19: R3Ph-R4Ph:	25.40 Ohm
30.1A: tZ3:	1.000 s
30.1B: Z4:	117.0 mOhm
30.1C: tZ4:	1.000 s
30.1D: ZoneP - Direct:	Directional REV
30.1E: kZp Res Comp:	918.0e-3
30.1F: kZp Angle:	-3.100 deg
30.20: Zp:	117.0 mOhm
30.21: RpG:	33.87 Ohm
30.22: RpPh:	25.40 Ohm
30.23: tZp:	300.0 ms
30.2B: GROUP 1 Other Parameters:	
30.2C: Series Cmp. Line:	Disabled
30.2D: Overlap Z Mode:	Disabled
30.2E: Z1m Tilt Angle:	0 deg
30.2F: Z1p Tilt Angle:	0 deg
30.30: Z2/p/q Tilt Angl:	0 deg
30.31: Fwd Z Chg. Delay:	30.00 ms
30.32: V Mem Validity:	10.00 s
30.33: Earth I Detect.:	50.00 mA
30.34: GROUP 1 Fault Locator:	
30.35: kZm Mutual Comp:	0
30.36: kZm Angle:	0 deg
GROUP 1 DISTANCE SCHEMES	
31.01: Program Mode:	Standard Scheme
31.02: Standard Mode:	P.O.P Z2
31.03: Fault Type:	Both enabled
31.04: Trip Mode:	1P. Z1 & CR
31.07: Aid Dist Dly:	20.00 ms
31.08: tReversal Guard:	20.00 ms
31.09: Unblocking Logic:	None
31.0A: SOTF/TOR Mode:	100001110010000
31.0B: SOTF Delay:	110.0 s
31.0C: Z1Ext Fail:	Disabled
31.0D: GROUP 1 Weak Infeed:	
31.0E: WI:Mode Status:	Disabled
GROUP 1 POWER-SWING	
32.01: Delta R:	5.080 Ohm
32.02: Delta X:	5.080 Ohm



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K

Printed on: 27/09/2024 16:29:00

..... 32.03: IN> status: Enabled
..... 32.04: IN> (%Imax): 40.00 %
..... 32.05: I2> status: Enabled
..... 32.06: I2> (%Imax): 30.00 %
..... 32.07: ImaxLine> Status: Enabled
..... 32.08: ImaxLine >: 3.000 A
..... 32.09: Delta I Status: Enabled
..... 32.0A: Unblocking delay: 2.000 s
..... 32.0B: Blocking Zones: 110010
..... 32.0C: Out of Step: 1
..... 32.0D: Stable Swing: 1
.....  GROUP 1 BACK UP I>
..... 35.01: I>1 Function: IEC S Inverse
..... 35.02: I>1 Directional: Non Directional
..... 35.04: I>1 Current Set: 1.070 A
..... 35.07: I>1 TMS: 450.0e-3
..... 35.0A: I>1 tReset: 0 s
..... 35.0B: I>2 Function: Disabled
..... 35.15: I>3 Status: Enabled
..... 35.16: I>3 Current Set: 3.000 A
..... 35.17: I>3 Time delay: 3.000 s
..... 35.18: I>4 Status: Disabled
.....  GROUP 1 BROKEN CONDUCTOR
..... 37.01: Broken conductor: Enabled
..... 37.02: I2/I1 Setting: 200.0e-3
..... 37.03: I2/I1 Time delay: 20.00 s
..... 37.04: I2/I1 Trip: Disabled
.....  GROUP 1 EARTH FAULT O/C
..... 38.01: IN>1 Function: IEC S Inverse
..... 38.02: IN>1 Directional: Directional FWD
..... 38.03: IN>1 VTS Block: Block
..... 38.04: IN>1 Current Set: 160.0 mA
..... 38.07: IN>1 TMS: 700.0e-3
..... 38.0A: IN>1 tReset: 0 s
..... 38.0B: IN>2 Function: Disabled
..... 38.15: IN>3 Status: Disabled
..... 38.1B: IN>4 Status: Disabled
.....  38.21: GROUP 1 IN> DIRECTIONAL:
..... 38.22: IN Char Angle: -45.00 deg
..... 38.23: Polarisation: Zero sequence
.....  GROUP 1 VOLT PROTECTION
..... 42.01: V< & V> MODE: 00110000
.....  42.02: GROUP 1 UNDERVOLTAGE:
..... 42.03: V< Measur't Mode: Phase_Neutral
..... 42.04: V<1 Function: Disabled
..... 42.08: V<2 Status: Disabled
..... 42.0B: V<3 Status: Disabled
..... 42.0E: V<4 Status: Disabled
.....  42.11: GROUP 1 OVERVOLTAGE:
..... 42.12: V> Measur't Mode: Phase_Neutral
..... 42.13: V>1 Function: DT
..... 42.14: V>1 Voltage Set: 70.00 V
..... 42.15: V>1 Time Delay: 5.000 s
..... 42.17: V>2 Status: Enabled
..... 42.18: V>2 Voltage Set: 89.00 V
..... 42.19: V>2 Time Delay: 100.0 ms
..... 42.1A: V>3 Status: Disabled
..... 42.1D: V>4 Status: Disabled
.....  GROUP 1 SUPERVISION
.....  46.01: GROUP 1 VT SUPERVISION:
..... 46.02: VTS Time Delay: 2.000 s
..... 46.03: VTS I2 & I0 Inh: 20.00 mA
..... 46.04: Detect 3P: Enabled
..... 46.05: Threshold 3P: 10.00 V
..... 46.06: Delta I>: 100.0 mA
.....  46.07: GROUP 1 CT SUPERVISION:



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K

Printed on: 27/09/2024 16:29:00

.....	46.08: CTS Status:	Disabled
.....	46.0C: GROUP 1 CVT SUPERVISION:	
.....	46.0D: CVTS Status:	Disabled
.....	GROUP 1 INPUT LABELS	
.....	4A.01: Opto Input 1:	MAIN/TRF CB R-PH
.....	4A.02: Opto Input 2:	MAIN/TRF CB Y-PH
.....	4A.03: Opto Input 3:	MAIN/TRF CB B-PH
.....	4A.04: Opto Input 4:	DIRECT TRIP
.....	4A.05: Opto Input 5:	CARR OUT
.....	4A.06: Opto Input 6:	TBC CLOSE STATUS
.....	4A.07: Opto Input 7:	SPARE
.....	4A.08: Opto Input 8:	SOTF INITIATION
.....	4A.09: Opto Input 9:	SOTF FOR TBC BCU
.....	4A.0A: Opto Input 10:	BB OPTD(A/R LO)
.....	4A.0B: Opto Input 11:	CARR.FAIL CH-1
.....	4A.0C: Opto Input 12:	CARR.RECIEVE
.....	4A.0D: Opto Input 13:	GRP-A RLY OPTD
.....	4A.0E: Opto Input 14:	SPARE
.....	4A.0F: Opto Input 15:	86A RLY SUPVN
.....	4A.10: Opto Input 16:	SPARE
.....	GROUP 1 OUTPUT LABELS	
.....	4B.01: Relay 1:	TC-1 TRIP M-BRKR
.....	4B.02: Relay 2:	TC-1 TRIP M-BRKR
.....	4B.03: Relay 3:	TC-1 TRIP M-BRKR
.....	4B.04: Relay 4:	CNT MULPLC-RPH
.....	4B.05: Relay 5:	CNT MULPLC-YPH
.....	4B.06: Relay 6:	CNT MULPLC-BPH
.....	4B.07: Relay 7:	TEST TRIP
.....	4B.08: Relay 8:	DIR.TRP SND CH-1
.....	4B.09: Relay 9:	SPARE
.....	4B.0A: Relay 10:	SPARE
.....	4B.0B: Relay 11:	DIR.TRP SND CH-2
.....	4B.0C: Relay 12:	SPARE
.....	4B.0D: Relay 13:	86B OPTD
.....	4B.0E: Relay 14:	86A OPTD
.....	4B.0F: Relay 15:	TC-1 TBC RPH TRP
.....	4B.10: Relay 16:	TC-1 TBC YPH TRP
.....	4B.11: Relay 17:	TC-1 TBC BPH TRP
.....	4B.12: Relay 18:	CARR. SEND
.....	4B.13: Relay 19:	RZT TO B/C PUA/B
.....	4B.14: Relay 20:	SPARE
.....	4B.15: Relay 21:	SPARE
.....	Group 2	
.....	Group 3	
.....	Group 4	

400kV Bongaigaon -1

Line I Main II



Settings File Report

Substation:

File: 270924.set

Model Number: P543916G6M0760M

Printed on: 27/09/2024 15:45:48

SYSTEM DATA	
00.01: Language:	English
00.02: Password: *****	
00.03: Sys Fn Links:	0
00.04: Description:	P543 MAIN-2
00.05: Plant Reference:	MiCOM
00.06: Model Number:	P543916G6M0760M
00.08: Serial Number:	348951V
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	1
00.0C: Plant Status:	0000000000000010
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.10: CB Trip/Close:	No Operation
00.11: Software Ref. 1:	P543____6A_760_D
00.20: Opto I/P Status:	0010010000000111
00.21: Relay O/P Status:	0000000000000000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	3
00.D2: Password Level 1:	*****
00.D3: Password Level 2:	*****
00.D4: Password Level 3:	*****
00.DF: Security Feature:	1
VIEW RECORDS	
01.01: Select Event:	0
01.06: Select Fault:	0
01.F0: Select Maint:	0
01.FF: Reset Indication:	No
MEASUREMENTS 1	
02.01: IA Magnitude:	0 A
02.02: IA Phase Angle:	0 deg
02.03: IB Magnitude:	0 A
02.04: IB Phase Angle:	0 deg
02.05: IC Magnitude:	0 A
02.06: IC Phase Angle:	0 deg
02.09: IN Derived Mag:	0 A
02.0A: IN Derived Angle:	0 deg
02.0B: ISEF Magnitude:	0 A
02.0C: ISEF Angle:	0 deg
02.0D: I1 Magnitude:	0 A
02.0E: I2 Magnitude:	0 A
02.0F: I0 Magnitude:	0 A
02.10: IA RMS:	0 A
02.11: IB RMS:	0 A
02.12: IC RMS:	0 A
02.14: VAB Magnitude:	0 V
02.15: VAB Phase Angle:	0 deg
02.16: VBC Magnitude:	0 V
02.17: VBC Phase Angle:	0 deg
02.18: VCA Magnitude:	0 V
02.19: VCA Phase Angle:	0 deg
02.1A: VAN Magnitude:	0 V
02.1B: VAN Phase Angle:	0 deg
02.1C: VBN Magnitude:	0 V
02.1D: VBN Phase Angle:	0 deg
02.1E: VCN Magnitude:	0 V
02.1F: VCN Phase Angle:	0 deg
02.22: VN Derived Mag:	0 V
02.23: VN Derived Ang:	0 deg
02.24: V1 Magnitude:	0 V
02.25: V2 Magnitude:	0 V
02.26: V0 Magnitude:	0 V



Settings File Report

Substation:

File: 270924.set

Model Number: P543916G6M0760M

Printed on: 27/09/2024 15:45:48

02.27: VAN RMS:	0 V	
02.28: VBN RMS:	0 V	
02.29: VCN RMS:	0 V	
02.2D: Frequency:		
02.2E: C/S Voltage Mag:	0 V	
02.2F: C/S Voltage Ang:	0 deg	
02.30: C/S Bus-Line Ang:	0 deg	
02.31: Slip Frequency:	0 Hz	
02.32: IM Magnitude:	0 A	
02.33: IM Phase Angle:	0 deg	
02.3A: C/S Bus-Line Mag:	0 V	
02.40: I1 Magnitude:	0 A	
02.41: I1 Phase Angle:	0 deg	
02.42: I2 Magnitude:	0 A	
02.43: I2 Phase Angle:	0 deg	
02.44: I0 Magnitude:	0 A	
02.45: I0 Phase Angle:	0 deg	
02.46: V1 Magnitude:	0 V	
02.47: V1 Phase Angle:	0 deg	
02.48: V2 Magnitude:	0 V	
02.49: V2 Phase Angle:	0 deg	
02.4A: V0 Magnitude:	0 V	
02.4B: V0 Phase Angle:	0 deg	
02.50: V1 Rem Magnitude:	0 V	
02.51: V1 Rem Phase Ang:	0 deg	
MEASUREMENTS 2		
03.01: A Phase Watts:	0 W	
03.02: B Phase Watts:	0 W	
03.03: C Phase Watts:	0 W	
03.04: A Phase VAr:	0 VAr	
03.05: B Phase VAr:	0 VAr	
03.06: C Phase VAr:	0 VAr	
03.07: A Phase VA:	0 VA	
03.08: B Phase VA:	0 VA	
03.09: C Phase VA:	0 VA	
03.0A: 3 Phase Watts:	0 W	
03.0B: 3 Phase VAr:	0 VAr	
03.0C: 3 Phase VA:	0 VA	
03.0E: 3Ph Power Factor:	0	
03.0F: APh Power Factor:	0	
03.10: BPh Power Factor:	0	
03.11: CPh Power Factor:	0	
03.12: 3Ph WHours Fwd:	0 Wh	
03.13: 3Ph WHours Rev:	0 Wh	
03.14: 3Ph VArHours Fwd:	0 VArh	
03.15: 3Ph VArHours Rev:	0 VArh	
03.16: 3Ph W Fix Demand:	0 W	
03.17: 3Ph VAr Fix Dem:	0 VAr	
03.18: IA Fixed Demand:	0 A	
03.19: IB Fixed Demand:	0 A	
03.1A: IC Fixed Demand:	0 A	
03.1B: 3Ph W Roll Dem:	0 W	
03.1C: 3Ph VAr RollDem:	0 VAr	
03.1D: IA Roll Demand:	0 A	
03.1E: IB Roll Demand:	0 A	
03.1F: IC Roll Demand:	0 A	
03.20: 3Ph W Peak Dem:	0 W	
03.21: 3Ph VAr Peak Dem:	0 VAr	
03.22: IA Peak Demand:	0 A	
03.23: IB Peak Demand:	0 A	
03.24: IC Peak Demand:	0 A	
03.25: Reset Demand:	No	
03.26: Thermal State:	0 %	
03.27: Reset Thermal:	No	
03.29: df/dt:		
MEASUREMENTS 3		



Settings File Report

Substation:

File: 270924.set

Model Number: P543916G6M0760M

Printed on: 27/09/2024 15:45:49

04.01:	IA local:	0 A
04.02:	IA Angle local:	0 deg
04.03:	IB local:	0 A
04.04:	IB Angle local:	0 deg
04.05:	IC local:	0 A
04.06:	IC Angle local:	0 deg
04.07:	IN local:	0 A
04.09:	IA remote 1:	0 A
04.0A:	IA Ang remote 1:	0 deg
04.0B:	IB remote 1:	0 A
04.0C:	IB Ang remote 1:	0 deg
04.0D:	IC remote 1:	0 A
04.0E:	IC Ang remote 1:	0 deg
04.0F:	IN remote 1:	0 A
04.11:	IA remote 2:	0 A
04.12:	IA Ang remote 2:	0 deg
04.13:	IB remote 2:	0 A
04.14:	IB Ang remote 2:	0 deg
04.15:	IC remote 2:	0 A
04.16:	IC Ang remote 2:	0 deg
04.17:	IN remote 2:	0 A
04.19:	IA Differential:	0 A
04.1A:	IB Differential:	0 A
04.1B:	IC Differential:	0 A
04.1C:	IN Differential:	0 A
04.1D:	IA Bias:	0 A
04.1E:	IB Bias:	0 A
04.1F:	IC Bias:	0 A
MEASUREMENTS 4		
05.01:	Ch 1 Prop Delay:	-1.000 s
05.03:	Ch 1 Rx Prop Dly:	-1.000 s
05.04:	Ch 1 Tx Prop Dly:	-1.000 s
05.07:	Channel 1 Status:	00000000000010
05.08:	Channel 2 Status:	00000000000011
05.09:	IM64 Rx Status:	0000000000000000
05.10:	STATISTICS:	
05.11:	STATS RESET ON:	
05.12:	Elapsed Time:	1994-01-01 00:40:09.418
05.13:	Ch1 No.Vald Mess:	0
05.14:	Ch1 No.Err Mess:	0
05.15:	Ch1 No.Errorred s:	0
05.16:	Ch1 No.Sev Err s:	0
05.17:	Ch1 No.Dgraded m:	0
05.18:	Ch2 No.Vald Mess:	0
05.19:	Ch2 No.Err Mess:	0
05.1A:	Ch2 No.Errorred s:	0
05.1B:	Ch2 No.Sev Err s:	0
05.1C:	Ch2 No.Dgraded m:	0
05.26:	MaxCh1 PropDelay:	0 s
05.28:	MaxCh1 Tx-RxTime:	0 s
05.30:	Clear Statistics:	No
CB CONDITION		
06.02:	CB A Operations:	0
06.03:	CB B Operations:	0
06.04:	CB C Operations:	0
06.05:	Total IA Broken:	0 A
06.06:	Total IB Broken:	0 A
06.07:	Total IC Broken:	0 A
06.08:	CB Operate Time:	0 s
06.09:	Reset CB Data:	No
06.10:	CB Monitoring:	0000000
CB CONTROL		
07.01:	CB Control by:	Disabled
07.02:	Close Pulse Time:	500.0 ms
07.03:	Trip Pulse Time:	500.0 ms
07.05:	Man Close Delay:	10.00 s



Settings File Report

Substation:

File: 270924.set

Model Number: P543916G6M0760M

Printed on: 27/09/2024 15:45:49

07.06: CB Healthy Time: 5.000 s
07.07: Check Sync Time: 5.000 s
07.08: CB mon LO reset: No
07.09: Rst CB mon LO by: CB Close
07.0A: CB mon LO RstDly: 5.000 s
07.0B: Autoreclose Mode: No Operation
07.0E: AR Status: Out of Service
07.11: CB Status Input: 52A 1 pole
07.7F: CB Status Time: 5.000 s
07.82: Reset AROK Ind: No
07.83: Reset CB LO: No
07.85: CB Total Shots: 0
07.86: CB SUCC SPAR: 0
07.87: CB SUCC3PARShot1: 0
07.88: CB SUCC3PARShot2: 0
07.89: CB SUCC3PARShot3: 0
07.8A: CB SUCC3PARShot4: 0
07.8B: CB Failed Shots: 0
07.8C: Reset CB Shots: No
07.96: Res AROK by UI: Enabled
07.97: Res AROK by NoAR: Disabled
07.98: Res AROK by Ext: Disabled
07.99: Res AROK by TDly: Disabled
07.9A: Res AROK by TDly: 1.000 s
07.9B: Res LO by CB IS: Enabled
07.9C: Res LO by UI: Enabled
07.9D: Res LO by NoAR: Disabled
07.9E: Res LO by ExtDDB: Disabled
07.9F: Res LO by TDelay: Disabled
07.A0: LO Reset Time: 1.000 s

DATE AND TIME

08.01: Date/Time: 2024-09-27 13:45:35.964
08.04: IRIG-B Sync: Disabled
08.06: Battery Status: Healthy
08.07: Battery Alarm: Enabled
08.20: LocalTime Enable: Flexible
08.21: LocalTime Offset: 330.0 min
08.22: DST Enable: Disabled
08.23: DST Offset: 60.00 min
08.24: DST Start: Last
08.25: DST Start Day: Sunday
08.26: DST Start Month: March
08.27: DST Start Mins: 60.00 min
08.28: DST End: Last
08.29: DST End Day: Sunday
08.2A: DST End Month: October
08.2B: DST End Mins: 60.00 min
08.30: RP1 Time Zone: UTC
08.31: RP2 Time Zone: UTC
08.32: DNPOE Time Zone: UTC
08.33: Tunnel Time Zone: UTC

CONFIGURATION

09.01: Restore Defaults: No Operation
09.02: Setting Group: Select via Menu
09.03: Active Settings: Group 1
09.04: Save Changes: No Operation
09.05: Copy From: Group 1
09.06: Copy To: No Operation
09.07: Setting Group 1: Enabled
09.08: Setting Group 2: Disabled
09.09: Setting Group 3: Disabled
09.0A: Setting Group 4: Disabled
09.0B: Distance: Enabled
09.0C: Directional E/F: Disabled
09.0F: Current Diff: Enabled
09.10: Overcurrent: Enabled



Settings File Report

Substation:

File: 270924.set

Model Number: P543916G6M0760M

Printed on: 27/09/2024 15:45:50

09.11: Neg Sequence O/C: Disabled
09.12: Broken Conductor: Disabled
09.13: Earth Fault: Disabled
09.15: SEF/REF Prot'n: Disabled
09.16: Residual O/V NVD: Disabled
09.17: Thermal Overload: Disabled
09.18: PowerSwing Block: Enabled
09.1D: Volt Protection: Disabled
09.1E: Freq Protection: Disabled
09.1F: df/dt Protection: Disabled
09.20: CB Fail: Disabled
09.21: Supervision: Enabled
09.23: System Checks: Disabled
09.24: Auto-Reclose: Disabled
09.25: Input Labels: Visible
09.26: Output Labels: Visible
09.28: CT & VT Ratios: Visible
09.29: Record Control: Visible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Visible
09.2C: Comms Settings: Visible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Secondary
09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.40: InterMiCOM: Disabled
09.41: InterMiCOM 64: Disabled
09.50: Function Key: Visible
09.FB: RP1 Read Only: Disabled
09.FC: RP2 Read Only: Disabled
09.FD: NIC Read Only: Disabled
09.FF: LCD Contrast: 11



CT AND VT RATIOS

0A.01: Main VT Primary: 400.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.03: CS VT Primary: 110.0 V
0A.04: CS VT Secondary: 110.0 V
0A.07: Phase CT Primary: 2000 A
0A.08: Phase CT Sec'y: 1.000 A
0A.0B: SEF CT Primary: 2000 A
0A.0C: SEF CT Secondary: 1.000 A
0A.0D: MComp CT Primary: 1.000 A
0A.0E: MComp CT Sec'y: 1.000 A
0A.0F: CS Input: AN
0A.10: Main VT Location: Line
0A.11: CT Polarity: Standard
0A.13: SEF CT Polarity: Standard
0A.14: M CT Polarity: Standard
0A.18: VT Connected: Yes
0A.21: CS VT Ph Shift: 0 deg
0A.22: CS VT Mag: 1.000



RECORD CONTROL

0B.04: Alarm Event: Enabled
0B.05: Relay O/P Event: Enabled
0B.06: Opto Input Event: Enabled
0B.07: General Event: Enabled
0B.08: Fault Rec Event: Enabled
0B.09: Maint Rec Event: Enabled
0B.0A: Protection Event: Enabled
0B.2F: Flt Rec Extended: Disabled
0B.40: DDB 31 - 0: 11111111111111111111111111111111
0B.41: DDB 63 - 32: 11111111111111111111111111111111
0B.42: DDB 95 - 64: 11111111111111111111111111111111
0B.43: DDB 127 - 96: 11111111111111111111111111111111



Settings File Report
Substation:
File: 270924.set
Model Number: P543916G6M0760M

Printed on: 27/09/2024 15:45:50

OB.44: DDB 159 - 128: 11111111111111111111111111111111
OB.45: DDB 191 - 160: 11111111111111111111111111111111
OB.46: DDB 223 - 192: 11111111111111111111111111111111
OB.47: DDB 255 - 224: 11111111111111111111111111111111
OB.48: DDB 287 - 256: 11111111111111111111111111111111
OB.49: DDB 319 - 288: 11111111111111111111111111111111
OB.4A: DDB 351 - 320: 11111111111111111111111111111111
OB.4B: DDB 383 - 352: 11111111111111111111111111111111
OB.4C: DDB 415 - 384: 11111111111111111111111111111111
OB.4D: DDB 447 - 416: 11111111111111111111111111111111
OB.4E: DDB 479 - 448: 11111111111111111111111111111111
OB.4F: DDB 511 - 480: 11111111111111111111111111111111
OB.50: DDB 543 - 512: 11111111111111111000111111111111
OB.51: DDB 575 - 544: 11111111111111111111111111111111
OB.52: DDB 607 - 576: 11111111111111111111101110111111
OB.53: DDB 639 - 608: 11111111111011110111101111011110
OB.54: DDB 671 - 640: 11110111011101110111111111111111
OB.55: DDB 703 - 672: 11111111011101110111011111111111
OB.56: DDB 735 - 704: 11111111111111111111111111111111
OB.57: DDB 767 - 736: 1101110000000000000000000000000011101
OB.58: DDB 799 - 768: 11101110111011111111111111111011101
OB.59: DDB 831 - 800: 111111111111111111111111111111110
OB.5A: DDB 863 - 832: 11111111110111111111111111111111
OB.5B: DDB 895 - 864: 11110111111111111111111111111111
OB.5C: DDB 927 - 896: 11111111100001111000011111111111
OB.5D: DDB 959 - 928: 11111111111111111111111111111111
OB.5E: DDB 991 - 960: 11111111111111111111111111111111
OB.5F: DDB 1023 - 992: 11111111111111111111111111111111
OB.60: DDB 1055 - 1024: 11111111111111111111111111111111
OB.61: DDB 1087 - 1056: 11111111111111111111111111111111
OB.62: DDB 1119 - 1088: 11111111111111111111111111111111
OB.63: DDB 1151 - 1120: 11111111111111111111111111111111
OB.64: DDB 1183 - 1152: 00000000111111111111111111111111
OB.65: DDB 1215 - 1184: 11111111111111111111111111111111
OB.66: DDB 1247 - 1216: 11111111111111111111111111111111
OB.67: DDB 1279 - 1248: 11111111111111111111111111111111
OB.68: DDB 1311 - 1280: 11111111111111111111111111111111
OB.69: DDB 1343 - 1312: 11111111111111111111111111111111
OB.6A: DDB 1375 - 1344: 11111111111111111111111111111111
OB.6B: DDB 1407 - 1376: 11111111111111111111111111111111
OB.6C: DDB 1439 - 1408: 11010011111111111111111111111111
OB.6D: DDB 1471 - 1440: 111111111111111111111111100111110011
OB.6E: DDB 1503 - 1472: 11111111111111111111111111111111
OB.6F: DDB 1535 - 1504: 11111111111111111111111111111111
OB.70: DDB 1567 - 1536: 10011001000011001111001001111111
OB.71: DDB 1599 - 1568: 11111111111111111111111111111010
OB.72: DDB 1631 - 1600: 111111111111111111111111111110001
OB.73: DDB 1663 - 1632: 11111111111111111111111111111111
OB.74: DDB 1695 - 1664: 11111111111111111111111111111111
OB.75: DDB 1727 - 1696: 11111111111111111111111111111111
OB.76: DDB 1759 - 1728: 00000000000000000000000000000000
OB.77: DDB 1791 - 1760: 00000000000000000000000000000000
OB.78: DDB 1823 - 1792: 11111111111111111111111111111111
OB.79: DDB 1855 - 1824: 11111111111111111111111111111111
OB.7A: DDB 1887 - 1856: 11111111111111111111111111111111
OB.7B: DDB 1919 - 1888: 11111111111111111111111111111111
OB.7C: DDB 1951 - 1920: 11111111111111111111111111111111
OB.7D: DDB 1983 - 1952: 11111111111111111111111111111111
OB.7E: DDB 2015 - 1984: 11111111111111111111111111111111
OB.7F: DDB 2047 - 2016: 11111111111111111111111111111111



DISTURB RECORDER

OC.01: Duration: 1.500 s
OC.02: Trigger Position: 33.30 %
OC.03: Trigger Mode: Single
OC.04: Analog Channel 1: VA
OC.05: Analog Channel 2: VB



Settings File Report
Substation:
File: 270924.set
Model Number: P543916G6M0760M

Printed on: 27/09/2024 15:45:50

..... 0C.06: Analog Channel 3: VC
..... 0C.07: Analog Channel 4: IA
..... 0C.08: Analog Channel 5: IB
..... 0C.09: Analog Channel 6: IC
..... 0C.0A: Analog Channel 7: IN
..... 0C.0B: Analog Channel 8: IN Sensitive
..... 0C.0C: Digital Input 1: Relay 1
..... 0C.0D: Input 1 Trigger: Trigger L/H
..... 0C.0E: Digital Input 2: Relay 2
..... 0C.0F: Input 2 Trigger: Trigger L/H
..... 0C.10: Digital Input 3: Relay 3
..... 0C.11: Input 3 Trigger: Trigger L/H
..... 0C.12: Digital Input 4: Relay 4
..... 0C.13: Input 4 Trigger: Trigger L/H
..... 0C.14: Digital Input 5: Relay 5
..... 0C.15: Input 5 Trigger: Trigger L/H
..... 0C.16: Digital Input 6: Relay 6
..... 0C.17: Input 6 Trigger: Trigger L/H
..... 0C.18: Digital Input 7: Relay 7
..... 0C.19: Input 7 Trigger: Trigger L/H
..... 0C.1A: Digital Input 8: Relay 8
..... 0C.1B: Input 8 Trigger: Trigger L/H
..... 0C.1C: Digital Input 9: Relay 9
..... 0C.1D: Input 9 Trigger: Trigger L/H
..... 0C.1E: Digital Input 10: Relay 10
..... 0C.1F: Input 10 Trigger: Trigger L/H
..... 0C.20: Digital Input 11: Relay 11
..... 0C.21: Input 11 Trigger: Trigger L/H
..... 0C.22: Digital Input 12: Relay 12
..... 0C.23: Input 12 Trigger: Trigger L/H
..... 0C.24: Digital Input 13: Relay 13
..... 0C.25: Input 13 Trigger: Trigger L/H
..... 0C.26: Digital Input 14: Relay 14
..... 0C.27: Input 14 Trigger: Trigger L/H
..... 0C.28: Digital Input 15: Unused
..... 0C.29: Input 15 Trigger: Trigger L/H
..... 0C.2A: Digital Input 16: Unused
..... 0C.2B: Input 16 Trigger: Trigger L/H
..... 0C.2C: Digital Input 17: Opto 1
..... 0C.2D: Input 17 Trigger: Trigger L/H
..... 0C.2E: Digital Input 18: Opto 2
..... 0C.2F: Input 18 Trigger: Trigger L/H
..... 0C.30: Digital Input 19: Opto 3
..... 0C.31: Input 19 Trigger: Trigger L/H
..... 0C.32: Digital Input 20: Opto 4
..... 0C.33: Input 20 Trigger: Trigger L/H
..... 0C.34: Digital Input 21: Opto 5
..... 0C.35: Input 21 Trigger: Trigger L/H
..... 0C.36: Digital Input 22: Opto 6
..... 0C.37: Input 22 Trigger: Trigger L/H
..... 0C.38: Digital Input 23: Opto 7
..... 0C.39: Input 23 Trigger: Trigger L/H
..... 0C.3A: Digital Input 24: Opto 8
..... 0C.3B: Input 24 Trigger: Trigger L/H
..... 0C.3C: Digital Input 25: Opto 9
..... 0C.3D: Input 25 Trigger: Trigger L/H
..... 0C.3E: Digital Input 26: Opto 10
..... 0C.3F: Input 26 Trigger: Trigger L/H
..... 0C.40: Digital Input 27: Opto 11
..... 0C.41: Input 27 Trigger: Trigger L/H
..... 0C.42: Digital Input 28: Opto 12
..... 0C.43: Input 28 Trigger: Trigger L/H
..... 0C.44: Digital Input 29: Opto 13
..... 0C.45: Input 29 Trigger: Trigger L/H
..... 0C.46: Digital Input 30: Opto 14
..... 0C.47: Input 30 Trigger: Trigger L/H



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OC.48: Digital Input 31: Opto 15
OC.49: Input 31 Trigger: Trigger L/H
OC.4A: Digital Input 32: Opto 16
OC.4B: Input 32 Trigger: Trigger L/H
OC.50: Analog Channel 9: V Checksync
OC.51: Analog Channel10: IM
OC.52: Analog Channel11: IA Differential
OC.53: Analog Channel12: IB Differential
OC.54: Analog Channel13: IC Differential
OC.55: Analog Channel14: IN Differential
OC.56: Analog Channel15: Max I Bias
OC.57: Analog Channel16: Max Ih(2)
OC.70: Digital Input 33: Diff Trip
OC.71: Digital Input 34: Diff Trip A
OC.72: Digital Input 35: Diff Trip B
OC.73: Digital Input 36: Diff Trip C
OC.74: Digital Input 37: Zone 1 Trip
OC.75: Digital Input 38: Zone 2 Trip
OC.76: Digital Input 39: Zone 3 Trip
OC.77: Digital Input 40: Zone 4 Trip
OC.78: Digital Input 41: SOTF Trip Zone 1
OC.79: Digital Input 42: SOTF Trip Zone 2
OC.7A: Digital Input 43: I>4 Trip
OC.7B: Digital Input 44: I>1 Trip
OC.7C: Digital Input 45: IN>1 Trip
OC.7D: Digital Input 46: Aided 1 Send
OC.7E: Digital Input 47: Aid 1 Dist Trip
OC.7F: Digital Input 48: Unused
OC.80: Digital Input 49: Unused
OC.81: Digital Input 50: Unused
OC.82: Digital Input 51: Unused
OC.83: Digital Input 52: Unused
OC.84: Digital Input 53: Unused
OC.85: Digital Input 54: Unused
OC.86: Digital Input 55: Unused
OC.87: Digital Input 56: Unused
OC.88: Digital Input 57: Unused
OC.89: Digital Input 58: Unused
OC.8A: Digital Input 59: Unused
OC.8B: Digital Input 60: Unused
OC.8C: Digital Input 61: Unused
OC.8D: Digital Input 62: Unused
OC.8E: Digital Input 63: Unused
OC.8F: Digital Input 64: Unused

 MEASURE'T SETUP

OD.02: Local Values: Primary
OD.03: Remote Values: Primary
OD.04: Measurement Ref: VA
OD.05: Measurement Mode: 0
OD.06: Fix Dem Period: 30.00 min
OD.07: Roll Sub Period: 30.00 min
OD.08: Num Sub Periods: 1
OD.09: Distance Unit: Kilometres
OD.0A: Fault Location: Distance
OD.0B: Remote2 Values: Primary

 COMMISSION TESTS

 OF.01: Opto I/P Status: 0010010000000111
 OF.02: Relay O/P Status: 00000000000000
 OF.03: Test Port Status: 00000000
OF.05: Monitor Bit 1: 1060
OF.06: Monitor Bit 2: 1062
OF.07: Monitor Bit 3: 1064
OF.08: Monitor Bit 4: 1066
OF.09: Monitor Bit 5: 1068
OF.0A: Monitor Bit 6: 1070
OF.0B: Monitor Bit 7: 1072



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0F.0C: Monitor Bit 8: 1074
0F.0D: Test Mode: Disabled
0F.0E: Test Pattern: 00000000000000
0F.0F: Contact Test: No Operation
0F.10: Test LEDs: No Operation
0F.11: Test Autoreclose: No Operation
0F.12: Static Test: Disabled
0F.13: Test Loopback: Disabled
0F.14: IM64 TestPattern: 0000000000000000
0F.15: IM64 Test Mode: Disabled
0F.1A: Red LED Status: 0000000000000000
0F.1B: Green LED Status: 0000000000000000
0F.20: DDB 31 - 0: 00000000000000000000000000000000
0F.21: DDB 63 - 32: 00000000000000000000000000000000
0F.22: DDB 95 - 64: 00000000000000000000000000000000
0F.23: DDB 127 - 96: 00000000000000000000000000000000
0F.24: DDB 159 - 128: 00000000000000000000000000000000
0F.25: DDB 191 - 160: 00000000000000000000000000000000
0F.26: DDB 223 - 192: 00000000000000000000000000000000
0F.27: DDB 255 - 224: 00000000000000000000000000000000
0F.28: DDB 287 - 256: 00000000000000000000000000000000
0F.29: DDB 319 - 288: 00000000000000000000000000000000
0F.2A: DDB 351 - 320: 00000000000000000000000000000000
0F.2B: DDB 383 - 352: 00000000000000000000000000000000
0F.2C: DDB 415 - 384: 00000000000000000000000000000000
0F.2D: DDB 447 - 416: 00000000000000000000000000000000
0F.2E: DDB 479 - 448: 00000000000000000000000000000000
0F.2F: DDB 511 - 480: 00000000000000000000000000000000
0F.30: DDB 543 - 512: 00000000000000000000000000000000
0F.31: DDB 575 - 544: 00000000000000000000000000000000
0F.32: DDB 607 - 576: 00000000000000000000000000000000
0F.33: DDB 639 - 608: 00000000000000000000000000000000
0F.34: DDB 671 - 640: 00000000000000000000000000000000
0F.35: DDB 703 - 672: 00000000000000000000000000000000
0F.36: DDB 735 - 704: 00000000000000000000000000000000
0F.37: DDB 767 - 736: 00000000000000000000000000000000
0F.38: DDB 799 - 768: 00000000000000000000000000000000
0F.39: DDB 831 - 800: 00000000000000000000000000000000
0F.3A: DDB 863 - 832: 00001000000000000000000000000000
0F.3B: DDB 895 - 864: 00000000000000000000000000000000
0F.3C: DDB 927 - 896: 00000000000000000000000000000000
0F.3D: DDB 959 - 928: 00000000000000000000000000000000
0F.3E: DDB 991 - 960: 00000000000000000000000000000000
0F.3F: DDB 1023 - 992: 00000000000000000000000000000000
0F.40: DDB 1055 - 1024: 00000000000000000000000000000000
0F.41: DDB 1087 - 1056: 00000000000000000000000000000000
0F.42: DDB 1119 - 1088: 00000000000000000000000000000000
0F.43: DDB 1151 - 1120: 00000000000000000000000000000000
0F.44: DDB 1183 - 1152: 01011101000000000000000000000000
0F.45: DDB 1215 - 1184: 00000000000000000000000000000000
0F.46: DDB 1247 - 1216: 00000000000000000000000000000000
0F.47: DDB 1279 - 1248: 00000000000000000000000000000000
0F.48: DDB 1311 - 1280: 00000000000000000000000000000000
0F.49: DDB 1343 - 1312: 00000000000000000000000000000000
0F.4A: DDB 1375 - 1344: 00000000000000000000000000000000
0F.4B: DDB 1407 - 1376: 00000000000000000000000000000000
0F.4C: DDB 1439 - 1408: 00000000000000000000000000000000
0F.4D: DDB 1471 - 1440: 00000000000000000000000000000000
0F.4E: DDB 1503 - 1472: 00000000000000000000000000000000
0F.4F: DDB 1535 - 1504: 00000001010000000000000000000000
0F.50: DDB 1567 - 1536: 00000000000000000000000000000000
0F.51: DDB 1599 - 1568: 00000000000000000000000000000000
0F.52: DDB 1631 - 1600: 00000000000000000000000000000000
0F.53: DDB 1663 - 1632: 00000000000000000000000000000000
0F.54: DDB 1695 - 1664: 00000000000000000000000000000000
0F.55: DDB 1727 - 1696: 00000000000000000000000000000000



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0F.56:	DDB 1759 - 1728:	00000000000000000000000000000000
0F.57:	DDB 1791 - 1760:	00000000000000000000000000000000
0F.58:	DDB 1823 - 1792:	00000000000000000000000000000000
0F.59:	DDB 1855 - 1824:	00000000000000000000000000000000
0F.5A:	DDB 1887 - 1856:	00000000000000000000000000000000
0F.5B:	DDB 1919 - 1888:	00000000000000000000000000000000
0F.5C:	DDB 1951 - 1920:	00000000000000000000000000000000
0F.5D:	DDB 1983 - 1952:	00000000000000000000000000000000
0F.5E:	DDB 2015 - 1984:	10000000000000000000000000000000
0F.5F:	DDB 2047 - 2016:	00000000000000000000000000000000
CB MONITOR SETUP		
10.01:	Broken I^:	2.000
10.02:	I^ Maintenance:	Alarm Disabled
10.03:	I^ Maintenance:	1000 A
10.04:	I^ Lockout:	Alarm Disabled
10.05:	I^ Lockout:	2000 A
10.06:	No. CB Ops Maint:	Alarm Disabled
10.07:	No. CB Ops Maint:	10
10.08:	No. CB Ops Lock:	Alarm Disabled
10.09:	No. CB Ops Lock:	20
10.0A:	CB Time Maint:	Alarm Disabled
10.0B:	CB Time Maint:	100.0 ms
10.0C:	CB Time Lockout:	Alarm Disabled
10.0D:	CB Time Lockout:	200.0 ms
10.0E:	Fault Freq Lock:	Alarm Disabled
10.0F:	Fault Freq Count:	10
10.10:	Fault Freq Time:	3600 s
OPTO CONFIG		
11.01:	Global Nominal V:	220/250V
11.02:	Opto Input 1:	220/250V
11.03:	Opto Input 2:	220/250V
11.04:	Opto Input 3:	220/250V
11.05:	Opto Input 4:	220/250V
11.06:	Opto Input 5:	220/250V
11.07:	Opto Input 6:	220/250V
11.08:	Opto Input 7:	220/250V
11.09:	Opto Input 8:	220/250V
11.0A:	Opto Input 9:	220/250V
11.0B:	Opto Input 10:	220/250V
11.0C:	Opto Input 11:	220/250V
11.0D:	Opto Input 12:	220/250V
11.0E:	Opto Input 13:	220/250V
11.0F:	Opto Input 14:	220/250V
11.10:	Opto Input 15:	220/250V
11.11:	Opto Input 16:	220/250V
11.12:	Opto Input 17:	24/27V
11.13:	Opto Input 18:	24/27V
11.14:	Opto Input 19:	24/27V
11.15:	Opto Input 20:	24/27V
11.16:	Opto Input 21:	24/27V
11.17:	Opto Input 22:	24/27V
11.18:	Opto Input 23:	24/27V
11.19:	Opto Input 24:	24/27V
11.1A:	Opto Input 25:	24/27V
11.1B:	Opto Input 26:	24/27V
11.1C:	Opto Input 27:	24/27V
11.1D:	Opto Input 28:	24/27V
11.1E:	Opto Input 29:	24/27V
11.1F:	Opto Input 30:	24/27V
11.20:	Opto Input 31:	24/27V
11.21:	Opto Input 32:	24/27V
11.60:	Opto Filter Cntl:	101101111111011
11.80:	Characteristic:	Standard 60%-80%
CONTROL INPUTS		
12.01:	Ctrl I/P Status:	00000000000000000000000000000000
12.02:	Control Input 1:	No Operation



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12.03:	Control Input 2:	No Operation
12.04:	Control Input 3:	No Operation
12.05:	Control Input 4:	No Operation
12.06:	Control Input 5:	No Operation
12.07:	Control Input 6:	No Operation
12.08:	Control Input 7:	No Operation
12.09:	Control Input 8:	No Operation
12.0A:	Control Input 9:	No Operation
12.0B:	Control Input 10:	No Operation
12.0C:	Control Input 11:	No Operation
12.0D:	Control Input 12:	No Operation
12.0E:	Control Input 13:	No Operation
12.0F:	Control Input 14:	No Operation
12.10:	Control Input 15:	No Operation
12.11:	Control Input 16:	No Operation
12.12:	Control Input 17:	No Operation
12.13:	Control Input 18:	No Operation
12.14:	Control Input 19:	No Operation
12.15:	Control Input 20:	No Operation
12.16:	Control Input 21:	No Operation
12.17:	Control Input 22:	No Operation
12.18:	Control Input 23:	No Operation
12.19:	Control Input 24:	No Operation
12.1A:	Control Input 25:	No Operation
12.1B:	Control Input 26:	No Operation
12.1C:	Control Input 27:	No Operation
12.1D:	Control Input 28:	No Operation
12.1E:	Control Input 29:	No Operation
12.1F:	Control Input 30:	No Operation
12.20:	Control Input 31:	No Operation
12.21:	Control Input 32:	No Operation
CTRL I/P CONFIG		
13.01:	Hotkey Enabled:	11111111111111111111111111111111
13.10:	Control Input 1:	Latched
13.11:	Ctrl Command 1:	SET/RESET
13.14:	Control Input 2:	Latched
13.15:	Ctrl Command 2:	SET/RESET
13.18:	Control Input 3:	Latched
13.19:	Ctrl Command 3:	SET/RESET
13.1C:	Control Input 4:	Latched
13.1D:	Ctrl Command 4:	SET/RESET
13.20:	Control Input 5:	Latched
13.21:	Ctrl Command 5:	SET/RESET
13.24:	Control Input 6:	Latched
13.25:	Ctrl Command 6:	SET/RESET
13.28:	Control Input 7:	Latched
13.29:	Ctrl Command 7:	SET/RESET
13.2C:	Control Input 8:	Latched
13.2D:	Ctrl Command 8:	SET/RESET
13.30:	Control Input 9:	Latched
13.31:	Ctrl Command 9:	SET/RESET
13.34:	Control Input 10:	Latched
13.35:	Ctrl Command 10:	SET/RESET
13.38:	Control Input 11:	Latched
13.39:	Ctrl Command 11:	SET/RESET
13.3C:	Control Input 12:	Latched
13.3D:	Ctrl Command 12:	SET/RESET
13.40:	Control Input 13:	Latched
13.41:	Ctrl Command 13:	SET/RESET
13.44:	Control Input 14:	Latched
13.45:	Ctrl Command 14:	SET/RESET
13.48:	Control Input 15:	Latched
13.49:	Ctrl Command 15:	SET/RESET
13.4C:	Control Input 16:	Latched
13.4D:	Ctrl Command 16:	SET/RESET
13.50:	Control Input 17:	Latched



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13.51: Ctrl Command 17: SET/RESET
13.54: Control Input 18: Latched
13.55: Ctrl Command 18: SET/RESET
13.58: Control Input 19: Latched
13.59: Ctrl Command 19: SET/RESET
13.5C: Control Input 20: Latched
13.5D: Ctrl Command 20: SET/RESET
13.60: Control Input 21: Latched
13.61: Ctrl Command 21: SET/RESET
13.64: Control Input 22: Latched
13.65: Ctrl Command 22: SET/RESET
13.68: Control Input 23: Latched
13.69: Ctrl Command 23: SET/RESET
13.6C: Control Input 24: Latched
13.6D: Ctrl Command 24: SET/RESET
13.70: Control Input 25: Latched
13.71: Ctrl Command 25: SET/RESET
13.74: Control Input 26: Latched
13.75: Ctrl Command 26: SET/RESET
13.78: Control Input 27: Latched
13.79: Ctrl Command 27: SET/RESET
13.7C: Control Input 28: Latched
13.7D: Ctrl Command 28: SET/RESET
13.80: Control Input 29: Latched
13.81: Ctrl Command 29: SET/RESET
13.84: Control Input 30: Latched
13.85: Ctrl Command 30: SET/RESET
13.88: Control Input 31: Latched
13.89: Ctrl Command 31: SET/RESET
13.8C: Control Input 32: Latched
13.8D: Ctrl Command 32: SET/RESET

 INTERMiCOM COMMS

15.01: IM Input Status: 00000000
15.02: IM Output Status: 00000000
15.10: Source Address: 1
15.11: Receive Address: 2
15.12: Baud Rate: 9600
15.20: Ch Statistics: Invisible
15.21: Rx Direct Count: 0
15.22: Rx Perm Count: 0
15.23: Rx Block Count: 0
15.24: Rx NewData Count: 0
15.25: Rx Errored Count: 0
15.26: Lost Messages: 0 %
15.30: Elapsed Time: 887
15.31: Reset Statistics: No
15.40: Ch Diagnostics: Invisible
15.41: Data CD Status: Unavailable
15.42: FrameSync Status: Unavailable
15.43: Message Status: Unavailable
15.44: Channel Status: Unavailable
15.45: IM H/W Status: Card Not Fitted
15.50: Loopback Mode: Disabled
15.51: Test Pattern: 11111111
15.52: Loopback Status: OK

 INTERMiCOM CONF

16.01: IM Msg Alarm Lvl: 25.00 %
16.10: IM1 Cmd Type: Blocking
16.11: IM1 FallBackMode: Default
16.12: IM1 DefaultValue: 1
16.13: IM1 FrameSyncTim: 1.500 s
16.18: IM2 Cmd Type: Blocking
16.19: IM2 FallBackMode: Default
16.1A: IM2 DefaultValue: 1
16.1B: IM2 FrameSyncTim: 1.500 s
16.20: IM3 Cmd Type: Blocking



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16.21: IM3 FallBackMode: Default
16.22: IM3 DefaultValue: 1
16.23: IM3 FrameSyncTim: 1.500 s
16.28: IM4 Cmd Type: Blocking
16.29: IM4 FallBackMode: Default
16.2A: IM4 DefaultValue: 1
16.2B: IM4 FrameSyncTim: 1.500 s
16.30: IM5 Cmd Type: Direct
16.31: IM5 FallBackMode: Default
16.32: IM5 DefaultValue: 0
16.33: IM5 FrameSyncTim: 1.500 s
16.38: IM6 Cmd Type: Direct
16.39: IM6 FallBackMode: Default
16.3A: IM6 DefaultValue: 0
16.3B: IM6 FrameSyncTim: 1.500 s
16.40: IM7 Cmd Type: Direct
16.41: IM7 FallBackMode: Default
16.42: IM7 DefaultValue: 0
16.43: IM7 FrameSyncTim: 1.500 s
16.48: IM8 Cmd Type: Direct
16.49: IM8 FallBackMode: Default
16.4A: IM8 DefaultValue: 0
16.4B: IM8 FrameSyncTim: 1.500 s

FUNCTION KEYS

17.01: Fn Key Status: 0000000000
17.02: Fn Key 1: Unlocked
17.03: Fn Key 1 Mode: Normal
17.04: Fn Key 1 Label: Function Key 1
17.05: Fn Key 2: Unlocked
17.06: Fn Key 2 Mode: Normal
17.07: Fn Key 2 Label: Function Key 2
17.08: Fn Key 3: Unlocked
17.09: Fn Key 3 Mode: Normal
17.0A: Fn Key 3 Label: Function Key 3
17.0B: Fn Key 4: Unlocked
17.0C: Fn Key 4 Mode: Normal
17.0D: Fn Key 4 Label: Function Key 4
17.0E: Fn Key 5: Unlocked
17.0F: Fn Key 5 Mode: Normal
17.10: Fn Key 5 Label: Function Key 5
17.11: Fn Key 6: Unlocked
17.12: Fn Key 6 Mode: Normal
17.13: Fn Key 6 Label: Function Key 6
17.14: Fn Key 7: Unlocked
17.15: Fn Key 7 Mode: Normal
17.16: Fn Key 7 Label: Function Key 7
17.17: Fn Key 8: Unlocked
17.18: Fn Key 8 Mode: Normal
17.19: Fn Key 8 Label: Function Key 8
17.1A: Fn Key 9: Unlocked
17.1B: Fn Key 9 Mode: Normal
17.1C: Fn Key 9 Label: Function Key 9
17.1D: Fn Key 10: Unlocked
17.1E: Fn Key 10 Mode: Normal
17.1F: Fn Key 10 Label: Function Key 10

PROT COMMS/ IM64

20.01: Scheme Setup: 2 Terminal
20.02: Address: 0-0
20.03: Address: 0-0
20.10: Comms Mode: Standard
20.11: Baud Rate Ch1: 64kbits/s
20.12: Baud Rate Ch2: 64kbits/s
20.13: Clock Source Ch1: Internal
20.14: Clock Source Ch2: Internal
20.15: Ch1 N*64kbits/s: 1
20.16: Ch2 N*64kbits/s: 1



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20.17: Comm Delay Tol: 350.0 us
20.18: Comm Fail Timer: 10.00 s
20.19: Comm Fail Mode: Ch 1 or 2 Fail
20.1A: GPS Sync:GPS Disabled
20.1B: Char Mod Time: 500.0 ms
20.1C: Prop Delay Equal: No Operation
20.1D: Re-Configuration: Three Ended
20.1E: Channel Timeout: 100.0 ms
20.1F: Alarm Level: 25.00 %
20.20: Prop Delay Stats: Enabled
20.21: MaxCh1 PropDelay: 15.00 ms
20.22: MaxCh2 PropDelay: 15.00 ms
20.23: TxRx Time Stats: Enabled
20.24: MaxCh1 Tx-RxTime: 15.00 ms
20.25: MaxCh2 Tx-RxTime: 15.00 ms
20.26: GPS Fail Timer: 0 s
20.27: GPS Trans Fail: Disabled
20.28: GPS Trans Count: 1
20.29: GPS Trans Timer: 1.000 s
20.30: IM1 Cmd Type: Permissive
20.31: IM1 FallBackMode: Default
20.32: IM1 DefaultValue: 0
20.34: IM2 Cmd Type: Permissive
20.35: IM2 FallBackMode: Default
20.36: IM2 DefaultValue: 0
20.38: IM3 Cmd Type: Permissive
20.39: IM3 FallBackMode: Default
20.3A: IM3 DefaultValue: 0
20.3C: IM4 Cmd Type: Permissive
20.3D: IM4 FallBackMode: Default
20.3E: IM4 DefaultValue: 0
20.40: IM5 Cmd Type: Permissive
20.41: IM5 FallBackMode: Default
20.42: IM5 DefaultValue: 0
20.44: IM6 Cmd Type: Permissive
20.45: IM6 FallBackMode: Default
20.46: IM6 DefaultValue: 0
20.48: IM7 Cmd Type: Permissive
20.49: IM7 FallBackMode: Default
20.4A: IM7 DefaultValue: 0
20.4C: IM8 Cmd Type: Permissive
20.4D: IM8 FallBackMode: Default
20.4E: IM8 DefaultValue: 0
20.60: Char Mod Reset: Disabled
20.61: Char Mod RstTime:500.0 ms

SECURITY CONFIG

25.01: User Banner: ACCESS ONLY FOR AUTHORISED USERS
25.02: Attempts Limit: 3
25.03: Attempts Timer: 2
25.04: Blocking Timer: 5
25.11: Attempts Remain: 3
25.12: Blk Time Remain: 0
25.20: Fallbck PW level: 1

CTRL I/P LABELS

29.01: Control Input 1: Control Input 1
29.02: Control Input 2: Control Input 2
29.03: Control Input 3: Control Input 3
29.04: Control Input 4: Control Input 4
29.05: Control Input 5: Control Input 5
29.06: Control Input 6: Control Input 6
29.07: Control Input 7: Control Input 7
29.08: Control Input 8: Control Input 8
29.09: Control Input 9: Control Input 9
29.0A: Control Input 10: Control Input 10
29.0B: Control Input 11: Control Input 11
29.0C: Control Input 12: Control Input 12



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29.0D: Control Input 13: Control Input 13
29.0E: Control Input 14: Control Input 14
29.0F: Control Input 15: Control Input 15
29.10: Control Input 16: Control Input 16
29.11: Control Input 17: Control Input 17
29.12: Control Input 18: Control Input 18
29.13: Control Input 19: Control Input 19
29.14: Control Input 20: Control Input 20
29.15: Control Input 21: Control Input 21
29.16: Control Input 22: Control Input 22
29.17: Control Input 23: Control Input 23
29.18: Control Input 24: Control Input 24
29.19: Control Input 25: Control Input 25
29.1A: Control Input 26: Control Input 26
29.1B: Control Input 27: Control Input 27
29.1C: Control Input 28: Control Input 28
29.1D: Control Input 29: Control Input 29
29.1E: Control Input 30: Control Input 30
29.1F: Control Input 31: Control Input 31
29.20: Control Input 32: Control Input 32

GROUP 1 LINE PARAMETERS

30.01: Line Length: 3190 m
30.02: Line Length: 1.981 mi
30.03: Line Impedance: 580.0 mOhm
30.04: Line Angle: 85.00 deg
30.05: kZN Res Comp: 920.0e-3
30.06: kZN Res Angle: -3.000 deg
30.07: Mutual Comp: Disabled
30.08: kZm Mutual Set.: 1.000
30.09: kZm Mutual Angle: 0 deg
30.0A: Mutual Cut Off: 0
30.0B: Phase Sequence: Standard ABC
30.0C: Tripping Mode: 1 and 3 Pole
30.10: Line Charging Y: 2.000 mS

GROUP 1 DISTANCE SETUP

31.0C: Setting Mode: Advanced
31.10: PHASE DISTANCE:
31.11: Phase Chars.: Quad
31.12: Quad Resistance: Proportional
31.13: Fault Resistance: 10.00 Ohm
31.20: Zone 1 Ph Status: Enabled
31.21: Zone 1 Ph Reach: 80.00 %
31.30: Zone 2 Ph Status: Enabled
31.31: Zone 2 Ph Reach: 150.0 %
31.40: Zone 3 Ph Status: Enabled
31.41: Zone 3 Ph Reach: 250.0 %
31.42: Zone 3 Ph Dir.: Forward
31.43: Zone 3 Ph Offset: 10.00 %
31.50: Zone P Ph Status: Disabled
31.51: Zone P Ph Dir.: Forward
31.52: Zone P Ph Reach: 200.0 %
31.53: Zone P Ph Offset: 10.00 %
31.60: Zone 4 Ph Status: Enabled
31.61: Zone 4 Ph Reach: 150.0 %
31.70: GROUND DISTANCE:
31.71: Ground Chars.: Quad
31.72: Quad Resistance: Proportional
31.73: Fault Resistance: 10.00 Ohm
31.80: Zone 1 Gnd Stat.: Enabled
31.81: Zone 1 Gnd Reach: 80.00 %
31.90: Zone 2 Gnd Stat.: Enabled
31.91: Zone 2 Gnd Reach: 150.0 %
31.A0: Zone 3 Gnd Stat.: Enabled
31.A1: Zone 3 Gnd Reach: 250.0 %
31.A2: Zone 3 Gnd Dir.: Forward
31.A3: Zone3 Gnd Offset: 10.00 %



Settings File Report

Substation:

File: 270924.set

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31.B0: Zone P Gnd Stat.: Disabled
31.B1: Zone P Gnd Dir.: Forward
31.B2: Zone P Gnd Reach: 200.0 %
31.B3: ZoneP Gnd Offset: 10.00 %
31.C0: Zone 4 Gnd Stat.: Enabled
31.C1: Zone 4 Gnd Reach: 150.0 %
31.D0: Digital Filter: Standard
31.D1: CVT Filters: Disabled
31.D2: SIR Setting: 30
31.D3: Load Blinders: Enabled
31.D4: Z< Blinder Imp: 42.00 Ohm
31.D5: Load/B Angle: 61.00 deg
31.D6: Load Blinder V<: 44.50 V
31.D7: Dist. Polarizing: 1.000
31.E0: DELTADIRECTIONAL:
31.E1: Dir. Status: Enabled
31.E2: AidedDeltaStatus: Phase Only
31.E3: Dir. Char Angle: 30.00 deg
31.E4: Dir. V Fwd: 5.000 V
31.E5: Dir. V Rev: 4.000 V
31.E6: Dir. I Fwd: 100.0 mA
31.E7: Dir. I Rev: 80.00 mA
31.F0: DIST STUB BUS:
31.F1: Dist Stub Bus: Disabled
31.F2: Stub Bus I>: 2.000 A
31.F3: Stub Bus Time: 0 s

GROUP 1 DIST. ELEMENTS

32.01: PHASE DISTANCE:
32.02: Z1 Ph. Reach: 470.0 mOhm
32.03: Z1 Ph. Angle: 85.00 deg
32.07: R1 Ph. Resistive: 25.40 Ohm
32.08: Z1 Tilt Top Line: -3.000 deg
32.09: Z1 Sensit. Iph>1: 75.00 mA
32.10: Z2 Ph. Reach: 18.05 Ohm
32.11: Z2 Ph. Angle: 85.00 deg
32.15: R2 Ph. Resistive: 25.40 Ohm
32.16: Z2 Tilt Top Line: -3.000 deg
32.17: Z2 Sensit. Iph>2: 75.00 mA
32.20: Z3 Ph. Reach: 28.52 Ohm
32.21: Z3 Ph. Angle: 85.00 deg
32.22: Z3' Ph Rev Reach: 1.000 Ohm
32.25: R3 Ph. Resistive: 25.40 Ohm
32.26: R3' Ph. Res. Rev: 1.000 Ohm
32.27: Z3 Tilt Top Line: -3.000 deg
32.28: Z3 Sensit. Iph>3: 50.00 mA
32.30: ZP Ph. Reach: 20.00 Ohm
32.31: ZP Ph. Angle: 70.00 deg
32.32: ZP' Ph Rev Reach: 1.000 Ohm
32.33: RP' Ph. Res. Rev: 1.000 Ohm
32.35: RP Ph Resistive: 20.00 Ohm
32.36: ZP Tilt Top Line: -3.000 deg
32.37: ZP Sensit. Iph>P: 50.00 mA
32.40: Z4 Ph. Reach: 120.0 mOhm
32.41: Z4 Ph. Angle: 85.00 deg
32.42: R4 Ph. Resistive: 25.40 Ohm
32.45: Z4 Tilt Top Line: -3.000 deg
32.46: Z4 Sensit. Iph>4: 50.00 mA
32.50: GROUND DISTANCE:
32.51: Z1 Gnd. Reach: 470.0 mOhm
32.52: Z1 Gnd. Angle: 85.00 deg
32.53: Z1 Dynamic Tilt: Enabled
32.54: Z1 Tilt Top Line: -3.000 deg
32.55: kZN1 Res. Comp.: 920.0e-3
32.56: kZN1 Res. Angle: -3.000 deg
32.57: kZm1 Mut. Comp.: 1.000
32.58: kZm1 Mut. Angle: 0 deg



Settings File Report

Substation:

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32.59: R1 Gnd Resistive: 33.87 Ohm
32.5B: Z1 Sensit Ignd>1: 75.00 mA
32.60: Z2 Gnd. Reach: 18.05 Ohm
32.61: Z2 Gnd. Angle: 85.00 deg
32.63: Z2 Dynamic Tilt: Enabled
32.64: Z2 Tilt Top Line: -3.000 deg
32.65: kZN2 Res. Comp.: 920.0e-3
32.66: kZN2 Res. Angle: -3.000 deg
32.67: kZm2 Mut. Comp.: 1.000
32.68: kZm2 Mut. Angle: 0 deg
32.69: R2 Gnd Resistive: 33.87 Ohm
32.6B: Z2 Sensit Ignd>2: 75.00 mA
32.70: Z3 Gnd. Reach: 28.52 Ohm
32.71: Z3 Gnd. Angle: 85.00 deg
32.72: Z3' Gnd Rev Rch: 1.000 Ohm
32.73: Z3 Dynamic Tilt: Enabled
32.74: Z3 Tilt Top Line: -3.000 deg
32.75: kZN3 Res. Comp.: 920.0e-3
32.76: kZN3 Res. Angle: -3.000 deg
32.77: kZm3 Mut. Comp.: 1.000
32.78: kZm3 Mut. Angle: 0 deg
32.79: R3 Gnd Resistive: 33.87 Ohm
32.7A: R3' Gnd Res. Rev: 1.000 Ohm
32.7C: Z3 Sensit Ignd>3: 50.00 mA
32.80: ZP Gnd. Reach: 20.00 Ohm
32.81: ZP Gnd. Angle: 70.00 deg
32.82: ZP' Gnd Rev Rch: 1.000 Ohm
32.83: ZP Dynamic Tilt: Enabled
32.84: ZP Tilt Top Line: -3.000 deg
32.85: kZNP Res. Comp.: 1.000
32.86: kZNP Res. Angle: 0 deg
32.87: kZmP Mut. Comp.: 1.000
32.88: kZmP Mut. Angle: 0 deg
32.89: RP Gnd Resistive: 20.00 Ohm
32.8A: RP' Gnd Res. Rev: 1.000 Ohm
32.8B: ZP Sensit Ignd>P: 50.00 mA
32.90: Z4 Gnd. Reach: 120.0 mOhm
32.91: Z4 Gnd. Angle: 85.00 deg
32.93: Z4 Dynamic Tilt: Enabled
32.94: Z4 Tilt Top Line: -3.000 deg
32.95: kZN4 Res. Comp.: 920.0e-3
32.96: kZN4 Res. Angle: -3.000 deg
32.97: kZm4 Mut. Comp.: 1.000
32.98: kZm4 Mut. Angle: 0 deg
32.99: R4 Gnd Resistive: 33.87 Ohm
32.9B: Z4 Sensit Ignd>4: 50.00 mA
32.B0: Mem Volt Dura: 16



GROUP 1 CURRENT DIFF

33.01: Phase Diff: Enabled
33.02: Phase Is1: 200.0 mA
33.03: Phase Is2: 2.000 A
33.04: Phase k1: 30.00 %
33.05: Phase k2: 100.0 %
33.06: Phase Is1: 250.0 mA
33.07: Phase Is2: 2.000 A
33.08: Phase k1: 30.00 %
33.09: Phase k2: 150.0 %
33.0A: Phase Char: DT
33.0B: Phase Time Delay: 0 s
33.0C: Phase TMS: 1.000
33.0D: Phase Time Dial: 1.000
33.0E: PIT Time: 0 s
33.0F: Ph CT Corr'tion: 1.000
33.10: Compensation: None
33.11: Susceptance: 10.00 nS
33.12: Inrush Restraint: Disabled



Settings File Report

Substation:

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33.14: Ih(2) Multiplier: 4.000
33.15: Vectorial Comp: Yy0 (0 deg)
33.16: Phase Is1 CTS: 1.200 A
33.17: PIT I selection: Remote
33.20: Ih(2) %>:15.00 %
33.21: Ih(2) CrossBlock: Disabled
33.27: Ih(5) Blocking: Disabled
33.28: Ih(5) %>:35.00 %
33.29: Ih(5) CrossBlock: Disabled
33.30: Highset Status: Disabled
33.31: Id High Set: 4.000 A
33.38: Transient Bias: Disabled
33.3F: NEUTRAL DIFF:
33.40: In Diff: Disabled
33.41: In Diff Time: 0 s
33.42: In Diff Is1: 100.0 mA
33.43: In Diff Is2: 2.000 A
33.44: In Diff k1: 10.00 %
33.60: Ph Diff Stub Bus: Disabled
33.61: Ph Is1 StubBus: 2.000 A
33.90: STARTERS:
33.91: Delta I2: Disabled
33.92: Delta I2 Low: 200.0 mA
33.94: Delta I1: Disabled
33.95: Delta I1 Low: 400.0 mA
33.97: Start I2: Disabled
33.98: Start I2 Low: 200.0 mA
33.9A: Start I1: Disabled
33.9B: Start I1 Low: 1.500 A
33.B2: Reset Low Time: 600.0 ms
GROUP 1 SCHEME LOGIC
34.01: BASIC SCHEME:
34.02: BasicScheme Mode: Standard
34.08: Zone1 Tripping: Phase And Ground
34.09: tZ1 Ph. Delay: 0 s
34.0A: tZ1 Gnd. Delay: 0 s
34.10: Zone2 Tripping: Phase And Ground
34.11: tZ2 Ph. Delay: 400.0 ms
34.12: tZ2 Gnd. Delay: 400.0 ms
34.18: Zone3 Tripping: Phase And Ground
34.19: tZ3 Ph. Delay: 1.000 s
34.1A: tZ3 Gnd. Delay: 1.000 s
34.20: ZoneP Tripping: Disabled
34.21: tZP Ph. Delay: 400.0 ms
34.22: tZP Gnd. Delay: 400.0 ms
34.28: Zone4 Tripping: Phase And Ground
34.29: tZ4 Ph. Delay: 1.000 s
34.2A: tZ4 Gnd. Delay: 1.000 s
34.40: AIDED SCHEME 1:
34.41: Aid. 1 Selection: POR
34.42: Aid 1 Distance: Phase And Ground
34.43: Aid.1 Dist. Dly: 0 s
34.44: Aid. 1 DEF: Disabled
34.45: Aid. 1 DEF Dly.: 0 s
34.46: Aid. 1 DEF Trip: 3 Pole
34.47: Aid. 1 Delta: Disabled
34.48: Aid. 1 Delta Dly: 0 s
34.49: Aid. 1 DeltaTrip: 3 Pole
34.4A: tRev. Guard: 20.00 ms
34.4B: Unblocking Delay: 50.00 ms
34.4C: Send On Trip: Aided / Z1
34.50: Weak Infeed: Disabled
34.51: WI Sngl Pole Trp: Disabled
34.52: WI V<Thresh.: 45.00 V
34.53: WI Trip Delay: 60.00 ms
34.58: Custom Send Mask: 0000000001



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..... 34.59: Custom Time PU: 0 s
..... 34.5A: Custom Time DO: 0 s
..... 34.60: AIDED SCHEME 2:
..... 34.61: Aid. 2 Selection: Disabled
..... 34.62: Aid 2 Distance: Disabled
..... 34.63: Aid.2 Dist. Dly: 20.00 ms
..... 34.64: Aid. 2 DEF: Enabled
..... 34.65: Aid. 2 DEF Dly.: 20.00 ms
..... 34.66: Aid. 2 DEF Trip: 3 Pole
..... 34.67: Aid. 2 Delta: Disabled
..... 34.68: Aid. 2 Delta Dly: 20.00 ms
..... 34.69: Aid. 2 DeltaTrip: 3 Pole
..... 34.6A: tRev. Guard: 20.00 ms
..... 34.6B: Unblocking Delay: 50.00 ms
..... 34.6C: Send On Trip: Aided / Z1
..... 34.70: Weak Infeed: Disabled
..... 34.71: WI Sngl Pole Trp: Disabled
..... 34.72: WI V<Thresh.: 45.00 V
..... 34.73: WI Trip Delay: 60.00 ms
..... 34.78: Custom Send Mask: 0000000001
..... 34.79: Custom Time PU: 0 s
..... 34.7A: Custom Time DO: 0 s
..... 34.80: TRIP ON CLOSE:
..... 34.81: SOTF Status: Enabled PoleDead
..... 34.82: SOTF Delay: 110.0 s
..... 34.83: SOTF Tripping: 000001
..... 34.84: TOR Status: Enabled
..... 34.85: TOR Tripping: 000001
..... 34.86: TOC Reset Delay: 500.0 ms
..... 34.87: SOTF Pulse: 500.0 ms
..... 34.88: TOC Delay: 200.0 ms
..... 34.B0: Z1 EXTENSION:
..... 34.B1: Z1 Ext Scheme: Disabled
..... 34.B2: Z1 Ext Ph: 150.0 %
..... 34.B3: Z1 Ext Gnd: 150.0 %
..... 34.C0: LOSS OF LOAD:
..... 34.C1: LOL Scheme: Disabled
..... 34.C3: LOL <I: 500.0 mA
..... 34.C4: LOL Window: 40.00 ms
..... GROUP 1 OVERCURRENT
..... 35.01: I>1 Status: Enabled
..... 35.02: I>1 Function: IEC S Inverse
..... 35.03: I>1 Directional: Non-Directional
..... 35.04: I>1 Current Set: 1.070 A
..... 35.05: I>1 Time Delay: 1.000 s
..... 35.06: I>1 TMS: 450.0e-3
..... 35.07: I>1 Time Dial: 1.000
..... 35.08: I>1 Reset Char: DT
..... 35.09: I>1 tRESET: 0 s
..... 35.0A: I>2 Status: Disabled
..... 35.0B: I>2 Function: IEC S Inverse
..... 35.0C: I>2 Directional: Non-Directional
..... 35.0D: I>2 Current Set: 1.000 A
..... 35.0E: I>2 Time Delay: 1.000 s
..... 35.0F: I>2 TMS: 1.000
..... 35.10: I>2 Time Dial: 1.000
..... 35.11: I>2 Reset Char: DT
..... 35.12: I>2 tRESET: 0 s
..... 35.13: I>3 Status: Disabled
..... 35.14: I>3 Directional: Directional Fwd
..... 35.15: I>3 Current Set: 10.00 A
..... 35.16: I>3 Time Delay: 0 s
..... 35.18: I>4 Status: Disabled
..... 35.19: I>4 Directional: Non-Directional
..... 35.1A: I>4 Current Set: 10.00 A
..... 35.1B: I>4 Time Delay: 0 s



Settings File Report
Substation:
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.....	35.1C: I> Char Angle:	30.00 deg
.....	35.1D: I> Blocking:	001111
.....	35.20: I>1 Usr Rst Char:	DT
.....	35.25: I>2 Usr Rst Char:	DT
.....	GROUP 1 NEG SEQ O/C	
.....	36.10: I2>1 Status:	Disabled
.....	36.11: I2>1 Function:	DT
.....	36.12: I2>1 Directional:	Non-Directional
.....	36.15: I2>1 Current Set:	200.0 mA
.....	36.17: I2>1 Time Delay:	10.00 s
.....	36.18: I2>1 TMS:	1.000
.....	36.19: I2>1 Time Dial:	1.000
.....	36.1C: I2>1 Reset Char:	DT
.....	36.1D: I2>1 tRESET:	0 s
.....	36.20: I2>2 Status:	Disabled
.....	36.21: I2>2 Function:	DT
.....	36.22: I2>2 Directional:	Non-Directional
.....	36.25: I2>2 Current Set:	200.0 mA
.....	36.27: I2>2 Time Delay:	10.00 s
.....	36.28: I2>2 TMS:	1.000
.....	36.29: I2>2 Time Dial:	1.000
.....	36.2C: I2>2 Reset Char:	DT
.....	36.2D: I2>2 tRESET:	0 s
.....	36.30: I2>3 Status:	Disabled
.....	36.32: I2>3 Directional:	Non-Directional
.....	36.35: I2>3 Current Set:	200.0 mA
.....	36.37: I2>3 Time Delay:	10.00 s
.....	36.40: I2>4 Status:	Disabled
.....	36.42: I2>4 Directional:	Non-Directional
.....	36.45: I2>4 Current Set:	200.0 mA
.....	36.47: I2>4 Time Delay:	10.00 s
.....	36.50: I2> VTS Blocking:	1111
.....	36.51: I2> Char Angle:	-60.00 deg
.....	36.52: I2> V2pol Set:	5.000 V
.....	GROUP 1 BROKEN CONDUCTOR	
.....	37.01: Broken Conductor:	Enabled
.....	37.02: I2/I1 Setting:	200.0e-3
.....	37.03: I2/I1 Time Delay:	15.00 s
.....	GROUP 1 EARTH FAULT	
.....	38.01: IN>1 Status:	Enabled
.....	38.25: IN>1 Function:	IEC S Inverse
.....	38.26: IN>1 Directional:	Directional Fwd
.....	38.29: IN>1 Current Set:	160.0 mA
.....	38.2A: IN>1 IDG Is:	1.500
.....	38.2C: IN>1 Time Delay:	1.000 s
.....	38.2D: IN>1 TMS:	700.0e-3
.....	38.2E: IN>1 Time Dial:	1.000
.....	38.30: IN>1 IDG Time:	1.200 s
.....	38.32: IN>1 Reset Char:	DT
.....	38.33: IN>1 tRESET:	0 s
.....	38.35: IN>2 Status:	Disabled
.....	38.36: IN>2 Function:	IEC S Inverse
.....	38.37: IN>2 Directional:	Non-Directional
.....	38.3A: IN>2 Current Set:	200.0 mA
.....	38.3B: IN>2 IDG Is:	1.500
.....	38.3D: IN>2 Time Delay:	1.000 s
.....	38.3E: IN>2 TMS:	1.000
.....	38.3F: IN>2 Time Dial:	1.000
.....	38.41: IN>2 IDG Time:	1.200 s
.....	38.43: IN>2 Reset Char:	DT
.....	38.44: IN>2 tRESET:	0 s
.....	38.46: IN>3 Status:	Disabled
.....	38.47: IN>3 Directional:	Directional Fwd
.....	38.4A: IN>3 Current Set:	10.00 A
.....	38.4B: IN>3 Time Delay:	0 s
.....	38.4D: IN>4 Status:	Disabled



Settings File Report

Substation:

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.....	38.4E: IN>4 Directional: Non-Directional
.....	38.51: IN>4 Current Set: 10.00 A
.....	38.52: IN>4 Time Delay: 0 s
.....	38.54: IN> Blocking: 001111
.....	38.55: IN> DIRECTIONAL:
.....	38.56: IN> Char Angle: -45.00 deg
.....	38.57: IN> Polarisation: Zero Sequence
.....	38.59: IN> VNpol Set: 5.000 V
.....	38.5A: IN> V2pol Set: 5.000 V
.....	38.5B: IN> I2pol Set: 80.00 mA
.....	38.60: IN>1 Usr RstChar: DT
.....	38.65: IN>2 Usr RstChar: DT
.....	GROUP 1 AIDED DEF
.....	39.02: DEF Status: Enabled
.....	39.03: DEF Polarizing: Zero Sequence
.....	39.04: DEF Char. Angle: -60.00 deg
.....	39.05: DEF VNpol Set: 1.000 V
.....	39.06: DEF V2pol Set: 1.000 V
.....	39.07: DEF FWD Set: 80.00 mA
.....	39.08: DEF REV Set: 40.00 mA
.....	39.09: Virtual I Pol: Enabled
.....	GROUP 1 SEF/REF PROT'N
.....	3A.01: SEF/REF Options: SEF Enabled
.....	3A.2A: ISEF>1 Function: DT
.....	3A.2B: ISEF>1 Direction: Non-Directional
.....	3A.2E: ISEF>1 Current: 50.00 mA
.....	3A.2F: ISEF>1 IDG Is: 1.500
.....	3A.31: ISEF>1 Delay: 1.000 s
.....	3A.32: ISEF>1 TMS: 1.000
.....	3A.33: ISEF>1 Time Dial: 1.000
.....	3A.34: ISEF>1 IDG Time: 1.200 s
.....	3A.36: ISEF>1 Reset Chr: DT
.....	3A.37: ISEF>1 tRESET: 0 s
.....	3A.3A: ISEF>2 Function: Disabled
.....	3A.3B: ISEF>2 Direction: Non-Directional
.....	3A.3E: ISEF>2 Current: 50.00 mA
.....	3A.3F: ISEF>2 IDG Is: 1.500
.....	3A.41: ISEF>2 Delay: 1.000 s
.....	3A.42: ISEF>2 TMS: 1.000
.....	3A.43: ISEF>2 Time Dial: 1.000
.....	3A.44: ISEF>2 IDG Time: 1.200 s
.....	3A.46: ISEF>2 Reset Chr: DT
.....	3A.47: ISEF>2 tRESET: 0 s
.....	3A.49: ISEF>3 Status: Disabled
.....	3A.4A: ISEF>3 Direction: Non-Directional
.....	3A.4D: ISEF>3 Current: 400.0 mA
.....	3A.4E: ISEF>3 Delay: 500.0 ms
.....	3A.50: ISEF>4 Status: Disabled
.....	3A.51: ISEF>4 Direction: Non-Directional
.....	3A.54: ISEF>4 Current: 600.0 mA
.....	3A.55: ISEF>4 Delay: 250.0 ms
.....	3A.57: ISEF> Blocking: 001111
.....	3A.58: ISEF DIRECTIONAL:
.....	3A.59: ISEF> Char Angle: 90.00 deg
.....	3A.5B: ISEF> VNpol Set: 5.000 V
.....	3A.5D: WATTMETRIC SEF:
.....	3A.5E: PN> Setting: 9.000 W
.....	3A.60: RESTRICTED E/F:
.....	3A.65: IREF> Is: 200.0 mA
.....	3A.70: ISEF>1 UsrRstChr: DT
.....	3A.75: ISEF>2 UsrRstChr: DT
.....	GROUP 1 RESIDUAL O/V NVD
.....	3B.01: VN Input: Derived
.....	3B.02: VN>1 Function: DT
.....	3B.03: VN>1 Voltage Set: 5.000 V
.....	3B.04: VN>1 Time Delay: 5.000 s



Settings File Report

Substation:

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3B.05: VN>1 TMS:	1.000
3B.06: VN>1 tReset:	0 s
3B.07: VN>2 Status:	Disabled
3B.08: VN>2 Voltage Set:	10.00 V
3B.09: VN>2 Time Delay:	10.00 s
GROUP 1 THERMAL OVERLOAD	
3C.01: Characteristic:	Single
3C.02: Thermal Trip:	1.000 A
3C.03: Thermal Alarm:	70.00 %
3C.04: Time Constant 1:	10.00 min
3C.05: Time Constant 2:	5.000 min
GROUP 1 POWER SWING BLK.	
3D.01: PSB Status:	Blocking
3D.03: Zone 1 Ph. PSB:	Allow Trip
3D.05: Zone 2 Ph. PSB:	Delayed Unblock
3D.07: Zone 3 Ph. PSB:	Delayed Unblock
3D.09: Zone P Ph. PSB:	Blocking
3D.0B: Zone 4 Ph. PSB:	Delayed Unblock
3D.0D: Zone 1 Gnd. PSB:	Blocking
3D.0F: Zone 2 Gnd. PSB:	Blocking
3D.11: Zone 3 Gnd. PSB:	Blocking
3D.13: Zone P Gnd. PSB:	Blocking
3D.15: Zone 4 Gnd. PSB:	Blocking
3D.16: WI Trip PSB:	Inhibit Trip
3D.20: PSB Unblocking:	Enabled
3D.21: PSB Unblock dly:	2.000 s
3D.22: PSB Reset Delay:	200.0 ms
3D.23: OST Mode:	OST Disabled
3D.24: OST Z5:	30.00 Ohm
3D.25: OST Z6:	32.00 Ohm
3D.26: OST Z5':	-30.00 Ohm
3D.27: OST Z6':	-32.00 Ohm
3D.28: OST R5:	20.00 Ohm
3D.29: OST R6:	22.00 Ohm
3D.2A: OST R5':	-20.00 Ohm
3D.2B: OST R6':	-22.00 Ohm
3D.2C: Blinder Angle:	80.00 deg
3D.2D: delta T:	40.00 ms
3D.2E: Tost:	0 s
3D.40: Slow Swing:	Enabled
3D.41: PSB Z7:	28.52 Ohm
3D.42: PSB Z8:	33.60 Ohm
3D.43: PSB Z7':	-28.52 Ohm
3D.44: PSB Z8':	-33.60 Ohm
3D.45: PSB R7:	25.40 Ohm
3D.46: PSB R8:	30.48 Ohm
3D.47: PSB R7':	-25.40 Ohm
3D.48: PSB R8':	-30.48 Ohm
3D.49: Alpha:	85.00 deg
3D.4A: PSB Timer:	50.00 ms
GROUP 1 VOLT PROTECTION	
42.01: UNDER VOLTAGE:	
42.02: V< Measur't Mode:	V<1 & V<2 Ph-Ph
42.03: V< Operate Mode:	V<1 & V<2 Any Ph
42.04: V<1 Function:	DT
42.05: V<1 Voltage Set:	80.00 V
42.06: V<1 Time Delay:	10.00 s
42.07: V<1 TMS:	1.000
42.08: V<1 Poledead Inh:	Enabled
42.09: V<2 Status:	Disabled
42.0A: V<2 Voltage Set:	60.00 V
42.0B: V<2 Time Delay:	5.000 s
42.0C: V<2 Poledead Inh:	Enabled
42.0D: OVERVOLTAGE:	
42.0E: V> Measur't Mode:	V>1 & V>2 Ph-Ph
42.0F: V> Operate Mode:	V>1 & V>2 Any Ph



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42.10: V>1 Function: DT
42.11: V>1 Voltage Set: 130.0 V
42.12: V>1 Time Delay: 10.00 s
42.13: V>1 TMS: 1.000
42.14: V>2 Status: Disabled
42.15: V>2 Voltage Set: 150.0 V
42.16: V>2 Time Delay: 500.0 ms
42.20: COMP OVERVOLTAGE:
42.23: V1>1 Cmp Funct: Disabled
42.24: V1>1 Cmp Vlt Set: 75.00 V
42.25: V1>1 Cmp Tim Dly: 10.00 s
42.26: V1>1 Cmp TMS: 1.000
42.27: V1>2 Cmp Status: Disabled
42.28: V1>2 Cmp Vlt Set: 85.00 V
42.29: V1>2 Cmp Tim Dly: 500.0 ms

GROUP 1 FREQ PROTECTION

43.01: UNDER FREQUENCY:
43.02: F<1 Status: Enabled
43.03: F<1 Setting: 49.50 Hz
43.04: F<1 Time Delay: 4.000 s
43.05: F<2 Status: Disabled
43.06: F<2 Setting: 49.00 Hz
43.07: F<2 Time Delay: 3.000 s
43.08: F<3 Status: Disabled
43.09: F<3 Setting: 48.50 Hz
43.0A: F<3 Time Delay: 2.000 s
43.0B: F<4 Status: Disabled
43.0C: F<4 Setting: 48.00 Hz
43.0D: F<4 Time Delay: 1.000 s
43.0E: F< Function Link: 0000
43.0F: OVER FREQUENCY:
43.10: F>1 Status: Enabled
43.11: F>1 Setting: 50.50 Hz
43.12: F>1 Time Delay: 2.000 s
43.13: F>2 Status: Disabled
43.14: F>2 Setting: 51.00 Hz
43.15: F>2 Time Delay: 1.000 s

GROUP 1 DF/DT PROTECTION

44.01: df/dt Avg.Cycles: 6
44.04: df/dt>1 Status: Enabled
44.05: df/dt>1 Setting: 2.000 Hz/s
44.06: df/dt>1 Dir'n: Negative
44.07: df/dt>1 Time: 500.0 ms
44.0B: df/dt>2 Status: Enabled
44.0C: df/dt>2 Setting: 2.000 Hz/s
44.0D: df/dt>2 Dir'n: Negative
44.0E: df/dt>2 Time: 1.000 s
44.12: df/dt>3 Status: Enabled
44.13: df/dt>3 Setting: 2.000 Hz/s
44.14: df/dt>3 Dir'n: Negative
44.15: df/dt>3 Time: 2.000 s
44.19: df/dt>4 Status: Enabled
44.1A: df/dt>4 Setting: 2.000 Hz/s
44.1B: df/dt>4 Dir'n: Negative
44.1C: df/dt>4 Time: 3.000 s

GROUP 1 CB FAIL & P.DEAD

45.01: BREAKER FAIL:
45.02: CB Fail 1 Status: Enabled
45.03: CB Fail 1 Timer: 200.0 ms
45.04: CB Fail 2 Status: Disabled
45.05: CB Fail 2 Timer: 400.0 ms
45.06: Non I Prot Reset: Prot Reset & I<
45.07: Ext Prot Reset: Prot Reset & I<
45.08: WI Prot Reset: Disabled
45.09: ExtTrip Only Ini: Disabled
45.0A: UNDER CURRENT:



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45.0B: I< Current Set:	50.00 mA
45.0D: ISEF< Current:	20.00 mA
45.0E: POLEDEAD VOLTAGE:	
45.10: V<:	38.10 V
GROUP 1 SUPERVISION	
46.01: VTS Mode:	Measured Only
46.02: VTS Status:	Blocking
46.03: VTS Reset Mode:	Auto
46.04: VTS Time Delay:	2.000 s
46.05: VTS I> Inhibit:	3.000 A
46.06: VTS I2> Inhibit:	60.00 mA
46.0E: Inrush Detection:	Disabled
46.0F: I>2nd Harmonic:	20.00 %
46.10: WEAK INFEEED BLK:	
46.11: WI Inhibit:	Disabled
46.12: I0/I2 Setting:	3.000
46.20: ISEF HARM. BLOCK:	
46.21: ISEF>2nd Detect.:	Disabled
46.22: ISEF>2nd Harm.:	20.00 %
46.30: CT SUPERVISION:	
46.31: CTS Mode:	Disabled
46.32: CTS Status:	Restrain
46.33: CTS Reset Mode:	Manual
46.34: CTS Time Delay:	5.000 s
46.35: CTS VN< Inhibit:	5.000 V
46.36: CTS IN> Set:	100.0 mA
46.37: CTS i1>:	100.0 mA
46.38: CTS i2/i1>:	50.00e-3
46.39: CTS i2/i1>>:	400.0e-3
46.50: DIFF SUPERVISION:	
46.51: IDiffSupervision:	Disabled
46.52: IDiff Sup Reset:	Auto
46.53: IDiff Isup1:	80.00 %
46.54: IDiff Isup2:	200.0 %
46.55: Idiff Sup Tdelay:	5.000 s
GROUP 1 SYSTEM CHECKS	
48.14: VOLTAGE MONITORS:	
48.85: Live Line:	32.00 V
48.86: Dead Line:	13.00 V
48.87: Live Bus:	32.00 V
48.88: Dead Bus:	13.00 V
48.8B: CS UV:	54.00 V
48.8C: CS OV:	130.0 V
48.8D: System Checks:	Disabled
48.8E: CS Voltage Block:	V<
48.8F: CS1 Status:	Enabled
48.90: CS1 Angle:	20.00 deg
48.91: CS1 VDiff:	6.500 V
48.92: CS1 Slip Ctrl:	Enabled
48.93: CS1 SlipFreq:	50.00 mHz
48.94: CS2 Status:	Disabled
48.95: CS2 Angle:	20.00 deg
48.96: CS2 VDiff:	6.500 V
48.97: CS2 Slip Ctrl:	Enabled
48.98: CS2 SlipFreq:	50.00 mHz
48.99: CS2 Adaptive:	Disabled
48.9A: CB Cl Time:	50.00 ms
48.B0: MAN SYS CHECKS:	
48.B2: CBM SC required:	Disabled
48.B3: CBM SC CS1:	Disabled
48.B4: CBM SC CS2:	Disabled
48.B5: CBM SC DLLB:	Disabled
48.B6: CBM SC LLDB:	Disabled
48.B7: CBM SC DLDB:	Disabled
GROUP 1 AUTORECLOSE	
49.51: AR Mode:	AR 3P



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49.59: AR Shots: 1
49.5A: AR Skip Shot 1: Disabled
49.5C: Multi Phase AR: Allow Autoclose
49.5D: Discrim Time: 100.0 ms
49.60: CB IS Time: 5.000 s
49.61: CB IS MemoryTime: 500.0 ms
49.62: DT Start by Prot: Protection Reset
49.63: 3PDTStart WhenLD: Disabled
49.64: DTStart by CB Op: Disabled
49.66: Dead Line Time: 5.000 s
49.67: SP AR Dead Time: 500.0 ms
49.68: 3P AR DT Shot 1: 300.0 ms
49.69: 3P AR DT Shot 2: 60.00 s
49.6A: 3P AR DT Shot 3: 60.00 s
49.6B: 3P AR DT Shot 4: 60.00 s
49.6D: SPAR ReclaimTime: 60.00 s
49.6E: 3PAR ReclaimTime: 180.0 s
49.6F: AR CBHealthyTime: 5.000 s
49.70: AR CheckSyncTime: 5.000 s
49.72: Z1 AR: Initiate AR
49.73: Diff AR: Initiate AR
49.74: Dist Aided AR: Initiate AR
49.75: Z2T AR: Block AR
49.76: Z3T AR: Block AR
49.77: ZPT AR: Block AR
49.78: Z4T AR: Block AR
49.79: DEF Aided AR: Block AR
49.7A: Dir Aided AR: Block AR
49.7B: TOR AR: Block AR
49.7C: I>1 AR: No Action
49.7D: I>2 AR: No Action
49.7E: I>3 AR: No Action
49.7F: I>4 AR: No Action
49.80: IN>1 AR: No Action
49.81: IN>2 AR: No Action
49.82: IN>3 AR: No Action
49.83: IN>4 AR: No Action
49.84: ISEF>1 AR: No Action
49.85: ISEF>2 AR: No Action
49.86: ISEF>3 AR: No Action
49.87: ISEF>4 AR: No Action
49.88: Neutral Diff AR: Initiate AR
49.A5: AR SYS CHECKS:
49.A6: CB SC all: Disabled
49.A7: CB SC Shot 1: Disabled
49.A8: CB SC ClsNoDly: Disabled
49.A9: CB SC CS1: Disabled
49.AA: CB SC CS2: Disabled
49.AB: CB SC DLLB: Disabled
49.AC: CB SC LLDB: Disabled
49.AD: CB SC DLDB: Disabled
GROUP 1 INPUT LABELS
4A.01: Opto Input 1: L1 MCB R-PH CLS
4A.02: Opto Input 2: L2 MCB Y-PH CLS
4A.03: Opto Input 3: L3 MCB B-PH CLS
4A.04: Opto Input 4: L4 M-2 DT REC-2
4A.05: Opto Input 5: L5 CAR CH-2 O/S
4A.06: Opto Input 6: L6 TBC CB CLOSE
4A.07: Opto Input 7: L7 SPARE
4A.08: Opto Input 8: L8 SOTF INIT
4A.09: Opto Input 9: L9 SOTF TBC INIT
4A.0A: Opto Input 10: L10 SPARE
4A.0B: Opto Input 11: L11 CARR CH2 HLY
4A.0C: Opto Input 12: L12 CARR REC-2
4A.0D: Opto Input 13: L13 GRP-B OPTD
4A.0E: Opto Input 14: L14 AR L/O SUPN



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4A.0F: Opto Input 15: L15 86B SUPVN
4A.10: Opto Input 16: L16 AR L/O OPTD
4A.11: Opto Input 17: Input L17
4A.12: Opto Input 18: Input L18
4A.13: Opto Input 19: Input L19
4A.14: Opto Input 20: Input L20
4A.15: Opto Input 21: Input L21
4A.16: Opto Input 22: Input L22
4A.17: Opto Input 23: Input L23
4A.18: Opto Input 24: Input L24
4A.19: Opto Input 25: Input L25
4A.1A: Opto Input 26: Input L26
4A.1B: Opto Input 27: Input L27
4A.1C: Opto Input 28: Input L28
4A.1D: Opto Input 29: Input L29
4A.1E: Opto Input 30: Input L30
4A.1F: Opto Input 31: Input L31
4A.20: Opto Input 32: Input L32



GROUP 1 OUTPUT LABELS

4B.01: Relay 1: R1 MCB TC-1 R-PH
4B.02: Relay 2: R2 MCB TC-1 Y-PH
4B.03: Relay 3: R3 MCB TC-1 B-PH
4B.04: Relay 4: R4 CMR R-PH
4B.05: Relay 5: R5 CMR Y-PH
4B.06: Relay 6: R6 CMR B-PH
4B.07: Relay 7: R7 DT SEND CH-1
4B.08: Relay 8: R8 DT SEND CH-2
4B.09: Relay 9: R9 GRP-B TRIP
4B.0A: Relay 10: R10 GRP-A TRIP
4B.0B: Relay 11: R11 TCB TC-1 RPH
4B.0C: Relay 12: R12 TCB TC-1 YPH
4B.0D: Relay 13: R13 TCB TC-1 BPH
4B.0E: Relay 14: R14 CARR SEND
4B.0F: Relay 15: Output R15
4B.10: Relay 16: Output R16
4B.11: Relay 17: Output R17
4B.12: Relay 18: Output R18
4B.13: Relay 19: Output R19
4B.14: Relay 20: Output R20
4B.15: Relay 21: Output R21
4B.16: Relay 22: Output R22
4B.17: Relay 23: Output R23
4B.18: Relay 24: Output R24
4B.19: Relay 25: Output R25
4B.1A: Relay 26: Output R26
4B.1B: Relay 27: Output R27
4B.1C: Relay 28: Output R28
4B.1D: Relay 29: Output R29
4B.1E: Relay 30: Output R30
4B.1F: Relay 31: Output R31
4B.20: Relay 32: Output R32



GROUP 2 LINE PARAMETERS

50.01: Line Length: 100.0 km
50.02: Line Length: 62.10 mi
50.03: Line Impedance: 10.00 Ohm
50.04: Line Angle: 70.00 deg
50.05: kZN Res Comp: 1.000
50.06: kZN Res Angle: 0 deg
50.07: Mutual Comp: Disabled
50.08: kZm Mutual Set.: 1.000
50.09: kZm Mutual Angle: 0 deg
50.0A: Mutual Cut Off: 0
50.0B: Phase Sequence: Standard ABC
50.0C: Tripping Mode: 3 Pole
50.10: Line Charging Y: 2.000 mS



GROUP 2 DISTANCE SETUP



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51.0C: Setting Mode: Simple
51.10: PHASE DISTANCE:
51.11: Phase Chars.: Mho
51.12: Quad Resistance: Proportional
51.13: Fault Resistance: 10.00 Ohm
51.20: Zone 1 Ph Status: Enabled
51.21: Zone 1 Ph Reach: 80.00 %
51.30: Zone 2 Ph Status: Enabled
51.31: Zone 2 Ph Reach: 150.0 %
51.40: Zone 3 Ph Status: Enabled
51.41: Zone 3 Ph Reach: 250.0 %
51.42: Zone 3 Ph Dir.: Offset
51.43: Zone 3 Ph Offset: 10.00 %
51.50: Zone P Ph Status: Disabled
51.51: Zone P Ph Dir.: Forward
51.52: Zone P Ph Reach: 200.0 %
51.53: Zone P Ph Offset: 10.00 %
51.60: Zone 4 Ph Status: Enabled
51.61: Zone 4 Ph Reach: 150.0 %
51.70: GROUND DISTANCE:
51.71: Ground Chars.: Mho
51.72: Quad Resistance: Proportional
51.73: Fault Resistance: 10.00 Ohm
51.80: Zone 1 Gnd Stat.: Enabled
51.81: Zone 1 Gnd Reach: 80.00 %
51.90: Zone 2 Gnd Stat.: Enabled
51.91: Zone 2 Gnd Reach: 150.0 %
51.A0: Zone 3 Gnd Stat.: Enabled
51.A1: Zone 3 Gnd Reach: 250.0 %
51.A2: Zone 3 Gnd Dir.: Offset
51.A3: Zone3 Gnd Offset: 10.00 %
51.B0: Zone P Gnd Stat.: Disabled
51.B1: Zone P Gnd Dir.: Forward
51.B2: Zone P Gnd Reach: 200.0 %
51.B3: ZoneP Gnd Offset: 10.00 %
51.C0: Zone 4 Gnd Stat.: Enabled
51.C1: Zone 4 Gnd Reach: 150.0 %
51.D0: Digital Filter: Standard
51.D1: CVT Filters: Disabled
51.D2: SIR Setting: 30
51.D3: Load Blinders: Disabled
51.D4: Z< Blinder Imp: 15.00 Ohm
51.D5: Load/B Angle: 45.00 deg
51.D6: Load Blinder V<: 15.00 V
51.D7: Dist. Polarizing: 1.000
51.E0: DELTADIRECTIONAL:
51.E1: Dir. Status: Enabled
51.E2: AidedDeltaStatus: Disabled
51.E3: Dir. Char Angle: 60.00 deg
51.E4: Dir. V Fwd: 5.000 V
51.E5: Dir. V Rev: 4.000 V
51.E6: Dir. I Fwd: 100.0 mA
51.E7: Dir. I Rev: 80.00 mA
51.F0: DIST STUB BUS:
51.F1: Dist Stub Bus: Disabled
51.F2: Stub Bus I>: 2.000 A
51.F3: Stub Bus Time: 0 s
GROUP 2 DIST. ELEMENTS
52.01: PHASE DISTANCE:
52.02: Z1 Ph. Reach: 8.000 Ohm
52.03: Z1 Ph. Angle: 70.00 deg
52.07: R1 Ph. Resistive: 8.000 Ohm
52.08: Z1 Tilt Top Line: -3.000 deg
52.09: Z1 Sensit. Iph>1: 75.00 mA
52.10: Z2 Ph. Reach: 15.00 Ohm
52.11: Z2 Ph. Angle: 70.00 deg



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52.15: R2 Ph. Resistive: 15.00 Ohm
52.16: Z2 Tilt Top Line: -3.000 deg
52.17: Z2 Sensit. Iph>2: 75.00 mA
52.20: Z3 Ph. Reach: 25.00 Ohm
52.21: Z3 Ph. Angle: 70.00 deg
52.22: Z3' Ph Rev Reach: 1.000 Ohm
52.25: R3 Ph. Resistive: 25.00 Ohm
52.26: R3' Ph. Res. Rev: 1.000 Ohm
52.27: Z3 Tilt Top Line: -3.000 deg
52.28: Z3 Sensit. Iph>3: 50.00 mA
52.30: ZP Ph. Reach: 20.00 Ohm
52.31: ZP Ph. Angle: 70.00 deg
52.32: ZP' Ph Rev Reach: 1.000 Ohm
52.33: RP' Ph. Res. Rev: 1.000 Ohm
52.35: RP Ph Resistive: 20.00 Ohm
52.36: ZP Tilt Top Line: -3.000 deg
52.37: ZP Sensit. Iph>P: 50.00 mA
52.40: Z4 Ph. Reach: 15.00 Ohm
52.41: Z4 Ph. Angle: 70.00 deg
52.42: R4 Ph. Resistive: 15.00 Ohm
52.45: Z4 Tilt Top Line: -3.000 deg
52.46: Z4 Sensit. Iph>4: 50.00 mA
52.50: GROUND DISTANCE:
52.51: Z1 Gnd. Reach: 8.000 Ohm
52.52: Z1 Gnd. Angle: 70.00 deg
52.53: Z1 Dynamic Tilt: Enabled
52.54: Z1 Tilt Top Line: -3.000 deg
52.55: kZN1 Res. Comp.: 1.000
52.56: kZN1 Res. Angle: 0 deg
52.57: kZm1 Mut. Comp.: 1.000
52.58: kZm1 Mut. Angle: 0 deg
52.59: R1 Gnd Resistive: 8.000 Ohm
52.5B: Z1 Sensit Ignd>1: 75.00 mA
52.60: Z2 Gnd. Reach: 15.00 Ohm
52.61: Z2 Gnd. Angle: 70.00 deg
52.63: Z2 Dynamic Tilt: Enabled
52.64: Z2 Tilt Top Line: -3.000 deg
52.65: kZN2 Res. Comp.: 1.000
52.66: kZN2 Res. Angle: 0 deg
52.67: kZm2 Mut. Comp.: 1.000
52.68: kZm2 Mut. Angle: 0 deg
52.69: R2 Gnd Resistive: 15.00 Ohm
52.6B: Z2 Sensit Ignd>2: 75.00 mA
52.70: Z3 Gnd. Reach: 25.00 Ohm
52.71: Z3 Gnd. Angle: 70.00 deg
52.72: Z3' Gnd Rev Rch: 1.000 Ohm
52.73: Z3 Dynamic Tilt: Enabled
52.74: Z3 Tilt Top Line: -3.000 deg
52.75: kZN3 Res. Comp.: 1.000
52.76: kZN3 Res. Angle: 0 deg
52.77: kZm3 Mut. Comp.: 1.000
52.78: kZm3 Mut. Angle: 0 deg
52.79: R3 Gnd Resistive: 25.00 Ohm
52.7A: R3' Gnd Res. Rev: 1.000 Ohm
52.7C: Z3 Sensit Ignd>3: 50.00 mA
52.80: ZP Gnd. Reach: 20.00 Ohm
52.81: ZP Gnd. Angle: 70.00 deg
52.82: ZP' Gnd Rev Rch: 1.000 Ohm
52.83: ZP Dynamic Tilt: Enabled
52.84: ZP Tilt Top Line: -3.000 deg
52.85: kZNP Res. Comp.: 1.000
52.86: kZNP Res. Angle: 0 deg
52.87: kZmP Mut. Comp.: 1.000
52.88: kZmP Mut. Angle: 0 deg
52.89: RP Gnd Resistive: 20.00 Ohm
52.8A: RP' Gnd Res. Rev: 1.000 Ohm



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52.8B: ZP Sensit Ignd>P: 50.00 mA
52.90: Z4 Gnd. Reach: 15.00 Ohm
52.91: Z4 Gnd. Angle: 70.00 deg
52.93: Z4 Dynamic Tilt: Enabled
52.94: Z4 Tilt Top Line: -3.000 deg
52.95: kZN4 Res. Comp.: 1.000
52.96: kZN4 Res. Angle: 0 deg
52.97: kZm4 Mut. Comp.: 1.000
52.98: kZm4 Mut. Angle: 0 deg
52.99: R4 Gnd Resistive: 15.00 Ohm
52.9B: Z4 Sensit Ignd>4: 50.00 mA
52.B0: Mem Volt Dura: 16


 GROUP 2 CURRENT DIFF

53.01: Phase Diff: Enabled
53.02: Phase Is1: 200.0 mA
53.03: Phase Is2: 2.000 A
53.04: Phase k1: 30.00 %
53.05: Phase k2: 100.0 %
53.06: Phase Is1: 200.0 mA
53.07: Phase Is2: 2.000 A
53.08: Phase k1: 30.00 %
53.09: Phase k2: 150.0 %
53.0A: Phase Char: DT
53.0B: Phase Time Delay: 0 s
53.0C: Phase TMS: 1.000
53.0D: Phase Time Dial: 1.000
53.0E: PIT Time: 200.0 ms
53.0F: Ph CT Corr'tion: 1.000
53.10: Compensation: None
53.11: Susceptance: 10.00 nS
53.12: Inrush Restraint: Disabled
53.14: Ih(2) Multiplier: 4.000
53.15: Vectorial Comp: Yy0 (0 deg)
53.16: Phase Is1 CTS: 1.200 A
53.17: PIT I selection: Remote
53.20: Ih(2) %>:15.00 %
53.21: Ih(2) CrossBlock: Disabled
53.27: Ih(5) Blocking: Disabled
53.28: Ih(5) %>:35.00 %
53.29: Ih(5) CrossBlock: Disabled
53.30: Highset Status: Disabled
53.31: Id High Set: 4.000 A
53.38: Transient Bias: Disabled

 53.3F: NEUTRAL DIFF:

53.40: In Diff: Disabled
53.41: In Diff Time: 0 s
53.42: In Diff Is1: 100.0 mA
53.43: In Diff Is2: 2.000 A
53.44: In Diff k1: 10.00 %
53.60: Ph Diff Stub Bus: Disabled
53.61: Ph Is1 StubBus: 2.000 A
 53.90: STARTERS:
53.91: Delta I2: Disabled
53.92: Delta I2 Low: 200.0 mA
53.94: Delta I1: Disabled
53.95: Delta I1 Low: 400.0 mA
53.97: Start I2: Disabled
53.98: Start I2 Low: 200.0 mA
53.9A: Start I1: Disabled
53.9B: Start I1 Low: 1.500 A
53.B2: Reset Low Time: 600.0 ms

 GROUP 2 SCHEME LOGIC

 54.01: BASIC SCHEME:
54.02: BasicScheme Mode: Standard
54.08: Zone1 Tripping: Phase And Ground
54.09: tZ1 Ph. Delay: 0 s



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54.0A: tZ1 Gnd. Delay: 0 s
54.10: Zone2 Tripping: Phase And Ground
54.11: tZ2 Ph. Delay: 200.0 ms
54.12: tZ2 Gnd. Delay: 200.0 ms
54.18: Zone3 Tripping: Phase And Ground
54.19: tZ3 Ph. Delay: 600.0 ms
54.1A: tZ3 Gnd. Delay: 600.0 ms
54.20: ZoneP Tripping: Phase And Ground
54.21: tZP Ph. Delay: 400.0 ms
54.22: tZP Gnd. Delay: 400.0 ms
54.28: Zone4 Tripping: Phase And Ground
54.29: tZ4 Ph. Delay: 1.000 s
54.2A: tZ4 Gnd. Delay: 1.000 s
54.40: AIDED SCHEME 1:
54.41: Aid. 1 Selection: Disabled
54.42: Aid 1 Distance: Phase And Ground
54.43: Aid.1 Dist. Dly: 0 s
54.44: Aid. 1 DEF: Disabled
54.45: Aid. 1 DEF Dly.: 0 s
54.46: Aid. 1 DEF Trip: 3 Pole
54.47: Aid. 1 Delta: Disabled
54.48: Aid. 1 Delta Dly: 0 s
54.49: Aid. 1 DeltaTrip: 3 Pole
54.4A: tRev. Guard: 20.00 ms
54.4B: Unblocking Delay: 50.00 ms
54.4C: Send On Trip: Aided / Z1
54.50: Weak Infeed: Disabled
54.51: WI Sngl Pole Trp: Disabled
54.52: WI V<Thresh.: 45.00 V
54.53: WI Trip Delay: 60.00 ms
54.58: Custom Send Mask: 0000000001
54.59: Custom Time PU: 0 s
54.5A: Custom Time DO: 0 s
54.60: AIDED SCHEME 2:
54.61: Aid. 2 Selection: Disabled
54.62: Aid 2 Distance: Disabled
54.63: Aid.2 Dist. Dly: 20.00 ms
54.64: Aid. 2 DEF: Enabled
54.65: Aid. 2 DEF Dly.: 20.00 ms
54.66: Aid. 2 DEF Trip: 3 Pole
54.67: Aid. 2 Delta: Disabled
54.68: Aid. 2 Delta Dly: 20.00 ms
54.69: Aid. 2 DeltaTrip: 3 Pole
54.6A: tRev. Guard: 20.00 ms
54.6B: Unblocking Delay: 50.00 ms
54.6C: Send On Trip: Aided / Z1
54.70: Weak Infeed: Disabled
54.71: WI Sngl Pole Trp: Disabled
54.72: WI V<Thresh.: 45.00 V
54.73: WI Trip Delay: 60.00 ms
54.78: Custom Send Mask: 0000000001
54.79: Custom Time PU: 0 s
54.7A: Custom Time DO: 0 s
54.80: TRIP ON CLOSE:
54.81: SOTF Status: Enabled PoleDead
54.82: SOTF Delay: 110.0 s
54.83: SOTF Tripping: 000001
54.84: TOR Status: Enabled
54.85: TOR Tripping: 000001
54.86: TOC Reset Delay: 500.0 ms
54.87: SOTF Pulse: 500.0 ms
54.88: TOC Delay: 200.0 ms
54.80: Z1 EXTENSION:
54.B1: Z1 Ext Scheme: Disabled
54.B2: Z1 Ext Ph: 150.0 %
54.B3: Z1 Ext Gnd: 150.0 %



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54.C0: LOSS OF LOAD:	
54.C1: LOL Scheme:	Disabled
54.C3: LOL <I: 500.0 mA	
54.C4: LOL Window:	40.00 ms
GROUP 2 OVERCURRENT	
55.01: I>1 Status:	Enabled
55.02: I>1 Function:	IEC S Inverse
55.03: I>1 Directional:	Non-Directional
55.04: I>1 Current Set:	1.000 A
55.05: I>1 Time Delay:	1.000 s
55.06: I>1 TMS: 1.000	
55.07: I>1 Time Dial:	1.000
55.08: I>1 Reset Char:	DT
55.09: I>1 tRESET:	0 s
55.0A: I>2 Status:	Disabled
55.0B: I>2 Function:	IEC S Inverse
55.0C: I>2 Directional:	Non-Directional
55.0D: I>2 Current Set:	1.000 A
55.0E: I>2 Time Delay:	1.000 s
55.0F: I>2 TMS: 1.000	
55.10: I>2 Time Dial:	1.000
55.11: I>2 Reset Char:	DT
55.12: I>2 tRESET:	0 s
55.13: I>3 Status:	Disabled
55.14: I>3 Directional:	Directional Fwd
55.15: I>3 Current Set:	10.00 A
55.16: I>3 Time Delay:	0 s
55.18: I>4 Status:	Disabled
55.19: I>4 Directional:	Non-Directional
55.1A: I>4 Current Set:	10.00 A
55.1B: I>4 Time Delay:	0 s
55.1C: I> Char Angle:	30.00 deg
55.1D: I> Blocking:	001111
55.20: I>1 Usr Rst Char:	DT
55.25: I>2 Usr Rst Char:	DT
GROUP 2 NEG SEQ O/C	
56.10: I2>1 Status:	Disabled
56.11: I2>1 Function:	DT
56.12: I2>1 Directional:	Non-Directional
56.15: I2>1 Current Set:	200.0 mA
56.17: I2>1 Time Delay:	10.00 s
56.18: I2>1 TMS:	1.000
56.19: I2>1 Time Dial:	1.000
56.1C: I2>1 Reset Char:	DT
56.1D: I2>1 tRESET:	0 s
56.20: I2>2 Status:	Disabled
56.21: I2>2 Function:	DT
56.22: I2>2 Directional:	Non-Directional
56.25: I2>2 Current Set:	200.0 mA
56.27: I2>2 Time Delay:	10.00 s
56.28: I2>2 TMS:	1.000
56.29: I2>2 Time Dial:	1.000
56.2C: I2>2 Reset Char:	DT
56.2D: I2>2 tRESET:	0 s
56.30: I2>3 Status:	Disabled
56.32: I2>3 Directional:	Non-Directional
56.35: I2>3 Current Set:	200.0 mA
56.37: I2>3 Time Delay:	10.00 s
56.40: I2>4 Status:	Disabled
56.42: I2>4 Directional:	Non-Directional
56.45: I2>4 Current Set:	200.0 mA
56.47: I2>4 Time Delay:	10.00 s
56.50: I2> VTS Blocking:	1111
56.51: I2> Char Angle:	-60.00 deg
56.52: I2> V2pol Set:	5.000 V
GROUP 2 BROKEN CONDUCTOR	







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57.01: Broken Conductor:	Disabled
57.02: I2/I1 Setting:	200.0e-3
57.03: I2/I1 Time Delay:	60.00 s
 GROUP 2 EARTH FAULT	
58.01: IN>1 Status:	Enabled
58.25: IN>1 Function:	IEC S Inverse
58.26: IN>1 Directional:	Non-Directional
58.29: IN>1 Current Set:	200.0 mA
58.2A: IN>1 IDG Is:	1.500
58.2C: IN>1 Time Delay:	1.000 s
58.2D: IN>1 TMS:	1.000
58.2E: IN>1 Time Dial:	1.000
58.30: IN>1 IDG Time:	1.200 s
58.32: IN>1 Reset Char:	DT
58.33: IN>1 tRESET:	0 s
58.35: IN>2 Status:	Disabled
58.36: IN>2 Function:	IEC S Inverse
58.37: IN>2 Directional:	Non-Directional
58.3A: IN>2 Current Set:	200.0 mA
58.3B: IN>2 IDG Is:	1.500
58.3D: IN>2 Time Delay:	1.000 s
58.3E: IN>2 TMS:	1.000
58.3F: IN>2 Time Dial:	1.000
58.41: IN>2 IDG Time:	1.200 s
58.43: IN>2 Reset Char:	DT
58.44: IN>2 tRESET:	0 s
58.46: IN>3 Status:	Disabled
58.47: IN>3 Directional:	Directional Fwd
58.4A: IN>3 Current Set:	10.00 A
58.4B: IN>3 Time Delay:	0 s
58.4D: IN>4 Status:	Disabled
58.4E: IN>4 Directional:	Non-Directional
58.51: IN>4 Current Set:	10.00 A
58.52: IN>4 Time Delay:	0 s
58.54: IN> Blocking:	001111
 58.55: IN> DIRECTIONAL:	
58.56: IN> Char Angle:	-60.00 deg
58.57: IN> Polarisation:	Zero Sequence
58.59: IN> VNpol Set:	1.000 V
58.5A: IN> V2pol Set:	1.000 V
58.5B: IN> I2pol Set:	80.00 mA
58.60: IN>1 Usr RstChar:	DT
58.65: IN>2 Usr RstChar:	DT
 GROUP 2 AIDED DEF	
59.02: DEF Status:	Enabled
59.03: DEF Polarizing:	Zero Sequence
59.04: DEF Char. Angle:	-60.00 deg
59.05: DEF VNpol Set:	1.000 V
59.06: DEF V2pol Set:	1.000 V
59.07: DEF FWD Set:	80.00 mA
59.08: DEF REV Set:	40.00 mA
59.09: Virtual I Pol:	Enabled
 GROUP 2 SEF/REF PROT'N	
5A.01: SEF/REF Options:	SEF Enabled
5A.2A: ISEF>1 Function:	DT
5A.2B: ISEF>1 Direction:	Non-Directional
5A.2E: ISEF>1 Current:	50.00 mA
5A.2F: ISEF>1 IDG Is:	1.500
5A.31: ISEF>1 Delay:	1.000 s
5A.32: ISEF>1 TMS:	1.000
5A.33: ISEF>1 Time Dial:	1.000
5A.34: ISEF>1 IDG Time:	1.200 s
5A.36: ISEF>1 Reset Chr:	DT
5A.37: ISEF>1 tRESET:	0 s
5A.3A: ISEF>2 Function:	Disabled
5A.3B: ISEF>2 Direction:	Non-Directional



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5A.3E: ISEF>2 Current: 50.00 mA
5A.3F: ISEF>2 IDG Is: 1.500
5A.41: ISEF>2 Delay: 1.000 s
5A.42: ISEF>2 TMS: 1.000
5A.43: ISEF>2 Time Dial: 1.000
5A.44: ISEF>2 IDG Time: 1.200 s
5A.46: ISEF>2 Reset Chr: DT
5A.47: ISEF>2 tRESET: 0 s
5A.49: ISEF>3 Status: Disabled
5A.4A: ISEF>3 Direction: Non-Directional
5A.4D: ISEF>3 Current: 400.0 mA
5A.4E: ISEF>3 Delay: 500.0 ms
5A.50: ISEF>4 Status: Disabled
5A.51: ISEF>4 Direction: Non-Directional
5A.54: ISEF>4 Current: 600.0 mA
5A.55: ISEF>4 Delay: 250.0 ms
5A.57: ISEF> Blocking: 001111
5A.58: ISEF DIRECTIONAL:
5A.59: ISEF> Char Angle: 90.00 deg
5A.5B: ISEF> VNpol Set: 5.000 V
5A.5D: WATTMETRIC SEF:
5A.5E: PN> Setting: 9.000 W
5A.60: RESTRICTED E/F:
5A.65: IREF> Is: 200.0 mA
5A.70: ISEF>1 UsrRstChr: DT
5A.75: ISEF>2 UsrRstChr: DT

GROUP 2 RESIDUAL O/V NVD

5B.01: VN Input: Derived
5B.02: VN>1 Function: DT
5B.03: VN>1 Voltage Set: 5.000 V
5B.04: VN>1 Time Delay: 5.000 s
5B.05: VN>1 TMS: 1.000
5B.06: VN>1 tReset: 0 s
5B.07: VN>2 Status: Disabled
5B.08: VN>2 Voltage Set: 10.00 V
5B.09: VN>2 Time Delay: 10.00 s

GROUP 2 THERMAL OVERLOAD

5C.01: Characteristic: Single
5C.02: Thermal Trip: 1.000 A
5C.03: Thermal Alarm: 70.00 %
5C.04: Time Constant 1: 10.00 min
5C.05: Time Constant 2: 5.000 min

GROUP 2 POWER SWING BLK.

5D.01: PSB Status: Blocking
5D.03: Zone 1 Ph. PSB: Blocking
5D.05: Zone 2 Ph. PSB: Blocking
5D.07: Zone 3 Ph. PSB: Blocking
5D.09: Zone P Ph. PSB: Blocking
5D.0B: Zone 4 Ph. PSB: Blocking
5D.0D: Zone 1 Gnd. PSB: Blocking
5D.0F: Zone 2 Gnd. PSB: Blocking
5D.11: Zone 3 Gnd. PSB: Blocking
5D.13: Zone P Gnd. PSB: Blocking
5D.15: Zone 4 Gnd. PSB: Blocking
5D.16: WI Trip PSB: Inhibit Trip
5D.20: PSB Unblocking: Disabled
5D.21: PSB Unblock dly: 2.000 s
5D.22: PSB Reset Delay: 200.0 ms
5D.23: OST Mode: OST Disabled
5D.24: OST Z5: 30.00 Ohm
5D.25: OST Z6: 32.00 Ohm
5D.26: OST Z5': -30.00 Ohm
5D.27: OST Z6': -32.00 Ohm
5D.28: OST R5: 20.00 Ohm
5D.29: OST R6: 22.00 Ohm
5D.2A: OST R5': -20.00 Ohm



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5D.2B: OST R6': -22.00 Ohm
5D.2C: Blinder Angle: 80.00 deg
5D.2D: delta T: 40.00 ms
5D.2E: Tost: 0 s
5D.40: Slow Swing: Disabled
5D.41: PSB Z7: 30.00 Ohm
5D.42: PSB Z8: 32.00 Ohm
5D.43: PSB Z7': -30.00 Ohm
5D.44: PSB Z8': -32.00 Ohm
5D.45: PSB R7: 20.00 Ohm
5D.46: PSB R8: 22.00 Ohm
5D.47: PSB R7': -20.00 Ohm
5D.48: PSB R8': -22.00 Ohm
5D.49: Alpha: 80.00 deg
5D.4A: PSB Timer: 50.00 ms

GROUP 2 VOLT PROTECTION

62.01: UNDER VOLTAGE:
62.02: V< Measur't Mode: V<1 & V<2 Ph-Ph
62.03: V< Operate Mode: V<1 & V<2 Any Ph
62.04: V<1 Function: DT
62.05: V<1 Voltage Set: 80.00 V
62.06: V<1 Time Delay: 10.00 s
62.07: V<1 TMS: 1.000
62.08: V<1 Poledead Inh: Enabled
62.09: V<2 Status: Disabled
62.0A: V<2 Voltage Set: 60.00 V
62.0B: V<2 Time Delay: 5.000 s
62.0C: V<2 Poledead Inh: Enabled
62.0D: OVERVOLTAGE:
62.0E: V> Measur't Mode: V>1 & V>2 Ph-Ph
62.0F: V> Operate Mode: V>1 & V>2 Any Ph
62.10: V>1 Function: DT
62.11: V>1 Voltage Set: 130.0 V
62.12: V>1 Time Delay: 10.00 s
62.13: V>1 TMS: 1.000
62.14: V>2 Status: Disabled
62.15: V>2 Voltage Set: 150.0 V
62.16: V>2 Time Delay: 500.0 ms
62.20: COMP OVERVOLTAGE:
62.23: V1>1 Cmp Funct: Disabled
62.24: V1>1 Cmp Vlt Set: 75.00 V
62.25: V1>1 Cmp Tim Dly: 10.00 s
62.26: V1>1 Cmp TMS: 1.000
62.27: V1>2 Cmp Status: Disabled
62.28: V1>2 Cmp Vlt Set: 85.00 V
62.29: V1>2 Cmp Tim Dly: 500.0 ms

GROUP 2 FREQ PROTECTION

63.01: UNDER FREQUENCY:
63.02: F<1 Status: Enabled
63.03: F<1 Setting: 49.50 Hz
63.04: F<1 Time Delay: 4.000 s
63.05: F<2 Status: Disabled
63.06: F<2 Setting: 49.00 Hz
63.07: F<2 Time Delay: 3.000 s
63.08: F<3 Status: Disabled
63.09: F<3 Setting: 48.50 Hz
63.0A: F<3 Time Delay: 2.000 s
63.0B: F<4 Status: Disabled
63.0C: F<4 Setting: 48.00 Hz
63.0D: F<4 Time Delay: 1.000 s
63.0E: F< Function Link: 0000
63.0F: OVER FREQUENCY:
63.10: F>1 Status: Enabled
63.11: F>1 Setting: 50.50 Hz
63.12: F>1 Time Delay: 2.000 s
63.13: F>2 Status: Disabled



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63.14:	F>2 Setting:	51.00 Hz
63.15:	F>2 Time Delay:	1.000 s
	GROUP 2 DF/DT PROTECTION	
64.01:	df/dt Avg.Cycles:	6
64.04:	df/dt>1 Status:	Enabled
64.05:	df/dt>1 Setting:	2.000 Hz/s
64.06:	df/dt>1 Dir'n:	Negative
64.07:	df/dt>1 Time:	500.0 ms
64.0B:	df/dt>2 Status:	Enabled
64.0C:	df/dt>2 Setting:	2.000 Hz/s
64.0D:	df/dt>2 Dir'n:	Negative
64.0E:	df/dt>2 Time:	1.000 s
64.12:	df/dt>3 Status:	Enabled
64.13:	df/dt>3 Setting:	2.000 Hz/s
64.14:	df/dt>3 Dir'n:	Negative
64.15:	df/dt>3 Time:	2.000 s
64.19:	df/dt>4 Status:	Enabled
64.1A:	df/dt>4 Setting:	2.000 Hz/s
64.1B:	df/dt>4 Dir'n:	Negative
64.1C:	df/dt>4 Time:	3.000 s
	GROUP 2 CB FAIL & P.DEAD	
	65.01: BREAKER FAIL:	
65.02:	CB Fail 1 Status:	Enabled
65.03:	CB Fail 1 Timer:	200.0 ms
65.04:	CB Fail 2 Status:	Disabled
65.05:	CB Fail 2 Timer:	400.0 ms
65.06:	Non I Prot Reset:	Prot Reset & I<
65.07:	Ext Prot Reset:	Prot Reset & I<
65.08:	WI Prot Reset:	Disabled
65.09:	ExtTrip Only Ini:	Disabled
	65.0A: UNDER CURRENT:	
65.0B:	I< Current Set:	50.00 mA
65.0D:	ISEF< Current:	20.00 mA
	65.0E: POLEDEAD VOLTAGE:	
65.10:	V<:	38.10 V
	GROUP 2 SUPERVISION	
66.01:	VTS Mode:	Measured + MCB
66.02:	VTS Status:	Blocking
66.03:	VTS Reset Mode:	Auto
66.04:	VTS Time Delay:	5.000 s
66.05:	VTS I> Inhibit:	10.00 A
66.06:	VTS I2> Inhibit:	50.00 mA
66.0E:	Inrush Detection:	Disabled
66.0F:	I>2nd Harmonic:	20.00 %
	66.10: WEAK INFEED BLK:	
66.11:	WI Inhibit:	Enabled
66.12:	I0/I2 Setting:	3.000
	66.20: ISEF HARM. BLOCK:	
66.21:	ISEF>2nd Detect.:	Disabled
66.22:	ISEF>2nd Harm.:	20.00 %
	66.30: CT SUPERVISION:	
66.31:	CTS Mode:	Disabled
66.32:	CTS Status:	Restrain
66.33:	CTS Reset Mode:	Manual
66.34:	CTS Time Delay:	5.000 s
66.35:	CTS VN< Inhibit:	5.000 V
66.36:	CTS IN> Set:	100.0 mA
66.37:	CTS i1>:	100.0 mA
66.38:	CTS i2/i1>:	50.00e-3
66.39:	CTS i2/i1>>:	400.0e-3
	66.50: DIFF SUPERVISION:	
66.51:	IDiffSupervision:	Disabled
66.52:	IDiff Sup Reset:	Auto
66.53:	IDiff Isup1:	80.00 %
66.54:	IDiff Isup2:	200.0 %
66.55:	IDiff Sup Tdelay:	5.000 s



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- GROUP 2 SYSTEM CHECKS
- 68.14: VOLTAGE MONITORS:
- 68.85: Live Line: 32.00 V
 - 68.86: Dead Line: 13.00 V
 - 68.87: Live Bus: 32.00 V
 - 68.88: Dead Bus: 13.00 V
 - 68.8B: CS UV: 54.00 V
 - 68.8C: CS OV: 130.0 V
 - 68.8D: System Checks: Disabled
 - 68.8E: CS Voltage Block: V<
 - 68.8F: CS1 Status: Enabled
 - 68.90: CS1 Angle: 20.00 deg
 - 68.91: CS1 VDiff: 6.500 V
 - 68.92: CS1 Slip Ctrl: Enabled
 - 68.93: CS1 SlipFreq: 50.00 mHz
 - 68.94: CS2 Status: Disabled
 - 68.95: CS2 Angle: 20.00 deg
 - 68.96: CS2 VDiff: 6.500 V
 - 68.97: CS2 Slip Ctrl: Enabled
 - 68.98: CS2 SlipFreq: 50.00 mHz
 - 68.99: CS2 Adaptive: Disabled
 - 68.9A: CB CI Time: 50.00 ms
- 68.B0: MAN SYS CHECKS:
- 68.B2: CBM SC required: Disabled
 - 68.B3: CBM SC CS1: Disabled
 - 68.B4: CBM SC CS2: Disabled
 - 68.B5: CBM SC DLLB: Disabled
 - 68.B6: CBM SC LLDB: Disabled
 - 68.B7: CBM SC DLDB: Disabled
- GROUP 2 AUTORECLOSE
- 69.51: AR Mode: AR 3P
 - 69.59: AR Shots: 1
 - 69.5A: AR Skip Shot 1: Disabled
 - 69.5C: Multi Phase AR: Allow Autoclose
 - 69.5D: Discrim Time: 100.0 ms
 - 69.60: CB IS Time: 5.000 s
 - 69.61: CB IS MemoryTime: 500.0 ms
 - 69.62: DT Start by Prot: Protection Reset
 - 69.63: 3PDTStart WhenLD: Disabled
 - 69.64: DTStart by CB Op: Disabled
 - 69.66: Dead Line Time: 5.000 s
 - 69.67: SP AR Dead Time: 500.0 ms
 - 69.68: 3P AR DT Shot 1: 300.0 ms
 - 69.69: 3P AR DT Shot 2: 60.00 s
 - 69.6A: 3P AR DT Shot 3: 60.00 s
 - 69.6B: 3P AR DT Shot 4: 60.00 s
 - 69.6D: SPAR ReclaimTime: 60.00 s
 - 69.6E: 3PAR ReclaimTime: 180.0 s
 - 69.6F: AR CBHealthyTime: 5.000 s
 - 69.70: AR CheckSyncTime: 5.000 s
 - 69.72: Z1 AR: Initiate AR
 - 69.73: Diff AR: Initiate AR
 - 69.74: Dist Aided AR: Initiate AR
 - 69.75: Z2T AR: Block AR
 - 69.76: Z3T AR: Block AR
 - 69.77: ZPT AR: Block AR
 - 69.78: Z4T AR: Block AR
 - 69.79: DEF Aided AR: Block AR
 - 69.7A: Dir Aided AR: Block AR
 - 69.7B: TOR AR: Block AR
 - 69.7C: I>1 AR: No Action
 - 69.7D: I>2 AR: No Action
 - 69.7E: I>3 AR: No Action
 - 69.7F: I>4 AR: No Action
 - 69.80: IN>1 AR: No Action
 - 69.81: IN>2 AR: No Action



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69.82: IN>3 AR: No Action
69.83: IN>4 AR: No Action
69.84: ISEF>1 AR: No Action
69.85: ISEF>2 AR: No Action
69.86: ISEF>3 AR: No Action
69.87: ISEF>4 AR: No Action
69.88: Neutral Diff AR: Initiate AR
69.A5: AR SYS CHECKS:
69.A6: CB SC all: Disabled
69.A7: CB SC Shot 1: Disabled
69.A8: CB SC ClsNoDly: Disabled
69.A9: CB SC CS1: Disabled
69.AA: CB SC CS2: Disabled
69.AB: CB SC DLLB: Disabled
69.AC: CB SC LLDB: Disabled
69.AD: CB SC DLDB: Disabled

GROUP 2 INPUT LABELS

6A.01: Opto Input 1: Input L1
6A.02: Opto Input 2: Input L2
6A.03: Opto Input 3: Input L3
6A.04: Opto Input 4: Input L4
6A.05: Opto Input 5: Input L5
6A.06: Opto Input 6: Input L6
6A.07: Opto Input 7: Input L7
6A.08: Opto Input 8: Input L8
6A.09: Opto Input 9: Input L9
6A.0A: Opto Input 10: Input L10
6A.0B: Opto Input 11: Input L11
6A.0C: Opto Input 12: Input L12
6A.0D: Opto Input 13: Input L13
6A.0E: Opto Input 14: Input L14
6A.0F: Opto Input 15: Input L15
6A.10: Opto Input 16: Input L16
6A.11: Opto Input 17: Input L17
6A.12: Opto Input 18: Input L18
6A.13: Opto Input 19: Input L19
6A.14: Opto Input 20: Input L20
6A.15: Opto Input 21: Input L21
6A.16: Opto Input 22: Input L22
6A.17: Opto Input 23: Input L23
6A.18: Opto Input 24: Input L24
6A.19: Opto Input 25: Input L25
6A.1A: Opto Input 26: Input L26
6A.1B: Opto Input 27: Input L27
6A.1C: Opto Input 28: Input L28
6A.1D: Opto Input 29: Input L29
6A.1E: Opto Input 30: Input L30
6A.1F: Opto Input 31: Input L31
6A.20: Opto Input 32: Input L32

GROUP 2 OUTPUT LABELS

6B.01: Relay 1: Output R1
6B.02: Relay 2: Output R2
6B.03: Relay 3: Output R3
6B.04: Relay 4: Output R4
6B.05: Relay 5: Output R5
6B.06: Relay 6: Output R6
6B.07: Relay 7: Output R7
6B.08: Relay 8: Output R8
6B.09: Relay 9: Output R9
6B.0A: Relay 10: Output R10
6B.0B: Relay 11: Output R11
6B.0C: Relay 12: Output R12
6B.0D: Relay 13: Output R13
6B.0E: Relay 14: Output R14
6B.0F: Relay 15: Output R15
6B.10: Relay 16: Output R16



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6B.11: Relay 17: Output R17
6B.12: Relay 18: Output R18
6B.13: Relay 19: Output R19
6B.14: Relay 20: Output R20
6B.15: Relay 21: Output R21
6B.16: Relay 22: Output R22
6B.17: Relay 23: Output R23
6B.18: Relay 24: Output R24
6B.19: Relay 25: Output R25
6B.1A: Relay 26: Output R26
6B.1B: Relay 27: Output R27
6B.1C: Relay 28: Output R28
6B.1D: Relay 29: Output R29
6B.1E: Relay 30: Output R30
6B.1F: Relay 31: Output R31
6B.20: Relay 32: Output R32

 GROUP 3 LINE PARAMETERS

70.01: Line Length: 100.0 km
70.02: Line Length: 62.10 mi
70.03: Line Impedance: 10.00 Ohm
70.04: Line Angle: 70.00 deg
70.05: kZN Res Comp: 1.000
70.06: kZN Res Angle: 0 deg
70.07: Mutual Comp: Disabled
70.08: kZm Mutual Set.: 1.000
70.09: kZm Mutual Angle: 0 deg
70.0A: Mutual Cut Off: 0
70.0B: Phase Sequence: Standard ABC
70.0C: Tripping Mode: 3 Pole
70.10: Line Charging Y: 2.000 mS

 GROUP 3 DISTANCE SETUP

71.0C: Setting Mode: Simple
 71.10: PHASE DISTANCE:
71.11: Phase Chars.: Mho
71.12: Quad Resistance: Proportional
71.13: Fault Resistance: 10.00 Ohm
71.20: Zone 1 Ph Status: Enabled
71.21: Zone 1 Ph Reach: 80.00 %
71.30: Zone 2 Ph Status: Enabled
71.31: Zone 2 Ph Reach: 150.0 %
71.40: Zone 3 Ph Status: Enabled
71.41: Zone 3 Ph Reach: 250.0 %
71.42: Zone 3 Ph Dir.: Offset
71.43: Zone 3 Ph Offset: 10.00 %
71.50: Zone P Ph Status: Disabled
71.51: Zone P Ph Dir.: Forward
71.52: Zone P Ph Reach: 200.0 %
71.53: Zone P Ph Offset: 10.00 %
71.60: Zone 4 Ph Status: Enabled
71.61: Zone 4 Ph Reach: 150.0 %
 71.70: GROUND DISTANCE:
71.71: Ground Chars.: Mho
71.72: Quad Resistance: Proportional
71.73: Fault Resistance: 10.00 Ohm
71.80: Zone 1 Gnd Stat.: Enabled
71.81: Zone 1 Gnd Reach: 80.00 %
71.90: Zone 2 Gnd Stat.: Enabled
71.91: Zone 2 Gnd Reach: 150.0 %
71.A0: Zone 3 Gnd Stat.: Enabled
71.A1: Zone 3 Gnd Reach: 250.0 %
71.A2: Zone 3 Gnd Dir.: Offset
71.A3: Zone3 Gnd Offset: 10.00 %
71.B0: Zone P Gnd Stat.: Disabled
71.B1: Zone P Gnd Dir.: Forward
71.B2: Zone P Gnd Reach: 200.0 %
71.B3: ZoneP Gnd Offset: 10.00 %



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71.C0: Zone 4 Gnd Stat.: Enabled
71.C1: Zone 4 Gnd Reach: 150.0 %
71.D0: Digital Filter: Standard
71.D1: CVT Filters: Disabled
71.D2: SIR Setting: 30
71.D3: Load Blinders: Disabled
71.D4: Z< Blinder Imp: 15.00 Ohm
71.D5: Load/B Angle: 45.00 deg
71.D6: Load Blinder V<: 15.00 V
71.D7: Dist. Polarizing: 1.000
71.E0: DELTADIRECTIONAL:
71.E1: Dir. Status: Enabled
71.E2: AidedDeltaStatus: Disabled
71.E3: Dir. Char Angle: 60.00 deg
71.E4: Dir. V Fwd: 5.000 V
71.E5: Dir. V Rev: 4.000 V
71.E6: Dir. I Fwd: 100.0 mA
71.E7: Dir. I Rev: 80.00 mA
71.F0: DIST STUB BUS:
71.F1: Dist Stub Bus: Disabled
71.F2: Stub Bus I>: 2.000 A
71.F3: Stub Bus Time: 0 s

GROUP 3 DIST. ELEMENTS

72.01: PHASE DISTANCE:
72.02: Z1 Ph. Reach: 8.000 Ohm
72.03: Z1 Ph. Angle: 70.00 deg
72.07: R1 Ph. Resistive: 8.000 Ohm
72.08: Z1 Tilt Top Line: -3.000 deg
72.09: Z1 Sensit. Iph>1: 75.00 mA
72.10: Z2 Ph. Reach: 15.00 Ohm
72.11: Z2 Ph. Angle: 70.00 deg
72.15: R2 Ph. Resistive: 15.00 Ohm
72.16: Z2 Tilt Top Line: -3.000 deg
72.17: Z2 Sensit. Iph>2: 75.00 mA
72.20: Z3 Ph. Reach: 25.00 Ohm
72.21: Z3 Ph. Angle: 70.00 deg
72.22: Z3' Ph Rev Reach: 1.000 Ohm
72.25: R3 Ph. Resistive: 25.00 Ohm
72.26: R3' Ph. Res. Rev: 1.000 Ohm
72.27: Z3 Tilt Top Line: -3.000 deg
72.28: Z3 Sensit. Iph>3: 50.00 mA
72.30: ZP Ph. Reach: 20.00 Ohm
72.31: ZP Ph. Angle: 70.00 deg
72.32: ZP' Ph Rev Reach: 1.000 Ohm
72.33: RP' Ph. Res. Rev: 1.000 Ohm
72.35: RP Ph Resistive: 20.00 Ohm
72.36: ZP Tilt Top Line: -3.000 deg
72.37: ZP Sensit. Iph>P: 50.00 mA
72.40: Z4 Ph. Reach: 15.00 Ohm
72.41: Z4 Ph. Angle: 70.00 deg
72.42: R4 Ph. Resistive: 15.00 Ohm
72.45: Z4 Tilt Top Line: -3.000 deg
72.46: Z4 Sensit. Iph>4: 50.00 mA
72.50: GROUND DISTANCE:
72.51: Z1 Gnd. Reach: 8.000 Ohm
72.52: Z1 Gnd. Angle: 70.00 deg
72.53: Z1 Dynamic Tilt: Enabled
72.54: Z1 Tilt Top Line: -3.000 deg
72.55: kZN1 Res. Comp.: 1.000
72.56: kZN1 Res. Angle: 0 deg
72.57: kZm1 Mut. Comp.: 1.000
72.58: kZm1 Mut. Angle: 0 deg
72.59: R1 Gnd Resistive: 8.000 Ohm
72.5B: Z1 Sensit Ignd>1: 75.00 mA
72.60: Z2 Gnd. Reach: 15.00 Ohm
72.61: Z2 Gnd. Angle: 70.00 deg



Settings File Report

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72.63: Z2 Dynamic Tilt: Enabled
72.64: Z2 Tilt Top Line: -3.000 deg
72.65: kZN2 Res. Comp.: 1.000
72.66: kZN2 Res. Angle: 0 deg
72.67: kZm2 Mut. Comp.: 1.000
72.68: kZm2 Mut. Angle: 0 deg
72.69: R2 Gnd Resistive: 15.00 Ohm
72.6B: Z2 Sensit Ignd>2: 75.00 mA
72.70: Z3 Gnd. Reach: 25.00 Ohm
72.71: Z3 Gnd. Angle: 70.00 deg
72.72: Z3' Gnd Rev Rch: 1.000 Ohm
72.73: Z3 Dynamic Tilt: Enabled
72.74: Z3 Tilt Top Line: -3.000 deg
72.75: kZN3 Res. Comp.: 1.000
72.76: kZN3 Res. Angle: 0 deg
72.77: kZm3 Mut. Comp.: 1.000
72.78: kZm3 Mut. Angle: 0 deg
72.79: R3 Gnd Resistive: 25.00 Ohm
72.7A: R3' Gnd Res. Rev: 1.000 Ohm
72.7C: Z3 Sensit Ignd>3: 50.00 mA
72.80: ZP Gnd. Reach: 20.00 Ohm
72.81: ZP Gnd. Angle: 70.00 deg
72.82: ZP' Gnd Rev Rch: 1.000 Ohm
72.83: ZP Dynamic Tilt: Enabled
72.84: ZP Tilt Top Line: -3.000 deg
72.85: kZNP Res. Comp.: 1.000
72.86: kZNP Res. Angle: 0 deg
72.87: kZmP Mut. Comp.: 1.000
72.88: kZmP Mut. Angle: 0 deg
72.89: RP Gnd Resistive: 20.00 Ohm
72.8A: RP' Gnd Res. Rev: 1.000 Ohm
72.8B: ZP Sensit Ignd>P: 50.00 mA
72.90: Z4 Gnd. Reach: 15.00 Ohm
72.91: Z4 Gnd. Angle: 70.00 deg
72.93: Z4 Dynamic Tilt: Enabled
72.94: Z4 Tilt Top Line: -3.000 deg
72.95: kZN4 Res. Comp.: 1.000
72.96: kZN4 Res. Angle: 0 deg
72.97: kZm4 Mut. Comp.: 1.000
72.98: kZm4 Mut. Angle: 0 deg
72.99: R4 Gnd Resistive: 15.00 Ohm
72.9B: Z4 Sensit Ignd>4: 50.00 mA
72.B0: Mem Volt Dura: 16



GROUP 3 CURRENT DIFF

73.01: Phase Diff: Enabled
73.02: Phase Is1: 200.0 mA
73.03: Phase Is2: 2.000 A
73.04: Phase k1: 30.00 %
73.05: Phase k2: 100.0 %
73.06: Phase Is1: 200.0 mA
73.07: Phase Is2: 2.000 A
73.08: Phase k1: 30.00 %
73.09: Phase k2: 150.0 %
73.0A: Phase Char: DT
73.0B: Phase Time Delay: 0 s
73.0C: Phase TMS: 1.000
73.0D: Phase Time Dial: 1.000
73.0E: PIT Time: 200.0 ms
73.0F: Ph CT Corr'tion: 1.000
73.10: Compensation: None
73.11: Susceptance: 10.00 nS
73.12: Inrush Restraint: Disabled
73.14: Ih(2) Multiplier: 4.000
73.15: Vectorial Comp: Yy0 (0 deg)
73.16: Phase Is1 CTS: 1.200 A
73.17: PIT I selection: Remote



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73.20: Ih(2) %>:15.00 %
73.21: Ih(2) CrossBlock: Disabled
73.27: Ih(5) Blocking: Disabled
73.28: Ih(5) %>:35.00 %
73.29: Ih(5) CrossBlock: Disabled
73.30: Highset Status: Disabled
73.31: Id High Set: 4.000 A
73.38: Transient Bias: Disabled
73.3F: NEUTRAL DIFF:
73.40: In Diff: Disabled
73.41: In Diff Time: 0 s
73.42: In Diff Is1: 100.0 mA
73.43: In Diff Is2: 2.000 A
73.44: In Diff k1: 10.00 %
73.60: Ph Diff Stub Bus: Disabled
73.61: Ph Is1 StubBus: 2.000 A
73.90: STARTERS:
73.91: Delta I2: Disabled
73.92: Delta I2 Low: 200.0 mA
73.94: Delta I1: Disabled
73.95: Delta I1 Low: 400.0 mA
73.97: Start I2: Disabled
73.98: Start I2 Low: 200.0 mA
73.9A: Start I1: Disabled
73.9B: Start I1 Low: 1.500 A
73.B2: Reset Low Time: 600.0 ms
GROUP 3 SCHEME LOGIC
74.01: BASIC SCHEME:
74.02: BasicScheme Mode: Standard
74.08: Zone1 Tripping: Phase And Ground
74.09: tZ1 Ph. Delay: 0 s
74.0A: tZ1 Gnd. Delay: 0 s
74.10: Zone2 Tripping: Phase And Ground
74.11: tZ2 Ph. Delay: 200.0 ms
74.12: tZ2 Gnd. Delay: 200.0 ms
74.18: Zone3 Tripping: Phase And Ground
74.19: tZ3 Ph. Delay: 600.0 ms
74.1A: tZ3 Gnd. Delay: 600.0 ms
74.20: ZoneP Tripping: Phase And Ground
74.21: tZP Ph. Delay: 400.0 ms
74.22: tZP Gnd. Delay: 400.0 ms
74.28: Zone4 Tripping: Phase And Ground
74.29: tZ4 Ph. Delay: 1.000 s
74.2A: tZ4 Gnd. Delay: 1.000 s
74.40: AIDED SCHEME 1:
74.41: Aid. 1 Selection: Disabled
74.42: Aid 1 Distance: Phase And Ground
74.43: Aid.1 Dist. Dly: 0 s
74.44: Aid. 1 DEF: Disabled
74.45: Aid. 1 DEF Dly.: 0 s
74.46: Aid. 1 DEF Trip: 3 Pole
74.47: Aid. 1 Delta: Disabled
74.48: Aid. 1 Delta Dly: 0 s
74.49: Aid. 1 DeltaTrip: 3 Pole
74.4A: tRev. Guard: 20.00 ms
74.4B: Unblocking Delay: 50.00 ms
74.4C: Send On Trip: Aided / Z1
74.50: Weak Infeed: Disabled
74.51: WI Sngl Pole Trp: Disabled
74.52: WI V<Thresh.: 45.00 V
74.53: WI Trip Delay: 60.00 ms
74.58: Custom Send Mask: 0000000001
74.59: Custom Time PU: 0 s
74.5A: Custom Time DO: 0 s
74.60: AIDED SCHEME 2:
74.61: Aid. 2 Selection: Disabled



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74.62: Aid 2 Distance: Disabled
74.63: Aid.2 Dist. Dly: 20.00 ms
74.64: Aid. 2 DEF: Enabled
74.65: Aid. 2 DEF Dly.: 20.00 ms
74.66: Aid. 2 DEF Trip: 3 Pole
74.67: Aid. 2 Delta: Disabled
74.68: Aid. 2 Delta Dly: 20.00 ms
74.69: Aid. 2 DeltaTrip: 3 Pole
74.6A: tRev. Guard: 20.00 ms
74.6B: Unblocking Delay: 50.00 ms
74.6C: Send On Trip: Aided / Z1
74.70: Weak Infeed: Disabled
74.71: WI Sngl Pole Trp: Disabled
74.72: WI V<Thresh.: 45.00 V
74.73: WI Trip Delay: 60.00 ms
74.78: Custom Send Mask: 0000000001
74.79: Custom Time PU: 0 s
74.7A: Custom Time DO: 0 s
74.80: TRIP ON CLOSE:
74.81: SOTF Status: Enabled PoleDead
74.82: SOTF Delay: 110.0 s
74.83: SOTF Tripping: 000001
74.84: TOR Status: Enabled
74.85: TOR Tripping: 000001
74.86: TOC Reset Delay: 500.0 ms
74.87: SOTF Pulse: 500.0 ms
74.88: TOC Delay: 200.0 ms
74.B0: Z1 EXTENSION:
74.B1: Z1 Ext Scheme: Disabled
74.B2: Z1 Ext Ph: 150.0 %
74.B3: Z1 Ext Gnd: 150.0 %
74.C0: LOSS OF LOAD:
74.C1: LOL Scheme: Disabled
74.C3: LOL <I: 500.0 mA
74.C4: LOL Window: 40.00 ms
GROUP 3 OVERCURRENT
75.01: I>1 Status: Enabled
75.02: I>1 Function: IEC S Inverse
75.03: I>1 Directional: Non-Directional
75.04: I>1 Current Set: 1.000 A
75.05: I>1 Time Delay: 1.000 s
75.06: I>1 TMS: 1.000
75.07: I>1 Time Dial: 1.000
75.08: I>1 Reset Char: DT
75.09: I>1 tRESET: 0 s
75.0A: I>2 Status: Disabled
75.0B: I>2 Function: IEC S Inverse
75.0C: I>2 Directional: Non-Directional
75.0D: I>2 Current Set: 1.000 A
75.0E: I>2 Time Delay: 1.000 s
75.0F: I>2 TMS: 1.000
75.10: I>2 Time Dial: 1.000
75.11: I>2 Reset Char: DT
75.12: I>2 tRESET: 0 s
75.13: I>3 Status: Disabled
75.14: I>3 Directional: Directional Fwd
75.15: I>3 Current Set: 10.00 A
75.16: I>3 Time Delay: 0 s
75.18: I>4 Status: Disabled
75.19: I>4 Directional: Non-Directional
75.1A: I>4 Current Set: 10.00 A
75.1B: I>4 Time Delay: 0 s
75.1C: I> Char Angle: 30.00 deg
75.1D: I> Blocking: 001111
75.20: I>1 Usr Rst Char: DT
75.25: I>2 Usr Rst Char: DT



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GROUP 3 NEG SEQ O/C
76.10: I2>1 Status: Disabled
76.11: I2>1 Function: DT
76.12: I2>1 Directional: Non-Directional
76.15: I2>1 Current Set: 200.0 mA
76.17: I2>1 Time Delay: 10.00 s
76.18: I2>1 TMS: 1.000
76.19: I2>1 Time Dial: 1.000
76.1C: I2>1 Reset Char: DT
76.1D: I2>1 tRESET: 0 s
76.20: I2>2 Status: Disabled
76.21: I2>2 Function: DT
76.22: I2>2 Directional: Non-Directional
76.25: I2>2 Current Set: 200.0 mA
76.27: I2>2 Time Delay: 10.00 s
76.28: I2>2 TMS: 1.000
76.29: I2>2 Time Dial: 1.000
76.2C: I2>2 Reset Char: DT
76.2D: I2>2 tRESET: 0 s
76.30: I2>3 Status: Disabled
76.32: I2>3 Directional: Non-Directional
76.35: I2>3 Current Set: 200.0 mA
76.37: I2>3 Time Delay: 10.00 s
76.40: I2>4 Status: Disabled
76.42: I2>4 Directional: Non-Directional
76.45: I2>4 Current Set: 200.0 mA
76.47: I2>4 Time Delay: 10.00 s
76.50: I2> VTS Blocking: 1111
76.51: I2> Char Angle: -60.00 deg
76.52: I2> V2pol Set: 5.000 V
GROUP 3 BROKEN CONDUCTOR
77.01: Broken Conductor: Disabled
77.02: I2/I1 Setting: 200.0e-3
77.03: I2/I1 Time Delay: 60.00 s
GROUP 3 EARTH FAULT
78.01: IN>1 Status: Enabled
78.25: IN>1 Function: IEC S Inverse
78.26: IN>1 Directional: Non-Directional
78.29: IN>1 Current Set: 200.0 mA
78.2A: IN>1 IDG Is: 1.500
78.2C: IN>1 Time Delay: 1.000 s
78.2D: IN>1 TMS: 1.000
78.2E: IN>1 Time Dial: 1.000
78.30: IN>1 IDG Time: 1.200 s
78.32: IN>1 Reset Char: DT
78.33: IN>1 tRESET: 0 s
78.35: IN>2 Status: Disabled
78.36: IN>2 Function: IEC S Inverse
78.37: IN>2 Directional: Non-Directional
78.3A: IN>2 Current Set: 200.0 mA
78.3B: IN>2 IDG Is: 1.500
78.3D: IN>2 Time Delay: 1.000 s
78.3E: IN>2 TMS: 1.000
78.3F: IN>2 Time Dial: 1.000
78.41: IN>2 IDG Time: 1.200 s
78.43: IN>2 Reset Char: DT
78.44: IN>2 tRESET: 0 s
78.46: IN>3 Status: Disabled
78.47: IN>3 Directional: Directional Fwd
78.4A: IN>3 Current Set: 10.00 A
78.4B: IN>3 Time Delay: 0 s
78.4D: IN>4 Status: Disabled
78.4E: IN>4 Directional: Non-Directional
78.51: IN>4 Current Set: 10.00 A
78.52: IN>4 Time Delay: 0 s
78.54: IN> Blocking: 001111



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78.55:	IN> DIRECTIONAL:
78.56:	IN> Char Angle: -60.00 deg
78.57:	IN> Polarisation: Zero Sequence
78.59:	IN> VNpol Set: 1.000 V
78.5A:	IN> V2pol Set: 1.000 V
78.5B:	IN> I2pol Set: 80.00 mA
78.60:	IN>1 Usr RstChar: DT
78.65:	IN>2 Usr RstChar: DT
GROUP 3	AIDED DEF
79.02:	DEF Status: Enabled
79.03:	DEF Polarizing: Zero Sequence
79.04:	DEF Char. Angle: -60.00 deg
79.05:	DEF VNpol Set: 1.000 V
79.06:	DEF V2pol Set: 1.000 V
79.07:	DEF FWD Set: 80.00 mA
79.08:	DEF REV Set: 40.00 mA
79.09:	Virtual I Pol: Enabled
GROUP 3	SEF/REF PROT'N
7A.01:	SEF/REF Options: SEF Enabled
7A.2A:	ISEF>1 Function: DT
7A.2B:	ISEF>1 Direction: Non-Directional
7A.2E:	ISEF>1 Current: 50.00 mA
7A.2F:	ISEF>1 IDG Is: 1.500
7A.31:	ISEF>1 Delay: 1.000 s
7A.32:	ISEF>1 TMS: 1.000
7A.33:	ISEF>1 Time Dial: 1.000
7A.34:	ISEF>1 IDG Time: 1.200 s
7A.36:	ISEF>1 Reset Chr: DT
7A.37:	ISEF>1 tRESET: 0 s
7A.3A:	ISEF>2 Function: Disabled
7A.3B:	ISEF>2 Direction: Non-Directional
7A.3E:	ISEF>2 Current: 50.00 mA
7A.3F:	ISEF>2 IDG Is: 1.500
7A.41:	ISEF>2 Delay: 1.000 s
7A.42:	ISEF>2 TMS: 1.000
7A.43:	ISEF>2 Time Dial: 1.000
7A.44:	ISEF>2 IDG Time: 1.200 s
7A.46:	ISEF>2 Reset Chr: DT
7A.47:	ISEF>2 tRESET: 0 s
7A.49:	ISEF>3 Status: Disabled
7A.4A:	ISEF>3 Direction: Non-Directional
7A.4D:	ISEF>3 Current: 400.0 mA
7A.4E:	ISEF>3 Delay: 500.0 ms
7A.50:	ISEF>4 Status: Disabled
7A.51:	ISEF>4 Direction: Non-Directional
7A.54:	ISEF>4 Current: 600.0 mA
7A.55:	ISEF>4 Delay: 250.0 ms
7A.57:	ISEF> Blocking: 001111
7A.58:	ISEF DIRECTIONAL:
7A.59:	ISEF> Char Angle: 90.00 deg
7A.5B:	ISEF> VNpol Set: 5.000 V
7A.5D:	WATTMETRIC SEF:
7A.5E:	PN> Setting: 9.000 W
7A.60:	RESTRICTED E/F:
7A.65:	IREF> Is: 200.0 mA
7A.70:	ISEF>1 UsrRstChr: DT
7A.75:	ISEF>2 UsrRstChr: DT
GROUP 3	RESIDUAL O/V NVD
7B.01:	VN Input: Derived
7B.02:	VN>1 Function: DT
7B.03:	VN>1 Voltage Set: 5.000 V
7B.04:	VN>1 Time Delay: 5.000 s
7B.05:	VN>1 TMS: 1.000
7B.06:	VN>1 tReset: 0 s
7B.07:	VN>2 Status: Disabled
7B.08:	VN>2 Voltage Set: 10.00 V



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7B.09: VN>2 Time Delay:	10.00 s
GROUP 3 THERMAL OVERLOAD	
7C.01: Characteristic:	Single
7C.02: Thermal Trip:	1.000 A
7C.03: Thermal Alarm:	70.00 %
7C.04: Time Constant 1:	10.00 min
7C.05: Time Constant 2:	5.000 min
GROUP 3 POWER SWING BLK.	
7D.01: PSB Status:	Blocking
7D.03: Zone 1 Ph. PSB:	Blocking
7D.05: Zone 2 Ph. PSB:	Blocking
7D.07: Zone 3 Ph. PSB:	Blocking
7D.09: Zone P Ph. PSB:	Blocking
7D.0B: Zone 4 Ph. PSB:	Blocking
7D.0D: Zone 1 Gnd. PSB:	Blocking
7D.0F: Zone 2 Gnd. PSB:	Blocking
7D.11: Zone 3 Gnd. PSB:	Blocking
7D.13: Zone P Gnd. PSB:	Blocking
7D.15: Zone 4 Gnd. PSB:	Blocking
7D.16: WI Trip PSB:	Inhibit Trip
7D.20: PSB Unblocking:	Disabled
7D.21: PSB Unblock dly:	2.000 s
7D.22: PSB Reset Delay:	200.0 ms
7D.23: OST Mode:	OST Disabled
7D.24: OST Z5:	30.00 Ohm
7D.25: OST Z6:	32.00 Ohm
7D.26: OST Z5':	-30.00 Ohm
7D.27: OST Z6':	-32.00 Ohm
7D.28: OST R5:	20.00 Ohm
7D.29: OST R6:	22.00 Ohm
7D.2A: OST R5':	-20.00 Ohm
7D.2B: OST R6':	-22.00 Ohm
7D.2C: Blinder Angle:	80.00 deg
7D.2D: delta T:	40.00 ms
7D.2E: Tost:	0 s
7D.40: Slow Swing:	Disabled
7D.41: PSB Z7:	30.00 Ohm
7D.42: PSB Z8:	32.00 Ohm
7D.43: PSB Z7':	-30.00 Ohm
7D.44: PSB Z8':	-32.00 Ohm
7D.45: PSB R7:	20.00 Ohm
7D.46: PSB R8:	22.00 Ohm
7D.47: PSB R7':	-20.00 Ohm
7D.48: PSB R8':	-22.00 Ohm
7D.49: Alpha:	80.00 deg
7D.4A: PSB Timer:	50.00 ms
GROUP 3 VOLT PROTECTION	
82.01: UNDER VOLTAGE:	
82.02: V< Measur't Mode:	V<1 & V<2 Ph-Ph
82.03: V< Operate Mode:	V<1 & V<2 Any Ph
82.04: V<1 Function:	DT
82.05: V<1 Voltage Set:	80.00 V
82.06: V<1 Time Delay:	10.00 s
82.07: V<1 TMS:	1.000
82.08: V<1 Poledead Inh:	Enabled
82.09: V<2 Status:	Disabled
82.0A: V<2 Voltage Set:	60.00 V
82.0B: V<2 Time Delay:	5.000 s
82.0C: V<2 Poledead Inh:	Enabled
82.0D: OVERVOLTAGE:	
82.0E: V> Measur't Mode:	V>1 & V>2 Ph-Ph
82.0F: V> Operate Mode:	V>1 & V>2 Any Ph
82.10: V>1 Function:	DT
82.11: V>1 Voltage Set:	130.0 V
82.12: V>1 Time Delay:	10.00 s
82.13: V>1 TMS:	1.000



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82.14: V>2 Status: Disabled
82.15: V>2 Voltage Set: 150.0 V
82.16: V>2 Time Delay: 500.0 ms
82.20: COMP OVERVOLTAGE:
82.23: V1>1 Cmp Funct: Disabled
82.24: V1>1 Cmp Vlt Set: 75.00 V
82.25: V1>1 Cmp Tim Dly: 10.00 s
82.26: V1>1 Cmp TMS: 1.000
82.27: V1>2 Cmp Status: Disabled
82.28: V1>2 Cmp Vlt Set: 85.00 V
82.29: V1>2 Cmp Tim Dly: 500.0 ms

GROUP 3 FREQ PROTECTION

83.01: UNDER FREQUENCY:
83.02: F<1 Status: Enabled
83.03: F<1 Setting: 49.50 Hz
83.04: F<1 Time Delay: 4.000 s
83.05: F<2 Status: Disabled
83.06: F<2 Setting: 49.00 Hz
83.07: F<2 Time Delay: 3.000 s
83.08: F<3 Status: Disabled
83.09: F<3 Setting: 48.50 Hz
83.0A: F<3 Time Delay: 2.000 s
83.0B: F<4 Status: Disabled
83.0C: F<4 Setting: 48.00 Hz
83.0D: F<4 Time Delay: 1.000 s
83.0E: F< Function Link: 0000
83.0F: OVER FREQUENCY:
83.10: F>1 Status: Enabled
83.11: F>1 Setting: 50.50 Hz
83.12: F>1 Time Delay: 2.000 s
83.13: F>2 Status: Disabled
83.14: F>2 Setting: 51.00 Hz
83.15: F>2 Time Delay: 1.000 s

GROUP 3 DF/DT PROTECTION

84.01: df/dt Avg.Cycles: 6
84.04: df/dt>1 Status: Enabled
84.05: df/dt>1 Setting: 2.000 Hz/s
84.06: df/dt>1 Dir'n: Negative
84.07: df/dt>1 Time: 500.0 ms
84.0B: df/dt>2 Status: Enabled
84.0C: df/dt>2 Setting: 2.000 Hz/s
84.0D: df/dt>2 Dir'n: Negative
84.0E: df/dt>2 Time: 1.000 s
84.12: df/dt>3 Status: Enabled
84.13: df/dt>3 Setting: 2.000 Hz/s
84.14: df/dt>3 Dir'n: Negative
84.15: df/dt>3 Time: 2.000 s
84.19: df/dt>4 Status: Enabled
84.1A: df/dt>4 Setting: 2.000 Hz/s
84.1B: df/dt>4 Dir'n: Negative
84.1C: df/dt>4 Time: 3.000 s

GROUP 3 CB FAIL & P.DEAD

85.01: BREAKER FAIL:
85.02: CB Fail 1 Status: Enabled
85.03: CB Fail 1 Timer: 200.0 ms
85.04: CB Fail 2 Status: Disabled
85.05: CB Fail 2 Timer: 400.0 ms
85.06: Non I Prot Reset: Prot Reset & I<
85.07: Ext Prot Reset: Prot Reset & I<
85.08: WI Prot Reset: Disabled
85.09: ExtTrip Only Ini: Disabled
85.0A: UNDER CURRENT:
85.0B: I< Current Set: 50.00 mA
85.0D: ISEF< Current: 20.00 mA
85.0E: POLEDEAD VOLTAGE:
85.10: V<: 38.10 V



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GROUP 3 SUPERVISION	
86.01: VTS Mode:	Measured + MCB
86.02: VTS Status:	Blocking
86.03: VTS Reset Mode:	Auto
86.04: VTS Time Delay:	5.000 s
86.05: VTS I> Inhibit:	10.00 A
86.06: VTS I2> Inhibit:	50.00 mA
86.0E: Inrush Detection:	Disabled
86.0F: I>2nd Harmonic:	20.00 %
86.10: WEAK INFEED BLK:	
86.11: WI Inhibit:	Enabled
86.12: I0/I2 Setting:	3.000
86.20: ISEF HARM. BLOCK:	
86.21: ISEF>2nd Detect.:	Disabled
86.22: ISEF>2nd Harm.:	20.00 %
86.30: CT SUPERVISION:	
86.31: CTS Mode:	Disabled
86.32: CTS Status:	Restrained
86.33: CTS Reset Mode:	Manual
86.34: CTS Time Delay:	5.000 s
86.35: CTS VN< Inhibit:	5.000 V
86.36: CTS IN> Set:	100.0 mA
86.37: CTS i1>:	100.0 mA
86.38: CTS i2/i1>:	50.00e-3
86.39: CTS i2/i1>>:	400.0e-3
86.50: DIFF SUPERVISION:	
86.51: IDiffSupervision:	Disabled
86.52: IDiff Sup Reset:	Auto
86.53: IDiff Isup1:	80.00 %
86.54: IDiff Isup2:	200.0 %
86.55: Idiff Sup Tdelay:	5.000 s
GROUP 3 SYSTEM CHECKS	
88.14: VOLTAGE MONITORS:	
88.85: Live Line:	32.00 V
88.86: Dead Line:	13.00 V
88.87: Live Bus:	32.00 V
88.88: Dead Bus:	13.00 V
88.8B: CS UV:	54.00 V
88.8C: CS OV:	130.0 V
88.8D: System Checks:	Disabled
88.8E: CS Voltage Block:	V<
88.8F: CS1 Status:	Enabled
88.90: CS1 Angle:	20.00 deg
88.91: CS1 VDiff:	6.500 V
88.92: CS1 Slip Ctrl:	Enabled
88.93: CS1 SlipFreq:	50.00 mHz
88.94: CS2 Status:	Disabled
88.95: CS2 Angle:	20.00 deg
88.96: CS2 VDiff:	6.500 V
88.97: CS2 Slip Ctrl:	Enabled
88.98: CS2 SlipFreq:	50.00 mHz
88.99: CS2 Adaptive:	Disabled
88.9A: CB CI Time:	50.00 ms
88.B0: MAN SYS CHECKS:	
88.B2: CBM SC required:	Disabled
88.B3: CBM SC CS1:	Disabled
88.B4: CBM SC CS2:	Disabled
88.B5: CBM SC DLLB:	Disabled
88.B6: CBM SC LLDB:	Disabled
88.B7: CBM SC DLDB:	Disabled
GROUP 3 AUTORECLOSE	
89.51: AR Mode:	AR 3P
89.59: AR Shots:	1
89.5A: AR Skip Shot 1:	Disabled
89.5C: Multi Phase AR:	Allow Autoclose
89.5D: Discrim Time:	100.0 ms



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89.60: CB IS Time: 5.000 s
89.61: CB IS MemoryTime: 500.0 ms
89.62: DT Start by Prot: Protection Reset
89.63: 3PDTStart WhenLD: Disabled
89.64: DTStart by CB Op: Disabled
89.66: Dead Line Time: 5.000 s
89.67: SP AR Dead Time: 500.0 ms
89.68: 3P AR DT Shot 1: 300.0 ms
89.69: 3P AR DT Shot 2: 60.00 s
89.6A: 3P AR DT Shot 3: 60.00 s
89.6B: 3P AR DT Shot 4: 60.00 s
89.6D: SPAR ReclaimTime: 60.00 s
89.6E: 3PAR ReclaimTime: 180.0 s
89.6F: AR CBHealthyTime: 5.000 s
89.70: AR CheckSyncTime: 5.000 s
89.72: Z1 AR: Initiate AR
89.73: Diff AR: Initiate AR
89.74: Dist Aided AR: Initiate AR
89.75: Z2T AR: Block AR
89.76: Z3T AR: Block AR
89.77: ZPT AR: Block AR
89.78: Z4T AR: Block AR
89.79: DEF Aided AR: Block AR
89.7A: Dir Aided AR: Block AR
89.7B: TOR AR: Block AR
89.7C: I>1 AR: No Action
89.7D: I>2 AR: No Action
89.7E: I>3 AR: No Action
89.7F: I>4 AR: No Action
89.80: IN>1 AR: No Action
89.81: IN>2 AR: No Action
89.82: IN>3 AR: No Action
89.83: IN>4 AR: No Action
89.84: ISEF>1 AR: No Action
89.85: ISEF>2 AR: No Action
89.86: ISEF>3 AR: No Action
89.87: ISEF>4 AR: No Action
89.88: Neutral Diff AR: Initiate AR
89.A5: AR SYS CHECKS:
89.A6: CB SC all: Disabled
89.A7: CB SC Shot 1: Disabled
89.A8: CB SC ClsNoDly: Disabled
89.A9: CB SC CS1: Disabled
89.AA: CB SC CS2: Disabled
89.AB: CB SC DLLB: Disabled
89.AC: CB SC LLDB: Disabled
89.AD: CB SC DLDB: Disabled
GROUP 3 INPUT LABELS
8A.01: Opto Input 1: Input L1
8A.02: Opto Input 2: Input L2
8A.03: Opto Input 3: Input L3
8A.04: Opto Input 4: Input L4
8A.05: Opto Input 5: Input L5
8A.06: Opto Input 6: Input L6
8A.07: Opto Input 7: Input L7
8A.08: Opto Input 8: Input L8
8A.09: Opto Input 9: Input L9
8A.0A: Opto Input 10: Input L10
8A.0B: Opto Input 11: Input L11
8A.0C: Opto Input 12: Input L12
8A.0D: Opto Input 13: Input L13
8A.0E: Opto Input 14: Input L14
8A.0F: Opto Input 15: Input L15
8A.10: Opto Input 16: Input L16
8A.11: Opto Input 17: Input L17
8A.12: Opto Input 18: Input L18



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8A.13: Opto Input 19: Input L19
8A.14: Opto Input 20: Input L20
8A.15: Opto Input 21: Input L21
8A.16: Opto Input 22: Input L22
8A.17: Opto Input 23: Input L23
8A.18: Opto Input 24: Input L24
8A.19: Opto Input 25: Input L25
8A.1A: Opto Input 26: Input L26
8A.1B: Opto Input 27: Input L27
8A.1C: Opto Input 28: Input L28
8A.1D: Opto Input 29: Input L29
8A.1E: Opto Input 30: Input L30
8A.1F: Opto Input 31: Input L31
8A.20: Opto Input 32: Input L32

GROUP 3 OUTPUT LABELS

8B.01: Relay 1: Output R1
8B.02: Relay 2: Output R2
8B.03: Relay 3: Output R3
8B.04: Relay 4: Output R4
8B.05: Relay 5: Output R5
8B.06: Relay 6: Output R6
8B.07: Relay 7: Output R7
8B.08: Relay 8: Output R8
8B.09: Relay 9: Output R9
8B.0A: Relay 10: Output R10
8B.0B: Relay 11: Output R11
8B.0C: Relay 12: Output R12
8B.0D: Relay 13: Output R13
8B.0E: Relay 14: Output R14
8B.0F: Relay 15: Output R15
8B.10: Relay 16: Output R16
8B.11: Relay 17: Output R17
8B.12: Relay 18: Output R18
8B.13: Relay 19: Output R19
8B.14: Relay 20: Output R20
8B.15: Relay 21: Output R21
8B.16: Relay 22: Output R22
8B.17: Relay 23: Output R23
8B.18: Relay 24: Output R24
8B.19: Relay 25: Output R25
8B.1A: Relay 26: Output R26
8B.1B: Relay 27: Output R27
8B.1C: Relay 28: Output R28
8B.1D: Relay 29: Output R29
8B.1E: Relay 30: Output R30
8B.1F: Relay 31: Output R31
8B.20: Relay 32: Output R32

GROUP 4 LINE PARAMETERS

90.01: Line Length: 100.0 km
90.02: Line Length: 62.10 mi
90.03: Line Impedance: 10.00 Ohm
90.04: Line Angle: 70.00 deg
90.05: kZN Res Comp: 1.000
90.06: kZN Res Angle: 0 deg
90.07: Mutual Comp: Disabled
90.08: kZm Mutual Set.: 1.000
90.09: kZm Mutual Angle: 0 deg
90.0A: Mutual Cut Off: 0
90.0B: Phase Sequence: Standard ABC
90.0C: Tripping Mode: 3 Pole
90.10: Line Charging Y: 2.000 mS

GROUP 4 DISTANCE SETUP

91.0C: Setting Mode: Simple
91.10: PHASE DISTANCE:
91.11: Phase Chars.: Mho
91.12: Quad Resistance: Proportional



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91.13: Fault Resistance: 10.00 Ohm
91.20: Zone 1 Ph Status: Enabled
91.21: Zone 1 Ph Reach: 80.00 %
91.30: Zone 2 Ph Status: Enabled
91.31: Zone 2 Ph Reach: 150.0 %
91.40: Zone 3 Ph Status: Enabled
91.41: Zone 3 Ph Reach: 250.0 %
91.42: Zone 3 Ph Dir.: Offset
91.43: Zone 3 Ph Offset: 10.00 %
91.50: Zone P Ph Status: Disabled
91.51: Zone P Ph Dir.: Forward
91.52: Zone P Ph Reach: 200.0 %
91.53: Zone P Ph Offset: 10.00 %
91.60: Zone 4 Ph Status: Enabled
91.61: Zone 4 Ph Reach: 150.0 %
91.70: GROUND DISTANCE:
91.71: Ground Chars.: Mho
91.72: Quad Resistance: Proportional
91.73: Fault Resistance: 10.00 Ohm
91.80: Zone 1 Gnd Stat.: Enabled
91.81: Zone 1 Gnd Reach: 80.00 %
91.90: Zone 2 Gnd Stat.: Enabled
91.91: Zone 2 Gnd Reach: 150.0 %
91.A0: Zone 3 Gnd Stat.: Enabled
91.A1: Zone 3 Gnd Reach: 250.0 %
91.A2: Zone 3 Gnd Dir.: Offset
91.A3: Zone3 Gnd Offset: 10.00 %
91.B0: Zone P Gnd Stat.: Disabled
91.B1: Zone P Gnd Dir.: Forward
91.B2: Zone P Gnd Reach: 200.0 %
91.B3: ZoneP Gnd Offset: 10.00 %
91.C0: Zone 4 Gnd Stat.: Enabled
91.C1: Zone 4 Gnd Reach: 150.0 %
91.D0: Digital Filter: Standard
91.D1: CVT Filters: Disabled
91.D2: SIR Setting: 30
91.D3: Load Blinders: Disabled
91.D4: Z< Blinder Imp: 15.00 Ohm
91.D5: Load/B Angle: 45.00 deg
91.D6: Load Blinder V<: 15.00 V
91.D7: Dist. Polarizing: 1.000
91.E0: DELTADIRECTIONAL:
91.E1: Dir. Status: Enabled
91.E2: AidedDeltaStatus: Disabled
91.E3: Dir. Char Angle: 60.00 deg
91.E4: Dir. V Fwd: 5.000 V
91.E5: Dir. V Rev: 4.000 V
91.E6: Dir. I Fwd: 100.0 mA
91.E7: Dir. I Rev: 80.00 mA
91.F0: DIST STUB BUS:
91.F1: Dist Stub Bus: Disabled
91.F2: Stub Bus I>: 2.000 A
91.F3: Stub Bus Time: 0 s
GROUP 4 DIST. ELEMENTS
92.01: PHASE DISTANCE:
92.02: Z1 Ph. Reach: 8.000 Ohm
92.03: Z1 Ph. Angle: 70.00 deg
92.07: R1 Ph. Resistive: 8.000 Ohm
92.08: Z1 Tilt Top Line: -3.000 deg
92.09: Z1 Sensit. Iph>1: 75.00 mA
92.10: Z2 Ph. Reach: 15.00 Ohm
92.11: Z2 Ph. Angle: 70.00 deg
92.15: R2 Ph. Resistive: 15.00 Ohm
92.16: Z2 Tilt Top Line: -3.000 deg
92.17: Z2 Sensit. Iph>2: 75.00 mA
92.20: Z3 Ph. Reach: 25.00 Ohm



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92.21: Z3 Ph. Angle: 70.00 deg
92.22: Z3' Ph Rev Reach: 1.000 Ohm
92.25: R3 Ph. Resistive: 25.00 Ohm
92.26: R3' Ph. Res. Rev: 1.000 Ohm
92.27: Z3 Tilt Top Line: -3.000 deg
92.28: Z3 Sensit. Iph>3: 50.00 mA
92.30: ZP Ph. Reach: 20.00 Ohm
92.31: ZP Ph. Angle: 70.00 deg
92.32: ZP' Ph Rev Reach: 1.000 Ohm
92.33: RP' Ph. Res. Rev: 1.000 Ohm
92.35: RP Ph Resistive: 20.00 Ohm
92.36: ZP Tilt Top Line: -3.000 deg
92.37: ZP Sensit. Iph>P: 50.00 mA
92.40: Z4 Ph. Reach: 15.00 Ohm
92.41: Z4 Ph. Angle: 70.00 deg
92.42: R4 Ph. Resistive: 15.00 Ohm
92.45: Z4 Tilt Top Line: -3.000 deg
92.46: Z4 Sensit. Iph>4: 50.00 mA
92.50: GROUND DISTANCE:
92.51: Z1 Gnd. Reach: 8.000 Ohm
92.52: Z1 Gnd. Angle: 70.00 deg
92.53: Z1 Dynamic Tilt: Enabled
92.54: Z1 Tilt Top Line: -3.000 deg
92.55: kZN1 Res. Comp.: 1.000
92.56: kZN1 Res. Angle: 0 deg
92.57: kZm1 Mut. Comp.: 1.000
92.58: kZm1 Mut. Angle: 0 deg
92.59: R1 Gnd Resistive: 8.000 Ohm
92.5B: Z1 Sensit Ignd>1: 75.00 mA
92.60: Z2 Gnd. Reach: 15.00 Ohm
92.61: Z2 Gnd. Angle: 70.00 deg
92.63: Z2 Dynamic Tilt: Enabled
92.64: Z2 Tilt Top Line: -3.000 deg
92.65: kZN2 Res. Comp.: 1.000
92.66: kZN2 Res. Angle: 0 deg
92.67: kZm2 Mut. Comp.: 1.000
92.68: kZm2 Mut. Angle: 0 deg
92.69: R2 Gnd Resistive: 15.00 Ohm
92.6B: Z2 Sensit Ignd>2: 75.00 mA
92.70: Z3 Gnd. Reach: 25.00 Ohm
92.71: Z3 Gnd. Angle: 70.00 deg
92.72: Z3' Gnd Rev Rch: 1.000 Ohm
92.73: Z3 Dynamic Tilt: Enabled
92.74: Z3 Tilt Top Line: -3.000 deg
92.75: kZN3 Res. Comp.: 1.000
92.76: kZN3 Res. Angle: 0 deg
92.77: kZm3 Mut. Comp.: 1.000
92.78: kZm3 Mut. Angle: 0 deg
92.79: R3 Gnd Resistive: 25.00 Ohm
92.7A: R3' Gnd Res. Rev: 1.000 Ohm
92.7C: Z3 Sensit Ignd>3: 50.00 mA
92.80: ZP Gnd. Reach: 20.00 Ohm
92.81: ZP Gnd. Angle: 70.00 deg
92.82: ZP' Gnd Rev Rch: 1.000 Ohm
92.83: ZP Dynamic Tilt: Enabled
92.84: ZP Tilt Top Line: -3.000 deg
92.85: kZNP Res. Comp.: 1.000
92.86: kZNP Res. Angle: 0 deg
92.87: kZmP Mut. Comp.: 1.000
92.88: kZmP Mut. Angle: 0 deg
92.89: RP Gnd Resistive: 20.00 Ohm
92.8A: RP' Gnd Res. Rev: 1.000 Ohm
92.8B: ZP Sensit Ignd>P: 50.00 mA
92.90: Z4 Gnd. Reach: 15.00 Ohm
92.91: Z4 Gnd. Angle: 70.00 deg
92.93: Z4 Dynamic Tilt: Enabled



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92.94: Z4 Tilt Top Line: -3.000 deg
92.95: kZN4 Res. Comp.: 1.000
92.96: kZN4 Res. Angle: 0 deg
92.97: kZm4 Mut. Comp.: 1.000
92.98: kZm4 Mut. Angle: 0 deg
92.99: R4 Gnd Resistive: 15.00 Ohm
92.9B: Z4 Sensit Ignd>4: 50.00 mA
92.B0: Mem Volt Dura: 16

GROUP 4 CURRENT DIFF

93.01: Phase Diff: Enabled
93.02: Phase Is1: 200.0 mA
93.03: Phase Is2: 2.000 A
93.04: Phase k1: 30.00 %
93.05: Phase k2: 100.0 %
93.06: Phase Is1: 200.0 mA
93.07: Phase Is2: 2.000 A
93.08: Phase k1: 30.00 %
93.09: Phase k2: 150.0 %
93.0A: Phase Char: DT
93.0B: Phase Time Delay: 0 s
93.0C: Phase TMS: 1.000
93.0D: Phase Time Dial: 1.000
93.0E: PIT Time: 200.0 ms
93.0F: Ph CT Corr'tion: 1.000
93.10: Compensation: None
93.11: Susceptance: 10.00 nS
93.12: Inrush Restraint: Disabled
93.14: Ih(2) Multiplier: 4.000
93.15: Vectorial Comp: Yy0 (0 deg)
93.16: Phase Is1 CTS: 1.200 A
93.17: PIT I selection: Remote
93.20: Ih(2) %>:15.00 %
93.21: Ih(2) CrossBlock: Disabled
93.27: Ih(5) Blocking: Disabled
93.28: Ih(5) %>:35.00 %
93.29: Ih(5) CrossBlock: Disabled
93.30: Highset Status: Disabled
93.31: Id High Set: 4.000 A
93.38: Transient Bias: Disabled
93.3F: NEUTRAL DIFF:
93.40: In Diff: Disabled
93.41: In Diff Time: 0 s
93.42: In Diff Is1: 100.0 mA
93.43: In Diff Is2: 2.000 A
93.44: In Diff k1: 10.00 %
93.60: Ph Diff Stub Bus: Disabled
93.61: Ph Is1 StubBus: 2.000 A
93.90: STARTERS:
93.91: Delta I2: Disabled
93.92: Delta I2 Low: 200.0 mA
93.94: Delta I1: Disabled
93.95: Delta I1 Low: 400.0 mA
93.97: Start I2: Disabled
93.98: Start I2 Low: 200.0 mA
93.9A: Start I1: Disabled
93.9B: Start I1 Low: 1.500 A
93.B2: Reset Low Time: 600.0 ms

GROUP 4 SCHEME LOGIC

94.01: BASIC SCHEME:
94.02: BasicScheme Mode: Standard
94.08: Zone1 Tripping: Phase And Ground
94.09: tZ1 Ph. Delay: 0 s
94.0A: tZ1 Gnd. Delay: 0 s
94.10: Zone2 Tripping: Phase And Ground
94.11: tZ2 Ph. Delay: 200.0 ms
94.12: tZ2 Gnd. Delay: 200.0 ms



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94.18: Zone3 Tripping: Phase And Ground
94.19: tZ3 Ph. Delay: 600.0 ms
94.1A: tZ3 Gnd. Delay: 600.0 ms
94.20: ZoneP Tripping: Phase And Ground
94.21: tZP Ph. Delay: 400.0 ms
94.22: tZP Gnd. Delay: 400.0 ms
94.28: Zone4 Tripping: Phase And Ground
94.29: tZ4 Ph. Delay: 1.000 s
94.2A: tZ4 Gnd. Delay: 1.000 s
94.40: AIDED SCHEME 1:
94.41: Aid. 1 Selection: Disabled
94.42: Aid 1 Distance: Phase And Ground
94.43: Aid.1 Dist. Dly: 0 s
94.44: Aid. 1 DEF: Disabled
94.45: Aid. 1 DEF Dly.: 0 s
94.46: Aid. 1 DEF Trip: 3 Pole
94.47: Aid. 1 Delta: Disabled
94.48: Aid. 1 Delta Dly: 0 s
94.49: Aid. 1 DeltaTrip: 3 Pole
94.4A: tRev. Guard: 20.00 ms
94.4B: Unblocking Delay: 50.00 ms
94.4C: Send On Trip: Aided / Z1
94.50: Weak Infeed: Disabled
94.51: WI Sngl Pole Trp: Disabled
94.52: WI V<Thresh.: 45.00 V
94.53: WI Trip Delay: 60.00 ms
94.58: Custom Send Mask: 0000000001
94.59: Custom Time PU: 0 s
94.5A: Custom Time DO: 0 s
94.60: AIDED SCHEME 2:
94.61: Aid. 2 Selection: Disabled
94.62: Aid 2 Distance: Disabled
94.63: Aid.2 Dist. Dly: 20.00 ms
94.64: Aid. 2 DEF: Enabled
94.65: Aid. 2 DEF Dly.: 20.00 ms
94.66: Aid. 2 DEF Trip: 3 Pole
94.67: Aid. 2 Delta: Disabled
94.68: Aid. 2 Delta Dly: 20.00 ms
94.69: Aid. 2 DeltaTrip: 3 Pole
94.6A: tRev. Guard: 20.00 ms
94.6B: Unblocking Delay: 50.00 ms
94.6C: Send On Trip: Aided / Z1
94.70: Weak Infeed: Disabled
94.71: WI Sngl Pole Trp: Disabled
94.72: WI V<Thresh.: 45.00 V
94.73: WI Trip Delay: 60.00 ms
94.78: Custom Send Mask: 0000000001
94.79: Custom Time PU: 0 s
94.7A: Custom Time DO: 0 s
94.80: TRIP ON CLOSE:
94.81: SOTF Status: Enabled PoleDead
94.82: SOTF Delay: 110.0 s
94.83: SOTF Tripping: 000001
94.84: TOR Status: Enabled
94.85: TOR Tripping: 000001
94.86: TOC Reset Delay: 500.0 ms
94.87: SOTF Pulse: 500.0 ms
94.88: TOC Delay: 200.0 ms
94.B0: Z1 EXTENSION:
94.B1: Z1 Ext Scheme: Disabled
94.B2: Z1 Ext Ph: 150.0 %
94.B3: Z1 Ext Gnd: 150.0 %
94.C0: LOSS OF LOAD:
94.C1: LOL Scheme: Disabled
94.C3: LOL <I: 500.0 mA
94.C4: LOL Window: 40.00 ms



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GROUP 4 OVERCURRENT

95.01: I>1 Status: Enabled
95.02: I>1 Function: IEC S Inverse
95.03: I>1 Directional: Non-Directional
95.04: I>1 Current Set: 1.000 A
95.05: I>1 Time Delay: 1.000 s
95.06: I>1 TMS: 1.000
95.07: I>1 Time Dial: 1.000
95.08: I>1 Reset Char: DT
95.09: I>1 tRESET: 0 s
95.0A: I>2 Status: Disabled
95.0B: I>2 Function: IEC S Inverse
95.0C: I>2 Directional: Non-Directional
95.0D: I>2 Current Set: 1.000 A
95.0E: I>2 Time Delay: 1.000 s
95.0F: I>2 TMS: 1.000
95.10: I>2 Time Dial: 1.000
95.11: I>2 Reset Char: DT
95.12: I>2 tRESET: 0 s
95.13: I>3 Status: Disabled
95.14: I>3 Directional: Directional Fwd
95.15: I>3 Current Set: 10.00 A
95.16: I>3 Time Delay: 0 s
95.18: I>4 Status: Disabled
95.19: I>4 Directional: Non-Directional
95.1A: I>4 Current Set: 10.00 A
95.1B: I>4 Time Delay: 0 s
95.1C: I> Char Angle: 30.00 deg
95.1D: I> Blocking: 001111
95.20: I>1 Usr Rst Char: DT
95.25: I>2 Usr Rst Char: DT

GROUP 4 NEG SEQ O/C

96.10: I2>1 Status: Disabled
96.11: I2>1 Function: DT
96.12: I2>1 Directional: Non-Directional
96.15: I2>1 Current Set: 200.0 mA
96.17: I2>1 Time Delay: 10.00 s
96.18: I2>1 TMS: 1.000
96.19: I2>1 Time Dial: 1.000
96.1C: I2>1 Reset Char: DT
96.1D: I2>1 tRESET: 0 s
96.20: I2>2 Status: Disabled
96.21: I2>2 Function: DT
96.22: I2>2 Directional: Non-Directional
96.25: I2>2 Current Set: 200.0 mA
96.27: I2>2 Time Delay: 10.00 s
96.28: I2>2 TMS: 1.000
96.29: I2>2 Time Dial: 1.000
96.2C: I2>2 Reset Char: DT
96.2D: I2>2 tRESET: 0 s
96.30: I2>3 Status: Disabled
96.32: I2>3 Directional: Non-Directional
96.35: I2>3 Current Set: 200.0 mA
96.37: I2>3 Time Delay: 10.00 s
96.40: I2>4 Status: Disabled
96.42: I2>4 Directional: Non-Directional
96.45: I2>4 Current Set: 200.0 mA
96.47: I2>4 Time Delay: 10.00 s
96.50: I2> VTS Blocking: 1111
96.51: I2> Char Angle: -60.00 deg
96.52: I2> V2pol Set: 5.000 V

GROUP 4 BROKEN CONDUCTOR

97.01: Broken Conductor: Disabled
97.02: I2/I1 Setting: 200.0e-3
97.03: I2/I1 Time Delay: 60.00 s

GROUP 4 EARTH FAULT



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98.01: IN>1 Status: Enabled
98.25: IN>1 Function: IEC S Inverse
98.26: IN>1 Directional: Non-Directional
98.29: IN>1 Current Set: 200.0 mA
98.2A: IN>1 IDG Is: 1.500
98.2C: IN>1 Time Delay: 1.000 s
98.2D: IN>1 TMS: 1.000
98.2E: IN>1 Time Dial: 1.000
98.30: IN>1 IDG Time: 1.200 s
98.32: IN>1 Reset Char: DT
98.33: IN>1 tRESET: 0 s
98.35: IN>2 Status: Disabled
98.36: IN>2 Function: IEC S Inverse
98.37: IN>2 Directional: Non-Directional
98.3A: IN>2 Current Set: 200.0 mA
98.3B: IN>2 IDG Is: 1.500
98.3D: IN>2 Time Delay: 1.000 s
98.3E: IN>2 TMS: 1.000
98.3F: IN>2 Time Dial: 1.000
98.41: IN>2 IDG Time: 1.200 s
98.43: IN>2 Reset Char: DT
98.44: IN>2 tRESET: 0 s
98.46: IN>3 Status: Disabled
98.47: IN>3 Directional: Directional Fwd
98.4A: IN>3 Current Set: 10.00 A
98.4B: IN>3 Time Delay: 0 s
98.4D: IN>4 Status: Disabled
98.4E: IN>4 Directional: Non-Directional
98.51: IN>4 Current Set: 10.00 A
98.52: IN>4 Time Delay: 0 s
98.54: IN> Blocking: 001111
98.55: IN> DIRECTIONAL:
98.56: IN> Char Angle: -60.00 deg
98.57: IN> Polarisation: Zero Sequence
98.59: IN> VNpol Set: 1.000 V
98.5A: IN> V2pol Set: 1.000 V
98.5B: IN> I2pol Set: 80.00 mA
98.60: IN>1 Usr RstChar: DT
98.65: IN>2 Usr RstChar: DT

GROUP 4 AIDED DEF

99.02: DEF Status: Enabled
99.03: DEF Polarizing: Zero Sequence
99.04: DEF Char. Angle: -60.00 deg
99.05: DEF VNpol Set: 1.000 V
99.06: DEF V2pol Set: 1.000 V
99.07: DEF FWD Set: 80.00 mA
99.08: DEF REV Set: 40.00 mA
99.09: Virtual I Pol: Enabled

GROUP 4 SEF/REF PROT'N

9A.01: SEF/REF Options: SEF Enabled
9A.2A: ISEF>1 Function: DT
9A.2B: ISEF>1 Direction: Non-Directional
9A.2E: ISEF>1 Current: 50.00 mA
9A.2F: ISEF>1 IDG Is: 1.500
9A.31: ISEF>1 Delay: 1.000 s
9A.32: ISEF>1 TMS: 1.000
9A.33: ISEF>1 Time Dial: 1.000
9A.34: ISEF>1 IDG Time: 1.200 s
9A.36: ISEF>1 Reset Chr: DT
9A.37: ISEF>1 tRESET: 0 s
9A.3A: ISEF>2 Function: Disabled
9A.3B: ISEF>2 Direction: Non-Directional
9A.3E: ISEF>2 Current: 50.00 mA
9A.3F: ISEF>2 IDG Is: 1.500
9A.41: ISEF>2 Delay: 1.000 s
9A.42: ISEF>2 TMS: 1.000



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9A.43: ISEF>2 Time Dial: 1.000
9A.44: ISEF>2 IDG Time: 1.200 s
9A.46: ISEF>2 Reset Chr: DT
9A.47: ISEF>2 tRESET: 0 s
9A.49: ISEF>3 Status: Disabled
9A.4A: ISEF>3 Direction: Non-Directional
9A.4D: ISEF>3 Current: 400.0 mA
9A.4E: ISEF>3 Delay: 500.0 ms
9A.50: ISEF>4 Status: Disabled
9A.51: ISEF>4 Direction: Non-Directional
9A.54: ISEF>4 Current: 600.0 mA
9A.55: ISEF>4 Delay: 250.0 ms
9A.57: ISEF> Blocking: 001111
9A.58: ISEF DIRECTIONAL:
9A.59: ISEF> Char Angle: 90.00 deg
9A.5B: ISEF> VNpol Set: 5.000 V
9A.5D: WATTMETRIC SEF:
9A.5E: PN> Setting: 9.000 W
9A.60: RESTRICTED E/F:
9A.65: IREF> Is: 200.0 mA
9A.70: ISEF>1 UstrRstChr: DT
9A.75: ISEF>2 UstrRstChr: DT

GROUP 4 RESIDUAL O/V NVD

9B.01: VN Input: Derived
9B.02: VN>1 Function: DT
9B.03: VN>1 Voltage Set: 5.000 V
9B.04: VN>1 Time Delay: 5.000 s
9B.05: VN>1 TMS: 1.000
9B.06: VN>1 tReset: 0 s
9B.07: VN>2 Status: Disabled
9B.08: VN>2 Voltage Set: 10.00 V
9B.09: VN>2 Time Delay: 10.00 s

GROUP 4 THERMAL OVERLOAD

9C.01: Characteristic: Single
9C.02: Thermal Trip: 1.000 A
9C.03: Thermal Alarm: 70.00 %
9C.04: Time Constant 1: 10.00 min
9C.05: Time Constant 2: 5.000 min

GROUP 4 POWER SWING BLK.

9D.01: PSB Status: Blocking
9D.03: Zone 1 Ph. PSB: Blocking
9D.05: Zone 2 Ph. PSB: Blocking
9D.07: Zone 3 Ph. PSB: Blocking
9D.09: Zone P Ph. PSB: Blocking
9D.0B: Zone 4 Ph. PSB: Blocking
9D.0D: Zone 1 Gnd. PSB: Blocking
9D.0F: Zone 2 Gnd. PSB: Blocking
9D.11: Zone 3 Gnd. PSB: Blocking
9D.13: Zone P Gnd. PSB: Blocking
9D.15: Zone 4 Gnd. PSB: Blocking
9D.16: WI Trip PSB: Inhibit Trip
9D.20: PSB Unblocking: Disabled
9D.21: PSB Unblock dly: 2.000 s
9D.22: PSB Reset Delay: 200.0 ms
9D.23: OST Mode: OST Disabled
9D.24: OST Z5: 30.00 Ohm
9D.25: OST Z6: 32.00 Ohm
9D.26: OST Z5': -30.00 Ohm
9D.27: OST Z6': -32.00 Ohm
9D.28: OST R5: 20.00 Ohm
9D.29: OST R6: 22.00 Ohm
9D.2A: OST R5': -20.00 Ohm
9D.2B: OST R6': -22.00 Ohm
9D.2C: Blinder Angle: 80.00 deg
9D.2D: delta T: 40.00 ms
9D.2E: Tost: 0 s



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9D.40: Slow Swing: Disabled
9D.41: PSB Z7: 30.00 Ohm
9D.42: PSB Z8: 32.00 Ohm
9D.43: PSB Z7': -30.00 Ohm
9D.44: PSB Z8': -32.00 Ohm
9D.45: PSB R7: 20.00 Ohm
9D.46: PSB R8: 22.00 Ohm
9D.47: PSB R7': -20.00 Ohm
9D.48: PSB R8': -22.00 Ohm
9D.49: Alpha: 80.00 deg
9D.4A: PSB Timer: 50.00 ms

GROUP 4 VOLT PROTECTION

A2.01: UNDER VOLTAGE:
A2.02: V< Measur't Mode: V<1 & V<2 Ph-Ph
A2.03: V< Operate Mode: V<1 & V<2 Any Ph
A2.04: V<1 Function: DT
A2.05: V<1 Voltage Set: 80.00 V
A2.06: V<1 Time Delay: 10.00 s
A2.07: V<1 TMS: 1.000
A2.08: V<1 Poledead Inh: Enabled
A2.09: V<2 Status: Disabled
A2.0A: V<2 Voltage Set: 60.00 V
A2.0B: V<2 Time Delay: 5.000 s
A2.0C: V<2 Poledead Inh: Enabled
A2.0D: OVERVOLTAGE:
A2.0E: V> Measur't Mode: V>1 & V>2 Ph-Ph
A2.0F: V> Operate Mode: V>1 & V>2 Any Ph
A2.10: V>1 Function: DT
A2.11: V>1 Voltage Set: 130.0 V
A2.12: V>1 Time Delay: 10.00 s
A2.13: V>1 TMS: 1.000
A2.14: V>2 Status: Disabled
A2.15: V>2 Voltage Set: 150.0 V
A2.16: V>2 Time Delay: 500.0 ms
A2.20: COMP OVERVOLTAGE:
A2.23: V1>1 Cmp Funct: Disabled
A2.24: V1>1 Cmp Vlt Set: 75.00 V
A2.25: V1>1 Cmp Tim Dly: 10.00 s
A2.26: V1>1 Cmp TMS: 1.000
A2.27: V1>2 Cmp Status: Disabled
A2.28: V1>2 Cmp Vlt Set: 85.00 V
A2.29: V1>2 Cmp Tim Dly: 500.0 ms

GROUP 4 FREQ PROTECTION

A3.01: UNDER FREQUENCY:
A3.02: F<1 Status: Enabled
A3.03: F<1 Setting: 49.50 Hz
A3.04: F<1 Time Delay: 4.000 s
A3.05: F<2 Status: Disabled
A3.06: F<2 Setting: 49.00 Hz
A3.07: F<2 Time Delay: 3.000 s
A3.08: F<3 Status: Disabled
A3.09: F<3 Setting: 48.50 Hz
A3.0A: F<3 Time Delay: 2.000 s
A3.0B: F<4 Status: Disabled
A3.0C: F<4 Setting: 48.00 Hz
A3.0D: F<4 Time Delay: 1.000 s
A3.0E: F< Function Link: 0000
A3.0F: OVER FREQUENCY:
A3.10: F>1 Status: Enabled
A3.11: F>1 Setting: 50.50 Hz
A3.12: F>1 Time Delay: 2.000 s
A3.13: F>2 Status: Disabled
A3.14: F>2 Setting: 51.00 Hz
A3.15: F>2 Time Delay: 1.000 s

GROUP 4 DF/DT PROTECTION

A4.01: df/dt Avg.Cycles: 6



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A4.04: df/dt>1 Status: Enabled
A4.05: df/dt>1 Setting: 2.000 Hz/s
A4.06: df/dt>1 Dir'n: Negative
A4.07: df/dt>1 Time: 500.0 ms
A4.08: df/dt>2 Status: Enabled
A4.0C: df/dt>2 Setting: 2.000 Hz/s
A4.0D: df/dt>2 Dir'n: Negative
A4.0E: df/dt>2 Time: 1.000 s
A4.12: df/dt>3 Status: Enabled
A4.13: df/dt>3 Setting: 2.000 Hz/s
A4.14: df/dt>3 Dir'n: Negative
A4.15: df/dt>3 Time: 2.000 s
A4.19: df/dt>4 Status: Enabled
A4.1A: df/dt>4 Setting: 2.000 Hz/s
A4.1B: df/dt>4 Dir'n: Negative
A4.1C: df/dt>4 Time: 3.000 s

GROUP 4 CB FAIL & P.DEAD

A5.01: BREAKER FAIL:
A5.02: CB Fail 1 Status: Enabled
A5.03: CB Fail 1 Timer: 200.0 ms
A5.04: CB Fail 2 Status: Disabled
A5.05: CB Fail 2 Timer: 400.0 ms
A5.06: Non I Prot Reset: Prot Reset & I<
A5.07: Ext Prot Reset: Prot Reset & I<
A5.08: WI Prot Reset: Disabled
A5.09: ExtTrip Only Ini: Disabled
A5.0A: UNDER CURRENT:
A5.0B: I< Current Set: 50.00 mA
A5.0D: ISEF< Current: 20.00 mA
A5.0E: POLEDEAD VOLTAGE:
A5.10: V<: 38.10 V

GROUP 4 SUPERVISION

A6.01: VTS Mode: Measured + MCB
A6.02: VTS Status: Blocking
A6.03: VTS Reset Mode: Auto
A6.04: VTS Time Delay: 5.000 s
A6.05: VTS I> Inhibit: 10.00 A
A6.06: VTS I2> Inhibit: 50.00 mA
A6.0E: Inrush Detection: Disabled
A6.0F: I>2nd Harmonic: 20.00 %
A6.10: WEAK INFEED BLK:
A6.11: WI Inhibit: Enabled
A6.12: I0/I2 Setting: 3.000
A6.20: ISEF HARM. BLOCK:
A6.21: ISEF>2nd Detect.: Disabled
A6.22: ISEF>2nd Harm.: 20.00 %
A6.30: CT SUPERVISION:
A6.31: CTS Mode: Disabled
A6.32: CTS Status: Restrained
A6.33: CTS Reset Mode: Manual
A6.34: CTS Time Delay: 5.000 s
A6.35: CTS VN< Inhibit: 5.000 V
A6.36: CTS IN> Set: 100.0 mA
A6.37: CTS i1>: 100.0 mA
A6.38: CTS i2/i1>: 50.00e-3
A6.39: CTS i2/i1>>: 400.0e-3
A6.50: DIFF SUPERVISION:
A6.51: IDiffSupervision: Disabled
A6.52: IDiff Sup Reset: Auto
A6.53: IDiff Isup1: 80.00 %
A6.54: IDiff Isup2: 200.0 %
A6.55: Idiff Sup Tdelay: 5.000 s
A8.14: VOLTAGE MONITORS:
A8.85: Live Line: 32.00 V
A8.86: Dead Line: 13.00 V



Settings File Report

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A8.87: Live Bus: 32.00 V
A8.88: Dead Bus: 13.00 V
A8.8B: CS UV: 54.00 V
A8.8C: CS OV: 130.0 V
A8.8D: System Checks: Disabled
A8.8E: CS Voltage Block: V<
A8.8F: CS1 Status: Enabled
A8.90: CS1 Angle: 20.00 deg
A8.91: CS1 VDiff: 6.500 V
A8.92: CS1 Slip Ctrl: Enabled
A8.93: CS1 SlipFreq: 50.00 mHz
A8.94: CS2 Status: Disabled
A8.95: CS2 Angle: 20.00 deg
A8.96: CS2 VDiff: 6.500 V
A8.97: CS2 Slip Ctrl: Enabled
A8.98: CS2 SlipFreq: 50.00 mHz
A8.99: CS2 Adaptive: Disabled
A8.9A: CB CI Time: 50.00 ms
A8.B0: MAN SYS CHECKS:
A8.B2: CBM SC required: Disabled
A8.B3: CBM SC CS1: Disabled
A8.B4: CBM SC CS2: Disabled
A8.B5: CBM SC DLLB: Disabled
A8.B6: CBM SC LLDB: Disabled
A8.B7: CBM SC DLDB: Disabled
GROUP 4 AUTORECLOSE
A9.51: AR Mode: AR 3P
A9.59: AR Shots: 1
A9.5A: AR Skip Shot 1: Disabled
A9.5C: Multi Phase AR: Allow Autoclose
A9.5D: Discrim Time: 100.0 ms
A9.60: CB IS Time: 5.000 s
A9.61: CB IS MemoryTime: 500.0 ms
A9.62: DT Start by Prot: Protection Reset
A9.63: 3PDTStart WhenLD: Disabled
A9.64: DTStart by CB Op: Disabled
A9.66: Dead Line Time: 5.000 s
A9.67: SP AR Dead Time: 500.0 ms
A9.68: 3P AR DT Shot 1: 300.0 ms
A9.69: 3P AR DT Shot 2: 60.00 s
A9.6A: 3P AR DT Shot 3: 60.00 s
A9.6B: 3P AR DT Shot 4: 60.00 s
A9.6D: SPAR ReclaimTime: 60.00 s
A9.6E: 3PAR ReclaimTime: 180.0 s
A9.6F: AR CBHealthyTime: 5.000 s
A9.70: AR CheckSyncTime: 5.000 s
A9.72: Z1 AR: Initiate AR
A9.73: Diff AR: Initiate AR
A9.74: Dist Aided AR: Initiate AR
A9.75: Z2T AR: Block AR
A9.76: Z3T AR: Block AR
A9.77: ZPT AR: Block AR
A9.78: Z4T AR: Block AR
A9.79: DEF Aided AR: Block AR
A9.7A: Dir Aided AR: Block AR
A9.7B: TOR AR: Block AR
A9.7C: I>1 AR: No Action
A9.7D: I>2 AR: No Action
A9.7E: I>3 AR: No Action
A9.7F: I>4 AR: No Action
A9.80: IN>1 AR: No Action
A9.81: IN>2 AR: No Action
A9.82: IN>3 AR: No Action
A9.83: IN>4 AR: No Action
A9.84: ISEF>1 AR: No Action
A9.85: ISEF>2 AR: No Action



Settings File Report

Substation:

File: 270924.set

Model Number: P543916G6M0760M

Printed on: 27/09/2024 15:46:09

A9.86: ISEF>3 AR: No Action
A9.87: ISEF>4 AR: No Action
A9.88: Neutral Diff AR: Initiate AR
A9.A5: AR SYS CHECKS:
A9.A6: CB SC all: Disabled
A9.A7: CB SC Shot 1: Disabled
A9.A8: CB SC ClsNoDly: Disabled
A9.A9: CB SC CS1: Disabled
A9.AA: CB SC CS2: Disabled
A9.AB: CB SC DLLB: Disabled
A9.AC: CB SC LLDB: Disabled
A9.AD: CB SC DLDB: Disabled

GROUP 4 INPUT LABELS

AA.01: Opto Input 1: Input L1
AA.02: Opto Input 2: Input L2
AA.03: Opto Input 3: Input L3
AA.04: Opto Input 4: Input L4
AA.05: Opto Input 5: Input L5
AA.06: Opto Input 6: Input L6
AA.07: Opto Input 7: Input L7
AA.08: Opto Input 8: Input L8
AA.09: Opto Input 9: Input L9
AA.0A: Opto Input 10: Input L10
AA.0B: Opto Input 11: Input L11
AA.0C: Opto Input 12: Input L12
AA.0D: Opto Input 13: Input L13
AA.0E: Opto Input 14: Input L14
AA.0F: Opto Input 15: Input L15
AA.10: Opto Input 16: Input L16
AA.11: Opto Input 17: Input L17
AA.12: Opto Input 18: Input L18
AA.13: Opto Input 19: Input L19
AA.14: Opto Input 20: Input L20
AA.15: Opto Input 21: Input L21
AA.16: Opto Input 22: Input L22
AA.17: Opto Input 23: Input L23
AA.18: Opto Input 24: Input L24
AA.19: Opto Input 25: Input L25
AA.1A: Opto Input 26: Input L26
AA.1B: Opto Input 27: Input L27
AA.1C: Opto Input 28: Input L28
AA.1D: Opto Input 29: Input L29
AA.1E: Opto Input 30: Input L30
AA.1F: Opto Input 31: Input L31
AA.20: Opto Input 32: Input L32

GROUP 4 OUTPUT LABELS

AB.01: Relay 1: Output R1
AB.02: Relay 2: Output R2
AB.03: Relay 3: Output R3
AB.04: Relay 4: Output R4
AB.05: Relay 5: Output R5
AB.06: Relay 6: Output R6
AB.07: Relay 7: Output R7
AB.08: Relay 8: Output R8
AB.09: Relay 9: Output R9
AB.0A: Relay 10: Output R10
AB.0B: Relay 11: Output R11
AB.0C: Relay 12: Output R12
AB.0D: Relay 13: Output R13
AB.0E: Relay 14: Output R14
AB.0F: Relay 15: Output R15
AB.10: Relay 16: Output R16
AB.11: Relay 17: Output R17
AB.12: Relay 18: Output R18
AB.13: Relay 19: Output R19
AB.14: Relay 20: Output R20



Settings File Report

Substation:

File: 270924.set

Model Number: P543916G6M0760M

Printed on: 27/09/2024 15:46:09

AB.15: Relay 21: Output R21
AB.16: Relay 22: Output R22
AB.17: Relay 23: Output R23
AB.18: Relay 24: Output R24
AB.19: Relay 25: Output R25
AB.1A: Relay 26: Output R26
AB.1B: Relay 27: Output R27
AB.1C: Relay 28: Output R28
AB.1D: Relay 29: Output R29
AB.1E: Relay 30: Output R30
AB.1F: Relay 31: Output R31
AB.20: Relay 32: Output R32

PSL DATA

B7.01: Grp1 PSL Ref: P543??????76?M DefaultPSL
B7.02: Date/Time: 1994-01-01 00:40:06.608
B7.03: Grp1 PSL ID: 418445DD
B7.11: Grp2 PSL Ref: P543??????76?M DefaultPSL
B7.12: Date/Time: 1994-01-01 00:40:06.610
B7.13: Grp2 PSL ID: 418445DD
B7.21: Grp3 PSL Ref: P543??????76?M DefaultPSL
B7.22: Date/Time: 1994-01-01 00:40:06.611
B7.23: Grp3 PSL ID: 418445DD
B7.31: Grp4 PSL Ref: P543??????76?M DefaultPSL
B7.32: Date/Time: 1994-01-01 00:40:06.612
B7.33: Grp4 PSL ID: 418445DD

USER CURVES DATA

B8.01: Curve 1 Name: Default Curve 1
B8.02: Date/Time: 2001-01-01 13:53:19.845
B8.03: Curve 1 ID: 00003238
B8.04: UserCurve 1 Type: Operate 1.0
B8.11: Curve 2 Name: Default Curve 2
B8.12: Date/Time: 2001-01-01 13:53:19.865
B8.13: Curve 2 ID: 00002C32
B8.14: UserCurve 2 Type: Operate 1.0
B8.21: Curve 3 Name: Default Curve 3
B8.22: Date/Time: 2001-01-01 13:53:19.886
B8.23: Curve 3 ID: 0000D17E
B8.24: UserCurve 3 Type: Reset 1.1
B8.31: Curve 4 Name: Default Curve 4
B8.32: Date/Time: 2001-01-01 13:53:19.906
B8.33: Curve 4 ID: 00008A2D
B8.34: UserCurve 4 Type: Reset 1.1

COMMS SYS DATA

BF.01: Record Cntl Ref [: B300]
BF.02: Record Ext Ref [: B400]
BF.03: Setting Transfer: 1
BF.04: Reset Demand:
BF.06: Block Xfer Ref [: B200]
BF.07: Read Only Mode [: 0000]
BF.10: Encryption Key: 70586C3F296729593B2A66456D5D6A49
BF.11: Connected i/face: 0
BF.12: Security Column [: 2500]
BF.13: Port Disable [: 2505]
BF.14: Port Disable end [: 250B]

400kV Bongaigaon -2

Line 2 Main I



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K

Printed on: 27/09/2024 16:29:59

SYSTEM DATA	
00.01: Language:	English
00.02: Password: ****	
00.04: Description:	400KV LINE-1P442
00.05: Plant Reference:	AREVA
00.06: Model Number:	P442316B6M0500K
00.08: Serial Number:	116027T
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	1
00.0C: Plant Status:	0000000000000010
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.10: CB Trip/Close:	No Operation
00.11: Software Ref. 1:	D3.0
00.20: Opto I/P Status:	0100000000000111
00.21: Relay Status 1:	000000000000000000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.40: Relay Status 1:	00000000000000000000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	2
00.D1: Password Control:	2
00.D2: Password Level 1:	****
00.D3: Password Level 2:	****
CB CONTROL	
07.01: CB Control by:	Disabled
DATE AND TIME	
08.01: Date/Time:	2024-09-24 11:16:17.411
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Disabled
08.13: SNTP Status:	Server 1 OK
08.20: LocalTime Enable:	Fixed
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0D: Dist. Protection:	Enabled
09.10: Power-Swing:	Enabled
09.11: Back-up I>:	Enabled
09.12: Neg Sequence O/C:	Disabled
09.13: Broken Conductor:	Enabled
09.14: Earth Fault PROT:	Earth Fault O/C
09.15: Aided D.E.F:	Disabled
09.16: Volt Protection:	Enabled
09.17: CB Fail & I<:	Disabled
09.18: Supervision:	Enabled
09.19: System Checks:	Disabled
09.1A: Thermal Overload:	Disabled
09.1C: I< Protection:	Disabled
09.1D: Residual O/V NVD:	Disabled
09.1E: Freq Protection:	Disabled
09.24: Internal A/R:	Disabled
09.25: Input Labels:	Visible
09.26: Output Labels:	Visible
09.28: CT & VT Ratios:	Visible



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K

Printed on: 27/09/2024 16:29:59

09.29: Record Control: Invisible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Invisible
09.2C: Comms Settings: Invisible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Secondary
09.2F: Control Inputs: Invisible
09.35: Ctrl I/P Config: Invisible
09.36: Ctrl I/P Labels: Invisible
09.39: Direct Access: Disabled
09.50: Function Key: Invisible

CT AND VT RATIOS

0A.01: Main VT Primary: 400.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.03: C/S VT Primary: 400.0 kV
0A.04: C/S VT Secondary: 110.0 V
0A.07: Phase CT Primary: 2000 A
0A.08: Phase CT Sec'y: 1.000 A
0A.0D: MComp CT Primary: 2000 A
0A.0E: MComp CT Sec'y: 1.000 A
0A.0F: C/S Input: A-N
0A.10: Main VT Location: Line
0A.11: CT Polarity: Standard

DISTURB RECORDER

0C.01: Duration: 3.000 s
0C.02: TriggerPosition: 33.30 %
0C.03: TriggerMode: Extended
0C.04: AnalogChannel1: VA
0C.05: AnalogChannel2: VB
0C.06: AnalogChannel3: VC
0C.07: AnalogChannel4: VN
0C.08: AnalogChannel5: IA
0C.09: AnalogChannel6: IB
0C.0A: AnalogChannel7: IC
0C.0B: AnalogChannel8: IN
0C.0C: DigitalInput1: V>2 Trip
0C.0D: Input1Trigger: Trigger L/H
0C.0E: DigitalInput2: Any Trip
0C.0F: Input2Trigger: Trigger L/H
0C.10: DigitalInput3: DIST Trip A
0C.11: Input3Trigger: Trigger L/H
0C.12: DigitalInput4: DIST Trip B
0C.13: Input4Trigger: Trigger L/H
0C.14: DigitalInput5: DIST Trip C
0C.15: Input5Trigger: Trigger L/H
0C.16: DigitalInput6: DIST Fwd
0C.17: Input6Trigger: Trigger L/H
0C.18: DigitalInput7: SOTF Enable
0C.19: Input7Trigger: Trigger L/H
0C.1A: DigitalInput8: Z1
0C.1B: Input8Trigger: Trigger L/H
0C.1C: DigitalInput9: Z2
0C.1D: Input9Trigger: Trigger L/H
0C.1E: DigitalInput10: Z3
0C.1F: Input10Trigger: Trigger L/H
0C.20: DigitalInput11: Z4
0C.21: Input11Trigger: Trigger L/H
0C.22: DigitalInput12: Any Pole Dead
0C.23: Input12Trigger: Trigger L/H
0C.24: DigitalInput13: All Pole Dead
0C.25: Input13Trigger: Trigger L/H
0C.26: DigitalInput14: V>1 Trip
0C.27: Input14Trigger: Trigger L/H
0C.28: DigitalInput15: SOTF/TOR Trip
0C.29: Input15Trigger: Trigger L/H
0C.2A: DigitalInput16: Opto Label 01



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K

Printed on: 27/09/2024 16:30:00

0C.2B: Input16Trigger:	Trigger L/H
0C.2C: DigitalInput17:	Opto Label 02
0C.2D: Input17Trigger:	Trigger L/H
0C.2E: DigitalInput18:	Opto Label 03
0C.2F: Input18Trigger:	Trigger L/H
0C.30: DigitalInput19:	Man. Close CB
0C.31: Input19Trigger:	Trigger L/H
0C.32: DigitalInput20:	Opto Label 05
0C.33: Input20Trigger:	Trigger L/H
0C.34: DigitalInput21:	DIST. Chan Recv
0C.35: Input21Trigger:	Trigger L/H
0C.36: DigitalInput22:	Opto Label 06
0C.37: Input22Trigger:	Trigger L/H
0C.38: DigitalInput23:	Opto Label 07
0C.39: Input23Trigger:	Trigger L/H
0C.3A: DigitalInput24:	Opto Label 08
0C.3B: Input24Trigger:	Trigger L/H
0C.3C: DigitalInput25:	Opto Label 09
0C.3D: Input25Trigger:	Trigger L/H
0C.3E: DigitalInput26:	Opto Label 10
0C.3F: Input26Trigger:	Trigger L/H
0C.40: DigitalInput27:	Opto Label 11
0C.41: Input27Trigger:	Trigger L/H
0C.42: DigitalInput28:	Opto Label 04
0C.43: Input28Trigger:	Trigger L/H
0C.44: DigitalInput29:	Opto Label 13
0C.45: Input29Trigger:	Trigger L/H
0C.46: DigitalInput30:	Opto Label 14
0C.47: Input30Trigger:	Trigger L/H
0C.48: DigitalInput31:	Opto Label 15
0C.49: Input31Trigger:	Trigger L/H
0C.4A: DigitalInput32:	Opto Label 16
0C.4B: Input32Trigger:	Trigger L/H
COMMISSION TESTS	
0F.01: Opto I/P Status:	0100000000000111
0F.02: Relay Status 1:	00000000000000000000
0F.04: Test Port Status:	00000000
0F.06: Monitor Bit 1:	Relay Label 01
0F.07: Monitor Bit 2:	Relay Label 02
0F.08: Monitor Bit 3:	Relay Label 03
0F.09: Monitor Bit 4:	Relay Label 04
0F.0A: Monitor Bit 5:	Relay Label 05
0F.0B: Monitor Bit 6:	Relay Label 06
0F.0C: Monitor Bit 7:	Relay Label 07
0F.0D: Monitor Bit 8:	Relay Label 08
0F.0E: Test Mode:	Disable
0F.0F: Test Pattern 1:	00000000000000000000
0F.11: Contact Test:	No operation
0F.12: Test LEDs:	No operation
0F.13: Autoreclose Test:	No Operation
0F.16: Red LED Status:	000000000000000000
0F.17: Green LED Status:	000000000000000000
CB MONITOR SETUP	
10.01: Broken I^:	2.000
10.02: I^ Maintenance:	Alarms Disabled
10.04: I^ Lockout:	Alarms Disabled
10.06: No CB Ops Maint:	Alarms Disabled
10.08: No CB Ops Lock:	Alarms Disabled
10.0A: CB Time Maint:	Alarms Disabled
10.0C: CB Time Lockout:	Alarms Disabled
10.0E: Fault Freq Lock:	Alarms Disabled
10.11: Lockout Reset:	No
10.12: Reset Lockout By:	CB Close
OPTO CONFIG	
11.01: Global Nominal V:	220/250V
11.50: Opto Filter Cntl:	1111111111111111



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K

Printed on: 27/09/2024 16:30:00

11.80: Characteristic:	Standard 60%-80%
IED CONFIGURATOR	
19.70: GoEna:	Enabled
Group 1	
GROUP 1 DISTANCE ELEMENT	
30.01: GROUP 1 Line Setting:	
30.02: Line Length:	3190 m
30.04: Line Impedance:	584.0mOhm (52.93mOhm)
30.05: Line Angle:	84.80 deg (j 581.6mOhm)
30.06: GROUP 1 Zone Setting:	
30.07: Zone Status:	110010
30.08: kZ1 Res Comp:	918.0e-3
30.09: kZ1 Angle:	-3.100 deg
30.0A: Z1:	467.0 mOhm
30.0C: R1G:	33.87 Ohm
30.0D: R1Ph:	25.40 Ohm
30.0E: tZ1:	0 s
30.0F: kZ2 Res Comp:	918.0e-3
30.10: kZ2 Angle:	-3.100 deg
30.11: Z2:	18.05 Ohm
30.12: R2G:	33.87 Ohm
30.13: R2Ph:	25.40 Ohm
30.14: tZ2:	400.0 ms
30.15: kZ3/4 Res Comp:	918.0e-3
30.16: kZ3/4 Angle:	-3.100 deg
30.17: Z3:	28.52 Ohm
30.18: R3G-R4G:	33.87 Ohm
30.19: R3Ph-R4Ph:	25.40 Ohm
30.1A: tZ3:	1.000 s
30.1B: Z4:	117.0 mOhm
30.1C: tZ4:	1.000 s
30.2B: GROUP 1 Other Parameters:	
30.2C: Series Cmp. Line:	Disabled
30.2D: Overlap Z Mode:	Disabled
30.2E: Z1m Tilt Angle:	0 deg
30.2F: Z1p Tilt Angle:	0 deg
30.30: Z2/p/q Tilt Angl:	0 deg
30.31: Fwd Z Chg. Delay:	30.00 ms
30.32: V Mem Validity:	10.00 s
30.33: Earth I Detect.:	50.00 mA
30.34: GROUP 1 Fault Locator:	
30.35: kZm Mutual Comp:	0
30.36: kZm Angle:	0 deg
GROUP 1 DISTANCE SCHEMES	
31.01: Program Mode:	Standard Scheme
31.02: Standard Mode:	P.O.P Z2
31.03: Fault Type:	Both enabled
31.04: Trip Mode:	1P. Z1 & CR
31.07: Aid Dist Dly:	20.00 ms
31.08: tReversal Guard:	20.00 ms
31.09: Unblocking Logic:	None
31.0A: SOTF/TOR Mode:	100001110010000
31.0B: SOTF Delay:	110.0 s
31.0C: Z1Ext Fail:	Disabled
31.0D: GROUP 1 Weak Infeed:	
31.0E: WI:Mode Status:	Disabled
GROUP 1 POWER-SWING	
32.01: Delta R:	5.080 Ohm
32.02: Delta X:	5.080 Ohm
32.03: IN> status:	Enabled
32.04: IN> (%Imax):	40.00 %
32.05: I2> status:	Enabled
32.06: I2> (%Imax):	30.00 %
32.07: ImaxLine> Status:	Enabled
32.08: ImaxLine >:	3.000 A
32.09: Delta I Status:	Enabled



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K

Printed on: 27/09/2024 16:30:00

32.0A: Unblocking delay: 2.000 s
32.0B: Blocking Zones: 110010
32.0C: Out of Step: 1
32.0D: Stable Swing: 1

GROUP 1 BACK UP I>
35.01: I>1 Function: IEC S Inverse
35.02: I>1 Directional: Non Directional
35.04: I>1 Current Set: 1.070 A
35.07: I>1 TMS: 450.0e-3
35.0A: I>1 tReset: 0 s
35.0B: I>2 Function: Disabled
35.15: I>3 Status: Enabled
35.16: I>3 Current Set: 3.000 A
35.17: I>3 Time delay: 3.000 s
35.18: I>4 Status: Disabled

GROUP 1 BROKEN CONDUCTOR
37.01: Broken conductor: Enabled
37.02: I2/I1 Setting: 200.0e-3
37.03: I2/I1 Time delay: 20.00 s
37.04: I2/I1 Trip: Disabled

GROUP 1 EARTH FAULT O/C
38.01: IN>1 Function: IEC S Inverse
38.02: IN>1 Directional: Directional FWD
38.03: IN>1 VTS Block: Block
38.04: IN>1 Current Set: 160.0 mA
38.07: IN>1 TMS: 700.0e-3
38.0A: IN>1 tReset: 0 s
38.0B: IN>2 Function: Disabled
38.15: IN>3 Status: Disabled
38.1B: IN>4 Status: Disabled
38.21: GROUP 1 IN> DIRECTIONAL:
38.22: IN Char Angle: -45.00 deg
38.23: Polarisation: Zero sequence

GROUP 1 VOLT PROTECTION
42.01: V< & V> MODE: 00110000
42.02: GROUP 1 UNDERVOLTAGE:
42.03: V< Measur't Mode: Phase_Neutral
42.04: V<1 Function: Disabled
42.08: V<2 Status: Disabled
42.0B: V<3 Status: Disabled
42.0E: V<4 Status: Disabled
42.11: GROUP 1 OVERVOLTAGE:
42.12: V> Measur't Mode: Phase_Neutral
42.13: V>1 Function: DT
42.14: V>1 Voltage Set: 70.00 V
42.15: V>1 Time Delay: 5.000 s
42.17: V>2 Status: Enabled
42.18: V>2 Voltage Set: 89.00 V
42.19: V>2 Time Delay: 100.0 ms
42.1A: V>3 Status: Disabled
42.1D: V>4 Status: Disabled

GROUP 1 SUPERVISION
46.01: GROUP 1 VT SUPERVISION:
46.02: VTS Time Delay: 2.000 s
46.03: VTS I2 & I0 Inh: 20.00 mA
46.04: Detect 3P: Enabled
46.05: Threshold 3P: 10.00 V
46.06: Delta I>: 100.0 mA
46.07: GROUP 1 CT SUPERVISION:
46.08: CTS Status: Disabled
46.0C: GROUP 1 CVT SUPERVISION:
46.0D: CVTS Status: Disabled

GROUP 1 INPUT LABELS
4A.01: Opto Input 1: MAIN/TRF CB R-PH
4A.02: Opto Input 2: MAIN/TRF CB Y-PH
4A.03: Opto Input 3: MAIN/TRF CB B-PH



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P442316B6M0500K

Printed on: 27/09/2024 16:30:01

.....	4A.04: Opto Input 4:	DIRECT TRIP
.....	4A.05: Opto Input 5:	CARR OUT
.....	4A.06: Opto Input 6:	TBC CLOSE STATUS
.....	4A.07: Opto Input 7:	SPARE
.....	4A.08: Opto Input 8:	SOTF INITIATION
.....	4A.09: Opto Input 9:	SOTF FOR TBC BCU
.....	4A.0A: Opto Input 10:	BB OPTD(A/R LO)
.....	4A.0B: Opto Input 11:	CARR.FAIL CH-1
.....	4A.0C: Opto Input 12:	CARR.RECIEVE
.....	4A.0D: Opto Input 13:	GRP-A RLY OPTD
.....	4A.0E: Opto Input 14:	SPARE
.....	4A.0F: Opto Input 15:	86A RLY SUPVN
.....	4A.10: Opto Input 16:	SPARE
.....	GROUP 1 OUTPUT LABELS	
.....	4B.01: Relay 1:	TC-1 TRIP M-BRKR
.....	4B.02: Relay 2:	TC-1 TRIP M-BRKR
.....	4B.03: Relay 3:	TC-1 TRIP M-BRKR
.....	4B.04: Relay 4:	CNT MULPLC-RPH
.....	4B.05: Relay 5:	CNT MULPLC-YPH
.....	4B.06: Relay 6:	CNT MULPLC-BPH
.....	4B.07: Relay 7:	TEST TRIP
.....	4B.08: Relay 8:	DIR.TRP SND CH-1
.....	4B.09: Relay 9:	SPARE
.....	4B.0A: Relay 10:	SPARE
.....	4B.0B: Relay 11:	DIR.TRP SND CH-2
.....	4B.0C: Relay 12:	SPARE
.....	4B.0D: Relay 13:	86B OPTD
.....	4B.0E: Relay 14:	86A OPTD
.....	4B.0F: Relay 15:	TC-1 TBC RPH TRP
.....	4B.10: Relay 16:	TC-1 TBC YPH TRP
.....	4B.11: Relay 17:	TC-1 TBC BPH TRP
.....	4B.12: Relay 18:	CARR. SEND
.....	4B.13: Relay 19:	RZT 2 BC PUA
.....	4B.14: Relay 20:	SPARE
.....	4B.15: Relay 21:	SPARE
.....	Group 2	
.....	Group 3	
.....	Group 4	

400kV Bongaigaon -2

Line 2 Main II



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P543316G6M0D00M

Printed on: 27/09/2024 16:31:06

SYSTEM DATA	
00.01: Language:	English
00.02: Password:	*****
00.03: Sys Fn Links:	0
00.04: Description:	400KV BOQ L-2
00.05: Plant Reference:	NTPC_BOQ
00.06: Model Number:	P543316G6M0D00M
00.08: Serial Number:	297624Z
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	1
00.0C: Plant Status:	0000000000000010
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.10: CB Trip/Close:	No Operation
00.11: Software Ref. 1:	P543____6S_D00_B
00.20: Opto I/P Status:	0100000000000111
00.21: Relay O/P Status:	0000000000000000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	3
00.D2: Password Level 1:	*****
00.D3: Password Level 2:	*****
00.D4: Password Level 3:	*****
00.DF: Security Feature:	1
CB CONTROL	
07.01: CB Control by:	Disabled
07.08: Lockout Reset:	No
07.09: Reset Lockout by:	CB Close
07.0A: Man Close RstDly:	5.000 s
07.11: CB Status Input:	52B 1 pole
07.7F: CB Status Time:	5.000 s
DATE AND TIME	
08.01: Date/Time:	2024-09-24 05:47:57.361
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Enabled
08.20: LocalTime Enable:	Flexible
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
08.30: RP1 Time Zone:	UTC
08.32: DNPOE Time Zone:	UTC
08.33: Tunnel Time Zone:	UTC
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0B: Distance:	Enabled
09.0C: Directional E/F:	Disabled
09.0F: Phase Diff:	Enabled
09.10: Overcurrent:	Enabled
09.11: Neg Sequence O/C:	Disabled
09.12: Broken Conductor:	Disabled
09.13: Earth Fault:	Enabled
09.15: SEF/REF Prot'n:	Disabled
09.16: Residual O/V NVD:	Disabled
09.17: Thermal Overload:	Disabled
09.18: PowerSwing Block:	Enabled



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P543316G6M0D00M

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09.1D: Volt Protection: Disabled
09.1E: Freq Protection: Disabled
09.1F: df/dt Protection: Disabled
09.20: CB Fail: Disabled
09.21: Supervision: Enabled
09.23: System Checks: Disabled
09.24: Auto-Reclose: Disabled
09.25: Input Labels: Visible
09.26: Output Labels: Visible
09.28: CT & VT Ratios: Visible
09.29: Record Control: Visible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Visible
09.2C: Comms Settings: Visible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Primary
09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.50: Function Key: Invisible
09.FB: RP1 Read Only: Disabled
09.FD: NIC Read Only: Disabled
09.FF: LCD Contrast: 11

CT AND VT RATIOS

0A.01: Main VT Primary: 400.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.03: CS VT Primary: 400.0 kV
0A.04: CS VT Secondary: 110.0 V
0A.07: Phase CT Primary: 2000 A
0A.08: Phase CT Sec'y: 1.000 A
0A.0B: SEF CT Primary: 2000 A
0A.0C: SEF CT Secondary: 1.000 A
0A.0D: MComp CT Primary: 2000 A
0A.0E: MComp CT Sec'y: 1.000 A
0A.0F: CS Input: AN
0A.10: Main VT Location: Line
0A.11: CT Polarity: Standard
0A.13: SEF CT Polarity: Standard
0A.14: M CT Polarity: Standard
0A.18: VT Connected: Yes

RECORD CONTROL

0B.04: Alarm Event: Enabled
0B.05: Relay O/P Event: Enabled
0B.06: Opto Input Event: Enabled
0B.07: General Event: Enabled
0B.08: Fault Rec Event: Enabled
0B.09: Maint Rec Event: Enabled
0B.0A: Protection Event: Enabled
0B.2F: Flt Rec Extended: Disabled
0B.40: DDB 31 - 0: 11111111111111111111111111111111
0B.41: DDB 63 - 32: 11111111111111111111111111111111
0B.42: DDB 95 - 64: 11111111111111111111111111111111
0B.43: DDB 127 - 96: 11111111111111111111111111111111
0B.44: DDB 159 - 128: 11111111111111111111111111111111
0B.45: DDB 191 - 160: 11111111111111111111111111111111
0B.46: DDB 223 - 192: 11111111111111111111111111111111
0B.47: DDB 255 - 224: 11111111111111111111111111111111
0B.48: DDB 287 - 256: 11111111111111111111111111111111
0B.49: DDB 319 - 288: 11111111111111111111111111111111
0B.4A: DDB 351 - 320: 11111111111111111111111111111111
0B.4B: DDB 383 - 352: 11111111111111111111111111111111
0B.4C: DDB 415 - 384: 11111111111111111111111111111111
0B.4D: DDB 447 - 416: 11111111111111111111111111111111
0B.4E: DDB 479 - 448: 11111111111111111111111111111111
0B.4F: DDB 511 - 480: 11111111111111111111111111111111



Settings File Report
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File: 240924.set
Model Number: P543316G6M0D00M

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OB.50: DDB 543 - 512: 11111111111111111000111111111111
OB.51: DDB 575 - 544: 11111111111111111111111111111111
OB.52: DDB 607 - 576: 1111111111111111111111101110111111
OB.53: DDB 639 - 608: 111111111110111101111011111011110
OB.54: DDB 671 - 640: 11110111011101110111111111111111
OB.55: DDB 703 - 672: 11111111011101110111011111111111
OB.56: DDB 735 - 704: 11111111111111111111111111111111
OB.57: DDB 767 - 736: 11011101111111111111111111111101
OB.58: DDB 799 - 768: 111011101110111111111111111101101
OB.59: DDB 831 - 800: 11111111111111111111111111111110
OB.5A: DDB 863 - 832: 11111111110111111111111111111111
OB.5B: DDB 895 - 864: 11110111111111111111111111111111
OB.5C: DDB 927 - 896: 11111111100001111000011111111111
OB.5D: DDB 959 - 928: 11111111111111111111111111111111
OB.5E: DDB 991 - 960: 11111111111111111111111111111111
OB.5F: DDB 1023 - 992: 11111111111111111111111111111111
OB.60: DDB 1055 - 1024: 11111111111111111111111111111111
OB.61: DDB 1087 - 1056: 11111111111111111111111111111111
OB.62: DDB 1119 - 1088: 11111111111111111111111111111111
OB.63: DDB 1151 - 1120: 11111111111111111111111111111111
OB.64: DDB 1183 - 1152: 00000000111111111111111111111111
OB.65: DDB 1215 - 1184: 11111111111111111111111111111111
OB.66: DDB 1247 - 1216: 11111111111111111111111111111111
OB.67: DDB 1279 - 1248: 11111111111111111111111111111111
OB.68: DDB 1311 - 1280: 11111111111111111111111111111111
OB.69: DDB 1343 - 1312: 11111111111111111111111111111111
OB.6A: DDB 1375 - 1344: 11111111111111111111111111111111
OB.6B: DDB 1407 - 1376: 11111111111111111111111111111111
OB.6C: DDB 1439 - 1408: 11010011111111111111111111111111
OB.6D: DDB 1471 - 1440: 11111111111111111111110011110011
OB.6E: DDB 1503 - 1472: 11111111111111111111111111111111
OB.6F: DDB 1535 - 1504: 11111111111111111111111111111111
OB.70: DDB 1567 - 1536: 10011001000011001111001001111111
OB.71: DDB 1599 - 1568: 11111111111111111111111111111010
OB.72: DDB 1631 - 1600: 11111111111111111111111111110001
OB.73: DDB 1663 - 1632: 11111111111111111111111111111111
OB.74: DDB 1695 - 1664: 11111111111111111111111111111111
OB.75: DDB 1727 - 1696: 11111111111111111111111111111111
OB.76: DDB 1759 - 1728: 00000000000000000000000000000000
OB.77: DDB 1791 - 1760: 00000000000000000000000000000000
OB.78: DDB 1823 - 1792: 11111111111111111111111111111111
OB.79: DDB 1855 - 1824: 11111111111111111111111111111111
OB.7A: DDB 1887 - 1856: 11111111111111111111111111111111
OB.7B: DDB 1919 - 1888: 11111111111111111111111111111111
OB.7C: DDB 1951 - 1920: 11111111111111111111111111111111
OB.7D: DDB 1983 - 1952: 11111111111111111111111111111111
OB.7E: DDB 2015 - 1984: 11111111111111111111111111111111
OB.7F: DDB 2047 - 2016: 11111111111111111111111111111111

 DISTURB RECORDER

OC.01: Duration: 1.500 s
OC.02: Trigger Position: 33.30 %
OC.03: Trigger Mode: Single
OC.04: Analog Channel 1: VA
OC.05: Analog Channel 2: VB
OC.06: Analog Channel 3: VC
OC.07: Analog Channel 4: IA
OC.08: Analog Channel 5: IB
OC.09: Analog Channel 6: IC
OC.0A: Analog Channel 7: IN
OC.0B: Analog Channel 8: IN Sensitive
OC.0C: Digital Input 1: IDiff>Start
OC.0D: Input 1 Trigger: Trigger L/H
OC.0E: Digital Input 2: Any Trip
OC.0F: Input 2 Trigger: Trigger L/H
OC.10: Digital Input 3: Diff Trip A
OC.11: Input 3 Trigger: Trigger L/H



Settings File Report
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..... 0C.12: Digital Input 4: Diff Trip B
..... 0C.13: Input 4 Trigger: Trigger L/H
..... 0C.14: Digital Input 5: Diff Trip C
..... 0C.15: Input 5 Trigger: Trigger L/H
..... 0C.16: Digital Input 6: Zone 1 Trip
..... 0C.17: Input 6 Trigger: Trigger L/H
..... 0C.18: Digital Input 7: Zone 2 Trip
..... 0C.19: Input 7 Trigger: Trigger L/H
..... 0C.1A: Digital Input 8: Zone 3 Trip
..... 0C.1B: Input 8 Trigger: Trigger L/H
..... 0C.1C: Digital Input 9: Zone 4 Trip
..... 0C.1D: Input 9 Trigger: Trigger L/H
..... 0C.1E: Digital Input 10: Power Swing
..... 0C.1F: Input 10 Trigger: Trigger L/H
..... 0C.20: Digital Input 11: I>1 Trip
..... 0C.21: Input 11 Trigger: Trigger L/H
..... 0C.22: Digital Input 12: IN>1 Trip
..... 0C.23: Input 12 Trigger: Trigger L/H
..... 0C.24: Digital Input 13: Relay 15
..... 0C.25: Input 13 Trigger: No Trigger
..... 0C.26: Digital Input 14: Relay 14
..... 0C.27: Input 14 Trigger: No Trigger
..... 0C.28: Digital Input 15: Relay 15
..... 0C.29: Input 15 Trigger: No Trigger
..... 0C.2A: Digital Input 16: Relay 16
..... 0C.2B: Input 16 Trigger: No Trigger
..... 0C.2C: Digital Input 17: Opto 1
..... 0C.2D: Input 17 Trigger: Trigger L/H
..... 0C.2E: Digital Input 18: Opto 2
..... 0C.2F: Input 18 Trigger: Trigger L/H
..... 0C.30: Digital Input 19: Opto 3
..... 0C.31: Input 19 Trigger: Trigger L/H
..... 0C.32: Digital Input 20: Opto 4
..... 0C.33: Input 20 Trigger: Trigger L/H
..... 0C.34: Digital Input 21: Opto 5
..... 0C.35: Input 21 Trigger: Trigger L/H
..... 0C.36: Digital Input 22: Opto 6
..... 0C.37: Input 22 Trigger: Trigger L/H
..... 0C.38: Digital Input 23: Opto 7
..... 0C.39: Input 23 Trigger: No Trigger
..... 0C.3A: Digital Input 24: Opto 8
..... 0C.3B: Input 24 Trigger: Trigger L/H
..... 0C.3C: Digital Input 25: Opto 9
..... 0C.3D: Input 25 Trigger: Trigger L/H
..... 0C.3E: Digital Input 26: Opto 10
..... 0C.3F: Input 26 Trigger: No Trigger
..... 0C.40: Digital Input 27: Opto 11
..... 0C.41: Input 27 Trigger: Trigger L/H
..... 0C.42: Digital Input 28: Opto 12
..... 0C.43: Input 28 Trigger: Trigger L/H
..... 0C.44: Digital Input 29: Opto 13
..... 0C.45: Input 29 Trigger: Trigger L/H
..... 0C.46: Digital Input 30: Opto 14
..... 0C.47: Input 30 Trigger: Trigger H/L
..... 0C.48: Digital Input 31: Opto 15
..... 0C.49: Input 31 Trigger: Trigger H/L
..... 0C.4A: Digital Input 32: Opto 16
..... 0C.4B: Input 32 Trigger: Trigger H/L
..... 0C.50: Analog Channel 9: V Checksync
..... 0C.51: Analog Channel10: IM
..... 0C.52: Analog Channel11: IN
..... 0C.53: Analog Channel12: IN
..... 0C.54: Analog Channel13: Unused
..... 0C.55: Analog Channel14: Unused
..... 0C.56: Analog Channel15: Unused
..... 0C.57: Analog Channel16: Unused



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P543316G6M0D00M

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..... 0C.58: Analog Channel17: Unused
..... 0C.59: Analog Channel18: Unused
..... 0C.5A: Analog Channel19: Unused
..... 0C.5B: Analog Channel20: Unused
..... 0C.70: Digital Input 33: Unused
..... 0C.71: Digital Input 34: Unused
..... 0C.72: Digital Input 35: Unused
..... 0C.73: Digital Input 36: Unused
..... 0C.74: Digital Input 37: Unused
..... 0C.75: Digital Input 38: Unused
..... 0C.76: Digital Input 39: Unused
..... 0C.77: Digital Input 40: Unused
..... 0C.78: Digital Input 41: Unused
..... 0C.79: Digital Input 42: Unused
..... 0C.7A: Digital Input 43: Unused
..... 0C.7B: Digital Input 44: Unused
..... 0C.7C: Digital Input 45: Unused
..... 0C.7D: Digital Input 46: Unused
..... 0C.7E: Digital Input 47: Unused
..... 0C.7F: Digital Input 48: Unused
..... 0C.80: Digital Input 49: Unused
..... 0C.81: Digital Input 50: Unused
..... 0C.82: Digital Input 51: Unused
..... 0C.83: Digital Input 52: Unused
..... 0C.84: Digital Input 53: Unused
..... 0C.85: Digital Input 54: Unused
..... 0C.86: Digital Input 55: Unused
..... 0C.87: Digital Input 56: Unused
..... 0C.88: Digital Input 57: Unused
..... 0C.89: Digital Input 58: Unused
..... 0C.8A: Digital Input 59: Unused
..... 0C.8B: Digital Input 60: Unused
..... 0C.8C: Digital Input 61: Unused
..... 0C.8D: Digital Input 62: Unused
..... 0C.8E: Digital Input 63: Unused
..... 0C.8F: Digital Input 64: Unused
..... 0C.90: Digital Input 65: Unused
..... 0C.91: Digital Input 66: Unused
..... 0C.92: Digital Input 67: Unused
..... 0C.93: Digital Input 68: Unused
..... 0C.94: Digital Input 69: Unused
..... 0C.95: Digital Input 70: Unused
..... 0C.96: Digital Input 71: Unused
..... 0C.97: Digital Input 72: Unused
..... 0C.98: Digital Input 73: Unused
..... 0C.99: Digital Input 74: Unused
..... 0C.9A: Digital Input 75: Unused
..... 0C.9B: Digital Input 76: Unused
..... 0C.9C: Digital Input 77: Unused
..... 0C.9D: Digital Input 78: Unused
..... 0C.9E: Digital Input 79: Unused
..... 0C.9F: Digital Input 80: Unused
..... 0C.A0: Digital Input 81: Unused
..... 0C.A1: Digital Input 82: Unused
..... 0C.A2: Digital Input 83: Unused
..... 0C.A3: Digital Input 84: Unused
..... 0C.A4: Digital Input 85: Unused
..... 0C.A5: Digital Input 86: Unused
..... 0C.A6: Digital Input 87: Unused
..... 0C.A7: Digital Input 88: Unused
..... 0C.A8: Digital Input 89: Unused
..... 0C.A9: Digital Input 90: Unused
..... 0C.AA: Digital Input 91: Unused
..... 0C.AB: Digital Input 92: Unused
..... 0C.AC: Digital Input 93: Unused
..... 0C.AD: Digital Input 94: Unused



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P543316G6M0D00M

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OC.AE: Digital Input 95: Unused
OC.AF: Digital Input 96: Unused
OC.B0: Digital Input 97: Unused
OC.B1: Digital Input 98: Unused
OC.B2: Digital Input 99: Unused
OC.B3: Digital Input100: Unused
OC.B4: Digital Input101: Unused
OC.B5: Digital Input102: Unused
OC.B6: Digital Input103: Unused
OC.B7: Digital Input104: Unused
OC.B8: Digital Input105: Unused
OC.B9: Digital Input106: Unused
OC.BA: Digital Input107: Unused
OC.BB: Digital Input108: Unused
OC.BC: Digital Input109: Unused
OC.BD: Digital Input110: Unused
OC.BE: Digital Input111: Unused
OC.BF: Digital Input112: Unused
OC.C0: Digital Input113: Unused
OC.C1: Digital Input114: Unused
OC.C2: Digital Input115: Unused
OC.C3: Digital Input116: Unused
OC.C4: Digital Input117: Unused
OC.C5: Digital Input118: Unused
OC.C6: Digital Input119: Unused
OC.C7: Digital Input120: Unused
OC.C8: Digital Input121: Unused
OC.C9: Digital Input122: Unused
OC.CA: Digital Input123: Unused
OC.CB: Digital Input124: Unused
OC.CC: Digital Input125: Unused
OC.CD: Digital Input126: Unused
OC.CE: Digital Input127: Unused
OC.CF: Digital Input128: Unused

MEASURE'T SETUP

0D.02: Local Values: Primary
0D.03: Remote Values: Primary
0D.04: Measurement Ref: VA
0D.05: Measurement Mode: 0
0D.06: Fix Dem Period: 30.00 min
0D.07: Roll Sub Period: 30.00 min
0D.08: Num Sub Periods: 1
0D.09: Distance Unit: Kilometres
0D.0A: Fault Location: Distance

COMMISSION TESTS

0F.01: Opto I/P Status: 0100000000000111
0F.02: Relay O/P Status: 0000000000000000
0F.03: Test Port Status: 00000000
0F.05: Monitor Bit 1: 1060
0F.06: Monitor Bit 2: 1062
0F.07: Monitor Bit 3: 1064
0F.08: Monitor Bit 4: 1066
0F.09: Monitor Bit 5: 1068
0F.0A: Monitor Bit 6: 1070
0F.0B: Monitor Bit 7: 1072
0F.0C: Monitor Bit 8: 1074
0F.0D: Test Mode: Disabled
0F.0E: Test Pattern: 0000000000000000
0F.0F: Contact Test: No Operation
0F.10: Test LEDs: No Operation
0F.11: Test Autoreclose: No Operation
0F.12: Static Test: Disabled
0F.13: Test Loopback: Disabled
0F.14: IM64 TestPattern: 0000000000000000
0F.15: IM64 Test Mode: Disabled
0F.1A: Red LED Status: 000000000000000000



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Model Number: P543316G6M0D00M

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OF.1B: Green LED Status: 0000000000000000
OF.20: DDB 31 - 0: 00000000000000000000000000000000
OF.21: DDB 63 - 32: 00000000000000000000000000000000111
OF.22: DDB 95 - 64: 00
OF.23: DDB 127 - 96: 00
OF.24: DDB 159 - 128: 00
OF.25: DDB 191 - 160: 00
OF.26: DDB 223 - 192: 00
OF.27: DDB 255 - 224: 00
OF.28: DDB 287 - 256: 00
OF.29: DDB 319 - 288: 00
OF.2A: DDB 351 - 320: 00
OF.2B: DDB 383 - 352: 00
OF.2C: DDB 415 - 384: 00
OF.2D: DDB 447 - 416: 00
OF.2E: DDB 479 - 448: 00
OF.2F: DDB 511 - 480: 00
OF.30: DDB 543 - 512: 00
OF.31: DDB 575 - 544: 1000000000000000000000000000000000000000
OF.32: DDB 607 - 576: 00
OF.33: DDB 639 - 608: 00
OF.34: DDB 671 - 640: 00
OF.35: DDB 703 - 672: 00
OF.36: DDB 735 - 704: 00
OF.37: DDB 767 - 736: 00
OF.38: DDB 799 - 768: 00
OF.39: DDB 831 - 800: 00
OF.3A: DDB 863 - 832: 0000100000000000000000000000000000000000
OF.3B: DDB 895 - 864: 00
OF.3C: DDB 927 - 896: 00
OF.3D: DDB 959 - 928: 00
OF.3E: DDB 991 - 960: 00
OF.3F: DDB 1023 - 992: 00
OF.40: DDB 1055 - 1024: 00
OF.41: DDB 1087 - 1056: 00
OF.42: DDB 1119 - 1088: 00
OF.43: DDB 1151 - 1120: 00
OF.44: DDB 1183 - 1152: 1101010100000000000000000000000000000000
OF.45: DDB 1215 - 1184: 00
OF.46: DDB 1247 - 1216: 00
OF.47: DDB 1279 - 1248: 00
OF.48: DDB 1311 - 1280: 00
OF.49: DDB 1343 - 1312: 0000000010000000000000000000000000000000
OF.4A: DDB 1375 - 1344: 00
OF.4B: DDB 1407 - 1376: 00
OF.4C: DDB 1439 - 1408: 00
OF.4D: DDB 1471 - 1440: 00
OF.4E: DDB 1503 - 1472: 00
OF.4F: DDB 1535 - 1504: 00
OF.50: DDB 1567 - 1536: 00
OF.51: DDB 1599 - 1568: 00
OF.52: DDB 1631 - 1600: 00
OF.53: DDB 1663 - 1632: 00
OF.54: DDB 1695 - 1664: 00
OF.55: DDB 1727 - 1696: 00
OF.56: DDB 1759 - 1728: 00
OF.57: DDB 1791 - 1760: 00
OF.58: DDB 1823 - 1792: 00
OF.59: DDB 1855 - 1824: 00
OF.5A: DDB 1887 - 1856: 00
OF.5B: DDB 1919 - 1888: 00
OF.5C: DDB 1951 - 1920: 00
OF.5D: DDB 1983 - 1952: 00
OF.5E: DDB 2015 - 1984: 00
OF.5F: DDB 2047 - 2016: 00
CB MONITOR SETUP



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P543316G6M0D00M

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10.01: Broken I^:	2.000
10.02: I^ Maintenance:	Alarm Disabled
10.04: I^ Lockout:	Alarm Disabled
10.06: No. CB Ops Maint:	Alarm Disabled
10.08: No. CB Ops Lock:	Alarm Disabled
10.0A: CB Time Maint:	Alarm Disabled
10.0C: CB Time Lockout:	Alarm Disabled
10.0E: Fault Freq Lock:	Alarm Disabled
OPTO CONFIG	
11.01: Global Nominal V:	220/250V
11.60: Opto Filter Cntl:	1111111111111111
11.80: Characteristic:	Standard 60%-80%
CONTROL INPUTS	
12.01: Ctrl I/P Status:	00000000000000000000000000000000
12.02: Control Input 1:	No Operation
12.03: Control Input 2:	No Operation
12.04: Control Input 3:	No Operation
12.05: Control Input 4:	No Operation
12.06: Control Input 5:	No Operation
12.07: Control Input 6:	No Operation
12.08: Control Input 7:	No Operation
12.09: Control Input 8:	No Operation
12.0A: Control Input 9:	No Operation
12.0B: Control Input 10:	No Operation
12.0C: Control Input 11:	No Operation
12.0D: Control Input 12:	No Operation
12.0E: Control Input 13:	No Operation
12.0F: Control Input 14:	No Operation
12.10: Control Input 15:	No Operation
12.11: Control Input 16:	No Operation
12.12: Control Input 17:	No Operation
12.13: Control Input 18:	No Operation
12.14: Control Input 19:	No Operation
12.15: Control Input 20:	No Operation
12.16: Control Input 21:	No Operation
12.17: Control Input 22:	No Operation
12.18: Control Input 23:	No Operation
12.19: Control Input 24:	No Operation
12.1A: Control Input 25:	No Operation
12.1B: Control Input 26:	No Operation
12.1C: Control Input 27:	No Operation
12.1D: Control Input 28:	No Operation
12.1E: Control Input 29:	No Operation
12.1F: Control Input 30:	No Operation
12.20: Control Input 31:	No Operation
12.21: Control Input 32:	No Operation
CTRL I/P CONFIG	
13.01: Hotkey Enabled:	11111111111111111111111111111111
13.10: Control Input 1:	Latched
13.11: Ctrl Command 1:	SET/RESET
13.14: Control Input 2:	Latched
13.15: Ctrl Command 2:	SET/RESET
13.18: Control Input 3:	Latched
13.19: Ctrl Command 3:	SET/RESET
13.1C: Control Input 4:	Latched
13.1D: Ctrl Command 4:	SET/RESET
13.20: Control Input 5:	Latched
13.21: Ctrl Command 5:	SET/RESET
13.24: Control Input 6:	Latched
13.25: Ctrl Command 6:	SET/RESET
13.28: Control Input 7:	Latched
13.29: Ctrl Command 7:	SET/RESET
13.2C: Control Input 8:	Latched
13.2D: Ctrl Command 8:	SET/RESET
13.30: Control Input 9:	Latched
13.31: Ctrl Command 9:	SET/RESET



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P543316G6M0D00M

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13.34: Control Input 10: Latched
13.35: Ctrl Command 10: SET/RESET
13.38: Control Input 11: Latched
13.39: Ctrl Command 11: SET/RESET
13.3C: Control Input 12: Latched
13.3D: Ctrl Command 12: SET/RESET
13.40: Control Input 13: Latched
13.41: Ctrl Command 13: SET/RESET
13.44: Control Input 14: Latched
13.45: Ctrl Command 14: SET/RESET
13.48: Control Input 15: Latched
13.49: Ctrl Command 15: SET/RESET
13.4C: Control Input 16: Latched
13.4D: Ctrl Command 16: SET/RESET
13.50: Control Input 17: Latched
13.51: Ctrl Command 17: SET/RESET
13.54: Control Input 18: Latched
13.55: Ctrl Command 18: SET/RESET
13.58: Control Input 19: Latched
13.59: Ctrl Command 19: SET/RESET
13.5C: Control Input 20: Latched
13.5D: Ctrl Command 20: SET/RESET
13.60: Control Input 21: Latched
13.61: Ctrl Command 21: SET/RESET
13.64: Control Input 22: Latched
13.65: Ctrl Command 22: SET/RESET
13.68: Control Input 23: Latched
13.69: Ctrl Command 23: SET/RESET
13.6C: Control Input 24: Latched
13.6D: Ctrl Command 24: SET/RESET
13.70: Control Input 25: Latched
13.71: Ctrl Command 25: SET/RESET
13.74: Control Input 26: Latched
13.75: Ctrl Command 26: SET/RESET
13.78: Control Input 27: Latched
13.79: Ctrl Command 27: SET/RESET
13.7C: Control Input 28: Latched
13.7D: Ctrl Command 28: SET/RESET
13.80: Control Input 29: Latched
13.81: Ctrl Command 29: SET/RESET
13.84: Control Input 30: Latched
13.85: Ctrl Command 30: SET/RESET
13.88: Control Input 31: Latched
13.89: Ctrl Command 31: SET/RESET
13.8C: Control Input 32: Latched
13.8D: Ctrl Command 32: SET/RESET

PROT COMMS/ IM64

20.01: Scheme Setup: 2 Terminal
20.03: Address: 0-0
20.10: Comms Mode: Standard
20.11: Baud Rate Ch1: 64kb/s
20.13: Clock Source Ch1: Internal
20.17: Comm Delay Tol: 350.0 us
20.18: Comm Fail Timer: 10.00 s
20.1A: GPS Sync:GPS Disabled
20.1B: Char Mod Time: 500.0 ms
20.1F: Alarm Level: 25.00 %
20.20: Prop Delay Stats: Enabled
20.21: MaxCh1 PropDelay: 15.00 ms
20.30: IM1 Cmd Type: Permissive
20.31: IM1 FallBackMode: Default
20.32: IM1 DefaultValue: 0
20.34: IM2 Cmd Type: Permissive
20.35: IM2 FallBackMode: Default
20.36: IM2 DefaultValue: 0
20.38: IM3 Cmd Type: Permissive



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P543316G6M0D00M

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.....	20.39: IM3 FallBackMode: Default
.....	20.3A: IM3 DefaultValue: 0
.....	20.3C: IM4 Cmd Type: Permissive
.....	20.3D: IM4 FallBackMode: Default
.....	20.3E: IM4 DefaultValue: 0
.....	20.40: IM5 Cmd Type: Permissive
.....	20.41: IM5 FallBackMode: Default
.....	20.42: IM5 DefaultValue: 0
.....	20.44: IM6 Cmd Type: Permissive
.....	20.45: IM6 FallBackMode: Default
.....	20.46: IM6 DefaultValue: 0
.....	20.48: IM7 Cmd Type: Permissive
.....	20.49: IM7 FallBackMode: Default
.....	20.4A: IM7 DefaultValue: 0
.....	20.4C: IM8 Cmd Type: Permissive
.....	20.4D: IM8 FallBackMode: Default
.....	20.4E: IM8 DefaultValue: 0
.....	20.60: Char Mod Reset: Disabled
.....	SECURITY CONFIG
.....	25.01: User Banner: ACCESS ONLY FOR AUTHORISED USERS
.....	25.02: Attempts Limit: 3
.....	25.03: Attempts Timer: 2
.....	25.04: Blocking Timer: 5
.....	25.11: Attempts Remain: 3
.....	25.12: Blk Time Remain: 0
.....	25.20: Fallbck PW level: 1
.....	CTRL I/P LABELS
.....	29.01: Control Input 1: Control Input 1
.....	29.02: Control Input 2: Control Input 2
.....	29.03: Control Input 3: Control Input 3
.....	29.04: Control Input 4: Control Input 4
.....	29.05: Control Input 5: Control Input 5
.....	29.06: Control Input 6: Control Input 6
.....	29.07: Control Input 7: Control Input 7
.....	29.08: Control Input 8: Control Input 8
.....	29.09: Control Input 9: Control Input 9
.....	29.0A: Control Input 10: Control Input 10
.....	29.0B: Control Input 11: Control Input 11
.....	29.0C: Control Input 12: Control Input 12
.....	29.0D: Control Input 13: Control Input 13
.....	29.0E: Control Input 14: Control Input 14
.....	29.0F: Control Input 15: Control Input 15
.....	29.10: Control Input 16: Control Input 16
.....	29.11: Control Input 17: Control Input 17
.....	29.12: Control Input 18: Control Input 18
.....	29.13: Control Input 19: Control Input 19
.....	29.14: Control Input 20: Control Input 20
.....	29.15: Control Input 21: Control Input 21
.....	29.16: Control Input 22: Control Input 22
.....	29.17: Control Input 23: Control Input 23
.....	29.18: Control Input 24: Control Input 24
.....	29.19: Control Input 25: Control Input 25
.....	29.1A: Control Input 26: Control Input 26
.....	29.1B: Control Input 27: Control Input 27
.....	29.1C: Control Input 28: Control Input 28
.....	29.1D: Control Input 29: Control Input 29
.....	29.1E: Control Input 30: Control Input 30
.....	29.1F: Control Input 31: Control Input 31
.....	29.20: Control Input 32: Control Input 32
.....	Group 1
.....	GROUP 1 LINE PARAMETERS
.....	30.01: Line Length: 3190 m
.....	30.03: Line Impedance: 1.055 Ohm
.....	30.04: Line Angle: 85.00 deg
.....	30.05: kZN Res Comp: 920.0e-3
.....	30.06: kZN Res Angle: -3.000 deg



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P543316G6M0D00M

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30.07: Mutual Comp: Disabled
30.0B: Phase Sequence: Standard ABC
30.0C: Tripping Mode: 1 and 3 Pole
30.10: Line Charging Y: 1.100 mS
GROUP 1 DISTANCE SETUP
31.0C: Setting Mode: Advanced
31.10: PHASE DISTANCE:
31.11: Phase Chars.: Quad
31.20: Zone 1 Ph Status: Enabled Ch Fail
31.30: Zone 2 Ph Status: Enabled Ch Fail
31.40: Zone 3 Ph Status: Enabled Ch Fail
31.42: Zone 3 Ph Offset: Disabled
31.50: Zone P Ph Status: Disabled
31.60: Zone 4 Ph Status: Enabled Ch Fail
31.70: GROUND DISTANCE:
31.71: Ground Chars.: Quad
31.80: Zone 1 Gnd Stat.: Enabled Ch Fail
31.90: Zone 2 Gnd Stat.: Enabled Ch Fail
31.A0: Zone 3 Gnd Stat.: Enabled Ch Fail
31.A2: Zone3 Gnd Offset: Disabled
31.B0: Zone P Gnd Stat.: Disabled
31.C0: Zone 4 Gnd Stat.: Enabled Ch Fail
31.D0: Digital Filter: Standard
31.D1: CVT Filters: Disabled
31.D3: Load Blinders: Disabled
31.D7: Dist. Polarizing: 1.000
31.E0: DELTADIRECTIONAL:
31.E1: Dir. Status: Enabled
31.E2: AidedDeltaStatus: Disabled
31.E3: Dir. Char Angle: 60.00 deg

GROUP 1 DIST. ELEMENTS

32.01: PHASE DISTANCE:
32.02: Z1 Ph. Reach: 854.5 mOhm
32.03: Z1 Ph. Angle: 85.00 deg
32.07: R1 Ph. Resistive: 46.18 Ohm
32.08: Z1 Tilt Top Line: 0 deg
32.09: Z1 Sensit. Iph>1: 100.0 A
32.10: Z2 Ph. Reach: 32.82 Ohm
32.11: Z2 Ph. Angle: 85.00 deg
32.15: R2 Ph. Resistive: 46.18 Ohm
32.16: Z2 Tilt Top Line: 0 deg
32.17: Z2 Sensit. Iph>2: 100.0 A
32.20: Z3 Ph. Reach: 51.85 Ohm
32.21: Z3 Ph. Angle: 85.00 deg
32.25: R3 Ph. Res. Fwd.: 46.18 Ohm
32.27: Z3 Tilt Top Line: 0 deg
32.28: Z3 Sensit. Iph>3: 100.0 A
32.40: Z4 Ph. Reach: 218.2 mOhm
32.41: Z4 Ph. Angle: 85.00 deg
32.42: R4 Ph. Resistive: 46.18 Ohm
32.45: Z4 Tilt Top Line: 0 deg
32.46: Z4 Sensit. Iph>4: 100.0 A
32.50: GROUND DISTANCE:
32.51: Z1 Gnd. Reach: 854.5 mOhm
32.52: Z1 Gnd. Angle: 85.00 deg
32.53: Z1 Dynamic Tilt: Disabled
32.54: Z1 Tilt Top Line: 0 deg
32.55: kZN1 Res. Comp.: 920.0e-3
32.56: kZN1 Res. Angle: -3.000 deg
32.59: R1 Gnd Resistive: 61.58 Ohm
32.5B: Z1 Sensit Ignd>1: 100.0 A
32.60: Z2 Gnd. Reach: 32.82 Ohm
32.61: Z2 Gnd. Angle: 85.00 deg
32.63: Z2 Dynamic Tilt: Disabled
32.64: Z2 Tilt Top Line: 0 deg
32.65: kZN2 Res. Comp.: 920.0e-3



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P543316G6M0D00M

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32.66: kZN2 Res. Angle: -3.000 deg
32.69: R2 Gnd Resistive: 61.58 Ohm
32.6B: Z2 Sensit Ignd>2: 100.0 A
32.70: Z3 Gnd. Reach: 51.85 Ohm
32.71: Z3 Gnd. Angle: 85.00 deg
32.73: Z3 Dynamic Tilt: Disabled
32.74: Z3 Tilt Top Line: 0 deg
32.75: kZN3 Res. Comp.: 920.0e-3
32.76: kZN3 Res. Angle: -3.000 deg
32.79: R3 Gnd. Res. Fwd: 61.58 Ohm
32.7C: Z3 Sensit Ignd>3: 100.0 A
32.90: Z4 Gnd. Reach: 218.2 mOhm
32.91: Z4 Gnd. Angle: 85.00 deg
32.93: Z4 Dynamic Tilt: Disabled
32.94: Z4 Tilt Top Line: 0 deg
32.95: kZN4 Res. Comp.: 920.0e-3
32.96: kZN4 Res. Angle: -3.000 deg
32.99: R4 Gnd Resistive: 61.58 Ohm
32.9B: Z4 Sensit Ignd>4: 100.0 A

GROUP 1 PHASE DIFF

33.01: Phase Diff: Enabled
33.06: Phase Is1: 500.0 A
33.07: Phase Is2: 4000 A
33.08: Phase k1: 30.00 %
33.09: Phase k2: 150.0 %
33.0A: Phase Char: DT
33.0B: Phase Time Delay: 0 s
33.0E: PIT Time: 0 s
33.0F: Ph CT Corr'tion: 1.000
33.10: Compensation: None
33.17: PIT I selection: Remote

GROUP 1 SCHEME LOGIC

34.01: BASIC SCHEME:
34.08: Zone1 Tripping: Phase And Ground
34.09: tZ1 Ph. Delay: 0 s
34.0A: tZ1 Gnd. Delay: 0 s
34.10: Zone2 Tripping: Phase And Ground
34.11: tZ2 Ph. Delay: 400.0 ms
34.12: tZ2 Gnd. Delay: 400.0 ms
34.18: Zone3 Tripping: Phase And Ground
34.19: tZ3 Ph. Delay: 1.000 s
34.1A: tZ3 Gnd. Delay: 1.000 s
34.20: ZoneP Tripping: Disabled
34.28: Zone4 Tripping: Phase And Ground
34.29: tZ4 Ph. Delay: 1.000 s
34.2A: tZ4 Gnd. Delay: 1.000 s
34.40: AIDED SCHEME 1:
34.41: Aid. 1 Selection: POR
34.42: Aid 1 Distance: Phase And Ground
34.43: Aid.1 Dist. Dly: 20.00 ms
34.44: Aid. 1 DEF: Disabled
34.47: Aid. 1 Delta: Disabled
34.4A: tRev. Guard: 20.00 ms
34.4C: Send On Trip: Aided / Z1
34.50: Weak Infeed: Disabled
34.60: AIDED SCHEME 2:
34.61: Aid. 2 Selection: Disabled
34.80: Trip On Close:
34.81: SOTF Status: Enabled ExtPulse
34.83: SOTF Tripping: 000001
34.84: TOR Status: Disabled
34.86: TOC Reset Delay: 500.0 ms
34.87: SOTF Pulse: 5.000 s
34.88: TOC Delay: 200.0 ms
34.B0: Z1 Extension:
34.B1: Z1 Ext Scheme: Disabled



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P543316G6M0D00M

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34.C0: Loss Of Load:	
34.C1: LOL Scheme:	Disabled
GROUP 1 OVERCURRENT	
35.01: I>1 Status:	Enabled
35.02: I>1 Function:	IEC S Inverse
35.03: I>1 Directional:	Non-Directional
35.04: I>1 Current Set:	2140 A
35.06: I>1 TMS: 450.0e-3	
35.09: I>1 tRESET:	0 s
35.0A: I>2 Status:	Disabled
35.13: I>3 Status:	Disabled
35.18: I>4 Status:	Disabled
35.1C: I> Char Angle:	30.00 deg
35.1D: I> Blocking:	001111
GROUP 1 EARTH FAULT	
38.01: IN>1 Status:	Enabled
38.25: IN>1 Function:	IEC S Inverse
38.26: IN>1 Directional:	Directional Fwd
38.29: IN>1 Current Set:	320.0 A
38.2D: IN>1 TMS:	700.0e-3
38.33: IN>1 tRESET:	0 s
38.35: IN>2 Status:	Disabled
38.46: IN>3 Status:	Disabled
38.4D: IN>4 Status:	Disabled
38.54: IN> Blocking:	001111
38.55: IN> DIRECTIONAL:	
38.56: IN> Char Angle:	-45.00 deg
38.57: IN> Polarisation:	Zero Sequence
38.59: IN> VNpol Set:	3636 V
GROUP 1 POWER SWING BLK.	
3D.01: PSB Status:	Blocking
3D.03: Zone 1 Ph. PSB:	Allow Trip
3D.05: Zone 2 Ph. PSB:	Delayed Unblock
3D.07: Zone 3 Ph. PSB:	Delayed Unblock
3D.09: Zone P Ph. PSB:	Delayed Unblock
3D.0B: Zone 4 Ph. PSB:	Delayed Unblock
3D.0D: Zone 1 Gnd. PSB:	Delayed Unblock
3D.0F: Zone 2 Gnd. PSB:	Delayed Unblock
3D.11: Zone 3 Gnd. PSB:	Delayed Unblock
3D.13: Zone P Gnd. PSB:	Delayed Unblock
3D.15: Zone 4 Gnd. PSB:	Delayed Unblock
3D.1A: Slow PSB:	Enabled
3D.20: PSB Unblocking:	Enabled
3D.21: PSB Unblock dly:	2.000 s
3D.22: PSB Reset Delay:	200.0 ms
3D.23: OST Mode:	OST Disabled
3D.24: Z5:	54.55 Ohm
3D.26: Z5':	-54.50 Ohm
3D.28: R5:	36.36 Ohm
3D.2A: R5':	-36.36 Ohm
3D.2C: Blinder Angle:	61.00 deg
GROUP 1 CB FAIL & P.DEAD	
45.0A: UNDER CURRENT:	
45.0B: I< Current Set:	100.0 A
45.0D: ISEF< Current:	40.00 A
45.0E: POLEDEAD VOLTAGE:	
45.10: V<:	138.5 kV
GROUP 1 SUPERVISION	
46.01: VTS Mode:	Measured Only
46.02: VTS Status:	Blocking
46.03: VTS Reset Mode:	Auto
46.04: VTS Time Delay:	2.000 s
46.05: VTS I> Inhibit:	6000 A
46.06: VTS I2> Inhibit:	100.0 A
46.0E: Inrush Detection:	Disabled
46.10: WEAK INFEEED BLK:	



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P543316G6M0D00M

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.....	46.11: WI Inhibit:	Enabled
.....	46.12: I0/I2 Setting:	3.000
.....	46.30: CT SUPERVISION:	
.....	46.31: CTS Mode:	Disabled
.....	GROUP 1 INPUT LABELS	
.....	4A.01: Opto Input 1:	L1 M CB R-PH CLS
.....	4A.02: Opto Input 2:	L2 M CB Y-PH CLS
.....	4A.03: Opto Input 3:	L3 M CB B-PH CLS
.....	4A.04: Opto Input 4:	L4 DT RECVD CH-2
.....	4A.05: Opto Input 5:	L5 CAR. CH-2 O/S
.....	4A.06: Opto Input 6:	L6 TBC CB CLS
.....	4A.07: Opto Input 7:	L7 SPARE
.....	4A.08: Opto Input 8:	L8 SOTF INI
.....	4A.09: Opto Input 9:	L9 SOTF TBC BCU
.....	4A.0A: Opto Input 10:	L10 SPARE
.....	4A.0B: Opto Input 11:	L11CAR.CH-2 FAIL
.....	4A.0C: Opto Input 12:	L12 CAR.RVD CH-2
.....	4A.0D: Opto Input 13:	L13 GRP-B OPTD
.....	4A.0E: Opto Input 14:	L14 AR L/O SUPV
.....	4A.0F: Opto Input 15:	L15 86B SUPV
.....	4A.10: Opto Input 16:	L16 AR L/O R OPD
.....	GROUP 1 OUTPUT LABELS	
.....	4B.01: Relay 1:	R1 MCB TC-1 R-PH
.....	4B.02: Relay 2:	R2 MCB TC-1 Y-PH
.....	4B.03: Relay 3:	R3 MCB TC-1 B-PH
.....	4B.04: Relay 4:	R4 INI R-PH
.....	4B.05: Relay 5:	R5 INT Y-PH
.....	4B.06: Relay 6:	R6 INT B-PH
.....	4B.07: Relay 7:	R7 DT SEND CH-1
.....	4B.08: Relay 8:	R8 DT SEND CH-2
.....	4B.09: Relay 9:	R9 GRP-B TRIP
.....	4B.0A: Relay 10:	R10 GRP-A TRIP
.....	4B.0B: Relay 11:	R11 TBCTC-1 R-PH
.....	4B.0C: Relay 12:	R12 TBCTC-1 Y-PH
.....	4B.0D: Relay 13:	R13 TBCTC-1 B-PH
.....	4B.0E: Relay 14:	R14 CARR. SEND
.....	Group 2	
.....	Group 3	
.....	Group 4	

ICT PROTECTION

315 MVA ICT-1

Differential Protection Main 1



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 630

Printed on: 27/09/2024 16:50:04

Parameters
Device ID
DEVICE
000.000: Device type: 633
002.120: Software version: 630.00
002.122: SW date: 10.01.11 dd.mm.yy
002.103: SW version communic.: 3.03
002.059: DM IEC 61850 version: 230
002.123: Language version: 800.0
002.121: Text vers.data model: 0
002.124: F number: 3.143221.7
001.000: AFS Order No.: 34991040
001.200: PCS Order No.: P6333491040QL04A00
000.003: Order ext. No. 1: 308
000.004: Order ext. No. 2: 410
000.005: Order ext. No. 3: 911
000.006: Order ext. No. 4: 464
000.007: Order ext. No. 5: 621
000.008: Order ext. No. 6: 720
000.009: Order ext. No. 7: 0
000.010: Order ext. No. 8: 0
000.011: Order ext. No. 9: 0
000.012: Order ext. No. 10: 0
000.013: Order ext. No. 11: 0
000.014: Order ext. No. 12: 0
000.015: Order ext. No. 13: 0
000.016: Order ext. No. 14: 0
000.017: Order ext. No. 15: 0
000.018: Order ext. No. 16: 0
000.019: Order ext. No. 17: 0
000.020: Order ext. No. 18: 0
000.021: Order ext. No. 19: 13
000.022: Order ext. No. 20: 0
000.023: Order ext. No. 21: 0
000.024: Order ext. No. 22: 0
000.025: Order ext. No. 23: 0
000.026: Order ext. No. 24: 0
000.027: Order ext. No. 25: 0
000.028: Order ext. No. 26: 0
000.029: Order ext. No. 27: 0
086.050: Module var. slot 1: Module P: 9651472
086.193: Module vers. slot 1: Version F
086.051: Module var. slot 2: Not fitted
086.194: Module vers. slot 2: Not fitted
086.052: Module var. slot 3: Module T: 9650325
086.195: Module vers. slot 3: Version J
086.053: Module var. slot 4: Not fitted
086.196: Module vers. slot 4: Not fitted
086.054: Module var. slot 5: Module T: 9650329
086.197: Module vers. slot 5: Version L
086.055: Module var. slot 6: Not fitted
086.198: Module vers. slot 6: Not fitted
086.056: Module var. slot 7: Module T: 9650329
086.199: Module vers. slot 7: Version L
086.057: Module var. slot 8: Not fitted
086.200: Module vers. slot 8: Not fitted
086.058: Module var. slot 9: Not fitted
086.201: Module vers. slot 9: Not fitted
086.059: Module var. slot 10: Module X: 9651362
086.202: Module vers. slot 10: Version L
086.060: Module var. slot 11: Not fitted
086.203: Module vers. slot 11: Not fitted
086.061: Module var. slot 12: Not fitted
086.204: Module vers. slot 12: Not fitted
086.062: Module var. slot 13: Not fitted
086.205: Module vers. slot 13: Not fitted



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 630

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086.063:	Module var. slot 14:	Not fitted
086.206:	Module vers. slot 14:	Not fitted
086.064:	Module var. slot 15:	Not fitted
086.207:	Module vers. slot 15:	Not fitted
086.065:	Module var. slot 16:	Not fitted
086.208:	Module vers. slot 16:	Not fitted
086.066:	Module var. slot 17:	Not fitted
086.209:	Module vers. slot 17:	Not fitted
086.067:	Module var. slot 18:	Not fitted
086.210:	Module vers. slot 18:	Not fitted
086.068:	Module var. slot 19:	Not fitted
086.211:	Module vers. slot 19:	Not fitted
086.069:	Module var. slot 20:	Module V: 9651548
086.212:	Module vers. slot 20:	Version K
086.070:	Module var. slot 21:	Not fitted
086.213:	Module vers. slot 21:	Not fitted
086.047:	Variant of module A:	Module A: 9651471
086.190:	Version of module A:	Version A
104.061:	MAC address module A:	00-02-84-91-4e-d0
086.048:	Variant of module L:	Module L: 9651473
086.191:	Version of module L:	Version E
086.049:	Variant of module B:	Module B: 0336188
086.192:	Version of module B:	Version Z
086.046:	Variant module B (a):	Module B: 0337870
086.189:	Version module B (a):	Version A
000.040:	Customer ID data 1:	0.00
000.041:	Customer ID data 2:	0.00
000.042:	Customer ID data 3:	0.00
000.043:	Customer ID data 4:	0.00
000.044:	Customer ID data 5:	0.00
000.045:	Customer ID data 6:	0.00
000.046:	Customer ID data 7:	0.00
000.047:	Customer ID data 8:	0.00
001.201:	Location:	
000.035:	Device ID:	0
000.036:	Substation ID:	0
000.037:	Feeder ID:	0
000.048:	Device password 1:	0
000.049:	Device password 2:	0
002.131:	SW version DHMI:	1.16
002.132:	SW version DHMI DM:	1.10
008.233:	SW vers.Chin.DHMI DM:	2.00
LOC		
221.099:	Local HMI exists:	Yes
Config. parameters		
LOC		
003.020:	Language:	Reference language
003.021:	Decimal delimiter:	Dot
005.251:	Fct. reset key:	Without function
080.110:	Fct. read key:	FT_RC Fault recording 1
030.238:	Fct. menu jmp list 1:	Without function
030.239:	Fct. menu jmp list 2:	Without function
053.007:	Fct. Operation Panel:	Without function
053.005:	Fct. Overload Panel:	Without function
053.003:	Fct. Fault Panel: FT_DA Diff. current 1	-->
031.075:	Hold-time for Panels:	5 s
003.014:	Autom. return time:	60 s
003.023:	Return time illumin.:	60 s
PC		
003.068:	Bay address:	1
003.069:	Device address:	1
003.081:	Baud rate:	19.2 kBaud
003.181:	Parity bit:	Even
003.187:	Spontan. sig. enable:	None
003.189:	Select. spontan.sig.:	Without function
003.084:	Transm.enab.cycl.dat:	Without



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 630

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003.185:	Cycl. data ILS tel.:	Without function
003.055:	Delta V:	3.0 %Vnom
003.056:	Delta I: 3.0 %Inom	
003.057:	Delta f: 2.0 %fnom	
003.155:	Delta meas.v.ILS tel:	3.0
003.058:	Delta t: 1 min	
003.188:	Time-out:	1 min
COMM2		
056.057:	Function group COMM2:	Without
IEC		
056.059:	Function group IEC:	With
104.000:	General enable USER:	Yes
104.043:	Switch Config. Bank:	don't execute
104.045:	Active Config. Name:	PX 633
104.046:	Active Config. Vers.:	230.1.01
104.047:	Inact. Config. Name:	PX 633
104.048:	Inact. Config. Vers.:	230.1.01
104.057:	IED name:	P633ICT1
104.001:	IP address:	10.22.91.122
104.005:	Subnet mask:	255.255.255.0
104.011:	Gateway address:	0.0.0.0
104.202:	SNTP server 1 IP:	10.22.91.100
104.210:	SNTP server 2 IP:	10.22.91.101
104.064:	SigGGIO1 selection:	Without function
104.206:	Diff. local time:	330 min
104.207:	Diff. dayl.sav. time:	0 min
104.219:	Switch.dayl.sav.time:	Yes
104.220:	Dayl.sav.time start:	Last
104.221:	Dayl.sav.time st. d:	Sunday
104.222:	Dayl.sav.time st. m:	March
104.223:	Dayl.sav.t.st.0:00 +:	330 min
104.225:	Dayl.sav.time end:	Last
104.226:	Dayl.sav.time end d:	Sunday
104.227:	Dayl.sav.time end m:	October
104.228:	Dayl.sav.t.end 0:00+:	180 min
GOOSE		
056.068:	Function group GOOSE:	With
106.001:	General enable USER:	Yes
106.011:	Output 1 fct.assig.:	LOGIC Input 10 EXT
106.013:	Output 2 fct.assig.:	Without function
106.015:	Output 3 fct.assig.:	Without function
106.017:	Output 4 fct.assig.:	LOGIC Input 10 EXT
106.019:	Output 5 fct.assig.:	Without function
106.021:	Output 6 fct.assig.:	Without function
106.023:	Output 7 fct.assig.:	Without function
106.025:	Output 8 fct.assig.:	Without function
106.027:	Output 9 fct.assig.:	Without function
106.029:	Output 10 fct.assig.:	Without function
106.031:	Output 11 fct.assig.:	Without function
106.033:	Output 12 fct.assig.:	Without function
106.035:	Output 13 fct.assig.:	Without function
106.037:	Output 14 fct.assig.:	Without function
106.039:	Output 15 fct.assig.:	Without function
106.041:	Output 16 fct.assig.:	Without function
106.043:	Output 17 fct.assig.:	Without function
106.045:	Output 18 fct.assig.:	Without function
106.047:	Output 19 fct.assig.:	Without function
106.049:	Output 20 fct.assig.:	Without function
106.051:	Output 21 fct.assig.:	Without function
106.053:	Output 22 fct.assig.:	Without function
106.055:	Output 23 fct.assig.:	Without function
106.057:	Output 24 fct.assig.:	Without function
106.059:	Output 25 fct.assig.:	Without function
106.061:	Output 26 fct.assig.:	Without function
106.063:	Output 27 fct.assig.:	Without function
106.065:	Output 28 fct.assig.:	Without function



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106.067:	Output 29 fct.assig.:	Without function
106.069:	Output 30 fct.assig.:	Without function
106.071:	Output 31 fct.assig.:	Without function
106.073:	Output 32 fct.assig.:	Without function
107.006:	Input 1 fct.assig.:	Without function
107.016:	Input 2 fct.assig.:	Without function
107.026:	Input 3 fct.assig.:	Without function
107.036:	Input 4 fct.assig.:	Without function
107.046:	Input 5 fct.assig.:	Without function
107.056:	Input 6 fct.assig.:	Without function
107.066:	Input 7 fct.assig.:	Without function
107.076:	Input 8 fct.assig.:	Without function
107.086:	Input 9 fct.assig.:	Without function
107.096:	Input 10 fct.assig.:	Without function
107.106:	Input 11 fct.assig.:	Without function
107.116:	Input 12 fct.assig.:	Without function
107.126:	Input 13 fct.assig.:	Without function
107.136:	Input 14 fct.assig.:	Without function
107.146:	Input 15 fct.assig.:	Without function
107.156:	Input 16 fct.assig.:	Without function
107.157:	Input 17 fct.assig.:	Without function
107.158:	Input 18 fct.assig.:	Without function
107.159:	Input 19 fct.assig.:	Without function
107.160:	Input 20 fct.assig.:	Without function
107.161:	Input 21 fct.assig.:	Without function
107.162:	Input 22 fct.assig.:	Without function
107.163:	Input 23 fct.assig.:	Without function
107.164:	Input 24 fct.assig.:	Without function
107.165:	Input 25 fct.assig.:	Without function
107.166:	Input 26 fct.assig.:	Without function
107.167:	Input 27 fct.assig.:	Without function
107.168:	Input 28 fct.assig.:	Without function
107.169:	Input 29 fct.assig.:	Without function
107.170:	Input 30 fct.assig.:	Without function
107.171:	Input 31 fct.assig.:	Without function
107.172:	Input 32 fct.assig.:	Without function

 GSSE

056.060:	Function group GSSE:	With
104.049:	General enable USER:	Yes
104.052:	Min. cycle:	10 ms
104.053:	Max. cycle:	1 s
104.054:	Increment:	900
104.055:	Operating mode:	Broadcast
104.101:	Output 1 bit pair:	No selection
104.102:	Output 1 fct.assig.:	Without function
104.104:	Output 2 bit pair:	No selection
104.105:	Output 2 fct.assig.:	Without function
104.107:	Output 3 bit pair:	No selection
104.108:	Output 3 fct.assig.:	Without function
104.110:	Output 4 bit pair:	User Bit Pair 04
104.111:	Output 4 fct.assig.:	LOGIC Output 4
104.113:	Output 5 bit pair:	No selection
104.114:	Output 5 fct.assig.:	Without function
104.116:	Output 6 bit pair:	No selection
104.117:	Output 6 fct.assig.:	Without function
104.119:	Output 7 bit pair:	No selection
104.120:	Output 7 fct.assig.:	Without function
104.122:	Output 8 bit pair:	No selection
104.123:	Output 8 fct.assig.:	Without function
104.125:	Output 9 bit pair:	No selection
104.126:	Output 9 fct.assig.:	Without function
104.128:	Output 10 bit pair:	No selection
104.129:	Output 10 fct.assig.:	Without function
104.131:	Output 11 bit pair:	No selection
104.132:	Output 11 fct.assig.:	Without function
104.134:	Output 12 bit pair:	No selection



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104.135:	Output 12 fct.assig.:	Without function
104.137:	Output 13 bit pair:	No selection
104.138:	Output 13 fct.assig.:	Without function
104.140:	Output 14 bit pair:	No selection
104.141:	Output 14 fct.assig.:	Without function
104.143:	Output 15 bit pair:	No selection
104.144:	Output 15 fct.assig.:	Without function
104.146:	Output 16 bit pair:	No selection
104.147:	Output 16 fct.assig.:	Without function
104.149:	Output 17 bit pair:	No selection
104.150:	Output 17 fct.assig.:	Without function
104.152:	Output 18 bit pair:	No selection
104.153:	Output 18 fct.assig.:	Without function
104.155:	Output 19 bit pair:	No selection
104.156:	Output 19 fct.assig.:	Without function
104.158:	Output 20 bit pair:	No selection
104.159:	Output 20 fct.assig.:	Without function
104.161:	Output 21 bit pair:	No selection
104.162:	Output 21 fct.assig.:	Without function
104.164:	Output 22 bit pair:	No selection
104.165:	Output 22 fct.assig.:	Without function
104.167:	Output 23 bit pair:	No selection
104.168:	Output 23 fct.assig.:	Without function
104.170:	Output 24 bit pair:	No selection
104.171:	Output 24 fct.assig.:	Without function
104.173:	Output 25 bit pair:	No selection
104.174:	Output 25 fct.assig.:	Without function
104.176:	Output 26 bit pair:	No selection
104.177:	Output 26 fct.assig.:	Without function
104.179:	Output 27 bit pair:	No selection
104.180:	Output 27 fct.assig.:	Without function
104.182:	Output 28 bit pair:	No selection
104.183:	Output 28 fct.assig.:	Without function
104.185:	Output 29 bit pair:	No selection
104.186:	Output 29 fct.assig.:	Without function
104.188:	Output 30 bit pair:	No selection
104.189:	Output 30 fct.assig.:	Without function
104.191:	Output 31 bit pair:	No selection
104.192:	Output 31 fct.assig.:	Without function
104.194:	Output 32 bit pair:	No selection
104.195:	Output 32 fct.assig.:	Without function
105.001:	Input 1 bit pair:	No selection
105.002:	Input 1 IED name:	Remote IED
105.003:	Input 1 default:	0
105.004:	Input 1 fct.assig.:	Without function
105.006:	Input 2 bit pair:	No selection
105.007:	Input 2 IED name:	Remote IED
105.008:	Input 2 default:	0
105.009:	Input 2 fct.assig.:	Without function
105.011:	Input 3 bit pair:	No selection
105.012:	Input 3 IED name:	Remote IED
105.013:	Input 3 default:	0
105.014:	Input 3 fct.assig.:	Without function
105.016:	Input 4 bit pair:	No selection
105.017:	Input 4 IED name:	Remote IED
105.018:	Input 4 default:	0
105.019:	Input 4 fct.assig.:	Without function
105.021:	Input 5 bit pair:	No selection
105.022:	Input 5 IED name:	Remote IED
105.023:	Input 5 default:	0
105.024:	Input 5 fct.assig.:	Without function
105.026:	Input 6 bit pair:	No selection
105.027:	Input 6 IED name:	Remote IED
105.028:	Input 6 default:	0
105.029:	Input 6 fct.assig.:	Without function
105.031:	Input 7 bit pair:	No selection



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105.032:	Input 7	IED name:	Remote IED
105.033:	Input 7	default:	0
105.034:	Input 7	fct.assig.:	Without function
105.036:	Input 8	bit pair:	No selection
105.037:	Input 8	IED name:	Remote IED
105.038:	Input 8	default:	0
105.039:	Input 8	fct.assig.:	Without function
105.041:	Input 9	bit pair:	No selection
105.042:	Input 9	IED name:	Remote IED
105.043:	Input 9	default:	0
105.044:	Input 9	fct.assig.:	Without function
105.046:	Input 10	bit pair:	No selection
105.047:	Input 10	IED name:	Remote IED
105.048:	Input 10	default:	0
105.049:	Input 10	fct.assig.:	Without function
105.051:	Input 11	bit pair:	No selection
105.052:	Input 11	IED name:	Remote IED
105.053:	Input 11	default:	0
105.054:	Input 11	fct.assig.:	Without function
105.056:	Input 12	bit pair:	No selection
105.057:	Input 12	IED name:	Remote IED
105.058:	Input 12	default:	0
105.059:	Input 12	fct.assig.:	Without function
105.061:	Input 13	bit pair:	No selection
105.062:	Input 13	IED name:	Remote IED
105.063:	Input 13	default:	0
105.064:	Input 13	fct.assig.:	Without function
105.066:	Input 14	bit pair:	No selection
105.067:	Input 14	IED name:	Remote IED
105.068:	Input 14	default:	0
105.069:	Input 14	fct.assig.:	Without function
105.071:	Input 15	bit pair:	No selection
105.072:	Input 15	IED name:	Remote IED
105.073:	Input 15	default:	0
105.074:	Input 15	fct.assig.:	Without function
105.076:	Input 16	bit pair:	No selection
105.077:	Input 16	IED name:	Remote IED
105.078:	Input 16	default:	0
105.079:	Input 16	fct.assig.:	Without function
105.081:	Input 17	bit pair:	No selection
105.082:	Input 17	IED name:	Remote IED
105.083:	Input 17	default:	0
105.084:	Input 17	fct.assig.:	Without function
105.086:	Input 18	bit pair:	No selection
105.087:	Input 18	IED name:	Remote IED
105.088:	Input 18	default:	0
105.089:	Input 18	fct.assig.:	Without function
105.091:	Input 19	bit pair:	No selection
105.092:	Input 19	IED name:	Remote IED
105.093:	Input 19	default:	0
105.094:	Input 19	fct.assig.:	Without function
105.096:	Input 20	bit pair:	No selection
105.097:	Input 20	IED name:	Remote IED
105.098:	Input 20	default:	0
105.099:	Input 20	fct.assig.:	Without function
105.101:	Input 21	bit pair:	No selection
105.102:	Input 21	IED name:	Remote IED
105.103:	Input 21	default:	0
105.104:	Input 21	fct.assig.:	Without function
105.106:	Input 22	bit pair:	No selection
105.107:	Input 22	IED name:	Remote IED
105.108:	Input 22	default:	0
105.109:	Input 22	fct.assig.:	Without function
105.111:	Input 23	bit pair:	No selection
105.112:	Input 23	IED name:	Remote IED
105.113:	Input 23	default:	0



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105.114:	Input 23 fct.assig.:	Without function
105.116:	Input 24 bit pair:	No selection
105.117:	Input 24 IED name:	Remote IED
105.118:	Input 24 default:	0
105.119:	Input 24 fct.assig.:	Without function
105.121:	Input 25 bit pair:	No selection
105.122:	Input 25 IED name:	Remote IED
105.123:	Input 25 default:	0
105.124:	Input 25 fct.assig.:	Without function
105.126:	Input 26 bit pair:	No selection
105.127:	Input 26 IED name:	Remote IED
105.128:	Input 26 default:	0
105.129:	Input 26 fct.assig.:	Without function
105.131:	Input 27 bit pair:	No selection
105.132:	Input 27 IED name:	Remote IED
105.133:	Input 27 default:	0
105.134:	Input 27 fct.assig.:	Without function
105.136:	Input 28 bit pair:	No selection
105.137:	Input 28 IED name:	Remote IED
105.138:	Input 28 default:	0
105.139:	Input 28 fct.assig.:	Without function
105.141:	Input 29 bit pair:	No selection
105.142:	Input 29 IED name:	Remote IED
105.143:	Input 29 default:	0
105.144:	Input 29 fct.assig.:	Without function
105.146:	Input 30 bit pair:	No selection
105.147:	Input 30 IED name:	Remote IED
105.148:	Input 30 default:	0
105.149:	Input 30 fct.assig.:	Without function
105.151:	Input 31 bit pair:	No selection
105.152:	Input 31 IED name:	Remote IED
105.153:	Input 31 default:	0
105.154:	Input 31 fct.assig.:	Without function
105.156:	Input 32 bit pair:	No selection
105.157:	Input 32 IED name:	Remote IED
105.158:	Input 32 default:	0
105.159:	Input 32 fct.assig.:	Without function
F_KEY		
080.112:	Fct. assignm. F1:	Without function
080.113:	Fct. assignm. F2:	Without function
080.114:	Fct. assignm. F3:	Without function
080.115:	Fct. assignm. F4:	Without function
080.116:	Fct. assignm. F5:	FT_RC Trigger EXT
080.117:	Fct. assignm. F6:	Without function
080.132:	Operating mode F1:	Key
080.133:	Operating mode F2:	Key
080.134:	Operating mode F3:	Key
080.135:	Operating mode F4:	Key
080.136:	Operating mode F5:	Key
080.137:	Operating mode F6:	Key
003.037:	Return time fct.keys:	10 s
INP		
010.220:	Filter:	20
152.163:	Fct. assignm. U 1001:	LOGIC Input 5 EXT
152.166:	Fct. assignm. U 1002:	LOGIC Input 6 EXT
152.169:	Fct. assignm. U 1003:	LOGIC Input 7 EXT
152.172:	Fct. assignm. U 1004:	LOGIC Input 8 EXT
152.175:	Fct. assignm. U 1005:	LOGIC Input 9 EXT
152.178:	Fct. assignm. U 1006:	LOGIC Input 10 EXT
153.087:	Fct. assignm. U 2001:	LOGIC Input 1 EXT
153.090:	Fct. assignm. U 2002:	LOGIC Input 2 EXT
153.093:	Fct. assignm. U 2003:	LOGIC Input 3 EXT
153.096:	Fct. assignm. U 2004:	LOGIC Input 4 EXT
152.164:	Oper. mode U 1001:	Active "high"
152.167:	Oper. mode U 1002:	Active "high"
152.170:	Oper. mode U 1003:	Active "high"



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.....	152.173: Oper. mode U 1004:	Active "high"
.....	152.176: Oper. mode U 1005:	Active "high"
.....	152.179: Oper. mode U 1006:	Active "high"
.....	153.088: Oper. mode U 2001:	Active "high"
.....	153.091: Oper. mode U 2002:	Active "high"
.....	153.094: Oper. mode U 2003:	Active "high"
.....	153.097: Oper. mode U 2004:	Active "high"
.....	 OUTP	
.....	150.217: Fct. assignm. K 1001:	LOGIC Output 4
.....	150.220: Fct. assignm. K 1002:	LOGIC Output 4
.....	150.223: Fct. assignm. K 1003:	LOGIC Output 4
.....	150.226: Fct. assignm. K 1004:	LOGIC Output 4
.....	150.229: Fct. assignm. K 1005:	Without function
.....	150.232: Fct. assignm. K 1006:	Without function
.....	150.235: Fct. assignm. K 1007:	Without function
.....	150.238: Fct. assignm. K 1008:	LOGIC Output 6
.....	151.201: Fct. assignm. K 2001:	LOGIC Output 4
.....	151.204: Fct. assignm. K 2002:	LOGIC Output 4
.....	151.207: Fct. assignm. K 2003:	MAIN Blocked/faulty
.....	151.210: Fct. assignm. K 2004:	Without function
.....	151.213: Fct. assignm. K 2005:	Without function
.....	151.216: Fct. assignm. K 2006:	Without function
.....	151.219: Fct. assignm. K 2007:	Without function
.....	151.222: Fct. assignm. K 2008:	Without function
.....	150.218: Oper. mode K 1001:	ES updating
.....	150.221: Oper. mode K 1002:	ES updating
.....	150.224: Oper. mode K 1003:	ES updating
.....	150.227: Oper. mode K 1004:	ES updating
.....	150.230: Oper. mode K 1005:	ES updating
.....	150.233: Oper. mode K 1006:	ES updating
.....	150.236: Oper. mode K 1007:	ES updating
.....	150.239: Oper. mode K 1008:	ES updating
.....	151.202: Oper. mode K 2001:	ES updating
.....	151.205: Oper. mode K 2002:	ES updating
.....	151.208: Oper. mode K 2003:	ES updating
.....	151.211: Oper. mode K 2004:	ES updating
.....	151.214: Oper. mode K 2005:	ES updating
.....	151.217: Oper. mode K 2006:	ES updating
.....	151.220: Oper. mode K 2007:	ES updating
.....	151.223: Oper. mode K 2008:	ES updating
.....	 MEASO	
.....	056.020: Function group MEASO:	Without
.....	 LED	
.....	 085.184: Fct. assign. H 1 green:	MAIN Healthy
.....	 085.001: Fct. assign. H 2 yell.:	MAIN Blocked/faulty
.....	 085.004: Fct. assign. H 3 yell.:	SFMON Warning (LED)
.....	085.007: Fct. assign. H 4 red:	MAIN Gen. trip signal
.....	085.057: Fct. assign. H 4 green:	Without function
.....	085.010: Fct. assign. H 5 red:	DIFF Trip signal 1
.....	085.060: Fct. assign. H 5 green:	Without function
.....	085.013: Fct. assign. H 6 red:	DIFF Trip signal 2
.....	085.063: Fct. assign. H 6 green:	Without function
.....	085.016: Fct. assign. H 7 red:	DIFF Trip signal 3
.....	085.066: Fct. assign. H 7 green:	Without function
.....	085.019: Fct. assign. H 8 red:	V/f Trip signal tv/f(t)
.....	085.069: Fct. assign. H 8 green:	Without function
.....	085.022: Fct. assign. H 9 red:	V/f tv/f> elapsed
.....	085.072: Fct. assign. H 9 green:	Without function
.....	085.025: Fct. assign. H10 red:	Without function
.....	085.075: Fct. assign. H10 green:	Without function
.....	085.028: Fct. assign. H11 red:	Without function
.....	085.078: Fct. assign. H11 green:	Without function
.....	085.031: Fct. assign. H12 red:	LOGIC Output 3 (t)
.....	085.081: Fct. assign. H12 green:	Without function
.....	085.034: Fct. assign. H13 red:	LOGIC Input 3 EXT
.....	085.084: Fct. assign. H13 green:	Without function



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085.037: Fct.assig. H14 red:	LOGIC Input 4 EXT
085.087: Fct.assig. H14 green:	Without function
085.040: Fct.assig. H15 red:	LOGIC Input 5 EXT
085.090: Fct.assig. H15 green:	Without function
085.043: Fct.assig. H16 red:	LOGIC Input 6 EXT
085.093: Fct.assig. H16 green:	Without function
085.185: Fct.assig. H17 red:	LOC Edit mode
085.131: Fct.assig. H18 red:	LOGIC Input 7 EXT
085.161: Fct.assig. H18 green:	Without function
085.134: Fct.assig. H19 red:	LOGIC Input 8 EXT
085.164: Fct.assig. H19 green:	Without function
085.137: Fct.assig. H20 red:	Without function
085.167: Fct.assig. H20 green:	Without function
085.140: Fct.assig. H21 red:	Without function
085.170: Fct.assig. H21 green:	Without function
085.143: Fct.assig. H22 red:	Without function
085.173: Fct.assig. H22 green:	Without function
085.146: Fct.assig. H23 red:	IDMT1 Trip signal tIref,N>
085.177: Fct.assig. H23 green:	Without function
085.182: Operating mode H 1:	ES updating
085.002: Operating mode H 2:	ES updating
085.005: Operating mode H 3:	ES updating
085.008: Operating mode H 4:	ES reset (fault)
085.011: Operating mode H 5:	ES manual reset
085.014: Operating mode H 6:	ES manual reset
085.017: Operating mode H 7:	ES manual reset
085.020: Operating mode H 8:	ES manual reset
085.023: Operating mode H 9:	ES manual reset
085.026: Operating mode H 10:	ES manual reset
085.029: Operating mode H 11:	ES updating
085.032: Operating mode H 12:	ES manual reset
085.035: Operating mode H 13:	ES manual reset
085.038: Operating mode H 14:	ES manual reset
085.041: Operating mode H 15:	ES manual reset
085.044: Operating mode H 16:	ES manual reset
085.183: Operating mode H 17:	ES updating
085.132: Operating mode H 18:	ES manual reset
085.135: Operating mode H 19:	ES manual reset
085.138: Operating mode H 20:	ES manual reset
085.141: Operating mode H 21:	ES updating
085.144: Operating mode H 22:	ES updating
085.147: Operating mode H 23:	ES manual reset

MAIN

003.169: Chann.assign.COMM1/2:	COMM1->chann.1,(2-2)
103.210: Prim.Source TimeSync:	COMM1
103.211: BackupSourceTimeSync:	COMM2/PC
103.212: Time sync. time-out:	Blocked

FT_RC

035.160: Rec. analog chann. 1:	Current IA,a
035.161: Rec. analog chann. 2:	Current IB,a
035.162: Rec. analog chann. 3:	Current IC,a
035.163: Rec. analog chann. 4:	Current IY,a
035.164: Rec. analog chann. 5:	Current IA,b
035.165: Rec. analog chann. 6:	Current IB,b
035.166: Rec. analog chann. 7:	Current IC,b
035.167: Rec. analog chann. 8:	Current IY,b
035.168: Rec. analog chann. 9:	Voltage V
035.169: Rec. analog chann.10:	Current IA,c
035.170: Rec. analog chann.11:	Current IB,c
035.171: Rec. analog chann.12:	Current IC,c
035.172: Rec. analog chann.13:	Current IY,c

DIFF

056.027: Function group DIFF:	With
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REF_1

056.037: Function group REF_1:	Without
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REF_2



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056.038: Function group REF_2:	Without
REF_3	
056.039: Function group REF_3:	Without
DTOC1	
056.031: Function group DTOC1:	Without
DTOC2	
056.032: Function group DTOC2:	Without
DTOC3	
056.053: Function group DTOC3:	Without
IDMT1	
056.051: Function group IDMT1:	With
IDMT2	
056.061: Function group IDMT2:	Without
IDMT3	
056.071: Function group IDMT3:	Without
THRM1	
056.054: Function group THRM1:	Without
THRM2	
056.055: Function group THRM2:	Without
V<>	
056.010: Function group V<>:	Without
f<>	
056.033: Function group f<>:	Without
V/f	
056.056: Function group V/f:	With
MCM_1	
056.073: Function group MCM_1:	Without
MCM_2	
056.074: Function group MCM_2:	Without
MCM_3	
056.075: Function group MCM_3:	Without
CBF_1	
056.007: Function group CBF_1:	Without
CBF_2	
056.082: Function group CBF_2:	Without
CBF_3	
056.083: Function group CBF_3:	Without
LIM_1	
056.042: Function group LIM_1:	Without
LIM_2	
056.043: Function group LIM_2:	Without
LIM_3	
056.050: Function group LIM_3:	Without
LOGIC	
056.017: Function group LOGIC:	With
Function parameters	
Global	
PC	
003.182: Command blocking:	No
003.086: Sig./meas.val.block.:	No
OUTP	
021.014: Outp.rel.block USER:	No
MAIN	
003.030: Device on-line: Yes (= on)	
003.012: Test mode USER:	No
010.030: Nominal frequ. fnom:	50 Hz
010.049: Phase sequence:	A - B - C
019.020: Inom C.T.prim.,end a:	1000 A
019.021: Inom C.T.prim.,end b:	1600 A
019.022: Inom C.T.prim.,end c:	1000 A
019.027: Inom C.T.Yprim,end a:	1600 A
019.028: Inom C.T.Yprim,end b:	600 A
019.029: Inom C.T.Yprim,end c:	1600 A
010.002: Vnom V.T. prim.:	400.0 kV
010.024: Inom device, end a:	1.0 A
010.025: Inom device, end b:	1.0 A



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010.029: Inom device, end c:	1.0 A
010.142: IY,nom device, end a:	1.0 A
010.143: IY,nom device, end b:	1.0 A
010.144: IY,nom device, end c:	1.0 A
010.009: Vnom V.T. sec.:	110 V
010.140: Conn.meas.circ. IP,a:	Standard
010.150: Conn.meas.circ. IP,b:	Standard
010.160: Conn.meas.circ. IP,c:	Standard
010.141: Conn.meas.circ. IY,a:	Standard
010.151: Conn.meas.circ. IY,b:	Standard
010.161: Conn.meas.circ. IY,c:	Standard
011.030: Meas. value rel. IP:	0.00 Inom
011.048: Meas.value rel. Ineg:	0.000 Inom
011.058: Meas.value rel. Ipos:	0.000 Inom
011.031: Meas. value rel. IN:	0.000 Inom
011.036: Meas. value rel. IY:	0.000 IN,nom
011.032: Meas. value rel. V:	0.00 Vnom
010.113: Settl. t. IP,max,del:	15.0 min
005.248: Fct.assign. reset 1:	Without function
005.249: Fct.assign. reset 2:	Without function
021.021: Fct.assign. block. 1:	Without function
021.022: Fct.assign. block. 2:	Without function
021.048: Fct.assign. block. 3:	Without function
021.049: Fct.assign. block. 4:	Without function
021.012: Trip cmd.block. USER:	No
021.001: Fct.assign.trip cmd.1:	IDMT1 Trip signal tIref,N> -->
021.002: Fct.assign.trip cmd.2:	IDMT1 Trip signal tIref,N> -->
021.046: Fct.assign.trip cmd.3:	Without function
021.047: Fct.assign.trip cmd.4:	Without function
021.003: Min.dur. trip cmd. 1:	0.25 s
021.004: Min.dur. trip cmd. 2:	0.25 s
021.032: Min.dur. trip cmd. 3:	0.25 s
021.033: Min.dur. trip cmd. 4:	0.25 s
021.023: Latching trip cmd. 1:	No
021.024: Latching trip cmd. 2:	No
021.025: Latching trip cmd. 3:	No
021.026: Latching trip cmd. 4:	No
021.031: Fct. assign. fault:	Without function
021.017: Sig. asg. CB1 open:	Without function
021.020: Sig. asg. CB1 closed:	Without function
021.060: Sig. asg. CB2 closed:	Without function
021.061: Sig. asg. CB2 open:	Without function
021.062: Sig. asg. CB3 closed:	Without function
021.063: Sig. asg. CB3 open:	Without function
PSS	
003.100: Control via USER:	No
003.060: Param.subs.sel. USER:	Parameter subset 1
003.063: Keep time:	Blocked
SFMON	
021.030: Fct. assign. warning:	Without function
021.018: Mon.sig. retention:	Blocked
FT_RC	
003.085: Fct. assign. trigger:	DIFF Meas.system 1 trigg. -->
016.018: Id>:	Blocked
016.019: IR>:	Blocked
003.078: Pre-fault time:	5 Periods
003.079: Post-fault time:	2 Periods
003.075: Max. recording time:	50 Periods
General functions	
MAIN	
016.096: Evaluation IN, end a:	Calculated
016.097: Evaluation IN, end b:	Measured
016.098: Evaluation IN, end c:	Calculated
019.099: Current summation:	Without
018.009: Hold time dyn.param.:	Blocked
DIFF	



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019.080:	General enable USER:	Yes	
019.016:	Reference power Sref:	315.0 MVA	
019.023:	Ref. curr. Iref,a:	0.455 kA	
019.024:	Ref. curr. Iref,b:	0.827 kA	
019.025:	Ref. curr. Iref,c:	0.827 kA	
004.105:	Matching fact. kam,a:	2.199	
004.106:	Matching fact. kam,b:	1.935	
004.127:	Matching fact. kam,c:	1.210	
011.037:	Meas. value rel. Id:	0.000 Iref	
011.038:	Meas. value rel. IR:	0.000 Iref	
IDMT1			
031.141:	General enable USER:	Yes	
019.106:	Select. meas. input:	End b	
V/f			
019.097:	General enable USER:	Yes	
LOGIC			
031.099:	General enable USER:	Yes	
034.030:	Set 1 USER:	No	
034.031:	Set 2 USER:	No	
034.032:	Set 3 USER:	No	
034.033:	Set 4 USER:	No	
034.034:	Set 5 USER:	No	
034.035:	Set 6 USER:	No	
034.036:	Set 7 USER:	No	
034.037:	Set 8 USER:	No	
030.000:	Fct.assignm. outp. 1:	DIFF Trip signal 1	-->
030.001:	Op. mode t output 1:	Without timer stage	
030.002:	Time t1 output 1:	0.00 s	
030.003:	Time t2 output 1:	0.00 s	
044.000:	Sig.assign. outp. 1:	Without function	
044.001:	Sig.assign.outp. 1(t):	Without function	
030.004:	Fct.assignm. outp. 2:	LOGIC Input 6 EXT	-->
030.005:	Op. mode t output 2:	Oper./releas.delay	
030.006:	Time t1 output 2:	0.02 s	
030.007:	Time t2 output 2:	0.00 s	
044.002:	Sig.assign. outp. 2:	Without function	
044.003:	Sig.assign.outp. 2(t):	Without function	
030.008:	Fct.assignm. outp. 3:	LOGIC Input 2 EXT	
030.009:	Op. mode t output 3:	Oper./releas.delay	
030.010:	Time t1 output 3:	5.00 s	
030.011:	Time t2 output 3:	0.00 s	
044.004:	Sig.assign. outp. 3:	Without function	
044.005:	Sig.assign.outp. 3(t):	Without function	
030.012:	Fct.assignm. outp. 4:	LOGIC Output 1	-->
030.013:	Op. mode t output 4:	Without timer stage	
030.014:	Time t1 output 4:	0.00 s	
030.015:	Time t2 output 4:	0.00 s	
044.006:	Sig.assign. outp. 4:	Without function	
044.007:	Sig.assign.outp. 4(t):	Without function	
030.016:	Fct.assignm. outp. 5:	LOGIC Output 4	-->
030.017:	Op. mode t output 5:	Without timer stage	
030.018:	Time t1 output 5:	0.00 s	
030.019:	Time t2 output 5:	0.00 s	
044.008:	Sig.assign. outp. 5:	Without function	
044.009:	Sig.assign.outp. 5(t):	Without function	
030.020:	Fct.assignm. outp. 6:	LOGIC Input 7 EXT	
030.021:	Op. mode t output 6:	Without timer stage	
030.022:	Time t1 output 6:	0.00 s	
030.023:	Time t2 output 6:	0.00 s	
044.010:	Sig.assign. outp. 6:	Without function	
044.011:	Sig.assign.outp. 6(t):	Without function	
030.024:	Fct.assignm. outp. 7:	Without function	
030.025:	Op. mode t output 7:	Without timer stage	
030.026:	Time t1 output 7:	0.00 s	
030.027:	Time t2 output 7:	0.00 s	
044.012:	Sig.assign. outp. 7:	Without function	



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044.013: Sig.assig.outp. 7(t):	Without function
030.028: Fct.assignm. outp. 8:	Without function
030.029: Op. mode t output 8:	Without timer stage
030.030: Time t1 output 8:	0.00 s
030.031: Time t2 output 8:	0.00 s
044.014: Sig.assig. outp. 8:	Without function
044.015: Sig.assig.outp. 8(t):	Without function
030.032: Fct.assignm. outp. 9:	Without function
030.033: Op. mode t output 9:	Without timer stage
030.034: Time t1 output 9:	0.00 s
030.035: Time t2 output 9:	0.00 s
044.016: Sig.assig. outp. 9:	Without function
044.017: Sig.assig.outp. 9(t):	Without function
030.036: Fct.assignm. outp.10:	Without function
030.037: Op. mode t output 10:	Without timer stage
030.038: Time t1 output 10:	0.00 s
030.039: Time t2 output 10:	0.00 s
044.018: Sig.assig. outp. 10:	Without function
044.019: Sig.assig.outp.10(t):	Without function
030.040: Fct.assignm. outp.11:	Without function
030.041: Op. mode t output 11:	Without timer stage
030.042: Time t1 output 11:	0.00 s
030.043: Time t2 output 11:	0.00 s
044.020: Sig.assig. outp. 11:	Without function
044.021: Sig.assig.outp.11(t):	Without function
030.044: Fct.assignm. outp.12:	Without function
030.045: Op. mode t output 12:	Without timer stage
030.046: Time t1 output 12:	0.00 s
030.047: Time t2 output 12:	0.00 s
044.022: Sig.assig. outp. 12:	Without function
044.023: Sig.assig.outp.12(t):	Without function
030.048: Fct.assignm. outp.13:	Without function
030.049: Op. mode t output 13:	Without timer stage
030.050: Time t1 output 13:	0.00 s
030.051: Time t2 output 13:	0.00 s
044.024: Sig.assig. outp. 13:	Without function
044.025: Sig.assig.outp.13(t):	Without function
030.052: Fct.assignm. outp.14:	Without function
030.053: Op. mode t output 14:	Without timer stage
030.054: Time t1 output 14:	0.00 s
030.055: Time t2 output 14:	0.00 s
044.026: Sig.assig. outp. 14:	Without function
044.027: Sig.assig.outp.14(t):	Without function
030.056: Fct.assignm. outp.15:	Without function
030.057: Op. mode t output 15:	Without timer stage
030.058: Time t1 output 15:	0.00 s
030.059: Time t2 output 15:	0.00 s
044.028: Sig.assig. outp. 15:	Without function
044.029: Sig.assig.outp.15(t):	Without function
030.060: Fct.assignm. outp.16:	Without function
030.061: Op. mode t output 16:	Without timer stage
030.062: Time t1 output 16:	0.00 s
030.063: Time t2 output 16:	0.00 s
044.030: Sig.assig. outp. 16:	Without function
044.031: Sig.assig.outp.16(t):	Without function
030.064: Fct.assignm. outp.17:	Without function
030.065: Op. mode t output 17:	Without timer stage
030.066: Time t1 output 17:	0.00 s
030.067: Time t2 output 17:	0.00 s
044.032: Sig.assig. outp. 17:	Without function
044.033: Sig.assig.outp.17(t):	Without function
030.068: Fct.assignm. outp.18:	Without function
030.069: Op. mode t output 18:	Without timer stage
030.070: Time t1 output 18:	0.00 s
030.071: Time t2 output 18:	0.00 s
044.034: Sig.assig. outp. 18:	Without function



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044.035: Sig.assig.outp.18(t):	Without function
030.072: Fct.assignm. outp.19:	Without function
030.073: Op. mode t output 19:	Without timer stage
030.074: Time t1 output 19:	0.00 s
030.075: Time t2 output 19:	0.00 s
044.036: Sig.assig. outp. 19:	Without function
044.037: Sig.assig.outp.19(t):	Without function
030.076: Fct.assignm. outp.20:	Without function
030.077: Op. mode t output 20:	Without timer stage
030.078: Time t1 output 20:	0.00 s
030.079: Time t2 output 20:	0.00 s
044.038: Sig.assig. outp. 20:	Without function
044.039: Sig.assig.outp.20(t):	Without function
030.080: Fct.assignm. outp.21:	Without function
030.081: Op. mode t output 21:	Without timer stage
030.082: Time t1 output 21:	0.00 s
030.083: Time t2 output 21:	0.00 s
044.040: Sig.assig. outp. 21:	Without function
044.041: Sig.assig.outp.21(t):	Without function
030.084: Fct.assignm. outp.22:	Without function
030.085: Op. mode t output 22:	Without timer stage
030.086: Time t1 output 22:	0.00 s
030.087: Time t2 output 22:	0.00 s
044.042: Sig.assig. outp. 22:	Without function
044.043: Sig.assig.outp.22(t):	Without function
030.088: Fct.assignm. outp.23:	Without function
030.089: Op. mode t output 23:	Without timer stage
030.090: Time t1 output 23:	0.00 s
030.091: Time t2 output 23:	0.00 s
044.044: Sig.assig. outp. 23:	Without function
044.045: Sig.assig.outp.23(t):	Without function
030.092: Fct.assignm. outp.24:	Without function
030.093: Op. mode t output 24:	Without timer stage
030.094: Time t1 output 24:	0.00 s
030.095: Time t2 output 24:	0.00 s
044.046: Sig.assig. outp. 24:	Without function
044.047: Sig.assig.outp.24(t):	Without function
030.096: Fct.assignm. outp.25:	Without function
030.097: Op. mode t output 25:	Without timer stage
030.098: Time t1 output 25:	0.00 s
030.099: Time t2 output 25:	0.00 s
044.048: Sig.assig. outp. 25:	Without function
044.049: Sig.assig.outp.25(t):	Without function
031.000: Fct.assignm. outp.26:	Without function
031.001: Op. mode t output 26:	Without timer stage
031.002: Time t1 output 26:	0.00 s
031.003: Time t2 output 26:	0.00 s
044.050: Sig.assig. outp. 26:	Without function
044.051: Sig.assig.outp.26(t):	Without function
031.004: Fct.assignm. outp.27:	Without function
031.005: Op. mode t output 27:	Without timer stage
031.006: Time t1 output 27:	0.00 s
031.007: Time t2 output 27:	0.00 s
044.052: Sig.assig. outp. 27:	Without function
044.053: Sig.assig.outp.27(t):	Without function
031.008: Fct.assignm. outp.28:	Without function
031.009: Op. mode t output 28:	Without timer stage
031.010: Time t1 output 28:	0.00 s
031.011: Time t2 output 28:	0.00 s
044.054: Sig.assig. outp. 28:	Without function
044.055: Sig.assig.outp.28(t):	Without function
031.012: Fct.assignm. outp.29:	Without function
031.013: Op. mode t output 29:	Without timer stage
031.014: Time t1 output 29:	0.00 s
031.015: Time t2 output 29:	0.00 s
044.056: Sig.assig. outp. 29:	Without function



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044.057: Sig.assig.outp.29(t): Without function
031.016: Fct.assignm. outp.30: Without function
031.017: Op. mode t output 30: Without timer stage
031.018: Time t1 output 30: 0.00 s
031.019: Time t2 output 30: 0.00 s
044.058: Sig.assig. outp. 30: Without function
044.059: Sig.assig.outp.30(t): Without function
031.020: Fct.assignm. outp.31: Without function
031.021: Op. mode t output 31: Without timer stage
031.022: Time t1 output 31: 0.00 s
031.023: Time t2 output 31: 0.00 s
044.060: Sig.assig. outp. 31: Without function
044.061: Sig.assig.outp.31(t): Without function
031.024: Fct.assignm. outp.32: Without function
031.025: Op. mode t output 32: Without timer stage
031.026: Time t1 output 32: 0.00 s
031.027: Time t2 output 32: 0.00 s
044.062: Sig.assig. outp. 32: Without function
044.063: Sig.assig.outp.32(t): Without function

Parameter subset 1

MAIN

019.017: Vnom prim. end a PS1: 400.0 kV
019.018: Vnom prim. end b PS1: 220.0 kV
019.019: Vnom prim. end c PS1: 220.0 kV
010.200: Phase reversal a PS1: No swap
010.204: Phase reversal b PS1: No swap
010.208: Phase reversal c PS1: No swap

DIFF

072.152: Enable PS1: Yes
019.010: Vec.gr. ends a-b PS1: 0
019.011: Vec.gr. ends a-c PS1: 0
072.142: Idiff> PS1: 0.20 Iref
072.143: Idiff>> PS1: 10.6 Iref
072.144: Idiff>>> PS1: 10.6 Iref
080.000: Idiff>(CTS) PS1: 0.20 Iref
072.145: m1 PS1: 0.30
072.146: m2 PS1: 0.70
072.147: IR,m2 PS1: 4.0 Iref
072.148: Op.mode rush rst.PS1: Phase-selective
072.159: RushI(2f0)/I(f0) PS1: 10 %
072.155: 0-seq. filt.a en.PS1: Yes
072.156: 0-seq. filt.b en.PS1: Yes
072.157: 0-seq. filt.c en.PS1: No
072.158: Overflux.bl. en. PS1: Yes
072.160: Ov. I(5f0)/I(f0) PS1: 20 %
010.162: Op.del.,trip sig.PS1: 0.00 s
072.006: Hyst. effective PS1: Yes

IDMT1

081.050: Enable PS1: Yes
081.068: Block tim.st. IN PS1: Without
081.059: Gen.starting modePS1: With start. IN/Ineg
081.058: tGS PS1: 0.00 s
081.060: Rush restr.enabl PS1: No
081.051: Iref,P PS1: Blocked
081.052: Iref,P dynamic PS1: Blocked
081.053: Characteristic P PS1: Definite Time
081.054: Factor kt,P PS1: 1.00
081.057: Min. trip t. P PS1: 1.00 s
081.055: Hold time P PS1: 0.00 s
081.056: Release P PS1: Without delay
081.111: Iref,neg PS1: Blocked
081.112: Iref,neg dynamic PS1: Blocked
081.113: Character. neg. PS1: Definite Time
081.114: Factor kt,neg PS1: 1.00
081.117: Min. trip t. neg PS1: 1.00 s
081.115: Hold time neg PS1: 0.00 s



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081.116: Release neg	PS1:	Without delay
081.061: Iref,N	PS1:	0.41 Inom
081.062: Iref,N dynamic	PS1:	0.41 Inom
081.063: Characteristic N	PS1:	IEC Standard Inverse
081.064: Factor kt,N	PS1:	0.20
081.067: Min. trip t. N	PS1:	0.00 s
081.065: Hold time N	PS1:	0.00 s
081.066: Release N	PS1:	Without delay
V/f		
081.210: Enable	PS1:	Yes
081.211: V/f> (alarm)	PS1:	1.10 Vnom/fnom
081.212: V/f(t)>	PS1:	1.10 Vnom/fnom
081.213: V/f>>	PS1:	1.50 Vnom/fnom
081.214: tV/f>	PS1:	1000 s
081.217: t at V/f=1.05	PS1:	1000.0 s
081.218: t at V/f=1.10	PS1:	1000.0 s
081.219: t at V/f=1.15	PS1:	120.0 s
081.220: t at V/f=1.20	PS1:	90.0 s
081.221: t at V/f=1.25	PS1:	50.0 s
081.222: t at V/f=1.30	PS1:	35.0 s
081.223: t at V/f=1.35	PS1:	10.0 s
081.224: t at V/f=1.40	PS1:	4.0 s
081.225: t at V/f=1.45	PS1:	2.5 s
081.226: t at V/f=1.50	PS1:	1.0 s
081.227: t at V/f=1.55	PS1:	1.0 s
081.228: t at V/f=1.60	PS1:	1.0 s
081.230: Reset time	PS1:	0 s
081.229: tV/f>>	PS1:	1 s
Parameter subset 2		
MAIN		
019.057: Vnom prim. end a	PS2:	110.0 kV
019.058: Vnom prim. end b	PS2:	110.0 kV
019.059: Vnom prim. end c	PS2:	110.0 kV
010.201: Phase reversal a	PS2:	No swap
010.205: Phase reversal b	PS2:	No swap
010.209: Phase reversal c	PS2:	No swap
DIFF		
073.152: Enable	PS2:	No
019.040: Vec.gr. ends a-b	PS2:	0
019.043: Vec.gr. ends a-c	PS2:	0
073.142: Idiff>	PS2:	0.20 Iref
073.143: Idiff>>	PS2:	15.0 Iref
073.144: Idiff>>>	PS2:	30.0 Iref
081.000: Idiff>(CTS)	PS2:	0.20 Iref
073.145: m1	PS2:	0.30
073.146: m2	PS2:	0.70
073.147: IR,m2	PS2:	4.0 Iref
073.148: Op.mode rush rst.	PS2:	Not phase-selective
073.159: RushI(2f0)/I(f0)	PS2:	20 %
073.155: 0-seq. filt.a en.	PS2:	Yes
073.156: 0-seq. filt.b en.	PS2:	Yes
073.157: 0-seq. filt.c en.	PS2:	Yes
073.158: Overflux.bl. en.	PS2:	No
073.160: Ov. I(5f0)/I(f0)	PS2:	20 %
010.163: Op.del.,trip sig.	PS2:	0.00 s
073.006: Hyst. effective	PS2:	Yes
IDMT1		
082.050: Enable	PS2:	No
082.068: Block tim.st. IN	PS2:	Without
082.059: Gen.starting mode	PS2:	With start. IN/Ineg
082.058: tGS	PS2:	0.00 s
082.060: Rush restr.enabl	PS2:	No
082.051: Iref,P	PS2:	1.00 Inom
082.052: Iref,P dynamic	PS2:	1.00 Inom
082.053: Characteristic P	PS2:	Definite Time
082.054: Factor kt,P	PS2:	1.00



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082.057: Min. trip t. P	PS2:	1.00 s
082.055: Hold time P	PS2:	0.00 s
082.056: Release P	PS2:	Without delay
082.111: Iref,neg	PS2:	Blocked
082.112: Iref,neg dynamic	PS2:	Blocked
082.113: Character. neg.	PS2:	Definite Time
082.114: Factor kt,neg	PS2:	1.00
082.117: Min. trip t. neg	PS2:	1.00 s
082.115: Hold time neg	PS2:	0.00 s
082.116: Release neg	PS2:	Without delay
082.061: Iref,N	PS2:	Blocked
082.062: Iref,N dynamic	PS2:	Blocked
082.063: Characteristic N	PS2:	Definite Time
082.064: Factor kt,N	PS2:	1.00
082.067: Min. trip t. N	PS2:	1.00 s
082.065: Hold time N	PS2:	0.00 s
082.066: Release N	PS2:	Without delay
V/f		
082.210: Enable	PS2:	No
082.211: V/f> (alarm)	PS2:	1.05 Vnom/fnom
082.212: V/f(t)>	PS2:	1.10 Vnom/fnom
082.213: V/f>>	PS2:	Blocked
082.214: tV/f>	PS2:	1 s
082.217: t at V/f=1.05	PS2:	72.8 s
082.218: t at V/f=1.10	PS2:	18.8 s
082.219: t at V/f=1.15	PS2:	8.8 s
082.220: t at V/f=1.20	PS2:	5.3 s
082.221: t at V/f=1.25	PS2:	3.7 s
082.222: t at V/f=1.30	PS2:	2.8 s
082.223: t at V/f=1.35	PS2:	2.3 s
082.224: t at V/f=1.40	PS2:	1.9 s
082.225: t at V/f=1.45	PS2:	1.7 s
082.226: t at V/f=1.50	PS2:	1.5 s
082.227: t at V/f=1.55	PS2:	1.4 s
082.228: t at V/f=1.60	PS2:	1.3 s
082.230: Reset time	PS2:	0 s
082.229: tV/f>>	PS2:	Blocked
Parameter subset 3		
MAIN		
019.061: Vnom prim. end a	PS3:	110.0 kV
019.062: Vnom prim. end b	PS3:	110.0 kV
019.063: Vnom prim. end c	PS3:	110.0 kV
010.202: Phase reversal a	PS3:	No swap
010.206: Phase reversal b	PS3:	No swap
010.210: Phase reversal c	PS3:	No swap
DIFF		
074.152: Enable	PS3:	No
019.041: Vec.gr. ends a-b	PS3:	0
019.044: Vec.gr. ends a-c	PS3:	0
074.142: Idiff>	PS3:	0.20 Iref
074.143: Idiff>>	PS3:	15.0 Iref
074.144: Idiff>>>	PS3:	30.0 Iref
082.000: Idiff>(CTS)	PS3:	0.20 Iref
074.145: m1	PS3:	0.30
074.146: m2	PS3:	0.70
074.147: IR,m2	PS3:	4.0 Iref
074.148: Op.mode rush rst.	PS3:	Not phase-selective
074.159: RushI(2f0)/I(f0)	PS3:	20 %
074.155: 0-seq. filt.a en.	PS3:	Yes
074.156: 0-seq. filt.b en.	PS3:	Yes
074.157: 0-seq. filt.c en.	PS3:	Yes
074.158: Overflux.bl. en.	PS3:	No
074.160: Ov. I(5f0)/I(f0)	PS3:	20 %
010.164: Op.del.,trip sig.	PS3:	0.00 s
074.006: Hyst. effective	PS3:	Yes
IDMT1		



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083.050: Enable	PS3:	No
083.068: Block tim.st. IN	PS3:	Without
083.059: Gen.starting mode	PS3:	With start. IN/Ineg
083.058: tGS	PS3:	0.00 s
083.060: Rush restr.enabl	PS3:	No
083.051: Iref,P	PS3:	1.00 Inom
083.052: Iref,P dynamic	PS3:	1.00 Inom
083.053: Characteristic P	PS3:	Definite Time
083.054: Factor kt,P	PS3:	1.00
083.057: Min. trip t. P	PS3:	1.00 s
083.055: Hold time P	PS3:	0.00 s
083.056: Release P	PS3:	Without delay
083.111: Iref,neg	PS3:	Blocked
083.112: Iref,neg dynamic	PS3:	Blocked
083.113: Character. neg.	PS3:	Definite Time
083.114: Factor kt,neg	PS3:	1.00
083.117: Min. trip t. neg	PS3:	1.00 s
083.115: Hold time neg	PS3:	0.00 s
083.116: Release neg	PS3:	Without delay
083.061: Iref,N	PS3:	Blocked
083.062: Iref,N dynamic	PS3:	Blocked
083.063: Characteristic N	PS3:	Definite Time
083.064: Factor kt,N	PS3:	1.00
083.067: Min. trip t. N	PS3:	1.00 s
083.065: Hold time N	PS3:	0.00 s
083.066: Release N	PS3:	Without delay

V/f

083.210: Enable	PS3:	No
083.211: V/f> (alarm)	PS3:	1.05 Vnom/fnom
083.212: V/f(t)>	PS3:	1.10 Vnom/fnom
083.213: V/f>>	PS3:	Blocked
083.214: tV/f>	PS3:	1 s
083.217: t at V/f=1.05	PS3:	72.8 s
083.218: t at V/f=1.10	PS3:	18.8 s
083.219: t at V/f=1.15	PS3:	8.8 s
083.220: t at V/f=1.20	PS3:	5.3 s
083.221: t at V/f=1.25	PS3:	3.7 s
083.222: t at V/f=1.30	PS3:	2.8 s
083.223: t at V/f=1.35	PS3:	2.3 s
083.224: t at V/f=1.40	PS3:	1.9 s
083.225: t at V/f=1.45	PS3:	1.7 s
083.226: t at V/f=1.50	PS3:	1.5 s
083.227: t at V/f=1.55	PS3:	1.4 s
083.228: t at V/f=1.60	PS3:	1.3 s
083.230: Reset time	PS3:	0 s
083.229: tV/f>>	PS3:	Blocked

Parameter subset 4

MAIN

019.065: Vnom prim. end a	PS4:	110.0 kV
019.066: Vnom prim. end b	PS4:	110.0 kV
019.067: Vnom prim. end c	PS4:	110.0 kV
010.203: Phase reversal a	PS4:	No swap
010.207: Phase reversal b	PS4:	No swap
010.211: Phase reversal c	PS4:	No swap

DIFF

075.152: Enable	PS4:	No
019.042: Vec.gr. ends a-b	PS4:	0
019.045: Vec.gr. ends a-c	PS4:	0
075.142: Idiff>	PS4:	0.20 Iref
075.143: Idiff>>	PS4:	15.0 Iref
075.144: Idiff>>>	PS4:	30.0 Iref
083.000: Idiff>(CTS)	PS4:	0.20 Iref
075.145: m1	PS4:	0.30
075.146: m2	PS4:	0.70
075.147: IR,m2	PS4:	4.0 Iref
075.148: Op.mode rush rst.	PS4:	Not phase-selective



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075.159: RushI(2f0)/I(f0) PS4: 20 %
075.155: 0-seq. filt.a en.PS4: Yes
075.156: 0-seq. filt.b en.PS4: Yes
075.157: 0-seq. filt.c en.PS4: Yes
075.158: Overflux.bl. en. PS4: No
075.160: Ov. I(5f0)/I(f0) PS4: 20 %
010.165: Op.del.,trip sig.PS4: 0.00 s
075.006: Hyst. effective PS4: Yes

IDMT1

084.050: Enable PS4: No
084.068: Block tim.st. IN PS4: Without
084.059: Gen.starting modePS4: With start. IN/Ineg
084.058: tGS PS4: 0.00 s
084.060: Rush restr.enabl PS4: No
084.051: Iref,P PS4: 1.00 Inom
084.052: Iref,P dynamic PS4: 1.00 Inom
084.053: Characteristic P PS4: Definite Time
084.054: Factor kt,P PS4: 1.00
084.057: Min. trip t. P PS4: 1.00 s
084.055: Hold time P PS4: 0.00 s
084.056: Release P PS4: Without delay
084.111: Iref,neg PS4: Blocked
084.112: Iref,neg dynamic PS4: Blocked
084.113: Character. neg. PS4: Definite Time
084.114: Factor kt,neg PS4: 1.00
084.117: Min. trip t. neg PS4: 1.00 s
084.115: Hold time neg PS4: 0.00 s
084.116: Release neg PS4: Without delay
084.061: Iref,N PS4: Blocked
084.062: Iref,N dynamic PS4: Blocked
084.063: Characteristic N PS4: Definite Time
084.064: Factor kt,N PS4: 1.00
084.067: Min. trip t. N PS4: 1.00 s
084.065: Hold time N PS4: 0.00 s
084.066: Release N PS4: Without delay

V/f

084.210: Enable PS4: No
084.211: V/f> (alarm) PS4: 1.05 Vnom/fnom
084.212: V/f(t)> PS4: 1.10 Vnom/fnom
084.213: V/f>> PS4: Blocked
084.214: tV/f> PS4: 1 s
084.217: t at V/f=1.05 PS4: 72.8 s
084.218: t at V/f=1.10 PS4: 18.8 s
084.219: t at V/f=1.15 PS4: 8.8 s
084.220: t at V/f=1.20 PS4: 5.3 s
084.221: t at V/f=1.25 PS4: 3.7 s
084.222: t at V/f=1.30 PS4: 2.8 s
084.223: t at V/f=1.35 PS4: 2.3 s
084.224: t at V/f=1.40 PS4: 1.9 s
084.225: t at V/f=1.45 PS4: 1.7 s
084.226: t at V/f=1.50 PS4: 1.5 s
084.227: t at V/f=1.55 PS4: 1.4 s
084.228: t at V/f=1.60 PS4: 1.3 s
084.230: Reset time PS4: 0 s
084.229: tV/f>> PS4: Blocked

Operation

Cyclic measurements

Meas. operating data

MAIN

003.090: Date: 24.09.24 dd.mm.yy
003.091: Time of day: 12:17 hh:mm
003.095: Time switching: Daylight saving time
004.040: Frequency f: 50.00 Hz
005.101: Curr. IP,max,a prim.: 144 A
005.162: IP,max prim.,delay a: 198 A
005.161: IP,max prim.stored a: 301 A



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005.102:	Curr. IP,max,b prim.:	256 A
006.162:	IP,max prim.,delay b:	360 A
006.161:	IP,max prim.stored b:	549 A
005.103:	Curr. IP,max,c prim.:	2 A
007.162:	IP,max prim.,delay c:	2 A
007.161:	IP,max prim.stored c:	2 A
005.104:	Curr. IP,min,a prim.:	132 A
005.105:	Curr. IP,min,b prim.:	243 A
005.106:	Curr. IP,min,c prim.:	0 A
005.021:	Current IA,a prim.:	132 A
006.021:	Current IB,a prim.:	144 A
007.021:	Current IC,a prim.:	140 A
005.022:	Current IA,b prim.:	243 A
006.022:	Current IB,b prim.:	256 A
007.022:	Current IC,b prim.:	256 A
005.023:	Current IA,c prim.:	2 A
006.023:	Current IB,c prim.:	0 A
007.023:	Current IC,c prim.:	2 A
005.125:	Current Ineg a prim.:	4 A
005.127:	Current Ipos a prim.:	138 A
005.129:	Current Ineg b prim.:	6 A
005.134:	Current Ipos b prim.:	247 A
005.136:	Current Ineg c prim.:	0 A
005.138:	Current Ipos c prim.:	0 A
005.121:	Current IN,a prim.:	4 A
005.131:	Current IY,a prim.:	3 A
005.122:	Current IN,b prim.:	6 A
005.132:	Current IY,b prim.:	4 A
005.123:	Current IN,c prim.:	2 A
005.133:	Current IY,c prim.:	3 A
005.018:	Voltage V prim.:	403.4 kV
005.111:	Curr. IP,max,a p.u.:	0.144 Inom
005.163:	IP,max p.u.,delay a:	0.198 Inom
005.160:	IP,max p.u.,stored a:	0.301 Inom
005.112:	Curr. IP,max,b p.u.:	0.160 Inom
006.163:	IP,max p.u.,delay b:	0.225 Inom
006.160:	IP,max p.u.,stored b:	0.343 Inom
005.113:	Curr. IP,max,c p.u.:	0.002 Inom
007.163:	IP,max p.u.,delay c:	0.002 Inom
007.160:	IP,max p.u.,stored c:	0.002 Inom
005.107:	Curr. IP,min,a p.u.:	0.132 Inom
005.108:	Curr. IP,min,b p.u.:	0.152 Inom
005.109:	Curr. IP,min,c p.u.:	0.000 Inom
005.031:	Current IA,a p.u.:	0.132 Inom
006.031:	Current IB,a p.u.:	0.144 Inom
007.031:	Current IC,a p.u.:	0.140 Inom
005.032:	Current IA,b p.u.:	0.152 Inom
006.032:	Current IB,b p.u.:	0.162 Inom
007.032:	Current IC,b p.u.:	0.160 Inom
005.033:	Current IA,c p.u.:	0.002 Inom
006.033:	Current IB,c p.u.:	0.000 Inom
007.033:	Current IC,c p.u.:	0.002 Inom
005.126:	Current Ineg a p.u.:	0.004 Inom
005.128:	Current Ipos a p.u.:	0.138 Inom
005.130:	Current Ineg b p.u.:	0.004 Inom
005.135:	Current Ipos b p.u.:	0.156 Inom
005.137:	Current Ineg c p.u.:	0.000 Inom
005.139:	Current Ipos c p.u.:	0.000 Inom
005.141:	Current IN,a p.u.:	0.004 Inom
005.151:	Current IY,a p.u.:	0.002 Inom
005.142:	Current IN,b p.u.:	0.004 Inom
005.152:	Current IY,b p.u.:	0.008 Inom
005.143:	Current IN,c p.u.:	0.002 Inom
005.153:	Current IY,c p.u.:	0.002 Inom
005.114:	IP,max,add p.u.:	Not measured
005.110:	IP,min,add p.u.:	Not measured



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005.038: Current IA,add p.u.: Not measured
006.038: Current IB,add p.u.: Not measured
007.038: Current IC,add p.u.: Not measured
005.149: Curr. Ineg,add p.u.: Not measured
005.150: Curr. Ipos,add p.u.: Not measured
005.155: Current IN,add p.u.: Not measured
005.019: Voltage V p.u.: 1.008 Vnom
005.089: Angle phi AB, end a: 118 °
006.089: Angle phi BC, end a: 121 °
007.089: Angle phi CA, end a: 120 °
005.092: Angle phi AB, end b: 120 °
006.092: Angle phi BC, end b: 122 °
007.092: Angle phi CA, end b: 118 °
005.093: Angle phi AB, end c: Not measured
006.093: Angle phi BC, end c: Not measured
007.093: Angle phi CA, end c: Not measured
005.090: Angle phi A, end a-b: 179 °
006.090: Angle phi B, end a-b: -180 °
007.090: Angle phi C, end a-b: -179 °
005.091: Angle phi A, end a-c: Not measured
006.091: Angle phi B, end a-c: Not measured
007.091: Angle phi C, end a-c: Not measured
005.077: Angle phi NY, end a: Not measured
005.078: Angle phi NY, end b: Not measured
005.079: Angle phi NY, end c: Not measured

DIFF

005.080: Diff. current 1: 0.001 Iref
005.081: Restrain. current 1: 0.294 Iref
006.080: Diff. current 2: 0.001 Iref
006.081: Restrain. current 2: 0.313 Iref
007.080: Diff. current 3: 0.009 Iref
007.081: Restrain. current 3: 0.317 Iref

V/f

004.220: Excitation V/f p.u.: 1.01
004.222: Status replica in %: 0 %
004.223: Status replica p.u.: 0.00

Phys. state signals**GOOSE**

106.010: Output 1 state: 0
106.012: Output 2 state: 0
106.014: Output 3 state: 0
106.016: Output 4 state: 0
106.018: Output 5 state: 0
106.020: Output 6 state: 0
106.022: Output 7 state: 0
106.024: Output 8 state: 0
106.026: Output 9 state: 0
106.028: Output 10 state: 0
106.030: Output 11 state: 0
106.032: Output 12 state: 0
106.034: Output 13 state: 0
106.036: Output 14 state: 0
106.038: Output 15 state: 0
106.040: Output 16 state: 0
106.042: Output 17 state: 0
106.044: Output 18 state: 0
106.046: Output 19 state: 0
106.048: Output 20 state: 0
106.050: Output 21 state: 0
106.052: Output 22 state: 0
106.054: Output 23 state: 0
106.056: Output 24 state: 0
106.058: Output 25 state: 0
106.060: Output 26 state: 0
106.062: Output 27 state: 0
106.064: Output 28 state: 0



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106.066: Output 29 state: 0
106.068: Output 30 state: 0
106.070: Output 31 state: 0
106.072: Output 32 state: 0
106.200: Input 1 state: 0
106.201: Input 2 state: 0
106.202: Input 3 state: 0
106.203: Input 4 state: 0
106.204: Input 5 state: 0
106.205: Input 6 state: 0
106.206: Input 7 state: 0
106.207: Input 8 state: 0
106.208: Input 9 state: 0
106.209: Input 10 state: 0
106.210: Input 11 state: 0
106.211: Input 12 state: 0
106.212: Input 13 state: 0
106.213: Input 14 state: 0
106.214: Input 15 state: 0
106.215: Input 16 state: 0
106.216: Input 17 state: 0
106.217: Input 18 state: 0
106.218: Input 19 state: 0
106.219: Input 20 state: 0
106.220: Input 21 state: 0
106.221: Input 22 state: 0
106.222: Input 23 state: 0
106.223: Input 24 state: 0
106.224: Input 25 state: 0
106.225: Input 26 state: 0
106.226: Input 27 state: 0
106.227: Input 28 state: 0
106.228: Input 29 state: 0
106.229: Input 30 state: 0
106.230: Input 31 state: 0
106.231: Input 32 state: 0

GSSE

104.100: Output 1 state: 0
104.103: Output 2 state: 0
104.106: Output 3 state: 0
104.109: Output 4 state: 0
104.112: Output 5 state: 0
104.115: Output 6 state: 0
104.118: Output 7 state: 0
104.121: Output 8 state: 0
104.124: Output 9 state: 0
104.127: Output 10 state: 0
104.130: Output 11 state: 0
104.133: Output 12 state: 0
104.136: Output 13 state: 0
104.139: Output 14 state: 0
104.142: Output 15 state: 0
104.145: Output 16 state: 0
104.148: Output 17 state: 0
104.151: Output 18 state: 0
104.154: Output 19 state: 0
104.157: Output 20 state: 0
104.160: Output 21 state: 0
104.163: Output 22 state: 0
104.166: Output 23 state: 0
104.169: Output 24 state: 0
104.172: Output 25 state: 0
104.175: Output 26 state: 0
104.178: Output 27 state: 0
104.181: Output 28 state: 0
104.184: Output 29 state: 0



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104.187:	Output 30	state: 0
104.190:	Output 31	state: 0
104.193:	Output 32	state: 0
105.000:	Input 1	state: 0
105.005:	Input 2	state: 0
105.010:	Input 3	state: 0
105.015:	Input 4	state: 0
105.020:	Input 5	state: 0
105.025:	Input 6	state: 0
105.030:	Input 7	state: 0
105.035:	Input 8	state: 0
105.040:	Input 9	state: 0
105.045:	Input 10	state: 0
105.050:	Input 11	state: 0
105.055:	Input 12	state: 0
105.060:	Input 13	state: 0
105.065:	Input 14	state: 0
105.070:	Input 15	state: 0
105.075:	Input 16	state: 0
105.080:	Input 17	state: 0
105.085:	Input 18	state: 0
105.090:	Input 19	state: 0
105.095:	Input 20	state: 0
105.100:	Input 21	state: 0
105.105:	Input 22	state: 0
105.110:	Input 23	state: 0
105.115:	Input 24	state: 0
105.120:	Input 25	state: 0
105.125:	Input 26	state: 0
105.130:	Input 27	state: 0
105.135:	Input 28	state: 0
105.140:	Input 29	state: 0
105.145:	Input 30	state: 0
105.150:	Input 31	state: 0
105.155:	Input 32	state: 0
F_KEY		
080.122:	State F1:	"Off"
080.123:	State F2:	"Off"
080.124:	State F3:	"Off"
080.125:	State F4:	"Off"
080.126:	State F5:	"Off"
080.127:	State F6:	"Off"
INP		
152.162:	State U 1001:	"Low"
152.165:	State U 1002:	"Low"
152.168:	State U 1003:	"Low"
152.171:	State U 1004:	"Low"
152.174:	State U 1005:	"Low"
152.177:	State U 1006:	"Low"
153.086:	State U 2001:	"High"
153.089:	State U 2002:	"Low"
153.092:	State U 2003:	"Low"
153.095:	State U 2004:	"Low"
OUTP		
150.216:	State K 1001:	Inactive
150.219:	State K 1002:	Inactive
150.222:	State K 1003:	Inactive
150.225:	State K 1004:	Inactive
150.228:	State K 1005:	Inactive
150.231:	State K 1006:	Inactive
150.234:	State K 1007:	Inactive
150.237:	State K 1008:	Inactive
151.200:	State K 2001:	Inactive
151.203:	State K 2002:	Inactive
151.206:	State K 2003:	Inactive
151.209:	State K 2004:	Inactive



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151.212: State K 2005: Inactive
151.215: State K 2006: Inactive
151.218: State K 2007: Inactive
151.221: State K 2008: Inactive

LED

085.180: State H 1 green: Active
085.000: State H 2 yell.: Inactive
085.003: State H 3 yell.: Inactive
085.006: State H 4 red: Inactive
085.009: State H 5 red: Inactive
085.012: State H 6 red: Inactive
085.015: State H 7 red: Inactive
085.018: State H 8 red: Inactive
085.021: State H 9 red: Inactive
085.024: State H10 red: Inactive
085.027: State H11 red: Inactive
085.030: State H12 red: Inactive
085.033: State H13 red: Inactive
085.036: State H14 red: Inactive
085.039: State H15 red: Inactive
085.042: State H16 red: Inactive
085.181: State H17 red.: Inactive
085.130: State H18 red: Inactive
085.133: State H19 red: Inactive
085.136: State H20 red: Inactive
085.139: State H21 red: Inactive
085.142: State H22 red: Inactive
085.145: State H23 red: Inactive
085.056: State H 4 green: Inactive
085.059: State H 5 green: Inactive
085.062: State H 6 green: Inactive
085.065: State H 7 green: Inactive
085.068: State H 8 green: Inactive
085.071: State H 9 green: Inactive
085.074: State H10 green: Inactive
085.077: State H11 green: Inactive
085.080: State H12 green: Inactive
085.083: State H13 green: Inactive
085.086: State H14 green: Inactive
085.089: State H15 green: Inactive
085.092: State H16 green: Inactive
085.160: State H18 green: Inactive
085.163: State H19 green: Inactive
085.166: State H20 green: Inactive
085.169: State H21 green: Inactive
085.172: State H22 green: Inactive
085.176: State H23 green: Inactive

Log. state signals**LOC**

080.111: Edit mode: No
030.230: Trig. menu jmp 1 EXT: No
030.231: Trig. menu jmp 2 EXT: No
037.101: Illumination on EXT: No

IEC

105.180: Comm. link faulty: No
221.082: Control reservation: No

GOOSE

109.000: Ext.Dev01 position: Intermediate pos.
109.005: Ext.Dev02 position: Interm. pos.
109.010: Ext.Dev03 position: Interm. pos.
109.015: Ext.Dev04 position: Interm. pos.
109.020: Ext.Dev05 position: Interm. pos.
109.025: Ext.Dev06 position: Interm. pos.
109.030: Ext.Dev07 position: Interm. pos.
109.035: Ext.Dev08 position: Interm. pos.
109.040: Ext.Dev09 position: Interm. pos.



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109.045: Ext.Dev10 position:	Interm. pos.
109.050: Ext.Dev11 position:	Interm. pos.
109.055: Ext.Dev12 position:	Interm. pos.
109.060: Ext.Dev13 position:	Interm. pos.
109.065: Ext.Dev14 position:	Interm. pos.
109.070: Ext.Dev15 position:	Interm. pos.
109.075: Ext.Dev16 position:	Interm. pos.
109.100: Ext.Dev17 position:	Interm. pos.
109.105: Ext.Dev18 position:	Interm. pos.
109.110: Ext.Dev19 position:	Interm. pos.
109.115: Ext.Dev20 position:	Interm. pos.
109.120: Ext.Dev21 position:	Interm. pos.
109.125: Ext.Dev22 position:	Interm. pos.
109.130: Ext.Dev23 position:	Interm. pos.
109.135: Ext.Dev24 position:	Interm. pos.
109.140: Ext.Dev25 position:	Interm. pos.
109.145: Ext.Dev26 position:	Interm. pos.
109.150: Ext.Dev27 position:	Interm. pos.
109.155: Ext.Dev28 position:	Interm. pos.
109.160: Ext.Dev29 position:	Interm. pos.
109.165: Ext.Dev30 position:	Interm. pos.
109.170: Ext.Dev31 position:	Interm. pos.
109.175: Ext.Dev32 position:	Interm. pos.
109.001: Ext.Dev01 open:	No
109.006: Ext.Dev02 open:	No
109.011: Ext.Dev03 open:	No
109.016: Ext.Dev04 open:	No
109.021: Ext.Dev05 open:	No
109.026: Ext.Dev06 open:	No
109.031: Ext.Dev07 open:	No
109.036: Ext.Dev08 open:	No
109.041: Ext.Dev09 open:	No
109.046: Ext.Dev10 open:	No
109.051: Ext.Dev11 open:	No
109.056: Ext.Dev12 open:	No
109.061: Ext.Dev13 open:	No
109.066: Ext.Dev14 open:	No
109.071: Ext.Dev15 open:	No
109.076: Ext.Dev16 open:	No
109.101: Ext.Dev17 open:	No
109.106: Ext.Dev18 open:	No
109.111: Ext.Dev19 open:	No
109.116: Ext.Dev20 open:	No
109.121: Ext.Dev21 open:	No
109.126: Ext.Dev22 open:	No
109.131: Ext.Dev23 open:	No
109.136: Ext.Dev24 open:	No
109.141: Ext.Dev25 open:	No
109.146: Ext.Dev26 open:	No
109.151: Ext.Dev27 open:	No
109.156: Ext.Dev28 open:	No
109.161: Ext.Dev29 open:	No
109.166: Ext.Dev30 open:	No
109.171: Ext.Dev31 open:	No
109.176: Ext.Dev32 open:	No
109.002: Ext.Dev01 closed:	No
109.007: Ext.Dev02 closed:	No
109.012: Ext.Dev03 closed:	No
109.017: Ext.Dev04 closed:	No
109.022: Ext.Dev05 closed:	No
109.027: Ext.Dev06 closed:	No
109.032: Ext.Dev07 closed:	No
109.037: Ext.Dev08 closed:	No
109.042: Ext.Dev09 closed:	No
109.047: Ext.Dev10 closed:	No
109.052: Ext.Dev11 closed:	No



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109.057:	Ext.Dev12 closed:	No
109.062:	Ext.Dev13 closed:	No
109.067:	Ext.Dev14 closed:	No
109.072:	Ext.Dev15 closed:	No
109.077:	Ext.Dev16 closed:	No
109.102:	Ext.Dev17 closed:	No
109.107:	Ext.Dev18 closed:	No
109.112:	Ext.Dev19 closed:	No
109.117:	Ext.Dev20 closed:	No
109.122:	Ext.Dev21 closed:	No
109.127:	Ext.Dev22 closed:	No
109.132:	Ext.Dev23 closed:	No
109.137:	Ext.Dev24 closed:	No
109.142:	Ext.Dev25 closed:	No
109.147:	Ext.Dev26 closed:	No
109.152:	Ext.Dev27 closed:	No
109.157:	Ext.Dev28 closed:	No
109.162:	Ext.Dev29 closed:	No
109.167:	Ext.Dev30 closed:	No
109.172:	Ext.Dev31 closed:	No
109.177:	Ext.Dev32 closed:	No
109.003:	Ext.Dev01 interm.pos:	Yes
109.008:	Ext.Dev02 interm.pos:	Yes
109.013:	Ext.Dev03 interm.pos:	Yes
109.018:	Ext.Dev04 interm.pos:	Yes
109.023:	Ext.Dev05 interm.pos:	Yes
109.028:	Ext.Dev06 interm.pos:	Yes
109.033:	Ext.Dev07 interm.pos:	Yes
109.038:	Ext.Dev08 interm.pos:	Yes
109.043:	Ext.Dev09 interm.pos:	Yes
109.048:	Ext.Dev10 interm.pos:	Yes
109.053:	Ext.Dev11 interm.pos:	Yes
109.058:	Ext.Dev12 interm.pos:	Yes
109.063:	Ext.Dev13 interm.pos:	Yes
109.068:	Ext.Dev14 interm.pos:	Yes
109.073:	Ext.Dev15 interm.pos:	Yes
109.078:	Ext.Dev16 interm.pos:	Yes
109.103:	Ext.Dev17 interm.pos:	Yes
109.108:	Ext.Dev18 interm.pos:	Yes
109.113:	Ext.Dev19 interm.pos:	Yes
109.118:	Ext.Dev20 interm.pos:	Yes
109.123:	Ext.Dev21 interm.pos:	Yes
109.128:	Ext.Dev22 interm.pos:	Yes
109.133:	Ext.Dev23 interm.pos:	Yes
109.138:	Ext.Dev24 interm.pos:	Yes
109.143:	Ext.Dev25 interm.pos:	Yes
109.148:	Ext.Dev26 interm.pos:	Yes
109.153:	Ext.Dev27 interm.pos:	Yes
109.158:	Ext.Dev28 interm.pos:	Yes
109.163:	Ext.Dev29 interm.pos:	Yes
109.168:	Ext.Dev30 interm.pos:	Yes
109.173:	Ext.Dev31 interm.pos:	Yes
109.178:	Ext.Dev32 interm.pos:	Yes
107.180:	IED01 link faulty:	Yes
107.181:	IED02 link faulty:	Yes
107.182:	IED03 link faulty:	Yes
107.183:	IED04 link faulty:	Yes
107.184:	IED05 link faulty:	Yes
107.185:	IED06 link faulty:	Yes
107.186:	IED07 link faulty:	Yes
107.187:	IED08 link faulty:	Yes
107.188:	IED09 link faulty:	Yes
107.189:	IED10 link faulty:	Yes
107.190:	IED11 link faulty:	Yes
107.191:	IED12 link faulty:	Yes
107.192:	IED13 link faulty:	Yes



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107.193:	IED14 link faulty:	Yes
107.194:	IED15 link faulty:	Yes
107.195:	IED16 link faulty:	Yes
107.200:	IED17 link faulty:	Yes
107.201:	IED18 link faulty:	Yes
107.202:	IED19 link faulty:	Yes
107.203:	IED20 link faulty:	Yes
107.204:	IED21 link faulty:	Yes
107.205:	IED22 link faulty:	Yes
107.206:	IED23 link faulty:	Yes
107.207:	IED24 link faulty:	Yes
107.208:	IED25 link faulty:	Yes
107.209:	IED26 link faulty:	Yes
107.210:	IED27 link faulty:	Yes
107.211:	IED28 link faulty:	Yes
107.212:	IED29 link faulty:	Yes
107.213:	IED30 link faulty:	Yes
107.214:	IED31 link faulty:	Yes
107.215:	IED32 link faulty:	Yes
107.216:	ExtDev01 link faulty:	Yes
107.217:	ExtDev02 link faulty:	Yes
107.218:	ExtDev03 link faulty:	Yes
107.219:	ExtDev04 link faulty:	Yes
107.220:	ExtDev05 link faulty:	Yes
107.221:	ExtDev06 link faulty:	Yes
107.222:	ExtDev07 link faulty:	Yes
107.223:	ExtDev08 link faulty:	Yes
107.224:	ExtDev09 link faulty:	Yes
107.225:	ExtDev10 link faulty:	Yes
107.226:	ExtDev11 link faulty:	Yes
107.227:	ExtDev12 link faulty:	Yes
107.228:	ExtDev13 link faulty:	Yes
107.229:	ExtDev14 link faulty:	Yes
107.230:	ExtDev15 link faulty:	Yes
107.231:	ExtDev16 link faulty:	Yes
107.232:	ExtDev17 link faulty:	Yes
107.233:	ExtDev18 link faulty:	Yes
107.234:	ExtDev19 link faulty:	Yes
107.235:	ExtDev20 link faulty:	Yes
107.236:	ExtDev21 link faulty:	Yes
107.237:	ExtDev22 link faulty:	Yes
107.238:	ExtDev23 link faulty:	Yes
107.239:	ExtDev24 link faulty:	Yes
107.240:	ExtDev25 link faulty:	Yes
107.241:	ExtDev26 link faulty:	Yes
107.242:	ExtDev27 link faulty:	Yes
107.243:	ExtDev28 link faulty:	Yes
107.244:	ExtDev29 link faulty:	Yes
107.245:	ExtDev30 link faulty:	Yes
107.246:	ExtDev31 link faulty:	Yes
107.247:	ExtDev32 link faulty:	Yes
107.250:	IED link faulty:	Yes
GSSE		
105.181:	IED link faulty:	No
OUTP		
040.014:	Block outp.rel. EXT:	No
040.015:	Reset latch. EXT:	No
021.015:	Outp. relays blocked:	No
040.088:	Latching reset:	No
MAIN		
060.001:	Healthy:	Yes
003.027:	Enable protect. EXT:	No
003.026:	Disable protect. EXT:	No
003.096:	Time switching EXT:	Standard time
009.109:	Time synchronized:	Yes
040.060:	Blocking 1 EXT:	No



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040.061: Blocking 2 EXT:	No
040.116: Blocking 3 EXT:	No
040.117: Blocking 4 EXT:	No
040.138: Reset latch.trip EXT:	No
036.045: Trip cmd. block. EXT:	No
004.061: M.c.b. trip V EXT:	No
036.033: Switch dyn.param.EXT:	No
037.018: Man. trip cmd. EXT:	No
031.028: CB1 open 3p EXT:	No
031.046: CB2 open 3p EXT:	No
031.047: CB3 open 3p EXT:	No
036.051: CB1 closed 3p EXT:	No
036.230: CB2 closed 3p EXT:	No
036.231: CB3 closed 3p EXT:	No
037.070: Test mode EXT:	No
065.001: Reset indicat. EXT:	No
005.209: Group reset 1 EXT:	No
005.252: Group reset 2 EXT:	No
005.255: General reset EXT:	No
005.210: Reset c. cl/tr.c EXT:	No
005.211: Reset IP,max,st. EXT:	No
060.060: Min-pulse clock EXT:	No
041.019: Disconnect End a EXT:	No
041.107: Disconnect End b EXT:	No
041.128: Disconnect End c EXT:	No
041.148: En. disc. end x EXT:	No
003.028: Prot. ext. enabled:	Yes
038.046: Prot. ext. disabled:	No
004.060: Protect. not ready:	No
037.071: Test mode:	No
004.065: Blocked/faulty:	No
036.155: Meas. circ.I faulty:	No
021.013: Trip cmd. blocked:	No
040.139: Latch. trip c. reset:	No
034.017: Manual trip signal:	No
036.251: Gen. trip signal:	No
036.005: Gen. trip signal 1:	No
036.023: Gen. trip signal 2:	No
036.108: Gen. trip signal 3:	No
036.109: Gen. trip signal 4:	No
036.071: Gen. trip command 1:	No
036.022: Gen. trip command 2:	No
036.113: Gen. trip command 3:	No
036.114: Gen. trip command 4:	No
036.000: General starting:	No
036.174: Trip sig.REF1 & REF2:	No
036.175: Trip sig.REF2 & REF3:	No
036.176: Trip sig.REF1 & REF3:	No
040.090: Dynam. param. active:	No
036.220: Phase reversal activ:	No
031.040: CB1 open 3p:	No
031.086: CB2 open 3p:	No
031.087: CB3 open 3p:	No
031.042: CB1 closed 3p:	No
031.089: CB2 closed 3p:	No
031.090: CB3 closed 3p:	No
031.041: CB1 pos.sig. implaus:	No
031.049: CB2 pos.sig. implaus:	No
031.051: CB3 pos.sig. implaus:	No
036.017: CB failure:	No
041.149: End a disconnected:	No
041.158: End b disconnected:	No
041.159: End c disconnected:	No
060.000: Without function:	No
061.000: Without function:	No

 PSS



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036.101: Control via user EXT:	No
065.002: Activate PS 1 EXT:	No
065.003: Activate PS 2 EXT:	No
065.004: Activate PS 3 EXT:	No
065.005: Activate PS 4 EXT:	No
036.102: Control via user:	No
003.061: Ext.sel.param.subset:	No param. subset sel
036.094: PS 1 activated ext.:	No
036.095: PS 2 activated ext.:	No
036.096: PS 3 activated ext.:	No
036.097: PS 4 activated ext.:	No
003.062: Actual param. subset:	Parameter subset 1
036.090: PS 1 active:	Yes
036.091: PS 2 active:	No
036.092: PS 3 active:	No
036.093: PS 4 active:	No
SFMON	
036.070: Warning (LED):	No
036.100: Warning (relay):	No
041.202: Warm restart exec.:	Yes
041.201: Cold restart exec.:	No
093.024: Cold restart:	No
093.025: Cold rest./SW update:	No
090.019: Blocking/ HW failure:	No
041.200: Relay Kxx faulty:	No
093.040: Hardware clock fail.:	No
090.010: Battery failure:	No
096.121: Invalid SW d.loaded:	No
093.081: +15V supply faulty:	No
093.082: +24V supply faulty:	No
093.080: -15V supply faulty:	No
096.100: Wrong module slot 1:	No
096.101: Wrong module slot 2:	No
096.102: Wrong module slot 3:	No
096.103: Wrong module slot 4:	No
096.104: Wrong module slot 5:	No
096.105: Wrong module slot 6:	No
096.106: Wrong module slot 7:	No
096.107: Wrong module slot 8:	No
096.108: Wrong module slot 9:	No
096.109: Wrong module slot 10:	No
096.110: Wrong module slot 11:	No
096.111: Wrong module slot 12:	No
096.112: Wrong module slot 13:	No
096.113: Wrong module slot 14:	No
096.114: Wrong module slot 15:	No
096.115: Wrong module slot 16:	No
096.116: Wrong module slot 17:	No
096.117: Wrong module slot 18:	No
096.118: Wrong module slot 19:	No
096.119: Wrong module slot 20:	No
096.120: Wrong module slot 21:	No
097.000: Defect.module slot 1:	No
097.002: Defect.module slot 3:	No
097.004: Defect.module slot 5:	No
097.006: Defect.module slot 7:	No
097.009: Defect.module slot10:	No
097.019: Defect.module slot20:	No
097.102: Error K 1001:	No
097.103: Error K 1002:	No
097.104: Error K 1003:	No
097.105: Error K 1004:	No
097.106: Error K 1005:	No
097.107: Error K 1006:	No
097.108: Error K 1007:	No
097.109: Error K 1008:	No



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097.182: Error K 2001:	No
097.183: Error K 2002:	No
097.184: Error K 2003:	No
097.185: Error K 2004:	No
097.186: Error K 2005:	No
097.187: Error K 2006:	No
097.188: Error K 2007:	No
097.189: Error K 2008:	No
093.010: Undef. operat. code:	No
093.011: Invalid arithm. op.:	No
093.012: Undefined interrupt:	No
093.013: Exception oper.syst.:	No
090.021: Protection failure:	No
090.003: Checksum error param:	No
093.041: Clock sync. error:	No
093.026: Interm.volt.fail.RAM:	No
090.012: Overflow MT_RC:	No
093.015: Semaph. MT_RC block.:	No
093.075: Inval. SW vers.comm.:	No
098.000: M.c.b. trip V:	No
091.018: Meas. circ. I faulty:	No
091.026: Meas. c. I faulty, a:	No
091.027: Meas. c. I faulty, b:	No
091.028: Meas. c. I faulty, c:	No
091.029: Meas. c. I faulty, d:	No
091.011: Invalid charact. V/f:	No
093.145: Invalid SW vers DHMI:	No
098.028: Setting error f<>:	No
091.007: Iref, a inval. range:	No
091.008: Iref, b inval. range:	No
091.009: Iref, c inval. range:	No
091.000: Matching fail. end a:	No
091.001: Matching fail. end b:	No
091.002: Matching fail. end c:	No
091.004: Ratio mtch.fact.inv.:	No
091.006: 2nd match.fact. inv.:	No
091.105: Inv.range Iref REF_1:	No
091.101: Match.f. kam,N REF_1:	No
091.102: Match.f. kam,Y REF_1:	No
091.103: Rat.mtch.f.inv.REF_1:	No
091.104: Min.mtch.f.inv.REF_1:	No
091.115: Inv.range Iref REF_2:	No
091.111: Match.f. kam,N REF_2:	No
091.112: Match.f. kam,Y REF_2:	No
091.113: Rat.mtch.f.inv.REF_2:	No
091.114: Min.mtch.f.inv.REF_2:	No
091.125: Inv.range Iref REF_3:	No
091.121: Match.f. kam,N REF_3:	No
091.122: Match.f. kam,Y REF_3:	No
091.123: Rat.mtch.f.inv.REF_3:	No
091.124: Min.mtch.f.inv.REF_3:	No
098.036: CTA error THRM1:	No
098.038: Setting error THRM1:	No
098.037: CTA error THRM2:	No
098.039: Setting error THRM2:	No
093.120: Inv.inp.f.clock sync:	No
098.053: Output 30:	No
098.054: Output 30 (t):	No
098.055: Output 31:	No
098.056: Output 31 (t):	No
098.057: Output 32:	No
098.058: Output 32 (t):	No
098.124: CB1 pos.sig. implaus:	No
098.125: CB2 pos.sig. implaus:	No
098.126: CB3 pos.sig. implaus:	No
098.072: CB1 faulty EXT:	No



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098.129: CB2 faulty EXT:	No
098.130: CB3 faulty EXT:	No
091.010: Unsuff. No. of ends:	No
091.012: Disc. end x invalid:	No
OP_RC	
005.213: Reset record. EXT:	No
MT_RC	
005.240: Reset record. EXT:	No
OL_RC	
005.241: Reset record. EXT:	No
035.003: Record. in progress:	No
035.007: Overl. mem. overflow:	No
FT_RC	
005.243: Reset record. EXT:	No
036.089: Trigger EXT:	No
037.076: Trigger:	No
035.018: Id> triggered:	No
035.019: IR> triggered:	No
035.000: Record. in progress:	No
035.004: System disturb. runn:	No
035.001: Fault mem. overflow:	No
035.002: Faulty time tag:	No
DIFF	
041.210: Enabled:	Yes
041.106: Starting:	No
041.124: Meas.system 1 trigg.:	No
041.125: Meas.system 2 trigg.:	No
041.126: Meas.system 3 trigg.:	No
041.221: Id>> triggered:	No
041.222: Id>>> triggered:	No
041.118: Harm.block 1 trigg.:	No
041.119: Harm.block 2 trigg.:	No
041.120: Harm.block 3 trigg.:	No
041.121: Overflux.bl.1 trigg.:	No
041.122: Overflux.bl.2 trigg.:	No
041.123: Overflux.bl.3 trigg.:	No
041.115: Sat.discr. 1 trigg.:	No
041.116: Sat.discr. 2 trigg.:	No
041.117: Sat.discr. 3 trigg.:	No
041.075: Trip signal:	No
041.002: Trip signal 1:	No
041.003: Trip signal 2:	No
041.004: Trip signal 3:	No
IDMT1	
038.114: Block. tIref,P> EXT:	No
038.178: Block.tIref,neg> EXT:	No
038.124: Block. tIref,N> EXT:	No
038.125: Enabled:	Yes
038.115: General starting:	No
038.116: tGS elapsed:	No
038.110: Starting Iref,P>:	No
038.117: Starting Iref,A>:	No
038.118: Starting Iref,B>:	No
038.119: Starting Iref,C>:	No
038.111: tIref,P> elapsed:	No
038.112: Hold time P running:	No
038.113: Memory P clear:	Yes
038.173: Starting Iref,neg>:	No
038.174: tIref,neg> elapsed:	No
038.177: Trip sig. tIref,neg>:	No
038.175: Hold time neg runn.:	No
038.176: Memory 'neg' clear:	Yes
038.120: Starting Iref,N>:	No
038.121: tIref,N> elapsed:	No
038.126: Trip signal tIref,N>:	No
038.122: Hold time N running:	No



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038.123: Memory N clear:	Yes
V/f	
035.196: Block. tV/f> EXT:	No
035.197: Block. replica EXT:	No
035.199: Block. tV/f>> EXT:	No
035.182: Reset replica EXT:	No
041.229: Enabled:	Yes
035.184: Reset replica:	No
041.230: Starting V/f>:	No
041.231: tV/f> elapsed:	No
041.232: Starting V/f(t):	No
041.233: Trip signal tV/f(t):	No
041.234: Starting V/f>>:	No
041.235: tV/f>> elapsed:	No
041.236: Buffer empty:	Yes
LOGIC	
034.000: Input 1 EXT:	Yes
034.001: Input 2 EXT:	No
034.002: Input 3 EXT:	No
034.003: Input 4 EXT:	No
034.004: Input 5 EXT:	No
034.005: Input 6 EXT:	No
034.006: Input 7 EXT:	No
034.007: Input 8 EXT:	No
034.008: Input 9 EXT:	No
034.009: Input 10 EXT:	No
034.010: Input 11 EXT:	No
034.011: Input 12 EXT:	No
034.012: Input 13 EXT:	No
034.013: Input 14 EXT:	No
034.014: Input 15 EXT:	No
034.015: Input 16 EXT:	No
034.086: Input 17 EXT:	No
034.087: Input 18 EXT:	No
034.088: Input 19 EXT:	No
034.089: Input 20 EXT:	No
034.090: Input 21 EXT:	No
034.091: Input 22 EXT:	No
034.092: Input 23 EXT:	No
034.093: Input 24 EXT:	No
034.094: Input 25 EXT:	No
034.095: Input 26 EXT:	No
034.096: Input 27 EXT:	No
034.097: Input 28 EXT:	No
034.098: Input 29 EXT:	No
034.099: Input 30 EXT:	No
034.100: Input 31 EXT:	No
034.101: Input 32 EXT:	No
034.102: Input 33 EXT:	No
034.103: Input 34 EXT:	No
034.104: Input 35 EXT:	No
034.105: Input 36 EXT:	No
034.106: Input 37 EXT:	No
034.107: Input 38 EXT:	No
034.108: Input 39 EXT:	No
034.109: Input 40 EXT:	No
034.051: Set 1 EXT:	No
034.052: Set 2 EXT:	No
034.053: Set 3 EXT:	No
034.054: Set 4 EXT:	No
034.055: Set 5 EXT:	No
034.056: Set 6 EXT:	No
034.057: Set 7 EXT:	No
034.058: Set 8 EXT:	No
034.059: Reset 1 EXT:	No
034.060: Reset 2 EXT:	No



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 630

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034.061: Reset 3 EXT:	No
034.062: Reset 4 EXT:	No
034.063: Reset 5 EXT:	No
034.064: Reset 6 EXT:	No
034.065: Reset 7 EXT:	No
034.066: Reset 8 EXT:	No
034.067: 1 has been set:	No
034.068: 2 has been set:	No
034.069: 3 has been set:	No
034.070: 4 has been set:	No
034.071: 5 has been set:	No
034.072: 6 has been set:	No
034.073: 7 has been set:	No
034.074: 8 has been set:	No
034.075: 1 set externally:	Yes
034.076: 2 set externally:	Yes
034.077: 3 set externally:	Yes
034.078: 4 set externally:	Yes
034.079: 5 set externally:	Yes
034.080: 6 set externally:	Yes
034.081: 7 set externally:	Yes
034.082: 8 set externally:	Yes
034.046: Enabled:	Yes
042.032: Output 1:	No
042.033: Output 1 (t):	No
042.034: Output 2:	No
042.035: Output 2 (t):	No
042.036: Output 3:	No
042.037: Output 3 (t):	No
042.038: Output 4:	No
042.039: Output 4 (t):	No
042.040: Output 5:	No
042.041: Output 5 (t):	No
042.042: Output 6:	No
042.043: Output 6 (t):	No
042.044: Output 7:	No
042.045: Output 7 (t):	No
042.046: Output 8:	No
042.047: Output 8 (t):	No
042.048: Output 9:	No
042.049: Output 9 (t):	No
042.050: Output 10:	No
042.051: Output 10 (t):	No
042.052: Output 11:	No
042.053: Output 11 (t):	No
042.054: Output 12:	No
042.055: Output 12 (t):	No
042.056: Output 13:	No
042.057: Output 13 (t):	No
042.058: Output 14:	No
042.059: Output 14 (t):	No
042.060: Output 15:	No
042.061: Output 15 (t):	No
042.062: Output 16:	No
042.063: Output 16 (t):	No
042.064: Output 17:	No
042.065: Output 17 (t):	No
042.066: Output 18:	No
042.067: Output 18 (t):	No
042.068: Output 19:	No
042.069: Output 19 (t):	No
042.070: Output 20:	No
042.071: Output 20 (t):	No
042.072: Output 21:	No
042.073: Output 21 (t):	No
042.074: Output 22:	No



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 630

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042.075: Output 22 (t): No
042.076: Output 23: No
042.077: Output 23 (t): No
042.078: Output 24: No
042.079: Output 24 (t): No
042.080: Output 25: No
042.081: Output 25 (t): No
042.082: Output 26: No
042.083: Output 26 (t): No
042.084: Output 27: No
042.085: Output 27 (t): No
042.086: Output 28: No
042.087: Output 28 (t): No
042.088: Output 29: No
042.089: Output 29 (t): No
042.090: Output 30: No
042.091: Output 30 (t): No
042.092: Output 31: No
042.093: Output 31 (t): No
042.094: Output 32: No
042.095: Output 32 (t): No

Control and testing**LOC**

003.010: Param. change enabl.: No

IEC

104.245: Sel.spontan.sig.test: Without function
104.246: Test spont.sig.start: don't execute
104.247: Test spont.sig. end: don't execute
104.248: Sel. pos. DEV test: Not assigned
104.249: Test position DEV: don't execute

GOOSE

107.251: IED01-16 linked: 0000 0000 0000 0000
107.252: IED17-32 linked: 0000 0000 0000 0000
107.253: ExtDev01-16 linked: 0000 0000 0000 0000
107.254: ExtDev17-32 linked: 0000 0000 0000 0000
107.248: OrdRun01-16 linked: 0000 0000 0000 0000
107.249: OrdRun17-32 linked: 0000 0000 0000 0000
007.217: Uniqueness 1-16: 0
007.218: Uniqueness 17-32: 0

GSSE

105.171: Reset statistics: don't execute
105.160: Enroll. IEDs flags L: 0
105.161: Enroll. IEDs flags H: 0
105.162: Tx message counter: 33096
105.163: Rx message counter: 0
105.164: No. bin.state chang.: 0
105.165: Tx last sequence: 33095
105.166: Tx last message: 1
105.167: No. reject. messages: 0
105.170: IED view selection: Remote IED
105.172: IED receiv. messages: 0
105.173: IED Rx last sequence: 0
105.174: IED Rx last message: 0
105.175: IED missed messages: 0
105.176: IED missed changes: 0
105.177: IED time-outs: 0

OUTP

021.009: Reset latch. USER: don't execute
003.042: Relay assign. f.test: Without function
003.043: Relay test: don't execute
003.044: Hold-time for test: 1 s

MAIN

003.002: General reset USER: don't execute
021.010: Reset indicat. USER: don't execute
021.005: Rset.latch.trip USER: don't execute
003.007: Reset c. cl/tr.cUSER: don't execute



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 630

Printed on: 27/09/2024 16:50:18

003.033: Reset IP,max,st.USER:	don't execute
005.253: Group reset 1 USER:	don't execute
005.254: Group reset 2 USER:	don't execute
003.040: Man. trip cmd. USER:	don't execute
003.039: Warm restart:	don't execute
000.085: Cold restart:	don't execute
OP_RC	
100.001: Reset record. USER:	don't execute
MT_RC	
003.008: Reset record. USER:	don't execute
OL_RC	
100.003: Reset record. USER:	don't execute
FT_RC	
003.041: Trigger USER:	don't execute
003.006: Reset record. USER:	don't execute
V/f	
035.183: Reset replica USER:	don't execute
LOGIC	
034.038: Trigger 1:	don't execute
034.039: Trigger 2:	don't execute
034.040: Trigger 3:	don't execute
034.041: Trigger 4:	don't execute
034.042: Trigger 5:	don't execute
034.043: Trigger 6:	don't execute
034.044: Trigger 7:	don't execute
034.045: Trigger 8:	don't execute
Operating data rec.	
OP_RC	
003.024: Operat. data record.:	0
MT_RC	
003.001: Mon. signal record.:	0
Events	
Event counters	
MAIN	
004.000: No. general start.:	1212
004.006: No. gen.trip cmds. 1:	847
009.050: No. gen.trip cmds. 2:	847
009.056: No. gen.trip cmds. 3:	0
009.057: No. gen.trip cmds. 4:	0
OP_RC	
100.002: No. oper. data sig.:	100
MT_RC	
004.019: No. monit. signals:	0
OL_RC	
004.101: No. overload:	0
FT_RC	
004.020: No. of faults:	1818
004.010: No. system disturb.:	1818
IDMT1	
009.151: No. general start.:	431
Measured fault data	
OL_DA	
004.102: Overload duration:	Not measured
004.155: Status THRM1 replica:	Not measured
004.159: Load current THRM1:	Not measured
004.156: Object temp. THRM1:	Not measured
004.157: Coolant temp.TH RM1:	Not measured
004.158: Pre-trip t.leftTHRM1:	Not measured
004.191: Offset THRM1 replica:	Not measured
004.185: Status THRM2 replica:	Not measured
004.189: Load current THRM2:	Not measured
004.186: Object temp. THRM2:	Not measured
004.187: Coolant temp.TH RM2:	Not measured
004.188: Pre-trip t.leftTHRM2:	Not measured
004.192: Offset THRM2 replica:	Not measured
FT_DA	



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 630

Printed on: 27/09/2024 16:50:18

008.010: Fault duration: 0.1 s
004.021: Running time: 0.09 s
004.198: Fault determ. with: Max. diff. current
004.199: Run time to meas.: 0.011 s
025.086: Fault curr.IP,a p.u.: 0.10 Inom
025.087: Fault curr.IN,a p.u.: 0.00 Inom
025.088: Fault curr.IY,a p.u.: 0.00 Inom
026.086: Fault curr.IP,b p.u.: 0.00 Inom
026.087: Fault curr.IN,b p.u.: 0.00 Inom
026.088: Fault curr.IY,b p.u.: 0.01 Inom
027.086: Fault curr.IP,c p.u.: 0.00 Inom
027.087: Fault curr.IN,c p.u.: 0.00 Inom
027.088: Fault curr.IY,c p.u.: 0.00 Inom
005.082: Diff. current 1: 0.15 Iref
005.084: Diff.current 1(2*f0): 0.07 Iref
005.085: Diff.current 1(5*f0): 0.00 Iref
005.083: Restrain. current 1: 0.07 Iref
006.082: Diff. current 2: 0.19 Iref
006.084: Diff.current 2(2*f0): 0.05 Iref
006.085: Diff.current 2(5*f0): 0.00 Iref
006.083: Restrain. current 2: 0.09 Iref
007.082: Diff. current 3: 0.25 Iref
007.084: Diff.current 3(2*f0): 0.09 Iref
007.085: Diff.current 3(5*f0): 0.00 Iref
007.083: Restrain. current 3: 0.13 Iref
025.082: Diff. current REF_1: Not measured
025.083: Restrain.curr. REF_1: Not measured
026.082: Diff. current REF_2: Not measured
026.083: Restrain.curr. REF_2: Not measured
027.082: Diff. current REF_3: Not measured
027.083: Restrain.curr. REF_3: Not measured

Event recordings

OL_RC

033.020: Overload recording 1: 0
033.021: Overload recording 2: 0
033.022: Overload recording 3: 0
033.023: Overload recording 4: 0
033.024: Overload recording 5: 0
033.025: Overload recording 6: 0
033.026: Overload recording 7: 0
033.027: Overload recording 8: 0

FT_RC

003.000: Fault recording 1: 0
033.001: Fault recording 2: 0
033.002: Fault recording 3: 0
033.003: Fault recording 4: 0
033.004: Fault recording 5: 0
033.005: Fault recording 6: 0
033.006: Fault recording 7: 0
033.007: Fault recording 8: 0

REF Protection



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 16:35:37

SYSTEM DATA	
00.01: Language:	English
00.02: Password: ****	
00.03: Sys Fn Links:	0
00.04: Description:	ICT-1 P141
00.05: Plant Reference:	MiCOM
00.06: Model Number:	P141316A6M0430J
00.08: Serial Number:	116000T
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	1
00.0C: Plant Status:	0000000000000000
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.10: CB Trip/Close:	No Operation
00.11: Software Ref. 1:	P141____6__430_B
00.20: Opto I/P Status:	10000000
00.21: Relay O/P Status:	00000000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.30: Opto I/P Status:	10000000
00.40: Relay O/P Status:	00000000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	2
00.D1: Password Control:	2
00.D2: Password Level 1:	****
00.D3: Password Level 2:	****
CB CONTROL	
07.01: CB Control by:	Disabled
07.08: Lockout Reset:	No
07.09: Reset Lockout by:	CB Close
07.0A: Man Close RstDly:	5.000 s
07.11: CB Status Input:	None
DATE AND TIME	
08.01: Date/Time:	2024-09-24 11:31:50.571
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Disabled
08.20: LocalTime Enable:	Fixed
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0B: System Config:	Invisible
09.10: Overcurrent:	Enabled
09.11: Neg Sequence O/C:	Disabled
09.12: Broken Conductor:	Disabled
09.13: Earth Fault 1:	Enabled
09.14: Earth Fault 2:	Disabled
09.15: SEF/REF Prot'n:	Enabled
09.16: Residual O/V NVD:	Disabled
09.17: Thermal Overload:	Disabled
09.18: Neg Sequence O/V:	Disabled
09.19: Cold Load Pickup:	Disabled
09.1A: Selective Logic:	Disabled
09.1B: Admit Protection:	Disabled
09.1C: Power Protection:	Disabled



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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09.1D: Volt Protection: Disabled
09.1E: Freq Protection: Disabled
09.20: CB Fail: Disabled
09.21: Supervision: Disabled
09.22: Fault Locator: Disabled
09.25: Input Labels: Visible
09.26: Output Labels: Visible
09.27: Adv. Freq Prot'n: Disabled
09.28: CT & VT Ratios: Visible
09.29: Record Control: Invisible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Visible
09.2C: Comms Settings: Visible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Primary
09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.FF: LCD Contrast: 11

CT AND VT RATIOS

0A.01: Main VT Primary: 400.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.07: Phase CT Primary: 1000 A
0A.08: Phase CT Sec'y: 1.000 A
0A.09: E/F CT Primary: 1000 A
0A.0A: E/F CT Secondary: 1.000 A
0A.0B: SEF CT Primary: 1600 A
0A.0C: SEF CT Secondary: 1.000 A

DISTURB RECORDER

0C.01: Duration: 1.500 s
0C.02: Trigger Position: 33.30 %
0C.03: Trigger Mode: Single
0C.04: Analog Channel 1: VA
0C.05: Analog Channel 2: VB
0C.06: Analog Channel 3: VC
0C.07: Analog Channel 4: IA
0C.08: Analog Channel 5: IB
0C.09: Analog Channel 6: IC
0C.0A: Analog Channel 7: IN
0C.0B: Analog Channel 8: IN Sensitive
0C.0C: Analog Channel 9: Frequency
0C.0D: Digital Input 1: Output R1
0C.0E: Input 1 Trigger: Trigger L/H
0C.0F: Digital Input 2: Output R2
0C.10: Input 2 Trigger: Trigger L/H
0C.11: Digital Input 3: I>1 Trip
0C.12: Input 3 Trigger: Trigger L/H
0C.13: Digital Input 4: I>2 Trip
0C.14: Input 4 Trigger: Trigger L/H
0C.15: Digital Input 5: IN1>1 Trip
0C.16: Input 5 Trigger: Trigger L/H
0C.17: Digital Input 6: IN1>2 Trip
0C.18: Input 6 Trigger: Trigger L/H
0C.19: Digital Input 7: IREF> Trip
0C.1A: Input 7 Trigger: Trigger L/H
0C.1B: Digital Input 8: Input L1
0C.1C: Input 8 Trigger: Trigger L/H
0C.1D: Digital Input 9: Input L2
0C.1E: Input 9 Trigger: Trigger L/H
0C.1F: Digital Input 10: Input L3
0C.20: Input 10 Trigger: Trigger L/H
0C.21: Digital Input 11: Input L4
0C.22: Input 11 Trigger: Trigger L/H
0C.23: Digital Input 12: Input L5
0C.24: Input 12 Trigger: Trigger L/H



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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OC.25: Digital Input 13: Input L6
OC.26: Input 13 Trigger: Trigger L/H
OC.27: Digital Input 14: Input L7
OC.28: Input 14 Trigger: Trigger L/H
OC.29: Digital Input 15: Input L8
OC.2A: Input 15 Trigger: Trigger H/L
OC.2B: Digital Input 16: Unused
OC.2D: Digital Input 17: Unused
OC.2F: Digital Input 18: Unused
OC.31: Digital Input 19: Unused
OC.33: Digital Input 20: Unused
OC.35: Digital Input 21: Unused
OC.37: Digital Input 22: Unused
OC.39: Digital Input 23: Unused
OC.3B: Digital Input 24: Unused
OC.3D: Digital Input 25: Unused
OC.3F: Digital Input 26: Unused
OC.41: Digital Input 27: Unused
OC.43: Digital Input 28: Unused
OC.45: Digital Input 29: Unused
OC.47: Digital Input 30: Unused
OC.49: Digital Input 31: Unused
OC.4B: Digital Input 32: Unused

MEASURE'T SETUP

OD.01: Default Display: Description
OD.02: Local Values: Primary
OD.03: Remote Values: Primary
OD.04: Measurement Ref: VA
OD.05: Measurement Mode: 0
OD.06: Fix Dem Period: 30.00 min
OD.07: Roll Sub Period: 30.00 min
OD.08: Num Sub Periods: 1

COMMISSION TESTS

OF.01: Opto I/P Status: 10000000
OF.02: Relay O/P Status: 00000000
OF.03: Test Port Status: 00000000
OF.04: LED Status: 00000000
OF.05: Monitor Bit 1: 64
OF.06: Monitor Bit 2: 65
OF.07: Monitor Bit 3: 66
OF.08: Monitor Bit 4: 67
OF.09: Monitor Bit 5: 68
OF.0A: Monitor Bit 6: 69
OF.0B: Monitor Bit 7: 70
OF.0C: Monitor Bit 8: 71
OF.0D: Test Mode: Disabled
OF.0E: Test Pattern: 00000000
OF.0F: Contact Test: No Operation
OF.10: Test LEDs: No Operation
OF.20: DDB 31 - 0: 00000000000000000000000000000000
OF.21: DDB 63 - 32: 00000000000000000000000000000000
OF.22: DDB 95 - 64: 00000000000000000000000000000000
OF.23: DDB 127 - 96: 00000000000000000000000000000000
OF.24: DDB 159 - 128: 00000000000000000000000000000000
OF.25: DDB 191 - 160: 00000000000000000000000000000000
OF.26: DDB 223 - 192: 00000000000000000000000000000000
OF.27: DDB 255 - 224: 00000000000000000000000000000000
OF.28: DDB 287 - 256: 00000000000000000000000000000000
OF.29: DDB 319 - 288: 00000000000000000000000000000000
OF.2A: DDB 351 - 320: 00000000000000000000000000000000
OF.2B: DDB 383 - 352: 00000011000000000000000000000000
OF.2C: DDB 415 - 384: 00000000000000000000000000000000
OF.2D: DDB 447 - 416: 00000000000000000000000000000000
OF.2E: DDB 479 - 448: 00000000000000000000000000000000
OF.2F: DDB 511 - 480: 00000000000000000000000000000000
OF.30: DDB 543 - 512: 00000000000000000000000000000000



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 16:35:38

OF.31:	DDB 575 - 544:	00000000000000000000000000000000
OF.32:	DDB 607 - 576:	00000000000000000000000000000000
OF.33:	DDB 639 - 608:	00000000000000000000000000000000
OF.34:	DDB 671 - 640:	00000000000000000000000000000000
OF.35:	DDB 703 - 672:	00000000000000000000000000000000
OF.36:	DDB 735 - 704:	00000000000000000000000000000000
OF.37:	DDB 767 - 736:	00000000000000000000000000000000
OF.38:	DDB 799 - 768:	00000000000000000000000000000000
OF.39:	DDB 831 - 800:	00000000000000000000000000000000
OF.3A:	DDB 863 - 832:	00000000000000000000000000000000
OF.3B:	DDB 895 - 864:	00000000000000000000000000000000
OF.3C:	DDB 927 - 896:	00000000000000000000000000000000
OF.3D:	DDB 959 - 928:	00000000000000000000000000000000
OF.3E:	DDB 991 - 960:	00000000000000000000000000000000
OF.3F:	DDB 1023 - 992:	00000000000000000000000000000000
OF.40:	DDB 1055 - 1024:	00000000000000000000000000000000
OF.41:	DDB 1087 - 1056:	00000000000000000000000000000000
OF.42:	DDB 1119 - 1088:	00000000000000000000000000000000
OF.43:	DDB 1151 - 1120:	00000000000000000000000000000000
OF.44:	DDB 1183 - 1152:	00000000000000000000000000000000
OF.45:	DDB 1215 - 1184:	00000000000000000000000000000000
OF.46:	DDB 1247 - 1216:	00000000000000000000000000000000
OF.47:	DDB 1279 - 1248:	00000000000000000000000000000000
OF.48:	DDB 1311 - 1280:	00000000000000000000000000000000
OF.49:	DDB 1343 - 1312:	00000000000000000000000000000000
OF.4A:	DDB 1375 - 1344:	00000000000000000000000000000000
OF.4B:	DDB 1407 - 1376:	00000000000000000000000000000000
OF.4C:	DDB 1439 - 1408:	00000000000000000000000000000000
OF.4D:	DDB 1471 - 1440:	00000000000000000000000000000000
OF.4E:	DDB 1503 - 1472:	00000000000000000000000000000000
OF.4F:	DDB 1535 - 1504:	00000000000000000000000000000000
CB MONITOR SETUP		
10.01:	Broken I [^] :	2.000
10.02:	I [^] Maintenance:	Alarm Disabled
10.04:	I [^] Lockout:	Alarm Disabled
10.06:	No. CB Ops Maint:	Alarm Disabled
10.08:	No. CB Ops Lock:	Alarm Disabled
10.0A:	CB Time Maint:	Alarm Disabled
10.0C:	CB Time Lockout:	Alarm Disabled
10.0E:	Fault Freq Lock:	Alarm Disabled
OPTO CONFIG		
11.01:	Global Nominal V:	48/54V
11.50:	Opto Filter Cntl:	11111111
11.80:	Characteristic:	Standard 60%-80%
CONTROL INPUTS		
12.01:	Ctrl I/P Status:	00000000000000000000000000000000
12.02:	Control Input 1:	No Operation
12.03:	Control Input 2:	No Operation
12.04:	Control Input 3:	No Operation
12.05:	Control Input 4:	No Operation
12.06:	Control Input 5:	No Operation
12.07:	Control Input 6:	No Operation
12.08:	Control Input 7:	No Operation
12.09:	Control Input 8:	No Operation
12.0A:	Control Input 9:	No Operation
12.0B:	Control Input 10:	No Operation
12.0C:	Control Input 11:	No Operation
12.0D:	Control Input 12:	No Operation
12.0E:	Control Input 13:	No Operation
12.0F:	Control Input 14:	No Operation
12.10:	Control Input 15:	No Operation
12.11:	Control Input 16:	No Operation
12.12:	Control Input 17:	No Operation
12.13:	Control Input 18:	No Operation
12.14:	Control Input 19:	No Operation
12.15:	Control Input 20:	No Operation



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 16:35:38

12.16: Control Input 21: No Operation
12.17: Control Input 22: No Operation
12.18: Control Input 23: No Operation
12.19: Control Input 24: No Operation
12.1A: Control Input 25: No Operation
12.1B: Control Input 26: No Operation
12.1C: Control Input 27: No Operation
12.1D: Control Input 28: No Operation
12.1E: Control Input 29: No Operation
12.1F: Control Input 30: No Operation
12.20: Control Input 31: No Operation
12.21: Control Input 32: No Operation

CTRL I/P CONFIG

13.01: Hotkey Enabled: 11111111111111111111111111111111
13.10: Control Input 1: Latched
13.11: Ctrl Command 1: SET/RESET
13.14: Control Input 2: Latched
13.15: Ctrl Command 2: SET/RESET
13.18: Control Input 3: Latched
13.19: Ctrl Command 3: SET/RESET
13.1C: Control Input 4: Latched
13.1D: Ctrl Command 4: SET/RESET
13.20: Control Input 5: Latched
13.21: Ctrl Command 5: SET/RESET
13.24: Control Input 6: Latched
13.25: Ctrl Command 6: SET/RESET
13.28: Control Input 7: Latched
13.29: Ctrl Command 7: SET/RESET
13.2C: Control Input 8: Latched
13.2D: Ctrl Command 8: SET/RESET
13.30: Control Input 9: Latched
13.31: Ctrl Command 9: SET/RESET
13.34: Control Input 10: Latched
13.35: Ctrl Command 10: SET/RESET
13.38: Control Input 11: Latched
13.39: Ctrl Command 11: SET/RESET
13.3C: Control Input 12: Latched
13.3D: Ctrl Command 12: SET/RESET
13.40: Control Input 13: Latched
13.41: Ctrl Command 13: SET/RESET
13.44: Control Input 14: Latched
13.45: Ctrl Command 14: SET/RESET
13.48: Control Input 15: Latched
13.49: Ctrl Command 15: SET/RESET
13.4C: Control Input 16: Latched
13.4D: Ctrl Command 16: SET/RESET
13.50: Control Input 17: Latched
13.51: Ctrl Command 17: SET/RESET
13.54: Control Input 18: Latched
13.55: Ctrl Command 18: SET/RESET
13.58: Control Input 19: Latched
13.59: Ctrl Command 19: SET/RESET
13.5C: Control Input 20: Latched
13.5D: Ctrl Command 20: SET/RESET
13.60: Control Input 21: Latched
13.61: Ctrl Command 21: SET/RESET
13.64: Control Input 22: Latched
13.65: Ctrl Command 22: SET/RESET
13.68: Control Input 23: Latched
13.69: Ctrl Command 23: SET/RESET
13.6C: Control Input 24: Latched
13.6D: Ctrl Command 24: SET/RESET
13.70: Control Input 25: Latched
13.71: Ctrl Command 25: SET/RESET
13.74: Control Input 26: Latched
13.75: Ctrl Command 26: SET/RESET



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 16:35:39

.....	13.78: Control Input 27: Latched
.....	13.79: Ctrl Command 27: SET/RESET
.....	13.7C: Control Input 28: Latched
.....	13.7D: Ctrl Command 28: SET/RESET
.....	13.80: Control Input 29: Latched
.....	13.81: Ctrl Command 29: SET/RESET
.....	13.84: Control Input 30: Latched
.....	13.85: Ctrl Command 30: SET/RESET
.....	13.88: Control Input 31: Latched
.....	13.89: Ctrl Command 31: SET/RESET
.....	13.8C: Control Input 32: Latched
.....	13.8D: Ctrl Command 32: SET/RESET
.....	IED CONFIGURATOR
.....	19.05: Switch Conf.Bank: No action
.....	19.0A: Restore MCL: No action
.....	19.10: Active Conf.Name: Not Available
.....	19.11: Active Conf.Rev: Not Available
.....	19.20: Inact.Conf.Name: Not Available
.....	19.21: Inact.Conf.Rev: Not Available
.....	19.30: IP PARAMETERS:
.....	19.31: IP address: Not Available
.....	19.32: Subnet mask: Not Available
.....	19.33: Gateway: Not Available
.....	19.40: SNTP PARAMETERS:
.....	19.41: SNTP Server 1: Not Available
.....	19.42: SNTP Server 2: Not Available
.....	19.50: IEC 61850 SCL:
.....	19.51: IED Name: Not Available
.....	19.60: IEC 61850 GOOSE:
.....	19.70: GoEna: 00000000
.....	19.71: Test Mode: 00000000
.....	19.73: Ignore Test Flag: No
.....	CTRL I/P LABELS
.....	29.01: Control Input 1: Control Input 1
.....	29.02: Control Input 2: Control Input 2
.....	29.03: Control Input 3: Control Input 3
.....	29.04: Control Input 4: Control Input 4
.....	29.05: Control Input 5: Control Input 5
.....	29.06: Control Input 6: Control Input 6
.....	29.07: Control Input 7: Control Input 7
.....	29.08: Control Input 8: Control Input 8
.....	29.09: Control Input 9: Control Input 9
.....	29.0A: Control Input 10: Control Input 10
.....	29.0B: Control Input 11: Control Input 11
.....	29.0C: Control Input 12: Control Input 12
.....	29.0D: Control Input 13: Control Input 13
.....	29.0E: Control Input 14: Control Input 14
.....	29.0F: Control Input 15: Control Input 15
.....	29.10: Control Input 16: Control Input 16
.....	29.11: Control Input 17: Control Input 17
.....	29.12: Control Input 18: Control Input 18
.....	29.13: Control Input 19: Control Input 19
.....	29.14: Control Input 20: Control Input 20
.....	29.15: Control Input 21: Control Input 21
.....	29.16: Control Input 22: Control Input 22
.....	29.17: Control Input 23: Control Input 23
.....	29.18: Control Input 24: Control Input 24
.....	29.19: Control Input 25: Control Input 25
.....	29.1A: Control Input 26: Control Input 26
.....	29.1B: Control Input 27: Control Input 27
.....	29.1C: Control Input 28: Control Input 28
.....	29.1D: Control Input 29: Control Input 29
.....	29.1E: Control Input 30: Control Input 30
.....	29.1F: Control Input 31: Control Input 31
.....	29.20: Control Input 32: Control Input 32
.....	Group 1



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 16:35:39

GROUP 1 OVERCURRENT	
35.23: I>1 Function:	IEC S Inverse
35.24: I>1 Direction:	Directional Fwd
35.27: I>1 Current Set:	570.0 A
35.2A: I>1 TMS: 350.0e-3	
35.2D: I>1 DT Adder:	0 s
35.2F: I>1 tRESET:	0 s
35.32: I>2 Function:	Disabled
35.40: I>3 Status:	Enabled
35.41: I>3 Direction:	Directional Fwd
35.44: I>3 Current Set:	4200 A
35.45: I>3 Time Delay:	50.00 ms
35.47: I>4 Status:	Disabled
35.4E: I> Blocking:	000001111
35.4F: I> Char Angle:	45.00 deg
35.51: V CONTROLLED O/C:	
35.52: VCO Status:	Disabled
GROUP 1 EARTH FAULT 1	
38.01: IN1> Input:	Measured
38.25: IN1>1 Function:	IEC S Inverse
38.26: IN1>1 Direction:	Directional Fwd
38.29: IN1>1 Current:	150.0 A
38.2D: IN1>1 TMS:	350.0e-3
38.31: IN1>1 DT Adder:	0 s
38.33: IN1>1 tRESET:	0 s
38.36: IN1>2 Function:	DT
38.37: IN1>2 Direction:	Directional Fwd
38.3A: IN1>2 Current:	3490 A
38.3D: IN1>2 Time Delay:	50.00 ms
38.44: IN1>2 tRESET:	0 s
38.46: IN1>3 Status:	Disabled
38.4D: IN1>4 Status:	Disabled
38.54: IN1> Blocking:	00001111
38.55: IN1> POL:	
38.56: IN1> Char Angle:	-45.00 deg
38.57: IN1> Pol: Zero Sequence	
38.59: IN1> VNpol Set:	18.18 kV
GROUP 1 SEF/REF PROT'N	
3A.01: SEF/REF Options:	Hi Z REF
3A.60: RESTRICTED E/F:	
3A.65: IREF> Is: 80.00 A	
GROUP 1 CB FAIL & I<	
45.08: UNDER CURRENT:	
45.09: I< Current Set:	100.0 A
45.0A: IN< Current Set:	100.0 A
45.0B: ISEF< Current:	32.00 A
GROUP 1 INPUT LABELS	
4A.01: Opto Input 1:	OLTC SR TR R/Y/B
4A.02: Opto Input 2:	PRV 1
4A.03: Opto Input 3:	PRV 2
4A.04: Opto Input 4:	WTI HV TRIP
4A.05: Opto Input 5:	WTI IV TRIP
4A.06: Opto Input 6:	WTI LV TRIP
4A.07: Opto Input 7:	86B OPTD
4A.08: Opto Input 8:	86B SUPVN
GROUP 1 OUTPUT LABELS	
4B.01: Relay 1:	TRIP86A
4B.02: Relay 2:	TRIP86B
4B.03: Relay 3:	TEST TRIP
4B.04: Relay 4:	Output R4
4B.05: Relay 5:	Output R5
4B.06: Relay 6:	Output R6
4B.07: Relay 7:	Output R7
Group 2	
Group 3	
Group 4	

LV OC Protection



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:51:36

SYSTEM DATA	
00.01: Language:	English
00.03: Sys Fn Links:	0
00.04: Description:	MiCOM P141
00.05: Plant Reference:	MiCOM
00.06: Model Number:	P14131RA6M0B50L
00.08: Serial Number:	093092D
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	1
00.0C: Plant Status:	0000000000000000
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.10: CB Trip/Close:	No Operation
00.11: Software Ref. 1:	P141____6S_B50_B
00.12: Software Ref. 2:	P141____6S_B50_B
00.14: NIC Platform Ref:	P40_NIC_REF_2.0
00.15: IEC61850 Edition:	1
00.16: ETH COMM Mode:	Dual IP
00.20: Opto I/P Status:	00000000
00.21: Relay O/P Status:	00000000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.30: Opto I/P Status:	00000000
00.40: Relay O/P Status:	00000000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	ENGINEER
00.DF: Security Feature:	3
00.F2: Number of users:	2
CB CONTROL	
07.01: CB Control by:	Disabled
07.08: Lockout Reset:	No
07.09: Reset Lockout by:	CB Close
07.0A: Man Close RstDly:	5.000 s
07.11: CB Status Input:	None
DATE AND TIME	
08.01: Date/Time:	2024-09-24 17:35:00.851
08.04: IRIG-B Sync:	Disabled
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Enabled
08.13: SNTP Status:	Server 1 OK
08.20: LocalTime Enable:	Fixed
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
08.40: 1588 Sync:	Disabled
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0B: System Config:	Invisible
09.10: Overcurrent:	Enabled
09.11: Neg Sequence O/C:	Disabled
09.12: Broken Conductor:	Disabled
09.13: Earth Fault 1:	Enabled
09.14: Earth Fault 2:	Disabled
09.15: SEF/REF Prot'n:	Disabled
09.16: Residual O/V NVD:	Disabled
09.17: Thermal Overload:	Disabled



Settings File Report
Substation:
File: 240924.set
Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:51:36

09.18: Neg Sequence O/V: Disabled
09.19: Cold Load Pickup: Disabled
09.1A: Selective Logic: Disabled
09.1B: Admit Protection: Disabled
09.1C: Power Protection: Disabled
09.1D: Volt Protection: Disabled
09.1E: Freq Protection: Disabled
09.20: CB Fail: Enabled
09.21: Supervision: Enabled
09.22: Fault Locator: Disabled
09.25: Input Labels: Visible
09.26: Output Labels: Visible
09.27: Adv. Freq Prot'n: Disabled
09.28: CT & VT Ratios: Visible
09.29: Record Control: Invisible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Visible
09.2C: Comms Settings: Visible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Primary
09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.70: VIR I/P Labels: Invisible
09.80: VIR O/P Labels: Invisible
09.90: Usr Alarm Labels: Invisible
09.FD: NIC Read Only: Disabled
09.FE: SettingValueBeh.: Independent
09.FF: LCD Contrast: 13

CT AND VT RATIOS

0A.01: Main VT Primary: 220.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.07: Phase CT Primary: 1600 A
0A.08: Phase CT Sec'y: 1.000 A
0A.09: E/F CT Primary: 1600 A
0A.0A: E/F CT Secondary: 1.000 A
0A.0B: SEF CT Primary: 1600 A
0A.0C: SEF CT Secondary: 1.000 A

DISTURB RECORDER

0C.01: Duration: 3.000 s
0C.02: Trigger Position: 33.30 %
0C.03: Trigger Mode: Extended
0C.04: Analog Channel 1: VA
0C.05: Analog Channel 2: VB
0C.06: Analog Channel 3: VC
0C.07: Analog Channel 4: IA
0C.08: Analog Channel 5: IB
0C.09: Analog Channel 6: IC
0C.0A: Analog Channel 7: IN
0C.0B: Analog Channel 8: IN Sensitive
0C.0C: Analog Channel 9: Frequency
0C.0D: Digital Input 1: Output R1
0C.0E: Input 1 Trigger: Trigger L/H
0C.0F: Digital Input 2: Output R2
0C.10: Input 2 Trigger: Trigger L/H
0C.11: Digital Input 3: Output R3
0C.12: Input 3 Trigger: Trigger L/H
0C.13: Digital Input 4: Output R4
0C.14: Input 4 Trigger: Trigger L/H
0C.15: Digital Input 5: Output R5
0C.16: Input 5 Trigger: Trigger L/H
0C.17: Digital Input 6: Output R6
0C.18: Input 6 Trigger: Trigger L/H
0C.19: Digital Input 7: Output R7
0C.1A: Input 7 Trigger: Trigger L/H



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:51:37

0C.1B: Digital Input 8:	Input L1
0C.1C: Input 8 Trigger:	Trigger L/H
0C.1D: Digital Input 9:	Input L2
0C.1E: Input 9 Trigger:	Trigger L/H
0C.1F: Digital Input 10:	Input L3
0C.20: Input 10 Trigger:	Trigger L/H
0C.21: Digital Input 11:	Input L4
0C.22: Input 11 Trigger:	Trigger L/H
0C.23: Digital Input 12:	Input L5
0C.24: Input 12 Trigger:	Trigger L/H
0C.25: Digital Input 13:	Input L6
0C.26: Input 13 Trigger:	Trigger L/H
0C.27: Digital Input 14:	Input L7
0C.28: Input 14 Trigger:	Trigger L/H
0C.29: Digital Input 15:	Input L8
0C.2A: Input 15 Trigger:	Trigger L/H
0C.2B: Digital Input 16:	Unused
0C.2D: Digital Input 17:	Unused
0C.2F: Digital Input 18:	Unused
0C.31: Digital Input 19:	Unused
0C.33: Digital Input 20:	Unused
0C.35: Digital Input 21:	Unused
0C.37: Digital Input 22:	Unused
0C.39: Digital Input 23:	Unused
0C.3B: Digital Input 24:	Unused
0C.3D: Digital Input 25:	Unused
0C.3F: Digital Input 26:	Unused
0C.41: Digital Input 27:	Unused
0C.43: Digital Input 28:	Unused
0C.45: Digital Input 29:	Unused
0C.47: Digital Input 30:	Unused
0C.49: Digital Input 31:	Unused
0C.4B: Digital Input 32:	Unused
0C.70: Digital Input 33:	Unused
0C.71: Digital Input 34:	Unused
0C.72: Digital Input 35:	Unused
0C.73: Digital Input 36:	Unused
0C.74: Digital Input 37:	Unused
0C.75: Digital Input 38:	Unused
0C.76: Digital Input 39:	Unused
0C.77: Digital Input 40:	Unused
0C.78: Digital Input 41:	Unused
0C.79: Digital Input 42:	Unused
0C.7A: Digital Input 43:	Unused
0C.7B: Digital Input 44:	Unused
0C.7C: Digital Input 45:	Unused
0C.7D: Digital Input 46:	Unused
0C.7E: Digital Input 47:	Unused
0C.7F: Digital Input 48:	Unused
0C.80: Digital Input 49:	Unused
0C.81: Digital Input 50:	Unused
0C.82: Digital Input 51:	Unused
0C.83: Digital Input 52:	Unused
0C.84: Digital Input 53:	Unused
0C.85: Digital Input 54:	Unused
0C.86: Digital Input 55:	Unused
0C.87: Digital Input 56:	Unused
0C.88: Digital Input 57:	Unused
0C.89: Digital Input 58:	Unused
0C.8A: Digital Input 59:	Unused
0C.8B: Digital Input 60:	Unused
0C.8C: Digital Input 61:	Unused
0C.8D: Digital Input 62:	Unused
0C.8E: Digital Input 63:	Unused
0C.8F: Digital Input 64:	Unused
0C.90: Digital Input 65:	Unused



Settings File Report
Substation:
File: 240924.set
Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:51:37

.....	0C.91: Digital Input 66:	Unused
.....	0C.92: Digital Input 67:	Unused
.....	0C.93: Digital Input 68:	Unused
.....	0C.94: Digital Input 69:	Unused
.....	0C.95: Digital Input 70:	Unused
.....	0C.96: Digital Input 71:	Unused
.....	0C.97: Digital Input 72:	Unused
.....	0C.98: Digital Input 73:	Unused
.....	0C.99: Digital Input 74:	Unused
.....	0C.9A: Digital Input 75:	Unused
.....	0C.9B: Digital Input 76:	Unused
.....	0C.9C: Digital Input 77:	Unused
.....	0C.9D: Digital Input 78:	Unused
.....	0C.9E: Digital Input 79:	Unused
.....	0C.9F: Digital Input 80:	Unused
.....	0C.A0: Digital Input 81:	Unused
.....	0C.A1: Digital Input 82:	Unused
.....	0C.A2: Digital Input 83:	Unused
.....	0C.A3: Digital Input 84:	Unused
.....	0C.A4: Digital Input 85:	Unused
.....	0C.A5: Digital Input 86:	Unused
.....	0C.A6: Digital Input 87:	Unused
.....	0C.A7: Digital Input 88:	Unused
.....	0C.A8: Digital Input 89:	Unused
.....	0C.A9: Digital Input 90:	Unused
.....	0C.AA: Digital Input 91:	Unused
.....	0C.AB: Digital Input 92:	Unused
.....	0C.AC: Digital Input 93:	Unused
.....	0C.AD: Digital Input 94:	Unused
.....	0C.AE: Digital Input 95:	Unused
.....	0C.AF: Digital Input 96:	Unused
.....	0C.B0: Digital Input 97:	Unused
.....	0C.B1: Digital Input 98:	Unused
.....	0C.B2: Digital Input 99:	Unused
.....	0C.B3: Digital Input100:	Unused
.....	0C.B4: Digital Input101:	Unused
.....	0C.B5: Digital Input102:	Unused
.....	0C.B6: Digital Input103:	Unused
.....	0C.B7: Digital Input104:	Unused
.....	0C.B8: Digital Input105:	Unused
.....	0C.B9: Digital Input106:	Unused
.....	0C.BA: Digital Input107:	Unused
.....	0C.BB: Digital Input108:	Unused
.....	0C.BC: Digital Input109:	Unused
.....	0C.BD: Digital Input110:	Unused
.....	0C.BE: Digital Input111:	Unused
.....	0C.BF: Digital Input112:	Unused
.....	0C.C0: Digital Input113:	Unused
.....	0C.C1: Digital Input114:	Unused
.....	0C.C2: Digital Input115:	Unused
.....	0C.C3: Digital Input116:	Unused
.....	0C.C4: Digital Input117:	Unused
.....	0C.C5: Digital Input118:	Unused
.....	0C.C6: Digital Input119:	Unused
.....	0C.C7: Digital Input120:	Unused
.....	0C.C8: Digital Input121:	Unused
.....	0C.C9: Digital Input122:	Unused
.....	0C.CA: Digital Input123:	Unused
.....	0C.CB: Digital Input124:	Unused
.....	0C.CC: Digital Input125:	Unused
.....	0C.CD: Digital Input126:	Unused
.....	0C.CE: Digital Input127:	Unused
.....	0C.CF: Digital Input128:	Unused
.....	MEASURE'T SETUP	
.....	0D.02: Local Values:	Primary
.....	0D.03: Remote Values:	Primary



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:51:37

0D.04: Measurement Ref: VA
0D.05: Measurement Mode: 0
0D.06: Fix Dem Period: 30.00 min
0D.07: Roll Sub Period: 30.00 min
0D.08: Num Sub Periods: 1

COMMISSION TESTS

0F.01: Opto I/P Status: 00000000
0F.02: Relay O/P Status: 00000000
0F.03: Test Port Status: 00000000
0F.04: LED Status: 00000000
0F.05: Monitor Bit 1: 64
0F.06: Monitor Bit 2: 65
0F.07: Monitor Bit 3: 66
0F.08: Monitor Bit 4: 67
0F.09: Monitor Bit 5: 68
0F.0A: Monitor Bit 6: 69
0F.0B: Monitor Bit 7: 70
0F.0C: Monitor Bit 8: 71
0F.0D: Test Mode: Disabled
0F.10: Test LEDs: No Operation
0F.20: DDB 31 - 0: 00000000000000000000000000000000
0F.21: DDB 63 - 32: 00000000000000000000000000000000
0F.22: DDB 95 - 64: 00000000000000000000000000000000
0F.23: DDB 127 - 96: 00000000000000000000000000000000
0F.24: DDB 159 - 128: 00000000000000000000000000000000
0F.25: DDB 191 - 160: 00000000000000000000000000000000
0F.26: DDB 223 - 192: 00000000000000000000000000000000
0F.27: DDB 255 - 224: 00000000000000000000000000000000
0F.28: DDB 287 - 256: 00000000000000000000000000000000
0F.29: DDB 319 - 288: 00000000000000000000000000000000
0F.2A: DDB 351 - 320: 00000000000000000000000000000000
0F.2B: DDB 383 - 352: 00000011000000000000000000000000
0F.2C: DDB 415 - 384: 00000000000000000000000000000000
0F.2D: DDB 447 - 416: 00000000000000000000000000000000
0F.2E: DDB 479 - 448: 00000000000000000000000000000000
0F.2F: DDB 511 - 480: 00000000000000000000000000000000
0F.30: DDB 543 - 512: 00000000000000000000000000000000
0F.31: DDB 575 - 544: 00000010010000000000000000000000
0F.32: DDB 607 - 576: 00000000000000000000000000000000
0F.33: DDB 639 - 608: 00000000000000000000000000000000
0F.34: DDB 671 - 640: 00000000000000000000000000000000
0F.35: DDB 703 - 672: 00000000000000000000000000000000
0F.36: DDB 735 - 704: 00000000000000000000000000000000
0F.37: DDB 767 - 736: 00000000000000000000000000000000
0F.38: DDB 799 - 768: 00000000001100000000000000000000
0F.39: DDB 831 - 800: 00000000000000000000000000000000
0F.3A: DDB 863 - 832: 00000000000000000000000000000000
0F.3B: DDB 895 - 864: 00000000000000000000000000000000
0F.3C: DDB 927 - 896: 00000000000000000000000000000000
0F.3D: DDB 959 - 928: 00000000000000000000000000000000
0F.3E: DDB 991 - 960: 00000000000000000000000000000000
0F.3F: DDB 1023 - 992: 00000000000000000000000000000000
0F.40: DDB 1055 - 1024: 00000000000000000000000000000000
0F.41: DDB 1087 - 1056: 00000000000000000000000000000000
0F.42: DDB 1119 - 1088: 00000000000000000000000000000000
0F.43: DDB 1151 - 1120: 00000000000000000000000000000000
0F.44: DDB 1183 - 1152: 00000000000000000000000000000000
0F.45: DDB 1215 - 1184: 00000000000000000000000000000000
0F.46: DDB 1247 - 1216: 00000000000000000000000000000000
0F.47: DDB 1279 - 1248: 00000000000000000000000000000000
0F.48: DDB 1311 - 1280: 00000000000000000000000000000000
0F.49: DDB 1343 - 1312: 00000000000000000000000000000000
0F.4A: DDB 1375 - 1344: 00000000000000000000000000000000
0F.4B: DDB 1407 - 1376: 00000000000000000000000000000000
0F.4C: DDB 1439 - 1408: 00000000000000000000000000000000
0F.4D: DDB 1471 - 1440: 00000000000000000000000000000000



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:51:38

0F.4E:	DDB 1503 - 1472:	00000000000000000000000000000000
0F.4F:	DDB 1535 - 1504:	00000000000000000000000000000000
0F.50:	DDB 1567 - 1536:	00000000000000000000000000000000
0F.51:	DDB 1599 - 1568:	00000000000000000000000000000000
0F.52:	DDB 1631 - 1600:	00000000000000000000000000000000
0F.53:	DDB 1663 - 1632:	00000000000000000000000000000000
0F.54:	DDB 1695 - 1664:	00000000000000000000000000000000
0F.55:	DDB 1727 - 1696:	00000000000000000000000000000000
0F.56:	DDB 1759 - 1728:	00000000000000000000000000000000
0F.57:	DDB 1791 - 1760:	00000000000000000000000000000000
0F.58:	DDB 1823 - 1792:	00000000000000000000000000000000
0F.59:	DDB 1855 - 1824:	00000000000000000000000000000000
0F.5A:	DDB 1887 - 1856:	00000000000000000000000000000000
0F.5B:	DDB 1919 - 1888:	00000000000000000000000000000000
0F.5C:	DDB 1951 - 1920:	00000000000000000000000000000000
0F.5D:	DDB 1983 - 1952:	00000000000000000000000000000000
0F.5E:	DDB 2015 - 1984:	00000000000000000000000000000000
0F.5F:	DDB 2047 - 2016:	00000000000000000000000000000000
CB MONITOR SETUP		
10.01:	Broken I [^] :	2.000
10.02:	I [^] Maintenance:	Alarm Disabled
10.04:	I [^] Lockout:	Alarm Disabled
10.06:	No. CB Ops Maint:	Alarm Disabled
10.08:	No. CB Ops Lock:	Alarm Disabled
10.0A:	CB Time Maint:	Alarm Disabled
10.0C:	CB Time Lockout:	Alarm Disabled
10.0E:	Fault Freq Lock:	Alarm Disabled
OPTO CONFIG		
11.01:	Global Nominal V:	220/250V
11.50:	Opto Filter Cntl:	11111111
11.80:	Characteristic:	Standard 60%-80%
CONTROL INPUTS		
12.01:	Ctrl I/P Status:	00000000000000000000000000000000
12.02:	Control Input 1:	No Operation
12.03:	Control Input 2:	No Operation
12.04:	Control Input 3:	No Operation
12.05:	Control Input 4:	No Operation
12.06:	Control Input 5:	No Operation
12.07:	Control Input 6:	No Operation
12.08:	Control Input 7:	No Operation
12.09:	Control Input 8:	No Operation
12.0A:	Control Input 9:	No Operation
12.0B:	Control Input 10:	No Operation
12.0C:	Control Input 11:	No Operation
12.0D:	Control Input 12:	No Operation
12.0E:	Control Input 13:	No Operation
12.0F:	Control Input 14:	No Operation
12.10:	Control Input 15:	No Operation
12.11:	Control Input 16:	No Operation
12.12:	Control Input 17:	No Operation
12.13:	Control Input 18:	No Operation
12.14:	Control Input 19:	No Operation
12.15:	Control Input 20:	No Operation
12.16:	Control Input 21:	No Operation
12.17:	Control Input 22:	No Operation
12.18:	Control Input 23:	No Operation
12.19:	Control Input 24:	No Operation
12.1A:	Control Input 25:	No Operation
12.1B:	Control Input 26:	No Operation
12.1C:	Control Input 27:	No Operation
12.1D:	Control Input 28:	No Operation
12.1E:	Control Input 29:	No Operation
12.1F:	Control Input 30:	No Operation
12.20:	Control Input 31:	No Operation
12.21:	Control Input 32:	No Operation
12.22:	Ctl Stg I/P Stat:	0000000000000000



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

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12.23: Ctrl Setg I/P 33: Disabled
12.24: Ctrl Setg I/P 34: Disabled
12.25: Ctrl Setg I/P 35: Disabled
12.26: Ctrl Setg I/P 36: Disabled
12.27: Ctrl Setg I/P 37: Disabled
12.28: Ctrl Setg I/P 38: Disabled
12.29: Ctrl Setg I/P 39: Disabled
12.2A: Ctrl Setg I/P 40: Disabled
12.2B: Ctrl Setg I/P 41: Disabled
12.2C: Ctrl Setg I/P 42: Disabled
12.2D: Ctrl Setg I/P 43: Disabled
12.2E: Ctrl Setg I/P 44: Disabled
12.2F: Ctrl Setg I/P 45: Disabled
12.30: Ctrl Setg I/P 46: Disabled
12.31: Ctrl Setg I/P 47: Disabled
12.32: Ctrl Setg I/P 48: Disabled

CTRL I/P CONFIG

13.01: Hotkey Enabled: 11111111111111111111111111111111
13.10: Control Input 1: Latched
13.11: Ctrl Command 1: SET/RESET
13.14: Control Input 2: Latched
13.15: Ctrl Command 2: SET/RESET
13.18: Control Input 3: Latched
13.19: Ctrl Command 3: SET/RESET
13.1C: Control Input 4: Latched
13.1D: Ctrl Command 4: SET/RESET
13.20: Control Input 5: Latched
13.21: Ctrl Command 5: SET/RESET
13.24: Control Input 6: Latched
13.25: Ctrl Command 6: SET/RESET
13.28: Control Input 7: Latched
13.29: Ctrl Command 7: SET/RESET
13.2C: Control Input 8: Latched
13.2D: Ctrl Command 8: SET/RESET
13.30: Control Input 9: Latched
13.31: Ctrl Command 9: SET/RESET
13.34: Control Input 10: Latched
13.35: Ctrl Command 10: SET/RESET
13.38: Control Input 11: Latched
13.39: Ctrl Command 11: SET/RESET
13.3C: Control Input 12: Latched
13.3D: Ctrl Command 12: SET/RESET
13.40: Control Input 13: Latched
13.41: Ctrl Command 13: SET/RESET
13.44: Control Input 14: Latched
13.45: Ctrl Command 14: SET/RESET
13.48: Control Input 15: Latched
13.49: Ctrl Command 15: SET/RESET
13.4C: Control Input 16: Latched
13.4D: Ctrl Command 16: SET/RESET
13.50: Control Input 17: Latched
13.51: Ctrl Command 17: SET/RESET
13.54: Control Input 18: Latched
13.55: Ctrl Command 18: SET/RESET
13.58: Control Input 19: Latched
13.59: Ctrl Command 19: SET/RESET
13.5C: Control Input 20: Latched
13.5D: Ctrl Command 20: SET/RESET
13.60: Control Input 21: Latched
13.61: Ctrl Command 21: SET/RESET
13.64: Control Input 22: Latched
13.65: Ctrl Command 22: SET/RESET
13.68: Control Input 23: Latched
13.69: Ctrl Command 23: SET/RESET
13.6C: Control Input 24: Latched
13.6D: Ctrl Command 24: SET/RESET



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

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13.70: Control Input 25: Latched
13.71: Ctrl Command 25: SET/RESET
13.74: Control Input 26: Latched
13.75: Ctrl Command 26: SET/RESET
13.78: Control Input 27: Latched
13.79: Ctrl Command 27: SET/RESET
13.7C: Control Input 28: Latched
13.7D: Ctrl Command 28: SET/RESET
13.80: Control Input 29: Latched
13.81: Ctrl Command 29: SET/RESET
13.84: Control Input 30: Latched
13.85: Ctrl Command 30: SET/RESET
13.88: Control Input 31: Latched
13.89: Ctrl Command 31: SET/RESET
13.8C: Control Input 32: Latched
13.8D: Ctrl Command 32: SET/RESET

IED CONFIGURATOR

19.05: Switch Conf.Bank: No action
19.0A: Restore Conf.: No action
19.30: IP PARAMETERS:
19.40: SNTP PARAMETERS:
19.50: IEC 61850 SCL:
19.60: IEC 61850 GOOSE:
19.70: GoEna: 0000000000000000
19.71: Pub.Simul.Goose: 0000000000000000
19.73: Sub.Sim.Signal: No

SECURITY CONFIG

25.01: User Banner: ACCESS ONLY FOR AUTHORISED USERS

CTRL I/P LABELS

29.01: Control Input 1: Control Input 1
29.02: Control Input 2: Control Input 2
29.03: Control Input 3: Control Input 3
29.04: Control Input 4: Control Input 4
29.05: Control Input 5: Control Input 5
29.06: Control Input 6: Control Input 6
29.07: Control Input 7: Control Input 7
29.08: Control Input 8: Control Input 8
29.09: Control Input 9: Control Input 9
29.0A: Control Input 10: Control Input 10
29.0B: Control Input 11: Control Input 11
29.0C: Control Input 12: Control Input 12
29.0D: Control Input 13: Control Input 13
29.0E: Control Input 14: Control Input 14
29.0F: Control Input 15: Control Input 15
29.10: Control Input 16: Control Input 16
29.11: Control Input 17: Control Input 17
29.12: Control Input 18: Control Input 18
29.13: Control Input 19: Control Input 19
29.14: Control Input 20: Control Input 20
29.15: Control Input 21: Control Input 21
29.16: Control Input 22: Control Input 22
29.17: Control Input 23: Control Input 23
29.18: Control Input 24: Control Input 24
29.19: Control Input 25: Control Input 25
29.1A: Control Input 26: Control Input 26
29.1B: Control Input 27: Control Input 27
29.1C: Control Input 28: Control Input 28
29.1D: Control Input 29: Control Input 29
29.1E: Control Input 30: Control Input 30
29.1F: Control Input 31: Control Input 31
29.20: Control Input 32: Control Input 32
29.21: Ctrl Setg I/P 33: Ctrl Setg I/P 33
29.22: Ctrl Setg I/P 34: Ctrl Setg I/P 34
29.23: Ctrl Setg I/P 35: Ctrl Setg I/P 35
29.24: Ctrl Setg I/P 36: Ctrl Setg I/P 36
29.25: Ctrl Setg I/P 37: Ctrl Setg I/P 37



Settings File Report
Substation:
File: 240924.set
Model Number: P14131RA6M0B50L

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29.26: Ctrl Setg I/P 38: Ctrl Setg I/P 38
29.27: Ctrl Setg I/P 39: Ctrl Setg I/P 39
29.28: Ctrl Setg I/P 40: Ctrl Setg I/P 40
29.29: Ctrl Setg I/P 41: Ctrl Setg I/P 41
29.2A: Ctrl Setg I/P 42: Ctrl Setg I/P 42
29.2B: Ctrl Setg I/P 43: Ctrl Setg I/P 43
29.2C: Ctrl Setg I/P 44: Ctrl Setg I/P 44
29.2D: Ctrl Setg I/P 45: Ctrl Setg I/P 45
29.2E: Ctrl Setg I/P 46: Ctrl Setg I/P 46
29.2F: Ctrl Setg I/P 47: Ctrl Setg I/P 47
29.30: Ctrl Setg I/P 48: Ctrl Setg I/P 48

Group 1

GROUP 1 OVERCURRENT

35.23: I>1 Function: IEC S Inverse
35.24: I>1 Direction: Directional Fwd
35.27: I>1 Current Set: 960.0 A
35.2A: I>1 TMS: 340.0e-3
35.2D: I>1 DT Adder: 0 s
35.2F: I>1 tRESET: 0 s
35.32: I>2 Function: Disabled
35.40: I>3 Status: Enabled
35.41: I>3 Direction: Directional Fwd
35.44: I>3 Current Set: 7936 A
35.45: I>3 Time Delay: 20.00 ms
35.47: I>4 Status: Disabled
35.4E: I> Blocking: 0000000111111
35.4F: I> Char Angle: 45.00 deg
35.51: V DEPENDANT O/C:
35.52: V Dep OC Status: Disabled
35.63: I>5 Function: Disabled
35.71: I>6 Status: Disabled
35.8F: I> Blocking 2: 0000
35.90: LOAD BLINDER:
35.91: Blinder Status: Disabled

GROUP 1 EARTH FAULT 1

38.01: IN1> Input: Measured
38.25: IN1>1 Function: IEC S Inverse
38.26: IN1>1 Direction: Directional Fwd
38.29: IN1>1 Current: 256.0 A
38.2D: IN1>1 TMS: 600.0e-3
38.31: IN1>1 DT Adder: 0 s
38.33: IN1>1 tRESET: 0 s
38.36: IN1>2 Function: DT
38.37: IN1>2 Direction: Directional Fwd
38.3A: IN1>2 Current: 5040 A
38.3D: IN1>2 Time Delay: 50.00 ms
38.44: IN1>2 tRESET: 0 s
38.46: IN1>3 Status: Disabled
38.4D: IN1>4 Status: Disabled
38.54: IN1> Blocking: 00001111
38.55: IN1> POL:
38.56: IN1> Char Angle: -45.00 deg
38.57: IN1> Pol: Zero Sequence
38.59: IN1> VNpol Set: 10.00 kV

GROUP 1 CB FAIL & I<

45.01: BREAKER FAIL:
45.02: CB Fail 1 Status: Enabled
45.03: CB Fail 1 Timer: 50.00 ms
45.04: CB Fail 2 Status: Enabled
45.05: CB Fail 2 Timer: 200.0 ms
45.06: Volt Prot Reset: I< Only
45.07: Ext Prot Reset: I< Only
45.08: UNDER CURRENT:
45.09: I< Current Set: 48.00 A
45.0A: IN< Current Set: 48.00 A
45.0B: ISEF< Current: 48.00 A



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

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45.0C: BLOCKED O/C:	
45.0D: Remove I> Start: Disabled	
45.0E: Remove IN> Start: Disabled	
GROUP 1 SUPERVISION	
46.01: VT SUPERVISION:	
46.02: VTS Status:	Blocking
46.03: VTS Reset Mode:	Auto
46.04: VTS Time Delay:	5.000 s
46.05: VTS I> Inhibit:	16.00 kA
46.06: VTS I2> Inhibit:	80.00 A
46.07: CT SUPERVISION:	
46.08: CTS Status:	Disabled
46.0C: VTS PickupThresh:	60.00 kV
GROUP 1 INPUT LABELS	
4A.01: Opto Input 1:	SPARE
4A.02: Opto Input 2:	SPARE
4A.03: Opto Input 3:	SPARE
4A.04: Opto Input 4:	SPARE
4A.05: Opto Input 5:	GRP-A&B RLY OPTD
4A.06: Opto Input 6:	SPARE
4A.07: Opto Input 7:	86A SUPVN
4A.08: Opto Input 8:	86B SUPVN
GROUP 1 OUTPUT LABELS	
4B.01: Relay 1:	TRIP RELAY 86A
4B.02: Relay 2:	TRIP RELAY 86B
4B.03: Relay 3:	LBB TRIP RELAY
4B.04: Relay 4:	LBB OPTD
4B.05: Relay 5:	400KV G-A RLY OP
4B.06: Relay 6:	400KV G-B RLY OP
4B.07: Relay 7:	TEST TRIP
Group 2	
Group 3	
Group 4	

315 MVA ICT-2

Differential Protection Main 1



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 653

Printed on: 27/09/2024 16:54:59

Parameters
Device ID
DVICE
000.000: Device type: 633
002.120: Software version: 653.01
010.167: Software version 6XX: 653
010.168: Software version 7XX: 701
002.122: SW date: 12.01.17 dd.mm.yy
002.103: SW version communic.: 4.04
002.059: DM IEC 61850 version: 243
002.123: Language version: 800.0
002.121: Text vers.data model: 0
002.124: F number: 3.961982.9
001.000: AFS Order No.: 849911F0
001.200: PCS Order No.: E63384911F0XZ02L00
000.003: Order ext. No. 1: 311
000.004: Order ext. No. 2: 418
000.005: Order ext. No. 3: 947
000.006: Order ext. No. 4: 462
000.007: Order ext. No. 5: 653
000.008: Order ext. No. 6: 701
000.009: Order ext. No. 7: 0
000.010: Order ext. No. 8: 0
000.011: Order ext. No. 9: 0
000.012: Order ext. No. 10: 0
000.013: Order ext. No. 11: 0
000.014: Order ext. No. 12: 0
000.015: Order ext. No. 13: 0
000.016: Order ext. No. 14: 0
000.017: Order ext. No. 15: 0
000.018: Order ext. No. 16: 0
000.019: Order ext. No. 17: 0
000.020: Order ext. No. 18: 0
000.021: Order ext. No. 19: 0
000.022: Order ext. No. 20: 0
000.023: Order ext. No. 21: 0
000.024: Order ext. No. 22: 0
000.025: Order ext. No. 23: 0
000.026: Order ext. No. 24: 0
000.027: Order ext. No. 25: 0
000.028: Order ext. No. 26: 0
000.029: Order ext. No. 27: 0
086.050: Module var. slot 1: Module P: 9651571
086.193: Module vers. slot 1: Version M
086.051: Module var. slot 2: Not fitted
086.194: Module vers. slot 2: Not fitted
086.052: Module var. slot 3: Module T: 9650325
086.195: Module vers. slot 3: Version L
086.053: Module var. slot 4: Not fitted
086.196: Module vers. slot 4: Not fitted
086.054: Module var. slot 5: Module T: 9650329
086.197: Module vers. slot 5: Version N
086.055: Module var. slot 6: Not fitted
086.198: Module vers. slot 6: Not fitted
086.056: Module var. slot 7: Module T: 9650329
086.199: Module vers. slot 7: Version N
086.057: Module var. slot 8: Not fitted
086.200: Module vers. slot 8: Not fitted
086.058: Module var. slot 9: Not fitted
086.201: Module vers. slot 9: Not fitted
086.059: Module var. slot 10: Module X: 9651362
086.202: Module vers. slot 10: Version L
086.060: Module var. slot 11: Not fitted
086.203: Module vers. slot 11: Not fitted
086.061: Module var. slot 12: Not fitted
086.204: Module vers. slot 12: Not fitted



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 653

Printed on: 27/09/2024 16:54:59

086.062: Module var. slot 13: Not fitted
086.205: Module vers. slot 13: Not fitted
086.063: Module var. slot 14: Not fitted
086.206: Module vers. slot 14: Not fitted
086.064: Module var. slot 15: Not fitted
086.207: Module vers. slot 15: Not fitted
086.065: Module var. slot 16: Not fitted
086.208: Module vers. slot 16: Not fitted
086.066: Module var. slot 17: Not fitted
086.209: Module vers. slot 17: Not fitted
086.067: Module var. slot 18: Not fitted
086.210: Module vers. slot 18: Not fitted
086.068: Module var. slot 19: Not fitted
086.211: Module vers. slot 19: Not fitted
086.069: Module var. slot 20: Module V: 9651548
086.212: Module vers. slot 20: Version J
086.070: Module var. slot 21: Not fitted
086.213: Module vers. slot 21: Not fitted
086.047: Variant of module A: Module A: 9651471
086.190: Version of module A: Version A
104.061: MAC address module A: 00-80-f4-78-24-8e
086.048: Variant of module L: Module L: 9651473
086.191: Version of module L: Version S
086.049: Variant of module B: Module B: 0336188
086.192: Version of module B: Version E
086.046: Variant module B (a): Module B: 0337870
086.189: Version module B (a): Version A
111.000: IP address: 192.168.1.2
111.001: Subnet mask: 255.255.255.0
111.003: MAC address: 00-02-84-90-50-b7
000.040: Customer ID data 1: 0.00
000.041: Customer ID data 2: 0.00
000.042: Customer ID data 3: 0.00
000.043: Customer ID data 4: 0.00
000.044: Customer ID data 5: 0.00
000.045: Customer ID data 6: 0.00
000.046: Customer ID data 7: 0.00
000.047: Customer ID data 8: 0.00
001.201: Location:
000.035: Device ID: 0
000.036: Substation ID: 0
000.037: Feeder ID: 0
000.048: Device password 1: 0
000.049: Device password 2: 0
002.131: SW version DHMI: 1.19
002.132: SW version DHMI DM: 1.10
008.233: SW vers.Chin.DHMI DM: 2.00
002.101: SW version OS: 1.01
002.111: SW version OS DM: 1.01
010.169: SW version FPGA: 2.04
LOC
221.099: Local HMI exists: Yes
Config. parameters
LOC
003.020: Language: Reference language
003.021: Decimal delimiter: Dot
005.251: Fct. reset key: Without function
080.110: Fct. read key: FT_RC Fault recording 1
030.238: Fct. menu jmp list 1: Without function
030.239: Fct. menu jmp list 2: Without function
053.007: Fct. Operation Panel: Without function
053.005: Fct. Overload Panel: Without function
053.003: Fct. Fault Panel: FT_DA Diff. current 1 -->
031.075: Hold-time for Panels: 5 s
003.014: Autom. return time: 60 s
003.023: Return time illumin.: 60 s



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 653

Printed on: 27/09/2024 16:55:00











 PC

003.068: Bay address: 1
003.069: Device address: 1
003.081: Baud rate: 115.2 kBaud
003.181: Parity bit: Even
003.187: Spontan. sig. enable: None
003.189: Select. spontan.sig.: Without function
003.084: Transm.enab.cycl.dat: Without
003.185: Cycl. data ILS tel.: Without function
003.055: Delta V: 3.0 %Vnom
003.056: Delta I: 3.0 %Inom
111.004: IP address: 10.22.91.119
111.008: Subnet mask: 255.255.255.0
111.016: IP address mode: DHCP
111.017: IP Enable config.: don't execute
003.057: Delta f: 2.0 %fnom
003.155: Delta meas.v.ILS tel: 3.0
003.058: Delta t: 1 min
003.188: Time-out: 1 min

 COMM2

056.057: Function group COMM2: Without

 IEC

056.059: Function group IEC: With
104.000: General enable USER: Yes
104.043: Switch Config. Bank: don't execute
 104.045: Active Config. Name: Px30
 104.046: Active Config. Vers.: 1.4
 104.047: Inact. Config. Name: Px30
 104.048: Inact. Config. Vers.: 1.4
 104.057: IED name: P632ICT2
 104.001: IP address: 10.22.91.119
 104.005: Subnet mask: 255.255.255.0
 104.011: Gateway address: 0.0.0.0
 104.202: SNTP server 1 IP: 10.22.91.100
 104.210: SNTP server 2 IP: 10.22.91.101
104.064: SigGGIO1 selection: Without function
104.206: Diff. local time: 330 min
104.207: Diff. dayl.sav. time: 0 min
104.219: Switch.dayl.sav.time: Yes
104.220: Dayl.sav.time start: Last
104.221: Dayl.sav.time st. d: Sunday
104.222: Dayl.sav.time st. m: March
104.223: Dayl.sav.t.st.0:00 +: 330 min
104.225: Dayl.sav.time end: Last
104.226: Dayl.sav.time end d: Sunday
104.227: Dayl.sav.time end m: October
104.228: Dayl.sav.t.end 0:00+: 180 min

 GOOSE

056.068: Function group GOOSE: Without

 F_KEY

080.112: Fct. assignm. F1: Without function
080.113: Fct. assignm. F2: Without function
080.114: Fct. assignm. F3: Without function
080.115: Fct. assignm. F4: Without function
080.116: Fct. assignm. F5: Without function
080.117: Fct. assignm. F6: Without function
080.132: Operating mode F1: Key
080.133: Operating mode F2: Key
080.134: Operating mode F3: Key
080.135: Operating mode F4: Key
080.136: Operating mode F5: Key
080.137: Operating mode F6: Key
003.037: Return time fct.keys: 10 s

 INP

010.220: Filter: 20
152.163: Fct. assignm. U 1001: LOGIC Input 05 EXT



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 653

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.....	152.166: Fct. assignm. U 1002:	LOGIC Input 06 EXT
.....	152.169: Fct. assignm. U 1003:	LOGIC Input 07 EXT
.....	152.172: Fct. assignm. U 1004:	LOGIC Input 08 EXT
.....	152.175: Fct. assignm. U 1005:	LOGIC Input 09 EXT
.....	152.178: Fct. assignm. U 1006:	LOGIC Input 10 EXT
.....	153.087: Fct. assignm. U 2001:	LOGIC Input 01 EXT
.....	153.090: Fct. assignm. U 2002:	LOGIC Input 02 EXT
.....	153.093: Fct. assignm. U 2003:	LOGIC Input 03 EXT
.....	153.096: Fct. assignm. U 2004:	LOGIC Input 04 EXT
.....	152.164: Oper. mode U 1001:	Active "high", filt.
.....	152.167: Oper. mode U 1002:	Active "high", filt.
.....	152.170: Oper. mode U 1003:	Active "high", filt.
.....	152.173: Oper. mode U 1004:	Active "high", filt.
.....	152.176: Oper. mode U 1005:	Active "high", filt.
.....	152.179: Oper. mode U 1006:	Active "high", filt.
.....	153.088: Oper. mode U 2001:	Active "high", filt.
.....	153.091: Oper. mode U 2002:	Active "high", filt.
.....	153.094: Oper. mode U 2003:	Active "high", filt.
.....	153.097: Oper. mode U 2004:	Active "high", filt.
.....	OUTP	
.....	150.217: Fct. assignm. K 1001:	LOGIC Output 04
.....	150.220: Fct. assignm. K 1002:	LOGIC Output 04
.....	150.223: Fct. assignm. K 1003:	LOGIC Output 04
.....	150.226: Fct. assignm. K 1004:	Without function
.....	150.229: Fct. assignm. K 1005:	Without function
.....	150.232: Fct. assignm. K 1006:	Without function
.....	150.235: Fct. assignm. K 1007:	Without function
.....	150.238: Fct. assignm. K 1008:	LOGIC Output 06
.....	151.201: Fct. assignm. K 2001:	LOGIC Output 04
.....	151.204: Fct. assignm. K 2002:	LOGIC Output 04
.....	151.207: Fct. assignm. K 2003:	MAIN Blocked/faulty
.....	151.210: Fct. assignm. K 2004:	Without function
.....	151.213: Fct. assignm. K 2005:	Without function
.....	151.216: Fct. assignm. K 2006:	Without function
.....	151.219: Fct. assignm. K 2007:	Without function
.....	151.222: Fct. assignm. K 2008:	Without function
.....	150.218: Oper. mode K 1001:	ES updating
.....	150.221: Oper. mode K 1002:	ES updating
.....	150.224: Oper. mode K 1003:	ES updating
.....	150.227: Oper. mode K 1004:	ES updating
.....	150.230: Oper. mode K 1005:	ES updating
.....	150.233: Oper. mode K 1006:	ES updating
.....	150.236: Oper. mode K 1007:	ES updating
.....	150.239: Oper. mode K 1008:	ES updating
.....	151.202: Oper. mode K 2001:	ES updating
.....	151.205: Oper. mode K 2002:	ES updating
.....	151.208: Oper. mode K 2003:	ES updating
.....	151.211: Oper. mode K 2004:	ES updating
.....	151.214: Oper. mode K 2005:	ES updating
.....	151.217: Oper. mode K 2006:	ES updating
.....	151.220: Oper. mode K 2007:	ES updating
.....	151.223: Oper. mode K 2008:	ES updating
.....	MEASO	
.....	056.020: Function group MEASO:	Without
.....	LED	
.....	085.184: Fct. assign. H 1 green:	MAIN Healthy
.....	085.001: Fct. assign. H 2 yell.:	MAIN Blocked/faulty
.....	085.004: Fct. assign. H 3 yell.:	SFMON Warning (LED)
.....	085.007: Fct. assign. H 4 red:	MAIN Gen. trip signal
.....	085.057: Fct. assign. H 4 green:	Without function
.....	085.010: Fct. assign. H 5 red:	DIFF Trip signal 1
.....	085.060: Fct. assign. H 5 green:	Without function
.....	085.013: Fct. assign. H 6 red:	DIFF Trip signal 2
.....	085.063: Fct. assign. H 6 green:	Without function
.....	085.016: Fct. assign. H 7 red:	DIFF Trip signal 3
.....	085.066: Fct. assign. H 7 green:	Without function



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085.019:	Fct.assig. H 8 red:	V/f Trip signal tv/f(t)
085.069:	Fct.assig. H 8 green:	Without function
085.022:	Fct.assig. H 9 red:	V/f tv/f> elapsed
085.072:	Fct.assig. H 9 green:	Without function
085.025:	Fct.assig. H10 red:	V/f Starting V/f(t)
085.075:	Fct.assig. H10 green:	Without function
085.028:	Fct.assig. H11 red:	Without function
085.078:	Fct.assig. H11 green:	Without function
085.031:	Fct.assig. H12 red:	LOGIC Output 03 (t)
085.081:	Fct.assig. H12 green:	Without function
085.034:	Fct.assig. H13 red:	LOGIC Input 03 EXT
085.084:	Fct.assig. H13 green:	Without function
085.037:	Fct.assig. H14 red:	LOGIC Input 04 EXT
085.087:	Fct.assig. H14 green:	Without function
085.040:	Fct.assig. H15 red:	LOGIC Input 05 EXT
085.090:	Fct.assig. H15 green:	Without function
085.043:	Fct.assig. H16 red:	LOGIC Input 06 EXT
085.093:	Fct.assig. H16 green:	Without function
085.185:	Fct.assig. H17 red:	LOC Edit mode
085.131:	Fct.assig. H18 red:	LOGIC Input 07 EXT
085.161:	Fct.assig. H18 green:	Without function
085.134:	Fct.assig. H19 red:	LOGIC Input 08 EXT
085.164:	Fct.assig. H19 green:	Without function
085.137:	Fct.assig. H20 red:	Without function
085.167:	Fct.assig. H20 green:	Without function
085.140:	Fct.assig. H21 red:	Without function
085.170:	Fct.assig. H21 green:	Without function
085.143:	Fct.assig. H22 red:	Without function
085.173:	Fct.assig. H22 green:	Without function
085.146:	Fct.assig. H23 red:	IDMT1 Trip signal tIref,N>
085.177:	Fct.assig. H23 green:	Without function
085.182:	Operating mode H 1:	ES updating
085.002:	Operating mode H 2:	ES updating
085.005:	Operating mode H 3:	ES updating
085.008:	Operating mode H 4:	ES reset (fault)
085.011:	Operating mode H 5:	ES manual reset
085.014:	Operating mode H 6:	ES manual reset
085.017:	Operating mode H 7:	ES manual reset
085.020:	Operating mode H 8:	ES manual reset
085.023:	Operating mode H 9:	ES manual reset
085.026:	Operating mode H 10:	ES manual reset
085.029:	Operating mode H 11:	ES updating
085.032:	Operating mode H 12:	ES manual reset
085.035:	Operating mode H 13:	ES manual reset
085.038:	Operating mode H 14:	ES manual reset
085.041:	Operating mode H 15:	ES manual reset
085.044:	Operating mode H 16:	ES manual reset
085.183:	Operating mode H 17:	ES updating
085.132:	Operating mode H 18:	ES manual reset
085.135:	Operating mode H 19:	ES manual reset
085.138:	Operating mode H 20:	ES manual reset
085.141:	Operating mode H 21:	ES updating
085.144:	Operating mode H 22:	ES updating
085.147:	Operating mode H 23:	ES manual reset
MAIN		
003.169:	Chann.assign.COMM1/2:	COMM1->chann.1,(2-2)
103.210:	Prim.Source TimeSync:	COMM1/IEC
103.211:	BackupSourceTimeSync:	COMM2/PC
103.212:	Time sync. time-out:	Blocked
FT_RC		
035.160:	Rec. analog chann. 1:	Current IA,a
035.161:	Rec. analog chann. 2:	Current IB,a
035.162:	Rec. analog chann. 3:	Current IC,a
035.163:	Rec. analog chann. 4:	Current IY,a
035.164:	Rec. analog chann. 5:	Current IA,b
035.165:	Rec. analog chann. 6:	Current IB,b



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035.166: Rec. analog chann. 7:	Current IC,b
035.167: Rec. analog chann. 8:	Current IY,b
035.168: Rec. analog chann. 9:	Voltage V
035.169: Rec. analog chann.10:	Current IA,c
035.170: Rec. analog chann.11:	Current IB,c
035.171: Rec. analog chann.12:	Current IC,c
035.172: Rec. analog chann.13:	Current IY,c
DIFF	
056.027: Function group DIFF:	With
REF_1	
056.037: Function group REF_1:	Without
REF_2	
056.038: Function group REF_2:	Without
REF_3	
056.039: Function group REF_3:	Without
DTOC1	
056.031: Function group DTOC1:	Without
DTOC2	
056.032: Function group DTOC2:	Without
DTOC3	
056.053: Function group DTOC3:	Without
IDMT1	
056.051: Function group IDMT1:	With
IDMT2	
056.061: Function group IDMT2:	Without
IDMT3	
056.071: Function group IDMT3:	Without
THRM1	
056.054: Function group THRM1:	Without
THRM2	
056.055: Function group THRM2:	Without
V<>	
056.010: Function group V<>:	Without
f<>	
056.033: Function group f<>:	Without
V/f	
056.056: Function group V/f:	With
CTS	
056.077: Function group CTS:	Without
MCM_1	
056.073: Function group MCM_1:	Without
MCM_2	
056.074: Function group MCM_2:	Without
MCM_3	
056.075: Function group MCM_3:	Without
CBF_1	
056.007: Function group CBF_1:	Without
CBF_2	
056.082: Function group CBF_2:	Without
CBF_3	
056.083: Function group CBF_3:	Without
LIM_1	
056.042: Function group LIM_1:	Without
LIM_2	
056.043: Function group LIM_2:	Without
LIM_3	
056.050: Function group LIM_3:	Without
TRMON	
056.095: Function group TRMON:	Without
LOGIC	
056.017: Function group LOGIC:	With
LOG_2	
056.089: Function group LOG_2:	Without
DEV01	
210.047: Function group DEV01:	With
SIG_1	



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249.250: Function group SIG_1: With
226.007: Signal S001 config.: No
226.015: Signal S002 config.: No
226.023: Signal S003 config.: No
226.031: Signal S004 config.: No
226.039: Signal S005 config.: No
226.047: Signal S006 config.: No
226.055: Signal S007 config.: No
226.063: Signal S008 config.: No
226.071: Signal S009 config.: No
226.079: Signal S010 config.: No
226.087: Signal S011 config.: No
226.095: Signal S012 config.: No
233.007: SIG_DC3 config.: No

CMD_1

200.004: Command C001 config.: No
200.009: Command C002 config.: No
200.014: Command C003 config.: No
200.019: Command C004 config.: No
200.024: Command C005 config.: No
200.029: Command C006 config.: No
200.034: Command C007 config.: No
200.039: Command C008 config.: No
200.044: Command C009 config.: No
200.049: Command C010 config.: No
200.054: Command C011 config.: No
200.059: Command C012 config.: No
202.014: CMD_DC3 config.: No

ILOCK

250.102: Function group ILOCK: Without

COUNT

217.047: Function group COUNT: Without

Function parameters

Global

PC

003.182: Command blocking: No
003.086: Sig./meas.val.block.: No

OUTP

021.014: Outp.rel.block USER: No

MAIN

003.030: Device on-line: Yes (= on)
003.012: Test mode USER: No
010.030: Nominal frequ. fnom: 50 Hz
010.049: Phase sequence: A - B - C
019.020: Inom C.T.prim.,end a: 1000 A
019.021: Inom C.T.prim.,end b: 1600 A
019.022: Inom C.T.prim.,end c: 1000 A
019.027: Inom C.T.Yprim,end a: 1600 A
019.028: Inom C.T.Yprim,end b: 600 A
019.029: Inom C.T.Yprim,end c: 1600 A
010.002: Vnom V.T. prim.: 400.0 kV
010.024: Inom device, end a: 1.0 A
010.025: Inom device, end b: 1.0 A
010.029: Inom device, end c: 1.0 A
010.142: IY,nom device, end a: 1.0 A
010.143: IY,nom device, end b: 1.0 A
010.144: IY,nom device, end c: 1.0 A
010.009: Vnom V.T. sec.: 110 V
010.140: Conn.meas.circ. IP,a: Standard
010.150: Conn.meas.circ. IP,b: Standard
010.160: Conn.meas.circ. IP,c: Standard
010.141: Conn.meas.circ. IY,a: Standard
010.151: Conn.meas.circ. IY,b: Standard
010.161: Conn.meas.circ. IY,c: Standard
011.030: Meas. value rel. IP: 0.00 Inom
011.048: Meas.value rel. Ineg: 0.000 Inom



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011.058: Meas.value rel. Ipos:	0.000 Inom
011.031: Meas. value rel. IN:	0.000 Inom
011.036: Meas. value rel. IY:	0.000 IN,nom
011.032: Meas. value rel. V:	0.00 Vnom
010.113: Settl. t. IP,max,del:	15.0 min
005.248: Fct.assign. reset 1:	Without function
005.249: Fct.assign. reset 2:	Without function
021.021: Fct.assign. block. 1:	Without function
021.022: Fct.assign. block. 2:	Without function
021.048: Fct.assign. block. 3:	Without function
021.049: Fct.assign. block. 4:	Without function
021.012: Trip cmd.block. USER:	No
021.001: Fct.assign.trip cmd.1:	IDMT1 Trip signal tIref,N> -->
021.002: Fct.assign.trip cmd.2:	DIFF Trip signal -->
021.046: Fct.assign.trip cmd.3:	Without function
021.047: Fct.assign.trip cmd.4:	Without function
021.003: Min.dur. trip cmd. 1:	0.25 s
021.004: Min.dur. trip cmd. 2:	0.25 s
021.032: Min.dur. trip cmd. 3:	0.25 s
021.033: Min.dur. trip cmd. 4:	0.25 s
021.023: Latching trip cmd. 1:	No
021.024: Latching trip cmd. 2:	No
021.025: Latching trip cmd. 3:	No
021.026: Latching trip cmd. 4:	No
021.031: Fct. assign. fault:	Without function
021.017: Sig. asg. CB1 open:	Without function
021.020: Sig. asg. CB1 closed:	Without function
021.060: Sig. asg. CB2 closed:	Without function
021.061: Sig. asg. CB2 open:	Without function
021.062: Sig. asg. CB3 closed:	Without function
021.063: Sig. asg. CB3 open:	Without function
221.080: Oper. mode CB Trip:	ALSTOM D
019.184: Fct.asg. grp.sig. 01:	Without function
019.185: Fct.asg. grp.sig. 02:	Without function
019.186: Fct.asg. grp.sig. 03:	Without function
019.187: Fct.asg. grp.sig. 04:	Without function
019.188: Fct.asg. grp.sig. 05:	Without function
019.189: Fct.asg. grp.sig. 06:	Without function
019.190: Fct.asg. grp.sig. 07:	Without function
019.191: Fct.asg. grp.sig. 08:	Without function
PSS	
003.100: Control via USER:	No
003.060: Param.subs.sel. USER:	Parameter subset 1
003.063: Keep time:	Blocked
SFMON	
021.030: Fct. assign. warning:	Without function
021.018: Mon.sig. retention:	Blocked
FT_RC	
003.085: Fct. assign. trigger:	DIFF Meas.system 1 trigg. -->
016.018: Id>:	Blocked
016.019: IR>:	Blocked
003.078: Pre-fault time:	5 Periods
003.079: Post-fault time:	2 Periods
003.075: Max. recording time:	50 Periods
General functions	
MAIN	
016.096: Evaluation IN, end a:	Calculated
016.097: Evaluation IN, end b:	Measured
016.098: Evaluation IN, end c:	Calculated
019.099: Current summation:	Without
018.009: Hold time dyn.param.:	Blocked
DIFF	
019.080: General enable USER:	Yes
019.016: Reference power Sref:	315.0 MVA
019.023: Ref. curr. Iref,a: 0.455 kA	
019.024: Ref. curr. Iref,b: 0.827 kA	



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019.025: Ref. curr. Iref,c: 0.827 kA
004.105: Matching fact. kam,a: 2.199
004.106: Matching fact. kam,b: 1.935
004.127: Matching fact. kam,c: 1.210
011.037: Meas. value rel. Id: 0.000 Iref
011.038: Meas. value rel. IR: 0.000 Iref
IDMT1
031.141: General enable USER: Yes
019.106: Select. meas. input: End b
V/f
019.097: General enable USER: Yes
LOGIC
031.099: General enable USER: Yes
034.030: Set 1 USER: No
034.031: Set 2 USER: No
034.032: Set 3 USER: No
034.033: Set 4 USER: No
034.034: Set 5 USER: No
034.035: Set 6 USER: No
034.036: Set 7 USER: No
034.037: Set 8 USER: No
030.000: Fct.assignm. outp. 1: DIFF Trip signal 1 -->
030.001: Op. mode t output 1: Without timer stage
030.002: Time t1 output 1: 0.00 s
030.003: Time t2 output 1: 0.00 s
044.000: Sig.assign. outp. 1: Without function
044.001: Sig.assign.outp. 1(t): Without function
030.004: Fct.assignm. outp. 2: LOGIC Input 06 EXT -->
030.005: Op. mode t output 2: Oper./releas.delay
030.006: Time t1 output 2: 0.02 s
030.007: Time t2 output 2: 0.00 s
044.002: Sig.assign. outp. 2: Without function
044.003: Sig.assign.outp. 2(t): Without function
030.008: Fct.assignm. outp. 3: LOGIC Input 02 EXT
030.009: Op. mode t output 3: Oper./releas.delay
030.010: Time t1 output 3: 5.00 s
030.011: Time t2 output 3: 0.00 s
044.004: Sig.assign. outp. 3: Without function
044.005: Sig.assign.outp. 3(t): Without function
030.012: Fct.assignm. outp. 4: LOGIC Output 01 -->
030.013: Op. mode t output 4: Without timer stage
030.014: Time t1 output 4: 0.00 s
030.015: Time t2 output 4: 0.00 s
044.006: Sig.assign. outp. 4: Without function
044.007: Sig.assign.outp. 4(t): Without function
030.016: Fct.assignm. outp. 5: Without function
030.017: Op. mode t output 5: Without timer stage
030.018: Time t1 output 5: 0.00 s
030.019: Time t2 output 5: 0.00 s
044.008: Sig.assign. outp. 5: Without function
044.009: Sig.assign.outp. 5(t): Without function
030.020: Fct.assignm. outp. 6: LOGIC Input 07 EXT
030.021: Op. mode t output 6: Without timer stage
030.022: Time t1 output 6: 0.00 s
030.023: Time t2 output 6: 0.00 s
044.010: Sig.assign. outp. 6: Without function
044.011: Sig.assign.outp. 6(t): Without function
030.024: Fct.assignm. outp. 7: Without function
030.025: Op. mode t output 7: Without timer stage
030.026: Time t1 output 7: 0.00 s
030.027: Time t2 output 7: 0.00 s
044.012: Sig.assign. outp. 7: Without function
044.013: Sig.assign.outp. 7(t): Without function
030.028: Fct.assignm. outp. 8: Without function
030.029: Op. mode t output 8: Without timer stage
030.030: Time t1 output 8: 0.00 s



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030.031: Time t2 output 8:	0.00 s
044.014: Sig.assig. outp. 8:	Without function
044.015: Sig.assig.outp. 8(t):	Without function
030.032: Fct.assignm. outp. 9:	Without function
030.033: Op. mode t output 9:	Without timer stage
030.034: Time t1 output 9:	0.00 s
030.035: Time t2 output 9:	0.00 s
044.016: Sig.assig. outp. 9:	Without function
044.017: Sig.assig.outp. 9(t):	Without function
030.036: Fct.assignm. outp.10:	Without function
030.037: Op. mode t output 10:	Without timer stage
030.038: Time t1 output 10:	0.00 s
030.039: Time t2 output 10:	0.00 s
044.018: Sig.assig. outp. 10:	Without function
044.019: Sig.assig.outp.10(t):	Without function
030.040: Fct.assignm. outp.11:	Without function
030.041: Op. mode t output 11:	Without timer stage
030.042: Time t1 output 11:	0.00 s
030.043: Time t2 output 11:	0.00 s
044.020: Sig.assig. outp. 11:	Without function
044.021: Sig.assig.outp.11(t):	Without function
030.044: Fct.assignm. outp.12:	Without function
030.045: Op. mode t output 12:	Without timer stage
030.046: Time t1 output 12:	0.00 s
030.047: Time t2 output 12:	0.00 s
044.022: Sig.assig. outp. 12:	Without function
044.023: Sig.assig.outp.12(t):	Without function
030.048: Fct.assignm. outp.13:	Without function
030.049: Op. mode t output 13:	Without timer stage
030.050: Time t1 output 13:	0.00 s
030.051: Time t2 output 13:	0.00 s
044.024: Sig.assig. outp. 13:	Without function
044.025: Sig.assig.outp.13(t):	Without function
030.052: Fct.assignm. outp.14:	Without function
030.053: Op. mode t output 14:	Without timer stage
030.054: Time t1 output 14:	0.00 s
030.055: Time t2 output 14:	0.00 s
044.026: Sig.assig. outp. 14:	Without function
044.027: Sig.assig.outp.14(t):	Without function
030.056: Fct.assignm. outp.15:	Without function
030.057: Op. mode t output 15:	Without timer stage
030.058: Time t1 output 15:	0.00 s
030.059: Time t2 output 15:	0.00 s
044.028: Sig.assig. outp. 15:	Without function
044.029: Sig.assig.outp.15(t):	Without function
030.060: Fct.assignm. outp.16:	Without function
030.061: Op. mode t output 16:	Without timer stage
030.062: Time t1 output 16:	0.00 s
030.063: Time t2 output 16:	0.00 s
044.030: Sig.assig. outp. 16:	Without function
044.031: Sig.assig.outp.16(t):	Without function
030.064: Fct.assignm. outp.17:	Without function
030.065: Op. mode t output 17:	Without timer stage
030.066: Time t1 output 17:	0.00 s
030.067: Time t2 output 17:	0.00 s
044.032: Sig.assig. outp. 17:	Without function
044.033: Sig.assig.outp.17(t):	Without function
030.068: Fct.assignm. outp.18:	Without function
030.069: Op. mode t output 18:	Without timer stage
030.070: Time t1 output 18:	0.00 s
030.071: Time t2 output 18:	0.00 s
044.034: Sig.assig. outp. 18:	Without function
044.035: Sig.assig.outp.18(t):	Without function
030.072: Fct.assignm. outp.19:	Without function
030.073: Op. mode t output 19:	Without timer stage
030.074: Time t1 output 19:	0.00 s



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030.075: Time t2 output 19:	0.00 s
044.036: Sig.assig. outp. 19:	Without function
044.037: Sig.assig.outp.19(t):	Without function
030.076: Fct.assignm. outp.20:	Without function
030.077: Op. mode t output 20:	Without timer stage
030.078: Time t1 output 20:	0.00 s
030.079: Time t2 output 20:	0.00 s
044.038: Sig.assig. outp. 20:	Without function
044.039: Sig.assig.outp.20(t):	Without function
030.080: Fct.assignm. outp.21:	Without function
030.081: Op. mode t output 21:	Without timer stage
030.082: Time t1 output 21:	0.00 s
030.083: Time t2 output 21:	0.00 s
044.040: Sig.assig. outp. 21:	Without function
044.041: Sig.assig.outp.21(t):	Without function
030.084: Fct.assignm. outp.22:	Without function
030.085: Op. mode t output 22:	Without timer stage
030.086: Time t1 output 22:	0.00 s
030.087: Time t2 output 22:	0.00 s
044.042: Sig.assig. outp. 22:	Without function
044.043: Sig.assig.outp.22(t):	Without function
030.088: Fct.assignm. outp.23:	Without function
030.089: Op. mode t output 23:	Without timer stage
030.090: Time t1 output 23:	0.00 s
030.091: Time t2 output 23:	0.00 s
044.044: Sig.assig. outp. 23:	Without function
044.045: Sig.assig.outp.23(t):	Without function
030.092: Fct.assignm. outp.24:	Without function
030.093: Op. mode t output 24:	Without timer stage
030.094: Time t1 output 24:	0.00 s
030.095: Time t2 output 24:	0.00 s
044.046: Sig.assig. outp. 24:	Without function
044.047: Sig.assig.outp.24(t):	Without function
030.096: Fct.assignm. outp.25:	Without function
030.097: Op. mode t output 25:	Without timer stage
030.098: Time t1 output 25:	0.00 s
030.099: Time t2 output 25:	0.00 s
044.048: Sig.assig. outp. 25:	Without function
044.049: Sig.assig.outp.25(t):	Without function
031.000: Fct.assignm. outp.26:	Without function
031.001: Op. mode t output 26:	Without timer stage
031.002: Time t1 output 26:	0.00 s
031.003: Time t2 output 26:	0.00 s
044.050: Sig.assig. outp. 26:	Without function
044.051: Sig.assig.outp.26(t):	Without function
031.004: Fct.assignm. outp.27:	Without function
031.005: Op. mode t output 27:	Without timer stage
031.006: Time t1 output 27:	0.00 s
031.007: Time t2 output 27:	0.00 s
044.052: Sig.assig. outp. 27:	Without function
044.053: Sig.assig.outp.27(t):	Without function
031.008: Fct.assignm. outp.28:	Without function
031.009: Op. mode t output 28:	Without timer stage
031.010: Time t1 output 28:	0.00 s
031.011: Time t2 output 28:	0.00 s
044.054: Sig.assig. outp. 28:	Without function
044.055: Sig.assig.outp.28(t):	Without function
031.012: Fct.assignm. outp.29:	Without function
031.013: Op. mode t output 29:	Without timer stage
031.014: Time t1 output 29:	0.00 s
031.015: Time t2 output 29:	0.00 s
044.056: Sig.assig. outp. 29:	Without function
044.057: Sig.assig.outp.29(t):	Without function
031.016: Fct.assignm. outp.30:	Without function
031.017: Op. mode t output 30:	Without timer stage
031.018: Time t1 output 30:	0.00 s



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031.019: Time t2 output 30:	0.00 s
044.058: Sig.assig. outp. 30:	Without function
044.059: Sig.assig.outp.30(t):	Without function
031.020: Fct.assignm. outp.31:	Without function
031.021: Op. mode t output 31:	Without timer stage
031.022: Time t1 output 31:	0.00 s
031.023: Time t2 output 31:	0.00 s
044.060: Sig.assig. outp. 31:	Without function
044.061: Sig.assig.outp.31(t):	Without function
031.024: Fct.assignm. outp.32:	Without function
031.025: Op. mode t output 32:	Without timer stage
031.026: Time t1 output 32:	0.00 s
031.027: Time t2 output 32:	0.00 s
044.062: Sig.assig. outp. 32:	Without function
044.063: Sig.assig.outp.32(t):	Without function
030.100: Fct.assignm. outp.33:	Without function
030.101: Op. mode t output 33:	Without timer stage
030.102: Time t1 output 33:	0.00 s
030.103: Time t2 output 33:	0.00 s
044.064: Sig.assig. outp. 33:	Without function
044.065: Sig.assig.outp.33(t):	Without function
030.104: Fct.assignm. outp.34:	Without function
030.105: Op. mode t output 34:	Without timer stage
030.106: Time t1 output 34:	0.00 s
030.107: Time t2 output 34:	0.00 s
044.066: Sig.assig. outp. 34:	Without function
044.067: Sig.assig.outp.34(t):	Without function
030.108: Fct.assignm. outp.35:	Without function
030.109: Op. mode t output 35:	Without timer stage
030.110: Time t1 output 35:	0.00 s
030.111: Time t2 output 35:	0.00 s
044.068: Sig.assig. outp. 35:	Without function
044.069: Sig.assig.outp.35(t):	Without function
030.112: Fct.assignm. outp.36:	Without function
030.113: Op. mode t output 36:	Without timer stage
030.114: Time t1 output 36:	0.00 s
030.115: Time t2 output 36:	0.00 s
044.070: Sig.assig. outp. 36:	Without function
044.071: Sig.assig.outp.36(t):	Without function
030.116: Fct.assignm. outp.37:	Without function
030.117: Op. mode t output 37:	Without timer stage
030.118: Time t1 output 37:	0.00 s
030.119: Time t2 output 37:	0.00 s
044.072: Sig.assig. outp. 37:	Without function
044.073: Sig.assig.outp.37(t):	Without function
030.120: Fct.assignm. outp.38:	Without function
030.121: Op. mode t output 38:	Without timer stage
030.122: Time t1 output 38:	0.00 s
030.123: Time t2 output 38:	0.00 s
044.074: Sig.assig. outp. 38:	Without function
044.075: Sig.assig.outp.38(t):	Without function
030.124: Fct.assignm. outp.39:	Without function
030.125: Op. mode t output 39:	Without timer stage
030.126: Time t1 output 39:	0.00 s
030.127: Time t2 output 39:	0.00 s
044.076: Sig.assig. outp. 39:	Without function
044.077: Sig.assig.outp.39(t):	Without function
030.128: Fct.assignm. outp.40:	Without function
030.129: Op. mode t output 40:	Without timer stage
030.130: Time t1 output 40:	0.00 s
030.131: Time t2 output 40:	0.00 s
044.078: Sig.assig. outp. 40:	Without function
044.079: Sig.assig.outp.40(t):	Without function
030.132: Fct.assignm. outp.41:	Without function
030.133: Op. mode t output 41:	Without timer stage
030.134: Time t1 output 41:	0.00 s



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030.135: Time t2 output 41:	0.00 s
044.080: Sig.assig. outp. 41:	Without function
044.081: Sig.assig.outp.41(t):	Without function
030.136: Fct.assignm. outp.42:	Without function
030.137: Op. mode t output 42:	Without timer stage
030.138: Time t1 output 42:	0.00 s
030.139: Time t2 output 42:	0.00 s
044.082: Sig.assig. outp. 42:	Without function
044.083: Sig.assig.outp.42(t):	Without function
030.140: Fct.assignm. outp.43:	Without function
030.141: Op. mode t output 43:	Without timer stage
030.142: Time t1 output 43:	0.00 s
030.143: Time t2 output 43:	0.00 s
044.084: Sig.assig. outp. 43:	Without function
044.085: Sig.assig.outp.43(t):	Without function
030.144: Fct.assignm. outp.44:	Without function
030.145: Op. mode t output 44:	Without timer stage
030.146: Time t1 output 44:	0.00 s
030.147: Time t2 output 44:	0.00 s
044.086: Sig.assig. outp. 44:	Without function
044.087: Sig.assig.outp.44(t):	Without function
030.148: Fct.assignm. outp.45:	Without function
030.149: Op. mode t output 45:	Without timer stage
030.150: Time t1 output 45:	0.00 s
030.151: Time t2 output 45:	0.00 s
044.088: Sig.assig. outp. 45:	Without function
044.089: Sig.assig.outp.45(t):	Without function
030.152: Fct.assignm. outp.46:	Without function
030.153: Op. mode t output 46:	Without timer stage
030.154: Time t1 output 46:	0.00 s
030.155: Time t2 output 46:	0.00 s
044.090: Sig.assig. outp. 46:	Without function
044.091: Sig.assig.outp.46(t):	Without function
030.156: Fct.assignm. outp.47:	Without function
030.157: Op. mode t output 47:	Without timer stage
030.158: Time t1 output 47:	0.00 s
030.159: Time t2 output 47:	0.00 s
044.092: Sig.assig. outp. 47:	Without function
044.093: Sig.assig.outp.47(t):	Without function
030.160: Fct.assignm. outp.48:	Without function
030.161: Op. mode t output 48:	Without timer stage
030.162: Time t1 output 48:	0.00 s
030.163: Time t2 output 48:	0.00 s
044.094: Sig.assig. outp. 48:	Without function
044.095: Sig.assig.outp.48(t):	Without function
030.164: Fct.assignm. outp.49:	Without function
030.165: Op. mode t output 49:	Without timer stage
030.166: Time t1 output 49:	0.00 s
030.167: Time t2 output 49:	0.00 s
044.096: Sig.assig. outp. 49:	Without function
044.097: Sig.assig.outp.49(t):	Without function
030.168: Fct.assignm. outp.50:	Without function
030.169: Op. mode t output 50:	Without timer stage
030.170: Time t1 output 50:	0.00 s
030.171: Time t2 output 50:	0.00 s
044.098: Sig.assig. outp. 50:	Without function
044.099: Sig.assig.outp.50(t):	Without function
030.172: Fct.assignm. outp.51:	Without function
030.173: Op. mode t output 51:	Without timer stage
030.174: Time t1 output 51:	0.00 s
030.175: Time t2 output 51:	0.00 s
044.100: Sig.assig. outp. 51:	Without function
044.101: Sig.assig.outp.51(t):	Without function
030.176: Fct.assignm. outp.52:	Without function
030.177: Op. mode t output 52:	Without timer stage
030.178: Time t1 output 52:	0.00 s



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030.179: Time t2 output 52:	0.00 s
044.102: Sig.assig. outp. 52:	Without function
044.103: Sig.assig.outp.52(t):	Without function
030.180: Fct.assignm. outp.53:	Without function
030.181: Op. mode t output 53:	Without timer stage
030.182: Time t1 output 53:	0.00 s
030.183: Time t2 output 53:	0.00 s
044.104: Sig.assig. outp. 53:	Without function
044.105: Sig.assig.outp.53(t):	Without function
030.184: Fct.assignm. outp.54:	Without function
030.185: Op. mode t output 54:	Without timer stage
030.186: Time t1 output 54:	0.00 s
030.187: Time t2 output 54:	0.00 s
044.106: Sig.assig. outp. 54:	Without function
044.107: Sig.assig.outp.54(t):	Without function
030.188: Fct.assignm. outp.55:	Without function
030.189: Op. mode t output 55:	Without timer stage
030.190: Time t1 output 55:	0.00 s
030.191: Time t2 output 55:	0.00 s
044.108: Sig.assig. outp. 55:	Without function
044.109: Sig.assig.outp.55(t):	Without function
030.192: Fct.assignm. outp.56:	Without function
030.193: Op. mode t output 56:	Without timer stage
030.194: Time t1 output 56:	0.00 s
030.195: Time t2 output 56:	0.00 s
044.110: Sig.assig. outp. 56:	Without function
044.111: Sig.assig.outp.56(t):	Without function
030.196: Fct.assignm. outp.57:	Without function
030.197: Op. mode t output 57:	Without timer stage
030.198: Time t1 output 57:	0.00 s
030.199: Time t2 output 57:	0.00 s
044.112: Sig.assig. outp. 57:	Without function
044.113: Sig.assig.outp.57(t):	Without function
030.200: Fct.assignm. outp.58:	Without function
030.201: Op. mode t output 58:	Without timer stage
030.202: Time t1 output 58:	0.00 s
030.203: Time t2 output 58:	0.00 s
044.114: Sig.assig. outp. 58:	Without function
044.115: Sig.assig.outp.58(t):	Without function
030.204: Fct.assignm. outp.59:	Without function
030.205: Op. mode t output 59:	Without timer stage
030.206: Time t1 output 59:	0.00 s
030.207: Time t2 output 59:	0.00 s
044.116: Sig.assig. outp. 59:	Without function
044.117: Sig.assig.outp.59(t):	Without function
030.208: Fct.assignm. outp.60:	Without function
030.209: Op. mode t output 60:	Without timer stage
030.210: Time t1 output 60:	0.00 s
030.211: Time t2 output 60:	0.00 s
044.118: Sig.assig. outp. 60:	Without function
044.119: Sig.assig.outp.60(t):	Without function
030.212: Fct.assignm. outp.61:	Without function
030.213: Op. mode t output 61:	Without timer stage
030.214: Time t1 output 61:	0.00 s
030.215: Time t2 output 61:	0.00 s
044.120: Sig.assig. outp. 61:	Without function
044.121: Sig.assig.outp.61(t):	Without function
030.216: Fct.assignm. outp.62:	Without function
030.217: Op. mode t output 62:	Without timer stage
030.218: Time t1 output 62:	0.00 s
030.219: Time t2 output 62:	0.00 s
044.122: Sig.assig. outp. 62:	Without function
044.123: Sig.assig.outp.62(t):	Without function
030.220: Fct.assignm. outp.63:	Without function
030.221: Op. mode t output 63:	Without timer stage
030.222: Time t1 output 63:	0.00 s



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030.223: Time t2 output 63:	0.00 s
044.124: Sig.assig. outp. 63:	Without function
044.125: Sig.assig.outp.63(t):	Without function
030.224: Fct.assignm. outp.64:	Without function
030.225: Op. mode t output 64:	Without timer stage
030.226: Time t1 output 64:	0.00 s
030.227: Time t2 output 64:	0.00 s
044.126: Sig.assig. outp. 64:	Without function
044.127: Sig.assig.outp.64(t):	Without function
046.000: Fct.assignm. outp.65:	Without function
046.001: Op. mode t output 65:	Without timer stage
046.002: Time t1 output 65:	0.00 s
046.003: Time t2 output 65:	0.00 s
048.128: Sig.assig. outp. 65:	Without function
048.129: Sig.assig.outp.65(t):	Without function
045.004: Fct.assignm. outp.66:	Without function
045.005: Op. mode t output 66:	Without timer stage
045.006: Time t1 output 66:	0.00 s
045.007: Time t2 output 66:	0.00 s
048.002: Sig.assig. outp. 66:	Without function
048.003: Sig.assig.outp.66(t):	Without function
045.008: Fct.assignm. outp.67:	Without function
045.009: Op. mode t output 67:	Without timer stage
045.010: Time t1 output 67:	0.00 s
045.011: Time t2 output 67:	0.00 s
048.004: Sig.assig. outp. 67:	Without function
048.005: Sig.assig.outp.67(t):	Without function
045.012: Fct.assignm. outp.68:	Without function
045.013: Op. mode t output 68:	Without timer stage
045.014: Time t1 output 68:	0.00 s
045.015: Time t2 output 68:	0.00 s
048.006: Sig.assig. outp. 68:	Without function
048.007: Sig.assig.outp.68(t):	Without function
045.016: Fct.assignm. outp.69:	Without function
045.017: Op. mode t output 69:	Without timer stage
045.018: Time t1 output 69:	0.00 s
045.019: Time t2 output 69:	0.00 s
048.008: Sig.assig. outp. 69:	Without function
048.009: Sig.assig.outp.69(t):	Without function
045.020: Fct.assignm. outp.70:	Without function
045.021: Op. mode t output 70:	Without timer stage
045.022: Time t1 output 70:	0.00 s
045.023: Time t2 output 70:	0.00 s
048.010: Sig.assig. outp. 70:	Without function
048.011: Sig.assig.outp.70(t):	Without function
045.024: Fct.assignm. outp.71:	Without function
045.025: Op. mode t output 71:	Without timer stage
045.026: Time t1 output 71:	0.00 s
045.027: Time t2 output 71:	0.00 s
048.012: Sig.assig. outp. 71:	Without function
048.013: Sig.assig.outp.71(t):	Without function
045.028: Fct.assignm. outp.72:	Without function
045.029: Op. mode t output 72:	Without timer stage
045.030: Time t1 output 72:	0.00 s
045.031: Time t2 output 72:	0.00 s
048.014: Sig.assig. outp. 72:	Without function
048.015: Sig.assig.outp.72(t):	Without function
045.032: Fct.assignm. outp.73:	Without function
045.033: Op. mode t output 73:	Without timer stage
045.034: Time t1 output 73:	0.00 s
045.035: Time t2 output 73:	0.00 s
048.016: Sig.assig. outp. 73:	Without function
048.017: Sig.assig.outp.73(t):	Without function
045.036: Fct.assignm. outp.74:	Without function
045.037: Op. mode t output 74:	Without timer stage
045.038: Time t1 output 74:	0.00 s



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045.039: Time t2 output 74:	0.00 s
048.018: Sig.assig. outp. 74:	Without function
048.019: Sig.assig.outp.74(t):	Without function
045.040: Fct.assignm. outp.75:	Without function
045.041: Op. mode t output 75:	Without timer stage
045.042: Time t1 output 75:	0.00 s
045.043: Time t2 output 75:	0.00 s
048.020: Sig.assig. outp. 75:	Without function
048.021: Sig.assig.outp.75(t):	Without function
045.044: Fct.assignm. outp.76:	Without function
045.045: Op. mode t output 76:	Without timer stage
045.046: Time t1 output 76:	0.00 s
045.047: Time t2 output 76:	0.00 s
048.022: Sig.assig. outp. 76:	Without function
048.023: Sig.assig.outp.76(t):	Without function
045.048: Fct.assignm. outp.77:	Without function
045.049: Op. mode t output 77:	Without timer stage
045.050: Time t1 output 77:	0.00 s
045.051: Time t2 output 77:	0.00 s
048.024: Sig.assig. outp. 77:	Without function
048.025: Sig.assig.outp.77(t):	Without function
045.052: Fct.assignm. outp.78:	Without function
045.053: Op. mode t output 78:	Without timer stage
045.054: Time t1 output 78:	0.00 s
045.055: Time t2 output 78:	0.00 s
048.026: Sig.assig. outp. 78:	Without function
048.027: Sig.assig.outp.78(t):	Without function
045.056: Fct.assignm. outp.79:	Without function
045.057: Op. mode t output 79:	Without timer stage
045.058: Time t1 output 79:	0.00 s
045.059: Time t2 output 79:	0.00 s
048.028: Sig.assig. outp. 79:	Without function
048.029: Sig.assig.outp.79(t):	Without function
045.060: Fct.assignm. outp.80:	Without function
045.061: Op. mode t output 80:	Without timer stage
045.062: Time t1 output 80:	0.00 s
045.063: Time t2 output 80:	0.00 s
048.030: Sig.assig. outp. 80:	Without function
048.031: Sig.assig.outp.80(t):	Without function
045.064: Fct.assignm. outp.81:	Without function
045.065: Op. mode t output 81:	Without timer stage
045.066: Time t1 output 81:	0.00 s
045.067: Time t2 output 81:	0.00 s
048.032: Sig.assig. outp. 81:	Without function
048.033: Sig.assig.outp.81(t):	Without function
045.068: Fct.assignm. outp.82:	Without function
045.069: Op. mode t output 82:	Without timer stage
045.070: Time t1 output 82:	0.00 s
045.071: Time t2 output 82:	0.00 s
048.034: Sig.assig. outp. 82:	Without function
048.035: Sig.assig.outp.82(t):	Without function
045.072: Fct.assignm. outp.83:	Without function
045.073: Op. mode t output 83:	Without timer stage
045.074: Time t1 output 83:	0.00 s
045.075: Time t2 output 83:	0.00 s
048.036: Sig.assig. outp. 83:	Without function
048.037: Sig.assig.outp.83(t):	Without function
045.076: Fct.assignm. outp.84:	Without function
045.077: Op. mode t output 84:	Without timer stage
045.078: Time t1 output 84:	0.00 s
045.079: Time t2 output 84:	0.00 s
048.038: Sig.assig. outp. 84:	Without function
048.039: Sig.assig.outp.84(t):	Without function
045.080: Fct.assignm. outp.85:	Without function
045.081: Op. mode t output 85:	Without timer stage
045.082: Time t1 output 85:	0.00 s



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045.083: Time t2 output 85:	0.00 s
048.040: Sig.assig. outp. 85:	Without function
048.041: Sig.assig.outp.85(t):	Without function
045.084: Fct.assignm. outp.86:	Without function
045.085: Op. mode t output 86:	Without timer stage
045.086: Time t1 output 86:	0.00 s
045.087: Time t2 output 86:	0.00 s
048.042: Sig.assig. outp. 86:	Without function
048.043: Sig.assig.outp.86(t):	Without function
045.088: Fct.assignm. outp.87:	Without function
045.089: Op. mode t output 87:	Without timer stage
045.090: Time t1 output 87:	0.00 s
045.091: Time t2 output 87:	0.00 s
048.044: Sig.assig. outp. 87:	Without function
048.045: Sig.assig.outp.87(t):	Without function
045.092: Fct.assignm. outp.88:	Without function
045.093: Op. mode t output 88:	Without timer stage
045.094: Time t1 output 88:	0.00 s
045.095: Time t2 output 88:	0.00 s
048.046: Sig.assig. outp. 88:	Without function
048.047: Sig.assig.outp.88(t):	Without function
045.096: Fct.assignm. outp.89:	Without function
045.097: Op. mode t output 89:	Without timer stage
045.098: Time t1 output 89:	0.00 s
045.099: Time t2 output 89:	0.00 s
048.048: Sig.assig. outp. 89:	Without function
048.049: Sig.assig.outp.89(t):	Without function
045.100: Fct.assignm. outp.90:	Without function
045.101: Op. mode t output 90:	Without timer stage
045.102: Time t1 output 90:	0.00 s
045.103: Time t2 output 90:	0.00 s
048.050: Sig.assig. outp. 90:	Without function
048.051: Sig.assig.outp.90(t):	Without function
045.104: Fct.assignm. outp.91:	Without function
045.105: Op. mode t output 91:	Without timer stage
045.106: Time t1 output 91:	0.00 s
045.107: Time t2 output 91:	0.00 s
048.052: Sig.assig. outp. 91:	Without function
048.053: Sig.assig.outp.91(t):	Without function
045.108: Fct.assignm. outp.92:	Without function
045.109: Op. mode t output 92:	Without timer stage
045.110: Time t1 output 92:	0.00 s
045.111: Time t2 output 92:	0.00 s
048.054: Sig.assig. outp. 92:	Without function
048.055: Sig.assig.outp.92(t):	Without function
045.112: Fct.assignm. outp.93:	Without function
045.113: Op. mode t output 93:	Without timer stage
045.114: Time t1 output 93:	0.00 s
045.115: Time t2 output 93:	0.00 s
048.056: Sig.assig. outp. 93:	Without function
048.057: Sig.assig.outp.93(t):	Without function
045.116: Fct.assignm. outp.94:	Without function
045.117: Op. mode t output 94:	Without timer stage
045.118: Time t1 output 94:	0.00 s
045.119: Time t2 output 94:	0.00 s
048.058: Sig.assig. outp. 94:	Without function
048.059: Sig.assig.outp.94(t):	Without function
045.120: Fct.assignm. outp.95:	Without function
045.121: Op. mode t output 95:	Without timer stage
045.122: Time t1 output 95:	0.00 s
045.123: Time t2 output 95:	0.00 s
048.060: Sig.assig. outp. 95:	Without function
048.061: Sig.assig.outp.95(t):	Without function
045.124: Fct.assignm. outp.96:	Without function
045.125: Op. mode t output 96:	Without timer stage
045.126: Time t1 output 96:	0.00 s



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045.127: Time t2 output 96:	0.00 s
048.062: Sig.assig. outp. 96:	Without function
048.063: Sig.assig.outp.96(t):	Without function
045.128: Fct.assignm. outp.97:	Without function
045.129: Op. mode t output 97:	Without timer stage
045.130: Time t1 output 97:	0.00 s
045.131: Time t2 output 97:	0.00 s
048.064: Sig.assig. outp. 97:	Without function
048.065: Sig.assig.outp.97(t):	Without function
045.132: Fct.assignm. outp.98:	Without function
045.133: Op. mode t output 98:	Without timer stage
045.134: Time t1 output 98:	0.00 s
045.135: Time t2 output 98:	0.00 s
048.066: Sig.assig. outp. 98:	Without function
048.067: Sig.assig.outp.98(t):	Without function
045.136: Fct.assignm. outp.99:	Without function
045.137: Op. mode t output 99:	Without timer stage
045.138: Time t1 output 99:	0.00 s
045.139: Time t2 output 99:	0.00 s
048.068: Sig.assig. outp. 99:	Without function
048.069: Sig.assig.outp.99(t):	Without function
045.140: Fct.assignm.outp.100:	Without function
045.141: Op. mode t output100:	Without timer stage
045.142: Time t1 output100:	0.00 s
045.143: Time t2 output100:	0.00 s
048.070: Sig.assig. outp.100:	Without function
048.071: Sig.assig.outp100(t):	Without function
045.144: Fct.assignm.outp.101:	Without function
045.145: Op. mode t output101:	Without timer stage
045.146: Time t1 output101:	0.00 s
045.147: Time t2 output101:	0.00 s
048.072: Sig.assig. outp.101:	Without function
048.073: Sig.assig.outp101(t):	Without function
045.148: Fct.assignm.outp.102:	Without function
045.149: Op. mode t output102:	Without timer stage
045.150: Time t1 output102:	0.00 s
045.151: Time t2 output102:	0.00 s
048.074: Sig.assig. outp.102:	Without function
048.075: Sig.assig.outp102(t):	Without function
045.152: Fct.assignm.outp.103:	Without function
045.153: Op. mode t output103:	Without timer stage
045.154: Time t1 output103:	0.00 s
045.155: Time t2 output103:	0.00 s
048.076: Sig.assig. outp.103:	Without function
048.077: Sig.assig.outp103(t):	Without function
045.156: Fct.assignm.outp.104:	Without function
045.157: Op. mode t output104:	Without timer stage
045.158: Time t1 output104:	0.00 s
045.159: Time t2 output104:	0.00 s
048.078: Sig.assig. outp.104:	Without function
048.079: Sig.assig.outp104(t):	Without function
045.160: Fct.assignm.outp.105:	Without function
045.161: Op. mode t output105:	Without timer stage
045.162: Time t1 output105:	0.00 s
045.163: Time t2 output105:	0.00 s
048.080: Sig.assig. outp.105:	Without function
048.081: Sig.assig.outp105(t):	Without function
045.164: Fct.assignm.outp.106:	Without function
045.165: Op. mode t output106:	Without timer stage
045.166: Time t1 output106:	0.00 s
045.167: Time t2 output106:	0.00 s
048.082: Sig.assig. outp.106:	Without function
048.083: Sig.assig.outp106(t):	Without function
045.168: Fct.assignm.outp.107:	Without function
045.169: Op. mode t output107:	Without timer stage
045.170: Time t1 output107:	0.00 s



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045.171:	Time t2 output107:	0.00 s
048.084:	Sig.assig. outp.107:	Without function
048.085:	Sig.assig.outp107(t):	Without function
045.172:	Fct.assignm.outp.108:	Without function
045.173:	Op. mode t output108:	Without timer stage
045.174:	Time t1 output108:	0.00 s
045.175:	Time t2 output108:	0.00 s
048.086:	Sig.assig. outp.108:	Without function
048.087:	Sig.assig.outp108(t):	Without function
045.176:	Fct.assignm.outp.109:	Without function
045.177:	Op. mode t output109:	Without timer stage
045.178:	Time t1 output109:	0.00 s
045.179:	Time t2 output109:	0.00 s
048.088:	Sig.assig. outp.109:	Without function
048.089:	Sig.assig.outp109(t):	Without function
045.180:	Fct.assignm.outp.110:	Without function
045.181:	Op. mode t output110:	Without timer stage
045.182:	Time t1 output110:	0.00 s
045.183:	Time t2 output110:	0.00 s
048.090:	Sig.assig. outp.110:	Without function
048.091:	Sig.assig.outp110(t):	Without function
045.184:	Fct.assignm.outp.111:	Without function
045.185:	Op. mode t output111:	Without timer stage
045.186:	Time t1 output111:	0.00 s
045.187:	Time t2 output111:	0.00 s
048.092:	Sig.assig. outp.111:	Without function
048.093:	Sig.assig.outp111(t):	Without function
045.188:	Fct.assignm.outp.112:	Without function
045.189:	Op. mode t output112:	Without timer stage
045.190:	Time t1 output112:	0.00 s
045.191:	Time t2 output112:	0.00 s
048.094:	Sig.assig. outp.112:	Without function
048.095:	Sig.assig.outp112(t):	Without function
045.192:	Fct.assignm.outp.113:	Without function
045.193:	Op. mode t output113:	Without timer stage
045.194:	Time t1 output113:	0.00 s
045.195:	Time t2 output113:	0.00 s
048.096:	Sig.assig. outp.113:	Without function
048.097:	Sig.assig.outp113(t):	Without function
045.196:	Fct.assignm.outp.114:	Without function
045.197:	Op. mode t output114:	Without timer stage
045.198:	Time t1 output114:	0.00 s
045.199:	Time t2 output114:	0.00 s
048.098:	Sig.assig. outp.114:	Without function
048.099:	Sig.assig.outp114(t):	Without function
045.200:	Fct.assignm.outp.115:	Without function
045.201:	Op. mode t output115:	Without timer stage
045.202:	Time t1 output115:	0.00 s
045.203:	Time t2 output115:	0.00 s
048.100:	Sig.assig. outp.115:	Without function
048.101:	Sig.assig.outp115(t):	Without function
045.204:	Fct.assignm.outp.116:	Without function
045.205:	Op. mode t output116:	Without timer stage
045.206:	Time t1 output116:	0.00 s
045.207:	Time t2 output116:	0.00 s
048.102:	Sig.assig. outp.116:	Without function
048.103:	Sig.assig.outp116(t):	Without function
045.208:	Fct.assignm.outp.117:	Without function
045.209:	Op. mode t output117:	Without timer stage
045.210:	Time t1 output117:	0.00 s
045.211:	Time t2 output117:	0.00 s
048.104:	Sig.assig. outp.117:	Without function
048.105:	Sig.assig.outp117(t):	Without function
045.212:	Fct.assignm.outp.118:	Without function
045.213:	Op. mode t output118:	Without timer stage
045.214:	Time t1 output118:	0.00 s



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045.215: Time t2 output118:	0.00 s
048.106: Sig.assig. outp.118:	Without function
048.107: Sig.assig.outp118(t):	Without function
045.216: Fct.assignm.outp.119:	Without function
045.217: Op. mode t output119:	Without timer stage
045.218: Time t1 output119:	0.00 s
045.219: Time t2 output119:	0.00 s
048.108: Sig.assig. outp.119:	Without function
048.109: Sig.assig.outp119(t):	Without function
045.220: Fct.assignm.outp.120:	Without function
045.221: Op. mode t output120:	Without timer stage
045.222: Time t1 output120:	0.00 s
045.223: Time t2 output120:	0.00 s
048.110: Sig.assig. outp.120:	Without function
048.111: Sig.assig.outp120(t):	Without function
045.224: Fct.assignm.outp.121:	Without function
045.225: Op. mode t output121:	Without timer stage
045.226: Time t1 output121:	0.00 s
045.227: Time t2 output121:	0.00 s
048.112: Sig.assig. outp.121:	Without function
048.113: Sig.assig.outp121(t):	Without function
045.228: Fct.assignm.outp.122:	Without function
045.229: Op. mode t output122:	Without timer stage
045.230: Time t1 output122:	0.00 s
045.231: Time t2 output122:	0.00 s
048.114: Sig.assig. outp.122:	Without function
048.115: Sig.assig.outp122(t):	Without function
045.232: Fct.assignm.outp.123:	Without function
045.233: Op. mode t output123:	Without timer stage
045.234: Time t1 output123:	0.00 s
045.235: Time t2 output123:	0.00 s
048.116: Sig.assig. outp.123:	Without function
048.117: Sig.assig.outp123(t):	Without function
045.236: Fct.assignm.outp.124:	Without function
045.237: Op. mode t output124:	Without timer stage
045.238: Time t1 output124:	0.00 s
045.239: Time t2 output124:	0.00 s
048.118: Sig.assig. outp.124:	Without function
048.119: Sig.assig.outp124(t):	Without function
045.240: Fct.assignm.outp.125:	Without function
045.241: Op. mode t output125:	Without timer stage
045.242: Time t1 output125:	0.00 s
045.243: Time t2 output125:	0.00 s
048.120: Sig.assig. outp.125:	Without function
048.121: Sig.assig.outp125(t):	Without function
045.244: Fct.assignm.outp.126:	Without function
045.245: Op. mode t output126:	Without timer stage
045.246: Time t1 output126:	0.00 s
045.247: Time t2 output126:	0.00 s
048.122: Sig.assig. outp.126:	Without function
048.123: Sig.assig.outp126(t):	Without function
045.248: Fct.assignm.outp.127:	Without function
045.249: Op. mode t output127:	Without timer stage
045.250: Time t1 output127:	0.00 s
045.251: Time t2 output127:	0.00 s
048.124: Sig.assig. outp.127:	Without function
048.125: Sig.assig.outp127(t):	Without function
045.252: Fct.assignm.outp.128:	Without function
045.253: Op. mode t output128:	Without timer stage
045.254: Time t1 output128:	0.00 s
045.255: Time t2 output128:	0.00 s
048.126: Sig.assig. outp.128:	Without function
048.127: Sig.assig.outp128(t):	Without function

Parameter subset 1

MAIN

019.017: Vnom prim. end a PS1: 400.0 kV



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019.018: Vnom prim. end b PS1: 220.0 kV
019.019: Vnom prim. end c PS1: 220.0 kV
010.200: Phase reversal a PS1: No swap
010.204: Phase reversal b PS1: No swap
010.208: Phase reversal c PS1: No swap

DIFF

072.152: Enable PS1: Yes
019.010: Vec.gr. ends a-b PS1: 0
019.011: Vec.gr. ends a-c PS1: 0
072.142: Idiff> PS1: 0.20 Iref
072.143: Idiff>> PS1: 10.6 Iref
072.144: Idiff>>> PS1: 10.6 Iref
080.000: Idiff>(CTS) PS1: 0.20 Iref
072.145: m1 PS1: 0.30
072.146: m2 PS1: 0.70
072.147: IR,m2 PS1: 4.0 Iref
072.148: Op.mode rush rst.PS1: Phase-selective
072.159: RushI(2f0)/I(f0) PS1: 10 %
072.155: 0-seq. filt.a en.PS1: Yes
072.156: 0-seq. filt.b en.PS1: Yes
072.157: 0-seq. filt.c en.PS1: No
072.158: Overflux.bl. en. PS1: Yes
072.160: Ov. I(5f0)/I(f0) PS1: 20 %
010.162: Op.del.,trip sig.PS1: 0.00 s
072.006: Hyst. effective PS1: Yes

IDMT1

081.050: Enable PS1: Yes
081.068: Block tim.st. IN PS1: Without
081.059: Gen.starting modePS1: With start. IN/Ineg
081.058: tGS PS1: 0.00 s
081.060: Rush restr.enabl PS1: No
013.192: Meas.value I/IN PS1: Fundamental
081.051: Iref,P PS1: Blocked
081.052: Iref,P dynamic PS1: Blocked
081.053: Characteristic P PS1: Definite Time
081.054: Factor kt,P PS1: 1.00
081.057: Min. trip t. P PS1: 1.00 s
081.055: Hold time P PS1: 0.00 s
081.056: Release P PS1: Without delay
081.111: Iref,neg PS1: Blocked
081.112: Iref,neg dynamic PS1: Blocked
081.113: Character. neg. PS1: Definite Time
081.114: Factor kt,neg PS1: 1.00
081.117: Min. trip t. neg PS1: 1.00 s
081.115: Hold time neg PS1: 0.00 s
081.116: Release neg PS1: Without delay
081.061: Iref,N PS1: 0.41 Inom
081.062: Iref,N dynamic PS1: 0.41 Inom
081.063: Characteristic N PS1: IEC Standard Inverse
081.064: Factor kt,N PS1: 0.20
081.067: Min. trip t. N PS1: 0.00 s
081.065: Hold time N PS1: 0.00 s
081.066: Release N PS1: Without delay

V/f

081.210: Enable PS1: Yes
081.211: V/f> (alarm) PS1: 1.10 Vnom/fnom
081.212: V/f(t)> PS1: 1.10 Vnom/fnom
081.213: V/f>> PS1: 1.50 Vnom/fnom
081.214: tV/f> PS1: 1000 s
081.217: t at V/f=1.05 PS1: 1000.0 s
081.218: t at V/f=1.10 PS1: 1000.0 s
081.219: t at V/f=1.15 PS1: 120.0 s
081.220: t at V/f=1.20 PS1: 90.0 s
081.221: t at V/f=1.25 PS1: 50.0 s
081.222: t at V/f=1.30 PS1: 35.0 s
081.223: t at V/f=1.35 PS1: 10.0 s



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081.224: t at V/f=1.40	PS1:	4.0 s
081.225: t at V/f=1.45	PS1:	2.5 s
081.226: t at V/f=1.50	PS1:	1.0 s
081.227: t at V/f=1.55	PS1:	1.0 s
081.228: t at V/f=1.60	PS1:	1.0 s
081.230: Reset time	PS1:	0 s
081.229: tV/f>>	PS1:	1 s
Parameter subset 2		
MAIN		
019.057: Vnom prim. end a	PS2:	110.0 kV
019.058: Vnom prim. end b	PS2:	110.0 kV
019.059: Vnom prim. end c	PS2:	110.0 kV
010.201: Phase reversal a	PS2:	No swap
010.205: Phase reversal b	PS2:	No swap
010.209: Phase reversal c	PS2:	No swap
DIFF		
073.152: Enable	PS2:	No
019.040: Vec.gr. ends a-b	PS2:	0
019.043: Vec.gr. ends a-c	PS2:	0
073.142: Idiff>	PS2:	0.20 Iref
073.143: Idiff>>	PS2:	15.0 Iref
073.144: Idiff>>>	PS2:	30.0 Iref
081.000: Idiff>(CTS)	PS2:	0.20 Iref
073.145: m1	PS2:	0.30
073.146: m2	PS2:	0.70
073.147: IR,m2	PS2:	4.0 Iref
073.148: Op.mode rush rst.	PS2:	Not phase-selective
073.159: RushI(2f0)/I(f0)	PS2:	20 %
073.155: 0-seq. filt.a en.	PS2:	Yes
073.156: 0-seq. filt.b en.	PS2:	Yes
073.157: 0-seq. filt.c en.	PS2:	Yes
073.158: Overflux.bl. en.	PS2:	No
073.160: Ov. I(5f0)/I(f0)	PS2:	20 %
010.163: Op.del.,trip sig.	PS2:	0.00 s
073.006: Hyst. effective	PS2:	Yes
IDMT1		
082.050: Enable	PS2:	No
082.068: Block tim.st. IN	PS2:	Without
082.059: Gen.starting mode	PS2:	With start. IN/Ineg
082.058: tGS	PS2:	0.00 s
082.060: Rush restr.enabl	PS2:	No
013.193: Meas.value I/IN	PS2:	Fundamental
082.051: Iref,P	PS2:	1.00 Inom
082.052: Iref,P dynamic	PS2:	1.00 Inom
082.053: Characteristic P	PS2:	Definite Time
082.054: Factor kt,P	PS2:	1.00
082.057: Min. trip t. P	PS2:	1.00 s
082.055: Hold time P	PS2:	0.00 s
082.056: Release P	PS2:	Without delay
082.111: Iref,neg	PS2:	Blocked
082.112: Iref,neg dynamic	PS2:	Blocked
082.113: Character. neg.	PS2:	Definite Time
082.114: Factor kt,neg	PS2:	1.00
082.117: Min. trip t. neg	PS2:	1.00 s
082.115: Hold time neg	PS2:	0.00 s
082.116: Release neg	PS2:	Without delay
082.061: Iref,N	PS2:	Blocked
082.062: Iref,N dynamic	PS2:	Blocked
082.063: Characteristic N	PS2:	Definite Time
082.064: Factor kt,N	PS2:	1.00
082.067: Min. trip t. N	PS2:	1.00 s
082.065: Hold time N	PS2:	0.00 s
082.066: Release N	PS2:	Without delay
V/f		
082.210: Enable	PS2:	No
082.211: V/f> (alarm)	PS2:	1.05 Vnom/fnom



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082.212: V/f(t)>	PS2:	1.10 Vnom/fnom
082.213: V/f>>	PS2:	Blocked
082.214: tV/f>	PS2:	1 s
082.217: t at V/f=1.05	PS2:	72.8 s
082.218: t at V/f=1.10	PS2:	18.8 s
082.219: t at V/f=1.15	PS2:	8.8 s
082.220: t at V/f=1.20	PS2:	5.3 s
082.221: t at V/f=1.25	PS2:	3.7 s
082.222: t at V/f=1.30	PS2:	2.8 s
082.223: t at V/f=1.35	PS2:	2.3 s
082.224: t at V/f=1.40	PS2:	1.9 s
082.225: t at V/f=1.45	PS2:	1.7 s
082.226: t at V/f=1.50	PS2:	1.5 s
082.227: t at V/f=1.55	PS2:	1.4 s
082.228: t at V/f=1.60	PS2:	1.3 s
082.230: Reset time	PS2:	0 s
082.229: tV/f>>	PS2:	Blocked

Parameter subset 3

MAIN

019.061: Vnom prim. end a	PS3:	110.0 kV
019.062: Vnom prim. end b	PS3:	110.0 kV
019.063: Vnom prim. end c	PS3:	110.0 kV
010.202: Phase reversal a	PS3:	No swap
010.206: Phase reversal b	PS3:	No swap
010.210: Phase reversal c	PS3:	No swap

DIFF

074.152: Enable	PS3:	No
019.041: Vec.gr. ends a-b	PS3:	0
019.044: Vec.gr. ends a-c	PS3:	0
074.142: Idiff>	PS3:	0.20 Iref
074.143: Idiff>>	PS3:	15.0 Iref
074.144: Idiff>>>	PS3:	30.0 Iref
082.000: Idiff>(CTS)	PS3:	0.20 Iref
074.145: m1	PS3:	0.30
074.146: m2	PS3:	0.70
074.147: IR,m2	PS3:	4.0 Iref
074.148: Op.mode rush rst.	PS3:	Not phase-selective
074.159: RushI(2f0)/I(f0)	PS3:	20 %
074.155: 0-seq. filt.a en.	PS3:	Yes
074.156: 0-seq. filt.b en.	PS3:	Yes
074.157: 0-seq. filt.c en.	PS3:	Yes
074.158: Overflux.bl. en.	PS3:	No
074.160: Ov. I(5f0)/I(f0)	PS3:	20 %
010.164: Op.del.,trip sig.	PS3:	0.00 s
074.006: Hyst. effective	PS3:	Yes

IDMT1

083.050: Enable	PS3:	No
083.068: Block tim.st. IN	PS3:	Without
083.059: Gen.starting mode	PS3:	With start. IN/Ineg
083.058: tGS	PS3:	0.00 s
083.060: Rush restr.enabl	PS3:	No
013.194: Meas.value I/IN	PS3:	Fundamental
083.051: Iref,P	PS3:	1.00 Inom
083.052: Iref,P dynamic	PS3:	1.00 Inom
083.053: Characteristic P	PS3:	Definite Time
083.054: Factor kt,P	PS3:	1.00
083.057: Min. trip t. P	PS3:	1.00 s
083.055: Hold time P	PS3:	0.00 s
083.056: Release P	PS3:	Without delay
083.111: Iref,neg	PS3:	Blocked
083.112: Iref,neg dynamic	PS3:	Blocked
083.113: Character. neg.	PS3:	Definite Time
083.114: Factor kt,neg	PS3:	1.00
083.117: Min. trip t. neg	PS3:	1.00 s
083.115: Hold time neg	PS3:	0.00 s
083.116: Release neg	PS3:	Without delay



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083.061: Iref,N	PS3:	Blocked
083.062: Iref,N dynamic	PS3:	Blocked
083.063: Characteristic N	PS3:	Definite Time
083.064: Factor kt,N	PS3:	1.00
083.067: Min. trip t. N	PS3:	1.00 s
083.065: Hold time N	PS3:	0.00 s
083.066: Release N	PS3:	Without delay
V/f		
083.210: Enable	PS3:	No
083.211: V/f> (alarm)	PS3:	1.05 Vnom/fnom
083.212: V/f(t)>	PS3:	1.10 Vnom/fnom
083.213: V/f>>	PS3:	Blocked
083.214: tV/f>	PS3:	1 s
083.217: t at V/f=1.05	PS3:	72.8 s
083.218: t at V/f=1.10	PS3:	18.8 s
083.219: t at V/f=1.15	PS3:	8.8 s
083.220: t at V/f=1.20	PS3:	5.3 s
083.221: t at V/f=1.25	PS3:	3.7 s
083.222: t at V/f=1.30	PS3:	2.8 s
083.223: t at V/f=1.35	PS3:	2.3 s
083.224: t at V/f=1.40	PS3:	1.9 s
083.225: t at V/f=1.45	PS3:	1.7 s
083.226: t at V/f=1.50	PS3:	1.5 s
083.227: t at V/f=1.55	PS3:	1.4 s
083.228: t at V/f=1.60	PS3:	1.3 s
083.230: Reset time	PS3:	0 s
083.229: tV/f>>	PS3:	Blocked
Parameter subset 4		
MAIN		
019.065: Vnom prim. end a	PS4:	110.0 kV
019.066: Vnom prim. end b	PS4:	110.0 kV
019.067: Vnom prim. end c	PS4:	110.0 kV
010.203: Phase reversal a	PS4:	No swap
010.207: Phase reversal b	PS4:	No swap
010.211: Phase reversal c	PS4:	No swap
DIFF		
075.152: Enable	PS4:	No
019.042: Vec.gr. ends a-b	PS4:	0
019.045: Vec.gr. ends a-c	PS4:	0
075.142: Idiff>	PS4:	0.20 Iref
075.143: Idiff>>	PS4:	15.0 Iref
075.144: Idiff>>>	PS4:	30.0 Iref
083.000: Idiff>(CTS)	PS4:	0.20 Iref
075.145: m1	PS4:	0.30
075.146: m2	PS4:	0.70
075.147: IR,m2	PS4:	4.0 Iref
075.148: Op.mode rush rst.	PS4:	Not phase-selective
075.159: RushI(2f0)/I(f0)	PS4:	20 %
075.155: 0-seq. filt.a en.	PS4:	Yes
075.156: 0-seq. filt.b en.	PS4:	Yes
075.157: 0-seq. filt.c en.	PS4:	Yes
075.158: Overflux.bl. en.	PS4:	No
075.160: Ov. I(5f0)/I(f0)	PS4:	20 %
010.165: Op.del.,trip sig.	PS4:	0.00 s
075.006: Hyst. effective	PS4:	Yes
IDMT1		
084.050: Enable	PS4:	No
084.068: Block tim.st. IN	PS4:	Without
084.059: Gen.starting mode	PS4:	With start. IN/Ineg
084.058: tGS	PS4:	0.00 s
084.060: Rush restr.enabl	PS4:	No
013.195: Meas.value I/IN	PS4:	Fundamental
084.051: Iref,P	PS4:	1.00 Inom
084.052: Iref,P dynamic	PS4:	1.00 Inom
084.053: Characteristic P	PS4:	Definite Time
084.054: Factor kt,P	PS4:	1.00



Settings File Report
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084.057: Min. trip t. P	PS4:	1.00 s
084.055: Hold time P	PS4:	0.00 s
084.056: Release P	PS4:	Without delay
084.111: Iref,neg	PS4:	Blocked
084.112: Iref,neg dynamic	PS4:	Blocked
084.113: Character. neg.	PS4:	Definite Time
084.114: Factor kt,neg	PS4:	1.00
084.117: Min. trip t. neg	PS4:	1.00 s
084.115: Hold time neg	PS4:	0.00 s
084.116: Release neg	PS4:	Without delay
084.061: Iref,N	PS4:	Blocked
084.062: Iref,N dynamic	PS4:	Blocked
084.063: Characteristic N	PS4:	Definite Time
084.064: Factor kt,N	PS4:	1.00
084.067: Min. trip t. N	PS4:	1.00 s
084.065: Hold time N	PS4:	0.00 s
084.066: Release N	PS4:	Without delay
V/f		
084.210: Enable	PS4:	No
084.211: V/f> (alarm)	PS4:	1.05 Vnom/fnom
084.212: V/f(t)>	PS4:	1.10 Vnom/fnom
084.213: V/f>>	PS4:	Blocked
084.214: tV/f>	PS4:	1 s
084.217: t at V/f=1.05	PS4:	72.8 s
084.218: t at V/f=1.10	PS4:	18.8 s
084.219: t at V/f=1.15	PS4:	8.8 s
084.220: t at V/f=1.20	PS4:	5.3 s
084.221: t at V/f=1.25	PS4:	3.7 s
084.222: t at V/f=1.30	PS4:	2.8 s
084.223: t at V/f=1.35	PS4:	2.3 s
084.224: t at V/f=1.40	PS4:	1.9 s
084.225: t at V/f=1.45	PS4:	1.7 s
084.226: t at V/f=1.50	PS4:	1.5 s
084.227: t at V/f=1.55	PS4:	1.4 s
084.228: t at V/f=1.60	PS4:	1.3 s
084.230: Reset time	PS4:	0 s
084.229: tV/f>>	PS4:	Blocked
Control		
MAIN		
221.084: CB1 max. oper. cap.:	1	
221.085: CB1 ready fct.assign:	Without function	
221.240: DC op. delay t1: 0.10 s		
221.242: DC2/3 release delay:	0.10 s	
DEV01		
210.000: Designat. ext. dev.:	Q0	
218.101: DEV-Name User:		
210.024: Oper. mode cmd.:	Time control	
210.005: Latching time: 0.00 s		
210.004: Op.time switch. dev.:	1 s	
210.011: Gr. assign. debounc.:	Group 1	
210.007: StartCmdTime superv.:	Blocked	
210.012: Interm. pos. suppr.:	No	
210.027: Stat.ind.interm.pos.:	No	
210.014: Inp.asg. sw.tr. plug:	Without function	
210.021: With gen. trip cmd.1:	No	
210.022: With gen. trip cmd.2:	No	
210.023: With close cmd./prot:	No	
210.019: Inp.asg.el.ctrl.open:	Without function	
210.020: Inp.asg.el.ctr.close:	Without function	
218.120: Block cmd open:	Without function	
218.160: Block cmd close:	Without function	
218.211: Oper.count.limit:	Blocked	
210.015: Inp. asg. end Open:	Without function	
210.016: Inp. asg. end Close:	Without function	
210.041: Fct.asg.BI w/o SI op:	Without function	
210.042: Fct.asg.BI w/o SI cl:	Without function	



Settings File Report
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Operation	
Cyclic measurements	
Meas. operating data	
MAIN	
003.090:	Date: 24.09.24 dd.mm.yy
003.091:	Time of day: 17:59 hh:mm
003.095:	Time switching: Daylight saving time
004.040:	Frequency f: 50.05 Hz
005.101:	Curr. IP,max,a prim.: 209 A
005.162:	IP,max prim.,delay a: 205 A
005.161:	IP,max prim.stored a: Not measured
005.102:	Curr. IP,max,b prim.: 377 A
006.162:	IP,max prim.,delay b: 373 A
006.161:	IP,max prim.stored b: Not measured
005.103:	Curr. IP,max,c prim.: 0 A
007.162:	IP,max prim.,delay c: 0 A
007.161:	IP,max prim.stored c: Not measured
005.104:	Curr. IP,min,a prim.: 195 A
005.105:	Curr. IP,min,b prim.: 360 A
005.106:	Curr. IP,min,c prim.: 0 A
005.021:	Current IA,a prim.: 195 A
006.021:	Current IB,a prim.: 209 A
007.021:	Current IC,a prim.: 207 A
005.022:	Current IA,b prim.: 360 A
006.022:	Current IB,b prim.: 377 A
007.022:	Current IC,b prim.: 373 A
005.023:	Current IA,c prim.: 0 A
006.023:	Current IB,c prim.: 0 A
007.023:	Current IC,c prim.: 0 A
005.125:	Current Ineg a prim.: 6 A
005.127:	Current Ipos a prim.: 201 A
005.129:	Current Ineg b prim.: 9 A
005.134:	Current Ipos b prim.: 377 A
005.136:	Current Ineg c prim.: 0 A
005.138:	Current Ipos c prim.: 0 A
005.121:	Current IN,a prim.: 2 A
005.131:	Current IY,a prim.: 0 A
005.122:	Current IN,b prim.: 3 A
005.132:	Current IY,b prim.: 1 A
005.123:	Current IN,c prim.: 0 A
005.133:	Current IY,c prim.: 0 A
005.018:	Voltage V prim.: 403.5 kV
005.111:	Curr. IP,max,a p.u.: 0.209 Inom
005.163:	IP,max p.u.,delay a: 0.205 Inom
005.160:	IP,max p.u.,stored a: 0.365 Inom
005.112:	Curr. IP,max,b p.u.: 0.235 Inom
006.163:	IP,max p.u.,delay b: 0.232 Inom
006.160:	IP,max p.u.,stored b: 0.415 Inom
005.113:	Curr. IP,max,c p.u.: 0.000 Inom
007.163:	IP,max p.u.,delay c: 0.000 Inom
007.160:	IP,max p.u.,stored c: 0.000 Inom
005.107:	Curr. IP,min,a p.u.: 0.195 Inom
005.108:	Curr. IP,min,b p.u.: 0.225 Inom
005.109:	Curr. IP,min,c p.u.: 0.000 Inom
005.031:	Current IA,a p.u.: 0.195 Inom
006.031:	Current IB,a p.u.: 0.209 Inom
007.031:	Current IC,a p.u.: 0.207 Inom
005.032:	Current IA,b p.u.: 0.225 Inom
006.032:	Current IB,b p.u.: 0.235 Inom
007.032:	Current IC,b p.u.: 0.233 Inom
005.033:	Current IA,c p.u.: 0.000 Inom
006.033:	Current IB,c p.u.: 0.000 Inom
007.033:	Current IC,c p.u.: 0.000 Inom
005.126:	Current Ineg a p.u.: 0.006 Inom
005.128:	Current Ipos a p.u.: 0.201 Inom
005.130:	Current Ineg b p.u.: 0.006 Inom



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005.135:	Current Ipos b p.u.:	0.235 Inom
005.137:	Current Ineg c p.u.:	0.000 Inom
005.139:	Current Ipos c p.u.:	0.000 Inom
005.141:	Current IN,a p.u.:	0.002 Inom
005.151:	Current IY,a p.u.:	0.000 Inom
005.142:	Current IN,b p.u.:	0.002 Inom
005.152:	Current IY,b p.u.:	0.002 Inom
005.143:	Current IN,c p.u.:	0.000 Inom
005.153:	Current IY,c p.u.:	0.000 Inom
005.114:	IP,max,add p.u.:	Not measured
005.110:	IP,min,add p.u.:	Not measured
005.038:	Current IA,add p.u.:	Not measured
006.038:	Current IB,add p.u.:	Not measured
007.038:	Current IC,add p.u.:	Not measured
005.149:	Curr. Ineg,add p.u.:	Not measured
005.150:	Curr. Ipos,add p.u.:	Not measured
005.155:	Current IN,add p.u.:	Not measured
005.019:	Voltage V p.u.:	1.008 Vnom
005.089:	Angle phi AB, end a:	117.7 °
006.089:	Angle phi BC, end a:	122.9 °
007.089:	Angle phi CA, end a:	119.2 °
005.092:	Angle phi AB, end b:	118.0 °
006.092:	Angle phi BC, end b:	122.4 °
007.092:	Angle phi CA, end b:	119.4 °
005.093:	Angle phi AB, end c:	Not measured
006.093:	Angle phi BC, end c:	Not measured
007.093:	Angle phi CA, end c:	Not measured
005.090:	Angle phi A, end a-b:	-179.7 °
006.090:	Angle phi B, end a-b:	179.4 °
007.090:	Angle phi C, end a-b:	179.7 °
005.091:	Angle phi A, end a-c:	Not measured
006.091:	Angle phi B, end a-c:	Not measured
007.091:	Angle phi C, end a-c:	Not measured
005.077:	Angle phi NY, end a:	Not measured
005.078:	Angle phi NY, end b:	Not measured
005.079:	Angle phi NY, end c:	Not measured

DIFF

005.080:	Diff. current 1:	0.001 Iref
005.081:	Restrained. current 1:	0.435 Iref
006.080:	Diff. current 2:	0.000 Iref
006.081:	Restrained. current 2:	0.458 Iref
007.080:	Diff. current 3:	0.000 Iref
007.081:	Restrained. current 3:	0.458 Iref

V/f

004.220:	Excitation V/f p.u.:	1.01
004.222:	Status replica in %:	0 %
004.223:	Status replica p.u.:	0.00

Phys. state signals**F_KEY**

080.122:	State F1:	"Off"
080.123:	State F2:	"Off"
080.124:	State F3:	"Off"
080.125:	State F4:	"Off"
080.126:	State F5:	"Off"
080.127:	State F6:	"Off"

INP

















152.162:	State U 1001:	"Low"
152.165:	State U 1002:	"Low"
152.168:	State U 1003:	"Low"
152.171:	State U 1004:	"Low"
152.174:	State U 1005:	"Low"
152.177:	State U 1006:	"Low"
153.086:	State U 2001:	"High"
153.089:	State U 2002:	"Low"
153.092:	State U 2003:	"Low"
153.095:	State U 2004:	"Low"









































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 OUTP

	150.216: State K 1001:	Inactive
	150.219: State K 1002:	Inactive
	150.222: State K 1003:	Inactive
	150.225: State K 1004:	Inactive
	150.228: State K 1005:	Inactive
	150.231: State K 1006:	Inactive
	150.234: State K 1007:	Inactive
	150.237: State K 1008:	Inactive
	151.200: State K 2001:	Inactive
	151.203: State K 2002:	Inactive
	151.206: State K 2003:	Inactive
	151.209: State K 2004:	Inactive
	151.212: State K 2005:	Inactive
	151.215: State K 2006:	Inactive
	151.218: State K 2007:	Inactive
	151.221: State K 2008:	Inactive

 LED

	085.180: State H 1 green:	Active
	085.000: State H 2 yell.:	Inactive
	085.003: State H 3 yell.:	Inactive
	085.006: State H 4 red:	Inactive
	085.009: State H 5 red:	Inactive
	085.012: State H 6 red:	Inactive
	085.015: State H 7 red:	Inactive
	085.018: State H 8 red:	Inactive
	085.021: State H 9 red:	Inactive
	085.024: State H10 red:	Inactive
	085.027: State H11 red:	Inactive
	085.030: State H12 red:	Inactive
	085.033: State H13 red:	Inactive
	085.036: State H14 red:	Inactive
	085.039: State H15 red:	Inactive
	085.042: State H16 red:	Inactive
	085.181: State H17 red.:	Inactive
	085.130: State H18 red:	Inactive
	085.133: State H19 red:	Inactive
	085.136: State H20 red:	Inactive
	085.139: State H21 red:	Inactive
	085.142: State H22 red:	Inactive
	085.145: State H23 red:	Inactive
	085.056: State H 4 green:	Inactive
	085.059: State H 5 green:	Inactive
	085.062: State H 6 green:	Inactive
	085.065: State H 7 green:	Inactive
	085.068: State H 8 green:	Inactive
	085.071: State H 9 green:	Inactive
	085.074: State H10 green:	Inactive
	085.077: State H11 green:	Inactive
	085.080: State H12 green:	Inactive
	085.083: State H13 green:	Inactive
	085.086: State H14 green:	Inactive
	085.089: State H15 green:	Inactive
	085.092: State H16 green:	Inactive
	085.160: State H18 green:	Inactive
	085.163: State H19 green:	Inactive
	085.166: State H20 green:	Inactive
	085.169: State H21 green:	Inactive
	085.172: State H22 green:	Inactive
	085.176: State H23 green:	Inactive

 Log. state signals LOC

	080.111: Edit mode:	No
	030.230: Trig. menu jmp 1 EXT:	No
	030.231: Trig. menu jmp 2 EXT:	No
	037.101: Illumination on EXT:	No



Settings File Report
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IEC	
105.180: Comm. link faulty:	No
221.082: Control reservation:	No
OUTP	
040.014: Block outp.rel. EXT:	No
040.015: Reset latch. EXT:	No
021.015: Outp. relays blocked:	No
040.088: Latching reset:	No
MAIN	
003.027: Enable protect. EXT:	No
003.026: Disable protect. EXT:	No
005.255: General reset EXT:	No
065.001: Reset indicat. EXT:	No
005.209: Group reset 1 EXT:	No
005.252: Group reset 2 EXT:	No
040.138: Reset latch.trip EXT:	No
005.210: Reset c. cl/tr.c EXT:	No
005.211: Reset IP,max,st. EXT:	No
031.028: CB1 open 3p EXT:	No
031.046: CB2 open 3p EXT:	No
031.047: CB3 open 3p EXT:	No
036.051: CB1 closed 3p EXT:	No
036.230: CB2 closed 3p EXT:	No
036.231: CB3 closed 3p EXT:	No
221.086: CB1 faulty EXT:	No
040.060: Blocking 1 EXT:	No
040.061: Blocking 2 EXT:	No
040.116: Blocking 3 EXT:	No
040.117: Blocking 4 EXT:	No
004.061: M.c.b. trip V EXT:	No
036.045: Trip cmd. block. EXT:	No
037.018: Man. trip cmd. EXT:	No
036.033: Switch dyn.param.EXT:	No
037.070: Test mode EXT:	No
003.096: Time switching EXT:	Standard time
060.060: Min-pulse clock EXT:	No
060.001: Healthy:	Yes
009.109: Time synchronized:	Yes
004.065: Blocked/faulty:	No
004.060: Protect. not ready:	No
037.071: Test mode:	No
003.028: Prot. ext. enabled:	Yes
038.046: Prot. ext. disabled:	No
040.090: Dynam. param. active:	No
031.040: CB1 open 3p:	No
031.086: CB2 open 3p:	No
031.087: CB3 open 3p:	No
031.042: CB1 closed 3p:	No
031.089: CB2 closed 3p:	No
031.090: CB3 closed 3p:	No
031.041: CB1 pos.sig. implaus:	No
031.049: CB2 pos.sig. implaus:	No
031.051: CB3 pos.sig. implaus:	No
021.013: Trip cmd. blocked:	No
040.139: Latch. trip c. reset:	No
036.071: Gen. trip command 1:	No
036.022: Gen. trip command 2:	No
036.113: Gen. trip command 3:	No
036.114: Gen. trip command 4:	No
036.251: Gen. trip signal:	No
036.005: Gen. trip signal 1:	No
036.023: Gen. trip signal 2:	No
036.108: Gen. trip signal 3:	No
036.109: Gen. trip signal 4:	No
034.017: Manual trip signal:	No
041.019: Disconnect End a EXT:	No



Settings File Report
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File: 240924.x3v
Model Number: 653

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041.107:	Disconnect End b EXT:	No
041.128:	Disconnect End c EXT:	No
041.148:	En. disc. end x EXT:	No
036.155:	Meas. circ.I faulty:	No
036.000:	General starting:	No
036.174:	Trip sig.REF1 & REF2:	No
036.175:	Trip sig.REF2 & REF3:	No
036.176:	Trip sig.REF1 & REF3:	No
019.200:	REFn trip signal:	No
036.220:	Phase reversal activ:	No
036.017:	CB failure:	No
041.149:	End a disconnected:	No
041.158:	End b disconnected:	No
041.159:	End c disconnected:	No
221.018:	Interlock equ. viol.:	No
221.016:	CB tripped:	No
221.110:	DEV op.time exceeded:	No
221.121:	Chatt.suppr. started:	No
019.192:	Group signal 01:	No
019.193:	Group signal 02:	No
019.194:	Group signal 03:	No
019.195:	Group signal 04:	No
019.196:	Group signal 05:	No
019.197:	Group signal 06:	No
019.198:	Group signal 07:	No
019.199:	Group signal 08:	No
221.101:	Cmd. fr. comm.interf:	No
221.103:	Cmd. fr. electr.ctrl:	No
221.102:	Command from HMI:	No
060.000:	Without function:	No
061.000:	Without function:	No
PSS		
036.101:	Control via user EXT:	No
065.002:	Activate PS 1 EXT:	No
065.003:	Activate PS 2 EXT:	No
065.004:	Activate PS 3 EXT:	No
065.005:	Activate PS 4 EXT:	No
036.102:	Control via user:	No
003.061:	Ext.sel.param.subset:	No param. subset sel
036.094:	PS 1 activated ext.:	No
036.095:	PS 2 activated ext.:	No
036.096:	PS 3 activated ext.:	No
036.097:	PS 4 activated ext.:	No
003.062:	Actual param. subset:	Parameter subset 1
036.090:	PS 1 active:	Yes
036.091:	PS 2 active:	No
036.092:	PS 3 active:	No
036.093:	PS 4 active:	No
SFMON		
036.070:	Warning (LED):	No
036.100:	Warning (relay):	No
041.202:	Warm restart exec.:	Yes
041.201:	Cold restart exec.:	No
093.024:	Cold restart:	No
093.025:	Cold rest./SW update:	No
090.019:	Blocking/ HW failure:	No
041.200:	Relay Kxx faulty:	No
093.040:	Hardware clock fail.:	No
090.010:	Battery failure:	No
096.121:	Invalid SW d.loaded:	No
093.081:	+15V supply faulty:	No
093.082:	+24V supply faulty:	No
093.080:	-15V supply faulty:	No
096.100:	Wrong module slot 1:	No
096.101:	Wrong module slot 2:	No
096.102:	Wrong module slot 3:	No



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 653

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096.103: Wrong module slot 4:	No
096.104: Wrong module slot 5:	No
096.105: Wrong module slot 6:	No
096.106: Wrong module slot 7:	No
096.107: Wrong module slot 8:	No
096.108: Wrong module slot 9:	No
096.109: Wrong module slot 10:	No
096.110: Wrong module slot 11:	No
096.111: Wrong module slot 12:	No
096.112: Wrong module slot 13:	No
096.113: Wrong module slot 14:	No
096.114: Wrong module slot 15:	No
096.115: Wrong module slot 16:	No
096.116: Wrong module slot 17:	No
096.117: Wrong module slot 18:	No
096.118: Wrong module slot 19:	No
096.119: Wrong module slot 20:	No
096.120: Wrong module slot 21:	No
096.123: Wrong module Dig.Bus:	No
096.124: Wrong module HMI:	No
096.125: Wrong module Comm:	No
096.126: Wrong module Ana.Bus:	No
097.000: Defect.module slot 1:	No
097.002: Defect.module slot 3:	No
097.004: Defect.module slot 5:	No
097.006: Defect.module slot 7:	No
097.009: Defect.module slot10:	No
097.019: Defect.module slot20:	No
097.102: Error K 1001:	No
097.103: Error K 1002:	No
097.104: Error K 1003:	No
097.105: Error K 1004:	No
097.106: Error K 1005:	No
097.107: Error K 1006:	No
097.108: Error K 1007:	No
097.109: Error K 1008:	No
097.182: Error K 2001:	No
097.183: Error K 2002:	No
097.184: Error K 2003:	No
097.185: Error K 2004:	No
097.186: Error K 2005:	No
097.187: Error K 2006:	No
097.188: Error K 2007:	No
097.189: Error K 2008:	No
093.010: Undef. operat. code:	No
093.030: Abnormal termination:	No
093.031: Bad arg. system call:	No
093.032: Mutex deadlock:	No
093.033: Invalid memory ref.:	No
093.034: Unexpected exception:	No
093.011: Invalid arithm. op.:	No
093.012: Undefined interrupt:	No
093.013: Exception oper.syst.:	No
090.021: Protection failure:	No
090.003: Checksum error param:	No
093.041: Clock sync. error:	No
093.026: Interm.volt.fail.RAM:	No
090.012: Overflow MT_RC:	No
093.015: Semaph. MT_RC block.:	No
093.075: Inval. SW vers.comm.:	No
093.079: Inval. Config. IEC:	No
098.000: M.c.b. trip V:	No
098.091: Insulation Alarm 1:	No
098.092: Insulation Alarm 2:	No
098.093: Insulation Alarm 3:	No
098.094: Buchholz Alarm 1:	No



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 653

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098.095: Buchholz Alarm 2:	No
098.096: Buchholz Alarm 3:	No
091.018: Meas. circ. I faulty:	No
091.026: Meas. c. I faulty, a:	No
091.027: Meas. c. I faulty, b:	No
091.028: Meas. c. I faulty, c:	No
091.029: Meas. c. I faulty, d:	No
091.011: Invalid charact. V/f:	No
093.145: Invalid SW vers DHMI:	No
093.160: Invalid config.TPDx:	No
093.124: Invalid scaling BCD:	No
098.028: Setting error f<>:	No
091.007: Iref, a inval. range:	No
091.008: Iref, b inval. range:	No
091.009: Iref, c inval. range:	No
091.000: Matching fail. end a:	No
091.001: Matching fail. end b:	No
091.002: Matching fail. end c:	No
091.004: Ratio mtch.fact.inv.:	No
091.006: 2nd match.fact. inv.:	No
091.105: Inv.range Iref REF_1:	No
091.101: Match.f. kam,N REF_1:	No
091.102: Match.f. kam,Y REF_1:	No
091.103: Rat.mtch.f.inv.REF_1:	No
091.104: Min.mtch.f.inv.REF_1:	No
091.115: Inv.range Iref REF_2:	No
091.111: Match.f. kam,N REF_2:	No
091.112: Match.f. kam,Y REF_2:	No
091.113: Rat.mtch.f.inv.REF_2:	No
091.114: Min.mtch.f.inv.REF_2:	No
091.125: Inv.range Iref REF_3:	No
091.121: Match.f. kam,N REF_3:	No
091.122: Match.f. kam,Y REF_3:	No
091.123: Rat.mtch.f.inv.REF_3:	No
091.124: Min.mtch.f.inv.REF_3:	No
098.036: CTA error THRM1:	No
098.038: Setting error THRM1:	No
098.037: CTA error THRM2:	No
098.039: Setting error THRM2:	No
093.120: Inv.inp.f.clock sync:	No
098.053: Output 30:	No
098.054: Output 30 (t):	No
098.055: Output 31:	No
098.056: Output 31 (t):	No
098.057: Output 32:	No
098.058: Output 32 (t):	No
098.124: CB1 pos.sig. implaus:	No
098.125: CB2 pos.sig. implaus:	No
098.126: CB3 pos.sig. implaus:	No
098.072: CB1 faulty EXT:	No
098.129: CB2 faulty EXT:	No
098.130: CB3 faulty EXT:	No
091.010: Unsuff. No. of ends:	No
091.012: Disc. end x invalid:	No
OP_RC	
005.213: Reset record. EXT:	No
MT_RC	
005.240: Reset record. EXT:	No
OL_RC	
005.241: Reset record. EXT:	No
035.003: Record. in progress:	No
035.007: Overl. mem. overflow:	No
FT_RC	
005.243: Reset record. EXT:	No
036.089: Trigger EXT:	No
037.076: Trigger:	No



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035.018: Id> triggered: No
035.019: IR> triggered: No
035.000: Record. in progress: No
035.004: System disturb. runn: No
035.001: Fault mem. overflow: No
035.002: Faulty time tag: No

DIFF

003.163: Blocking EXT: No
041.210: Enabled: Yes
041.106: Starting: No
041.124: Meas.system 1 trigg.: No
041.125: Meas.system 2 trigg.: No
041.126: Meas.system 3 trigg.: No
041.221: Id>> triggered: No
041.222: Id>>> triggered: No
019.213: Inrush blk. trigg.: No
041.118: Inrush blk. 1 trigg.: No
041.119: Inrush blk. 2 trigg.: No
041.120: Inrush blk. 3 trigg.: No
019.202: Overflux.bl. trigg.: No
041.121: Overflux.bl.1 trigg.: No
041.122: Overflux.bl.2 trigg.: No
041.123: Overflux.bl.3 trigg.: No
019.214: Harm.block. trigg.: No
019.201: Sat.discr. trigg.: No
041.115: Sat.discr. 1 trigg.: No
041.116: Sat.discr. 2 trigg.: No
041.117: Sat.discr. 3 trigg.: No
041.075: Trip signal: No
041.002: Trip signal 1: No
041.003: Trip signal 2: No
041.004: Trip signal 3: No

IDMT1

038.114: Block. tIref,P> EXT: No
038.178: Block.tIref,neg> EXT: No
038.124: Block. tIref,N> EXT: No
038.125: Enabled: Yes
038.115: General starting:No
038.116: tGS elapsed: No
038.110: Starting Iref,P>:No
038.117: Starting Iref,A>:No
038.118: Starting Iref,B>:No
038.119: Starting Iref,C>:No
038.111: tIref,P> elapsed: No
038.112: Hold time P running: No
038.113: Memory P clear: Yes
038.173: Starting Iref,neg>: No
038.174: tIref,neg> elapsed: No
038.177: Trip sig. tIref,neg>: No
038.175: Hold time neg runn.: No
038.176: Memory 'neg' clear: Yes
038.120: Starting Iref,N>:No
038.121: tIref,N> elapsed: No
038.126: Trip signal tIref,N>: No
038.122: Hold time N running: No
038.123: Memory N clear: Yes

V/f

035.196: Block. tV/f> EXT: No
035.197: Block. replica EXT: No
035.199: Block. tV/f>> EXT: No
035.182: Reset replica EXT: No
041.229: Enabled: Yes
035.184: Reset replica: No
041.230: Starting V/f>: No
041.231: tV/f> elapsed: No
041.232: Starting V/f(t): No



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041.233: Trip signal tV/f(t): No
041.234: Starting V/f>>: No
041.235: tV/f>> elapsed: No
041.236: Buffer empty: Yes

LOGIC

034.000: Input 01 EXT: Yes
034.001: Input 02 EXT: No
034.002: Input 03 EXT: No
034.003: Input 04 EXT: No
034.004: Input 05 EXT: No
034.005: Input 06 EXT: No
034.006: Input 07 EXT: No
034.007: Input 08 EXT: No
034.008: Input 09 EXT: No
034.009: Input 10 EXT: No
034.010: Input 11 EXT: No
034.011: Input 12 EXT: No
034.012: Input 13 EXT: No
034.013: Input 14 EXT: No
034.014: Input 15 EXT: No
034.015: Input 16 EXT: No
034.086: Input 17 EXT: No
034.087: Input 18 EXT: No
034.088: Input 19 EXT: No
034.089: Input 20 EXT: No
034.090: Input 21 EXT: No
034.091: Input 22 EXT: No
034.092: Input 23 EXT: No
034.093: Input 24 EXT: No
034.094: Input 25 EXT: No
034.095: Input 26 EXT: No
034.096: Input 27 EXT: No
034.097: Input 28 EXT: No
034.098: Input 29 EXT: No
034.099: Input 30 EXT: No
034.100: Input 31 EXT: No
034.101: Input 32 EXT: No
034.102: Input 33 EXT: No
034.103: Input 34 EXT: No
034.104: Input 35 EXT: No
034.105: Input 36 EXT: No
034.106: Input 37 EXT: No
034.107: Input 38 EXT: No
034.108: Input 39 EXT: No
034.109: Input 40 EXT: No
034.051: Set 1 EXT: No
034.052: Set 2 EXT: No
034.053: Set 3 EXT: No
034.054: Set 4 EXT: No
034.055: Set 5 EXT: No
034.056: Set 6 EXT: No
034.057: Set 7 EXT: No
034.058: Set 8 EXT: No
034.059: Reset 1 EXT: No
034.060: Reset 2 EXT: No
034.061: Reset 3 EXT: No
034.062: Reset 4 EXT: No
034.063: Reset 5 EXT: No
034.064: Reset 6 EXT: No
034.065: Reset 7 EXT: No
034.066: Reset 8 EXT: No
034.067: 1 has been set: No
034.068: 2 has been set: No
034.069: 3 has been set: No
034.070: 4 has been set: No
034.071: 5 has been set: No



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034.072: 6 has been set:	No
034.073: 7 has been set:	No
034.074: 8 has been set:	No
034.075: 1 set externally:	Yes
034.076: 2 set externally:	Yes
034.077: 3 set externally:	Yes
034.078: 4 set externally:	Yes
034.079: 5 set externally:	Yes
034.080: 6 set externally:	Yes
034.081: 7 set externally:	Yes
034.082: 8 set externally:	Yes
034.046: Enabled:	Yes
042.032: Output 01:	No
042.033: Output 01 (t):	No
042.034: Output 02:	No
042.035: Output 02 (t):	No
042.036: Output 03:	No
042.037: Output 03 (t):	No
042.038: Output 04:	No
042.039: Output 04 (t):	No
042.040: Output 05:	No
042.041: Output 05 (t):	No
042.042: Output 06:	No
042.043: Output 06 (t):	No
042.044: Output 07:	No
042.045: Output 07 (t):	No
042.046: Output 08:	No
042.047: Output 08 (t):	No
042.048: Output 09:	No
042.049: Output 09 (t):	No
042.050: Output 10:	No
042.051: Output 10 (t):	No
042.052: Output 11:	No
042.053: Output 11 (t):	No
042.054: Output 12:	No
042.055: Output 12 (t):	No
042.056: Output 13:	No
042.057: Output 13 (t):	No
042.058: Output 14:	No
042.059: Output 14 (t):	No
042.060: Output 15:	No
042.061: Output 15 (t):	No
042.062: Output 16:	No
042.063: Output 16 (t):	No
042.064: Output 17:	No
042.065: Output 17 (t):	No
042.066: Output 18:	No
042.067: Output 18 (t):	No
042.068: Output 19:	No
042.069: Output 19 (t):	No
042.070: Output 20:	No
042.071: Output 20 (t):	No
042.072: Output 21:	No
042.073: Output 21 (t):	No
042.074: Output 22:	No
042.075: Output 22 (t):	No
042.076: Output 23:	No
042.077: Output 23 (t):	No
042.078: Output 24:	No
042.079: Output 24 (t):	No
042.080: Output 25:	No
042.081: Output 25 (t):	No
042.082: Output 26:	No
042.083: Output 26 (t):	No
042.084: Output 27:	No
042.085: Output 27 (t):	No



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042.086: Output 28:	No
042.087: Output 28 (t):	No
042.088: Output 29:	No
042.089: Output 29 (t):	No
042.090: Output 30:	No
042.091: Output 30 (t):	No
042.092: Output 31:	No
042.093: Output 31 (t):	No
042.094: Output 32:	No
042.095: Output 32 (t):	No
042.180: Output 33:	No
042.181: Output 33 (t):	No
042.182: Output 34:	No
042.183: Output 34 (t):	No
042.184: Output 35:	No
042.185: Output 35 (t):	No
042.186: Output 36:	No
042.187: Output 36 (t):	No
042.188: Output 37:	No
042.189: Output 37 (t):	No
042.190: Output 38:	No
042.191: Output 38 (t):	No
042.192: Output 39:	No
042.193: Output 39 (t):	No
042.194: Output 40:	No
042.195: Output 40 (t):	No
042.196: Output 41:	No
042.197: Output 41 (t):	No
042.198: Output 42:	No
042.199: Output 42 (t):	No
042.200: Output 43:	No
042.201: Output 43 (t):	No
042.202: Output 44:	No
042.203: Output 44 (t):	No
042.204: Output 45:	No
042.205: Output 45 (t):	No
042.206: Output 46:	No
042.207: Output 46 (t):	No
042.208: Output 47:	No
042.209: Output 47 (t):	No
042.210: Output 48:	No
042.211: Output 48 (t):	No
042.212: Output 49:	No
042.213: Output 49 (t):	No
042.214: Output 50:	No
042.215: Output 50 (t):	No
042.216: Output 51:	No
042.217: Output 51 (t):	No
042.218: Output 52:	No
042.219: Output 52 (t):	No
042.220: Output 53:	No
042.221: Output 53 (t):	No
042.222: Output 54:	No
042.223: Output 54 (t):	No
042.224: Output 55:	No
042.225: Output 55 (t):	No
042.226: Output 56:	No
042.227: Output 56 (t):	No
042.228: Output 57:	No
042.229: Output 57 (t):	No
042.230: Output 58:	No
042.231: Output 58 (t):	No
042.232: Output 59:	No
042.233: Output 59 (t):	No
042.234: Output 60:	No
042.235: Output 60 (t):	No



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042.236: Output 61:	No
042.237: Output 61 (t):	No
042.238: Output 62:	No
042.239: Output 62 (t):	No
042.240: Output 63:	No
042.241: Output 63 (t):	No
042.242: Output 64:	No
042.243: Output 64 (t):	No
047.128: Output 65:	No
047.129: Output 65 (t):	No
047.002: Output 66:	No
047.003: Output 66 (t):	No
047.004: Output 67:	No
047.005: Output 67 (t):	No
047.006: Output 68:	No
047.007: Output 68 (t):	No
047.008: Output 69:	No
047.009: Output 69 (t):	No
047.010: Output 70:	No
047.011: Output 70 (t):	No
047.012: Output 71:	No
047.013: Output 71 (t):	No
047.014: Output 72:	No
047.015: Output 72 (t):	No
047.016: Output 73:	No
047.017: Output 73 (t):	No
047.018: Output 74:	No
047.019: Output 74 (t):	No
047.020: Output 75:	No
047.021: Output 75 (t):	No
047.022: Output 76:	No
047.023: Output 76 (t):	No
047.024: Output 77:	No
047.025: Output 77 (t):	No
047.026: Output 78:	No
047.027: Output 78 (t):	No
047.028: Output 79:	No
047.029: Output 79 (t):	No
047.030: Output 80:	No
047.031: Output 80 (t):	No
047.032: Output 81:	No
047.033: Output 81 (t):	No
047.034: Output 82:	No
047.035: Output 82 (t):	No
047.036: Output 83:	No
047.037: Output 83 (t):	No
047.038: Output 84:	No
047.039: Output 84 (t):	No
047.040: Output 85:	No
047.041: Output 85 (t):	No
047.042: Output 86:	No
047.043: Output 86 (t):	No
047.044: Output 87:	No
047.045: Output 87 (t):	No
047.046: Output 88:	No
047.047: Output 88 (t):	No
047.048: Output 89:	No
047.049: Output 89 (t):	No
047.050: Output 90:	No
047.051: Output 90 (t):	No
047.052: Output 91:	No
047.053: Output 91 (t):	No
047.054: Output 92:	No
047.055: Output 92 (t):	No
047.056: Output 93:	No
047.057: Output 93 (t):	No



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047.058: Output 94:	No
047.059: Output 94 (t):	No
047.060: Output 95:	No
047.061: Output 95 (t):	No
047.062: Output 96:	No
047.063: Output 96 (t):	No
047.064: Output 97:	No
047.065: Output 97 (t):	No
047.066: Output 98:	No
047.067: Output 98 (t):	No
047.068: Output 99:	No
047.069: Output 99 (t):	No
047.070: Output100:	No
047.071: Output100 (t):	No
047.072: Output101:	No
047.073: Output101 (t):	No
047.074: Output102:	No
047.075: Output102 (t):	No
047.076: Output103:	No
047.077: Output103 (t):	No
047.078: Output104:	No
047.079: Output104 (t):	No
047.080: Output105:	No
047.081: Output105 (t):	No
047.082: Output106:	No
047.083: Output106 (t):	No
047.084: Output107:	No
047.085: Output107 (t):	No
047.086: Output108:	No
047.087: Output108 (t):	No
047.088: Output109:	No
047.089: Output109 (t):	No
047.090: Output110:	No
047.091: Output110 (t):	No
047.092: Output111:	No
047.093: Output111 (t):	No
047.094: Output112:	No
047.095: Output112 (t):	No
047.096: Output113:	No
047.097: Output113 (t):	No
047.098: Output114:	No
047.099: Output114 (t):	No
047.100: Output115:	No
047.101: Output115 (t):	No
047.102: Output116:	No
047.103: Output116 (t):	No
047.104: Output117:	No
047.105: Output117 (t):	No
047.106: Output118:	No
047.107: Output118 (t):	No
047.108: Output119:	No
047.109: Output119 (t):	No
047.110: Output120:	No
047.111: Output120 (t):	No
047.112: Output121:	No
047.113: Output121 (t):	No
047.114: Output122:	No
047.115: Output122 (t):	No
047.116: Output123:	No
047.117: Output123 (t):	No
047.118: Output124:	No
047.119: Output124 (t):	No
047.120: Output125:	No
047.121: Output125 (t):	No
047.122: Output126:	No
047.123: Output126 (t):	No



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047.124: Output127:	No
047.125: Output127 (t):	No
047.126: Output128:	No
047.127: Output128 (t):	No
DEV01	
210.030: Open signal EXT:	No
210.031: Closed signal EXT:	No
210.018: Control state:	Faulty position
210.036: Switch. device open:	No
210.037: Switch.device closed:	No
210.038: Dev. interm./flt.pos:	Yes
210.028: Open command:	No
210.029: Close command:	No
218.000: Open cmd. received:	No
218.001: Close cmd. received:	No
219.081: Warning op.count.:	No
Control and testing	
LOC	
003.010: Param. change enabl.:	No
IEC	
104.245: Sel.spontan.sig.test:	Without function
104.246: Test spont.sig.start:	don't execute
104.247: Test spont.sig. end:	don't execute
104.248: Sel. pos. DEV test:	Not assigned
104.249: Test position DEV:	don't execute
OUTP	
021.009: Reset latch. USER:	don't execute
003.042: Relay assign. f.test:	Without function
003.043: Relay test:	don't execute
003.044: Hold-time for test:	1 s
MAIN	
003.002: General reset USER:	don't execute
021.010: Reset indicat. USER:	No
021.005: Rset.latch.trip USER:	don't execute
003.007: Reset c. cl/tr.cUSER:	don't execute
003.033: Reset IP,max,st.USER:	don't execute
005.253: Group reset 1 USER:	don't execute
005.254: Group reset 2 USER:	don't execute
003.040: Man. trip cmd. USER:	don't execute
003.039: Soft Warm restart:	don't execute
010.166: Warm restart:	don't execute
000.085: Soft Cold restart:	don't execute
009.254: Cold restart:	don't execute
OP_RC	
100.001: Reset record. USER:	don't execute
MT_RC	
003.008: Reset record. USER:	don't execute
OL_RC	
100.003: Reset record. USER:	don't execute
FT_RC	
003.041: Trigger USER:	don't execute
003.006: Reset record. USER:	don't execute
V/f	
035.183: Reset replica USER:	don't execute
LOGIC	
034.038: Trigger 1:	No
034.039: Trigger 2:	No
034.040: Trigger 3:	No
034.041: Trigger 4:	No
034.042: Trigger 5:	No
034.043: Trigger 6:	No
034.044: Trigger 7:	No
034.045: Trigger 8:	No
Operating data rec.	
OP_RC	
003.024: Operat. data record.:	0



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MT_RC	003.001: Mon. signal record.:	0
Events		
Event counters		
MAIN		
	004.000: No. general start.:	877
	221.087: CB1 act. oper. cap.:	1
	004.006: No. gen.trip cmds. 1:	337
	009.050: No. gen.trip cmds. 2:	337
	009.056: No. gen.trip cmds. 3:	0
	009.057: No. gen.trip cmds. 4:	0
OP_RC		
	100.002: No. oper. data sig.:	1000
MT_RC		
	004.019: No. monit. signals:	0
OL_RC		
	004.101: No. overload:	0
FT_RC		
	004.020: No. of faults:	1199
	004.010: No. system disturb.:	1199
IDMT1		
	009.151: No. general start.:	557
DEV01		
	210.043: Operation counter:	0
	210.003: Dev. op. capability:	1
Measured fault data		
OL_DA		
	004.102: Overload duration:	Not measured
	004.155: Status THRM1 replica:	Not measured
	004.159: Load current THRM1:	Not measured
	004.156: Object temp. THRM1:	Not measured
	004.157: Coolant temp.TH RM1:	Not measured
	004.158: Pre-trip t.leftTHRM1:	Not measured
	004.191: Offset THRM1 replica:	Not measured
	004.185: Status THRM2 replica:	Not measured
	004.189: Load current THRM2:	Not measured
	004.186: Object temp. THRM2:	Not measured
	004.187: Coolant temp.TH RM2:	Not measured
	004.188: Pre-trip t.leftTHRM2:	Not measured
	004.192: Offset THRM2 replica:	Not measured
FT_DA		
	008.010: Fault duration:	Not measured
	004.021: Running time:	Not measured
	004.198: Fault determ. with:	No fault
	004.199: Run time to meas.:	Not measured
	010.199: Fault curr. P,A prim:	Not measured
	010.216: Fault curr. N,A prim:	Not measured
	025.086: Fault curr.IP,a p.u.:	Not measured
	025.087: Fault curr.IN,a p.u.:	Not measured
	025.088: Fault curr.IY,a p.u.:	Not measured
	013.175: Fault curr. P,B prim:	Not measured
	013.176: Fault curr. N,B prim:	Not measured
	026.086: Fault curr.IP,b p.u.:	Not measured
	026.087: Fault curr.IN,b p.u.:	Not measured
	026.088: Fault curr.IY,b p.u.:	Not measured
	013.177: Fault curr. P,C prim:	Not measured
	013.178: Fault curr. N,C prim:	Not measured
	027.086: Fault curr.IP,c p.u.:	Not measured
	027.087: Fault curr.IN,c p.u.:	Not measured
	027.088: Fault curr.IY,c p.u.:	Not measured
	005.082: Diff. current 1:	Not measured
	005.084: Diff.current 1(2*f0):	Not measured
	005.085: Diff.current 1(5*f0):	Not measured
	005.083: Restrain. current 1:	Not measured
	006.082: Diff. current 2:	Not measured
	006.084: Diff.current 2(2*f0):	Not measured



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.....	006.085: Diff.current 2(5*f0):	Not measured
.....	006.083: Restrain. current 2:	Not measured
.....	007.082: Diff. current 3: Not measured	
.....	007.084: Diff.current 3(2*f0):	Not measured
.....	007.085: Diff.current 3(5*f0):	Not measured
.....	007.083: Restrain. current 3:	Not measured
.....	025.082: Diff. current REF_1:	Not measured
.....	025.083: Restrain.curr. REF_1:	Not measured
.....	026.082: Diff. current REF_2:	Not measured
.....	026.083: Restrain.curr. REF_2:	Not measured
.....	027.082: Diff. current REF_3:	Not measured
.....	027.083: Restrain.curr. REF_3:	Not measured
.....	Event recordings	
.....	OL_RC	
.....	033.020: Overload recording 1:	0
.....	033.021: Overload recording 2:	0
.....	033.022: Overload recording 3:	0
.....	033.023: Overload recording 4:	0
.....	033.024: Overload recording 5:	0
.....	033.025: Overload recording 6:	0
.....	033.026: Overload recording 7:	0
.....	033.027: Overload recording 8:	0
.....	FT_RC	
.....	003.000: Fault recording 1:	0
.....	033.001: Fault recording 2:	0
.....	033.002: Fault recording 3:	0
.....	033.003: Fault recording 4:	0
.....	033.004: Fault recording 5:	0
.....	033.005: Fault recording 6:	0
.....	033.006: Fault recording 7:	0
.....	033.007: Fault recording 8:	0

REF Protection



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:56:14

SYSTEM DATA

00.01: Language: English
00.03: Sys Fn Links: 0
00.04: Description: ICT-2 P141
00.05: Plant Reference: MiCOM
00.06: Model Number: P14131RA6M0B50L
00.08: Serial Number: 093090D
00.09: Frequency: 50 Hz
00.0A: Comms Level: 2
00.0B: Relay Address: 1
00.0C: Plant Status: 0000000000000000
00.0D: Control Status: 0000000000000000
00.0E: Active Group: 1
00.10: CB Trip/Close: No Operation
00.11: Software Ref. 1: P141____6S_B50_B
00.12: Software Ref. 2: P141____6S_B50_B
00.14: NIC Platform Ref: P40_NIC_REF_2.0
00.15: IEC61850 Edition: 1
00.16: ETH COMM Mode: Dual IP
00.20: Opto I/P Status: 10000000
00.21: Relay O/P Status: 00000000
00.22: Alarm Status 1: 00000000000000000000000000000000
00.30: Opto I/P Status: 10000000
00.40: Relay O/P Status: 00000000
00.50: Alarm Status 1: 00000000000000000000000000000000
00.51: Alarm Status 2: 00000000000000000000000000000000
00.52: Alarm Status 3: 00000000000000000000000000000000
00.D0: Access Level: ENGINEER
00.DF: Security Feature: 3
00.F2: Number of users: 2

CB CONTROL

07.01: CB Control by: Disabled
07.08: Lockout Reset: No
07.09: Reset Lockout by: CB Close
07.0A: Man Close RstDly: 5.000 s
07.11: CB Status Input: None

DATE AND TIME

08.01: Date/Time: 2024-09-24 17:36:24.572
08.04: IRIG-B Sync: Disabled
08.06: Battery Status: Healthy
08.07: Battery Alarm: Enabled
08.13: SNTP Status: Server 1 OK
08.20: LocalTime Enable: Fixed
08.21: LocalTime Offset: 330.0 min
08.22: DST Enable: Disabled
08.40: 1588 Sync: Disabled

CONFIGURATION

09.01: Restore Defaults: No Operation
09.02: Setting Group: Select via Menu
09.03: Active Settings: Group 1
09.04: Save Changes: No Operation
09.05: Copy From: Group 1
09.06: Copy To: No Operation
09.07: Setting Group 1: Enabled
09.08: Setting Group 2: Disabled
09.09: Setting Group 3: Disabled
09.0A: Setting Group 4: Disabled
09.0B: System Config: Invisible
09.10: Overcurrent: Enabled
09.11: Neg Sequence O/C: Disabled
09.12: Broken Conductor: Disabled
09.13: Earth Fault 1: Enabled
09.14: Earth Fault 2: Disabled
09.15: SEF/REF Prot'n: Enabled
09.16: Residual O/V NVD: Disabled
09.17: Thermal Overload: Disabled



Settings File Report
Substation:
File: 240924.set
Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:56:14

09.18: Neg Sequence O/V: Disabled
09.19: Cold Load Pickup: Disabled
09.1A: Selective Logic: Disabled
09.1B: Admit Protection: Disabled
09.1C: Power Protection: Disabled
09.1D: Volt Protection: Disabled
09.1E: Freq Protection: Disabled
09.20: CB Fail: Disabled
09.21: Supervision: Disabled
09.22: Fault Locator: Enabled
09.25: Input Labels: Visible
09.26: Output Labels: Visible
09.27: Adv. Freq Prot'n: Disabled
09.28: CT & VT Ratios: Visible
09.29: Record Control: Invisible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Visible
09.2C: Comms Settings: Visible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Secondary
09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.70: VIR I/P Labels: Invisible
09.80: VIR O/P Labels: Invisible
09.90: Usr Alarm Labels: Invisible
09.FD: NIC Read Only: Disabled
09.FE: SettingValueBeh.: Independent
09.FF: LCD Contrast: 12

CT AND VT RATIOS

0A.01: Main VT Primary: 400.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.07: Phase CT Primary: 1000 A
0A.08: Phase CT Sec'y: 1.000 A
0A.09: E/F CT Primary: 1000 A
0A.0A: E/F CT Secondary: 1.000 A
0A.0B: SEF CT Primary: 1600 A
0A.0C: SEF CT Secondary: 1.000 A

DISTURB RECORDER

0C.01: Duration: 1.500 s
0C.02: Trigger Position: 33.30 %
0C.03: Trigger Mode: Single
0C.04: Analog Channel 1: VA
0C.05: Analog Channel 2: VB
0C.06: Analog Channel 3: VC
0C.07: Analog Channel 4: IA
0C.08: Analog Channel 5: IB
0C.09: Analog Channel 6: IC
0C.0A: Analog Channel 7: IN
0C.0B: Analog Channel 8: IN Sensitive
0C.0C: Analog Channel 9: Frequency
0C.0D: Digital Input 1: Output R1
0C.0E: Input 1 Trigger: Trigger L/H
0C.0F: Digital Input 2: Output R2
0C.10: Input 2 Trigger: Trigger L/H
0C.11: Digital Input 3: I>1 Trip
0C.12: Input 3 Trigger: Trigger L/H
0C.13: Digital Input 4: I>2 Trip
0C.14: Input 4 Trigger: Trigger L/H
0C.15: Digital Input 5: IN1>1 Trip
0C.16: Input 5 Trigger: Trigger L/H
0C.17: Digital Input 6: IN1>2 Trip
0C.18: Input 6 Trigger: Trigger L/H
0C.19: Digital Input 7: IREF> Trip
0C.1A: Input 7 Trigger: Trigger L/H



Settings File Report
Substation:
File: 240924.set
Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:56:15

0C.1B: Digital Input 8:	Input L1
0C.1C: Input 8 Trigger:	Trigger L/H
0C.1D: Digital Input 9:	Input L2
0C.1E: Input 9 Trigger:	Trigger L/H
0C.1F: Digital Input 10:	Input L3
0C.20: Input 10 Trigger:	Trigger L/H
0C.21: Digital Input 11:	Input L4
0C.22: Input 11 Trigger:	Trigger L/H
0C.23: Digital Input 12:	Input L5
0C.24: Input 12 Trigger:	Trigger L/H
0C.25: Digital Input 13:	Input L6
0C.26: Input 13 Trigger:	Trigger L/H
0C.27: Digital Input 14:	Input L7
0C.28: Input 14 Trigger:	Trigger L/H
0C.29: Digital Input 15:	Input L8
0C.2A: Input 15 Trigger:	Trigger H/L
0C.2B: Digital Input 16:	I>3 Trip
0C.2C: Input 16 Trigger:	Trigger L/H
0C.2D: Digital Input 17:	Unused
0C.2F: Digital Input 18:	Unused
0C.31: Digital Input 19:	Unused
0C.33: Digital Input 20:	Unused
0C.35: Digital Input 21:	Unused
0C.37: Digital Input 22:	Unused
0C.39: Digital Input 23:	Unused
0C.3B: Digital Input 24:	Unused
0C.3D: Digital Input 25:	Unused
0C.3F: Digital Input 26:	Unused
0C.41: Digital Input 27:	Unused
0C.43: Digital Input 28:	Unused
0C.45: Digital Input 29:	Unused
0C.47: Digital Input 30:	Unused
0C.49: Digital Input 31:	Unused
0C.4B: Digital Input 32:	Unused
0C.70: Digital Input 33:	Unused
0C.71: Digital Input 34:	Unused
0C.72: Digital Input 35:	Unused
0C.73: Digital Input 36:	Unused
0C.74: Digital Input 37:	Unused
0C.75: Digital Input 38:	Unused
0C.76: Digital Input 39:	Unused
0C.77: Digital Input 40:	Unused
0C.78: Digital Input 41:	Unused
0C.79: Digital Input 42:	Unused
0C.7A: Digital Input 43:	Unused
0C.7B: Digital Input 44:	Unused
0C.7C: Digital Input 45:	Unused
0C.7D: Digital Input 46:	Unused
0C.7E: Digital Input 47:	Unused
0C.7F: Digital Input 48:	Unused
0C.80: Digital Input 49:	Unused
0C.81: Digital Input 50:	Unused
0C.82: Digital Input 51:	Unused
0C.83: Digital Input 52:	Unused
0C.84: Digital Input 53:	Unused
0C.85: Digital Input 54:	Unused
0C.86: Digital Input 55:	Unused
0C.87: Digital Input 56:	Unused
0C.88: Digital Input 57:	Unused
0C.89: Digital Input 58:	Unused
0C.8A: Digital Input 59:	Unused
0C.8B: Digital Input 60:	Unused
0C.8C: Digital Input 61:	Unused
0C.8D: Digital Input 62:	Unused
0C.8E: Digital Input 63:	Unused
0C.8F: Digital Input 64:	Unused



Settings File Report
Substation:
File: 240924.set
Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:56:15

.....	0C.90: Digital Input 65:	Unused
.....	0C.91: Digital Input 66:	Unused
.....	0C.92: Digital Input 67:	Unused
.....	0C.93: Digital Input 68:	Unused
.....	0C.94: Digital Input 69:	Unused
.....	0C.95: Digital Input 70:	Unused
.....	0C.96: Digital Input 71:	Unused
.....	0C.97: Digital Input 72:	Unused
.....	0C.98: Digital Input 73:	Unused
.....	0C.99: Digital Input 74:	Unused
.....	0C.9A: Digital Input 75:	Unused
.....	0C.9B: Digital Input 76:	Unused
.....	0C.9C: Digital Input 77:	Unused
.....	0C.9D: Digital Input 78:	Unused
.....	0C.9E: Digital Input 79:	Unused
.....	0C.9F: Digital Input 80:	Unused
.....	0C.A0: Digital Input 81:	Unused
.....	0C.A1: Digital Input 82:	Unused
.....	0C.A2: Digital Input 83:	Unused
.....	0C.A3: Digital Input 84:	Unused
.....	0C.A4: Digital Input 85:	Unused
.....	0C.A5: Digital Input 86:	Unused
.....	0C.A6: Digital Input 87:	Unused
.....	0C.A7: Digital Input 88:	Unused
.....	0C.A8: Digital Input 89:	Unused
.....	0C.A9: Digital Input 90:	Unused
.....	0C.AA: Digital Input 91:	Unused
.....	0C.AB: Digital Input 92:	Unused
.....	0C.AC: Digital Input 93:	Unused
.....	0C.AD: Digital Input 94:	Unused
.....	0C.AE: Digital Input 95:	Unused
.....	0C.AF: Digital Input 96:	Unused
.....	0C.B0: Digital Input 97:	Unused
.....	0C.B1: Digital Input 98:	Unused
.....	0C.B2: Digital Input 99:	Unused
.....	0C.B3: Digital Input100:	Unused
.....	0C.B4: Digital Input101:	Unused
.....	0C.B5: Digital Input102:	Unused
.....	0C.B6: Digital Input103:	Unused
.....	0C.B7: Digital Input104:	Unused
.....	0C.B8: Digital Input105:	Unused
.....	0C.B9: Digital Input106:	Unused
.....	0C.BA: Digital Input107:	Unused
.....	0C.BB: Digital Input108:	Unused
.....	0C.BC: Digital Input109:	Unused
.....	0C.BD: Digital Input110:	Unused
.....	0C.BE: Digital Input111:	Unused
.....	0C.BF: Digital Input112:	Unused
.....	0C.C0: Digital Input113:	Unused
.....	0C.C1: Digital Input114:	Unused
.....	0C.C2: Digital Input115:	Unused
.....	0C.C3: Digital Input116:	Unused
.....	0C.C4: Digital Input117:	Unused
.....	0C.C5: Digital Input118:	Unused
.....	0C.C6: Digital Input119:	Unused
.....	0C.C7: Digital Input120:	Unused
.....	0C.C8: Digital Input121:	Unused
.....	0C.C9: Digital Input122:	Unused
.....	0C.CA: Digital Input123:	Unused
.....	0C.CB: Digital Input124:	Unused
.....	0C.CC: Digital Input125:	Unused
.....	0C.CD: Digital Input126:	Unused
.....	0C.CE: Digital Input127:	Unused
.....	0C.CF: Digital Input128:	Unused
.....	MEASURE'T SETUP	
.....	0D.02: Local Values:	Primary



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:56:15

0D.03: Remote Values: Primary
0D.04: Measurement Ref: VA
0D.05: Measurement Mode: 0
0D.06: Fix Dem Period: 30.00 min
0D.07: Roll Sub Period: 30.00 min
0D.08: Num Sub Periods: 1
0D.09: Distance Unit: Kilometres
0D.0A: Fault Location: Distance

COMMISSION TESTS

0F.01: Opto I/P Status: 00000000
0F.02: Relay O/P Status: 00000000
0F.03: Test Port Status: 00000000
0F.04: LED Status: 00000000
0F.05: Monitor Bit 1: 64
0F.06: Monitor Bit 2: 65
0F.07: Monitor Bit 3: 66
0F.08: Monitor Bit 4: 67
0F.09: Monitor Bit 5: 68
0F.0A: Monitor Bit 6: 69
0F.0B: Monitor Bit 7: 70
0F.0C: Monitor Bit 8: 71
0F.0D: Test Mode: Disabled
0F.10: Test LEDs: No Operation
0F.20: DDB 31 - 0: 00000000000000000000000000000000
0F.21: DDB 63 - 32: 00000000000000000000000000000000
0F.22: DDB 95 - 64: 00000000000000000000000000000000
0F.23: DDB 127 - 96: 00000000000000000000000000000000
0F.24: DDB 159 - 128: 00000000000000000000000000000000
0F.25: DDB 191 - 160: 00000000000000000000000000000000
0F.26: DDB 223 - 192: 00000000000000000000000000000000
0F.27: DDB 255 - 224: 00000000000000000000000000000000
0F.28: DDB 287 - 256: 00000000000000000000000000000000
0F.29: DDB 319 - 288: 00000000000000000000000000000000
0F.2A: DDB 351 - 320: 00000000000000000000000000000000
0F.2B: DDB 383 - 352: 00000011000000000000000000000000
0F.2C: DDB 415 - 384: 00000000000000000000000000000000
0F.2D: DDB 447 - 416: 00000000000000000000000000000000
0F.2E: DDB 479 - 448: 00000000000000000000000000000000
0F.2F: DDB 511 - 480: 00000000000000000000000000000000
0F.30: DDB 543 - 512: 00000000000000000000000000000000
0F.31: DDB 575 - 544: 00000000000000000000000000000000
0F.32: DDB 607 - 576: 00000000000000000000000000000000
0F.33: DDB 639 - 608: 00000000000000000000000000000000
0F.34: DDB 671 - 640: 00000000000000000000000000000000
0F.35: DDB 703 - 672: 00000000000000000000000000000000
0F.36: DDB 735 - 704: 00000000000000000000000000000000
0F.37: DDB 767 - 736: 00000000000000000000000000000000
0F.38: DDB 799 - 768: 00000000001100000000000000000000
0F.39: DDB 831 - 800: 00000000000000000000000000000000
0F.3A: DDB 863 - 832: 00000000000000000000000000000000
0F.3B: DDB 895 - 864: 00000000000000000000000000000000
0F.3C: DDB 927 - 896: 00000000000000000000000000000000
0F.3D: DDB 959 - 928: 00000000000000000000000000000000
0F.3E: DDB 991 - 960: 00000000000000000000000000000000
0F.3F: DDB 1023 - 992: 00000000000000000000000000000000
0F.40: DDB 1055 - 1024: 00000000000000000000000000000000
0F.41: DDB 1087 - 1056: 00000000000000000000000000000000
0F.42: DDB 1119 - 1088: 00000000000000000000000000000000
0F.43: DDB 1151 - 1120: 00000000000000000000000000000000
0F.44: DDB 1183 - 1152: 00000000000000000000000000000000
0F.45: DDB 1215 - 1184: 00000000000000000000000000000000
0F.46: DDB 1247 - 1216: 00000000000000000000000000000000
0F.47: DDB 1279 - 1248: 00000000000000000000000000000000
0F.48: DDB 1311 - 1280: 00000000000000000000000000000000
0F.49: DDB 1343 - 1312: 00000000000000000000000000000000
0F.4A: DDB 1375 - 1344: 00000000000000000000000000000000



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:56:16

0F.4B:	DDB 1407 - 1376:	00000000000000000000000000000000
0F.4C:	DDB 1439 - 1408:	00000000000000000000000000000000
0F.4D:	DDB 1471 - 1440:	00000000000000000000000000000000
0F.4E:	DDB 1503 - 1472:	00000000000000000000000000000000
0F.4F:	DDB 1535 - 1504:	00000000000000000000000000000000
0F.50:	DDB 1567 - 1536:	00000000000000000000000000000000
0F.51:	DDB 1599 - 1568:	00000000000000000000000000000000
0F.52:	DDB 1631 - 1600:	00000000000000000000000000000000
0F.53:	DDB 1663 - 1632:	00000000000000000000000000000000
0F.54:	DDB 1695 - 1664:	00000000000000000000000000000000
0F.55:	DDB 1727 - 1696:	00000000000000000000000000000000
0F.56:	DDB 1759 - 1728:	00000000000000000000000000000000
0F.57:	DDB 1791 - 1760:	00000000000000000000000000000000
0F.58:	DDB 1823 - 1792:	00000000000000000000000000000000
0F.59:	DDB 1855 - 1824:	00000000000000000000000000000000
0F.5A:	DDB 1887 - 1856:	00000000000000000000000000000000
0F.5B:	DDB 1919 - 1888:	00000000000000000000000000000000
0F.5C:	DDB 1951 - 1920:	00000000000000000000000000000000
0F.5D:	DDB 1983 - 1952:	00000000000000000000000000000000
0F.5E:	DDB 2015 - 1984:	00000000000000000000000000000000
0F.5F:	DDB 2047 - 2016:	00000000000000000000000000000000
CB MONITOR SETUP		
10.01:	Broken I^:	2.000
10.02:	I^ Maintenance:	Alarm Disabled
10.04:	I^ Lockout:	Alarm Disabled
10.06:	No. CB Ops Maint:	Alarm Disabled
10.08:	No. CB Ops Lock:	Alarm Disabled
10.0A:	CB Time Maint:	Alarm Disabled
10.0C:	CB Time Lockout:	Alarm Disabled
10.0E:	Fault Freq Lock:	Alarm Disabled
OPTO CONFIG		
11.01:	Global Nominal V:	48/54V
11.50:	Opto Filter Cntl:	11111111
11.80:	Characteristic:	Standard 60%-80%
CONTROL INPUTS		
12.01:	Ctrl I/P Status:	00000000000000000000000000000000
12.02:	Control Input 1:	No Operation
12.03:	Control Input 2:	No Operation
12.04:	Control Input 3:	No Operation
12.05:	Control Input 4:	No Operation
12.06:	Control Input 5:	No Operation
12.07:	Control Input 6:	No Operation
12.08:	Control Input 7:	No Operation
12.09:	Control Input 8:	No Operation
12.0A:	Control Input 9:	No Operation
12.0B:	Control Input 10:	No Operation
12.0C:	Control Input 11:	No Operation
12.0D:	Control Input 12:	No Operation
12.0E:	Control Input 13:	No Operation
12.0F:	Control Input 14:	No Operation
12.10:	Control Input 15:	No Operation
12.11:	Control Input 16:	No Operation
12.12:	Control Input 17:	No Operation
12.13:	Control Input 18:	No Operation
12.14:	Control Input 19:	No Operation
12.15:	Control Input 20:	No Operation
12.16:	Control Input 21:	No Operation
12.17:	Control Input 22:	No Operation
12.18:	Control Input 23:	No Operation
12.19:	Control Input 24:	No Operation
12.1A:	Control Input 25:	No Operation
12.1B:	Control Input 26:	No Operation
12.1C:	Control Input 27:	No Operation
12.1D:	Control Input 28:	No Operation
12.1E:	Control Input 29:	No Operation
12.1F:	Control Input 30:	No Operation



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:56:16

12.20: Control Input 31: No Operation
12.21: Control Input 32: No Operation
12.22: Ctrl Stg I/P Stat: 0000000000000000
12.23: Ctrl Setg I/P 33: Disabled
12.24: Ctrl Setg I/P 34: Disabled
12.25: Ctrl Setg I/P 35: Disabled
12.26: Ctrl Setg I/P 36: Disabled
12.27: Ctrl Setg I/P 37: Disabled
12.28: Ctrl Setg I/P 38: Disabled
12.29: Ctrl Setg I/P 39: Disabled
12.2A: Ctrl Setg I/P 40: Disabled
12.2B: Ctrl Setg I/P 41: Disabled
12.2C: Ctrl Setg I/P 42: Disabled
12.2D: Ctrl Setg I/P 43: Disabled
12.2E: Ctrl Setg I/P 44: Disabled
12.2F: Ctrl Setg I/P 45: Disabled
12.30: Ctrl Setg I/P 46: Disabled
12.31: Ctrl Setg I/P 47: Disabled
12.32: Ctrl Setg I/P 48: Disabled

CTRL I/P CONFIG

13.01: Hotkey Enabled: 11111111111111111111111111111111
13.10: Control Input 1: Latched
13.11: Ctrl Command 1: SET/RESET
13.14: Control Input 2: Latched
13.15: Ctrl Command 2: SET/RESET
13.18: Control Input 3: Latched
13.19: Ctrl Command 3: SET/RESET
13.1C: Control Input 4: Latched
13.1D: Ctrl Command 4: SET/RESET
13.20: Control Input 5: Latched
13.21: Ctrl Command 5: SET/RESET
13.24: Control Input 6: Latched
13.25: Ctrl Command 6: SET/RESET
13.28: Control Input 7: Latched
13.29: Ctrl Command 7: SET/RESET
13.2C: Control Input 8: Latched
13.2D: Ctrl Command 8: SET/RESET
13.30: Control Input 9: Latched
13.31: Ctrl Command 9: SET/RESET
13.34: Control Input 10: Latched
13.35: Ctrl Command 10: SET/RESET
13.38: Control Input 11: Latched
13.39: Ctrl Command 11: SET/RESET
13.3C: Control Input 12: Latched
13.3D: Ctrl Command 12: SET/RESET
13.40: Control Input 13: Latched
13.41: Ctrl Command 13: SET/RESET
13.44: Control Input 14: Latched
13.45: Ctrl Command 14: SET/RESET
13.48: Control Input 15: Latched
13.49: Ctrl Command 15: SET/RESET
13.4C: Control Input 16: Latched
13.4D: Ctrl Command 16: SET/RESET
13.50: Control Input 17: Latched
13.51: Ctrl Command 17: SET/RESET
13.54: Control Input 18: Latched
13.55: Ctrl Command 18: SET/RESET
13.58: Control Input 19: Latched
13.59: Ctrl Command 19: SET/RESET
13.5C: Control Input 20: Latched
13.5D: Ctrl Command 20: SET/RESET
13.60: Control Input 21: Latched
13.61: Ctrl Command 21: SET/RESET
13.64: Control Input 22: Latched
13.65: Ctrl Command 22: SET/RESET
13.68: Control Input 23: Latched



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

Printed on: 27/09/2024 16:56:16

13.69: Ctrl Command 23: SET/RESET
13.6C: Control Input 24: Latched
13.6D: Ctrl Command 24: SET/RESET
13.70: Control Input 25: Latched
13.71: Ctrl Command 25: SET/RESET
13.74: Control Input 26: Latched
13.75: Ctrl Command 26: SET/RESET
13.78: Control Input 27: Latched
13.79: Ctrl Command 27: SET/RESET
13.7C: Control Input 28: Latched
13.7D: Ctrl Command 28: SET/RESET
13.80: Control Input 29: Latched
13.81: Ctrl Command 29: SET/RESET
13.84: Control Input 30: Latched
13.85: Ctrl Command 30: SET/RESET
13.88: Control Input 31: Latched
13.89: Ctrl Command 31: SET/RESET
13.8C: Control Input 32: Latched
13.8D: Ctrl Command 32: SET/RESET

IED CONFIGURATOR

19.05: Switch Conf.Bank: No action
19.0A: Restore Conf.: No action
19.30: IP PARAMETERS:
19.40: SNTP PARAMETERS:
19.50: IEC 61850 SCL:
19.60: IEC 61850 GOOSE:
19.70: GoEna: 0000000000000000
19.71: Pub.Simul.Goose: 0000000000000000
19.73: Sub.Sim.Signal: No

SECURITY CONFIG

25.01: User Banner: ACCESS ONLY FOR AUTHORISED USERS

CTRL I/P LABELS

29.01: Control Input 1: Control Input 1
29.02: Control Input 2: Control Input 2
29.03: Control Input 3: Control Input 3
29.04: Control Input 4: Control Input 4
29.05: Control Input 5: Control Input 5
29.06: Control Input 6: Control Input 6
29.07: Control Input 7: Control Input 7
29.08: Control Input 8: Control Input 8
29.09: Control Input 9: Control Input 9
29.0A: Control Input 10: Control Input 10
29.0B: Control Input 11: Control Input 11
29.0C: Control Input 12: Control Input 12
29.0D: Control Input 13: Control Input 13
29.0E: Control Input 14: Control Input 14
29.0F: Control Input 15: Control Input 15
29.10: Control Input 16: Control Input 16
29.11: Control Input 17: Control Input 17
29.12: Control Input 18: Control Input 18
29.13: Control Input 19: Control Input 19
29.14: Control Input 20: Control Input 20
29.15: Control Input 21: Control Input 21
29.16: Control Input 22: Control Input 22
29.17: Control Input 23: Control Input 23
29.18: Control Input 24: Control Input 24
29.19: Control Input 25: Control Input 25
29.1A: Control Input 26: Control Input 26
29.1B: Control Input 27: Control Input 27
29.1C: Control Input 28: Control Input 28
29.1D: Control Input 29: Control Input 29
29.1E: Control Input 30: Control Input 30
29.1F: Control Input 31: Control Input 31
29.20: Control Input 32: Control Input 32
29.21: Ctrl Setg I/P 33: Ctrl Setg I/P 33
29.22: Ctrl Setg I/P 34: Ctrl Setg I/P 34



Settings File Report

Substation:

File: 240924.set

Model Number: P14131RA6M0B50L

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29.23: Ctrl Setg I/P 35: Ctrl Setg I/P 35
29.24: Ctrl Setg I/P 36: Ctrl Setg I/P 36
29.25: Ctrl Setg I/P 37: Ctrl Setg I/P 37
29.26: Ctrl Setg I/P 38: Ctrl Setg I/P 38
29.27: Ctrl Setg I/P 39: Ctrl Setg I/P 39
29.28: Ctrl Setg I/P 40: Ctrl Setg I/P 40
29.29: Ctrl Setg I/P 41: Ctrl Setg I/P 41
29.2A: Ctrl Setg I/P 42: Ctrl Setg I/P 42
29.2B: Ctrl Setg I/P 43: Ctrl Setg I/P 43
29.2C: Ctrl Setg I/P 44: Ctrl Setg I/P 44
29.2D: Ctrl Setg I/P 45: Ctrl Setg I/P 45
29.2E: Ctrl Setg I/P 46: Ctrl Setg I/P 46
29.2F: Ctrl Setg I/P 47: Ctrl Setg I/P 47
29.30: Ctrl Setg I/P 48: Ctrl Setg I/P 48

Group 1

GROUP 1 OVERCURRENT

35.23: I>1 Function: IEC S Inverse
35.24: I>1 Direction: Directional Fwd
35.27: I>1 Current Set: 570.0 mA
35.2A: I>1 TMS: 350.0e-3
35.2D: I>1 DT Adder: 0 s
35.2F: I>1 tRESET: 0 s
35.32: I>2 Function: Disabled
35.40: I>3 Status: Enabled
35.41: I>3 Direction: Directional Fwd
35.44: I>3 Current Set: 4.200 A
35.45: I>3 Time Delay: 50.00 ms
35.47: I>4 Status: Disabled
35.4E: I> Blocking: 000000011111
35.4F: I> Char Angle: 45.00 deg
35.51: V DEPENDANT O/C:
35.52: V Dep OC Status: Disabled
35.63: I>5 Function: Disabled
35.71: I>6 Status: Disabled
35.8F: I> Blocking 2: 0000
35.90: LOAD BLINDER:
35.91: Blinder Status: Disabled

GROUP 1 EARTH FAULT 1

38.01: IN1> Input: Measured
38.25: IN1>1 Function: IEC S Inverse
38.26: IN1>1 Direction: Directional Fwd
38.29: IN1>1 Current: 150.0 mA
38.2D: IN1>1 TMS: 350.0e-3
38.31: IN1>1 DT Adder: 0 s
38.33: IN1>1 tRESET: 0 s
38.36: IN1>2 Function: DT
38.37: IN1>2 Direction: Directional Fwd
38.3A: IN1>2 Current: 3.490 A
38.3D: IN1>2 Time Delay: 50.00 ms
38.44: IN1>2 tRESET: 0 s
38.46: IN1>3 Status: Disabled
38.4D: IN1>4 Status: Disabled
38.54: IN1> Blocking: 00001111
38.55: IN1> POL:
38.56: IN1> Char Angle: -45.00 deg
38.57: IN1> Pol: Zero Sequence
38.59: IN1> VNPOL Set: 5.000 V

GROUP 1 SEF/REF PROT'N

3A.01: SEF/REF Options: Hi Z REF
3A.60: RESTRICTED E/F:
3A.65: IREF> Is: 50.00 mA

GROUP 1 CB FAIL & I<

45.08: UNDER CURRENT:
45.09: I< Current Set: 100.0 mA
45.0A: IN< Current Set: 100.0 mA
45.0B: ISEF< Current: 20.00 mA



Settings File Report
Substation:
File: 240924.set
Model Number: P14131RA6M0B50L

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	GROUP 1 FAULT LOCATOR	
	47.01: Line Length:	200.0 m
	47.03: Line Impedance:	6.000 Ohm
	47.04: Line Angle:	70.00 deg
	47.05: KZN Residual:	1.000
	47.06: KZN Res Angle:	0 deg
	GROUP 1 INPUT LABELS	
	4A.01: Opto Input 1:	OLTC SR TR R/Y/B
	4A.02: Opto Input 2:	PRV 1
	4A.03: Opto Input 3:	PRV 2
	4A.04: Opto Input 4:	WTI HV TRIP
	4A.05: Opto Input 5:	WTI LV TRIP
	4A.06: Opto Input 6:	WTI IV TRIP
	4A.07: Opto Input 7:	86B OPTD
	4A.08: Opto Input 8:	86B SUPVN
	GROUP 1 OUTPUT LABELS	
	4B.01: Relay 1:	TRIP 86A
	4B.02: Relay 2:	TRIP 86B
	4B.03: Relay 3:	TEST TRIP
	4B.04: Relay 4:	Output R4
	4B.05: Relay 5:	Output R5
	4B.06: Relay 6:	Output R6
	4B.07: Relay 7:	Output R7
	Group 2	
	Group 3	
	Group 4	

LV OC Protection



Settings File Report
Substation: 220KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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SYSTEM DATA	
00.01: Language:	English
00.02: Password: ****	
00.03: Sys Fn Links:	0
00.04: Description:	MiCOM P141
00.05: Plant Reference:	MiCOM
00.06: Model Number:	P141316A6M0430J
00.08: Serial Number:	116004T
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	1
00.0C: Plant Status:	0000000000000000
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.10: CB Trip/Close:	No Operation
00.11: Software Ref. 1:	P141____6__430_C
00.20: Opto I/P Status:	11000000
00.21: Relay O/P Status:	0000000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.30: Opto I/P Status:	11000000
00.40: Relay O/P Status:	0000000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	2
00.D1: Password Control:	2
00.D2: Password Level 1:	****
00.D3: Password Level 2:	****
CB CONTROL	
07.01: CB Control by:	Disabled
07.08: Lockout Reset:	No
07.09: Reset Lockout by:	CB Close
07.0A: Man Close RstDly:	5.000 s
07.11: CB Status Input:	None
DATE AND TIME	
08.01: Date/Time:	2024-09-24 11:12:36.413
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Disabled
08.20: LocalTime Enable:	Fixed
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0B: System Config:	Invisible
09.10: Overcurrent:	Enabled
09.11: Neg Sequence O/C:	Disabled
09.12: Broken Conductor:	Disabled
09.13: Earth Fault 1:	Enabled
09.14: Earth Fault 2:	Disabled
09.15: SEF/REF Prot'n:	Disabled
09.16: Residual O/V NVD:	Disabled
09.17: Thermal Overload:	Disabled
09.18: Neg Sequence O/V:	Disabled
09.19: Cold Load Pickup:	Disabled
09.1A: Selective Logic:	Disabled
09.1B: Admit Protection:	Disabled
09.1C: Power Protection:	Disabled



Settings File Report
Substation: 220KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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09.1D: Volt Protection: Disabled
09.1E: Freq Protection: Disabled
09.20: CB Fail: Enabled
09.21: Supervision: Enabled
09.22: Fault Locator: Disabled
09.25: Input Labels: Visible
09.26: Output Labels: Visible
09.27: Adv. Freq Prot'n: Disabled
09.28: CT & VT Ratios: Visible
09.29: Record Control: Invisible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Visible
09.2C: Comms Settings: Visible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Primary
09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.FF: LCD Contrast: 11

CT AND VT RATIOS

0A.01: Main VT Primary: 220.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.07: Phase CT Primary: 1600 A
0A.08: Phase CT Sec'y: 1.000 A
0A.09: E/F CT Primary: 1600 A
0A.0A: E/F CT Secondary: 1.000 A
0A.0B: SEF CT Primary: 1600 A
0A.0C: SEF CT Secondary: 1.000 A

DISTURB RECORDER

0C.01: Duration: 3.000 s
0C.02: Trigger Position: 33.30 %
0C.03: Trigger Mode: Extended
0C.04: Analog Channel 1: VA
0C.05: Analog Channel 2: VB
0C.06: Analog Channel 3: VC
0C.07: Analog Channel 4: IA
0C.08: Analog Channel 5: IB
0C.09: Analog Channel 6: IC
0C.0A: Analog Channel 7: IN
0C.0B: Analog Channel 8: IN Sensitive
0C.0C: Analog Channel 9: Frequency
0C.0D: Digital Input 1: Output R1
0C.0E: Input 1 Trigger: Trigger L/H
0C.0F: Digital Input 2: Output R2
0C.10: Input 2 Trigger: Trigger L/H
0C.11: Digital Input 3: Output R3
0C.12: Input 3 Trigger: Trigger L/H
0C.13: Digital Input 4: Output R4
0C.14: Input 4 Trigger: Trigger L/H
0C.15: Digital Input 5: Output R5
0C.16: Input 5 Trigger: Trigger L/H
0C.17: Digital Input 6: Output R6
0C.18: Input 6 Trigger: Trigger L/H
0C.19: Digital Input 7: Output R7
0C.1A: Input 7 Trigger: Trigger L/H
0C.1B: Digital Input 8: Input L1
0C.1C: Input 8 Trigger: Trigger L/H
0C.1D: Digital Input 9: Input L2
0C.1E: Input 9 Trigger: Trigger L/H
0C.1F: Digital Input 10: Input L3
0C.20: Input 10 Trigger: Trigger L/H
0C.21: Digital Input 11: Input L4
0C.22: Input 11 Trigger: Trigger L/H
0C.23: Digital Input 12: Input L5
0C.24: Input 12 Trigger: Trigger L/H



Settings File Report
Substation: 220KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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OC.25: Digital Input 13:	Input L6
OC.26: Input 13 Trigger:	Trigger L/H
OC.27: Digital Input 14:	Input L7
OC.28: Input 14 Trigger:	Trigger L/H
OC.29: Digital Input 15:	Input L8
OC.2A: Input 15 Trigger:	Trigger L/H
OC.2B: Digital Input 16:	Unused
OC.2D: Digital Input 17:	Unused
OC.2F: Digital Input 18:	Unused
OC.31: Digital Input 19:	Unused
OC.33: Digital Input 20:	Unused
OC.35: Digital Input 21:	Unused
OC.37: Digital Input 22:	Unused
OC.39: Digital Input 23:	Unused
OC.3B: Digital Input 24:	Unused
OC.3D: Digital Input 25:	Unused
OC.3F: Digital Input 26:	Unused
OC.41: Digital Input 27:	Unused
OC.43: Digital Input 28:	Unused
OC.45: Digital Input 29:	Unused
OC.47: Digital Input 30:	Unused
OC.49: Digital Input 31:	Unused
OC.4B: Digital Input 32:	Unused
MEASURE'T SETUP	
OD.01: Default Display:	Description
OD.02: Local Values:	Primary
OD.03: Remote Values:	Primary
OD.04: Measurement Ref:	VA
OD.05: Measurement Mode:	0
OD.06: Fix Dem Period:	30.00 min
OD.07: Roll Sub Period:	30.00 min
OD.08: Num Sub Periods:	1
COMMISSION TESTS	
OF.01: Opto I/P Status:	11000000
OF.02: Relay O/P Status:	00000000
OF.03: Test Port Status:	00000000
OF.04: LED Status:	00000000
OF.05: Monitor Bit 1:	64
OF.06: Monitor Bit 2:	65
OF.07: Monitor Bit 3:	66
OF.08: Monitor Bit 4:	67
OF.09: Monitor Bit 5:	68
OF.0A: Monitor Bit 6:	69
OF.0B: Monitor Bit 7:	70
OF.0C: Monitor Bit 8:	71
OF.0D: Test Mode:	Disabled
OF.0E: Test Pattern:	00000000
OF.0F: Contact Test:	No Operation
OF.10: Test LEDs:	No Operation
OF.20: DDB 31 - 0:	00000000000000000000000000000000
OF.21: DDB 63 - 32:	00000000000000000000000000000000
OF.22: DDB 95 - 64:	00000000000000000000000000000000
OF.23: DDB 127 - 96:	00000000000000000000000000000000
OF.24: DDB 159 - 128:	00000000000000000000000000000000
OF.25: DDB 191 - 160:	00000000000000000000000000000000
OF.26: DDB 223 - 192:	00000000000000000000000000000000
OF.27: DDB 255 - 224:	00000000000000000000000000000000
OF.28: DDB 287 - 256:	00000000000000000000000000000000
OF.29: DDB 319 - 288:	00000000000000000000000000000000
OF.2A: DDB 351 - 320:	00000000000000000000000000000000
OF.2B: DDB 383 - 352:	00000011000000000000000000000000
OF.2C: DDB 415 - 384:	00000000000000000000000000000000
OF.2D: DDB 447 - 416:	00000000000000000000000000000000
OF.2E: DDB 479 - 448:	00000000000000000000000000000000
OF.2F: DDB 511 - 480:	00000000000000000000000000000000
OF.30: DDB 543 - 512:	00000000000000000000000000000000



Settings File Report
Substation: 220KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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OF.31:	DDB 575 - 544:	00000000000000000000000000000000
OF.32:	DDB 607 - 576:	00000000000000000000000000000000
OF.33:	DDB 639 - 608:	00000000000000000000000000000000
OF.34:	DDB 671 - 640:	00000000000000000000000000000000
OF.35:	DDB 703 - 672:	00000000000000000000000000000000
OF.36:	DDB 735 - 704:	00000000000000000000000000000000
OF.37:	DDB 767 - 736:	00000000000000000000000000000000
OF.38:	DDB 799 - 768:	00000000000000000000000000000000
OF.39:	DDB 831 - 800:	00000000000000000000000000000000
OF.3A:	DDB 863 - 832:	00000000000000000000000000000000
OF.3B:	DDB 895 - 864:	00000000000000000000000000000000
OF.3C:	DDB 927 - 896:	00000000000000000000000000000000
OF.3D:	DDB 959 - 928:	00000000000000000000000000000000
OF.3E:	DDB 991 - 960:	00000000000000000000000000000000
OF.3F:	DDB 1023 - 992:	00000000000000000000000000000000
OF.40:	DDB 1055 - 1024:	00000000000000000000000000000000
OF.41:	DDB 1087 - 1056:	00000000000000000000000000000000
OF.42:	DDB 1119 - 1088:	00000000000000000000000000000000
OF.43:	DDB 1151 - 1120:	00000000000000000000000000000000
OF.44:	DDB 1183 - 1152:	00000000000000000000000000000000
OF.45:	DDB 1215 - 1184:	00000000000000000000000000000000
OF.46:	DDB 1247 - 1216:	00000000000000000000000000000000
OF.47:	DDB 1279 - 1248:	00000000000000000000000000000000
OF.48:	DDB 1311 - 1280:	00000000000000000000000000000000
OF.49:	DDB 1343 - 1312:	00000000000000000000000000000000
OF.4A:	DDB 1375 - 1344:	00000000000000000000000000000000
OF.4B:	DDB 1407 - 1376:	00000000000000000000000000000000
OF.4C:	DDB 1439 - 1408:	00000000000000000000000000000000
OF.4D:	DDB 1471 - 1440:	00000000000000000000000000000000
OF.4E:	DDB 1503 - 1472:	00000000000000000000000000000000
OF.4F:	DDB 1535 - 1504:	00000000000000000000000000000000
CB MONITOR SETUP		
10.01:	Broken I [^] :	2.000
10.02:	I [^] Maintenance:	Alarm Disabled
10.04:	I [^] Lockout:	Alarm Disabled
10.06:	No. CB Ops Maint:	Alarm Disabled
10.08:	No. CB Ops Lock:	Alarm Disabled
10.0A:	CB Time Maint:	Alarm Disabled
10.0C:	CB Time Lockout:	Alarm Disabled
10.0E:	Fault Freq Lock:	Alarm Disabled
OPTO CONFIG		
11.01:	Global Nominal V:	220/250V
11.50:	Opto Filter Cntl:	11111111
11.80:	Characteristic:	Standard 60%-80%
CONTROL INPUTS		
12.01:	Ctrl I/P Status:	00000000000000000000000000000000
12.02:	Control Input 1:	No Operation
12.03:	Control Input 2:	No Operation
12.04:	Control Input 3:	No Operation
12.05:	Control Input 4:	No Operation
12.06:	Control Input 5:	No Operation
12.07:	Control Input 6:	No Operation
12.08:	Control Input 7:	No Operation
12.09:	Control Input 8:	No Operation
12.0A:	Control Input 9:	No Operation
12.0B:	Control Input 10:	No Operation
12.0C:	Control Input 11:	No Operation
12.0D:	Control Input 12:	No Operation
12.0E:	Control Input 13:	No Operation
12.0F:	Control Input 14:	No Operation
12.10:	Control Input 15:	No Operation
12.11:	Control Input 16:	No Operation
12.12:	Control Input 17:	No Operation
12.13:	Control Input 18:	No Operation
12.14:	Control Input 19:	No Operation
12.15:	Control Input 20:	No Operation



Settings File Report
Substation: 220KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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12.16: Control Input 21: No Operation
12.17: Control Input 22: No Operation
12.18: Control Input 23: No Operation
12.19: Control Input 24: No Operation
12.1A: Control Input 25: No Operation
12.1B: Control Input 26: No Operation
12.1C: Control Input 27: No Operation
12.1D: Control Input 28: No Operation
12.1E: Control Input 29: No Operation
12.1F: Control Input 30: No Operation
12.20: Control Input 31: No Operation
12.21: Control Input 32: No Operation

CTRL I/P CONFIG

13.01: Hotkey Enabled: 11111111111111111111111111111111
13.10: Control Input 1: Latched
13.11: Ctrl Command 1: SET/RESET
13.14: Control Input 2: Latched
13.15: Ctrl Command 2: SET/RESET
13.18: Control Input 3: Latched
13.19: Ctrl Command 3: SET/RESET
13.1C: Control Input 4: Latched
13.1D: Ctrl Command 4: SET/RESET
13.20: Control Input 5: Latched
13.21: Ctrl Command 5: SET/RESET
13.24: Control Input 6: Latched
13.25: Ctrl Command 6: SET/RESET
13.28: Control Input 7: Latched
13.29: Ctrl Command 7: SET/RESET
13.2C: Control Input 8: Latched
13.2D: Ctrl Command 8: SET/RESET
13.30: Control Input 9: Latched
13.31: Ctrl Command 9: SET/RESET
13.34: Control Input 10: Latched
13.35: Ctrl Command 10: SET/RESET
13.38: Control Input 11: Latched
13.39: Ctrl Command 11: SET/RESET
13.3C: Control Input 12: Latched
13.3D: Ctrl Command 12: SET/RESET
13.40: Control Input 13: Latched
13.41: Ctrl Command 13: SET/RESET
13.44: Control Input 14: Latched
13.45: Ctrl Command 14: SET/RESET
13.48: Control Input 15: Latched
13.49: Ctrl Command 15: SET/RESET
13.4C: Control Input 16: Latched
13.4D: Ctrl Command 16: SET/RESET
13.50: Control Input 17: Latched
13.51: Ctrl Command 17: SET/RESET
13.54: Control Input 18: Latched
13.55: Ctrl Command 18: SET/RESET
13.58: Control Input 19: Latched
13.59: Ctrl Command 19: SET/RESET
13.5C: Control Input 20: Latched
13.5D: Ctrl Command 20: SET/RESET
13.60: Control Input 21: Latched
13.61: Ctrl Command 21: SET/RESET
13.64: Control Input 22: Latched
13.65: Ctrl Command 22: SET/RESET
13.68: Control Input 23: Latched
13.69: Ctrl Command 23: SET/RESET
13.6C: Control Input 24: Latched
13.6D: Ctrl Command 24: SET/RESET
13.70: Control Input 25: Latched
13.71: Ctrl Command 25: SET/RESET
13.74: Control Input 26: Latched
13.75: Ctrl Command 26: SET/RESET



Settings File Report
Substation: 220KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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.....	13.78: Control Input 27: Latched
.....	13.79: Ctrl Command 27: SET/RESET
.....	13.7C: Control Input 28: Latched
.....	13.7D: Ctrl Command 28: SET/RESET
.....	13.80: Control Input 29: Latched
.....	13.81: Ctrl Command 29: SET/RESET
.....	13.84: Control Input 30: Latched
.....	13.85: Ctrl Command 30: SET/RESET
.....	13.88: Control Input 31: Latched
.....	13.89: Ctrl Command 31: SET/RESET
.....	13.8C: Control Input 32: Latched
.....	13.8D: Ctrl Command 32: SET/RESET
.....	IED CONFIGURATOR
.....	19.05: Switch Conf.Bank: No action
.....	19.0A: Restore MCL: No action
.....	19.10: Active Conf.Name: Not Available
.....	19.11: Active Conf.Rev: Not Available
.....	19.20: Inact.Conf.Name: Not Available
.....	19.21: Inact.Conf.Rev: Not Available
.....	19.30: IP PARAMETERS:
.....	19.31: IP address: Not Available
.....	19.32: Subnet mask: Not Available
.....	19.33: Gateway: Not Available
.....	19.40: SNTP PARAMETERS:
.....	19.41: SNTP Server 1: Not Available
.....	19.42: SNTP Server 2: Not Available
.....	19.50: IEC 61850 SCL:
.....	19.51: IED Name: Not Available
.....	19.60: IEC 61850 GOOSE:
.....	19.70: GoEna: 00000001
.....	19.71: Test Mode: 00000000
.....	19.73: Ignore Test Flag: No
.....	CTRL I/P LABELS
.....	29.01: Control Input 1: Control Input 1
.....	29.02: Control Input 2: Control Input 2
.....	29.03: Control Input 3: Control Input 3
.....	29.04: Control Input 4: Control Input 4
.....	29.05: Control Input 5: Control Input 5
.....	29.06: Control Input 6: Control Input 6
.....	29.07: Control Input 7: Control Input 7
.....	29.08: Control Input 8: Control Input 8
.....	29.09: Control Input 9: Control Input 9
.....	29.0A: Control Input 10: Control Input 10
.....	29.0B: Control Input 11: Control Input 11
.....	29.0C: Control Input 12: Control Input 12
.....	29.0D: Control Input 13: Control Input 13
.....	29.0E: Control Input 14: Control Input 14
.....	29.0F: Control Input 15: Control Input 15
.....	29.10: Control Input 16: Control Input 16
.....	29.11: Control Input 17: Control Input 17
.....	29.12: Control Input 18: Control Input 18
.....	29.13: Control Input 19: Control Input 19
.....	29.14: Control Input 20: Control Input 20
.....	29.15: Control Input 21: Control Input 21
.....	29.16: Control Input 22: Control Input 22
.....	29.17: Control Input 23: Control Input 23
.....	29.18: Control Input 24: Control Input 24
.....	29.19: Control Input 25: Control Input 25
.....	29.1A: Control Input 26: Control Input 26
.....	29.1B: Control Input 27: Control Input 27
.....	29.1C: Control Input 28: Control Input 28
.....	29.1D: Control Input 29: Control Input 29
.....	29.1E: Control Input 30: Control Input 30
.....	29.1F: Control Input 31: Control Input 31
.....	29.20: Control Input 32: Control Input 32
.....	Group 1



Settings File Report
Substation: 220KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 16:53:44

GROUP 1 OVERCURRENT

35.23: I>1 Function: IEC S Inverse
35.24: I>1 Direction: Directional Fwd
35.27: I>1 Current Set: 960.0 A
35.2A: I>1 TMS: 340.0e-3
35.2D: I>1 DT Adder: 0 s
35.2F: I>1 tRESET: 0 s
35.32: I>2 Function: Disabled
35.40: I>3 Status: Enabled
35.41: I>3 Direction: Directional Fwd
35.44: I>3 Current Set: 7936 A
35.45: I>3 Time Delay: 50.00 ms
35.47: I>4 Status: Disabled
35.4E: I> Blocking: 000001111
35.4F: I> Char Angle: 45.00 deg
35.51: V CONTROLLED O/C:
35.52: VCO Status: Disabled

GROUP 1 EARTH FAULT 1

38.01: IN1> Input: Measured
38.25: IN1>1 Function: IEC S Inverse
38.26: IN1>1 Direction: Directional Fwd
38.29: IN1>1 Current: 256.0 A
38.2D: IN1>1 TMS: 600.0e-3
38.31: IN1>1 DT Adder: 0 s
38.33: IN1>1 tRESET: 0 s
38.36: IN1>2 Function: DT
38.37: IN1>2 Direction: Directional Fwd
38.3A: IN1>2 Current: 5616 A
38.3D: IN1>2 Time Delay: 50.00 ms
38.44: IN1>2 tRESET: 0 s
38.46: IN1>3 Status: Disabled
38.4D: IN1>4 Status: Disabled
38.54: IN1> Blocking: 00001111
38.55: IN1> POL:
38.56: IN1> Char Angle: -45.00 deg
38.57: IN1> Pol: Zero Sequence
38.59: IN1> VNpol Set: 10.00 kV

GROUP 1 CB FAIL & I<

45.01: BREAKER FAIL:
45.02: CB Fail 1 Status: Enabled
45.03: CB Fail 1 Timer: 50.00 ms
45.04: CB Fail 2 Status: Enabled
45.05: CB Fail 2 Timer: 200.0 ms
45.06: Volt Prot Reset: I< Only
45.07: Ext Prot Reset: I< Only
45.08: UNDER CURRENT:
45.09: I< Current Set: 48.00 A
45.0A: IN< Current Set: 48.00 A
45.0B: ISEF< Current: 48.00 A
45.0C: BLOCKED O/C:
45.0D: Remove I> Start: Disabled
45.0E: Remove IN> Start: Disabled

GROUP 1 SUPERVISION

46.01: VT SUPERVISION:
46.02: VTS Status: Blocking
46.03: VTS Reset Mode: Auto
46.04: VTS Time Delay: 5.000 s
46.05: VTS I> Inhibit: 16.00 kA
46.06: VTS I2> Inhibit: 80.00 A
46.07: CT SUPERVISION:
46.08: CTS Status: Disabled

GROUP 1 INPUT LABELS

4A.01: Opto Input 1: SPARE
4A.02: Opto Input 2: SPARE
4A.03: Opto Input 3: SPARE
4A.04: Opto Input 4: SPARE



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Substation: 220KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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4A.05: Opto Input 5:	GRP-A&B RLY OPTD
4A.06: Opto Input 6:	SPARE
4A.07: Opto Input 7:	86A SUPVN
4A.08: Opto Input 8:	86B SUPVN
GROUP 1 OUTPUT LABELS	
4B.01: Relay 1:	TRP RLY 86A
4B.02: Relay 2:	TRP RLY 86B
4B.03: Relay 3:	LBB TRIP RELAY
4B.04: Relay 4:	LBB OPTD
4B.05: Relay 5:	400KV G-A RLY OP
4B.06: Relay 6:	400KV G-B RLY OP
4B.07: Relay 7:	TEST TRIP
Group 2	
Group 3	
Group 4	

TIE Transformer PROTECTION

100 MVA TIE-1

Differential Protection Main 1



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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Parameters	
DeviceID	
DVICE	
000.000: Device type:	632
002.120: Software version:	621.00
002.122: SW date:	11.02.09 dd.mm.yy
002.103: SW version communic.:	2.23
002.059: DM IEC 61850 version:	221
002.123: Language version:	800.0
002.121: Text vers.data model:	0
002.124: F number:	2.350073.6
001.000: AFS Order No.:	84901140
001.200: PCS Order No.:	P6328491140PD02L00
000.003: Order ext. No. 1:	308
000.004: Order ext. No. 2:	408
000.005: Order ext. No. 3:	947
000.006: Order ext. No. 4:	462
000.007: Order ext. No. 5:	621
000.008: Order ext. No. 6:	0
000.009: Order ext. No. 7:	0
000.010: Order ext. No. 8:	0
000.011: Order ext. No. 9:	0
000.012: Order ext. No. 10:	0
000.013: Order ext. No. 11:	0
000.014: Order ext. No. 12:	0
000.015: Order ext. No. 13:	0
000.016: Order ext. No. 14:	0
000.017: Order ext. No. 15:	0
000.018: Order ext. No. 16:	0
000.019: Order ext. No. 17:	0
000.020: Order ext. No. 18:	0
000.021: Order ext. No. 19:	0
000.022: Order ext. No. 20:	0
000.023: Order ext. No. 21:	0
000.024: Order ext. No. 22:	0
000.025: Order ext. No. 23:	0
000.026: Order ext. No. 24:	0
000.027: Order ext. No. 25:	0
000.028: Order ext. No. 26:	0
000.029: Order ext. No. 27:	0
086.050: Module var. slot 1:	Module P: 9651472
086.193: Module vers. slot 1:	Version F
086.051: Module var. slot 2:	Not fitted
086.194: Module vers. slot 2:	Not fitted
086.052: Module var. slot 3:	Module T: 9650325
086.195: Module vers. slot 3:	Version J
086.053: Module var. slot 4:	Not fitted
086.196: Module vers. slot 4:	Not fitted
086.054: Module var. slot 5:	Module T: 9650329
086.197: Module vers. slot 5:	Version L
086.055: Module var. slot 6:	Not fitted
086.198: Module vers. slot 6:	Not fitted
086.056: Module var. slot 7:	Not fitted
086.199: Module vers. slot 7:	Not fitted
086.057: Module var. slot 8:	Not fitted
086.200: Module vers. slot 8:	Not fitted
086.058: Module var. slot 9:	Not fitted
086.201: Module vers. slot 9:	Not fitted
086.059: Module var. slot 10:	Not fitted
086.202: Module vers. slot 10:	Not fitted
086.060: Module var. slot 11:	Not fitted
086.203: Module vers. slot 11:	Not fitted
086.061: Module var. slot 12:	Not fitted
086.204: Module vers. slot 12:	Not fitted
086.062: Module var. slot 13:	Not fitted
086.205: Module vers. slot 13:	Not fitted



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086.063:	Module var. slot 14:	Not fitted
086.206:	Module vers. slot 14:	Not fitted
086.064:	Module var. slot 15:	Not fitted
086.207:	Module vers. slot 15:	Not fitted
086.065:	Module var. slot 16:	Module X: 9651362
086.208:	Module vers. slot 16:	Version I
086.066:	Module var. slot 17:	Not fitted
086.209:	Module vers. slot 17:	Not fitted
086.067:	Module var. slot 18:	Not fitted
086.210:	Module vers. slot 18:	Not fitted
086.068:	Module var. slot 19:	Not fitted
086.211:	Module vers. slot 19:	Not fitted
086.069:	Module var. slot 20:	Module V: 9651357
086.212:	Module vers. slot 20:	Version V
086.070:	Module var. slot 21:	Not fitted
086.213:	Module vers. slot 21:	Not fitted
086.047:	Variant of module A:	Module A: 9651471
086.190:	Version of module A:	Version A
104.061:	MAC address module A:	00-02-84-90-77-25
086.048:	Variant of module L:	Module L: 9651473
086.191:	Version of module L:	Version E
086.049:	Variant of module B:	Module B: 0336188
086.192:	Version of module B:	Version Z
086.046:	Variant module B (a):	Module B: 0337870
086.189:	Version module B (a):	Version A
000.040:	Customer ID data 1:	0.00
000.041:	Customer ID data 2:	0.00
000.042:	Customer ID data 3:	0.00
000.043:	Customer ID data 4:	0.00
000.044:	Customer ID data 5:	0.00
000.045:	Customer ID data 6:	0.00
000.046:	Customer ID data 7:	0.00
000.047:	Customer ID data 8:	0.00
001.201:	Location:	
000.035:	Device ID:	0
000.036:	Substation ID:	0
000.037:	Feeder ID:	0
000.048:	Device password 1:	0
000.049:	Device password 2:	0
002.131:	SW version DHMI:	1.16
002.132:	SW version DHMI DM:	1.10
LOC		
221.099:	Local HMI exists:	Yes
Config.parameters		
LOC		
003.020:	Language:	Reference language
003.021:	Decimal delimiter:	Dot
005.251:	Fct. reset key:	Without function
080.110:	Fct. read key:	FT_RC Fault recording 1 -->
030.238:	Fct. menu jmp list 1:	Without function
030.239:	Fct. menu jmp list 2:	Without function
053.007:	Fct. Operation Panel:	DIFF Diff. current 1 -->
053.005:	Fct. Overload Panel:	Without function
053.003:	Fct. Fault Panel: FT_DA	Diff. current 1 -->
031.075:	Hold-time for Panels:	10 s
003.014:	Autom. return time:	60 s
003.023:	Return time illumin.:	60 s
PC		
003.183:	Name of manufacturer:	AREVA D
003.068:	Bay address:	1
003.069:	Device address:	1
003.081:	Baud rate:	19.2 kBaud
003.181:	Parity bit:	Even
003.187:	Spontan. sig. enable:	None
003.189:	Select. spontan.sig.:	Without function
003.084:	Transm.enab.cycl.dat:	Without



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File: 240924.x3v
Model Number: 621

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003.185: Cycl. data ILS tel.: Without function
003.055: Delta V: 3.0 %Vnom
003.056: Delta I: 3.0 %Inom
003.057: Delta f: 2.0 %fnom
003.155: Delta meas.v.ILS tel: 3.0
003.058: Delta t: 1 min
003.188: Time-out: 1 min

 COMM2

056.057: Function group COMM2: With
103.170: General enable USER: No
103.165: Line idle state: Light on / high
103.071: Baud rate: 19.2 kBaud
103.171: Parity bit: Even
103.176: Dead time monitoring: Yes
103.202: Mon. time polling: 25 s
103.203: Positive ackn. fault: No
103.072: Octet comm. address: 1
103.161: Name of manufacturer: ALSTOM D
103.073: Octet address ASDU: 1
103.177: Spontan. sig. enable: None
103.179: Select. spontan.sig.: Without function
103.074: Transm.enab.cycl.dat: Without
103.175: Cycl. data ILS tel.: Without function
103.050: Delta V: 3.0 %Vnom
103.051: Delta I: 3.0 %Inom
103.052: Delta f: 2.0 %fnom
103.150: Delta meas.v.ILS tel: 3.0
103.053: Delta t: 1 min

 IEC

056.059: Function group IEC: With
104.000: General enable USER: Yes
104.058: Enable configuration: don't execute
104.056: Ethernet media: Copper
104.057: IED name: P632T1
104.062: TCP keep-alive timer: 10 s
104.001: IP address: 10.22.91.70
104.005: Subnet mask: 255.255.255.0
104.011: Gateway address: 0.0.0.0
104.200: SNTP operating mode: Request from server
104.201: SNTP poll cycle time: 60 s
104.202: SNTP server 1 IP: 10.22.91.100
104.210: SNTP server 2 IP: 0.0.0.0
104.206: Diff. local time: 330 min
104.207: Diff. dayl.sav. time: 0 min
104.219: Switch.dayl.sav.time: Yes
104.220: Dayl.sav.time start: Last
104.221: Dayl.sav.time st. d: Sunday
104.222: Dayl.sav.time st. m: March
104.223: Dayl.sav.t.st.0:00 +: 330 min
104.225: Dayl.sav.time end: Last
104.226: Dayl.sav.time end d: Sunday
104.227: Dayl.sav.time end m: October
104.228: Dayl.sav.t.end 0:00+: 180 min
104.051: Deadband value: 100
104.229: Update Measurements: 5 s
104.230: Dead band IP: 100
104.231: Dead band IN: 100
104.232: Dead band V: 100
104.234: Dead band f: 100
104.236: Dead band phi: 100
104.238: Dead band min/max: 100
104.240: Dead band temp.: 100
104.241: Dead band 20mA: 100
221.081: DEV control model: SBO enh. security

 GOOSE

056.068: Function group GOOSE: With



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File: 240924.x3v
Model Number: 621

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106.001:	General enable USER:	Yes
106.003:	Multic. MAC address:	01-0C-CD-01-00-00
106.004:	Application ID:	3023
106.002:	Goose ID:	P632T1
106.006:	VLAN Identifier:	0
106.007:	VLAN Priority:	4
106.008:	DataSet Reference:	P632T1System/LLN0\$Go
106.009:	DataSet Cfg.Revision:	100
106.011:	Output 1 fct.assig.:	Without function
106.013:	Output 2 fct.assig.:	Without function
106.015:	Output 3 fct.assig.:	Without function
106.017:	Output 4 fct.assig.:	LOGIC Input 10 EXT
106.019:	Output 5 fct.assig.:	Without function
106.021:	Output 6 fct.assig.:	Without function
106.023:	Output 7 fct.assig.:	Without function
106.025:	Output 8 fct.assig.:	Without function
106.027:	Output 9 fct.assig.:	Without function
106.029:	Output 10 fct.assig.:	Without function
106.031:	Output 11 fct.assig.:	Without function
106.033:	Output 12 fct.assig.:	Without function
106.035:	Output 13 fct.assig.:	Without function
106.037:	Output 14 fct.assig.:	Without function
106.039:	Output 15 fct.assig.:	Without function
106.041:	Output 16 fct.assig.:	Without function
106.043:	Output 17 fct.assig.:	Without function
106.045:	Output 18 fct.assig.:	Without function
106.047:	Output 19 fct.assig.:	Without function
106.049:	Output 20 fct.assig.:	Without function
106.051:	Output 21 fct.assig.:	Without function
106.053:	Output 22 fct.assig.:	Without function
106.055:	Output 23 fct.assig.:	Without function
106.057:	Output 24 fct.assig.:	Without function
106.059:	Output 25 fct.assig.:	Without function
106.061:	Output 26 fct.assig.:	Without function
106.063:	Output 27 fct.assig.:	Without function
106.065:	Output 28 fct.assig.:	Without function
106.067:	Output 29 fct.assig.:	Without function
106.069:	Output 30 fct.assig.:	Without function
106.071:	Output 31 fct.assig.:	Without function
106.073:	Output 32 fct.assig.:	Without function
107.000:	Input 1 Applic. ID:	Blocked
107.001:	Input 1 Goose ID:	
107.002:	Input 1 DataSet Ref:	System/LLN0\$GooseST
107.003:	Input 1 DataObj Ind:	1
107.004:	Input 1 DataAttr Ind:	1
107.005:	Input 1 default:	0
107.006:	Input 1 fct.assig.:	Without function
107.010:	Input 2 Applic. ID:	Blocked
107.011:	Input 2 Goose ID:	
107.012:	Input 2 DataSet Ref:	System/LLN0\$GooseST
107.013:	Input 2 DataObj Ind:	1
107.014:	Input 2 DataAttr Ind:	1
107.015:	Input 2 default:	0
107.016:	Input 2 fct.assig.:	Without function
107.020:	Input 3 Applic. ID:	Blocked
107.021:	Input 3 Goose ID:	
107.022:	Input 3 DataSet Ref:	System/LLN0\$GooseST
107.023:	Input 3 DataObj Ind:	1
107.024:	Input 3 DataAttr Ind:	1
107.025:	Input 3 default:	0
107.026:	Input 3 fct.assig.:	Without function
107.030:	Input 4 Applic. ID:	Blocked
107.031:	Input 4 Goose ID:	
107.032:	Input 4 DataSet Ref:	System/LLN0\$GooseST
107.033:	Input 4 DataObj Ind:	1
107.034:	Input 4 DataAttr Ind:	1



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107.035: Input 4 default:	0
107.036: Input 4 fct.assig.:	Without function
107.040: Input 5 Applic. ID:	Blocked
107.041: Input 5 Goose ID:	
107.042: Input 5 DataSet Ref:	System/LLN0\$GooseST
107.043: Input 5 DataObj Ind:	1
107.044: Input 5 DataAttr Ind:	1
107.045: Input 5 default:	0
107.046: Input 5 fct.assig.:	Without function
107.050: Input 6 Applic. ID:	Blocked
107.051: Input 6 Goose ID:	
107.052: Input 6 DataSet Ref:	System/LLN0\$GooseST
107.053: Input 6 DataObj Ind:	1
107.054: Input 6 DataAttr Ind:	1
107.055: Input 6 default:	0
107.056: Input 6 fct.assig.:	Without function
107.060: Input 7 Applic. ID:	Blocked
107.061: Input 7 Goose ID:	
107.062: Input 7 DataSet Ref:	System/LLN0\$GooseST
107.063: Input 7 DataObj Ind:	1
107.064: Input 7 DataAttr Ind:	1
107.065: Input 7 default:	0
107.066: Input 7 fct.assig.:	Without function
107.070: Input 8 Applic. ID:	Blocked
107.071: Input 8 Goose ID:	
107.072: Input 8 DataSet Ref:	System/LLN0\$GooseST
107.073: Input 8 DataObj Ind:	1
107.074: Input 8 DataAttr Ind:	1
107.075: Input 8 default:	0
107.076: Input 8 fct.assig.:	Without function
107.080: Input 9 Applic. ID:	Blocked
107.081: Input 9 Goose ID:	
107.082: Input 9 DataSet Ref:	System/LLN0\$GooseST
107.083: Input 9 DataObj Ind:	1
107.084: Input 9 DataAttr Ind:	1
107.085: Input 9 default:	0
107.086: Input 9 fct.assig.:	Without function
107.090: Input 10 Applic. ID:	Blocked
107.091: Input 10 Goose ID:	
107.092: Input 10 DataSet Ref:	System/LLN0\$GooseST
107.093: Input 10 DataObj Ind:	1
107.094: Input 10 DataAttr Ind:	1
107.095: Input 10 default:	0
107.096: Input 10 fct.assig.:	Without function
107.100: Input 11 Applic. ID:	Blocked
107.101: Input 11 Goose ID:	
107.102: Input 11 DataSet Ref:	System/LLN0\$GooseST
107.103: Input 11 DataObj Ind:	1
107.104: Input 11 DataAttr Ind:	1
107.105: Input 11 default:	0
107.106: Input 11 fct.assig.:	Without function
107.110: Input 12 Applic. ID:	Blocked
107.111: Input 12 Goose ID:	
107.112: Input 12 DataSet Ref:	System/LLN0\$GooseST
107.113: Input 12 DataObj Ind:	1
107.114: Input 12 DataAttr Ind:	1
107.115: Input 12 default:	0
107.116: Input 12 fct.assig.:	Without function
107.120: Input 13 Applic. ID:	Blocked
107.121: Input 13 Goose ID:	
107.122: Input 13 DataSet Ref:	System/LLN0\$GooseST
107.123: Input 13 DataObj Ind:	1
107.124: Input 13 DataAttr Ind:	1
107.125: Input 13 default:	0
107.126: Input 13 fct.assig.:	Without function
107.130: Input 14 Applic. ID:	Blocked



Settings File Report
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107.131: Input 14 Goose ID:	
107.132: Input 14 DataSet Ref:	System/LLN0\$GooseST
107.133: Input 14 DataObj Ind:	1
107.134: Input 14 DataAttr Ind:	1
107.135: Input 14 default:	0
107.136: Input 14 fct.assig.:	Without function
107.140: Input 15 Applic. ID:	Blocked
107.141: Input 15 Goose ID:	
107.142: Input 15 DataSet Ref:	System/LLN0\$GooseST
107.143: Input 15 DataObj Ind:	1
107.144: Input 15 DataAttr Ind:	1
107.145: Input 15 default:	0
107.146: Input 15 fct.assig.:	Without function
107.150: Input 16 Applic. ID:	Blocked
107.151: Input 16 Goose ID:	
107.152: Input 16 DataSet Ref:	System/LLN0\$GooseST
107.153: Input 16 DataObj Ind:	1
107.154: Input 16 DataAttr Ind:	1
107.155: Input 16 default:	0
107.156: Input 16 fct.assig.:	Without function
108.000: Ext.Dev01 Applic. ID:	Blocked
108.001: Ext.Dev01 Goose ID:	
108.002: Ext.Dev01 DataSetRef:	System/LLN0\$GooseST
108.003: Ext.Dev01 DataObjInd:	1
108.004: Ext.Dev01 DataAttrInd:	1
108.005: Ext.Dev01 default:	Interm. pos.
108.010: Ext.Dev02 Applic. ID:	Blocked
108.011: Ext.Dev02 Goose ID:	
108.012: Ext.Dev02 DataSetRef:	System/LLN0\$GooseST
108.013: Ext.Dev02 DataObjInd:	1
108.014: Ext.Dev02 DataAttrInd:	1
108.015: Ext.Dev02 default:	Interm. pos.
108.020: Ext.Dev03 Applic. ID:	Blocked
108.021: Ext.Dev03 Goose ID:	
108.022: Ext.Dev03 DataSetRef:	System/LLN0\$GooseST
108.023: Ext.Dev03 DataObjInd:	1
108.024: Ext.Dev03 DataAttrInd:	1
108.025: Ext.Dev03 default:	Interm. pos.
108.030: Ext.Dev04 Applic. ID:	Blocked
108.031: Ext.Dev04 Goose ID:	
108.032: Ext.Dev04 DataSetRef:	System/LLN0\$GooseST
108.033: Ext.Dev04 DataObjInd:	1
108.034: Ext.Dev04 DataAttrInd:	1
108.035: Ext.Dev04 default:	Interm. pos.
108.040: Ext.Dev05 Applic. ID:	Blocked
108.041: Ext.Dev05 Goose ID:	
108.042: Ext.Dev05 DataSetRef:	System/LLN0\$GooseST
108.043: Ext.Dev05 DataObjInd:	1
108.044: Ext.Dev05 DataAttrInd:	1
108.045: Ext.Dev05 default:	Interm. pos.
108.050: Ext.Dev06 Applic. ID:	Blocked
108.051: Ext.Dev06 Goose ID:	
108.052: Ext.Dev06 DataSetRef:	System/LLN0\$GooseST
108.053: Ext.Dev06 DataObjInd:	1
108.054: Ext.Dev06 DataAttrInd:	1
108.055: Ext.Dev06 default:	Interm. pos.
108.060: Ext.Dev07 Applic. ID:	Blocked
108.061: Ext.Dev07 Goose ID:	
108.062: Ext.Dev07 DataSetRef:	System/LLN0\$GooseST
108.063: Ext.Dev07 DataObjInd:	1
108.064: Ext.Dev07 DataAttrInd:	1
108.065: Ext.Dev07 default:	Interm. pos.
108.070: Ext.Dev08 Applic. ID:	Blocked
108.071: Ext.Dev08 Goose ID:	
108.072: Ext.Dev08 DataSetRef:	System/LLN0\$GooseST
108.073: Ext.Dev08 DataObjInd:	1



Settings File Report
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108.074:	Ext.Dev08	DataAttrInd:	1
108.075:	Ext.Dev08	default:	Interm. pos.
108.080:	Ext.Dev09	Applic. ID:	Blocked
108.081:	Ext.Dev09	Goose ID:	
108.082:	Ext.Dev09	DataSetRef:	System/LLN0\$GooseST
108.083:	Ext.Dev09	DataObjInd:	1
108.084:	Ext.Dev09	DataAttrInd:	1
108.085:	Ext.Dev09	default:	Interm. pos.
108.090:	Ext.Dev10	Applic. ID:	Blocked
108.091:	Ext.Dev10	Goose ID:	
108.092:	Ext.Dev10	DataSetRef:	System/LLN0\$GooseST
108.093:	Ext.Dev10	DataObjInd:	1
108.094:	Ext.Dev10	DataAttrInd:	1
108.095:	Ext.Dev10	default:	Interm. pos.
108.100:	Ext.Dev11	Applic. ID:	Blocked
108.101:	Ext.Dev11	Goose ID:	
108.102:	Ext.Dev11	DataSetRef:	System/LLN0\$GooseST
108.103:	Ext.Dev11	DataObjInd:	1
108.104:	Ext.Dev11	DataAttrInd:	1
108.105:	Ext.Dev11	default:	Interm. pos.
108.110:	Ext.Dev12	Applic. ID:	Blocked
108.111:	Ext.Dev12	Goose ID:	
108.112:	Ext.Dev12	DataSetRef:	System/LLN0\$GooseST
108.113:	Ext.Dev12	DataObjInd:	1
108.114:	Ext.Dev12	DataAttrInd:	1
108.115:	Ext.Dev12	default:	Interm. pos.
108.120:	Ext.Dev13	Applic. ID:	Blocked
108.121:	Ext.Dev13	Goose ID:	
108.122:	Ext.Dev13	DataSetRef:	System/LLN0\$GooseST
108.123:	Ext.Dev13	DataObjInd:	1
108.124:	Ext.Dev13	DataAttrInd:	1
108.125:	Ext.Dev13	default:	Interm. pos.
108.130:	Ext.Dev14	Applic. ID:	Blocked
108.131:	Ext.Dev14	Goose ID:	
108.132:	Ext.Dev14	DataSetRef:	System/LLN0\$GooseST
108.133:	Ext.Dev14	DataObjInd:	1
108.134:	Ext.Dev14	DataAttrInd:	1
108.135:	Ext.Dev14	default:	Interm. pos.
108.140:	Ext.Dev15	Applic. ID:	Blocked
108.141:	Ext.Dev15	Goose ID:	
108.142:	Ext.Dev15	DataSetRef:	System/LLN0\$GooseST
108.143:	Ext.Dev15	DataObjInd:	1
108.144:	Ext.Dev15	DataAttrInd:	1
108.145:	Ext.Dev15	default:	Interm. pos.
108.150:	Ext.Dev16	Applic. ID:	Blocked
108.151:	Ext.Dev16	Goose ID:	
108.152:	Ext.Dev16	DataSetRef:	System/LLN0\$GooseST
108.153:	Ext.Dev16	DataObjInd:	1
108.154:	Ext.Dev16	DataAttrInd:	1
108.155:	Ext.Dev16	default:	Interm. pos.
110.000:	Ext.Dev17	Applic. ID:	Blocked
110.001:	Ext.Dev17	Goose ID:	
110.002:	Ext.Dev17	DataSetRef:	System/LLN0\$GooseST
110.003:	Ext.Dev17	DataObjInd:	1
110.004:	Ext.Dev17	DataAttrInd:	1
110.005:	Ext.Dev17	default:	Interm. pos.
110.010:	Ext.Dev18	Applic. ID:	Blocked
110.011:	Ext.Dev18	Goose ID:	
110.012:	Ext.Dev18	DataSetRef:	System/LLN0\$GooseST
110.013:	Ext.Dev18	DataObjInd:	1
110.014:	Ext.Dev18	DataAttrInd:	1
110.015:	Ext.Dev18	default:	Interm. pos.
110.020:	Ext.Dev19	Applic. ID:	Blocked
110.021:	Ext.Dev19	Goose ID:	
110.022:	Ext.Dev19	DataSetRef:	System/LLN0\$GooseST
110.023:	Ext.Dev19	DataObjInd:	1



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110.024:	Ext.Dev19	DataAttrInd:	1
110.025:	Ext.Dev19	default:	Interm. pos.
110.030:	Ext.Dev20	Applic. ID:	Blocked
110.031:	Ext.Dev20	Goose ID:	
110.032:	Ext.Dev20	DataSetRef:	System/LLN0\$GooseST
110.033:	Ext.Dev20	DataObjInd:	1
110.034:	Ext.Dev20	DataAttrInd:	1
110.035:	Ext.Dev20	default:	Interm. pos.
110.040:	Ext.Dev21	Applic. ID:	Blocked
110.041:	Ext.Dev21	Goose ID:	
110.042:	Ext.Dev21	DataSetRef:	System/LLN0\$GooseST
110.043:	Ext.Dev21	DataObjInd:	1
110.044:	Ext.Dev21	DataAttrInd:	1
110.045:	Ext.Dev21	default:	Interm. pos.
110.050:	Ext.Dev22	Applic. ID:	Blocked
110.051:	Ext.Dev22	Goose ID:	
110.052:	Ext.Dev22	DataSetRef:	System/LLN0\$GooseST
110.053:	Ext.Dev22	DataObjInd:	1
110.054:	Ext.Dev22	DataAttrInd:	1
110.055:	Ext.Dev22	default:	Interm. pos.
110.060:	Ext.Dev23	Applic. ID:	Blocked
110.061:	Ext.Dev23	Goose ID:	
110.062:	Ext.Dev23	DataSetRef:	System/LLN0\$GooseST
110.063:	Ext.Dev23	DataObjInd:	1
110.064:	Ext.Dev23	DataAttrInd:	1
110.065:	Ext.Dev23	default:	Interm. pos.
110.066:	Ext.Dev24	Applic. ID:	Blocked
110.071:	Ext.Dev24	Goose ID:	
110.072:	Ext.Dev24	DataSetRef:	System/LLN0\$GooseST
110.073:	Ext.Dev24	DataObjInd:	1
110.074:	Ext.Dev24	DataAttrInd:	1
110.075:	Ext.Dev24	default:	Interm. pos.
110.080:	Ext.Dev25	Applic. ID:	Blocked
110.081:	Ext.Dev25	Goose ID:	
110.082:	Ext.Dev25	DataSetRef:	System/LLN0\$GooseST
110.083:	Ext.Dev25	DataObjInd:	1
110.084:	Ext.Dev25	DataAttrInd:	1
110.085:	Ext.Dev25	default:	Interm. pos.
110.090:	Ext.Dev26	Applic. ID:	Blocked
110.091:	Ext.Dev26	Goose ID:	
110.092:	Ext.Dev26	DataSetRef:	System/LLN0\$GooseST
110.093:	Ext.Dev26	DataObjInd:	1
110.094:	Ext.Dev26	DataAttrInd:	1
110.095:	Ext.Dev26	default:	Interm. pos.
110.100:	Ext.Dev27	Applic. ID:	Blocked
110.101:	Ext.Dev27	Goose ID:	
110.102:	Ext.Dev27	DataSetRef:	System/LLN0\$GooseST
110.103:	Ext.Dev27	DataObjInd:	1
110.104:	Ext.Dev27	DataAttrInd:	1
110.105:	Ext.Dev27	default:	Interm. pos.
110.110:	Ext.Dev28	Applic. ID:	Blocked
110.111:	Ext.Dev28	Goose ID:	
110.112:	Ext.Dev28	DataSetRef:	System/LLN0\$GooseST
110.113:	Ext.Dev28	DataObjInd:	1
110.114:	Ext.Dev28	DataAttrInd:	1
110.115:	Ext.Dev28	default:	Interm. pos.
110.120:	Ext.Dev29	Applic. ID:	Blocked
110.121:	Ext.Dev29	Goose ID:	
110.122:	Ext.Dev29	DataSetRef:	System/LLN0\$GooseST
110.123:	Ext.Dev29	DataObjInd:	1
110.124:	Ext.Dev29	DataAttrInd:	1
110.125:	Ext.Dev29	default:	Interm. pos.
110.130:	Ext.Dev30	Applic. ID:	Blocked
110.131:	Ext.Dev30	Goose ID:	
110.132:	Ext.Dev30	DataSetRef:	System/LLN0\$GooseST
110.133:	Ext.Dev30	DataObjInd:	1



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110.134:	Ext.Dev30	DatAttrInd:	1
110.135:	Ext.Dev30	default:	Interm. pos.
110.140:	Ext.Dev31	Applic. ID:	Blocked
110.141:	Ext.Dev31	Goose ID:	
110.142:	Ext.Dev31	DataSetRef:	System/LLN0\$GooseST
110.143:	Ext.Dev31	DataObjInd:	1
110.144:	Ext.Dev31	DatAttrInd:	1
110.145:	Ext.Dev31	default:	Interm. pos.
110.150:	Ext.Dev32	Applic. ID:	Blocked
110.151:	Ext.Dev32	Goose ID:	
110.152:	Ext.Dev32	DataSetRef:	System/LLN0\$GooseST
110.153:	Ext.Dev32	DataObjInd:	1
110.154:	Ext.Dev32	DatAttrInd:	1
110.155:	Ext.Dev32	default:	Interm. pos.
GSSE			
056.060:	Function group GSSE:		Without
F_KEY			
080.112:	Fct. assignm. F1:		Without function
080.113:	Fct. assignm. F2:		Without function
080.114:	Fct. assignm. F3:		Without function
080.115:	Fct. assignm. F4:		Without function
080.116:	Fct. assignm. F5:		Without function
080.117:	Fct. assignm. F6:		FT_RC Trigger EXT
080.132:	Operating mode F1:		Key
080.133:	Operating mode F2:		Key
080.134:	Operating mode F3:		Key
080.135:	Operating mode F4:		Key
080.136:	Operating mode F5:		Key
080.137:	Operating mode F6:		Key
003.037:	Return time fct.keys:		10 s
INP			
010.220:	Filter:		20
192.002:	Fct. assignm. U 1601:		LOGIC Input 5 EXT
192.006:	Fct. assignm. U 1602:		LOGIC Input 6 EXT
192.010:	Fct. assignm. U 1603:		LOGIC Input 7 EXT
192.014:	Fct. assignm. U 1604:		LOGIC Input 8 EXT
192.018:	Fct. assignm. U 1605:		LOGIC Input 9 EXT
192.022:	Fct. assignm. U 1606:		LOGIC Input 10 EXT
153.087:	Fct. assignm. U 2001:		LOGIC Input 1 EXT
153.090:	Fct. assignm. U 2002:		LOGIC Input 2 EXT
153.093:	Fct. assignm. U 2003:		LOGIC Input 3 EXT
153.096:	Fct. assignm. U 2004:		LOGIC Input 4 EXT
192.003:	Oper. mode U 1601:		Active "high"
192.007:	Oper. mode U 1602:		Active "high"
192.011:	Oper. mode U 1603:		Active "high"
192.015:	Oper. mode U 1604:		Active "high"
192.019:	Oper. mode U 1605:		Active "high"
192.023:	Oper. mode U 1606:		Active "high"
153.088:	Oper. mode U 2001:		Active "low"
153.091:	Oper. mode U 2002:		Active "high"
153.094:	Oper. mode U 2003:		Active "high"
153.097:	Oper. mode U 2004:		Active "high"
OUTP			
171.002:	Fct. assignm. K 1601:		DTOC2 Starting IN>
171.006:	Fct. assignm. K 1602:		LOGIC Output 1
171.010:	Fct. assignm. K 1603:		LOGIC Output 1
171.014:	Fct. assignm. K 1604:		Without function
171.018:	Fct. assignm. K 1605:		Without function
171.022:	Fct. assignm. K 1606:		Without function
171.026:	Fct. assignm. K 1607:		Without function
171.030:	Fct. assignm. K 1608:		Without function
151.201:	Fct. assignm. K 2001:		LOGIC Output 1
151.204:	Fct. assignm. K 2002:		LOGIC Output 1
151.207:	Fct. assignm. K 2003:		LOGIC Output 1
151.210:	Fct. assignm. K 2004:		Without function
151.213:	Fct. assignm. K 2005:		Without function



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.....	151.216: Fct. assignm. K 2006:	Without function
.....	151.219: Fct. assignm. K 2007:	Without function
.....	151.222: Fct. assignm. K 2008:	Without function
.....	171.003: Oper. mode K 1601:	ES updating
.....	171.007: Oper. mode K 1602:	ES updating
.....	171.011: Oper. mode K 1603:	ES updating
.....	171.015: Oper. mode K 1604:	ES updating
.....	171.019: Oper. mode K 1605:	ES updating
.....	171.023: Oper. mode K 1606:	ES updating
.....	171.027: Oper. mode K 1607:	ES updating
.....	171.031: Oper. mode K 1608:	ES updating
.....	151.202: Oper. mode K 2001:	ES updating
.....	151.205: Oper. mode K 2002:	ES updating
.....	151.208: Oper. mode K 2003:	ES updating
.....	151.211: Oper. mode K 2004:	ES updating
.....	151.214: Oper. mode K 2005:	ES updating
.....	151.217: Oper. mode K 2006:	ES updating
.....	151.220: Oper. mode K 2007:	ES updating
.....	151.223: Oper. mode K 2008:	ES updating
.....	MEASO	
.....	056.020: Function group MEASO:	Without
.....	LED	
.....	085.184: Fct.assign. H 1 green:	MAIN Healthy
.....	085.001: Fct.assign. H 2 yell.:	MAIN Blocked/faulty
.....	085.004: Fct.assign. H 3 yell.:	SFMON Warning (LED)
.....	085.007: Fct.assign. H 4 red:	MAIN Gen. trip signal 1
.....	085.057: Fct.assign. H 4 green:	Without function
.....	085.010: Fct.assign. H 5 red:	DIFF Trip signal 1
.....	085.060: Fct.assign. H 5 green:	Without function
.....	085.013: Fct.assign. H 6 red:	DIFF Trip signal 2
.....	085.063: Fct.assign. H 6 green:	Without function
.....	085.016: Fct.assign. H 7 red:	DIFF Trip signal 3
.....	085.066: Fct.assign. H 7 green:	Without function
.....	085.019: Fct.assign. H 8 red:	V/f Trip signal tV/f(t)
.....	085.069: Fct.assign. H 8 green:	Without function
.....	085.022: Fct.assign. H 9 red:	DTOC2 Trip signal tIN>
.....	085.072: Fct.assign. H 9 green:	Without function
.....	085.025: Fct.assign. H10 red:	LOGIC Input 1 EXT
.....	085.075: Fct.assign. H10 green:	Without function
.....	085.028: Fct.assign. H11 red:	LOGIC Input 8 EXT
.....	085.078: Fct.assign. H11 green:	Without function
.....	085.031: Fct.assign. H12 rot:	V/f Starting V/f(t)
.....	085.081: Fct.assign. H12 green:	Without function
.....	085.034: Fct.assign. H13 red:	Without function
.....	085.084: Fct.assign. H13 green:	Without function
.....	085.037: Fct.assign. H14 red:	Without function
.....	085.087: Fct.assign. H14 green:	Without function
.....	085.040: Fct.assign. H15 red:	Without function
.....	085.090: Fct.assign. H15 green:	Without function
.....	085.043: Fct.assign. H16 red:	Without function
.....	085.093: Fct.assign. H16 green:	Without function
.....	085.185: Fct.assign. H17 red:	LOC Edit mode
.....	085.131: Fct.assign. H18 red:	Without function
.....	085.161: Fct.assign. H18 green:	Without function
.....	085.134: Fct.assign. H19 red:	Without function
.....	085.164: Fct.assign. H19 green:	Without function
.....	085.137: Fct.assign. H20 red:	Without function
.....	085.167: Fct.assign. H20 green:	Without function
.....	085.140: Fct.assign. H21 red:	Without function
.....	085.170: Fct.assign. H21 green:	Without function
.....	085.143: Fct.assign. H22 red:	DTOC2 Starting IN>
.....	085.173: Fct.assign. H22 green:	Without function
.....	085.146: Fct.assign. H23 red:	Without function
.....	085.177: Fct.assign. H23 green:	Without function
.....	085.182: Operating mode H 1:	ES updating
.....	085.002: Operating mode H 2:	ES updating



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085.005:	Operating mode H 3:	ES updating
085.008:	Operating mode H 4:	ES reset (fault)
085.011:	Operating mode H 5:	ES manual reset
085.014:	Operating mode H 6:	ES manual reset
085.017:	Operating mode H 7:	ES manual reset
085.020:	Operating mode H 8:	ES manual reset
085.023:	Operating mode H 9:	ES manual reset
085.026:	Operating mode H 10:	ES manual reset
085.029:	Operating mode H 11:	ES manual reset
085.032:	Operating mode H 12:	ES manual reset
085.035:	Operating mode H 13:	ES manual reset
085.038:	Operating mode H 14:	ES manual reset
085.041:	Operating mode H 15:	ES manual reset
085.044:	Operating mode H 16:	ES updating
085.183:	Operating mode H 17:	ES updating
085.132:	Operating mode H 18:	ES updating
085.135:	Operating mode H 19:	ES updating
085.138:	Operating mode H 20:	ES updating
085.141:	Operating mode H 21:	ES updating
085.144:	Operating mode H 22:	ES manual reset
085.147:	Operating mode H 23:	ES updating
MAIN		
003.169:	Chann.assign.COMM1/2:	COMM1->chann.1,(2-2)
103.210:	Prim.Source TimeSync:	COMM1
103.211:	BackupSourceTimeSync:	COMM2/PC
103.212:	Time sync. time-out:	Blocked
FT_RC		
035.160:	Rec. analog chann. 1:	Current IA,a
035.161:	Rec. analog chann. 2:	Current IB,a
035.162:	Rec. analog chann. 3:	Current IC,a
035.163:	Rec. analog chann. 4:	Current IY,a
035.164:	Rec. analog chann. 5:	Current IA,b
035.165:	Rec. analog chann. 6:	Current IB,b
035.166:	Rec. analog chann. 7:	Current IC,b
035.167:	Rec. analog chann. 8:	Current IY,b
035.168:	Rec. analog chann. 9:	Voltage V
DIFF		
056.027:	Function group DIFF:	With
REF_1		
056.037:	Function group REF_1:	Without
REF_2		
056.038:	Function group REF_2:	Without
DTC1		
056.031:	Function group DTC1:	Without
DTC2		
056.032:	Function group DTC2:	With
IDMT1		
056.051:	Function group IDMT1:	Without
IDMT2		
056.061:	Function group IDMT2:	Without
THRM1		
056.054:	Function group THRM1:	Without
V<>		
056.010:	Function group V<>:	Without
f<>		
056.033:	Function group f<>:	Without
V/f		
056.056:	Function group V/f:	With
MCM_1		
056.073:	Function group MCM_1:	Without
MCM_2		
056.074:	Function group MCM_2:	Without
CBF_1		
056.007:	Function group CBF_1:	Without
CBF_2		
056.082:	Function group CBF_2:	Without



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LIM_1	056.042: Function group LIM_1:	Without
LIM_2	056.043: Function group LIM_2:	Without
LOGIC	056.017: Function group LOGIC:	With
Function parameters		
Global		
PC	003.182: Command blocking:	No
	003.086: Sig./meas.val.block.:	No
COMM2	103.172: Command block. USER:	No
	103.076: Sig./meas.block.USER:	No
OUTP	021.014: Outp.rel.block USER:	No
MAIN	003.030: Device on-line: Yes (= on)	
	003.012: Test mode USER:	No
	010.030: Nominal frequ. fnom:	50 Hz
	010.049: Phase sequence:	A - B - C
	019.020: Inom C.T.prim.,end a:	500 A
	019.021: Inom C.T.prim.,end b:	1750 A
	019.027: Inom C.T.Yprim,end a:	500 A
	019.028: Inom C.T.Yprim,end b:	1750 A
	010.002: Vnom V.T. prim.:	400.0 kV
	010.024: Inom device, end a:	1.0 A
	010.025: Inom device, end b:	1.0 A
	010.142: IY,nom device, end a:	1.0 A
	010.143: IY,nom device, end b:	1.0 A
	010.009: Vnom V.T. sec.:	110 V
	010.140: Conn.meas.circ. IP,a:	Standard
	010.150: Conn.meas.circ. IP,b:	Standard
	010.141: Conn.meas.circ. IY,a:	Standard
	010.151: Conn.meas.circ. IY,b:	Standard
	011.030: Meas. value rel. IP:	0.00 Inom
	011.048: Meas.value rel. Ineg:	0.000 Inom
	011.058: Meas.value rel. Ipos:	0.000 Inom
	011.031: Meas. value rel. IN:	0.000 Inom
	011.036: Meas. value rel. IY:	0.000 IN,nom
	011.032: Meas. value rel. V:	0.00 Vnom
	010.113: Settl. t. IP,max,del:	15.0 min
	005.248: Fct.assign. reset 1:	Without function
	005.249: Fct.assign. reset 2:	Without function
	021.021: Fct.assign. block. 1:	Without function
	021.022: Fct.assign. block. 2:	Without function
	021.048: Fct.assign. block. 3:	Without function
	021.049: Fct.assign. block. 4:	Without function
	021.012: Trip cmd.block. USER:	No
	021.001: Fct.assign.trip cmd.1:	V/f Trip signal tv/f(t) -->
	021.002: Fct.assign.trip cmd.2:	DIFF Trip signal -->
	021.046: Fct.assign.trip cmd.3:	Without function
	021.047: Fct.assign.trip cmd.4:	Without function
	021.003: Min.dur. trip cmd. 1:	0.25 s
	021.004: Min.dur. trip cmd. 2:	0.25 s
	021.032: Min.dur. trip cmd. 3:	0.25 s
	021.033: Min.dur. trip cmd. 4:	0.25 s
	021.023: Latching trip cmd. 1:	No
	021.024: Latching trip cmd. 2:	No
	021.025: Latching trip cmd. 3:	No
	021.026: Latching trip cmd. 4:	No
	021.031: Fct. assign. fault:	Without function
	021.017: Sig. asg. CB1 open:	Without function
	021.020: Sig. asg. CB1 closed:	Without function
	021.060: Sig. asg. CB2 closed:	Without function
	021.061: Sig. asg. CB2 open:	Without function



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PSS	003.100: Control via USER:	No	
PSS	003.060: Param.subs.sel. USER:	Parameter subset 1	
PSS	003.063: Keep time:	Blocked	
SFMON	021.030: Fct. assign. warning:	Without function	
SFMON	021.018: Mon.sig. retention:	Blocked	
FT_RC	003.085: Fct. assign. trigger:	DIFF Trip signal	-->
FT_RC	016.018: Id>:	Blocked	
FT_RC	016.019: IR>:	Blocked	
FT_RC	003.078: Pre-fault time:	5 Periods	
FT_RC	003.079: Post-fault time:	2 Periods	
FT_RC	003.075: Max. recording time:	50 Periods	
General functions			
MAIN	016.096: Evaluation IN, end a:	Measured	
MAIN	016.097: Evaluation IN, end b:	Measured	
MAIN	018.009: Hold time dyn.param.:	Blocked	
DIFF	019.080: General enable USER:	Yes	
DIFF	019.016: Reference power Sref:	100.0 MVA	
DIFF	019.023: Ref. curr. Iref,a:	0.144 kA	
DIFF	019.024: Ref. curr. Iref,b:	1.673 kA	
DIFF	004.105: Matching fact. kam,a:	3.464	
DIFF	004.106: Matching fact. kam,b:	1.046	
DIFF	011.037: Meas. value rel. Id:	0.000 Iref	
DIFF	011.038: Meas. value rel. IR:	0.000 Iref	
DTC2	031.136: General enable USER:	Yes	
DTC2	019.104: Select. meas. input:	End b	
V/f	019.097: General enable USER:	Yes	
LOGIC	031.099: General enable USER:	Yes	
LOGIC	034.030: Set 1 USER:	No	
LOGIC	034.031: Set 2 USER:	No	
LOGIC	034.032: Set 3 USER:	No	
LOGIC	034.033: Set 4 USER:	No	
LOGIC	034.034: Set 5 USER:	No	
LOGIC	034.035: Set 6 USER:	No	
LOGIC	034.036: Set 7 USER:	No	
LOGIC	034.037: Set 8 USER:	No	
LOGIC	030.000: Fct.assignm. outp. 1:	DIFF Trip signal	-->
LOGIC	030.001: Op. mode t output 1:	Without timer stage	
LOGIC	030.002: Time t1 output 1:	0.00 s	
LOGIC	030.003: Time t2 output 1:	0.00 s	
LOGIC	044.000: Sig.assign. outp. 1:	Without function	
LOGIC	044.001: Sig.assign.outp. 1(t):	Without function	
LOGIC	030.004: Fct.assignm. outp. 2:	LOGIC Input 1 EXT	-->
LOGIC	030.005: Op. mode t output 2:	Without timer stage	
LOGIC	030.006: Time t1 output 2:	0.00 s	
LOGIC	030.007: Time t2 output 2:	0.00 s	
LOGIC	044.002: Sig.assign. outp. 2:	Without function	
LOGIC	044.003: Sig.assign.outp. 2(t):	Without function	
LOGIC	030.008: Fct.assignm. outp. 3:	Without function	
LOGIC	030.009: Op. mode t output 3:	Without timer stage	
LOGIC	030.010: Time t1 output 3:	0.00 s	
LOGIC	030.011: Time t2 output 3:	0.00 s	
LOGIC	044.004: Sig.assign. outp. 3:	Without function	
LOGIC	044.005: Sig.assign.outp. 3(t):	Without function	
LOGIC	030.012: Fct.assignm. outp. 4:	Without function	
LOGIC	030.013: Op. mode t output 4:	Without timer stage	
LOGIC	030.014: Time t1 output 4:	0.00 s	
LOGIC	030.015: Time t2 output 4:	0.00 s	
LOGIC	044.006: Sig.assign. outp. 4:	Without function	



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044.007: Sig.assig.outp. 4(t):	Without function
030.016: Fct.assignm. outp. 5:	Without function
030.017: Op. mode t output 5:	Without timer stage
030.018: Time t1 output 5:	0.00 s
030.019: Time t2 output 5:	0.00 s
044.008: Sig.assig. outp. 5:	Without function
044.009: Sig.assig.outp. 5(t):	Without function
030.020: Fct.assignm. outp. 6:	Without function
030.021: Op. mode t output 6:	Without timer stage
030.022: Time t1 output 6:	0.00 s
030.023: Time t2 output 6:	0.00 s
044.010: Sig.assig. outp. 6:	Without function
044.011: Sig.assig.outp. 6(t):	Without function
030.024: Fct.assignm. outp. 7:	Without function
030.025: Op. mode t output 7:	Without timer stage
030.026: Time t1 output 7:	0.00 s
030.027: Time t2 output 7:	0.00 s
044.012: Sig.assig. outp. 7:	Without function
044.013: Sig.assig.outp. 7(t):	Without function
030.028: Fct.assignm. outp. 8:	Without function
030.029: Op. mode t output 8:	Without timer stage
030.030: Time t1 output 8:	0.00 s
030.031: Time t2 output 8:	0.00 s
044.014: Sig.assig. outp. 8:	Without function
044.015: Sig.assig.outp. 8(t):	Without function
030.032: Fct.assignm. outp. 9:	Without function
030.033: Op. mode t output 9:	Without timer stage
030.034: Time t1 output 9:	0.00 s
030.035: Time t2 output 9:	0.00 s
044.016: Sig.assig. outp. 9:	Without function
044.017: Sig.assig.outp. 9(t):	Without function
030.036: Fct.assignm. outp.10:	Without function
030.037: Op. mode t output 10:	Without timer stage
030.038: Time t1 output 10:	0.00 s
030.039: Time t2 output 10:	0.00 s
044.018: Sig.assig. outp. 10:	Without function
044.019: Sig.assig.outp.10(t):	Without function
030.040: Fct.assignm. outp.11:	Without function
030.041: Op. mode t output 11:	Without timer stage
030.042: Time t1 output 11:	0.00 s
030.043: Time t2 output 11:	0.00 s
044.020: Sig.assig. outp. 11:	Without function
044.021: Sig.assig.outp.11(t):	Without function
030.044: Fct.assignm. outp.12:	Without function
030.045: Op. mode t output 12:	Without timer stage
030.046: Time t1 output 12:	0.00 s
030.047: Time t2 output 12:	0.00 s
044.022: Sig.assig. outp. 12:	Without function
044.023: Sig.assig.outp.12(t):	Without function
030.048: Fct.assignm. outp.13:	Without function
030.049: Op. mode t output 13:	Without timer stage
030.050: Time t1 output 13:	0.00 s
030.051: Time t2 output 13:	0.00 s
044.024: Sig.assig. outp. 13:	Without function
044.025: Sig.assig.outp.13(t):	Without function
030.052: Fct.assignm. outp.14:	Without function
030.053: Op. mode t output 14:	Without timer stage
030.054: Time t1 output 14:	0.00 s
030.055: Time t2 output 14:	0.00 s
044.026: Sig.assig. outp. 14:	Without function
044.027: Sig.assig.outp.14(t):	Without function
030.056: Fct.assignm. outp.15:	Without function
030.057: Op. mode t output 15:	Without timer stage
030.058: Time t1 output 15:	0.00 s
030.059: Time t2 output 15:	0.00 s
044.028: Sig.assig. outp. 15:	Without function



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044.029: Sig.assig.outp.15(t):	Without function
030.060: Fct.assignm. outp.16:	Without function
030.061: Op. mode t output 16:	Without timer stage
030.062: Time t1 output 16:	0.00 s
030.063: Time t2 output 16:	0.00 s
044.030: Sig.assig. outp. 16:	Without function
044.031: Sig.assig.outp.16(t):	Without function
030.064: Fct.assignm. outp.17:	Without function
030.065: Op. mode t output 17:	Without timer stage
030.066: Time t1 output 17:	0.00 s
030.067: Time t2 output 17:	0.00 s
044.032: Sig.assig. outp. 17:	Without function
044.033: Sig.assig.outp.17(t):	Without function
030.068: Fct.assignm. outp.18:	Without function
030.069: Op. mode t output 18:	Without timer stage
030.070: Time t1 output 18:	0.00 s
030.071: Time t2 output 18:	0.00 s
044.034: Sig.assig. outp. 18:	Without function
044.035: Sig.assig.outp.18(t):	Without function
030.072: Fct.assignm. outp.19:	Without function
030.073: Op. mode t output 19:	Without timer stage
030.074: Time t1 output 19:	0.00 s
030.075: Time t2 output 19:	0.00 s
044.036: Sig.assig. outp. 19:	Without function
044.037: Sig.assig.outp.19(t):	Without function
030.076: Fct.assignm. outp.20:	Without function
030.077: Op. mode t output 20:	Without timer stage
030.078: Time t1 output 20:	0.00 s
030.079: Time t2 output 20:	0.00 s
044.038: Sig.assig. outp. 20:	Without function
044.039: Sig.assig.outp.20(t):	Without function
030.080: Fct.assignm. outp.21:	Without function
030.081: Op. mode t output 21:	Without timer stage
030.082: Time t1 output 21:	0.00 s
030.083: Time t2 output 21:	0.00 s
044.040: Sig.assig. outp. 21:	Without function
044.041: Sig.assig.outp.21(t):	Without function
030.084: Fct.assignm. outp.22:	Without function
030.085: Op. mode t output 22:	Without timer stage
030.086: Time t1 output 22:	0.00 s
030.087: Time t2 output 22:	0.00 s
044.042: Sig.assig. outp. 22:	Without function
044.043: Sig.assig.outp.22(t):	Without function
030.088: Fct.assignm. outp.23:	Without function
030.089: Op. mode t output 23:	Without timer stage
030.090: Time t1 output 23:	0.00 s
030.091: Time t2 output 23:	0.00 s
044.044: Sig.assig. outp. 23:	Without function
044.045: Sig.assig.outp.23(t):	Without function
030.092: Fct.assignm. outp.24:	Without function
030.093: Op. mode t output 24:	Without timer stage
030.094: Time t1 output 24:	0.00 s
030.095: Time t2 output 24:	0.00 s
044.046: Sig.assig. outp. 24:	Without function
044.047: Sig.assig.outp.24(t):	Without function
030.096: Fct.assignm. outp.25:	Without function
030.097: Op. mode t output 25:	Without timer stage
030.098: Time t1 output 25:	0.00 s
030.099: Time t2 output 25:	0.00 s
044.048: Sig.assig. outp. 25:	Without function
044.049: Sig.assig.outp.25(t):	Without function
031.000: Fct.assignm. outp.26:	Without function
031.001: Op. mode t output 26:	Without timer stage
031.002: Time t1 output 26:	0.00 s
031.003: Time t2 output 26:	0.00 s
044.050: Sig.assig. outp. 26:	Without function



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044.051: Sig.assig.outp.26(t): Without function
031.004: Fct.assignm. outp.27: Without function
031.005: Op. mode t output 27: Without timer stage
031.006: Time t1 output 27: 0.00 s
031.007: Time t2 output 27: 0.00 s
044.052: Sig.assig. outp. 27: Without function
044.053: Sig.assig.outp.27(t): Without function
031.008: Fct.assignm. outp.28: Without function
031.009: Op. mode t output 28: Without timer stage
031.010: Time t1 output 28: 0.00 s
031.011: Time t2 output 28: 0.00 s
044.054: Sig.assig. outp. 28: Without function
044.055: Sig.assig.outp.28(t): Without function
031.012: Fct.assignm. outp.29: Without function
031.013: Op. mode t output 29: Without timer stage
031.014: Time t1 output 29: 0.00 s
031.015: Time t2 output 29: 0.00 s
044.056: Sig.assig. outp. 29: Without function
044.057: Sig.assig.outp.29(t): Without function
031.016: Fct.assignm. outp.30: Without function
031.017: Op. mode t output 30: Without timer stage
031.018: Time t1 output 30: 0.00 s
031.019: Time t2 output 30: 0.00 s
044.058: Sig.assig. outp. 30: Without function
044.059: Sig.assig.outp.30(t): Without function
031.020: Fct.assignm. outp.31: Without function
031.021: Op. mode t output 31: Without timer stage
031.022: Time t1 output 31: 0.00 s
031.023: Time t2 output 31: 0.00 s
044.060: Sig.assig. outp. 31: Without function
044.061: Sig.assig.outp.31(t): Without function
031.024: Fct.assignm. outp.32: Without function
031.025: Op. mode t output 32: Without timer stage
031.026: Time t1 output 32: 0.00 s
031.027: Time t2 output 32: 0.00 s
044.062: Sig.assig. outp. 32: Without function
044.063: Sig.assig.outp.32(t): Without function

Parameter subset 1

MAIN

019.017: Vnom prim. end a PS1: 400.0 kV
019.018: Vnom prim. end b PS1: 34.5 kV
010.200: Phase reversal a PS1: No swap
010.204: Phase reversal b PS1: No swap

DIFF

072.152: Enable PS1: Yes
019.010: Vec.gr. ends a-b PS1: 0
072.142: Idiff> PS1: 0.20 Iref
072.143: Idiff>> PS1: 8.0 Iref
072.144: Idiff>>> PS1: 8.0 Iref
080.000: Idiff>(CTS) PS1: 0.20 Iref
072.145: m1 PS1: 0.30
072.146: m2 PS1: 0.70
072.147: IR,m2 PS1: 4.0 Iref
072.148: Op.mode rush rst.PS1: Not phase-selective
072.159: RushI(2f0)/I(f0) PS1: 10 %
072.155: 0-seq. filt.a en.PS1: Yes
072.156: 0-seq. filt.b en.PS1: Yes
072.158: Overflux.bl. en. PS1: Yes
072.160: Ov. I(5f0)/I(f0) PS1: 20 %
010.162: Op.del.,trip sig.PS1: 0.00 s
072.006: Hyst. effective PS1: Yes

DTOC2

076.070: Enable PS1: Yes
076.087: Block tim.st. IN PS1: Without
076.086: Gen.starting modePS1: With start. IN/Ineg
076.085: tGS PS1: 0.00 s



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076.083: Rush restr.enabl	PS1:	No
076.071: I>	PS1:	Blocked
076.072: I>>	PS1:	Blocked
076.163: I>>>	PS1:	Blocked
076.161: I> dynamic	PS1:	Blocked
076.162: I>> dynamic	PS1:	Blocked
076.173: I>>> dynamic	PS1:	Blocked
076.077: tI>	PS1:	Blocked
076.078: tI>>	PS1:	Blocked
076.169: tI>>>	PS1:	Blocked
076.207: Ineg>	PS1:	Blocked
076.208: Ineg>>	PS1:	Blocked
076.209: Ineg>>>	PS1:	Blocked
076.210: Ineg> dynamic	PS1:	Blocked
076.211: Ineg>> dynamic	PS1:	Blocked
076.212: Ineg>>> dynamic	PS1:	Blocked
076.213: tIneg>	PS1:	Blocked
076.214: tIneg>>	PS1:	Blocked
076.215: tIneg>>>	PS1:	Blocked
076.164: IN>	PS1:	0.33 Inom
076.165: IN>>	PS1:	Blocked
076.166: IN>>>	PS1:	Blocked
076.174: IN> dynamic	PS1:	1.00 Inom
076.175: IN>> dynamic	PS1:	1.00 Inom
076.176: IN>>> dynamic	PS1:	1.00 Inom
076.170: tIN>	PS1:	1.00 s
076.171: tIN>>	PS1:	Blocked
076.172: tIN>>>	PS1:	Blocked
V/f		
081.210: Enable	PS1:	Yes
081.211: V/f> (alarm)	PS1:	1.10 Vnom/fnom
081.212: V/f(t)>	PS1:	1.10 Vnom/fnom
081.213: V/f>>	PS1:	Blocked
081.214: tV/f>	PS1:	60 s
081.217: t at V/f=1.05	PS1:	1000.0 s
081.218: t at V/f=1.10	PS1:	1000.0 s
081.219: t at V/f=1.15	PS1:	120.0 s
081.220: t at V/f=1.20	PS1:	90.0 s
081.221: t at V/f=1.25	PS1:	50.0 s
081.222: t at V/f=1.30	PS1:	35.0 s
081.223: t at V/f=1.35	PS1:	10.0 s
081.224: t at V/f=1.40	PS1:	4.0 s
081.225: t at V/f=1.45	PS1:	2.5 s
081.226: t at V/f=1.50	PS1:	1.0 s
081.227: t at V/f=1.55	PS1:	1.0 s
081.228: t at V/f=1.60	PS1:	1.0 s
081.230: Reset time	PS1:	0 s
081.229: tV/f>>	PS1:	Blocked
Parameter subset 2		
MAIN		
019.057: Vnom prim. end a	PS2:	110.0 kV
019.058: Vnom prim. end b	PS2:	110.0 kV
010.201: Phase reversal a	PS2:	No swap
010.205: Phase reversal b	PS2:	No swap
DIFF		
073.152: Enable	PS2:	No
019.040: Vec.gr. ends a-b	PS2:	0
073.142: Idiff>	PS2:	0.20 Iref
073.143: Idiff>>	PS2:	15.0 Iref
073.144: Idiff>>>	PS2:	30.0 Iref
081.000: Idiff>(CTS)	PS2:	0.20 Iref
073.145: m1	PS2:	0.30
073.146: m2	PS2:	0.70
073.147: IR,m2	PS2:	4.0 Iref
073.148: Op.mode rush rst.	PS2:	Not phase-selective
073.159: RushI(2f0)/I(f0)	PS2:	20 %



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073.155: 0-seq. filt.a en.PS2:	Yes
073.156: 0-seq. filt.b en.PS2:	Yes
073.158: Overflux.bl. en. PS2:	No
073.160: Ov. I(5f0)/I(f0) PS2:	20 %
010.163: Op.del.,trip sig.PS2:	0.00 s
073.006: Hyst. effective PS2:	Yes
DTOC2	
077.070: Enable PS2:	No
077.087: Block tim.st. IN PS2:	Without
077.086: Gen.starting modePS2:	With start. IN/Ineg
077.085: tGS PS2:	0.00 s
077.083: Rush restr.enabl PS2:	No
077.071: I> PS2:	1.00 Inom
077.072: I>> PS2:	4.00 Inom
077.163: I>>> PS2:	Blocked
077.161: I> dynamic PS2:	1.00 Inom
077.162: I>> dynamic PS2:	1.00 Inom
077.173: I>>> dynamic PS2:	1.00 Inom
077.077: tI> PS2:	1.00 s
077.078: tI>> PS2:	0.50 s
077.169: tI>>> PS2:	0.50 s
077.207: Ineg> PS2:	0.25 Inom
077.208: Ineg>> PS2:	Blocked
077.209: Ineg>>> PS2:	Blocked
077.210: Ineg> dynamic PS2:	1.00 Inom
077.211: Ineg>> dynamic PS2:	1.00 Inom
077.212: Ineg>>> dynamic PS2:	1.00 Inom
077.213: tIneg> PS2:	1.00 s
077.214: tIneg>> PS2:	0.50 s
077.215: tIneg>>> PS2:	0.50 s
077.164: IN> PS2:	0.25 Inom
077.165: IN>> PS2:	Blocked
077.166: IN>>> PS2:	Blocked
077.174: IN> dynamic PS2:	1.00 Inom
077.175: IN>> dynamic PS2:	1.00 Inom
077.176: IN>>> dynamic PS2:	1.00 Inom
077.170: tIN> PS2:	1.00 s
077.171: tIN>> PS2:	0.50 s
077.172: tIN>>> PS2:	0.50 s

V/f	
082.210: Enable PS2:	No
082.211: V/f> (alarm) PS2:	1.05 Vnom/fnom
082.212: V/f(t)> PS2:	1.10 Vnom/fnom
082.213: V/f>> PS2:	Blocked
082.214: tV/f> PS2:	1 s
082.217: t at V/f=1.05 PS2:	72.8 s
082.218: t at V/f=1.10 PS2:	18.8 s
082.219: t at V/f=1.15 PS2:	8.8 s
082.220: t at V/f=1.20 PS2:	5.3 s
082.221: t at V/f=1.25 PS2:	3.7 s
082.222: t at V/f=1.30 PS2:	2.8 s
082.223: t at V/f=1.35 PS2:	2.3 s
082.224: t at V/f=1.40 PS2:	1.9 s
082.225: t at V/f=1.45 PS2:	1.7 s
082.226: t at V/f=1.50 PS2:	1.5 s
082.227: t at V/f=1.55 PS2:	1.4 s
082.228: t at V/f=1.60 PS2:	1.3 s
082.230: Reset time PS2:	0 s
082.229: tV/f>> PS2:	Blocked

Parameter subset 3

MAIN	
019.061: Vnom prim. end a PS3:	110.0 kV
019.062: Vnom prim. end b PS3:	110.0 kV
010.202: Phase reversal a PS3:	No swap
010.206: Phase reversal b PS3:	No swap

DIFF



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074.152: Enable	PS3:	No
019.041: Vec.gr. ends a-b	PS3:	0
074.142: Idiff>	PS3:	0.20 Iref
074.143: Idiff>>	PS3:	15.0 Iref
074.144: Idiff>>>	PS3:	30.0 Iref
082.000: Idiff>(CTS)	PS3:	0.20 Iref
074.145: m1	PS3:	0.30
074.146: m2	PS3:	0.70
074.147: IR,m2	PS3:	4.0 Iref
074.148: Op.mode rush rst.	PS3:	Not phase-selective
074.159: RushI(2f0)/I(f0)	PS3:	20 %
074.155: 0-seq. filt.a en.	PS3:	Yes
074.156: 0-seq. filt.b en.	PS3:	Yes
074.158: Overflux.bl. en.	PS3:	No
074.160: Ov. I(5f0)/I(f0)	PS3:	20 %
010.164: Op.del.,trip sig.	PS3:	0.00 s
074.006: Hyst. effective	PS3:	Yes
DTOC2		
078.070: Enable	PS3:	No
078.087: Block tim.st. IN	PS3:	Without
078.086: Gen.starting mode	PS3:	With start. IN/Ineg
078.085: tGS	PS3:	0.00 s
078.083: Rush restr.enabl	PS3:	No
078.071: I>	PS3:	1.00 Inom
078.072: I>>	PS3:	4.00 Inom
078.163: I>>>	PS3:	Blocked
078.161: I> dynamic	PS3:	1.00 Inom
078.162: I>> dynamic	PS3:	1.00 Inom
078.173: I>>> dynamic	PS3:	1.00 Inom
078.077: tI>	PS3:	1.00 s
078.078: tI>>	PS3:	0.50 s
078.169: tI>>>	PS3:	0.50 s
078.207: Ineg>	PS3:	0.25 Inom
078.208: Ineg>>	PS3:	Blocked
078.209: Ineg>>>	PS3:	Blocked
078.210: Ineg> dynamic	PS3:	1.00 Inom
078.211: Ineg>> dynamic	PS3:	1.00 Inom
078.212: Ineg>>> dynamic	PS3:	1.00 Inom
078.213: tIneg>	PS3:	1.00 s
078.214: tIneg>>	PS3:	0.50 s
078.215: tIneg>>>	PS3:	0.50 s
078.164: IN>	PS3:	0.25 Inom
078.165: IN>>	PS3:	Blocked
078.166: IN>>>	PS3:	Blocked
078.174: IN> dynamic	PS3:	1.00 Inom
078.175: IN>> dynamic	PS3:	1.00 Inom
078.176: IN>>> dynamic	PS3:	1.00 Inom
078.170: tIN>	PS3:	1.00 s
078.171: tIN>>	PS3:	0.50 s
078.172: tIN>>>	PS3:	0.50 s
V/f		
083.210: Enable	PS3:	No
083.211: V/f> (alarm)	PS3:	1.05 Vnom/fnom
083.212: V/f(t)>	PS3:	1.10 Vnom/fnom
083.213: V/f>>	PS3:	Blocked
083.214: tV/f>	PS3:	1 s
083.217: t at V/f=1.05	PS3:	72.8 s
083.218: t at V/f=1.10	PS3:	18.8 s
083.219: t at V/f=1.15	PS3:	8.8 s
083.220: t at V/f=1.20	PS3:	5.3 s
083.221: t at V/f=1.25	PS3:	3.7 s
083.222: t at V/f=1.30	PS3:	2.8 s
083.223: t at V/f=1.35	PS3:	2.3 s
083.224: t at V/f=1.40	PS3:	1.9 s
083.225: t at V/f=1.45	PS3:	1.7 s
083.226: t at V/f=1.50	PS3:	1.5 s



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083.227: t at V/f=1.55	PS3:	1.4 s
083.228: t at V/f=1.60	PS3:	1.3 s
083.230: Reset time	PS3:	0 s
083.229: tV/f>>	PS3:	Blocked
Parameter subset 4		
MAIN		
019.065: Vnom prim. end a	PS4:	110.0 kV
019.066: Vnom prim. end b	PS4:	110.0 kV
010.203: Phase reversal a	PS4:	No swap
010.207: Phase reversal b	PS4:	No swap
DIFF		
075.152: Enable	PS4:	No
019.042: Vec.gr. ends a-b	PS4:	0
075.142: Idiff>	PS4:	0.20 Iref
075.143: Idiff>>	PS4:	15.0 Iref
075.144: Idiff>>>	PS4:	30.0 Iref
083.000: Idiff>(CTS)	PS4:	0.20 Iref
075.145: m1	PS4:	0.30
075.146: m2	PS4:	0.70
075.147: IR,m2	PS4:	4.0 Iref
075.148: Op.mode rush rst.	PS4:	Not phase-selective
075.159: RushI(2f0)/I(f0)	PS4:	20 %
075.155: 0-seq. filt.a en.	PS4:	Yes
075.156: 0-seq. filt.b en.	PS4:	Yes
075.158: Overflux.bl. en.	PS4:	No
075.160: Ov. I(5f0)/I(f0)	PS4:	20 %
010.165: Op.del.,trip sig.	PS4:	0.00 s
075.006: Hyst. effective	PS4:	Yes
DTC2		
079.070: Enable	PS4:	No
079.087: Block tim.st. IN	PS4:	Without
079.086: Gen.starting mode	PS4:	With start. IN/Ineg
079.085: tGS	PS4:	0.00 s
079.083: Rush restr.enabl	PS4:	No
079.071: I>	PS4:	1.00 Inom
079.072: I>>	PS4:	4.00 Inom
079.163: I>>>	PS4:	Blocked
079.161: I> dynamic	PS4:	1.00 Inom
079.162: I>> dynamic	PS4:	1.00 Inom
079.173: I>>> dynamic	PS4:	1.00 Inom
079.077: tI>	PS4:	1.00 s
079.078: tI>>	PS4:	0.50 s
079.169: tI>>>	PS4:	0.50 s
079.207: Ineg>	PS4:	0.25 Inom
079.208: Ineg>>	PS4:	Blocked
079.209: Ineg>>>	PS4:	Blocked
079.210: Ineg> dynamic	PS4:	1.00 Inom
079.211: Ineg>> dynamic	PS4:	1.00 Inom
079.212: Ineg>>> dynamic	PS4:	1.00 Inom
079.213: tIneg>	PS4:	1.00 s
079.214: tIneg>>	PS4:	0.50 s
079.215: tIneg>>>	PS4:	0.50 s
079.164: IN>	PS4:	0.25 Inom
079.165: IN>>	PS4:	Blocked
079.166: IN>>>	PS4:	Blocked
079.174: IN> dynamic	PS4:	1.00 Inom
079.175: IN>> dynamic	PS4:	1.00 Inom
079.176: IN>>> dynamic	PS4:	1.00 Inom
079.170: tIN>	PS4:	1.00 s
079.171: tIN>>	PS4:	0.50 s
079.172: tIN>>>	PS4:	0.50 s
V/f		
084.210: Enable	PS4:	No
084.211: V/f> (alarm)	PS4:	1.05 Vnom/fnom
084.212: V/f(t)>	PS4:	1.10 Vnom/fnom
084.213: V/f>>	PS4:	Blocked



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084.214: tV/f>	PS4:	1 s
084.217: t at V/f=1.05	PS4:	72.8 s
084.218: t at V/f=1.10	PS4:	18.8 s
084.219: t at V/f=1.15	PS4:	8.8 s
084.220: t at V/f=1.20	PS4:	5.3 s
084.221: t at V/f=1.25	PS4:	3.7 s
084.222: t at V/f=1.30	PS4:	2.8 s
084.223: t at V/f=1.35	PS4:	2.3 s
084.224: t at V/f=1.40	PS4:	1.9 s
084.225: t at V/f=1.45	PS4:	1.7 s
084.226: t at V/f=1.50	PS4:	1.5 s
084.227: t at V/f=1.55	PS4:	1.4 s
084.228: t at V/f=1.60	PS4:	1.3 s
084.230: Reset time	PS4:	0 s
084.229: tV/f>>	PS4:	Blocked

Operation

Cyclic measurements

Meas.operating data

MAIN

003.090: Date:	24.09.24 dd.mm.yy
003.091: Time of day:	11:41 hh:mm
003.095: Time switching:	Daylight saving time
004.040: Frequency f:	50.03 Hz
005.101: Curr. IP,max,a prim.:	7 A
005.162: IP,max prim.,delay a:	7 A
005.161: IP,max prim.stored a:	25 A
005.102: Curr. IP,max,b prim.:	85 A
006.162: IP,max prim.,delay b:	84 A
006.161: IP,max prim.stored b:	304 A
005.104: Curr. IP,min,a prim.:	6 A
005.105: Curr. IP,min,b prim.:	78 A
005.021: Current IA,a prim.:	6 A
006.021: Current IB,a prim.:	6 A
007.021: Current IC,a prim.:	7 A
005.022: Current IA,b prim.:	85 A
006.022: Current IB,b prim.:	78 A
007.022: Current IC,b prim.:	81 A
005.125: Current Ineg a prim.:	0 A
005.127: Current Ipos a prim.:	5 A
005.129: Current Ineg b prim.:	3 A
005.134: Current Ipos b prim.:	74 A
005.121: Current IN,a prim.:	1 A
005.131: Current IY,a prim.:	1 A
005.122: Current IN,b prim.:	0 A
005.132: Current IY,b prim.:	3 A
005.018: Voltage V prim.:	401.8 kV
005.111: Curr. IP,max,a p.u.:	0.014 Inom
005.163: IP,max p.u.,delay a:	0.015 Inom
005.160: IP,max p.u.,stored a:	0.050 Inom
005.112: Curr. IP,max,b p.u.:	0.048 Inom
006.163: IP,max p.u.,delay b:	0.047 Inom
006.160: IP,max p.u.,stored b:	0.173 Inom
005.107: Curr. IP,min,a p.u.:	0.012 Inom
005.108: Curr. IP,min,b p.u.:	0.044 Inom
005.031: Current IA,a p.u.:	0.012 Inom
006.031: Current IB,a p.u.:	0.012 Inom
007.031: Current IC,a p.u.:	0.014 Inom
005.032: Current IA,b p.u.:	0.048 Inom
006.032: Current IB,b p.u.:	0.046 Inom
007.032: Current IC,b p.u.:	0.042 Inom
005.126: Current Ineg a p.u.:	0.000 Inom
005.128: Current Ipos a p.u.:	0.012 Inom
005.130: Current Ineg b p.u.:	0.000 Inom
005.135: Current Ipos b p.u.:	0.040 Inom
005.141: Current IN,a p.u.:	0.002 Inom
005.151: Current IY,a p.u.:	0.002 Inom



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005.142: Current IN,b p.u.: 0.000 Inom
005.152: Current IY,b p.u.: 0.002 Inom
005.019: Voltage V p.u.: 1.004 Vnom
005.089: Angle phi AB, end a: Not measured
006.089: Angle phi BC, end a: Not measured
007.089: Angle phi CA, end a: Not measured
005.092: Angle phi AB, end b: 119 °
006.092: Angle phi BC, end b: 121 °
007.092: Angle phi CA, end b: 120 °
005.090: Angle phi A, end a-b: Not measured
006.090: Angle phi B, end a-b: Not measured
007.090: Angle phi C, end a-b: Not measured
005.077: Angle phi NY, end a: Not measured
005.078: Angle phi NY, end b: Not measured

DIFF

005.080: Diff. current 1: 0.005 Iref
005.081: Restrained. current 1: 0.047 Iref
006.080: Diff. current 2: 0.005 Iref
006.081: Restrained. current 2: 0.047 Iref
007.080: Diff. current 3: 0.005 Iref
007.081: Restrained. current 3: 0.044 Iref

V/f

004.220: Excitation V/f p.u.: 1.01
004.222: Status replica in %: 0 %
004.223: Status replica p.u.: 0.00

Phys. state signals**GOOSE**

106.010: Output 1 state: 0
106.012: Output 2 state: 0
106.014: Output 3 state: 0
106.016: Output 4 state: 0
106.018: Output 5 state: 0
106.020: Output 6 state: 0
106.022: Output 7 state: 0
106.024: Output 8 state: 0
106.026: Output 9 state: 0
106.028: Output 10 state: 0
106.030: Output 11 state: 0
106.032: Output 12 state: 0
106.034: Output 13 state: 0
106.036: Output 14 state: 0
106.038: Output 15 state: 0
106.040: Output 16 state: 0
106.042: Output 17 state: 0
106.044: Output 18 state: 0
106.046: Output 19 state: 0
106.048: Output 20 state: 0
106.050: Output 21 state: 0
106.052: Output 22 state: 0
106.054: Output 23 state: 0
106.056: Output 24 state: 0
106.058: Output 25 state: 0
106.060: Output 26 state: 0
106.062: Output 27 state: 0
106.064: Output 28 state: 0
106.066: Output 29 state: 0
106.068: Output 30 state: 0
106.070: Output 31 state: 0
106.072: Output 32 state: 0
106.200: Input 1 state: 0
106.201: Input 2 state: 0
106.202: Input 3 state: 0
106.203: Input 4 state: 0
106.204: Input 5 state: 0
106.205: Input 6 state: 0
106.206: Input 7 state: 0



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106.207: Input 8 state:	0
106.208: Input 9 state:	0
106.209: Input 10 state:	0
106.210: Input 11 state:	0
106.211: Input 12 state:	0
106.212: Input 13 state:	0
106.213: Input 14 state:	0
106.214: Input 15 state:	0
106.215: Input 16 state:	0
F_KEY	
080.122: State F1:	"Off"
080.123: State F2:	"Off"
080.124: State F3:	"Off"
080.125: State F4:	"Off"
080.126: State F5:	"Off"
080.127: State F6:	"Off"
INP	
192.001: State U 1601:	"Low"
192.005: State U 1602:	"Low"
192.009: State U 1603:	"Low"
192.013: State U 1604:	"Low"
192.017: State U 1605:	"Low"
192.021: State U 1606:	"Low"
153.086: State U 2001:	"High"
153.089: State U 2002:	"Low"
153.092: State U 2003:	"Low"
153.095: State U 2004:	"Low"
OUTP	
171.001: State K 1601:	Inactive
171.005: State K 1602:	Inactive
171.009: State K 1603:	Inactive
171.013: State K 1604:	Inactive
171.017: State K 1605:	Inactive
171.021: State K 1606:	Inactive
171.025: State K 1607:	Inactive
171.029: State K 1608:	Inactive
151.200: State K 2001:	Inactive
151.203: State K 2002:	Inactive
151.206: State K 2003:	Inactive
151.209: State K 2004:	Inactive
151.212: State K 2005:	Inactive
151.215: State K 2006:	Inactive
151.218: State K 2007:	Inactive
151.221: State K 2008:	Inactive
LED	
085.180: State H 1 green:	Active
085.000: State H 2 yell.:	Inactive
085.003: State H 3 yell.:	Inactive
085.006: State H 4 red:	Inactive
085.009: State H 5 red:	Inactive
085.012: State H 6 red:	Inactive
085.015: State H 7 red:	Inactive
085.018: State H 8 red:	Inactive
085.021: State H 9 red:	Inactive
085.024: State H10 red:	Inactive
085.027: State H11 red:	Inactive
085.030: State H12 red:	Inactive
085.033: State H13 red:	Inactive
085.036: State H14 red:	Inactive
085.039: State H15 red:	Inactive
085.042: State H16 red:	Inactive
085.181: State H17 red.:	Inactive
085.130: State H18 red:	Inactive
085.133: State H19 red:	Inactive
085.136: State H20 red:	Inactive
085.139: State H21 red:	Inactive



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085.142: State H22 red: Inactive
085.145: State H23 red: Inactive
085.056: State H 4 green: Inactive
085.059: State H 5 green: Inactive
085.062: State H 6 green: Inactive
085.065: State H 7 green: Inactive
085.068: State H 8 green: Inactive
085.071: State H 9 green: Inactive
085.074: State H10 green: Inactive
085.077: State H11 green: Inactive
085.080: State H12 green: Inactive
085.083: State H13 green: Inactive
085.086: State H14 green: Inactive
085.089: State H15 green: Inactive
085.092: State H16 green: Inactive
085.160: State H18 green: Inactive
085.163: State H19 green: Inactive
085.166: State H20 green: Inactive
085.169: State H21 green: Inactive
085.172: State H22 green: Inactive
085.176: State H23 green: Inactive

Log. state signals

LOC

080.111: Edit mode: No
030.230: Trig. menu jmp 1 EXT: No
030.231: Trig. menu jmp 2 EXT: No
037.101: Illumination on EXT: No

IEC

105.180: Comm. link faulty: No
221.082: Control reservation: No

GOOSE

109.000: Ext.Dev01 position: Interm. pos.
109.005: Ext.Dev02 position: Interm. pos.
109.010: Ext.Dev03 position: Interm. pos.
109.015: Ext.Dev04 position: Interm. pos.
109.020: Ext.Dev05 position: Interm. pos.
109.025: Ext.Dev06 position: Interm. pos.
109.030: Ext.Dev07 position: Interm. pos.
109.035: Ext.Dev08 position: Interm. pos.
109.040: Ext.Dev09 position: Interm. pos.
109.045: Ext.Dev10 position: Interm. pos.
109.050: Ext.Dev11 position: Interm. pos.
109.055: Ext.Dev12 position: Interm. pos.
109.060: Ext.Dev13 position: Interm. pos.
109.065: Ext.Dev14 position: Interm. pos.
109.070: Ext.Dev15 position: Interm. pos.
109.075: Ext.Dev16 position: Interm. pos.
109.100: Ext.Dev17 position: Interm. pos.
109.105: Ext.Dev18 position: Interm. pos.
109.110: Ext.Dev19 position: Interm. pos.
109.115: Ext.Dev20 position: Interm. pos.
109.120: Ext.Dev21 position: Interm. pos.
109.125: Ext.Dev22 position: Interm. pos.
109.130: Ext.Dev23 position: Interm. pos.
109.135: Ext.Dev24 position: Interm. pos.
109.140: Ext.Dev25 position: Interm. pos.
109.145: Ext.Dev26 position: Interm. pos.
109.150: Ext.Dev27 position: Interm. pos.
109.155: Ext.Dev28 position: Interm. pos.
109.160: Ext.Dev29 position: Interm. pos.
109.165: Ext.Dev30 position: Interm. pos.
109.170: Ext.Dev31 position: Interm. pos.
109.175: Ext.Dev32 position: Interm. pos.
109.001: Ext.Dev01 open: No
109.006: Ext.Dev02 open: No
109.011: Ext.Dev03 open: No



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109.016:	Ext.Dev04	open:	No
109.021:	Ext.Dev05	open:	No
109.026:	Ext.Dev06	open:	No
109.031:	Ext.Dev07	open:	No
109.036:	Ext.Dev08	open:	No
109.041:	Ext.Dev09	open:	No
109.046:	Ext.Dev10	open:	No
109.051:	Ext.Dev11	open:	No
109.056:	Ext.Dev12	open:	No
109.061:	Ext.Dev13	open:	No
109.066:	Ext.Dev14	open:	No
109.071:	Ext.Dev15	open:	No
109.076:	Ext.Dev16	open:	No
109.101:	Ext.Dev17	open:	No
109.106:	Ext.Dev18	open:	No
109.111:	Ext.Dev19	open:	No
109.116:	Ext.Dev20	open:	No
109.121:	Ext.Dev21	open:	No
109.126:	Ext.Dev22	open:	No
109.131:	Ext.Dev23	open:	No
109.136:	Ext.Dev24	open:	No
109.141:	Ext.Dev25	open:	No
109.146:	Ext.Dev26	open:	No
109.151:	Ext.Dev27	open:	No
109.156:	Ext.Dev28	open:	No
109.161:	Ext.Dev29	open:	No
109.166:	Ext.Dev30	open:	No
109.171:	Ext.Dev31	open:	No
109.176:	Ext.Dev32	open:	No
109.002:	Ext.Dev01	closed:	No
109.007:	Ext.Dev02	closed:	No
109.012:	Ext.Dev03	closed:	No
109.017:	Ext.Dev04	closed:	No
109.022:	Ext.Dev05	closed:	No
109.027:	Ext.Dev06	closed:	No
109.032:	Ext.Dev07	closed:	No
109.037:	Ext.Dev08	closed:	No
109.042:	Ext.Dev09	closed:	No
109.047:	Ext.Dev10	closed:	No
109.052:	Ext.Dev11	closed:	No
109.057:	Ext.Dev12	closed:	No
109.062:	Ext.Dev13	closed:	No
109.067:	Ext.Dev14	closed:	No
109.072:	Ext.Dev15	closed:	No
109.077:	Ext.Dev16	closed:	No
109.102:	Ext.Dev17	closed:	No
109.107:	Ext.Dev18	closed:	No
109.112:	Ext.Dev19	closed:	No
109.117:	Ext.Dev20	closed:	No
109.122:	Ext.Dev21	closed:	No
109.127:	Ext.Dev22	closed:	No
109.132:	Ext.Dev23	closed:	No
109.137:	Ext.Dev24	closed:	No
109.142:	Ext.Dev25	closed:	No
109.147:	Ext.Dev26	closed:	No
109.152:	Ext.Dev27	closed:	No
109.157:	Ext.Dev28	closed:	No
109.162:	Ext.Dev29	closed:	No
109.167:	Ext.Dev30	closed:	No
109.172:	Ext.Dev31	closed:	No
109.177:	Ext.Dev32	closed:	No
109.003:	Ext.Dev01	interm.pos:	Yes
109.008:	Ext.Dev02	interm.pos:	Yes
109.013:	Ext.Dev03	interm.pos:	Yes
109.018:	Ext.Dev04	interm.pos:	Yes
109.023:	Ext.Dev05	interm.pos:	Yes



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109.028:	Ext.Dev06	interm.pos:	Yes
109.033:	Ext.Dev07	interm.pos:	Yes
109.038:	Ext.Dev08	interm.pos:	Yes
109.043:	Ext.Dev09	interm.pos:	Yes
109.048:	Ext.Dev10	interm.pos:	Yes
109.053:	Ext.Dev11	interm.pos:	Yes
109.058:	Ext.Dev12	interm.pos:	Yes
109.063:	Ext.Dev13	interm.pos:	Yes
109.068:	Ext.Dev14	interm.pos:	Yes
109.073:	Ext.Dev15	interm.pos:	Yes
109.078:	Ext.Dev16	interm.pos:	Yes
109.103:	Ext.Dev17	interm.pos:	Yes
109.108:	Ext.Dev18	interm.pos:	Yes
109.113:	Ext.Dev19	interm.pos:	Yes
109.118:	Ext.Dev20	interm.pos:	Yes
109.123:	Ext.Dev21	interm.pos:	Yes
109.128:	Ext.Dev22	interm.pos:	Yes
109.133:	Ext.Dev23	interm.pos:	Yes
109.138:	Ext.Dev24	interm.pos:	Yes
109.143:	Ext.Dev25	interm.pos:	Yes
109.148:	Ext.Dev26	interm.pos:	Yes
109.153:	Ext.Dev27	interm.pos:	Yes
109.158:	Ext.Dev28	interm.pos:	Yes
109.163:	Ext.Dev29	interm.pos:	Yes
109.168:	Ext.Dev30	interm.pos:	Yes
109.173:	Ext.Dev31	interm.pos:	Yes
109.178:	Ext.Dev32	interm.pos:	Yes
107.250:	IED link faulty:	Yes	
OUTP			
040.014:	Block outp.rel. EXT:	No	
040.015:	Reset latch. EXT:	No	
021.015:	Outp. relays blocked:	No	
040.088:	Latching reset:	No	
MAIN			
060.001:	Healthy:	Yes	
003.027:	Enable protect. EXT:	No	
003.026:	Disable protect. EXT:	No	
003.096:	Time switching EXT:	Standard time	
040.060:	Blocking 1 EXT:	No	
040.061:	Blocking 2 EXT:	No	
040.116:	Blocking 3 EXT:	No	
040.117:	Blocking 4 EXT:	No	
040.138:	Reset latch.trip EXT:	No	
036.045:	Trip cmd. block. EXT:	No	
004.061:	M.c.b. trip V EXT:	No	
036.033:	Switch dyn.param.EXT:	No	
037.018:	Man. trip cmd. EXT:	No	
031.028:	CB1 open 3p EXT:	No	
031.046:	CB2 open 3p EXT:	No	
036.051:	CB1 closed 3p EXT:	No	
036.230:	CB2 closed 3p EXT:	No	
037.070:	Test mode EXT:	No	
065.001:	Reset indicat. EXT:	No	
005.209:	Group reset 1 EXT:	No	
005.252:	Group reset 2 EXT:	No	
005.255:	General reset EXT:	No	
005.210:	Reset c. cl/tr.c EXT:	No	
005.211:	Reset IP,max,st. EXT:	No	
060.060:	Min-pulse clock EXT:	No	
003.028:	Prot. ext. enabled:	Yes	
038.046:	Prot. ext. disabled:	No	
004.060:	Protect. not ready:	No	
037.071:	Test mode:	No	
004.065:	Blocked/faulty:	No	
036.155:	Meas. circ.I faulty:	No	
021.013:	Trip cmd. blocked:	No	



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040.139: Latch. trip c. reset:	No
034.017: Manual trip signal:	No
036.251: Gen. trip signal:	No
036.005: Gen. trip signal 1:	No
036.023: Gen. trip signal 2:	No
036.108: Gen. trip signal 3:	No
036.109: Gen. trip signal 4:	No
036.071: Gen. trip command 1:	No
036.022: Gen. trip command 2:	No
036.113: Gen. trip command 3:	No
036.114: Gen. trip command 4:	No
036.000: General starting:	No
036.174: Trip sig.REF1 & REF2:	No
036.175: Trip sig.REF2 & REF3:	No
036.176: Trip sig.REF1 & REF3:	No
040.090: Dynam. param. active:	No
036.220: Phase reversal activ:	No
031.040: CB1 open 3p:	No
031.086: CB2 open 3p:	No
031.042: CB1 closed 3p:	No
031.089: CB2 closed 3p:	No
031.041: CB1 pos.sig. implaus:	No
031.049: CB2 pos.sig. implaus:	No
036.017: CB failure:	No
060.000: Without function:	No
061.000: Without function:	No
PSS	
036.101: Control via user EXT:	No
065.002: Activate PS 1 EXT:	No
065.003: Activate PS 2 EXT:	No
065.004: Activate PS 3 EXT:	No
065.005: Activate PS 4 EXT:	No
036.102: Control via user:	No
003.061: Ext.sel.param.subset:	No param. subset sel
036.094: PS 1 activated ext.:	No
036.095: PS 2 activated ext.:	No
036.096: PS 3 activated ext.:	No
036.097: PS 4 activated ext.:	No
003.062: Actual param. subset:	Parameter subset 1
036.090: PS 1 active:	Yes
036.091: PS 2 active:	No
036.092: PS 3 active:	No
036.093: PS 4 active:	No
SFMON	
036.070: Warning (LED):	No
036.100: Warning (relay):	No
041.202: Warm restart exec.:	Yes
041.201: Cold restart exec.:	No
093.024: Cold restart:	No
093.025: Cold rest./SW update:	No
090.019: Blocking/ HW failure:	No
041.200: Relay Kxx faulty:	No
093.040: Hardware clock fail.:	No
090.010: Battery failure:	No
096.121: Invalid SW d.loaded:	No
093.081: +15V supply faulty:	No
093.082: +24V supply faulty:	No
093.080: -15V supply faulty:	No
096.100: Wrong module slot 1:	No
096.101: Wrong module slot 2:	No
096.102: Wrong module slot 3:	No
096.103: Wrong module slot 4:	No
096.104: Wrong module slot 5:	No
096.105: Wrong module slot 6:	No
096.106: Wrong module slot 7:	No
096.107: Wrong module slot 8:	No



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096.108: Wrong module slot 9:	No
096.109: Wrong module slot 10:	No
096.110: Wrong module slot 11:	No
096.111: Wrong module slot 12:	No
096.112: Wrong module slot 13:	No
096.113: Wrong module slot 14:	No
096.114: Wrong module slot 15:	No
096.115: Wrong module slot 16:	No
096.116: Wrong module slot 17:	No
096.117: Wrong module slot 18:	No
096.118: Wrong module slot 19:	No
096.119: Wrong module slot 20:	No
096.120: Wrong module slot 21:	No
097.000: Defect.module slot 1:	No
097.002: Defect.module slot 3:	No
097.004: Defect.module slot 5:	No
097.015: Defect.module slot16:	No
097.019: Defect.module slot20:	No
097.150: Error K 1601:	No
097.151: Error K 1602:	No
097.152: Error K 1603:	No
097.153: Error K 1604:	No
097.154: Error K 1605:	No
097.155: Error K 1606:	No
097.156: Error K 1607:	No
097.157: Error K 1608:	No
097.182: Error K 2001:	No
097.183: Error K 2002:	No
097.184: Error K 2003:	No
097.185: Error K 2004:	No
097.186: Error K 2005:	No
097.187: Error K 2006:	No
097.188: Error K 2007:	No
097.189: Error K 2008:	No
093.010: Undef. operat. code:	No
093.011: Invalid arithm. op.:	No
093.012: Undefined interrupt:	No
093.013: Exception oper.syst.:	No
090.021: Protection failure:	No
090.003: Checksum error param:	No
093.041: Clock sync. error:	No
093.026: Interm.volt.fail.RAM:	No
090.012: Overflow MT_RC:	No
093.015: Semaph. MT_RC block.:	No
093.075: Inval. SW vers.comm.:	No
098.000: M.c.b. trip V:	No
091.018: Meas. circ. I faulty:	No
091.026: Meas. c. I faulty, a:	No
091.027: Meas. c. I faulty, b:	No
091.011: Invalid charact. V/f:	No
093.145: Invalid SW vers DHMI:	No
098.028: Setting error f<>:	No
091.007: Iref, a inval. range:	No
091.008: Iref, b inval. range:	No
091.000: Matching fail. end a:	No
091.001: Matching fail. end b:	No
091.004: Ratio mtch.fact.inv.:	No
091.006: 2nd match.fact. inv.:	No
091.105: Inv.range Iref REF_1:	No
091.101: Match.f. kam,N REF_1:	No
091.102: Match.f. kam,Y REF_1:	No
091.103: Rat.mtch.f.inv.REF_1:	No
091.104: Min.mtch.f.inv.REF_1:	No
091.115: Inv.range Iref REF_2:	No
091.111: Match.f. kam,N REF_2:	No
091.112: Match.f. kam,Y REF_2:	No



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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091.113:	Rat.mtch.f.inv.REF_2:	No
091.114:	Min.mtch.f.inv.REF_2:	No
098.036:	CTA error THRM1:	No
098.038:	Setting error THRM1:	No
093.120:	Inv.inp.f.clock sync:	No
098.053:	Output 30:	No
098.054:	Output 30 (t):	No
098.055:	Output 31:	No
098.056:	Output 31 (t):	No
098.057:	Output 32:	No
098.058:	Output 32 (t):	No
098.124:	CB1 pos.sig. implaus:	No
098.125:	CB2 pos.sig. implaus:	No
098.072:	CB1 faulty EXT:	No
098.129:	CB2 faulty EXT:	No
OP_RC		
005.213:	Reset record. EXT:	No
MT_RC		
005.240:	Reset record. EXT:	No
OL_RC		
005.241:	Reset record. EXT:	No
035.003:	Record. in progress:	No
035.007:	Overl. mem. overflow:	No
FT_RC		
005.243:	Reset record. EXT:	No
036.089:	Trigger EXT:	No
037.076:	Trigger:	No
035.018:	Id> triggered:	No
035.019:	IR> triggered:	No
035.000:	Record. in progress:	No
035.004:	System disturb. runn:	No
035.001:	Fault mem. overflow:	No
035.002:	Faulty time tag:	No
DIFF		
041.210:	Enabled:	Yes
041.106:	Starting:	No
041.124:	Meas.system 1 trigg.:	No
041.125:	Meas.system 2 trigg.:	No
041.126:	Meas.system 3 trigg.:	No
041.221:	Id>> triggered:	No
041.222:	Id>>> triggered:	No
041.118:	Harm.block 1 trigg.:	No
041.119:	Harm.block 2 trigg.:	No
041.120:	Harm.block 3 trigg.:	No
041.121:	Overflux.bl.1 trigg.:	No
041.122:	Overflux.bl.2 trigg.:	No
041.123:	Overflux.bl.3 trigg.:	No
041.115:	Sat.discr. 1 trigg.:	No
041.116:	Sat.discr. 2 trigg.:	No
041.117:	Sat.discr. 3 trigg.:	No
041.075:	Trip signal:	No
041.002:	Trip signal 1:	No
041.003:	Trip signal 2:	No
041.004:	Trip signal 3:	No
DTOC2		
035.150:	Block. tI> EXT:	No
035.151:	Block. tI>> EXT:	No
035.229:	Block. tI>>> EXT:	No
036.161:	Block. tIneg> EXT:	No
036.162:	Block. tIneg>> EXT:	No
036.163:	Block. tIneg>>> EXT:	No
035.230:	Block. tIN> EXT:	No
035.231:	Block. tIN>> EXT:	No
035.232:	Block. tIN>>> EXT:	No
035.132:	Enabled:	Yes
035.234:	General starting:	No



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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035.245: tGS elapsed:	No
035.134: Starting A:	No
035.135: Starting B:	No
035.141: Starting C:	No
035.146: Starting N:	No
035.138: Starting I>:	No
035.139: Starting I>>:	No
035.149: Starting I>>>:	No
035.144: Trip signal tI>:	No
035.145: Trip signal tI>>:	No
035.158: Trip signal tI>>>:	No
036.164: Starting Ineg:	No
036.165: Starting Ineg>:	No
036.166: Starting Ineg>>:	No
036.167: Starting Ineg>>>:	No
036.168: tIneg> elapsed:	No
036.169: tIneg>> elapsed:	No
036.170: tIneg>>> elapsed:	No
036.171: Trip signal tIneg>:	No
036.172: Trip signal tIneg>>:	No
036.173: Trip signal tIneg>>>:	No
035.152: Starting IN>:	No
035.153: Starting IN>>:	No
035.154: Starting IN>>>:	No
035.159: tIN> elapsed:	No
035.225: tIN>> elapsed:	No
035.226: tIN>>> elapsed:	No
035.233: Trip signal tIN>:	No
035.246: Trip signal tIN>>:	No
035.247: Trip signal tIN>>>:	No

V/f

035.196: Block. tV/f> EXT:	No
035.197: Block. replica EXT:	No
035.199: Block. tV/f>> EXT:	No
035.182: Reset replica EXT:	No
041.229: Enabled:	Yes
035.184: Reset replica:	No
041.230: Starting V/f>:	No
041.231: tV/f> elapsed:	No
041.232: Starting V/f(t):	No
041.233: Trip signal tV/f(t):	No
041.234: Starting V/f>>:	No
041.235: tV/f>> elapsed:	No
041.236: Buffer empty:	Yes

LOGIC

034.000: Input 1 EXT:	No
034.001: Input 2 EXT:	No
034.002: Input 3 EXT:	No
034.003: Input 4 EXT:	No
034.004: Input 5 EXT:	No
034.005: Input 6 EXT:	No
034.006: Input 7 EXT:	No
034.007: Input 8 EXT:	No
034.008: Input 9 EXT:	No
034.009: Input 10 EXT:	No
034.010: Input 11 EXT:	No
034.011: Input 12 EXT:	No
034.012: Input 13 EXT:	No
034.013: Input 14 EXT:	No
034.014: Input 15 EXT:	No
034.015: Input 16 EXT:	No
034.086: Input 17 EXT:	No
034.087: Input 18 EXT:	No
034.088: Input 19 EXT:	No
034.089: Input 20 EXT:	No
034.090: Input 21 EXT:	No



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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034.091: Input 22 EXT:	No
034.092: Input 23 EXT:	No
034.093: Input 24 EXT:	No
034.094: Input 25 EXT:	No
034.095: Input 26 EXT:	No
034.096: Input 27 EXT:	No
034.097: Input 28 EXT:	No
034.098: Input 29 EXT:	No
034.099: Input 30 EXT:	No
034.100: Input 31 EXT:	No
034.101: Input 32 EXT:	No
034.102: Input 33 EXT:	No
034.103: Input 34 EXT:	No
034.104: Input 35 EXT:	No
034.105: Input 36 EXT:	No
034.106: Input 37 EXT:	No
034.107: Input 38 EXT:	No
034.108: Input 39 EXT:	No
034.109: Input 40 EXT:	No
034.051: Set 1 EXT:	No
034.052: Set 2 EXT:	No
034.053: Set 3 EXT:	No
034.054: Set 4 EXT:	No
034.055: Set 5 EXT:	No
034.056: Set 6 EXT:	No
034.057: Set 7 EXT:	No
034.058: Set 8 EXT:	No
034.059: Reset 1 EXT:	No
034.060: Reset 2 EXT:	No
034.061: Reset 3 EXT:	No
034.062: Reset 4 EXT:	No
034.063: Reset 5 EXT:	No
034.064: Reset 6 EXT:	No
034.065: Reset 7 EXT:	No
034.066: Reset 8 EXT:	No
034.067: 1 has been set:	No
034.068: 2 has been set:	No
034.069: 3 has been set:	No
034.070: 4 has been set:	No
034.071: 5 has been set:	No
034.072: 6 has been set:	No
034.073: 7 has been set:	No
034.074: 8 has been set:	No
034.075: 1 set externally:	Yes
034.076: 2 set externally:	Yes
034.077: 3 set externally:	Yes
034.078: 4 set externally:	Yes
034.079: 5 set externally:	Yes
034.080: 6 set externally:	Yes
034.081: 7 set externally:	Yes
034.082: 8 set externally:	Yes
034.046: Enabled:	Yes
042.032: Output 1:	No
042.033: Output 1 (t):	No
042.034: Output 2:	No
042.035: Output 2 (t):	No
042.036: Output 3:	No
042.037: Output 3 (t):	No
042.038: Output 4:	No
042.039: Output 4 (t):	No
042.040: Output 5:	No
042.041: Output 5 (t):	No
042.042: Output 6:	No
042.043: Output 6 (t):	No
042.044: Output 7:	No
042.045: Output 7 (t):	No



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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042.046: Output 8:	No
042.047: Output 8 (t):	No
042.048: Output 9:	No
042.049: Output 9 (t):	No
042.050: Output 10:	No
042.051: Output 10 (t):	No
042.052: Output 11:	No
042.053: Output 11 (t):	No
042.054: Output 12:	No
042.055: Output 12 (t):	No
042.056: Output 13:	No
042.057: Output 13 (t):	No
042.058: Output 14:	No
042.059: Output 14 (t):	No
042.060: Output 15:	No
042.061: Output 15 (t):	No
042.062: Output 16:	No
042.063: Output 16 (t):	No
042.064: Output 17:	No
042.065: Output 17 (t):	No
042.066: Output 18:	No
042.067: Output 18 (t):	No
042.068: Output 19:	No
042.069: Output 19 (t):	No
042.070: Output 20:	No
042.071: Output 20 (t):	No
042.072: Output 21:	No
042.073: Output 21 (t):	No
042.074: Output 22:	No
042.075: Output 22 (t):	No
042.076: Output 23:	No
042.077: Output 23 (t):	No
042.078: Output 24:	No
042.079: Output 24 (t):	No
042.080: Output 25:	No
042.081: Output 25 (t):	No
042.082: Output 26:	No
042.083: Output 26 (t):	No
042.084: Output 27:	No
042.085: Output 27 (t):	No
042.086: Output 28:	No
042.087: Output 28 (t):	No
042.088: Output 29:	No
042.089: Output 29 (t):	No
042.090: Output 30:	No
042.091: Output 30 (t):	No
042.092: Output 31:	No
042.093: Output 31 (t):	No
042.094: Output 32:	No
042.095: Output 32 (t):	No

Control and testing**LOC**

003.010: Param. change enabl.: No

COMM2

103.180: Sel.spontan.sig.test: Without function
103.184: Test spont.sig.start: don't execute
103.186: Test spont.sig. end: don't execute

OUTP

021.009: Reset latch. USER: don't execute
003.042: Relay assign. f.test: Without function
003.043: Relay test: don't execute
003.044: Hold-time for test: 1 s

MAIN

003.002: General reset USER: don't execute
021.010: Reset indicat. USER: don't execute
021.005: Rset.latch.trip USER: don't execute



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

Printed on: 27/09/2024 17:01:01

003.007: Reset c. cl/tr.cUSER:	don't execute
003.033: Reset IP,max,st.USER:	don't execute
005.253: Group reset 1 USER:	don't execute
005.254: Group reset 2 USER:	don't execute
003.040: Man. trip cmd. USER:	don't execute
003.039: Warm restart:	don't execute
000.085: Cold restart:	don't execute
OP_RC	
100.001: Reset record. USER:	don't execute
MT_RC	
003.008: Reset record. USER:	don't execute
OL_RC	
100.003: Reset record. USER:	don't execute
FT_RC	
003.041: Trigger USER:	don't execute
003.006: Reset record. USER:	don't execute
V/f	
035.183: Reset replica USER:	don't execute
LOGIC	
034.038: Trigger 1:	don't execute
034.039: Trigger 2:	don't execute
034.040: Trigger 3:	don't execute
034.041: Trigger 4:	don't execute
034.042: Trigger 5:	don't execute
034.043: Trigger 6:	don't execute
034.044: Trigger 7:	don't execute
034.045: Trigger 8:	don't execute
Operating data rec.	
OP_RC	
003.024: Operat. data record.:	0
MT_RC	
003.001: Mon. signal record.:	0
Events	
Event counters	
MAIN	
004.000: No. general start.:	388
004.006: No. gen.trip cmds. 1:	262
009.050: No. gen.trip cmds. 2:	262
009.056: No. gen.trip cmds. 3:	0
009.057: No. gen.trip cmds. 4:	0
OP_RC	
100.002: No. oper. data sig.:	100
MT_RC	
004.019: No. monit. signals:	0
OL_RC	
004.101: No. overload:	0
FT_RC	
004.020: No. of faults:	837
004.010: No. system disturb.:	837
DTOC2	
009.160: No. general start.:	185
Measured fault data	
OL_DA	
004.102: Overload duration:	Not measured
004.155: Status THRM1 replica:	Not measured
004.159: Load current THRM1:	Not measured
004.156: Object temp. THRM1:	Not measured
004.157: Coolant temp.TH RM1:	Not measured
004.158: Pre-trip t.leftTHRM1:	Not measured
004.191: Offset THRM1 replica:	Not measured
004.185: Status THRM2 replica:	Not measured
004.189: Load current THRM2:	Not measured
004.186: Object temp. THRM2:	Not measured
004.187: Coolant temp.TH RM2:	Not measured
004.188: Pre-trip t.leftTHRM2:	Not measured
FT_DA	



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

Printed on: 27/09/2024 17:01:02

008.010:	Fault duration:	Not measured
004.021:	Running time:	Not measured
004.198:	Fault determ. with:	No fault
004.199:	Run time to meas.:	Not measured
025.086:	Fault curr.IP,a p.u.:	Not measured
025.087:	Fault curr.IN,a p.u.:	Not measured
025.088:	Fault curr.IY,a p.u.:	Not measured
026.086:	Fault curr.IP,b p.u.:	Not measured
026.087:	Fault curr.IN,b p.u.:	Not measured
026.088:	Fault curr.IY,b p.u.:	Not measured
005.082:	Diff. current 1:	Not measured
005.084:	Diff.current 1(2*f0):	Not measured
005.085:	Diff.current 1(5*f0):	Not measured
005.083:	Restrain. current 1:	Not measured
006.082:	Diff. current 2:	Not measured
006.084:	Diff.current 2(2*f0):	Not measured
006.085:	Diff.current 2(5*f0):	Not measured
006.083:	Restrain. current 2:	Not measured
007.082:	Diff. current 3:	Not measured
007.084:	Diff.current 3(2*f0):	Not measured
007.085:	Diff.current 3(5*f0):	Not measured
007.083:	Restrain. current 3:	Not measured
025.082:	Diff. current REF_1:	Not measured
025.083:	Restrain.curr. REF_1:	Not measured
026.082:	Diff. current REF_2:	Not measured
026.083:	Restrain.curr. REF_2:	Not measured
Event recordings		
OL_RC		
033.020:	Overload recording 1:	0
033.021:	Overload recording 2:	0
033.022:	Overload recording 3:	0
033.023:	Overload recording 4:	0
033.024:	Overload recording 5:	0
033.025:	Overload recording 6:	0
033.026:	Overload recording 7:	0
033.027:	Overload recording 8:	0
FT_RC		
003.000:	Fault recording 1:	0
033.001:	Fault recording 2:	0
033.002:	Fault recording 3:	0
033.003:	Fault recording 4:	0
033.004:	Fault recording 5:	0
033.005:	Fault recording 6:	0
033.006:	Fault recording 7:	0
033.007:	Fault recording 8:	0

REF Protection



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 16:58:24

SYSTEM DATA	
00.01: Language:	English
00.02: Password: ****	
00.03: Sys Fn Links:	0
00.04: Description:	64RLV-TT#1
00.05: Plant Reference:	MiCOM
00.06: Model Number:	P141316A6M0430J
00.08: Serial Number:	115996T
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	1
00.0C: Plant Status:	0000000000000000
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.10: CB Trip/Close:	No Operation
00.11: Software Ref. 1:	P141____6__430_C
00.20: Opto I/P Status:	10000000
00.21: Relay O/P Status:	00000000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.30: Opto I/P Status:	10000000
00.40: Relay O/P Status:	00000000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	2
00.D1: Password Control:	2
00.D2: Password Level 1:	****
00.D3: Password Level 2:	****
CB CONTROL	
07.01: CB Control by:	Disabled
07.08: Lockout Reset:	No
07.09: Reset Lockout by:	CB Close
07.0A: Man Close RstDly:	5.000 s
07.11: CB Status Input:	None
DATE AND TIME	
08.01: Date/Time:	2024-09-24 11:25:11.791
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Disabled
08.20: LocalTime Enable:	Fixed
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0B: System Config:	Visible
09.10: Overcurrent:	Enabled
09.11: Neg Sequence O/C:	Disabled
09.12: Broken Conductor:	Disabled
09.13: Earth Fault 1:	Enabled
09.14: Earth Fault 2:	Disabled
09.15: SEF/REF Prot'n:	Enabled
09.16: Residual O/V NVD:	Disabled
09.17: Thermal Overload:	Disabled
09.18: Neg Sequence O/V:	Disabled
09.19: Cold Load Pickup:	Disabled
09.1A: Selective Logic:	Disabled
09.1B: Admit Protection:	Disabled
09.1C: Power Protection:	Disabled



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 16:58:25

09.1D: Volt Protection: Disabled
09.1E: Freq Protection: Disabled
09.20: CB Fail: Disabled
09.21: Supervision: Disabled
09.22: Fault Locator: Disabled
09.25: Input Labels: Visible
09.26: Output Labels: Visible
09.27: Adv. Freq Prot'n: Disabled
09.28: CT & VT Ratios: Visible
09.29: Record Control: Invisible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Visible
09.2C: Comms Settings: Visible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Primary
09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.FF: LCD Contrast: 11

CT AND VT RATIOS

0A.01: Main VT Primary: 400.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.07: Phase CT Primary: 500.0 A
0A.08: Phase CT Sec'y: 1.000 A
0A.09: E/F CT Primary: 500.0 A
0A.0A: E/F CT Secondary: 1.000 A
0A.0B: SEF CT Primary: 1750 A
0A.0C: SEF CT Secondary: 1.000 A

DISTURB RECORDER

0C.01: Duration: 3.000 s
0C.02: Trigger Position: 33.30 %
0C.03: Trigger Mode: Extended
0C.04: Analog Channel 1: VA
0C.05: Analog Channel 2: VB
0C.06: Analog Channel 3: VC
0C.07: Analog Channel 4: IA
0C.08: Analog Channel 5: IB
0C.09: Analog Channel 6: IC
0C.0A: Analog Channel 7: IN
0C.0B: Analog Channel 8: IN Sensitive
0C.0C: Analog Channel 9: Frequency
0C.0D: Digital Input 1: Output R1
0C.0E: Input 1 Trigger: Trigger L/H
0C.0F: Digital Input 2: Output R2
0C.10: Input 2 Trigger: Trigger L/H
0C.11: Digital Input 3: I>1 Trip
0C.12: Input 3 Trigger: Trigger L/H
0C.13: Digital Input 4: I>2 Trip
0C.14: Input 4 Trigger: Trigger L/H
0C.15: Digital Input 5: IN1>1 Trip
0C.16: Input 5 Trigger: Trigger L/H
0C.17: Digital Input 6: IN1>2 Trip
0C.18: Input 6 Trigger: Trigger L/H
0C.19: Digital Input 7: IREF> Trip
0C.1A: Input 7 Trigger: Trigger L/H
0C.1B: Digital Input 8: Input L1
0C.1C: Input 8 Trigger: Trigger L/H
0C.1D: Digital Input 9: Input L2
0C.1E: Input 9 Trigger: Trigger L/H
0C.1F: Digital Input 10: Input L3
0C.20: Input 10 Trigger: Trigger L/H
0C.21: Digital Input 11: Input L4
0C.22: Input 11 Trigger: Trigger L/H
0C.23: Digital Input 12: Input L5
0C.24: Input 12 Trigger: Trigger L/H



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 16:58:25

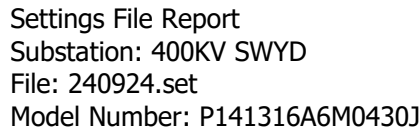
OC.25: Digital Input 13:	Input L6
OC.26: Input 13 Trigger:	Trigger L/H
OC.27: Digital Input 14:	Input L7
OC.28: Input 14 Trigger:	Trigger L/H
OC.29: Digital Input 15:	Input L8
OC.2A: Input 15 Trigger:	Trigger H/L
OC.2B: Digital Input 16:	IN1>4 Trip
OC.2C: Input 16 Trigger:	Trigger L/H
OC.2D: Digital Input 17:	Output R5
OC.2E: Input 17 Trigger:	Trigger L/H
OC.2F: Digital Input 18:	Output R7
OC.30: Input 18 Trigger:	Trigger L/H
OC.31: Digital Input 19:	Unused
OC.33: Digital Input 20:	Unused
OC.35: Digital Input 21:	Unused
OC.37: Digital Input 22:	Unused
OC.39: Digital Input 23:	Unused
OC.3B: Digital Input 24:	Unused
OC.3D: Digital Input 25:	Unused
OC.3F: Digital Input 26:	Unused
OC.41: Digital Input 27:	Unused
OC.43: Digital Input 28:	Unused
OC.45: Digital Input 29:	Unused
OC.47: Digital Input 30:	Unused
OC.49: Digital Input 31:	Unused
OC.4B: Digital Input 32:	Unused
MEASURE'T SETUP	
OD.01: Default Display:	Description
OD.02: Local Values:	Primary
OD.03: Remote Values:	Primary
OD.04: Measurement Ref:	VA
OD.05: Measurement Mode:	0
OD.06: Fix Dem Period:	30.00 min
OD.07: Roll Sub Period:	30.00 min
OD.08: Num Sub Periods:	1
COMMISSION TESTS	
OF.01: Opto I/P Status:	10000000
OF.02: Relay O/P Status:	00000000
OF.03: Test Port Status:	00000000
OF.04: LED Status:	00000000
OF.05: Monitor Bit 1:	64
OF.06: Monitor Bit 2:	65
OF.07: Monitor Bit 3:	66
OF.08: Monitor Bit 4:	67
OF.09: Monitor Bit 5:	68
OF.0A: Monitor Bit 6:	69
OF.0B: Monitor Bit 7:	70
OF.0C: Monitor Bit 8:	71
OF.0D: Test Mode:	Disabled
OF.0E: Test Pattern:	00000000
OF.0F: Contact Test:	No Operation
OF.10: Test LEDs:	No Operation
OF.20: DDB 31 - 0:	00000000000000000000000000000000
OF.21: DDB 63 - 32:	000000000000000000000000000010000000
OF.22: DDB 95 - 64:	00000000000000000000000000000000
OF.23: DDB 127 - 96:	00000000000000000000000000000000
OF.24: DDB 159 - 128:	00000000000000000000000000000000
OF.25: DDB 191 - 160:	00000000000000000000000000000000
OF.26: DDB 223 - 192:	00000000000000000000000000000000
OF.27: DDB 255 - 224:	000000000000000000000000000010000000
OF.28: DDB 287 - 256:	00000000000000000000000000000000
OF.29: DDB 319 - 288:	00000000000000000000000000000000
OF.2A: DDB 351 - 320:	00000000000000000000000000000000
OF.2B: DDB 383 - 352:	00000011111000000000000000000000
OF.2C: DDB 415 - 384:	00000000000000000000000000000000
OF.2D: DDB 447 - 416:	00000000000000000000000000000000



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OF.2E: DDB 479 - 448:	00000000000000000000000000000000
OF.2F: DDB 511 - 480:	00000000000000000000000000000000
OF.30: DDB 543 - 512:	00000000000000000000000000000000
OF.31: DDB 575 - 544:	00000000000000000000000000000000
OF.32: DDB 607 - 576:	00000000000000000000000000000000
OF.33: DDB 639 - 608:	00000000000000000000000000000000
OF.34: DDB 671 - 640:	00000000000000000000000000000000
OF.35: DDB 703 - 672:	00000000000000000000000000000000
OF.36: DDB 735 - 704:	00000000000000000000000000000000
OF.37: DDB 767 - 736:	00000000000000000000000000000000
OF.38: DDB 799 - 768:	00000000000000000000000000000000
OF.39: DDB 831 - 800:	00000000000000000000000000000000
OF.3A: DDB 863 - 832:	00000000000000000000000000000000
OF.3B: DDB 895 - 864:	00000000000000000000000000000000
OF.3C: DDB 927 - 896:	00000000000000000000000000000000
OF.3D: DDB 959 - 928:	00000000000000000000000000000000
OF.3E: DDB 991 - 960:	00000000000000000000000000000000
OF.3F: DDB 1023 - 992:	00000000000000000000000000000000
OF.40: DDB 1055 - 1024:	00000000000000000000000000000000
OF.41: DDB 1087 - 1056:	00000000000000000000000000000000
OF.42: DDB 1119 - 1088:	00000000000000000000000000000000
OF.43: DDB 1151 - 1120:	00000000000000000000000000000000
OF.44: DDB 1183 - 1152:	00000000000000000000000000000000
OF.45: DDB 1215 - 1184:	00000000000000000000000000000000
OF.46: DDB 1247 - 1216:	00000000000000000000000000000000
OF.47: DDB 1279 - 1248:	00000000000000000000000000000000
OF.48: DDB 1311 - 1280:	00000000000000000000000000000000
OF.49: DDB 1343 - 1312:	00000000000000000000000000000000
OF.4A: DDB 1375 - 1344:	00000000000000000000000000000000
OF.4B: DDB 1407 - 1376:	00000000000000000000000000000000
OF.4C: DDB 1439 - 1408:	00000000000000000000000000000000
OF.4D: DDB 1471 - 1440:	00000000000000000000000000000000
OF.4E: DDB 1503 - 1472:	00000000000000000000000000000000
OF.4F: DDB 1535 - 1504:	00000000000000000000000000000000
CB MONITOR SETUP	
10.01: Broken I^:	2.000
10.02: I^ Maintenance:	Alarm Disabled
10.04: I^ Lockout:	Alarm Disabled
10.06: No. CB Ops Maint:	Alarm Disabled
10.08: No. CB Ops Lock:	Alarm Disabled
10.0A: CB Time Maint:	Alarm Disabled
10.0C: CB Time Lockout:	Alarm Disabled
10.0E: Fault Freq Lock:	Alarm Disabled
OPTO CONFIG	
11.01: Global Nominal V:	220/250V
11.50: Opto Filter Cntl:	11111111
11.80: Characteristic:	Standard 60%-80%
CONTROL INPUTS	
12.01: Ctrl I/P Status:	00000000000000000000000000000000
12.02: Control Input 1:	No Operation
12.03: Control Input 2:	No Operation
12.04: Control Input 3:	No Operation
12.05: Control Input 4:	No Operation
12.06: Control Input 5:	No Operation
12.07: Control Input 6:	No Operation
12.08: Control Input 7:	No Operation
12.09: Control Input 8:	No Operation
12.0A: Control Input 9:	No Operation
12.0B: Control Input 10:	No Operation
12.0C: Control Input 11:	No Operation
12.0D: Control Input 12:	No Operation
12.0E: Control Input 13:	No Operation
12.0F: Control Input 14:	No Operation
12.10: Control Input 15:	No Operation
12.11: Control Input 16:	No Operation
12.12: Control Input 17:	No Operation



Easergy Studio



Settings File Report
Substation: 400KV SWYD
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13.71: Ctrl Command 25: SET/RESET
13.74: Control Input 26: Latched
13.75: Ctrl Command 26: SET/RESET
13.78: Control Input 27: Latched
13.79: Ctrl Command 27: SET/RESET
13.7C: Control Input 28: Latched
13.7D: Ctrl Command 28: SET/RESET
13.80: Control Input 29: Latched
13.81: Ctrl Command 29: SET/RESET
13.84: Control Input 30: Latched
13.85: Ctrl Command 30: SET/RESET
13.88: Control Input 31: Latched
13.89: Ctrl Command 31: SET/RESET
13.8C: Control Input 32: Latched
13.8D: Ctrl Command 32: SET/RESET

IED CONFIGURATOR

19.05: Switch Conf.Bank: No action
19.0A: Restore MCL: No action
19.10: Active Conf.Name: Not Available
19.11: Active Conf.Rev: Not Available
19.20: Inact.Conf.Name: Not Available
19.21: Inact.Conf.Rev: Not Available
19.30: IP PARAMETERS:
19.31: IP address: Not Available
19.32: Subnet mask: Not Available
19.33: Gateway: Not Available
19.40: SNTP PARAMETERS:
19.41: SNTP Server 1: Not Available
19.42: SNTP Server 2: Not Available
19.50: IEC 61850 SCL:
19.51: IED Name: Not Available
19.60: IEC 61850 GOOSE:
19.70: GoEna: 00000001
19.71: Test Mode: 00000000
19.73: Ignore Test Flag: No

CTRL I/P LABELS

29.01: Control Input 1: Control Input 1
29.02: Control Input 2: Control Input 2
29.03: Control Input 3: Control Input 3
29.04: Control Input 4: Control Input 4
29.05: Control Input 5: Control Input 5
29.06: Control Input 6: Control Input 6
29.07: Control Input 7: Control Input 7
29.08: Control Input 8: Control Input 8
29.09: Control Input 9: Control Input 9
29.0A: Control Input 10: Control Input 10
29.0B: Control Input 11: Control Input 11
29.0C: Control Input 12: Control Input 12
29.0D: Control Input 13: Control Input 13
29.0E: Control Input 14: Control Input 14
29.0F: Control Input 15: Control Input 15
29.10: Control Input 16: Control Input 16
29.11: Control Input 17: Control Input 17
29.12: Control Input 18: Control Input 18
29.13: Control Input 19: Control Input 19
29.14: Control Input 20: Control Input 20
29.15: Control Input 21: Control Input 21
29.16: Control Input 22: Control Input 22
29.17: Control Input 23: Control Input 23
29.18: Control Input 24: Control Input 24
29.19: Control Input 25: Control Input 25
29.1A: Control Input 26: Control Input 26
29.1B: Control Input 27: Control Input 27
29.1C: Control Input 28: Control Input 28
29.1D: Control Input 29: Control Input 29
29.1E: Control Input 30: Control Input 30



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29.1F: Control Input 31:	Control Input 31
29.20: Control Input 32:	Control Input 32
Group 1	
GROUP 1 SYSTEM CONFIG	
30.02: Phase Sequence:	Standard ABC
30.03: 2NDHARM BLOCKING:	
30.04: 2nd Harmonic:	Disabled
GROUP 1 OVERCURRENT	
35.23: I>1 Function:	DT
35.24: I>1 Direction:	Directional Fwd
35.27: I>1 Current Set:	185.0 A
35.29: I>1 Time Delay:	1.000 s
35.2F: I>1 tRESET:	0 s
35.32: I>2 Function:	DT
35.33: I>2 Direction:	Directional Fwd
35.36: I>2 Current Set:	1200 A
35.38: I>2 Time Delay:	100.0 ms
35.3E: I>2 tRESET:	0 s
35.40: I>3 Status:	Disabled
35.47: I>4 Status:	Disabled
35.4E: I> Blocking:	000001111
35.4F: I> Char Angle:	45.00 deg
35.51: V CONTROLLED O/C:	
35.52: VCO Status:	Disabled
GROUP 1 EARTH FAULT 1	
38.01: IN1> Input:	Measured
38.25: IN1>1 Function:	DT
38.26: IN1>1 Direction:	Directional Fwd
38.29: IN1>1 Current:	50.00 A
38.2C: IN1>1 Time Delay:	1.000 s
38.33: IN1>1 tRESET:	0 s
38.36: IN1>2 Function:	DT
38.37: IN1>2 Direction:	Directional Fwd
38.3A: IN1>2 Current:	215.0 A
38.3D: IN1>2 Time Delay:	50.00 ms
38.44: IN1>2 tRESET:	0 s
38.46: IN1>3 Status:	Disabled
38.4D: IN1>4 Status:	Enabled
38.4E: IN1>4 Direction:	Directional Fwd
38.51: IN1>4 Current:	125.0 A
38.52: IN1>4 Time Delay:	20.00 ms
38.54: IN1> Blocking:	00001111
38.55: IN1> POL:	
38.56: IN1> Char Angle:	-15.00 deg
38.57: IN1> Pol: Zero Sequence	
38.59: IN1> VNpol Set:	18.18 kV
GROUP 1 SEF/REF PROT'N	
3A.01: SEF/REF Options:	Hi Z REF
3A.60: RESTRICTED E/F:	
3A.65: IREF> Is:	175.0 A
GROUP 1 CB FAIL & I<	
45.08: UNDER CURRENT:	
45.09: I< Current Set:	50.00 A
45.0A: IN< Current Set:	50.00 A
45.0B: ISEF< Current:	35.00 A
GROUP 1 INPUT LABELS	
4A.01: Opto Input 1:	PRV 2 TRIP
4A.02: Opto Input 2:	PRV 1 TRIP
4A.03: Opto Input 3:	OTI ALARM
4A.04: Opto Input 4:	WTI HV TRIP
4A.05: Opto Input 5:	MOG ALARM
4A.06: Opto Input 6:	BUCHOLZ TRIP
4A.07: Opto Input 7:	86B OPTD
4A.08: Opto Input 8:	86B SUPVN
GROUP 1 OUTPUT LABELS	
4B.01: Relay 1:	TRIP86A



- 4B.02: Relay 2: TRIP86B
- 4B.03: Relay 3: TEST TRIP
- 4B.04: Relay 4: Output R4
- 4B.05: Relay 5: 51N UP STR_64RHV
- 4B.06: Relay 6: Output R6
- 4B.07: Relay 7: 51N UP STR TO LV
- Group 2
- Group 3
- Group 4

HV OC Protection



Settings File Report
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SYSTEM DATA	
00.01: Language:	English
00.02: Password: ****	
00.03: Sys Fn Links:	0
00.04: Description:	64RLV-TT#1
00.05: Plant Reference:	MiCOM
00.06: Model Number:	P141316A6M0430J
00.08: Serial Number:	115996T
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	1
00.0C: Plant Status:	0000000000000000
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.10: CB Trip/Close:	No Operation
00.11: Software Ref. 1:	P141____6__430_C
00.20: Opto I/P Status:	10000000
00.21: Relay O/P Status:	00000000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.30: Opto I/P Status:	10000000
00.40: Relay O/P Status:	00000000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	2
00.D1: Password Control:	2
00.D2: Password Level 1:	****
00.D3: Password Level 2:	****
CB CONTROL	
07.01: CB Control by:	Disabled
07.08: Lockout Reset:	No
07.09: Reset Lockout by:	CB Close
07.0A: Man Close RstDly:	5.000 s
07.11: CB Status Input:	None
DATE AND TIME	
08.01: Date/Time:	2024-09-24 11:25:11.791
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Disabled
08.20: LocalTime Enable:	Fixed
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0B: System Config:	Visible
09.10: Overcurrent:	Enabled
09.11: Neg Sequence O/C:	Disabled
09.12: Broken Conductor:	Disabled
09.13: Earth Fault 1:	Enabled
09.14: Earth Fault 2:	Disabled
09.15: SEF/REF Prot'n:	Enabled
09.16: Residual O/V NVD:	Disabled
09.17: Thermal Overload:	Disabled
09.18: Neg Sequence O/V:	Disabled
09.19: Cold Load Pickup:	Disabled
09.1A: Selective Logic:	Disabled
09.1B: Admit Protection:	Disabled
09.1C: Power Protection:	Disabled



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09.1D: Volt Protection: Disabled
09.1E: Freq Protection: Disabled
09.20: CB Fail: Disabled
09.21: Supervision: Disabled
09.22: Fault Locator: Disabled
09.25: Input Labels: Visible
09.26: Output Labels: Visible
09.27: Adv. Freq Prot'n: Disabled
09.28: CT & VT Ratios: Visible
09.29: Record Control: Invisible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Visible
09.2C: Comms Settings: Visible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Primary
09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.FF: LCD Contrast: 11

CT AND VT RATIOS

0A.01: Main VT Primary: 400.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.07: Phase CT Primary: 500.0 A
0A.08: Phase CT Sec'y: 1.000 A
0A.09: E/F CT Primary: 500.0 A
0A.0A: E/F CT Secondary: 1.000 A
0A.0B: SEF CT Primary: 1750 A
0A.0C: SEF CT Secondary: 1.000 A

DISTURB RECORDER

0C.01: Duration: 3.000 s
0C.02: Trigger Position: 33.30 %
0C.03: Trigger Mode: Extended
0C.04: Analog Channel 1: VA
0C.05: Analog Channel 2: VB
0C.06: Analog Channel 3: VC
0C.07: Analog Channel 4: IA
0C.08: Analog Channel 5: IB
0C.09: Analog Channel 6: IC
0C.0A: Analog Channel 7: IN
0C.0B: Analog Channel 8: IN Sensitive
0C.0C: Analog Channel 9: Frequency
0C.0D: Digital Input 1: Output R1
0C.0E: Input 1 Trigger: Trigger L/H
0C.0F: Digital Input 2: Output R2
0C.10: Input 2 Trigger: Trigger L/H
0C.11: Digital Input 3: I>1 Trip
0C.12: Input 3 Trigger: Trigger L/H
0C.13: Digital Input 4: I>2 Trip
0C.14: Input 4 Trigger: Trigger L/H
0C.15: Digital Input 5: IN1>1 Trip
0C.16: Input 5 Trigger: Trigger L/H
0C.17: Digital Input 6: IN1>2 Trip
0C.18: Input 6 Trigger: Trigger L/H
0C.19: Digital Input 7: IREF> Trip
0C.1A: Input 7 Trigger: Trigger L/H
0C.1B: Digital Input 8: Input L1
0C.1C: Input 8 Trigger: Trigger L/H
0C.1D: Digital Input 9: Input L2
0C.1E: Input 9 Trigger: Trigger L/H
0C.1F: Digital Input 10: Input L3
0C.20: Input 10 Trigger: Trigger L/H
0C.21: Digital Input 11: Input L4
0C.22: Input 11 Trigger: Trigger L/H
0C.23: Digital Input 12: Input L5
0C.24: Input 12 Trigger: Trigger L/H



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OC.25: Digital Input 13:	Input L6
OC.26: Input 13 Trigger:	Trigger L/H
OC.27: Digital Input 14:	Input L7
OC.28: Input 14 Trigger:	Trigger L/H
OC.29: Digital Input 15:	Input L8
OC.2A: Input 15 Trigger:	Trigger H/L
OC.2B: Digital Input 16:	IN1>4 Trip
OC.2C: Input 16 Trigger:	Trigger L/H
OC.2D: Digital Input 17:	Output R5
OC.2E: Input 17 Trigger:	Trigger L/H
OC.2F: Digital Input 18:	Output R7
OC.30: Input 18 Trigger:	Trigger L/H
OC.31: Digital Input 19:	Unused
OC.33: Digital Input 20:	Unused
OC.35: Digital Input 21:	Unused
OC.37: Digital Input 22:	Unused
OC.39: Digital Input 23:	Unused
OC.3B: Digital Input 24:	Unused
OC.3D: Digital Input 25:	Unused
OC.3F: Digital Input 26:	Unused
OC.41: Digital Input 27:	Unused
OC.43: Digital Input 28:	Unused
OC.45: Digital Input 29:	Unused
OC.47: Digital Input 30:	Unused
OC.49: Digital Input 31:	Unused
OC.4B: Digital Input 32:	Unused
MEASURE'T SETUP	
OD.01: Default Display:	Description
OD.02: Local Values:	Primary
OD.03: Remote Values:	Primary
OD.04: Measurement Ref:	VA
OD.05: Measurement Mode:	0
OD.06: Fix Dem Period:	30.00 min
OD.07: Roll Sub Period:	30.00 min
OD.08: Num Sub Periods:	1
COMMISSION TESTS	
OF.01: Opto I/P Status:	10000000
OF.02: Relay O/P Status:	00000000
OF.03: Test Port Status:	00000000
OF.04: LED Status:	00000000
OF.05: Monitor Bit 1:	64
OF.06: Monitor Bit 2:	65
OF.07: Monitor Bit 3:	66
OF.08: Monitor Bit 4:	67
OF.09: Monitor Bit 5:	68
OF.0A: Monitor Bit 6:	69
OF.0B: Monitor Bit 7:	70
OF.0C: Monitor Bit 8:	71
OF.0D: Test Mode:	Disabled
OF.0E: Test Pattern:	00000000
OF.0F: Contact Test:	No Operation
OF.10: Test LEDs:	No Operation
OF.20: DDB 31 - 0:	00000000000000000000000000000000
OF.21: DDB 63 - 32:	000000000000000000000000000010000000
OF.22: DDB 95 - 64:	00000000000000000000000000000000
OF.23: DDB 127 - 96:	00000000000000000000000000000000
OF.24: DDB 159 - 128:	00000000000000000000000000000000
OF.25: DDB 191 - 160:	00000000000000000000000000000000
OF.26: DDB 223 - 192:	00000000000000000000000000000000
OF.27: DDB 255 - 224:	000000000000000000000000000010000000
OF.28: DDB 287 - 256:	00000000000000000000000000000000
OF.29: DDB 319 - 288:	00000000000000000000000000000000
OF.2A: DDB 351 - 320:	00000000000000000000000000000000
OF.2B: DDB 383 - 352:	00000011111000000000000000000000
OF.2C: DDB 415 - 384:	00000000000000000000000000000000
OF.2D: DDB 447 - 416:	00000000000000000000000000000000



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OF.2E: DDB 479 - 448:	00000000000000000000000000000000
OF.2F: DDB 511 - 480:	00000000000000000000000000000000
OF.30: DDB 543 - 512:	00000000000000000000000000000000
OF.31: DDB 575 - 544:	00000000000000000000000000000000
OF.32: DDB 607 - 576:	00000000000000000000000000000000
OF.33: DDB 639 - 608:	00000000000000000000000000000000
OF.34: DDB 671 - 640:	00000000000000000000000000000000
OF.35: DDB 703 - 672:	00000000000000000000000000000000
OF.36: DDB 735 - 704:	00000000000000000000000000000000
OF.37: DDB 767 - 736:	00000000000000000000000000000000
OF.38: DDB 799 - 768:	00000000000000000000000000000000
OF.39: DDB 831 - 800:	00000000000000000000000000000000
OF.3A: DDB 863 - 832:	00000000000000000000000000000000
OF.3B: DDB 895 - 864:	00000000000000000000000000000000
OF.3C: DDB 927 - 896:	00000000000000000000000000000000
OF.3D: DDB 959 - 928:	00000000000000000000000000000000
OF.3E: DDB 991 - 960:	00000000000000000000000000000000
OF.3F: DDB 1023 - 992:	00000000000000000000000000000000
OF.40: DDB 1055 - 1024:	00000000000000000000000000000000
OF.41: DDB 1087 - 1056:	00000000000000000000000000000000
OF.42: DDB 1119 - 1088:	00000000000000000000000000000000
OF.43: DDB 1151 - 1120:	00000000000000000000000000000000
OF.44: DDB 1183 - 1152:	00000000000000000000000000000000
OF.45: DDB 1215 - 1184:	00000000000000000000000000000000
OF.46: DDB 1247 - 1216:	00000000000000000000000000000000
OF.47: DDB 1279 - 1248:	00000000000000000000000000000000
OF.48: DDB 1311 - 1280:	00000000000000000000000000000000
OF.49: DDB 1343 - 1312:	00000000000000000000000000000000
OF.4A: DDB 1375 - 1344:	00000000000000000000000000000000
OF.4B: DDB 1407 - 1376:	00000000000000000000000000000000
OF.4C: DDB 1439 - 1408:	00000000000000000000000000000000
OF.4D: DDB 1471 - 1440:	00000000000000000000000000000000
OF.4E: DDB 1503 - 1472:	00000000000000000000000000000000
OF.4F: DDB 1535 - 1504:	00000000000000000000000000000000
CB MONITOR SETUP	
10.01: Broken I^:	2.000
10.02: I^ Maintenance:	Alarm Disabled
10.04: I^ Lockout:	Alarm Disabled
10.06: No. CB Ops Maint:	Alarm Disabled
10.08: No. CB Ops Lock:	Alarm Disabled
10.0A: CB Time Maint:	Alarm Disabled
10.0C: CB Time Lockout:	Alarm Disabled
10.0E: Fault Freq Lock:	Alarm Disabled
OPTO CONFIG	
11.01: Global Nominal V:	220/250V
11.50: Opto Filter Cntl:	11111111
11.80: Characteristic:	Standard 60%-80%
CONTROL INPUTS	
12.01: Ctrl I/P Status:	00000000000000000000000000000000
12.02: Control Input 1:	No Operation
12.03: Control Input 2:	No Operation
12.04: Control Input 3:	No Operation
12.05: Control Input 4:	No Operation
12.06: Control Input 5:	No Operation
12.07: Control Input 6:	No Operation
12.08: Control Input 7:	No Operation
12.09: Control Input 8:	No Operation
12.0A: Control Input 9:	No Operation
12.0B: Control Input 10:	No Operation
12.0C: Control Input 11:	No Operation
12.0D: Control Input 12:	No Operation
12.0E: Control Input 13:	No Operation
12.0F: Control Input 14:	No Operation
12.10: Control Input 15:	No Operation
12.11: Control Input 16:	No Operation
12.12: Control Input 17:	No Operation



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12.13: Control Input 18: No Operation
12.14: Control Input 19: No Operation
12.15: Control Input 20: No Operation
12.16: Control Input 21: No Operation
12.17: Control Input 22: No Operation
12.18: Control Input 23: No Operation
12.19: Control Input 24: No Operation
12.1A: Control Input 25: No Operation
12.1B: Control Input 26: No Operation
12.1C: Control Input 27: No Operation
12.1D: Control Input 28: No Operation
12.1E: Control Input 29: No Operation
12.1F: Control Input 30: No Operation
12.20: Control Input 31: No Operation
12.21: Control Input 32: No Operation

CTRL I/P CONFIG

13.01: Hotkey Enabled: 11111111111111111111111111111111
13.10: Control Input 1: Latched
13.11: Ctrl Command 1: SET/RESET
13.14: Control Input 2: Latched
13.15: Ctrl Command 2: SET/RESET
13.18: Control Input 3: Latched
13.19: Ctrl Command 3: SET/RESET
13.1C: Control Input 4: Latched
13.1D: Ctrl Command 4: SET/RESET
13.20: Control Input 5: Latched
13.21: Ctrl Command 5: SET/RESET
13.24: Control Input 6: Latched
13.25: Ctrl Command 6: SET/RESET
13.28: Control Input 7: Latched
13.29: Ctrl Command 7: SET/RESET
13.2C: Control Input 8: Latched
13.2D: Ctrl Command 8: SET/RESET
13.30: Control Input 9: Latched
13.31: Ctrl Command 9: SET/RESET
13.34: Control Input 10: Latched
13.35: Ctrl Command 10: SET/RESET
13.38: Control Input 11: Latched
13.39: Ctrl Command 11: SET/RESET
13.3C: Control Input 12: Latched
13.3D: Ctrl Command 12: SET/RESET
13.40: Control Input 13: Latched
13.41: Ctrl Command 13: SET/RESET
13.44: Control Input 14: Latched
13.45: Ctrl Command 14: SET/RESET
13.48: Control Input 15: Latched
13.49: Ctrl Command 15: SET/RESET
13.4C: Control Input 16: Latched
13.4D: Ctrl Command 16: SET/RESET
13.50: Control Input 17: Latched
13.51: Ctrl Command 17: SET/RESET
13.54: Control Input 18: Latched
13.55: Ctrl Command 18: SET/RESET
13.58: Control Input 19: Latched
13.59: Ctrl Command 19: SET/RESET
13.5C: Control Input 20: Latched
13.5D: Ctrl Command 20: SET/RESET
13.60: Control Input 21: Latched
13.61: Ctrl Command 21: SET/RESET
13.64: Control Input 22: Latched
13.65: Ctrl Command 22: SET/RESET
13.68: Control Input 23: Latched
13.69: Ctrl Command 23: SET/RESET
13.6C: Control Input 24: Latched
13.6D: Ctrl Command 24: SET/RESET
13.70: Control Input 25: Latched



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Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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13.71: Ctrl Command 25: SET/RESET
13.74: Control Input 26: Latched
13.75: Ctrl Command 26: SET/RESET
13.78: Control Input 27: Latched
13.79: Ctrl Command 27: SET/RESET
13.7C: Control Input 28: Latched
13.7D: Ctrl Command 28: SET/RESET
13.80: Control Input 29: Latched
13.81: Ctrl Command 29: SET/RESET
13.84: Control Input 30: Latched
13.85: Ctrl Command 30: SET/RESET
13.88: Control Input 31: Latched
13.89: Ctrl Command 31: SET/RESET
13.8C: Control Input 32: Latched
13.8D: Ctrl Command 32: SET/RESET

IED CONFIGURATOR

19.05: Switch Conf.Bank: No action
19.0A: Restore MCL: No action
19.10: Active Conf.Name: Not Available
19.11: Active Conf.Rev: Not Available
19.20: Inact.Conf.Name: Not Available
19.21: Inact.Conf.Rev: Not Available
19.30: IP PARAMETERS:
19.31: IP address: Not Available
19.32: Subnet mask: Not Available
19.33: Gateway: Not Available
19.40: SNTP PARAMETERS:
19.41: SNTP Server 1: Not Available
19.42: SNTP Server 2: Not Available
19.50: IEC 61850 SCL:
19.51: IED Name: Not Available
19.60: IEC 61850 GOOSE:
19.70: GoEna: 00000001
19.71: Test Mode: 00000000
19.73: Ignore Test Flag: No

CTRL I/P LABELS

29.01: Control Input 1: Control Input 1
29.02: Control Input 2: Control Input 2
29.03: Control Input 3: Control Input 3
29.04: Control Input 4: Control Input 4
29.05: Control Input 5: Control Input 5
29.06: Control Input 6: Control Input 6
29.07: Control Input 7: Control Input 7
29.08: Control Input 8: Control Input 8
29.09: Control Input 9: Control Input 9
29.0A: Control Input 10: Control Input 10
29.0B: Control Input 11: Control Input 11
29.0C: Control Input 12: Control Input 12
29.0D: Control Input 13: Control Input 13
29.0E: Control Input 14: Control Input 14
29.0F: Control Input 15: Control Input 15
29.10: Control Input 16: Control Input 16
29.11: Control Input 17: Control Input 17
29.12: Control Input 18: Control Input 18
29.13: Control Input 19: Control Input 19
29.14: Control Input 20: Control Input 20
29.15: Control Input 21: Control Input 21
29.16: Control Input 22: Control Input 22
29.17: Control Input 23: Control Input 23
29.18: Control Input 24: Control Input 24
29.19: Control Input 25: Control Input 25
29.1A: Control Input 26: Control Input 26
29.1B: Control Input 27: Control Input 27
29.1C: Control Input 28: Control Input 28
29.1D: Control Input 29: Control Input 29
29.1E: Control Input 30: Control Input 30



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29.1F: Control Input 31:	Control Input 31
29.20: Control Input 32:	Control Input 32
Group 1	
GROUP 1 SYSTEM CONFIG	
30.02: Phase Sequence:	Standard ABC
30.03: 2NDHARM BLOCKING:	
30.04: 2nd Harmonic:	Disabled
GROUP 1 OVERCURRENT	
35.23: I>1 Function:	DT
35.24: I>1 Direction:	Directional Fwd
35.27: I>1 Current Set:	185.0 A
35.29: I>1 Time Delay:	1.000 s
35.2F: I>1 tRESET:	0 s
35.32: I>2 Function:	DT
35.33: I>2 Direction:	Directional Fwd
35.36: I>2 Current Set:	1200 A
35.38: I>2 Time Delay:	100.0 ms
35.3E: I>2 tRESET:	0 s
35.40: I>3 Status:	Disabled
35.47: I>4 Status:	Disabled
35.4E: I> Blocking:	000001111
35.4F: I> Char Angle:	45.00 deg
35.51: V CONTROLLED O/C:	
35.52: VCO Status:	Disabled
GROUP 1 EARTH FAULT 1	
38.01: IN1> Input:	Measured
38.25: IN1>1 Function:	DT
38.26: IN1>1 Direction:	Directional Fwd
38.29: IN1>1 Current:	50.00 A
38.2C: IN1>1 Time Delay:	1.000 s
38.33: IN1>1 tRESET:	0 s
38.36: IN1>2 Function:	DT
38.37: IN1>2 Direction:	Directional Fwd
38.3A: IN1>2 Current:	215.0 A
38.3D: IN1>2 Time Delay:	50.00 ms
38.44: IN1>2 tRESET:	0 s
38.46: IN1>3 Status:	Disabled
38.4D: IN1>4 Status:	Enabled
38.4E: IN1>4 Direction:	Directional Fwd
38.51: IN1>4 Current:	125.0 A
38.52: IN1>4 Time Delay:	20.00 ms
38.54: IN1> Blocking:	00001111
38.55: IN1> POL:	
38.56: IN1> Char Angle:	-15.00 deg
38.57: IN1> Pol: Zero Sequence	
38.59: IN1> VNpol Set:	18.18 kV
GROUP 1 SEF/REF PROT'N	
3A.01: SEF/REF Options:	Hi Z REF
3A.60: RESTRICTED E/F:	
3A.65: IREF> Is:	175.0 A
GROUP 1 CB FAIL & I<	
45.08: UNDER CURRENT:	
45.09: I< Current Set:	50.00 A
45.0A: IN< Current Set:	50.00 A
45.0B: ISEF< Current:	35.00 A
GROUP 1 INPUT LABELS	
4A.01: Opto Input 1:	PRV 2 TRIP
4A.02: Opto Input 2:	PRV 1 TRIP
4A.03: Opto Input 3:	OTI ALARM
4A.04: Opto Input 4:	WTI HV TRIP
4A.05: Opto Input 5:	MOG ALARM
4A.06: Opto Input 6:	BUCHOLZ TRIP
4A.07: Opto Input 7:	86B OPTD
4A.08: Opto Input 8:	86B SUPVN
GROUP 1 OUTPUT LABELS	
4B.01: Relay 1:	TRIP86A



.....	4B.02: Relay 2:	TRIP86B
.....	4B.03: Relay 3:	TEST TRIP
.....	4B.04: Relay 4:	Output R4
.....	4B.05: Relay 5:	51N UP STR_64RHV
.....	4B.06: Relay 6:	Output R6
.....	4B.07: Relay 7:	51N UP STR TO LV
.....	Group 2	
.....	Group 3	
.....	Group 4	

100 MVA TIE-2

Differential Protection Main 1



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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Parameters
DeviceID
DVICE
000.000: Device type: 632
002.120: Software version: 621.00
002.122: SW date: 11.02.09 dd.mm.yy
002.103: SW version communic.: 2.23
002.059: DM IEC 61850 version: 221
002.123: Language version: 800.0
002.121: Text vers.data model: 0
002.124: F number: 2.350074.1
001.000: AFS Order No.: 84901140
001.200: PCS Order No.: P6328491140PD02L00
000.003: Order ext. No. 1: 308
000.004: Order ext. No. 2: 408
000.005: Order ext. No. 3: 947
000.006: Order ext. No. 4: 462
000.007: Order ext. No. 5: 621
000.008: Order ext. No. 6: 0
000.009: Order ext. No. 7: 0
000.010: Order ext. No. 8: 0
000.011: Order ext. No. 9: 0
000.012: Order ext. No. 10: 0
000.013: Order ext. No. 11: 0
000.014: Order ext. No. 12: 0
000.015: Order ext. No. 13: 0
000.016: Order ext. No. 14: 0
000.017: Order ext. No. 15: 0
000.018: Order ext. No. 16: 0
000.019: Order ext. No. 17: 0
000.020: Order ext. No. 18: 0
000.021: Order ext. No. 19: 0
000.022: Order ext. No. 20: 0
000.023: Order ext. No. 21: 0
000.024: Order ext. No. 22: 0
000.025: Order ext. No. 23: 0
000.026: Order ext. No. 24: 0
000.027: Order ext. No. 25: 0
000.028: Order ext. No. 26: 0
000.029: Order ext. No. 27: 0
086.050: Module var. slot 1: Module P: 9651472
086.193: Module vers. slot 1: Version F
086.051: Module var. slot 2: Not fitted
086.194: Module vers. slot 2: Not fitted
086.052: Module var. slot 3: Module T: 9650325
086.195: Module vers. slot 3: Version J
086.053: Module var. slot 4: Not fitted
086.196: Module vers. slot 4: Not fitted
086.054: Module var. slot 5: Module T: 9650329
086.197: Module vers. slot 5: Version L
086.055: Module var. slot 6: Not fitted
086.198: Module vers. slot 6: Not fitted
086.056: Module var. slot 7: Not fitted
086.199: Module vers. slot 7: Not fitted
086.057: Module var. slot 8: Not fitted
086.200: Module vers. slot 8: Not fitted
086.058: Module var. slot 9: Not fitted
086.201: Module vers. slot 9: Not fitted
086.059: Module var. slot 10: Not fitted
086.202: Module vers. slot 10: Not fitted
086.060: Module var. slot 11: Not fitted
086.203: Module vers. slot 11: Not fitted
086.061: Module var. slot 12: Not fitted
086.204: Module vers. slot 12: Not fitted
086.062: Module var. slot 13: Not fitted
086.205: Module vers. slot 13: Not fitted



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086.063:	Module var. slot 14:	Not fitted
086.206:	Module vers. slot 14:	Not fitted
086.064:	Module var. slot 15:	Not fitted
086.207:	Module vers. slot 15:	Not fitted
086.065:	Module var. slot 16:	Module X: 9651362
086.208:	Module vers. slot 16:	Version I
086.066:	Module var. slot 17:	Not fitted
086.209:	Module vers. slot 17:	Not fitted
086.067:	Module var. slot 18:	Not fitted
086.210:	Module vers. slot 18:	Not fitted
086.068:	Module var. slot 19:	Not fitted
086.211:	Module vers. slot 19:	Not fitted
086.069:	Module var. slot 20:	Module V: 9651357
086.212:	Module vers. slot 20:	Version V
086.070:	Module var. slot 21:	Not fitted
086.213:	Module vers. slot 21:	Not fitted
086.047:	Variant of module A:	Module A: 9651471
086.190:	Version of module A:	Version A
104.061:	MAC address module A:	00-02-84-90-77-23
086.048:	Variant of module L:	Module L: 9651473
086.191:	Version of module L:	Version D
086.049:	Variant of module B:	Module B: 0336188
086.192:	Version of module B:	Version Z
086.046:	Variant module B (a):	Module B: 0337870
086.189:	Version module B (a):	Version A
000.040:	Customer ID data 1:	0.00
000.041:	Customer ID data 2:	0.00
000.042:	Customer ID data 3:	0.00
000.043:	Customer ID data 4:	0.00
000.044:	Customer ID data 5:	0.00
000.045:	Customer ID data 6:	0.00
000.046:	Customer ID data 7:	0.00
000.047:	Customer ID data 8:	0.00
001.201:	Location:	
000.035:	Device ID:	0
000.036:	Substation ID:	0
000.037:	Feeder ID:	0
000.048:	Device password 1:	0
000.049:	Device password 2:	0
002.131:	SW version DHMI:	1.15
002.132:	SW version DHMI DM:	1.10
LOC		
221.099:	Local HMI exists:	Yes
Config.parameters		
LOC		
003.020:	Language:	Reference language
003.021:	Decimal delimiter:	Dot
005.251:	Fct. reset key:	Without function
080.110:	Fct. read key:	FT_RC Fault recording 1 -->
030.238:	Fct. menu jmp list 1:	Without function
030.239:	Fct. menu jmp list 2:	Without function
053.007:	Fct. Operation Panel:	DIFF Diff. current 1 -->
053.005:	Fct. Overload Panel:	Without function
053.003:	Fct. Fault Panel: FT_DA	Diff. current 1 -->
031.075:	Hold-time for Panels:	10 s
003.014:	Autom. return time:	60 s
003.023:	Return time illumin.:	60 s
PC		
003.183:	Name of manufacturer:	AREVA D
003.068:	Bay address:	1
003.069:	Device address:	1
003.081:	Baud rate:	19.2 kBaud
003.181:	Parity bit:	Even
003.187:	Spontan. sig. enable:	None
003.189:	Select. spontan.sig.:	Without function
003.084:	Transm.enab.cycl.dat:	Without



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003.185: Cycl. data ILS tel.: Without function
003.055: Delta V: 3.0 %Vnom
003.056: Delta I: 3.0 %Inom
003.057: Delta f: 2.0 %fnom
003.155: Delta meas.v.ILS tel: 3.0
003.058: Delta t: 1 min
003.188: Time-out: 1 min

 COMM2

056.057: Function group COMM2: With
103.170: General enable USER: No
103.165: Line idle state: Light on / high
103.071: Baud rate: 19.2 kBaud
103.171: Parity bit: Even
103.176: Dead time monitoring: Yes
103.202: Mon. time polling: 25 s
103.203: Positive ackn. fault: No
103.072: Octet comm. address: 1
103.161: Name of manufacturer: ALSTOM D
103.073: Octet address ASDU: 1
103.177: Spontan. sig. enable: None
103.179: Select. spontan.sig.: Without function
103.074: Transm.enab.cycl.dat: Without
103.175: Cycl. data ILS tel.: Without function
103.050: Delta V: 3.0 %Vnom
103.051: Delta I: 3.0 %Inom
103.052: Delta f: 2.0 %fnom
103.150: Delta meas.v.ILS tel: 3.0
103.053: Delta t: 1 min

 IEC

056.059: Function group IEC: With
104.000: General enable USER: Yes
104.058: Enable configuration: don't execute
104.056: Ethernet media: Copper
104.057: IED name: P632T2
104.062: TCP keep-alive timer: 10 s
104.001: IP address: 10.22.91.73
104.005: Subnet mask: 255.255.255.0
104.011: Gateway address: 0.0.0.0
104.200: SNTP operating mode: Request from server
104.201: SNTP poll cycle time: 60 s
104.202: SNTP server 1 IP: 10.22.91.100
104.210: SNTP server 2 IP: 0.0.0.0
104.206: Diff. local time: 330 min
104.207: Diff. dayl.sav. time: 0 min
104.219: Switch.dayl.sav.time: Yes
104.220: Dayl.sav.time start: Last
104.221: Dayl.sav.time st. d: Sunday
104.222: Dayl.sav.time st. m: March
104.223: Dayl.sav.t.st.0:00 +: 0 min
104.225: Dayl.sav.time end: Last
104.226: Dayl.sav.time end d: Sunday
104.227: Dayl.sav.time end m: October
104.228: Dayl.sav.t.end 0:00+: 180 min
104.051: Deadband value: 100
104.229: Update Measurements: 5 s
104.230: Dead band IP: 100
104.231: Dead band IN: 100
104.232: Dead band V: 100
104.234: Dead band f: 100
104.236: Dead band phi: 100
104.238: Dead band min/max: 100
104.240: Dead band temp.: 100
104.241: Dead band 20mA: 100
221.081: DEV control model: SBO enh. security

 GOOSE

056.068: Function group GOOSE: With



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106.001:	General enable USER:	Yes
106.003:	Multic. MAC address:	01-0C-CD-01-00-00
106.004:	Application ID:	3024
106.002:	Goose ID:	P632T2
106.006:	VLAN Identifier:	0
106.007:	VLAN Priority:	4
106.008:	DataSet Reference:	P632T2System/LLN0\$Go
106.009:	DataSet Cfg.Revision:	100
106.011:	Output 1 fct.assig.:	Without function
106.013:	Output 2 fct.assig.:	Without function
106.015:	Output 3 fct.assig.:	Without function
106.017:	Output 4 fct.assig.:	LOGIC Input 10 EXT
106.019:	Output 5 fct.assig.:	Without function
106.021:	Output 6 fct.assig.:	Without function
106.023:	Output 7 fct.assig.:	Without function
106.025:	Output 8 fct.assig.:	Without function
106.027:	Output 9 fct.assig.:	Without function
106.029:	Output 10 fct.assig.:	Without function
106.031:	Output 11 fct.assig.:	Without function
106.033:	Output 12 fct.assig.:	Without function
106.035:	Output 13 fct.assig.:	Without function
106.037:	Output 14 fct.assig.:	Without function
106.039:	Output 15 fct.assig.:	Without function
106.041:	Output 16 fct.assig.:	Without function
106.043:	Output 17 fct.assig.:	Without function
106.045:	Output 18 fct.assig.:	Without function
106.047:	Output 19 fct.assig.:	Without function
106.049:	Output 20 fct.assig.:	Without function
106.051:	Output 21 fct.assig.:	Without function
106.053:	Output 22 fct.assig.:	Without function
106.055:	Output 23 fct.assig.:	Without function
106.057:	Output 24 fct.assig.:	Without function
106.059:	Output 25 fct.assig.:	Without function
106.061:	Output 26 fct.assig.:	Without function
106.063:	Output 27 fct.assig.:	Without function
106.065:	Output 28 fct.assig.:	Without function
106.067:	Output 29 fct.assig.:	Without function
106.069:	Output 30 fct.assig.:	Without function
106.071:	Output 31 fct.assig.:	Without function
106.073:	Output 32 fct.assig.:	Without function
107.000:	Input 1 Applic. ID:	Blocked
107.001:	Input 1 Goose ID:	
107.002:	Input 1 DataSet Ref:	System/LLN0\$GooseST
107.003:	Input 1 DataObj Ind:	1
107.004:	Input 1 DataAttr Ind:	1
107.005:	Input 1 default:	0
107.006:	Input 1 fct.assig.:	Without function
107.010:	Input 2 Applic. ID:	Blocked
107.011:	Input 2 Goose ID:	
107.012:	Input 2 DataSet Ref:	System/LLN0\$GooseST
107.013:	Input 2 DataObj Ind:	1
107.014:	Input 2 DataAttr Ind:	1
107.015:	Input 2 default:	0
107.016:	Input 2 fct.assig.:	Without function
107.020:	Input 3 Applic. ID:	Blocked
107.021:	Input 3 Goose ID:	
107.022:	Input 3 DataSet Ref:	System/LLN0\$GooseST
107.023:	Input 3 DataObj Ind:	1
107.024:	Input 3 DataAttr Ind:	1
107.025:	Input 3 default:	0
107.026:	Input 3 fct.assig.:	Without function
107.030:	Input 4 Applic. ID:	Blocked
107.031:	Input 4 Goose ID:	
107.032:	Input 4 DataSet Ref:	System/LLN0\$GooseST
107.033:	Input 4 DataObj Ind:	1
107.034:	Input 4 DataAttr Ind:	1



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107.035: Input 4 default:	0
107.036: Input 4 fct.assig.:	Without function
107.040: Input 5 Applic. ID:	Blocked
107.041: Input 5 Goose ID:	
107.042: Input 5 DataSet Ref:	System/LLN0\$GooseST
107.043: Input 5 DataObj Ind:	1
107.044: Input 5 DataAttr Ind:	1
107.045: Input 5 default:	0
107.046: Input 5 fct.assig.:	Without function
107.050: Input 6 Applic. ID:	Blocked
107.051: Input 6 Goose ID:	
107.052: Input 6 DataSet Ref:	System/LLN0\$GooseST
107.053: Input 6 DataObj Ind:	1
107.054: Input 6 DataAttr Ind:	1
107.055: Input 6 default:	0
107.056: Input 6 fct.assig.:	Without function
107.060: Input 7 Applic. ID:	Blocked
107.061: Input 7 Goose ID:	
107.062: Input 7 DataSet Ref:	System/LLN0\$GooseST
107.063: Input 7 DataObj Ind:	1
107.064: Input 7 DataAttr Ind:	1
107.065: Input 7 default:	0
107.066: Input 7 fct.assig.:	Without function
107.070: Input 8 Applic. ID:	Blocked
107.071: Input 8 Goose ID:	
107.072: Input 8 DataSet Ref:	System/LLN0\$GooseST
107.073: Input 8 DataObj Ind:	1
107.074: Input 8 DataAttr Ind:	1
107.075: Input 8 default:	0
107.076: Input 8 fct.assig.:	Without function
107.080: Input 9 Applic. ID:	Blocked
107.081: Input 9 Goose ID:	
107.082: Input 9 DataSet Ref:	System/LLN0\$GooseST
107.083: Input 9 DataObj Ind:	1
107.084: Input 9 DataAttr Ind:	1
107.085: Input 9 default:	0
107.086: Input 9 fct.assig.:	Without function
107.090: Input 10 Applic. ID:	Blocked
107.091: Input 10 Goose ID:	
107.092: Input 10 DataSet Ref:	System/LLN0\$GooseST
107.093: Input 10 DataObj Ind:	1
107.094: Input 10 DataAttr Ind:	1
107.095: Input 10 default:	0
107.096: Input 10 fct.assig.:	Without function
107.100: Input 11 Applic. ID:	Blocked
107.101: Input 11 Goose ID:	
107.102: Input 11 DataSet Ref:	System/LLN0\$GooseST
107.103: Input 11 DataObj Ind:	1
107.104: Input 11 DataAttr Ind:	1
107.105: Input 11 default:	0
107.106: Input 11 fct.assig.:	Without function
107.110: Input 12 Applic. ID:	Blocked
107.111: Input 12 Goose ID:	
107.112: Input 12 DataSet Ref:	System/LLN0\$GooseST
107.113: Input 12 DataObj Ind:	1
107.114: Input 12 DataAttr Ind:	1
107.115: Input 12 default:	0
107.116: Input 12 fct.assig.:	Without function
107.120: Input 13 Applic. ID:	Blocked
107.121: Input 13 Goose ID:	
107.122: Input 13 DataSet Ref:	System/LLN0\$GooseST
107.123: Input 13 DataObj Ind:	1
107.124: Input 13 DataAttr Ind:	1
107.125: Input 13 default:	0
107.126: Input 13 fct.assig.:	Without function
107.130: Input 14 Applic. ID:	Blocked



Settings File Report
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107.131: Input 14 Goose ID:	
107.132: Input 14 DataSet Ref:	System/LLN0\$GooseST
107.133: Input 14 DataObj Ind:	1
107.134: Input 14 DatAttr Ind:	1
107.135: Input 14 default:	0
107.136: Input 14 fct.assig.:	Without function
107.140: Input 15 Applic. ID:	Blocked
107.141: Input 15 Goose ID:	
107.142: Input 15 DataSet Ref:	System/LLN0\$GooseST
107.143: Input 15 DataObj Ind:	1
107.144: Input 15 DatAttr Ind:	1
107.145: Input 15 default:	0
107.146: Input 15 fct.assig.:	Without function
107.150: Input 16 Applic. ID:	Blocked
107.151: Input 16 Goose ID:	
107.152: Input 16 DataSet Ref:	System/LLN0\$GooseST
107.153: Input 16 DataObj Ind:	1
107.154: Input 16 DatAttr Ind:	1
107.155: Input 16 default:	0
107.156: Input 16 fct.assig.:	Without function
108.000: Ext.Dev01 Applic. ID:	Blocked
108.001: Ext.Dev01 Goose ID:	
108.002: Ext.Dev01 DataSetRef:	System/LLN0\$GooseST
108.003: Ext.Dev01 DataObjInd:	1
108.004: Ext.Dev01 DatAttrInd:	1
108.005: Ext.Dev01 default:	Interm. pos.
108.010: Ext.Dev02 Applic. ID:	Blocked
108.011: Ext.Dev02 Goose ID:	
108.012: Ext.Dev02 DataSetRef:	System/LLN0\$GooseST
108.013: Ext.Dev02 DataObjInd:	1
108.014: Ext.Dev02 DatAttrInd:	1
108.015: Ext.Dev02 default:	Interm. pos.
108.020: Ext.Dev03 Applic. ID:	Blocked
108.021: Ext.Dev03 Goose ID:	
108.022: Ext.Dev03 DataSetRef:	System/LLN0\$GooseST
108.023: Ext.Dev03 DataObjInd:	1
108.024: Ext.Dev03 DatAttrInd:	1
108.025: Ext.Dev03 default:	Interm. pos.
108.030: Ext.Dev04 Applic. ID:	Blocked
108.031: Ext.Dev04 Goose ID:	
108.032: Ext.Dev04 DataSetRef:	System/LLN0\$GooseST
108.033: Ext.Dev04 DataObjInd:	1
108.034: Ext.Dev04 DatAttrInd:	1
108.035: Ext.Dev04 default:	Interm. pos.
108.040: Ext.Dev05 Applic. ID:	Blocked
108.041: Ext.Dev05 Goose ID:	
108.042: Ext.Dev05 DataSetRef:	System/LLN0\$GooseST
108.043: Ext.Dev05 DataObjInd:	1
108.044: Ext.Dev05 DatAttrInd:	1
108.045: Ext.Dev05 default:	Interm. pos.
108.050: Ext.Dev06 Applic. ID:	Blocked
108.051: Ext.Dev06 Goose ID:	
108.052: Ext.Dev06 DataSetRef:	System/LLN0\$GooseST
108.053: Ext.Dev06 DataObjInd:	1
108.054: Ext.Dev06 DatAttrInd:	1
108.055: Ext.Dev06 default:	Interm. pos.
108.060: Ext.Dev07 Applic. ID:	Blocked
108.061: Ext.Dev07 Goose ID:	
108.062: Ext.Dev07 DataSetRef:	System/LLN0\$GooseST
108.063: Ext.Dev07 DataObjInd:	1
108.064: Ext.Dev07 DatAttrInd:	1
108.065: Ext.Dev07 default:	Interm. pos.
108.070: Ext.Dev08 Applic. ID:	Blocked
108.071: Ext.Dev08 Goose ID:	
108.072: Ext.Dev08 DataSetRef:	System/LLN0\$GooseST
108.073: Ext.Dev08 DataObjInd:	1



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108.074:	Ext.Dev08	DataAttrInd:	1
108.075:	Ext.Dev08	default:	Interm. pos.
108.080:	Ext.Dev09	Applic. ID:	Blocked
108.081:	Ext.Dev09	Goose ID:	
108.082:	Ext.Dev09	DataSetRef:	System/LLN0\$GooseST
108.083:	Ext.Dev09	DataObjInd:	1
108.084:	Ext.Dev09	DataAttrInd:	1
108.085:	Ext.Dev09	default:	Interm. pos.
108.090:	Ext.Dev10	Applic. ID:	Blocked
108.091:	Ext.Dev10	Goose ID:	
108.092:	Ext.Dev10	DataSetRef:	System/LLN0\$GooseST
108.093:	Ext.Dev10	DataObjInd:	1
108.094:	Ext.Dev10	DataAttrInd:	1
108.095:	Ext.Dev10	default:	Interm. pos.
108.100:	Ext.Dev11	Applic. ID:	Blocked
108.101:	Ext.Dev11	Goose ID:	
108.102:	Ext.Dev11	DataSetRef:	System/LLN0\$GooseST
108.103:	Ext.Dev11	DataObjInd:	1
108.104:	Ext.Dev11	DataAttrInd:	1
108.105:	Ext.Dev11	default:	Interm. pos.
108.110:	Ext.Dev12	Applic. ID:	Blocked
108.111:	Ext.Dev12	Goose ID:	
108.112:	Ext.Dev12	DataSetRef:	System/LLN0\$GooseST
108.113:	Ext.Dev12	DataObjInd:	1
108.114:	Ext.Dev12	DataAttrInd:	1
108.115:	Ext.Dev12	default:	Interm. pos.
108.120:	Ext.Dev13	Applic. ID:	Blocked
108.121:	Ext.Dev13	Goose ID:	
108.122:	Ext.Dev13	DataSetRef:	System/LLN0\$GooseST
108.123:	Ext.Dev13	DataObjInd:	1
108.124:	Ext.Dev13	DataAttrInd:	1
108.125:	Ext.Dev13	default:	Interm. pos.
108.130:	Ext.Dev14	Applic. ID:	Blocked
108.131:	Ext.Dev14	Goose ID:	
108.132:	Ext.Dev14	DataSetRef:	System/LLN0\$GooseST
108.133:	Ext.Dev14	DataObjInd:	1
108.134:	Ext.Dev14	DataAttrInd:	1
108.135:	Ext.Dev14	default:	Interm. pos.
108.140:	Ext.Dev15	Applic. ID:	Blocked
108.141:	Ext.Dev15	Goose ID:	
108.142:	Ext.Dev15	DataSetRef:	System/LLN0\$GooseST
108.143:	Ext.Dev15	DataObjInd:	1
108.144:	Ext.Dev15	DataAttrInd:	1
108.145:	Ext.Dev15	default:	Interm. pos.
108.150:	Ext.Dev16	Applic. ID:	Blocked
108.151:	Ext.Dev16	Goose ID:	
108.152:	Ext.Dev16	DataSetRef:	System/LLN0\$GooseST
108.153:	Ext.Dev16	DataObjInd:	1
108.154:	Ext.Dev16	DataAttrInd:	1
108.155:	Ext.Dev16	default:	Interm. pos.
110.000:	Ext.Dev17	Applic. ID:	Blocked
110.001:	Ext.Dev17	Goose ID:	
110.002:	Ext.Dev17	DataSetRef:	System/LLN0\$GooseST
110.003:	Ext.Dev17	DataObjInd:	1
110.004:	Ext.Dev17	DataAttrInd:	1
110.005:	Ext.Dev17	default:	Interm. pos.
110.010:	Ext.Dev18	Applic. ID:	Blocked
110.011:	Ext.Dev18	Goose ID:	
110.012:	Ext.Dev18	DataSetRef:	System/LLN0\$GooseST
110.013:	Ext.Dev18	DataObjInd:	1
110.014:	Ext.Dev18	DataAttrInd:	1
110.015:	Ext.Dev18	default:	Interm. pos.
110.020:	Ext.Dev19	Applic. ID:	Blocked
110.021:	Ext.Dev19	Goose ID:	
110.022:	Ext.Dev19	DataSetRef:	System/LLN0\$GooseST
110.023:	Ext.Dev19	DataObjInd:	1



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110.024:	Ext.Dev19	DataAttrInd:	1
110.025:	Ext.Dev19	default:	Interm. pos.
110.030:	Ext.Dev20	Applic. ID:	Blocked
110.031:	Ext.Dev20	Goose ID:	
110.032:	Ext.Dev20	DataSetRef:	System/LLN0\$GooseST
110.033:	Ext.Dev20	DataObjInd:	1
110.034:	Ext.Dev20	DataAttrInd:	1
110.035:	Ext.Dev20	default:	Interm. pos.
110.040:	Ext.Dev21	Applic. ID:	Blocked
110.041:	Ext.Dev21	Goose ID:	
110.042:	Ext.Dev21	DataSetRef:	System/LLN0\$GooseST
110.043:	Ext.Dev21	DataObjInd:	1
110.044:	Ext.Dev21	DataAttrInd:	1
110.045:	Ext.Dev21	default:	Interm. pos.
110.050:	Ext.Dev22	Applic. ID:	Blocked
110.051:	Ext.Dev22	Goose ID:	
110.052:	Ext.Dev22	DataSetRef:	System/LLN0\$GooseST
110.053:	Ext.Dev22	DataObjInd:	1
110.054:	Ext.Dev22	DataAttrInd:	1
110.055:	Ext.Dev22	default:	Interm. pos.
110.060:	Ext.Dev23	Applic. ID:	Blocked
110.061:	Ext.Dev23	Goose ID:	
110.062:	Ext.Dev23	DataSetRef:	System/LLN0\$GooseST
110.063:	Ext.Dev23	DataObjInd:	1
110.064:	Ext.Dev23	DataAttrInd:	1
110.065:	Ext.Dev23	default:	Interm. pos.
110.066:	Ext.Dev24	Applic. ID:	Blocked
110.071:	Ext.Dev24	Goose ID:	
110.072:	Ext.Dev24	DataSetRef:	System/LLN0\$GooseST
110.073:	Ext.Dev24	DataObjInd:	1
110.074:	Ext.Dev24	DataAttrInd:	1
110.075:	Ext.Dev24	default:	Interm. pos.
110.080:	Ext.Dev25	Applic. ID:	Blocked
110.081:	Ext.Dev25	Goose ID:	
110.082:	Ext.Dev25	DataSetRef:	System/LLN0\$GooseST
110.083:	Ext.Dev25	DataObjInd:	1
110.084:	Ext.Dev25	DataAttrInd:	1
110.085:	Ext.Dev25	default:	Interm. pos.
110.090:	Ext.Dev26	Applic. ID:	Blocked
110.091:	Ext.Dev26	Goose ID:	
110.092:	Ext.Dev26	DataSetRef:	System/LLN0\$GooseST
110.093:	Ext.Dev26	DataObjInd:	1
110.094:	Ext.Dev26	DataAttrInd:	1
110.095:	Ext.Dev26	default:	Interm. pos.
110.100:	Ext.Dev27	Applic. ID:	Blocked
110.101:	Ext.Dev27	Goose ID:	
110.102:	Ext.Dev27	DataSetRef:	System/LLN0\$GooseST
110.103:	Ext.Dev27	DataObjInd:	1
110.104:	Ext.Dev27	DataAttrInd:	1
110.105:	Ext.Dev27	default:	Interm. pos.
110.110:	Ext.Dev28	Applic. ID:	Blocked
110.111:	Ext.Dev28	Goose ID:	
110.112:	Ext.Dev28	DataSetRef:	System/LLN0\$GooseST
110.113:	Ext.Dev28	DataObjInd:	1
110.114:	Ext.Dev28	DataAttrInd:	1
110.115:	Ext.Dev28	default:	Interm. pos.
110.120:	Ext.Dev29	Applic. ID:	Blocked
110.121:	Ext.Dev29	Goose ID:	
110.122:	Ext.Dev29	DataSetRef:	System/LLN0\$GooseST
110.123:	Ext.Dev29	DataObjInd:	1
110.124:	Ext.Dev29	DataAttrInd:	1
110.125:	Ext.Dev29	default:	Interm. pos.
110.130:	Ext.Dev30	Applic. ID:	Blocked
110.131:	Ext.Dev30	Goose ID:	
110.132:	Ext.Dev30	DataSetRef:	System/LLN0\$GooseST
110.133:	Ext.Dev30	DataObjInd:	1



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110.134:	Ext.Dev30	DatAttrInd:	1
110.135:	Ext.Dev30	default:	Interm. pos.
110.140:	Ext.Dev31	Applic. ID:	Blocked
110.141:	Ext.Dev31	Goose ID:	
110.142:	Ext.Dev31	DataSetRef:	System/LLN0\$GooseST
110.143:	Ext.Dev31	DataObjInd:	1
110.144:	Ext.Dev31	DatAttrInd:	1
110.145:	Ext.Dev31	default:	Interm. pos.
110.150:	Ext.Dev32	Applic. ID:	Blocked
110.151:	Ext.Dev32	Goose ID:	
110.152:	Ext.Dev32	DataSetRef:	System/LLN0\$GooseST
110.153:	Ext.Dev32	DataObjInd:	1
110.154:	Ext.Dev32	DatAttrInd:	1
110.155:	Ext.Dev32	default:	Interm. pos.
GSSE			
056.060:	Function group GSSE:		Without
F_KEY			
080.112:	Fct. assignm. F1:		Without function
080.113:	Fct. assignm. F2:		Without function
080.114:	Fct. assignm. F3:		Without function
080.115:	Fct. assignm. F4:		Without function
080.116:	Fct. assignm. F5:		Without function
080.117:	Fct. assignm. F6:		FT_RC Trigger EXT
080.132:	Operating mode F1:		Key
080.133:	Operating mode F2:		Key
080.134:	Operating mode F3:		Key
080.135:	Operating mode F4:		Key
080.136:	Operating mode F5:		Key
080.137:	Operating mode F6:		Key
003.037:	Return time fct.keys:		10 s
INP			
010.220:	Filter:		20
192.002:	Fct. assignm. U 1601:		LOGIC Input 5 EXT
192.006:	Fct. assignm. U 1602:		LOGIC Input 6 EXT
192.010:	Fct. assignm. U 1603:		LOGIC Input 7 EXT
192.014:	Fct. assignm. U 1604:		LOGIC Input 8 EXT
192.018:	Fct. assignm. U 1605:		LOGIC Input 9 EXT
192.022:	Fct. assignm. U 1606:		LOGIC Input 10 EXT
153.087:	Fct. assignm. U 2001:		LOGIC Input 1 EXT
153.090:	Fct. assignm. U 2002:		LOGIC Input 2 EXT
153.093:	Fct. assignm. U 2003:		LOGIC Input 3 EXT
153.096:	Fct. assignm. U 2004:		LOGIC Input 4 EXT
192.003:	Oper. mode U 1601:		Active "high"
192.007:	Oper. mode U 1602:		Active "high"
192.011:	Oper. mode U 1603:		Active "high"
192.015:	Oper. mode U 1604:		Active "high"
192.019:	Oper. mode U 1605:		Active "high"
192.023:	Oper. mode U 1606:		Active "high"
153.088:	Oper. mode U 2001:		Active "low"
153.091:	Oper. mode U 2002:		Active "high"
153.094:	Oper. mode U 2003:		Active "high"
153.097:	Oper. mode U 2004:		Active "high"
OUTP			
171.002:	Fct. assignm. K 1601:		LOGIC Output 1
171.006:	Fct. assignm. K 1602:		DTOC2 Starting IN>
171.010:	Fct. assignm. K 1603:		DTOC2 Starting IN>
171.014:	Fct. assignm. K 1604:		Without function
171.018:	Fct. assignm. K 1605:		Without function
171.022:	Fct. assignm. K 1606:		Without function
171.026:	Fct. assignm. K 1607:		Without function
171.030:	Fct. assignm. K 1608:		Without function
151.201:	Fct. assignm. K 2001:		LOGIC Output 1
151.204:	Fct. assignm. K 2002:		LOGIC Output 1
151.207:	Fct. assignm. K 2003:		LOGIC Output 1
151.210:	Fct. assignm. K 2004:		Without function
151.213:	Fct. assignm. K 2005:		Without function



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.....	151.216: Fct. assignm. K 2006:	Without function
.....	151.219: Fct. assignm. K 2007:	Without function
.....	151.222: Fct. assignm. K 2008:	LOGIC Output 32
.....	171.003: Oper. mode K 1601:	ES updating
.....	171.007: Oper. mode K 1602:	ES updating
.....	171.011: Oper. mode K 1603:	ES updating
.....	171.015: Oper. mode K 1604:	ES updating
.....	171.019: Oper. mode K 1605:	ES updating
.....	171.023: Oper. mode K 1606:	ES updating
.....	171.027: Oper. mode K 1607:	ES updating
.....	171.031: Oper. mode K 1608:	ES updating
.....	151.202: Oper. mode K 2001:	ES updating
.....	151.205: Oper. mode K 2002:	ES updating
.....	151.208: Oper. mode K 2003:	ES updating
.....	151.211: Oper. mode K 2004:	ES updating
.....	151.214: Oper. mode K 2005:	ES updating
.....	151.217: Oper. mode K 2006:	ES updating
.....	151.220: Oper. mode K 2007:	ES updating
.....	151.223: Oper. mode K 2008:	ES updating
.....	 MEASO	
.....	056.020: Function group MEASO:	Without
.....	 LED	
.....	 085.184: Fct.assign. H 1 green:	MAIN Healthy
.....	 085.001: Fct.assign. H 2 yell.:	MAIN Blocked/faulty
.....	 085.004: Fct.assign. H 3 yell.:	SFMON Warning (LED)
.....	085.007: Fct.assign. H 4 red:	MAIN Gen. trip signal 1
.....	085.057: Fct.assign. H 4 green:	Without function
.....	085.010: Fct.assign. H 5 red:	DIFF Trip signal 1
.....	085.060: Fct.assign. H 5 green:	Without function
.....	085.013: Fct.assign. H 6 red:	DIFF Trip signal 2
.....	085.063: Fct.assign. H 6 green:	Without function
.....	085.016: Fct.assign. H 7 red:	DIFF Trip signal 3
.....	085.066: Fct.assign. H 7 green:	Without function
.....	085.019: Fct.assign. H 8 red:	V/f Trip signal tV/f(t)
.....	085.069: Fct.assign. H 8 green:	Without function
.....	085.022: Fct.assign. H 9 red:	DTOC2 Trip signal tIN>
.....	085.072: Fct.assign. H 9 green:	Without function
.....	085.025: Fct.assign. H10 red:	LOGIC Input 1 EXT
.....	085.075: Fct.assign. H10 green:	Without function
.....	085.028: Fct.assign. H11 red:	LOGIC Input 8 EXT
.....	085.078: Fct.assign. H11 green:	Without function
.....	085.031: Fct.assign. H12 rot:	V/f tV/f> elapsed
.....	085.081: Fct.assign. H12 green:	Without function
.....	085.034: Fct.assign. H13 red:	Without function
.....	085.084: Fct.assign. H13 green:	Without function
.....	085.037: Fct.assign. H14 red:	Without function
.....	085.087: Fct.assign. H14 green:	Without function
.....	085.040: Fct.assign. H15 red:	Without function
.....	085.090: Fct.assign. H15 green:	Without function
.....	085.043: Fct.assign. H16 red:	Without function
.....	085.093: Fct.assign. H16 green:	Without function
.....	 085.185: Fct.assign. H17 red:	LOC Edit mode
.....	085.131: Fct.assign. H18 red:	Without function
.....	085.161: Fct.assign. H18 green:	Without function
.....	085.134: Fct.assign. H19 red:	Without function
.....	085.164: Fct.assign. H19 green:	Without function
.....	085.137: Fct.assign. H20 red:	Without function
.....	085.167: Fct.assign. H20 green:	Without function
.....	085.140: Fct.assign. H21 red:	Without function
.....	085.170: Fct.assign. H21 green:	Without function
.....	085.143: Fct.assign. H22 red:	DTOC2 Starting IN>
.....	085.173: Fct.assign. H22 green:	Without function
.....	085.146: Fct.assign. H23 red:	Without function
.....	085.177: Fct.assign. H23 green:	Without function
.....	 085.182: Operating mode H 1:	ES updating
.....	 085.002: Operating mode H 2:	ES updating



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085.005: Operating mode H 3: ES updating
085.008: Operating mode H 4: ES reset (fault)
085.011: Operating mode H 5: ES manual reset
085.014: Operating mode H 6: ES manual reset
085.017: Operating mode H 7: ES manual reset
085.020: Operating mode H 8: ES manual reset
085.023: Operating mode H 9: ES manual reset
085.026: Operating mode H 10: ES manual reset
085.029: Operating mode H 11: ES manual reset
085.032: Operating mode H 12: ES manual reset
085.035: Operating mode H 13: ES manual reset
085.038: Operating mode H 14: ES manual reset
085.041: Operating mode H 15: ES manual reset
085.044: Operating mode H 16: ES updating
085.183: Operating mode H 17: ES updating
085.132: Operating mode H 18: ES updating
085.135: Operating mode H 19: ES updating
085.138: Operating mode H 20: ES updating
085.141: Operating mode H 21: ES updating
085.144: Operating mode H 22: ES manual reset
085.147: Operating mode H 23: ES updating

MAIN

003.169: Chann.assign.COMM1/2: COMM1->chann.1,(2-2)
103.210: Prim.Source TimeSync: COMM1
103.211: BackupSourceTimeSync: COMM2/PC
103.212: Time sync. time-out: Blocked

FT_RC

035.160: Rec. analog chann. 1: Current IA,a
035.161: Rec. analog chann. 2: Current IB,a
035.162: Rec. analog chann. 3: Current IC,a
035.163: Rec. analog chann. 4: Current IY,a
035.164: Rec. analog chann. 5: Current IA,b
035.165: Rec. analog chann. 6: Current IB,b
035.166: Rec. analog chann. 7: Current IC,b
035.167: Rec. analog chann. 8: Current IY,b
035.168: Rec. analog chann. 9: Voltage V

DIFF

056.027: Function group DIFF: With

REF_1

056.037: Function group REF_1: Without

REF_2

056.038: Function group REF_2: Without

DTOC1

056.031: Function group DTOC1: Without

DTOC2

056.032: Function group DTOC2: With

IDMT1

056.051: Function group IDMT1: Without

IDMT2

056.061: Function group IDMT2: Without

THRM1

056.054: Function group THRM1: Without

V<>

056.010: Function group V<>: Without

f<>

056.033: Function group f<>: Without

V/f

056.056: Function group V/f: With

MCM_1

056.073: Function group MCM_1: Without

MCM_2

056.074: Function group MCM_2: Without

CBF_1

056.007: Function group CBF_1: Without

CBF_2

056.082: Function group CBF_2: Without



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LIM_1	056.042: Function group LIM_1:	Without
LIM_2	056.043: Function group LIM_2:	Without
LOGIC	056.017: Function group LOGIC:	With
Function parameters		
Global		
PC		
003.182: Command blocking:	No	
003.086: Sig./meas.val.block.:	No	
COMM2		
103.172: Command block. USER:	No	
103.076: Sig./meas.block.USER:	No	
OUTP		
021.014: Outp.rel.block USER:	No	
MAIN		
003.030: Device on-line: Yes (= on)		
003.012: Test mode USER:	No	
010.030: Nominal frequ. fnom:	50 Hz	
010.049: Phase sequence:	A - B - C	
019.020: Inom C.T.prim.,end a:	500 A	
019.021: Inom C.T.prim.,end b:	1750 A	
019.027: Inom C.T.Yprim,end a:	500 A	
019.028: Inom C.T.Yprim,end b:	1750 A	
010.002: Vnom V.T. prim.:	400.0 kV	
010.024: Inom device, end a:	1.0 A	
010.025: Inom device, end b:	1.0 A	
010.142: IY,nom device, end a:	1.0 A	
010.143: IY,nom device, end b:	1.0 A	
010.009: Vnom V.T. sec.:	110 V	
010.140: Conn.meas.circ. IP,a:	Standard	
010.150: Conn.meas.circ. IP,b:	Standard	
010.141: Conn.meas.circ. IY,a:	Standard	
010.151: Conn.meas.circ. IY,b:	Standard	
011.030: Meas. value rel. IP:	0.00 Inom	
011.048: Meas.value rel. Ineg:	0.000 Inom	
011.058: Meas.value rel. Ipos:	0.000 Inom	
011.031: Meas. value rel. IN:	0.000 Inom	
011.036: Meas. value rel. IY:	0.000 IN,nom	
011.032: Meas. value rel. V:	0.00 Vnom	
010.113: Settl. t. IP,max,del:	15.0 min	
005.248: Fct.assign. reset 1:	Without function	
005.249: Fct.assign. reset 2:	Without function	
021.021: Fct.assign. block. 1:	Without function	
021.022: Fct.assign. block. 2:	Without function	
021.048: Fct.assign. block. 3:	Without function	
021.049: Fct.assign. block. 4:	Without function	
021.012: Trip cmd.block. USER:	No	
021.001: Fct.assign.trip cmd.1:	V/f Trip signal tv/f(t) -->	
021.002: Fct.assign.trip cmd.2:	DIFF Trip signal -->	
021.046: Fct.assign.trip cmd.3:	Without function	
021.047: Fct.assign.trip cmd.4:	Without function	
021.003: Min.dur. trip cmd. 1:	0.25 s	
021.004: Min.dur. trip cmd. 2:	0.25 s	
021.032: Min.dur. trip cmd. 3:	0.25 s	
021.033: Min.dur. trip cmd. 4:	0.25 s	
021.023: Latching trip cmd. 1:	No	
021.024: Latching trip cmd. 2:	No	
021.025: Latching trip cmd. 3:	No	
021.026: Latching trip cmd. 4:	No	
021.031: Fct. assign. fault:	Without function	
021.017: Sig. asg. CB1 open:	Without function	
021.020: Sig. asg. CB1 closed:	Without function	
021.060: Sig. asg. CB2 closed:	Without function	
021.061: Sig. asg. CB2 open:	Without function	



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PSS	003.100: Control via USER:	No	
PSS	003.060: Param.subs.sel. USER:	Parameter subset 1	
PSS	003.063: Keep time:	Blocked	
SFMON	021.030: Fct. assign. warning:	Without function	
SFMON	021.018: Mon.sig. retention:	Blocked	
FT_RC	003.085: Fct. assign. trigger:	DIFF Trip signal	-->
FT_RC	016.018: Id>:	Blocked	
FT_RC	016.019: IR>:	Blocked	
FT_RC	003.078: Pre-fault time:	5 Periods	
FT_RC	003.079: Post-fault time:	2 Periods	
FT_RC	003.075: Max. recording time:	50 Periods	
General functions			
MAIN	016.096: Evaluation IN, end a:	Measured	
MAIN	016.097: Evaluation IN, end b:	Measured	
MAIN	018.009: Hold time dyn.param.:	Blocked	
DIFF	019.080: General enable USER:	Yes	
DIFF	019.016: Reference power Sref:	100.0 MVA	
DIFF	019.023: Ref. curr. Iref,a:	0.144 kA	
DIFF	019.024: Ref. curr. Iref,b:	1.673 kA	
DIFF	004.105: Matching fact. kam,a:	3.464	
DIFF	004.106: Matching fact. kam,b:	1.046	
DIFF	011.037: Meas. value rel. Id:	0.000 Iref	
DIFF	011.038: Meas. value rel. IR:	0.000 Iref	
DTC2	031.136: General enable USER:	Yes	
DTC2	019.104: Select. meas. input:	End b	
V/f	019.097: General enable USER:	Yes	
LOGIC	031.099: General enable USER:	Yes	
LOGIC	034.030: Set 1 USER:	No	
LOGIC	034.031: Set 2 USER:	No	
LOGIC	034.032: Set 3 USER:	No	
LOGIC	034.033: Set 4 USER:	No	
LOGIC	034.034: Set 5 USER:	No	
LOGIC	034.035: Set 6 USER:	No	
LOGIC	034.036: Set 7 USER:	No	
LOGIC	034.037: Set 8 USER:	No	
LOGIC	030.000: Fct.assignm. outp. 1:	DIFF Trip signal	-->
LOGIC	030.001: Op. mode t output 1:	Without timer stage	
LOGIC	030.002: Time t1 output 1:	0.00 s	
LOGIC	030.003: Time t2 output 1:	0.00 s	
LOGIC	044.000: Sig.assign. outp. 1:	Without function	
LOGIC	044.001: Sig.assign.outp. 1(t):	Without function	
LOGIC	030.004: Fct.assignm. outp. 2:	LOGIC Input 10 EXT	
LOGIC	030.005: Op. mode t output 2:	Without timer stage	
LOGIC	030.006: Time t1 output 2:	0.00 s	
LOGIC	030.007: Time t2 output 2:	0.00 s	
LOGIC	044.002: Sig.assign. outp. 2:	Without function	
LOGIC	044.003: Sig.assign.outp. 2(t):	Without function	
LOGIC	030.008: Fct.assignm. outp. 3:	Without function	
LOGIC	030.009: Op. mode t output 3:	Without timer stage	
LOGIC	030.010: Time t1 output 3:	0.00 s	
LOGIC	030.011: Time t2 output 3:	0.00 s	
LOGIC	044.004: Sig.assign. outp. 3:	Without function	
LOGIC	044.005: Sig.assign.outp. 3(t):	Without function	
LOGIC	030.012: Fct.assignm. outp. 4:	Without function	
LOGIC	030.013: Op. mode t output 4:	Without timer stage	
LOGIC	030.014: Time t1 output 4:	0.00 s	
LOGIC	030.015: Time t2 output 4:	0.00 s	
LOGIC	044.006: Sig.assign. outp. 4:	Without function	



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044.007: Sig.assig.outp. 4(t):	Without function
030.016: Fct.assignm. outp. 5:	Without function
030.017: Op. mode t output 5:	Without timer stage
030.018: Time t1 output 5:	0.00 s
030.019: Time t2 output 5:	0.00 s
044.008: Sig.assig. outp. 5:	Without function
044.009: Sig.assig.outp. 5(t):	Without function
030.020: Fct.assignm. outp. 6:	Without function
030.021: Op. mode t output 6:	Without timer stage
030.022: Time t1 output 6:	0.00 s
030.023: Time t2 output 6:	0.00 s
044.010: Sig.assig. outp. 6:	Without function
044.011: Sig.assig.outp. 6(t):	Without function
030.024: Fct.assignm. outp. 7:	Without function
030.025: Op. mode t output 7:	Without timer stage
030.026: Time t1 output 7:	0.00 s
030.027: Time t2 output 7:	0.00 s
044.012: Sig.assig. outp. 7:	Without function
044.013: Sig.assig.outp. 7(t):	Without function
030.028: Fct.assignm. outp. 8:	Without function
030.029: Op. mode t output 8:	Without timer stage
030.030: Time t1 output 8:	0.00 s
030.031: Time t2 output 8:	0.00 s
044.014: Sig.assig. outp. 8:	Without function
044.015: Sig.assig.outp. 8(t):	Without function
030.032: Fct.assignm. outp. 9:	Without function
030.033: Op. mode t output 9:	Without timer stage
030.034: Time t1 output 9:	0.00 s
030.035: Time t2 output 9:	0.00 s
044.016: Sig.assig. outp. 9:	Without function
044.017: Sig.assig.outp. 9(t):	Without function
030.036: Fct.assignm. outp.10:	Without function
030.037: Op. mode t output 10:	Without timer stage
030.038: Time t1 output 10:	0.00 s
030.039: Time t2 output 10:	0.00 s
044.018: Sig.assig. outp. 10:	Without function
044.019: Sig.assig.outp.10(t):	Without function
030.040: Fct.assignm. outp.11:	Without function
030.041: Op. mode t output 11:	Without timer stage
030.042: Time t1 output 11:	0.00 s
030.043: Time t2 output 11:	0.00 s
044.020: Sig.assig. outp. 11:	Without function
044.021: Sig.assig.outp.11(t):	Without function
030.044: Fct.assignm. outp.12:	Without function
030.045: Op. mode t output 12:	Without timer stage
030.046: Time t1 output 12:	0.00 s
030.047: Time t2 output 12:	0.00 s
044.022: Sig.assig. outp. 12:	Without function
044.023: Sig.assig.outp.12(t):	Without function
030.048: Fct.assignm. outp.13:	Without function
030.049: Op. mode t output 13:	Without timer stage
030.050: Time t1 output 13:	0.00 s
030.051: Time t2 output 13:	0.00 s
044.024: Sig.assig. outp. 13:	Without function
044.025: Sig.assig.outp.13(t):	Without function
030.052: Fct.assignm. outp.14:	Without function
030.053: Op. mode t output 14:	Without timer stage
030.054: Time t1 output 14:	0.00 s
030.055: Time t2 output 14:	0.00 s
044.026: Sig.assig. outp. 14:	Without function
044.027: Sig.assig.outp.14(t):	Without function
030.056: Fct.assignm. outp.15:	Without function
030.057: Op. mode t output 15:	Without timer stage
030.058: Time t1 output 15:	0.00 s
030.059: Time t2 output 15:	0.00 s
044.028: Sig.assig. outp. 15:	Without function



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044.029: Sig.assig.outp.15(t):	Without function
030.060: Fct.assignm. outp.16:	Without function
030.061: Op. mode t output 16:	Without timer stage
030.062: Time t1 output 16:	0.00 s
030.063: Time t2 output 16:	0.00 s
044.030: Sig.assig. outp. 16:	Without function
044.031: Sig.assig.outp.16(t):	Without function
030.064: Fct.assignm. outp.17:	Without function
030.065: Op. mode t output 17:	Without timer stage
030.066: Time t1 output 17:	0.00 s
030.067: Time t2 output 17:	0.00 s
044.032: Sig.assig. outp. 17:	Without function
044.033: Sig.assig.outp.17(t):	Without function
030.068: Fct.assignm. outp.18:	Without function
030.069: Op. mode t output 18:	Without timer stage
030.070: Time t1 output 18:	0.00 s
030.071: Time t2 output 18:	0.00 s
044.034: Sig.assig. outp. 18:	Without function
044.035: Sig.assig.outp.18(t):	Without function
030.072: Fct.assignm. outp.19:	Without function
030.073: Op. mode t output 19:	Without timer stage
030.074: Time t1 output 19:	0.00 s
030.075: Time t2 output 19:	0.00 s
044.036: Sig.assig. outp. 19:	Without function
044.037: Sig.assig.outp.19(t):	Without function
030.076: Fct.assignm. outp.20:	Without function
030.077: Op. mode t output 20:	Without timer stage
030.078: Time t1 output 20:	0.00 s
030.079: Time t2 output 20:	0.00 s
044.038: Sig.assig. outp. 20:	Without function
044.039: Sig.assig.outp.20(t):	Without function
030.080: Fct.assignm. outp.21:	Without function
030.081: Op. mode t output 21:	Without timer stage
030.082: Time t1 output 21:	0.00 s
030.083: Time t2 output 21:	0.00 s
044.040: Sig.assig. outp. 21:	Without function
044.041: Sig.assig.outp.21(t):	Without function
030.084: Fct.assignm. outp.22:	Without function
030.085: Op. mode t output 22:	Without timer stage
030.086: Time t1 output 22:	0.00 s
030.087: Time t2 output 22:	0.00 s
044.042: Sig.assig. outp. 22:	Without function
044.043: Sig.assig.outp.22(t):	Without function
030.088: Fct.assignm. outp.23:	Without function
030.089: Op. mode t output 23:	Without timer stage
030.090: Time t1 output 23:	0.00 s
030.091: Time t2 output 23:	0.00 s
044.044: Sig.assig. outp. 23:	Without function
044.045: Sig.assig.outp.23(t):	Without function
030.092: Fct.assignm. outp.24:	Without function
030.093: Op. mode t output 24:	Without timer stage
030.094: Time t1 output 24:	0.00 s
030.095: Time t2 output 24:	0.00 s
044.046: Sig.assig. outp. 24:	Without function
044.047: Sig.assig.outp.24(t):	Without function
030.096: Fct.assignm. outp.25:	Without function
030.097: Op. mode t output 25:	Without timer stage
030.098: Time t1 output 25:	0.00 s
030.099: Time t2 output 25:	0.00 s
044.048: Sig.assig. outp. 25:	Without function
044.049: Sig.assig.outp.25(t):	Without function
031.000: Fct.assignm. outp.26:	Without function
031.001: Op. mode t output 26:	Without timer stage
031.002: Time t1 output 26:	0.00 s
031.003: Time t2 output 26:	0.00 s
044.050: Sig.assig. outp. 26:	Without function



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044.051: Sig.assig.outp.26(t):	Without function
031.004: Fct.assignm. outp.27:	Without function
031.005: Op. mode t output 27:	Without timer stage
031.006: Time t1 output 27:	0.00 s
031.007: Time t2 output 27:	0.00 s
044.052: Sig.assig. outp. 27:	Without function
044.053: Sig.assig.outp.27(t):	Without function
031.008: Fct.assignm. outp.28:	Without function
031.009: Op. mode t output 28:	Without timer stage
031.010: Time t1 output 28:	0.00 s
031.011: Time t2 output 28:	0.00 s
044.054: Sig.assig. outp. 28:	Without function
044.055: Sig.assig.outp.28(t):	Without function
031.012: Fct.assignm. outp.29:	Without function
031.013: Op. mode t output 29:	Without timer stage
031.014: Time t1 output 29:	0.00 s
031.015: Time t2 output 29:	0.00 s
044.056: Sig.assig. outp. 29:	Without function
044.057: Sig.assig.outp.29(t):	Without function
031.016: Fct.assignm. outp.30:	Without function
031.017: Op. mode t output 30:	Without timer stage
031.018: Time t1 output 30:	0.00 s
031.019: Time t2 output 30:	0.00 s
044.058: Sig.assig. outp. 30:	Without function
044.059: Sig.assig.outp.30(t):	Without function
031.020: Fct.assignm. outp.31:	Without function
031.021: Op. mode t output 31:	Without timer stage
031.022: Time t1 output 31:	0.00 s
031.023: Time t2 output 31:	0.00 s
044.060: Sig.assig. outp. 31:	Without function
044.061: Sig.assig.outp.31(t):	Without function
031.024: Fct.assignm. outp.32:	DTOC2 Starting IN>
031.025: Op. mode t output 32:	Without timer stage
031.026: Time t1 output 32:	0.00 s
031.027: Time t2 output 32:	0.00 s
044.062: Sig.assig. outp. 32:	Without function
044.063: Sig.assig.outp.32(t):	Without function

Parameter subset 1

MAIN

019.017: Vnom prim. end a PS1:	400.0 kV
019.018: Vnom prim. end b PS1:	34.5 kV
010.200: Phase reversal a PS1:	No swap
010.204: Phase reversal b PS1:	No swap

DIFF

072.152: Enable PS1:	Yes
019.010: Vec.gr. ends a-b PS1:	0
072.142: Idiff> PS1:	0.20 Iref
072.143: Idiff>> PS1:	8.0 Iref
072.144: Idiff>>> PS1:	8.0 Iref
080.000: Idiff>(CTS) PS1:	0.20 Iref
072.145: m1 PS1:	0.30
072.146: m2 PS1:	0.70
072.147: IR,m2 PS1:	4.0 Iref
072.148: Op.mode rush rst.PS1:	Not phase-selective
072.159: RushI(2f0)/I(f0) PS1:	10 %
072.155: 0-seq. filt.a en.PS1:	Yes
072.156: 0-seq. filt.b en.PS1:	Yes
072.158: Overflux.bl. en. PS1:	Yes
072.160: Ov. I(5f0)/I(f0) PS1:	20 %
010.162: Op.del.,trip sig.PS1:	0.00 s
072.006: Hyst. effective PS1:	Yes

DTOC2

076.070: Enable PS1:	Yes
076.087: Block tim.st. IN PS1:	Without
076.086: Gen.starting modePS1:	With start. IN/Ineg
076.085: tGS PS1:	0.00 s



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076.083: Rush restr.enabl	PS1:	No
076.071: I>	PS1:	Blocked
076.072: I>>	PS1:	Blocked
076.163: I>>>	PS1:	Blocked
076.161: I> dynamic	PS1:	Blocked
076.162: I>> dynamic	PS1:	Blocked
076.173: I>>> dynamic	PS1:	Blocked
076.077: tI>	PS1:	Blocked
076.078: tI>>	PS1:	Blocked
076.169: tI>>>	PS1:	Blocked
076.207: Ineg>	PS1:	Blocked
076.208: Ineg>>	PS1:	Blocked
076.209: Ineg>>>	PS1:	Blocked
076.210: Ineg> dynamic	PS1:	Blocked
076.211: Ineg>> dynamic	PS1:	Blocked
076.212: Ineg>>> dynamic	PS1:	Blocked
076.213: tIneg>	PS1:	Blocked
076.214: tIneg>>	PS1:	Blocked
076.215: tIneg>>>	PS1:	Blocked
076.164: IN>	PS1:	0.33 Inom
076.165: IN>>	PS1:	Blocked
076.166: IN>>>	PS1:	Blocked
076.174: IN> dynamic	PS1:	1.00 Inom
076.175: IN>> dynamic	PS1:	1.00 Inom
076.176: IN>>> dynamic	PS1:	1.00 Inom
076.170: tIN>	PS1:	1.00 s
076.171: tIN>>	PS1:	Blocked
076.172: tIN>>>	PS1:	Blocked
V/f		
081.210: Enable	PS1:	Yes
081.211: V/f> (alarm)	PS1:	1.10 Vnom/fnom
081.212: V/f(t)>	PS1:	1.10 Vnom/fnom
081.213: V/f>>	PS1:	Blocked
081.214: tV/f>	PS1:	60 s
081.217: t at V/f=1.05	PS1:	1000.0 s
081.218: t at V/f=1.10	PS1:	1000.0 s
081.219: t at V/f=1.15	PS1:	120.0 s
081.220: t at V/f=1.20	PS1:	90.0 s
081.221: t at V/f=1.25	PS1:	50.0 s
081.222: t at V/f=1.30	PS1:	35.0 s
081.223: t at V/f=1.35	PS1:	10.0 s
081.224: t at V/f=1.40	PS1:	4.0 s
081.225: t at V/f=1.45	PS1:	2.5 s
081.226: t at V/f=1.50	PS1:	1.0 s
081.227: t at V/f=1.55	PS1:	1.0 s
081.228: t at V/f=1.60	PS1:	1.0 s
081.230: Reset time	PS1:	0 s
081.229: tV/f>>	PS1:	Blocked
Parameter subset 2		
MAIN		
019.057: Vnom prim. end a	PS2:	110.0 kV
019.058: Vnom prim. end b	PS2:	110.0 kV
010.201: Phase reversal a	PS2:	No swap
010.205: Phase reversal b	PS2:	No swap
DIFF		
073.152: Enable	PS2:	No
019.040: Vec.gr. ends a-b	PS2:	0
073.142: Idiff>	PS2:	0.20 Iref
073.143: Idiff>>	PS2:	15.0 Iref
073.144: Idiff>>>	PS2:	30.0 Iref
081.000: Idiff>(CTS)	PS2:	0.20 Iref
073.145: m1	PS2:	0.30
073.146: m2	PS2:	0.70
073.147: IR,m2	PS2:	4.0 Iref
073.148: Op.mode rush rst.	PS2:	Not phase-selective
073.159: RushI(2f0)/I(f0)	PS2:	20 %



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073.155: 0-seq. filt.a en.PS2: Yes
073.156: 0-seq. filt.b en.PS2: Yes
073.158: Overflux.bl. en. PS2: No
073.160: Ov. I(5f0)/I(f0) PS2: 20 %
010.163: Op.del.,trip sig.PS2: 0.00 s
073.006: Hyst. effective PS2: Yes

DTOC2

077.070: Enable PS2: No
077.087: Block tim.st. IN PS2: Without
077.086: Gen.starting modePS2: With start. IN/Ineg
077.085: tGS PS2: 0.00 s
077.083: Rush restr.enabl PS2: No
077.071: I> PS2: 1.00 Inom
077.072: I>> PS2: 4.00 Inom
077.163: I>>> PS2: Blocked
077.161: I> dynamic PS2: 1.00 Inom
077.162: I>> dynamic PS2: 1.00 Inom
077.173: I>>> dynamic PS2: 1.00 Inom
077.077: tI> PS2: 1.00 s
077.078: tI>> PS2: 0.50 s
077.169: tI>>> PS2: 0.50 s
077.207: Ineg> PS2: 0.25 Inom
077.208: Ineg>> PS2: Blocked
077.209: Ineg>>> PS2: Blocked
077.210: Ineg> dynamic PS2: 1.00 Inom
077.211: Ineg>> dynamic PS2: 1.00 Inom
077.212: Ineg>>> dynamic PS2: 1.00 Inom
077.213: tIneg> PS2: 1.00 s
077.214: tIneg>> PS2: 0.50 s
077.215: tIneg>>> PS2: 0.50 s
077.164: IN> PS2: 0.25 Inom
077.165: IN>> PS2: Blocked
077.166: IN>>> PS2: Blocked
077.174: IN> dynamic PS2: 1.00 Inom
077.175: IN>> dynamic PS2: 1.00 Inom
077.176: IN>>> dynamic PS2: 1.00 Inom
077.170: tIN> PS2: 1.00 s
077.171: tIN>> PS2: 0.50 s
077.172: tIN>>> PS2: 0.50 s

V/f

082.210: Enable PS2: No
082.211: V/f> (alarm) PS2: 1.05 Vnom/fnom
082.212: V/f(t)> PS2: 1.10 Vnom/fnom
082.213: V/f>> PS2: Blocked
082.214: tV/f> PS2: 1 s
082.217: t at V/f=1.05 PS2: 72.8 s
082.218: t at V/f=1.10 PS2: 18.8 s
082.219: t at V/f=1.15 PS2: 8.8 s
082.220: t at V/f=1.20 PS2: 5.3 s
082.221: t at V/f=1.25 PS2: 3.7 s
082.222: t at V/f=1.30 PS2: 2.8 s
082.223: t at V/f=1.35 PS2: 2.3 s
082.224: t at V/f=1.40 PS2: 1.9 s
082.225: t at V/f=1.45 PS2: 1.7 s
082.226: t at V/f=1.50 PS2: 1.5 s
082.227: t at V/f=1.55 PS2: 1.4 s
082.228: t at V/f=1.60 PS2: 1.3 s
082.230: Reset time PS2: 0 s
082.229: tV/f>> PS2: Blocked

Parameter subset 3

MAIN

019.061: Vnom prim. end a PS3: 110.0 kV
019.062: Vnom prim. end b PS3: 110.0 kV
010.202: Phase reversal a PS3: No swap
010.206: Phase reversal b PS3: No swap

DIFF



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074.152: Enable	PS3:	No
019.041: Vec.gr. ends a-b	PS3:	0
074.142: Idiff>	PS3:	0.20 Iref
074.143: Idiff>>	PS3:	15.0 Iref
074.144: Idiff>>>	PS3:	30.0 Iref
082.000: Idiff>(CTS)	PS3:	0.20 Iref
074.145: m1	PS3:	0.30
074.146: m2	PS3:	0.70
074.147: IR,m2	PS3:	4.0 Iref
074.148: Op.mode rush rst.	PS3:	Not phase-selective
074.159: RushI(2f0)/I(f0)	PS3:	20 %
074.155: 0-seq. filt.a en.	PS3:	Yes
074.156: 0-seq. filt.b en.	PS3:	Yes
074.158: Overflux.bl. en.	PS3:	No
074.160: Ov. I(5f0)/I(f0)	PS3:	20 %
010.164: Op.del.,trip sig.	PS3:	0.00 s
074.006: Hyst. effective	PS3:	Yes
DTOC2		
078.070: Enable	PS3:	No
078.087: Block tim.st. IN	PS3:	Without
078.086: Gen.starting mode	PS3:	With start. IN/Ineg
078.085: tGS	PS3:	0.00 s
078.083: Rush restr.enabl	PS3:	No
078.071: I>	PS3:	1.00 Inom
078.072: I>>	PS3:	4.00 Inom
078.163: I>>>	PS3:	Blocked
078.161: I> dynamic	PS3:	1.00 Inom
078.162: I>> dynamic	PS3:	1.00 Inom
078.173: I>>> dynamic	PS3:	1.00 Inom
078.077: tI>	PS3:	1.00 s
078.078: tI>>	PS3:	0.50 s
078.169: tI>>>	PS3:	0.50 s
078.207: Ineg>	PS3:	0.25 Inom
078.208: Ineg>>	PS3:	Blocked
078.209: Ineg>>>	PS3:	Blocked
078.210: Ineg> dynamic	PS3:	1.00 Inom
078.211: Ineg>> dynamic	PS3:	1.00 Inom
078.212: Ineg>>> dynamic	PS3:	1.00 Inom
078.213: tIneg>	PS3:	1.00 s
078.214: tIneg>>	PS3:	0.50 s
078.215: tIneg>>>	PS3:	0.50 s
078.164: IN>	PS3:	0.25 Inom
078.165: IN>>	PS3:	Blocked
078.166: IN>>>	PS3:	Blocked
078.174: IN> dynamic	PS3:	1.00 Inom
078.175: IN>> dynamic	PS3:	1.00 Inom
078.176: IN>>> dynamic	PS3:	1.00 Inom
078.170: tIN>	PS3:	1.00 s
078.171: tIN>>	PS3:	0.50 s
078.172: tIN>>>	PS3:	0.50 s
V/f		
083.210: Enable	PS3:	No
083.211: V/f> (alarm)	PS3:	1.05 Vnom/fnom
083.212: V/f(t)>	PS3:	1.10 Vnom/fnom
083.213: V/f>>	PS3:	Blocked
083.214: tV/f>	PS3:	1 s
083.217: t at V/f=1.05	PS3:	72.8 s
083.218: t at V/f=1.10	PS3:	18.8 s
083.219: t at V/f=1.15	PS3:	8.8 s
083.220: t at V/f=1.20	PS3:	5.3 s
083.221: t at V/f=1.25	PS3:	3.7 s
083.222: t at V/f=1.30	PS3:	2.8 s
083.223: t at V/f=1.35	PS3:	2.3 s
083.224: t at V/f=1.40	PS3:	1.9 s
083.225: t at V/f=1.45	PS3:	1.7 s
083.226: t at V/f=1.50	PS3:	1.5 s



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083.227: t at V/f=1.55	PS3:	1.4 s
083.228: t at V/f=1.60	PS3:	1.3 s
083.230: Reset time	PS3:	0 s
083.229: tV/f>>	PS3:	Blocked
Parameter subset 4		
MAIN		
019.065: Vnom prim. end a	PS4:	110.0 kV
019.066: Vnom prim. end b	PS4:	110.0 kV
010.203: Phase reversal a	PS4:	No swap
010.207: Phase reversal b	PS4:	No swap
DIFF		
075.152: Enable	PS4:	No
019.042: Vec.gr. ends a-b	PS4:	0
075.142: Idiff>	PS4:	0.20 Iref
075.143: Idiff>>	PS4:	15.0 Iref
075.144: Idiff>>>	PS4:	30.0 Iref
083.000: Idiff>(CTS)	PS4:	0.20 Iref
075.145: m1	PS4:	0.30
075.146: m2	PS4:	0.70
075.147: IR,m2	PS4:	4.0 Iref
075.148: Op.mode rush rst.	PS4:	Not phase-selective
075.159: RushI(2f0)/I(f0)	PS4:	20 %
075.155: 0-seq. filt.a en.	PS4:	Yes
075.156: 0-seq. filt.b en.	PS4:	Yes
075.158: Overflux.bl. en.	PS4:	No
075.160: Ov. I(5f0)/I(f0)	PS4:	20 %
010.165: Op.del.,trip sig.	PS4:	0.00 s
075.006: Hyst. effective	PS4:	Yes
DTC2		
079.070: Enable	PS4:	No
079.087: Block tim.st. IN	PS4:	Without
079.086: Gen.starting mode	PS4:	With start. IN/Ineg
079.085: tGS	PS4:	0.00 s
079.083: Rush restr.enabl	PS4:	No
079.071: I>	PS4:	1.00 Inom
079.072: I>>	PS4:	4.00 Inom
079.163: I>>>	PS4:	Blocked
079.161: I> dynamic	PS4:	1.00 Inom
079.162: I>> dynamic	PS4:	1.00 Inom
079.173: I>>> dynamic	PS4:	1.00 Inom
079.077: tI>	PS4:	1.00 s
079.078: tI>>	PS4:	0.50 s
079.169: tI>>>	PS4:	0.50 s
079.207: Ineg>	PS4:	0.25 Inom
079.208: Ineg>>	PS4:	Blocked
079.209: Ineg>>>	PS4:	Blocked
079.210: Ineg> dynamic	PS4:	1.00 Inom
079.211: Ineg>> dynamic	PS4:	1.00 Inom
079.212: Ineg>>> dynamic	PS4:	1.00 Inom
079.213: tIneg>	PS4:	1.00 s
079.214: tIneg>>	PS4:	0.50 s
079.215: tIneg>>>	PS4:	0.50 s
079.164: IN>	PS4:	0.25 Inom
079.165: IN>>	PS4:	Blocked
079.166: IN>>>	PS4:	Blocked
079.174: IN> dynamic	PS4:	1.00 Inom
079.175: IN>> dynamic	PS4:	1.00 Inom
079.176: IN>>> dynamic	PS4:	1.00 Inom
079.170: tIN>	PS4:	1.00 s
079.171: tIN>>	PS4:	0.50 s
079.172: tIN>>>	PS4:	0.50 s
V/f		
084.210: Enable	PS4:	No
084.211: V/f> (alarm)	PS4:	1.05 Vnom/fnom
084.212: V/f(t)>	PS4:	1.10 Vnom/fnom
084.213: V/f>>	PS4:	Blocked



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.....	084.214: tV/f>	PS4:	1 s
.....	084.217: t at V/f=1.05	PS4:	72.8 s
.....	084.218: t at V/f=1.10	PS4:	18.8 s
.....	084.219: t at V/f=1.15	PS4:	8.8 s
.....	084.220: t at V/f=1.20	PS4:	5.3 s
.....	084.221: t at V/f=1.25	PS4:	3.7 s
.....	084.222: t at V/f=1.30	PS4:	2.8 s
.....	084.223: t at V/f=1.35	PS4:	2.3 s
.....	084.224: t at V/f=1.40	PS4:	1.9 s
.....	084.225: t at V/f=1.45	PS4:	1.7 s
.....	084.226: t at V/f=1.50	PS4:	1.5 s
.....	084.227: t at V/f=1.55	PS4:	1.4 s
.....	084.228: t at V/f=1.60	PS4:	1.3 s
.....	084.230: Reset time	PS4:	0 s
.....	084.229: tV/f>>	PS4:	Blocked
.....	Operation		
.....	Cyclic measurements	
.....	Meas.operating data	
.....	MAIN	
.....	003.090: Date:	24.09.24 dd.mm.yy	
.....	003.091: Time of day:	12:12 hh:mm	
.....	003.095: Time switching:	Daylight saving time	
.....	004.040: Frequency f:	50.00 Hz	
.....	005.101: Curr. IP,max,a prim.:	5 A	
.....	005.162: IP,max prim.,delay a:	5 A	
.....	005.161: IP,max prim.stored a:	8 A	
.....	005.102: Curr. IP,max,b prim.:	64 A	
.....	006.162: IP,max prim.,delay b:	63 A	
.....	006.161: IP,max prim.stored b:	93 A	
.....	005.104: Curr. IP,min,a prim.:	4 A	
.....	005.105: Curr. IP,min,b prim.:	56 A	
.....	005.021: Current IA,a prim.:	5 A	
.....	006.021: Current IB,a prim.:	4 A	
.....	007.021: Current IC,a prim.:	5 A	
.....	005.022: Current IA,b prim.:	60 A	
.....	006.022: Current IB,b prim.:	64 A	
.....	007.022: Current IC,b prim.:	56 A	
.....	005.125: Current Ineg a prim.:	1 A	
.....	005.127: Current Ipos a prim.:	3 A	
.....	005.129: Current Ineg b prim.:	0 A	
.....	005.134: Current Ipos b prim.:	56 A	
.....	005.121: Current IN,a prim.:	1 A	
.....	005.131: Current IY,a prim.:	1 A	
.....	005.122: Current IN,b prim.:	3 A	
.....	005.132: Current IY,b prim.:	3 A	
.....	005.018: Voltage V prim.:	402.2 kV	
.....	005.111: Curr. IP,max,a p.u.:	0.010 Inom	
.....	005.163: IP,max p.u.,delay a:	0.011 Inom	
.....	005.160: IP,max p.u.,stored a:	0.016 Inom	
.....	005.112: Curr. IP,max,b p.u.:	0.036 Inom	
.....	006.163: IP,max p.u.,delay b:	0.036 Inom	
.....	006.160: IP,max p.u.,stored b:	0.053 Inom	
.....	005.107: Curr. IP,min,a p.u.:	0.008 Inom	
.....	005.108: Curr. IP,min,b p.u.:	0.032 Inom	
.....	005.031: Current IA,a p.u.:	0.010 Inom	
.....	006.031: Current IB,a p.u.:	0.010 Inom	
.....	007.031: Current IC,a p.u.:	0.010 Inom	
.....	005.032: Current IA,b p.u.:	0.034 Inom	
.....	006.032: Current IB,b p.u.:	0.036 Inom	
.....	007.032: Current IC,b p.u.:	0.032 Inom	
.....	005.126: Current Ineg a p.u.:	0.002 Inom	
.....	005.128: Current Ipos a p.u.:	0.006 Inom	
.....	005.130: Current Ineg b p.u.:	0.000 Inom	
.....	005.135: Current Ipos b p.u.:	0.032 Inom	
.....	005.141: Current IN,a p.u.:	0.002 Inom	
.....	005.151: Current IY,a p.u.:	0.002 Inom	



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005.142: Current IN,b p.u.: 0.002 Inom
005.152: Current IY,b p.u.: 0.002 Inom
005.019: Voltage V p.u.: 1.005 Vnom
005.089: Angle phi AB, end a: Not measured
006.089: Angle phi BC, end a: Not measured
007.089: Angle phi CA, end a: Not measured
005.092: Angle phi AB, end b: 120 °
006.092: Angle phi BC, end b: 114 °
007.092: Angle phi CA, end b: 126 °
005.090: Angle phi A, end a-b: Not measured
006.090: Angle phi B, end a-b: Not measured
007.090: Angle phi C, end a-b: Not measured
005.077: Angle phi NY, end a: Not measured
005.078: Angle phi NY, end b: Not measured

DIFF

005.080: Diff. current 1: 0.005 Iref
005.081: Restrained. current 1: 0.034 Iref
006.080: Diff. current 2: 0.006 Iref
006.081: Restrained. current 2: 0.034 Iref
007.080: Diff. current 3: 0.005 Iref
007.081: Restrained. current 3: 0.032 Iref

V/f

004.220: Excitation V/f p.u.: 1.01
004.222: Status replica in %: 0 %
004.223: Status replica p.u.: 0.00

Phys. state signals**GOOSE**

106.010: Output 1 state: 0
106.012: Output 2 state: 0
106.014: Output 3 state: 0
106.016: Output 4 state: 0
106.018: Output 5 state: 0
106.020: Output 6 state: 0
106.022: Output 7 state: 0
106.024: Output 8 state: 0
106.026: Output 9 state: 0
106.028: Output 10 state: 0
106.030: Output 11 state: 0
106.032: Output 12 state: 0
106.034: Output 13 state: 0
106.036: Output 14 state: 0
106.038: Output 15 state: 0
106.040: Output 16 state: 0
106.042: Output 17 state: 0
106.044: Output 18 state: 0
106.046: Output 19 state: 0
106.048: Output 20 state: 0
106.050: Output 21 state: 0
106.052: Output 22 state: 0
106.054: Output 23 state: 0
106.056: Output 24 state: 0
106.058: Output 25 state: 0
106.060: Output 26 state: 0
106.062: Output 27 state: 0
106.064: Output 28 state: 0
106.066: Output 29 state: 0
106.068: Output 30 state: 0
106.070: Output 31 state: 0
106.072: Output 32 state: 0
106.200: Input 1 state: 0
106.201: Input 2 state: 0
106.202: Input 3 state: 0
106.203: Input 4 state: 0
106.204: Input 5 state: 0
106.205: Input 6 state: 0
106.206: Input 7 state: 0



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106.207: Input 8 state:	0
106.208: Input 9 state:	0
106.209: Input 10 state:	0
106.210: Input 11 state:	0
106.211: Input 12 state:	0
106.212: Input 13 state:	0
106.213: Input 14 state:	0
106.214: Input 15 state:	0
106.215: Input 16 state:	0
F_KEY	
080.122: State F1:	"Off"
080.123: State F2:	"Off"
080.124: State F3:	"Off"
080.125: State F4:	"Off"
080.126: State F5:	"Off"
080.127: State F6:	"Off"
INP	
192.001: State U 1601:	"Low"
192.005: State U 1602:	"Low"
192.009: State U 1603:	"Low"
192.013: State U 1604:	"Low"
192.017: State U 1605:	"Low"
192.021: State U 1606:	"Low"
153.086: State U 2001:	"High"
153.089: State U 2002:	"Low"
153.092: State U 2003:	"Low"
153.095: State U 2004:	"Low"
OUTP	
171.001: State K 1601:	Inactive
171.005: State K 1602:	Inactive
171.009: State K 1603:	Inactive
171.013: State K 1604:	Inactive
171.017: State K 1605:	Inactive
171.021: State K 1606:	Inactive
171.025: State K 1607:	Inactive
171.029: State K 1608:	Inactive
151.200: State K 2001:	Inactive
151.203: State K 2002:	Inactive
151.206: State K 2003:	Inactive
151.209: State K 2004:	Inactive
151.212: State K 2005:	Inactive
151.215: State K 2006:	Inactive
151.218: State K 2007:	Inactive
151.221: State K 2008:	Inactive
LED	
085.180: State H 1 green:	Active
085.000: State H 2 yell.:	Inactive
085.003: State H 3 yell.:	Inactive
085.006: State H 4 red:	Inactive
085.009: State H 5 red:	Inactive
085.012: State H 6 red:	Inactive
085.015: State H 7 red:	Inactive
085.018: State H 8 red:	Inactive
085.021: State H 9 red:	Inactive
085.024: State H10 red:	Inactive
085.027: State H11 red:	Inactive
085.030: State H12 red:	Inactive
085.033: State H13 red:	Inactive
085.036: State H14 red:	Inactive
085.039: State H15 red:	Inactive
085.042: State H16 red:	Inactive
085.181: State H17 red.:	Inactive
085.130: State H18 red:	Inactive
085.133: State H19 red:	Inactive
085.136: State H20 red:	Inactive
085.139: State H21 red:	Inactive



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085.142: State H22 red: Inactive
085.145: State H23 red: Inactive
085.056: State H 4 green: Inactive
085.059: State H 5 green: Inactive
085.062: State H 6 green: Inactive
085.065: State H 7 green: Inactive
085.068: State H 8 green: Inactive
085.071: State H 9 green: Inactive
085.074: State H10 green: Inactive
085.077: State H11 green: Inactive
085.080: State H12 green: Inactive
085.083: State H13 green: Inactive
085.086: State H14 green: Inactive
085.089: State H15 green: Inactive
085.092: State H16 green: Inactive
085.160: State H18 green: Inactive
085.163: State H19 green: Inactive
085.166: State H20 green: Inactive
085.169: State H21 green: Inactive
085.172: State H22 green: Inactive
085.176: State H23 green: Inactive

Log. state signals

LOC

080.111: Edit mode: No
030.230: Trig. menu jmp 1 EXT: No
030.231: Trig. menu jmp 2 EXT: No
037.101: Illumination on EXT: No

IEC

105.180: Comm. link faulty: No
221.082: Control reservation: No

GOOSE

109.000: Ext.Dev01 position: Interm. pos.
109.005: Ext.Dev02 position: Interm. pos.
109.010: Ext.Dev03 position: Interm. pos.
109.015: Ext.Dev04 position: Interm. pos.
109.020: Ext.Dev05 position: Interm. pos.
109.025: Ext.Dev06 position: Interm. pos.
109.030: Ext.Dev07 position: Interm. pos.
109.035: Ext.Dev08 position: Interm. pos.
109.040: Ext.Dev09 position: Interm. pos.
109.045: Ext.Dev10 position: Interm. pos.
109.050: Ext.Dev11 position: Interm. pos.
109.055: Ext.Dev12 position: Interm. pos.
109.060: Ext.Dev13 position: Interm. pos.
109.065: Ext.Dev14 position: Interm. pos.
109.070: Ext.Dev15 position: Interm. pos.
109.075: Ext.Dev16 position: Interm. pos.
109.100: Ext.Dev17 position: Interm. pos.
109.105: Ext.Dev18 position: Interm. pos.
109.110: Ext.Dev19 position: Interm. pos.
109.115: Ext.Dev20 position: Interm. pos.
109.120: Ext.Dev21 position: Interm. pos.
109.125: Ext.Dev22 position: Interm. pos.
109.130: Ext.Dev23 position: Interm. pos.
109.135: Ext.Dev24 position: Interm. pos.
109.140: Ext.Dev25 position: Interm. pos.
109.145: Ext.Dev26 position: Interm. pos.
109.150: Ext.Dev27 position: Interm. pos.
109.155: Ext.Dev28 position: Interm. pos.
109.160: Ext.Dev29 position: Interm. pos.
109.165: Ext.Dev30 position: Interm. pos.
109.170: Ext.Dev31 position: Interm. pos.
109.175: Ext.Dev32 position: Interm. pos.
109.001: Ext.Dev01 open: No
109.006: Ext.Dev02 open: No
109.011: Ext.Dev03 open: No



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109.016:	Ext.Dev04	open:	No
109.021:	Ext.Dev05	open:	No
109.026:	Ext.Dev06	open:	No
109.031:	Ext.Dev07	open:	No
109.036:	Ext.Dev08	open:	No
109.041:	Ext.Dev09	open:	No
109.046:	Ext.Dev10	open:	No
109.051:	Ext.Dev11	open:	No
109.056:	Ext.Dev12	open:	No
109.061:	Ext.Dev13	open:	No
109.066:	Ext.Dev14	open:	No
109.071:	Ext.Dev15	open:	No
109.076:	Ext.Dev16	open:	No
109.101:	Ext.Dev17	open:	No
109.106:	Ext.Dev18	open:	No
109.111:	Ext.Dev19	open:	No
109.116:	Ext.Dev20	open:	No
109.121:	Ext.Dev21	open:	No
109.126:	Ext.Dev22	open:	No
109.131:	Ext.Dev23	open:	No
109.136:	Ext.Dev24	open:	No
109.141:	Ext.Dev25	open:	No
109.146:	Ext.Dev26	open:	No
109.151:	Ext.Dev27	open:	No
109.156:	Ext.Dev28	open:	No
109.161:	Ext.Dev29	open:	No
109.166:	Ext.Dev30	open:	No
109.171:	Ext.Dev31	open:	No
109.176:	Ext.Dev32	open:	No
109.002:	Ext.Dev01	closed:	No
109.007:	Ext.Dev02	closed:	No
109.012:	Ext.Dev03	closed:	No
109.017:	Ext.Dev04	closed:	No
109.022:	Ext.Dev05	closed:	No
109.027:	Ext.Dev06	closed:	No
109.032:	Ext.Dev07	closed:	No
109.037:	Ext.Dev08	closed:	No
109.042:	Ext.Dev09	closed:	No
109.047:	Ext.Dev10	closed:	No
109.052:	Ext.Dev11	closed:	No
109.057:	Ext.Dev12	closed:	No
109.062:	Ext.Dev13	closed:	No
109.067:	Ext.Dev14	closed:	No
109.072:	Ext.Dev15	closed:	No
109.077:	Ext.Dev16	closed:	No
109.102:	Ext.Dev17	closed:	No
109.107:	Ext.Dev18	closed:	No
109.112:	Ext.Dev19	closed:	No
109.117:	Ext.Dev20	closed:	No
109.122:	Ext.Dev21	closed:	No
109.127:	Ext.Dev22	closed:	No
109.132:	Ext.Dev23	closed:	No
109.137:	Ext.Dev24	closed:	No
109.142:	Ext.Dev25	closed:	No
109.147:	Ext.Dev26	closed:	No
109.152:	Ext.Dev27	closed:	No
109.157:	Ext.Dev28	closed:	No
109.162:	Ext.Dev29	closed:	No
109.167:	Ext.Dev30	closed:	No
109.172:	Ext.Dev31	closed:	No
109.177:	Ext.Dev32	closed:	No
109.003:	Ext.Dev01	interm.pos:	Yes
109.008:	Ext.Dev02	interm.pos:	Yes
109.013:	Ext.Dev03	interm.pos:	Yes
109.018:	Ext.Dev04	interm.pos:	Yes
109.023:	Ext.Dev05	interm.pos:	Yes



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109.028:	Ext.Dev06	interm.pos:	Yes
109.033:	Ext.Dev07	interm.pos:	Yes
109.038:	Ext.Dev08	interm.pos:	Yes
109.043:	Ext.Dev09	interm.pos:	Yes
109.048:	Ext.Dev10	interm.pos:	Yes
109.053:	Ext.Dev11	interm.pos:	Yes
109.058:	Ext.Dev12	interm.pos:	Yes
109.063:	Ext.Dev13	interm.pos:	Yes
109.068:	Ext.Dev14	interm.pos:	Yes
109.073:	Ext.Dev15	interm.pos:	Yes
109.078:	Ext.Dev16	interm.pos:	Yes
109.103:	Ext.Dev17	interm.pos:	Yes
109.108:	Ext.Dev18	interm.pos:	Yes
109.113:	Ext.Dev19	interm.pos:	Yes
109.118:	Ext.Dev20	interm.pos:	Yes
109.123:	Ext.Dev21	interm.pos:	Yes
109.128:	Ext.Dev22	interm.pos:	Yes
109.133:	Ext.Dev23	interm.pos:	Yes
109.138:	Ext.Dev24	interm.pos:	Yes
109.143:	Ext.Dev25	interm.pos:	Yes
109.148:	Ext.Dev26	interm.pos:	Yes
109.153:	Ext.Dev27	interm.pos:	Yes
109.158:	Ext.Dev28	interm.pos:	Yes
109.163:	Ext.Dev29	interm.pos:	Yes
109.168:	Ext.Dev30	interm.pos:	Yes
109.173:	Ext.Dev31	interm.pos:	Yes
109.178:	Ext.Dev32	interm.pos:	Yes
107.250:	IED link faulty:	Yes	
OUTP			
040.014:	Block outp.rel. EXT:	No	
040.015:	Reset latch. EXT:	No	
021.015:	Outp. relays blocked:	No	
040.088:	Latching reset:	No	
MAIN			
060.001:	Healthy:	Yes	
003.027:	Enable protect. EXT:	No	
003.026:	Disable protect. EXT:	No	
003.096:	Time switching EXT:	Standard time	
040.060:	Blocking 1 EXT:	No	
040.061:	Blocking 2 EXT:	No	
040.116:	Blocking 3 EXT:	No	
040.117:	Blocking 4 EXT:	No	
040.138:	Reset latch.trip EXT:	No	
036.045:	Trip cmd. block. EXT:	No	
004.061:	M.c.b. trip V EXT:	No	
036.033:	Switch dyn.param.EXT:	No	
037.018:	Man. trip cmd. EXT:	No	
031.028:	CB1 open 3p EXT:	No	
031.046:	CB2 open 3p EXT:	No	
036.051:	CB1 closed 3p EXT:	No	
036.230:	CB2 closed 3p EXT:	No	
037.070:	Test mode EXT:	No	
065.001:	Reset indicat. EXT:	No	
005.209:	Group reset 1 EXT:	No	
005.252:	Group reset 2 EXT:	No	
005.255:	General reset EXT:	No	
005.210:	Reset c. cl/tr.c EXT:	No	
005.211:	Reset IP,max,st. EXT:	No	
060.060:	Min-pulse clock EXT:	No	
003.028:	Prot. ext. enabled:	Yes	
038.046:	Prot. ext. disabled:	No	
004.060:	Protect. not ready:	No	
037.071:	Test mode:	No	
004.065:	Blocked/faulty:	No	
036.155:	Meas. circ.I faulty:	No	
021.013:	Trip cmd. blocked:	No	



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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040.139: Latch. trip c. reset:	No
034.017: Manual trip signal:	No
036.251: Gen. trip signal: No	
036.005: Gen. trip signal 1:	No
036.023: Gen. trip signal 2:	No
036.108: Gen. trip signal 3:	No
036.109: Gen. trip signal 4:	No
036.071: Gen. trip command 1:	No
036.022: Gen. trip command 2:	No
036.113: Gen. trip command 3:	No
036.114: Gen. trip command 4:	No
036.000: General starting:	No
036.174: Trip sig.REF1 & REF2:	No
036.175: Trip sig.REF2 & REF3:	No
036.176: Trip sig.REF1 & REF3:	No
040.090: Dynam. param. active:	No
036.220: Phase reversal activ:	No
031.040: CB1 open 3p:	No
031.086: CB2 open 3p:	No
031.042: CB1 closed 3p:	No
031.089: CB2 closed 3p:	No
031.041: CB1 pos.sig. implaus:	No
031.049: CB2 pos.sig. implaus:	No
036.017: CB failure:	No
060.000: Without function:	No
061.000: Without function:	No
PSS	
036.101: Control via user EXT:	No
065.002: Activate PS 1 EXT:	No
065.003: Activate PS 2 EXT:	No
065.004: Activate PS 3 EXT:	No
065.005: Activate PS 4 EXT:	No
036.102: Control via user:	No
003.061: Ext.sel.param.subset:	No param. subset sel
036.094: PS 1 activated ext.:	No
036.095: PS 2 activated ext.:	No
036.096: PS 3 activated ext.:	No
036.097: PS 4 activated ext.:	No
003.062: Actual param. subset:	Parameter subset 1
036.090: PS 1 active:	Yes
036.091: PS 2 active:	No
036.092: PS 3 active:	No
036.093: PS 4 active:	No
SFMON	
036.070: Warning (LED):	No
036.100: Warning (relay):	No
041.202: Warm restart exec.:	Yes
041.201: Cold restart exec.:	No
093.024: Cold restart:	No
093.025: Cold rest./SW update:	No
090.019: Blocking/ HW failure:	No
041.200: Relay Kxx faulty:	No
093.040: Hardware clock fail.:	No
090.010: Battery failure:	No
096.121: Invalid SW d.loaded:	No
093.081: +15V supply faulty:	No
093.082: +24V supply faulty:	No
093.080: -15V supply faulty:	No
096.100: Wrong module slot 1:	No
096.101: Wrong module slot 2:	No
096.102: Wrong module slot 3:	No
096.103: Wrong module slot 4:	No
096.104: Wrong module slot 5:	No
096.105: Wrong module slot 6:	No
096.106: Wrong module slot 7:	No
096.107: Wrong module slot 8:	No



Settings File Report
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File: 240924.x3v
Model Number: 621

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096.108: Wrong module slot 9:	No
096.109: Wrong module slot 10:	No
096.110: Wrong module slot 11:	No
096.111: Wrong module slot 12:	No
096.112: Wrong module slot 13:	No
096.113: Wrong module slot 14:	No
096.114: Wrong module slot 15:	No
096.115: Wrong module slot 16:	No
096.116: Wrong module slot 17:	No
096.117: Wrong module slot 18:	No
096.118: Wrong module slot 19:	No
096.119: Wrong module slot 20:	No
096.120: Wrong module slot 21:	No
097.000: Defect.module slot 1:	No
097.002: Defect.module slot 3:	No
097.004: Defect.module slot 5:	No
097.015: Defect.module slot16:	No
097.019: Defect.module slot20:	No
097.150: Error K 1601:	No
097.151: Error K 1602:	No
097.152: Error K 1603:	No
097.153: Error K 1604:	No
097.154: Error K 1605:	No
097.155: Error K 1606:	No
097.156: Error K 1607:	No
097.157: Error K 1608:	No
097.182: Error K 2001:	No
097.183: Error K 2002:	No
097.184: Error K 2003:	No
097.185: Error K 2004:	No
097.186: Error K 2005:	No
097.187: Error K 2006:	No
097.188: Error K 2007:	No
097.189: Error K 2008:	No
093.010: Undef. operat. code:	No
093.011: Invalid arithm. op.:	No
093.012: Undefined interrupt:	No
093.013: Exception oper.syst.:	No
090.021: Protection failure:	No
090.003: Checksum error param:	No
093.041: Clock sync. error:	No
093.026: Interm.volt.fail.RAM:	No
090.012: Overflow MT_RC:	No
093.015: Semaph. MT_RC block.:	No
093.075: Inval. SW vers.comm.:	No
098.000: M.c.b. trip V:	No
091.018: Meas. circ. I faulty:	No
091.026: Meas. c. I faulty, a:	No
091.027: Meas. c. I faulty, b:	No
091.011: Invalid charact. V/f:	No
093.145: Invalid SW vers DHMI:	No
098.028: Setting error f<>:	No
091.007: Iref, a inval. range:	No
091.008: Iref, b inval. range:	No
091.000: Matching fail. end a:	No
091.001: Matching fail. end b:	No
091.004: Ratio mtch.fact.inv.:	No
091.006: 2nd match.fact. inv.:	No
091.105: Inv.range Iref REF_1:	No
091.101: Match.f. kam,N REF_1:	No
091.102: Match.f. kam,Y REF_1:	No
091.103: Rat.mtch.f.inv.REF_1:	No
091.104: Min.mtch.f.inv.REF_1:	No
091.115: Inv.range Iref REF_2:	No
091.111: Match.f. kam,N REF_2:	No
091.112: Match.f. kam,Y REF_2:	No



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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091.113:	Rat.mtch.f.inv.REF_2:	No
091.114:	Min.mtch.f.inv.REF_2:	No
098.036:	CTA error THRM1:	No
098.038:	Setting error THRM1:	No
093.120:	Inv.inp.f.clock sync:	No
098.053:	Output 30:	No
098.054:	Output 30 (t):	No
098.055:	Output 31:	No
098.056:	Output 31 (t):	No
098.057:	Output 32:	No
098.058:	Output 32 (t):	No
098.124:	CB1 pos.sig. implaus:	No
098.125:	CB2 pos.sig. implaus:	No
098.072:	CB1 faulty EXT:	No
098.129:	CB2 faulty EXT:	No
OP_RC		
005.213:	Reset record. EXT:	No
MT_RC		
005.240:	Reset record. EXT:	No
OL_RC		
005.241:	Reset record. EXT:	No
035.003:	Record. in progress:	No
035.007:	Overl. mem. overflow:	No
FT_RC		
005.243:	Reset record. EXT:	No
036.089:	Trigger EXT:	No
037.076:	Trigger:	No
035.018:	Id> triggered:	No
035.019:	IR> triggered:	No
035.000:	Record. in progress:	No
035.004:	System disturb. runn:	No
035.001:	Fault mem. overflow:	No
035.002:	Faulty time tag:	No
DIFF		
041.210:	Enabled:	Yes
041.106:	Starting:	No
041.124:	Meas.system 1 trigg.:	No
041.125:	Meas.system 2 trigg.:	No
041.126:	Meas.system 3 trigg.:	No
041.221:	Id>> triggered:	No
041.222:	Id>>> triggered:	No
041.118:	Harm.block 1 trigg.:	No
041.119:	Harm.block 2 trigg.:	No
041.120:	Harm.block 3 trigg.:	No
041.121:	Overflux.bl.1 trigg.:	No
041.122:	Overflux.bl.2 trigg.:	No
041.123:	Overflux.bl.3 trigg.:	No
041.115:	Sat.discr. 1 trigg.:	No
041.116:	Sat.discr. 2 trigg.:	No
041.117:	Sat.discr. 3 trigg.:	No
041.075:	Trip signal:	No
041.002:	Trip signal 1:	No
041.003:	Trip signal 2:	No
041.004:	Trip signal 3:	No
DTOC2		
035.150:	Block. tI> EXT:	No
035.151:	Block. tI>> EXT:	No
035.229:	Block. tI>>> EXT:	No
036.161:	Block. tIneg> EXT:	No
036.162:	Block. tIneg>> EXT:	No
036.163:	Block. tIneg>>> EXT:	No
035.230:	Block. tIN> EXT:	No
035.231:	Block. tIN>> EXT:	No
035.232:	Block. tIN>>> EXT:	No
035.132:	Enabled:	Yes
035.234:	General starting:	No



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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035.245: tGS elapsed:	No
035.134: Starting A:	No
035.135: Starting B:	No
035.141: Starting C:	No
035.146: Starting N:	No
035.138: Starting I>:	No
035.139: Starting I>>:	No
035.149: Starting I>>>:	No
035.144: Trip signal tI>:	No
035.145: Trip signal tI>>:	No
035.158: Trip signal tI>>>:	No
036.164: Starting Ineg:	No
036.165: Starting Ineg>:	No
036.166: Starting Ineg>>:	No
036.167: Starting Ineg>>>:	No
036.168: tIneg> elapsed:	No
036.169: tIneg>> elapsed:	No
036.170: tIneg>>> elapsed:	No
036.171: Trip signal tIneg>:	No
036.172: Trip signal tIneg>>:	No
036.173: Trip signal tIneg>>>:	No
035.152: Starting IN>:	No
035.153: Starting IN>>:	No
035.154: Starting IN>>>:	No
035.159: tIN> elapsed:	No
035.225: tIN>> elapsed:	No
035.226: tIN>>> elapsed:	No
035.233: Trip signal tIN>:	No
035.246: Trip signal tIN>>:	No
035.247: Trip signal tIN>>>:	No

V/f

035.196: Block. tV/f> EXT:	No
035.197: Block. replica EXT:	No
035.199: Block. tV/f>> EXT:	No
035.182: Reset replica EXT:	No
041.229: Enabled:	Yes
035.184: Reset replica:	No
041.230: Starting V/f>:	No
041.231: tV/f> elapsed:	No
041.232: Starting V/f(t):	No
041.233: Trip signal tV/f(t):	No
041.234: Starting V/f>>:	No
041.235: tV/f>> elapsed:	No
041.236: Buffer empty:	Yes

LOGIC

034.000: Input 1 EXT:	No
034.001: Input 2 EXT:	No
034.002: Input 3 EXT:	No
034.003: Input 4 EXT:	No
034.004: Input 5 EXT:	No
034.005: Input 6 EXT:	No
034.006: Input 7 EXT:	No
034.007: Input 8 EXT:	No
034.008: Input 9 EXT:	No
034.009: Input 10 EXT:	No
034.010: Input 11 EXT:	No
034.011: Input 12 EXT:	No
034.012: Input 13 EXT:	No
034.013: Input 14 EXT:	No
034.014: Input 15 EXT:	No
034.015: Input 16 EXT:	No
034.086: Input 17 EXT:	No
034.087: Input 18 EXT:	No
034.088: Input 19 EXT:	No
034.089: Input 20 EXT:	No
034.090: Input 21 EXT:	No



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Model Number: 621

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034.091: Input 22 EXT:	No
034.092: Input 23 EXT:	No
034.093: Input 24 EXT:	No
034.094: Input 25 EXT:	No
034.095: Input 26 EXT:	No
034.096: Input 27 EXT:	No
034.097: Input 28 EXT:	No
034.098: Input 29 EXT:	No
034.099: Input 30 EXT:	No
034.100: Input 31 EXT:	No
034.101: Input 32 EXT:	No
034.102: Input 33 EXT:	No
034.103: Input 34 EXT:	No
034.104: Input 35 EXT:	No
034.105: Input 36 EXT:	No
034.106: Input 37 EXT:	No
034.107: Input 38 EXT:	No
034.108: Input 39 EXT:	No
034.109: Input 40 EXT:	No
034.051: Set 1 EXT:	No
034.052: Set 2 EXT:	No
034.053: Set 3 EXT:	No
034.054: Set 4 EXT:	No
034.055: Set 5 EXT:	No
034.056: Set 6 EXT:	No
034.057: Set 7 EXT:	No
034.058: Set 8 EXT:	No
034.059: Reset 1 EXT:	No
034.060: Reset 2 EXT:	No
034.061: Reset 3 EXT:	No
034.062: Reset 4 EXT:	No
034.063: Reset 5 EXT:	No
034.064: Reset 6 EXT:	No
034.065: Reset 7 EXT:	No
034.066: Reset 8 EXT:	No
034.067: 1 has been set:	No
034.068: 2 has been set:	No
034.069: 3 has been set:	No
034.070: 4 has been set:	No
034.071: 5 has been set:	No
034.072: 6 has been set:	No
034.073: 7 has been set:	No
034.074: 8 has been set:	No
034.075: 1 set externally:	Yes
034.076: 2 set externally:	Yes
034.077: 3 set externally:	Yes
034.078: 4 set externally:	Yes
034.079: 5 set externally:	Yes
034.080: 6 set externally:	Yes
034.081: 7 set externally:	Yes
034.082: 8 set externally:	Yes
034.046: Enabled:	Yes
042.032: Output 1:	No
042.033: Output 1 (t):	No
042.034: Output 2:	No
042.035: Output 2 (t):	No
042.036: Output 3:	No
042.037: Output 3 (t):	No
042.038: Output 4:	No
042.039: Output 4 (t):	No
042.040: Output 5:	No
042.041: Output 5 (t):	No
042.042: Output 6:	No
042.043: Output 6 (t):	No
042.044: Output 7:	No
042.045: Output 7 (t):	No



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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042.046: Output 8:	No
042.047: Output 8 (t):	No
042.048: Output 9:	No
042.049: Output 9 (t):	No
042.050: Output 10:	No
042.051: Output 10 (t):	No
042.052: Output 11:	No
042.053: Output 11 (t):	No
042.054: Output 12:	No
042.055: Output 12 (t):	No
042.056: Output 13:	No
042.057: Output 13 (t):	No
042.058: Output 14:	No
042.059: Output 14 (t):	No
042.060: Output 15:	No
042.061: Output 15 (t):	No
042.062: Output 16:	No
042.063: Output 16 (t):	No
042.064: Output 17:	No
042.065: Output 17 (t):	No
042.066: Output 18:	No
042.067: Output 18 (t):	No
042.068: Output 19:	No
042.069: Output 19 (t):	No
042.070: Output 20:	No
042.071: Output 20 (t):	No
042.072: Output 21:	No
042.073: Output 21 (t):	No
042.074: Output 22:	No
042.075: Output 22 (t):	No
042.076: Output 23:	No
042.077: Output 23 (t):	No
042.078: Output 24:	No
042.079: Output 24 (t):	No
042.080: Output 25:	No
042.081: Output 25 (t):	No
042.082: Output 26:	No
042.083: Output 26 (t):	No
042.084: Output 27:	No
042.085: Output 27 (t):	No
042.086: Output 28:	No
042.087: Output 28 (t):	No
042.088: Output 29:	No
042.089: Output 29 (t):	No
042.090: Output 30:	No
042.091: Output 30 (t):	No
042.092: Output 31:	No
042.093: Output 31 (t):	No
042.094: Output 32:	No
042.095: Output 32 (t):	No

Control and testing**LOC**

003.010: Param. change enabl.: No

COMM2

103.180: Sel.spontan.sig.test: Without function
103.184: Test spont.sig.start: don't execute
103.186: Test spont.sig. end: don't execute

OUTP

021.009: Reset latch. USER: don't execute
003.042: Relay assign. f.test: Without function
003.043: Relay test: don't execute
003.044: Hold-time for test: 1 s

MAIN

003.002: General reset USER: don't execute
021.010: Reset indicat. USER: don't execute
021.005: Rset.latch.trip USER: don't execute



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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	003.007: Reset c. cl/tr.cUSER:	don't execute
	003.033: Reset IP,max,st.USER:	don't execute
	005.253: Group reset 1 USER:	don't execute
	005.254: Group reset 2 USER:	don't execute
	003.040: Man. trip cmd. USER:	don't execute
	003.039: Warm restart:	don't execute
	000.085: Cold restart:	don't execute
OP_RC		
	100.001: Reset record. USER:	don't execute
MT_RC		
	003.008: Reset record. USER:	don't execute
OL_RC		
	100.003: Reset record. USER:	don't execute
FT_RC		
	003.041: Trigger USER:	don't execute
	003.006: Reset record. USER:	don't execute
V/f		
	035.183: Reset replica USER:	don't execute
LOGIC		
	034.038: Trigger 1:	don't execute
	034.039: Trigger 2:	don't execute
	034.040: Trigger 3:	don't execute
	034.041: Trigger 4:	don't execute
	034.042: Trigger 5:	don't execute
	034.043: Trigger 6:	don't execute
	034.044: Trigger 7:	don't execute
	034.045: Trigger 8:	don't execute
Operating data rec.		
OP_RC		
	003.024: Operat. data record.:	0
MT_RC		
	003.001: Mon. signal record.:	0
Events		
Event counters		
MAIN		
	004.000: No. general start.:	1029
	004.006: No. gen.trip cmds. 1:	935
	009.050: No. gen.trip cmds. 2:	892
	009.056: No. gen.trip cmds. 3:	0
	009.057: No. gen.trip cmds. 4:	0
OP_RC		
	100.002: No. oper. data sig.:	100
MT_RC		
	004.019: No. monit. signals:	0
OL_RC		
	004.101: No. overload:	0
FT_RC		
	004.020: No. of faults:	1582
	004.010: No. system disturb.:	1582
DTOC2		
	009.160: No. general start.:	143
Measured fault data		
OL_DA		
	004.102: Overload duration:	Not measured
	004.155: Status THRM1 replica:	Not measured
	004.159: Load current THRM1:	Not measured
	004.156: Object temp. THRM1:	Not measured
	004.157: Coolant temp.TH RM1:	Not measured
	004.158: Pre-trip t.leftTHRM1:	Not measured
	004.191: Offset THRM1 replica:	Not measured
	004.185: Status THRM2 replica:	Not measured
	004.189: Load current THRM2:	Not measured
	004.186: Object temp. THRM2:	Not measured
	004.187: Coolant temp.TH RM2:	Not measured
	004.188: Pre-trip t.leftTHRM2:	Not measured
FT_DA		



Settings File Report
Substation: 400KV SWYD
File: 240924.x3v
Model Number: 621

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008.010:	Fault duration:	Not measured
004.021:	Running time:	Not measured
004.198:	Fault determ. with:	No fault
004.199:	Run time to meas.:	Not measured
025.086:	Fault curr.IP,a p.u.:	Not measured
025.087:	Fault curr.IN,a p.u.:	Not measured
025.088:	Fault curr.IY,a p.u.:	Not measured
026.086:	Fault curr.IP,b p.u.:	Not measured
026.087:	Fault curr.IN,b p.u.:	Not measured
026.088:	Fault curr.IY,b p.u.:	Not measured
005.082:	Diff. current 1:	Not measured
005.084:	Diff.current 1(2*f0):	Not measured
005.085:	Diff.current 1(5*f0):	Not measured
005.083:	Restrain. current 1:	Not measured
006.082:	Diff. current 2:	Not measured
006.084:	Diff.current 2(2*f0):	Not measured
006.085:	Diff.current 2(5*f0):	Not measured
006.083:	Restrain. current 2:	Not measured
007.082:	Diff. current 3:	Not measured
007.084:	Diff.current 3(2*f0):	Not measured
007.085:	Diff.current 3(5*f0):	Not measured
007.083:	Restrain. current 3:	Not measured
025.082:	Diff. current REF_1:	Not measured
025.083:	Restrain.curr. REF_1:	Not measured
026.082:	Diff. current REF_2:	Not measured
026.083:	Restrain.curr. REF_2:	Not measured
Event recordings		
OL_RC		
033.020:	Overload recording 1:	0
033.021:	Overload recording 2:	0
033.022:	Overload recording 3:	0
033.023:	Overload recording 4:	0
033.024:	Overload recording 5:	0
033.025:	Overload recording 6:	0
033.026:	Overload recording 7:	0
033.027:	Overload recording 8:	0
FT_RC		
003.000:	Fault recording 1:	0
033.001:	Fault recording 2:	0
033.002:	Fault recording 3:	0
033.003:	Fault recording 4:	0
033.004:	Fault recording 5:	0
033.005:	Fault recording 6:	0
033.006:	Fault recording 7:	0
033.007:	Fault recording 8:	0

REF Protection



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 17:02:29

SYSTEM DATA	
00.01: Language:	English
00.02: Password: ****	
00.03: Sys Fn Links:	0
00.04: Description:	MiCOM P141
00.05: Plant Reference:	MiCOM
00.06: Model Number:	P141316A6M0430J
00.08: Serial Number:	116013T
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	1
00.0C: Plant Status:	0000000000000000
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.10: CB Trip/Close:	No Operation
00.11: Software Ref. 1:	P141____6__430_C
00.20: Opto I/P Status:	10000000
00.21: Relay O/P Status:	00000000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.30: Opto I/P Status:	10000000
00.40: Relay O/P Status:	00000000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	2
00.D1: Password Control:	2
00.D2: Password Level 1:	****
00.D3: Password Level 2:	****
CB CONTROL	
07.01: CB Control by:	Disabled
07.08: Lockout Reset:	No
07.09: Reset Lockout by:	CB Close
07.0A: Man Close RstDly:	5.000 s
07.11: CB Status Input:	None
DATE AND TIME	
08.01: Date/Time:	2024-09-24 11:29:13.472
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Disabled
08.20: LocalTime Enable:	Fixed
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0B: System Config:	Visible
09.10: Overcurrent:	Enabled
09.11: Neg Sequence O/C:	Disabled
09.12: Broken Conductor:	Disabled
09.13: Earth Fault 1:	Enabled
09.14: Earth Fault 2:	Disabled
09.15: SEF/REF Prot'n:	Enabled
09.16: Residual O/V NVD:	Disabled
09.17: Thermal Overload:	Disabled
09.18: Neg Sequence O/V:	Disabled
09.19: Cold Load Pickup:	Disabled
09.1A: Selective Logic:	Disabled
09.1B: Admit Protection:	Disabled
09.1C: Power Protection:	Disabled



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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09.1D: Volt Protection: Disabled
09.1E: Freq Protection: Disabled
09.20: CB Fail: Disabled
09.21: Supervision: Disabled
09.22: Fault Locator: Disabled
09.25: Input Labels: Visible
09.26: Output Labels: Visible
09.27: Adv. Freq Prot'n: Disabled
09.28: CT & VT Ratios: Visible
09.29: Record Control: Invisible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Visible
09.2C: Comms Settings: Visible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Primary
09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.FF: LCD Contrast: 11

CT AND VT RATIOS

0A.01: Main VT Primary: 400.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.07: Phase CT Primary: 500.0 A
0A.08: Phase CT Sec'y: 1.000 A
0A.09: E/F CT Primary: 500.0 A
0A.0A: E/F CT Secondary: 1.000 A
0A.0B: SEF CT Primary: 1750 A
0A.0C: SEF CT Secondary: 1.000 A

DISTURB RECORDER

0C.01: Duration: 1.500 s
0C.02: Trigger Position: 33.30 %
0C.03: Trigger Mode: Single
0C.04: Analog Channel 1: VA
0C.05: Analog Channel 2: VB
0C.06: Analog Channel 3: VC
0C.07: Analog Channel 4: IA
0C.08: Analog Channel 5: IB
0C.09: Analog Channel 6: IC
0C.0A: Analog Channel 7: IN
0C.0B: Analog Channel 8: IN Sensitive
0C.0C: Analog Channel 9: Frequency
0C.0D: Digital Input 1: Output R1
0C.0E: Input 1 Trigger: Trigger L/H
0C.0F: Digital Input 2: Output R2
0C.10: Input 2 Trigger: Trigger L/H
0C.11: Digital Input 3: I>1 Trip
0C.12: Input 3 Trigger: Trigger L/H
0C.13: Digital Input 4: I>2 Trip
0C.14: Input 4 Trigger: Trigger L/H
0C.15: Digital Input 5: IN1>1 Trip
0C.16: Input 5 Trigger: Trigger L/H
0C.17: Digital Input 6: IN1>2 Trip
0C.18: Input 6 Trigger: Trigger L/H
0C.19: Digital Input 7: IREF> Trip
0C.1A: Input 7 Trigger: Trigger L/H
0C.1B: Digital Input 8: Input L1
0C.1C: Input 8 Trigger: Trigger L/H
0C.1D: Digital Input 9: Input L2
0C.1E: Input 9 Trigger: Trigger L/H
0C.1F: Digital Input 10: Input L3
0C.20: Input 10 Trigger: Trigger L/H
0C.21: Digital Input 11: Input L4
0C.22: Input 11 Trigger: Trigger L/H
0C.23: Digital Input 12: Input L5
0C.24: Input 12 Trigger: Trigger L/H



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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OC.25: Digital Input 13: Input L6
OC.26: Input 13 Trigger: Trigger L/H
OC.27: Digital Input 14: Input L7
OC.28: Input 14 Trigger: Trigger L/H
OC.29: Digital Input 15: Input L8
OC.2A: Input 15 Trigger: Trigger H/L
OC.2B: Digital Input 16: IN1>4 Trip
OC.2C: Input 16 Trigger: Trigger L/H
OC.2D: Digital Input 17: Unused
OC.2F: Digital Input 18: Unused
OC.31: Digital Input 19: Unused
OC.33: Digital Input 20: Unused
OC.35: Digital Input 21: Unused
OC.37: Digital Input 22: Unused
OC.39: Digital Input 23: Unused
OC.3B: Digital Input 24: Unused
OC.3D: Digital Input 25: Unused
OC.3F: Digital Input 26: Unused
OC.41: Digital Input 27: Unused
OC.43: Digital Input 28: Unused
OC.45: Digital Input 29: Unused
OC.47: Digital Input 30: Unused
OC.49: Digital Input 31: Unused
OC.4B: Digital Input 32: IN1>4 Trip
OC.4C: Input 32 Trigger: Trigger L/H

MEASURE'T SETUP

OD.01: Default Display: Description
OD.02: Local Values: Primary
OD.03: Remote Values: Primary
OD.04: Measurement Ref: VA
OD.05: Measurement Mode: 0
OD.06: Fix Dem Period: 30.00 min
OD.07: Roll Sub Period: 30.00 min
OD.08: Num Sub Periods: 1

COMMISSION TESTS

OF.01: Opto I/P Status: 10000000
OF.02: Relay O/P Status: 00000000
OF.03: Test Port Status: 00000000
OF.04: LED Status: 00000000
OF.05: Monitor Bit 1: 64
OF.06: Monitor Bit 2: 65
OF.07: Monitor Bit 3: 66
OF.08: Monitor Bit 4: 67
OF.09: Monitor Bit 5: 68
OF.0A: Monitor Bit 6: 69
OF.0B: Monitor Bit 7: 70
OF.0C: Monitor Bit 8: 71
OF.0D: Test Mode: Disabled
OF.0E: Test Pattern: 00000000
OF.0F: Contact Test: No Operation
OF.10: Test LEDs: No Operation
OF.20: DDB 31 - 0: 00000000000000000000000000000000
OF.21: DDB 63 - 32: 00000000000000000000000000000000
OF.22: DDB 95 - 64: 00000000000000000000000000000000
OF.23: DDB 127 - 96: 00000000000000000000000000000000
OF.24: DDB 159 - 128: 00000000000000000000000000000000
OF.25: DDB 191 - 160: 00000000000000000000000000000000
OF.26: DDB 223 - 192: 00000000000000000000000000000000
OF.27: DDB 255 - 224: 00000000000000000000000000000000
OF.28: DDB 287 - 256: 00000000000000000000000000000000
OF.29: DDB 319 - 288: 00000000000000000000000000000000
OF.2A: DDB 351 - 320: 00000000000000000000000000000000
OF.2B: DDB 383 - 352: 00000011111000000000000000000000
OF.2C: DDB 415 - 384: 00000000000000000000000000000000
OF.2D: DDB 447 - 416: 00000000000000000000000000000000
OF.2E: DDB 479 - 448: 00000000000000000000000000000000



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Substation: 400KV SWYD
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OF.2F: DDB 511 - 480:	00000000000000000000000000000000
OF.30: DDB 543 - 512:	00000000000000000000000000000000
OF.31: DDB 575 - 544:	00000000000000000000000000000000
OF.32: DDB 607 - 576:	00000000000000000000000000000000
OF.33: DDB 639 - 608:	00000000000000000000000000000000
OF.34: DDB 671 - 640:	00000000000000000000000000000000
OF.35: DDB 703 - 672:	00000000000000000000000000000000
OF.36: DDB 735 - 704:	00000000000000000000000000000000
OF.37: DDB 767 - 736:	00000000000000000000000000000000
OF.38: DDB 799 - 768:	00000000000000000000000000000000
OF.39: DDB 831 - 800:	00000000000000000000000000000000
OF.3A: DDB 863 - 832:	00000000000000000000000000000000
OF.3B: DDB 895 - 864:	00000000000000000000000000000000
OF.3C: DDB 927 - 896:	00000000000000000000000000000000
OF.3D: DDB 959 - 928:	00000000000000000000000000000000
OF.3E: DDB 991 - 960:	00000000000000000000000000000000
OF.3F: DDB 1023 - 992:	00000000000000000000000000000000
OF.40: DDB 1055 - 1024:	00000000000000000000000000000000
OF.41: DDB 1087 - 1056:	00000000000000000000000000000000
OF.42: DDB 1119 - 1088:	00000000000000000000000000000000
OF.43: DDB 1151 - 1120:	00000000000000000000000000000000
OF.44: DDB 1183 - 1152:	00000000000000000000000000000000
OF.45: DDB 1215 - 1184:	00000000000000000000000000000000
OF.46: DDB 1247 - 1216:	00000000000000000000000000000000
OF.47: DDB 1279 - 1248:	00000000000000000000000000000000
OF.48: DDB 1311 - 1280:	00000000000000000000000000000000
OF.49: DDB 1343 - 1312:	00000000000000000000000000000000
OF.4A: DDB 1375 - 1344:	00000000000000000000000000000000
OF.4B: DDB 1407 - 1376:	00000000000000000000000000000000
OF.4C: DDB 1439 - 1408:	00000000000000000000000000000000
OF.4D: DDB 1471 - 1440:	00000000000000000000000000000000
OF.4E: DDB 1503 - 1472:	00000000000000000000000000000000
OF.4F: DDB 1535 - 1504:	00000000000000000000000000000000
CB MONITOR SETUP	
10.01: Broken I^:	2.000
10.02: I^ Maintenance:	Alarm Disabled
10.04: I^ Lockout:	Alarm Disabled
10.06: No. CB Ops Maint:	Alarm Disabled
10.08: No. CB Ops Lock:	Alarm Disabled
10.0A: CB Time Maint:	Alarm Disabled
10.0C: CB Time Lockout:	Alarm Disabled
10.0E: Fault Freq Lock:	Alarm Disabled
OPTO CONFIG	
11.01: Global Nominal V:	48/54V
11.50: Opto Filter Cntl:	11111111
11.80: Characteristic:	Standard 60%-80%
CONTROL INPUTS	
12.01: Ctrl I/P Status:	00000000000000000000000000000000
12.02: Control Input 1:	No Operation
12.03: Control Input 2:	No Operation
12.04: Control Input 3:	No Operation
12.05: Control Input 4:	No Operation
12.06: Control Input 5:	No Operation
12.07: Control Input 6:	No Operation
12.08: Control Input 7:	No Operation
12.09: Control Input 8:	No Operation
12.0A: Control Input 9:	No Operation
12.0B: Control Input 10:	No Operation
12.0C: Control Input 11:	No Operation
12.0D: Control Input 12:	No Operation
12.0E: Control Input 13:	No Operation
12.0F: Control Input 14:	No Operation
12.10: Control Input 15:	No Operation
12.11: Control Input 16:	No Operation
12.12: Control Input 17:	No Operation
12.13: Control Input 18:	No Operation



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File: 240924.set
Model Number: P141316A6M0430J

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12.14: Control Input 19: No Operation
12.15: Control Input 20: No Operation
12.16: Control Input 21: No Operation
12.17: Control Input 22: No Operation
12.18: Control Input 23: No Operation
12.19: Control Input 24: No Operation
12.1A: Control Input 25: No Operation
12.1B: Control Input 26: No Operation
12.1C: Control Input 27: No Operation
12.1D: Control Input 28: No Operation
12.1E: Control Input 29: No Operation
12.1F: Control Input 30: No Operation
12.20: Control Input 31: No Operation
12.21: Control Input 32: No Operation

CTRL I/P CONFIG

13.01: Hotkey Enabled: 11111111111111111111111111111111
13.10: Control Input 1: Latched
13.11: Ctrl Command 1: SET/RESET
13.14: Control Input 2: Latched
13.15: Ctrl Command 2: SET/RESET
13.18: Control Input 3: Latched
13.19: Ctrl Command 3: SET/RESET
13.1C: Control Input 4: Latched
13.1D: Ctrl Command 4: SET/RESET
13.20: Control Input 5: Latched
13.21: Ctrl Command 5: SET/RESET
13.24: Control Input 6: Latched
13.25: Ctrl Command 6: SET/RESET
13.28: Control Input 7: Latched
13.29: Ctrl Command 7: SET/RESET
13.2C: Control Input 8: Latched
13.2D: Ctrl Command 8: SET/RESET
13.30: Control Input 9: Latched
13.31: Ctrl Command 9: SET/RESET
13.34: Control Input 10: Latched
13.35: Ctrl Command 10: SET/RESET
13.38: Control Input 11: Latched
13.39: Ctrl Command 11: SET/RESET
13.3C: Control Input 12: Latched
13.3D: Ctrl Command 12: SET/RESET
13.40: Control Input 13: Latched
13.41: Ctrl Command 13: SET/RESET
13.44: Control Input 14: Latched
13.45: Ctrl Command 14: SET/RESET
13.48: Control Input 15: Latched
13.49: Ctrl Command 15: SET/RESET
13.4C: Control Input 16: Latched
13.4D: Ctrl Command 16: SET/RESET
13.50: Control Input 17: Latched
13.51: Ctrl Command 17: SET/RESET
13.54: Control Input 18: Latched
13.55: Ctrl Command 18: SET/RESET
13.58: Control Input 19: Latched
13.59: Ctrl Command 19: SET/RESET
13.5C: Control Input 20: Latched
13.5D: Ctrl Command 20: SET/RESET
13.60: Control Input 21: Latched
13.61: Ctrl Command 21: SET/RESET
13.64: Control Input 22: Latched
13.65: Ctrl Command 22: SET/RESET
13.68: Control Input 23: Latched
13.69: Ctrl Command 23: SET/RESET
13.6C: Control Input 24: Latched
13.6D: Ctrl Command 24: SET/RESET
13.70: Control Input 25: Latched
13.71: Ctrl Command 25: SET/RESET



Settings File Report
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13.74: Control Input 26: Latched
13.75: Ctrl Command 26: SET/RESET
13.78: Control Input 27: Latched
13.79: Ctrl Command 27: SET/RESET
13.7C: Control Input 28: Latched
13.7D: Ctrl Command 28: SET/RESET
13.80: Control Input 29: Latched
13.81: Ctrl Command 29: SET/RESET
13.84: Control Input 30: Latched
13.85: Ctrl Command 30: SET/RESET
13.88: Control Input 31: Latched
13.89: Ctrl Command 31: SET/RESET
13.8C: Control Input 32: Latched
13.8D: Ctrl Command 32: SET/RESET

IED CONFIGURATOR

19.05: Switch Conf.Bank: No action
19.0A: Restore MCL: No action
19.10: Active Conf.Name: Not Available
19.11: Active Conf.Rev: Not Available
19.20: Inact.Conf.Name: Not Available
19.21: Inact.Conf.Rev: Not Available
19.30: IP PARAMETERS:
19.31: IP address: Not Available
19.32: Subnet mask: Not Available
19.33: Gateway: Not Available
19.40: SNTP PARAMETERS:
19.41: SNTP Server 1: Not Available
19.42: SNTP Server 2: Not Available
19.50: IEC 61850 SCL:
19.51: IED Name: Not Available
19.60: IEC 61850 GOOSE:
19.70: GoEna: 00000000
19.71: Test Mode: 00000000
19.73: Ignore Test Flag: No

CTRL I/P LABELS

29.01: Control Input 1: Control Input 1
29.02: Control Input 2: Control Input 2
29.03: Control Input 3: Control Input 3
29.04: Control Input 4: Control Input 4
29.05: Control Input 5: Control Input 5
29.06: Control Input 6: Control Input 6
29.07: Control Input 7: Control Input 7
29.08: Control Input 8: Control Input 8
29.09: Control Input 9: Control Input 9
29.0A: Control Input 10: Control Input 10
29.0B: Control Input 11: Control Input 11
29.0C: Control Input 12: Control Input 12
29.0D: Control Input 13: Control Input 13
29.0E: Control Input 14: Control Input 14
29.0F: Control Input 15: Control Input 15
29.10: Control Input 16: Control Input 16
29.11: Control Input 17: Control Input 17
29.12: Control Input 18: Control Input 18
29.13: Control Input 19: Control Input 19
29.14: Control Input 20: Control Input 20
29.15: Control Input 21: Control Input 21
29.16: Control Input 22: Control Input 22
29.17: Control Input 23: Control Input 23
29.18: Control Input 24: Control Input 24
29.19: Control Input 25: Control Input 25
29.1A: Control Input 26: Control Input 26
29.1B: Control Input 27: Control Input 27
29.1C: Control Input 28: Control Input 28
29.1D: Control Input 29: Control Input 29
29.1E: Control Input 30: Control Input 30
29.1F: Control Input 31: Control Input 31



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29.20: Control Input 32: Control Input 32
Group 1
GROUP 1 SYSTEM CONFIG
30.02: Phase Sequence: Standard ABC
30.03: 2NDHARM BLOCKING:
30.04: 2nd Harmonic: Disabled
GROUP 1 OVERCURRENT
35.23: I>1 Function: DT
35.24: I>1 Direction: Directional Fwd
35.27: I>1 Current Set: 185.0 A
35.29: I>1 Time Delay: 1.100 s
35.2F: I>1 tRESET: 0 s
35.32: I>2 Function: DT
35.33: I>2 Direction: Directional Fwd
35.36: I>2 Current Set: 1200 A
35.38: I>2 Time Delay: 100.0 ms
35.3E: I>2 tRESET: 0 s
35.40: I>3 Status: Disabled
35.47: I>4 Status: Disabled
35.4E: I> Blocking: 000001111
35.4F: I> Char Angle: 45.00 deg
35.51: V CONTROLLED O/C:
35.52: VCO Status: Disabled
GROUP 1 EARTH FAULT 1
38.01: IN1> Input: Measured
38.25: IN1>1 Function: DT
38.26: IN1>1 Direction: Directional Fwd
38.29: IN1>1 Current: 50.00 A
38.2C: IN1>1 Time Delay: 1.000 s
38.33: IN1>1 tRESET: 0 s
38.36: IN1>2 Function: DT
38.37: IN1>2 Direction: Directional Fwd
38.3A: IN1>2 Current: 215.0 A
38.3D: IN1>2 Time Delay: 50.00 ms
38.44: IN1>2 tRESET: 0 s
38.46: IN1>3 Status: Disabled
38.4D: IN1>4 Status: Enabled
38.4E: IN1>4 Direction: Directional Fwd
38.51: IN1>4 Current: 125.0 A
38.52: IN1>4 Time Delay: 20.00 ms
38.54: IN1> Blocking: 00001111
38.55: IN1> POL:
38.56: IN1> Char Angle: -15.00 deg
38.57: IN1> Pol: Zero Sequence
38.59: IN1> VNpol Set: 18.18 kV
GROUP 1 SEF/REF PROT'N
3A.01: SEF/REF Options: Hi Z REF
3A.60: RESTRICTED E/F:
3A.65: IREF> Is: 175.0 A
GROUP 1 CB FAIL & I<
45.08: UNDER CURRENT:
45.09: I< Current Set: 50.00 A
45.0A: IN< Current Set: 50.00 A
45.0B: ISEF< Current: 35.00 A
GROUP 1 INPUT LABELS
4A.01: Opto Input 1: PRV1 TRIP
4A.02: Opto Input 2: PRV2 TRIP
4A.03: Opto Input 3: OTI ALARM
4A.04: Opto Input 4: WTI HV TRIP
4A.05: Opto Input 5: MOG ALARM
4A.06: Opto Input 6: BUCHOLZ TRIP
4A.07: Opto Input 7: 86B OPTD
4A.08: Opto Input 8: 86B SUPVN
GROUP 1 OUTPUT LABELS
4B.01: Relay 1: TRIP86A
4B.02: Relay 2: TRIP86B



.....	4B.03: Relay 3:	Output R3
.....	4B.04: Relay 4:	Output R4
.....	4B.05: Relay 5:	51N UP STR_64RHV
.....	4B.06: Relay 6:	Output R6
.....	4B.07: Relay 7:	51N UP STR TO LV
.....	Group 2	
.....	Group 3	
.....	Group 4	

LV OC Protection



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

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SYSTEM DATA	
00.01: Language:	English
00.02: Password: ****	
00.03: Sys Fn Links:	0
00.04: Description:	MiCOM P141
00.05: Plant Reference:	MiCOM
00.06: Model Number:	P141316A6M0430J
00.08: Serial Number:	116002T
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	1
00.0C: Plant Status:	0000000000000000
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.10: CB Trip/Close:	No Operation
00.11: Software Ref. 1:	P141____6__430_C
00.20: Opto I/P Status:	00000000
00.21: Relay O/P Status:	00000000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.30: Opto I/P Status:	00000000
00.40: Relay O/P Status:	00000000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	2
00.D1: Password Control:	2
00.D2: Password Level 1:	****
00.D3: Password Level 2:	****
CB CONTROL	
07.01: CB Control by:	Disabled
07.08: Lockout Reset:	No
07.09: Reset Lockout by:	CB Close
07.0A: Man Close RstDly:	5.000 s
07.11: CB Status Input:	None
DATE AND TIME	
08.01: Date/Time:	2024-09-24 11:38:53.735
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Disabled
08.20: LocalTime Enable:	Fixed
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0B: System Config:	Invisible
09.10: Overcurrent:	Disabled
09.11: Neg Sequence O/C:	Disabled
09.12: Broken Conductor:	Disabled
09.13: Earth Fault 1:	Disabled
09.14: Earth Fault 2:	Disabled
09.15: SEF/REF Prot'n:	Enabled
09.16: Residual O/V NVD:	Disabled
09.17: Thermal Overload:	Disabled
09.18: Neg Sequence O/V:	Disabled
09.19: Cold Load Pickup:	Disabled
09.1A: Selective Logic:	Disabled
09.1B: Admit Protection:	Disabled
09.1C: Power Protection:	Disabled



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 17:03:34

09.1D: Volt Protection: Disabled
09.1E: Freq Protection: Disabled
09.20: CB Fail: Disabled
09.21: Supervision: Disabled
09.22: Fault Locator: Disabled
09.25: Input Labels: Visible
09.26: Output Labels: Visible
09.27: Adv. Freq Prot'n: Disabled
09.28: CT & VT Ratios: Visible
09.29: Record Control: Invisible
09.2A: Disturb Recorder: Visible
09.2B: Measure't Setup: Invisible
09.2C: Comms Settings: Visible
09.2D: Commission Tests: Visible
09.2E: Setting Values: Primary
09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.FF: LCD Contrast: 11

CT AND VT RATIOS

0A.01: Main VT Primary: 400.0 kV
0A.02: Main VT Sec'y: 110.0 V
0A.07: Phase CT Primary: 500.0 A
0A.08: Phase CT Sec'y: 1.000 A
0A.09: E/F CT Primary: 500.0 A
0A.0A: E/F CT Secondary: 1.000 A
0A.0B: SEF CT Primary: 200.0 A
0A.0C: SEF CT Secondary: 1.000 A

DISTURB RECORDER

0C.01: Duration: 1.500 s
0C.02: Trigger Position: 33.30 %
0C.03: Trigger Mode: Single
0C.04: Analog Channel 1: VA
0C.05: Analog Channel 2: VB
0C.06: Analog Channel 3: VC
0C.07: Analog Channel 4: IA
0C.08: Analog Channel 5: IB
0C.09: Analog Channel 6: IC
0C.0A: Analog Channel 7: IN
0C.0B: Analog Channel 8: IN Sensitive
0C.0C: Analog Channel 9: Frequency
0C.0D: Digital Input 1: IREF> Trip
0C.0E: Input 1 Trigger: Trigger L/H
0C.0F: Digital Input 2: Output R2
0C.10: Input 2 Trigger: Trigger L/H
0C.11: Digital Input 3: Output R3
0C.12: Input 3 Trigger: Trigger L/H
0C.13: Digital Input 4: Output R4
0C.14: Input 4 Trigger: Trigger L/H
0C.15: Digital Input 5: Output R5
0C.16: Input 5 Trigger: Trigger L/H
0C.17: Digital Input 6: Output R6
0C.18: Input 6 Trigger: No Trigger
0C.19: Digital Input 7: Output R7
0C.1A: Input 7 Trigger: Trigger L/H
0C.1B: Digital Input 8: Input L1
0C.1C: Input 8 Trigger: Trigger L/H
0C.1D: Digital Input 9: Input L2
0C.1E: Input 9 Trigger: Trigger L/H
0C.1F: Digital Input 10: Input L3
0C.20: Input 10 Trigger: Trigger L/H
0C.21: Digital Input 11: Input L4
0C.22: Input 11 Trigger: Trigger L/H
0C.23: Digital Input 12: Input L5
0C.24: Input 12 Trigger: Trigger L/H



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 17:03:35

OC.25: Digital Input 13: Input L6
OC.26: Input 13 Trigger: Trigger L/H
OC.27: Digital Input 14: Input L7
OC.28: Input 14 Trigger: Trigger L/H
OC.29: Digital Input 15: Input L8
OC.2A: Input 15 Trigger: Trigger L/H
OC.2B: Digital Input 16: Unused
OC.2D: Digital Input 17: Unused
OC.2F: Digital Input 18: Unused
OC.31: Digital Input 19: Unused
OC.33: Digital Input 20: Unused
OC.35: Digital Input 21: Unused
OC.37: Digital Input 22: Unused
OC.39: Digital Input 23: Unused
OC.3B: Digital Input 24: Unused
OC.3D: Digital Input 25: Unused
OC.3F: Digital Input 26: Unused
OC.41: Digital Input 27: Unused
OC.43: Digital Input 28: Unused
OC.45: Digital Input 29: Unused
OC.47: Digital Input 30: Unused
OC.49: Digital Input 31: Unused
OC.4B: Digital Input 32: Unused

COMMISSION TESTS

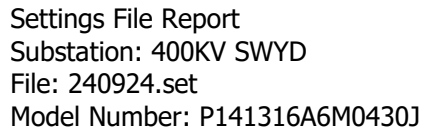
OF.01: Opto I/P Status: 00000000
OF.02: Relay O/P Status: 00000000
OF.03: Test Port Status: 00000000
OF.04: LED Status: 00000000
OF.05: Monitor Bit 1: 64
OF.06: Monitor Bit 2: 65
OF.07: Monitor Bit 3: 66
OF.08: Monitor Bit 4: 67
OF.09: Monitor Bit 5: 68
OF.0A: Monitor Bit 6: 69
OF.0B: Monitor Bit 7: 70
OF.0C: Monitor Bit 8: 71
OF.0D: Test Mode: Disabled
OF.0E: Test Pattern: 00000000
OF.0F: Contact Test: No Operation
OF.10: Test LEDs: No Operation
OF.20: DDB 31 - 0: 00000000000000000000000000000000
OF.21: DDB 63 - 32: 00000000000000000000000000000000
OF.22: DDB 95 - 64: 00000000000000000000000000000000
OF.23: DDB 127 - 96: 00000000000000000000000000000000
OF.24: DDB 159 - 128: 00000000000000000000000000000000
OF.25: DDB 191 - 160: 00000000000000000000000000000000
OF.26: DDB 223 - 192: 00000000000000000000000000000000
OF.27: DDB 255 - 224: 0000000000000000000000000000100000
OF.28: DDB 287 - 256: 00000000000000000000000000000000
OF.29: DDB 319 - 288: 00000000000000000000000000000000
OF.2A: DDB 351 - 320: 00000000000000000000000000000000
OF.2B: DDB 383 - 352: 11110011111000000000000000000000
OF.2C: DDB 415 - 384: 00001000000000000000000000000000
OF.2D: DDB 447 - 416: 00000000000000000000000000000000
OF.2E: DDB 479 - 448: 00000000000000000000000000000000
OF.2F: DDB 511 - 480: 00000000000000000000000000000000
OF.30: DDB 543 - 512: 00000000000000000000000000000000
OF.31: DDB 575 - 544: 00000000000000000000000000000000
OF.32: DDB 607 - 576: 00000000000000000000000000000000
OF.33: DDB 639 - 608: 00000000000000000000000000000000
OF.34: DDB 671 - 640: 00000000000000000000000000000000
OF.35: DDB 703 - 672: 00000000000000000000000000000000
OF.36: DDB 735 - 704: 00000000000000000000000000000000
OF.37: DDB 767 - 736: 00000000000000000000000000000000
OF.38: DDB 799 - 768: 00000000000000000000000000000000
OF.39: DDB 831 - 800: 00000000000000000000000000000000



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 17:03:35

OF.3A:	DDB 863 - 832:	00000000000000000000000000000000
OF.3B:	DDB 895 - 864:	00000000000000000000000000000000
OF.3C:	DDB 927 - 896:	00000000000000000000000000000000
OF.3D:	DDB 959 - 928:	00000000000000000000000000000000
OF.3E:	DDB 991 - 960:	00000000000000000000000000000000
OF.3F:	DDB 1023 - 992:	00000000000000000000000000000000
OF.40:	DDB 1055 - 1024:	00000000000000000000000000000000
OF.41:	DDB 1087 - 1056:	00000000000000000000000000000000
OF.42:	DDB 1119 - 1088:	00000000000000000000000000000000
OF.43:	DDB 1151 - 1120:	00000000000000000000000000000000
OF.44:	DDB 1183 - 1152:	00000000000000000000000000000000
OF.45:	DDB 1215 - 1184:	00000000000000000000000000000000
OF.46:	DDB 1247 - 1216:	00000000000000000000000000000000
OF.47:	DDB 1279 - 1248:	00000000000000000000000000000000
OF.48:	DDB 1311 - 1280:	00000000000000000000000000000000
OF.49:	DDB 1343 - 1312:	00000000000000000000000000000000
OF.4A:	DDB 1375 - 1344:	00000000000000000000000000000000
OF.4B:	DDB 1407 - 1376:	00000000000000000000000000000000
OF.4C:	DDB 1439 - 1408:	00000000000000000000000000000000
OF.4D:	DDB 1471 - 1440:	00000000000000000000000000000000
OF.4E:	DDB 1503 - 1472:	00000000000000000000000000000000
OF.4F:	DDB 1535 - 1504:	00000000000000000000000000000000
CB MONITOR SETUP		
10.01:	Broken I [^] :	2.000
10.02:	I [^] Maintenance:	Alarm Disabled
10.04:	I [^] Lockout:	Alarm Disabled
10.06:	No. CB Ops Maint:	Alarm Disabled
10.08:	No. CB Ops Lock:	Alarm Disabled
10.0A:	CB Time Maint:	Alarm Disabled
10.0C:	CB Time Lockout:	Alarm Disabled
10.0E:	Fault Freq Lock:	Alarm Disabled
OPTO CONFIG		
11.01:	Global Nominal V:	220/250V
11.50:	Opto Filter Cntl:	11111111
11.80:	Characteristic:	Standard 60%-80%
CONTROL INPUTS		
12.01:	Ctrl I/P Status:	00000000000000000000000000000000
12.02:	Control Input 1:	No Operation
12.03:	Control Input 2:	No Operation
12.04:	Control Input 3:	No Operation
12.05:	Control Input 4:	No Operation
12.06:	Control Input 5:	No Operation
12.07:	Control Input 6:	No Operation
12.08:	Control Input 7:	No Operation
12.09:	Control Input 8:	No Operation
12.0A:	Control Input 9:	No Operation
12.0B:	Control Input 10:	No Operation
12.0C:	Control Input 11:	No Operation
12.0D:	Control Input 12:	No Operation
12.0E:	Control Input 13:	No Operation
12.0F:	Control Input 14:	No Operation
12.10:	Control Input 15:	No Operation
12.11:	Control Input 16:	No Operation
12.12:	Control Input 17:	No Operation
12.13:	Control Input 18:	No Operation
12.14:	Control Input 19:	No Operation
12.15:	Control Input 20:	No Operation
12.16:	Control Input 21:	No Operation
12.17:	Control Input 22:	No Operation
12.18:	Control Input 23:	No Operation
12.19:	Control Input 24:	No Operation
12.1A:	Control Input 25:	No Operation
12.1B:	Control Input 26:	No Operation
12.1C:	Control Input 27:	No Operation
12.1D:	Control Input 28:	No Operation
12.1E:	Control Input 29:	No Operation



Easergy Studio



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 17:03:36

.....	13.89: Ctrl Command 31: SET/RESET
.....	13.8C: Control Input 32: Latched
.....	13.8D: Ctrl Command 32: SET/RESET
.....	IED CONFIGURATOR
.....	19.05: Switch Conf.Bank: No action
.....	19.0A: Restore MCL: No action
.....	19.10: Active Conf.Name: Not Available
.....	19.11: Active Conf.Rev: Not Available
.....	19.20: Inact.Conf.Name: Not Available
.....	19.21: Inact.Conf.Rev: Not Available
.....	19.30: IP PARAMETERS:
.....	19.31: IP address: Not Available
.....	19.32: Subnet mask: Not Available
.....	19.33: Gateway: Not Available
.....	19.40: SNTP PARAMETERS:
.....	19.41: SNTP Server 1: Not Available
.....	19.42: SNTP Server 2: Not Available
.....	19.50: IEC 61850 SCL:
.....	19.51: IED Name: Not Available
.....	19.60: IEC 61850 GOOSE:
.....	19.70: GoEna: 00000000
.....	19.71: Test Mode: 00000000
.....	19.73: Ignore Test Flag: No
.....	CTRL I/P LABELS
.....	29.01: Control Input 1: Control Input 1
.....	29.02: Control Input 2: Control Input 2
.....	29.03: Control Input 3: Control Input 3
.....	29.04: Control Input 4: Control Input 4
.....	29.05: Control Input 5: Control Input 5
.....	29.06: Control Input 6: Control Input 6
.....	29.07: Control Input 7: Control Input 7
.....	29.08: Control Input 8: Control Input 8
.....	29.09: Control Input 9: Control Input 9
.....	29.0A: Control Input 10: Control Input 10
.....	29.0B: Control Input 11: Control Input 11
.....	29.0C: Control Input 12: Control Input 12
.....	29.0D: Control Input 13: Control Input 13
.....	29.0E: Control Input 14: Control Input 14
.....	29.0F: Control Input 15: Control Input 15
.....	29.10: Control Input 16: Control Input 16
.....	29.11: Control Input 17: Control Input 17
.....	29.12: Control Input 18: Control Input 18
.....	29.13: Control Input 19: Control Input 19
.....	29.14: Control Input 20: Control Input 20
.....	29.15: Control Input 21: Control Input 21
.....	29.16: Control Input 22: Control Input 22
.....	29.17: Control Input 23: Control Input 23
.....	29.18: Control Input 24: Control Input 24
.....	29.19: Control Input 25: Control Input 25
.....	29.1A: Control Input 26: Control Input 26
.....	29.1B: Control Input 27: Control Input 27
.....	29.1C: Control Input 28: Control Input 28
.....	29.1D: Control Input 29: Control Input 29
.....	29.1E: Control Input 30: Control Input 30
.....	29.1F: Control Input 31: Control Input 31
.....	29.20: Control Input 32: Control Input 32
.....	Group 1
.....	GROUP 1 SEF/REF PROT'N
.....	3A.01: SEF/REF Options: Hi Z REF
.....	3A.60: RESTRICTED E/F:
.....	3A.65: IREF> Is: 14.00 A
.....	GROUP 1 CB FAIL & I<
.....	45.08: UNDER CURRENT:
.....	45.09: I< Current Set: 50.00 A
.....	45.0A: IN< Current Set: 50.00 A
.....	45.0B: ISEF< Current: 4.000 A



Settings File Report
Substation: 400KV SWYD
File: 240924.set
Model Number: P141316A6M0430J

Printed on: 27/09/2024 17:03:36

GROUP 1 INPUT LABELS
4A.01: Opto Input 1: WTI ALARM
4A.02: Opto Input 2: OTI TRIP
4A.03: Opto Input 3: BUCHOLZ ALARM
4A.04: Opto Input 4: 51N STRT FM 67HV
4A.05: Opto Input 5: Input L5
4A.06: Opto Input 6: Input L6
4A.07: Opto Input 7: Input L7
4A.08: Opto Input 8: Input L8
GROUP 1 OUTPUT LABELS
4B.01: Relay 1: 86 A TRIP
4B.02: Relay 2: 86B TRIP
4B.03: Relay 3: Output R3
4B.04: Relay 4: Output R4
4B.05: Relay 5: Output R5
4B.06: Relay 6: Output R6
4B.07: Relay 7: Output R7
Group 2
Group 3
Group 4

BUSBAR PROTECTION

400kV-CUA



Settings File Report

Substation:

File: 240924.set

Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:43:57

SYSTEM DATA	
00.01: Language:	English
00.02: Password: ****	
00.04: Description:	MiCOM P741
00.05: Plant Reference:	MiCOM
00.06: Model Number:	P741336A6M0400K
00.08: Serial Number:	507647P
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	6
00.0C: Plant Status:	0000000000000000
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.11: Software Ref. 1:	D2.6
00.12: Software Ref. 2:	D2.6
00.20: Opto I/P Status:	00010001
00.21: Relay O/P Status:	00010000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.40: Relay O/P Status:	00010000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	2
00.D1: Password Control:	2
00.D2: Password Level 1:	****
00.D3: Password Level 2:	****
PU CONF & STATUS	
06.01: PU in service:	11111111111000000000000000000000
06.02: PU connected:	11111111111000000000000000000000
06.03: PU topo valid:	11111111111000000000000000000000
06.04: Reset Circ Fault:	No
06.05: Circ Fault Alarm:	00000000
06.06: Circ Fault Phase:	
06.07: Reset PU Error:	No
06.08: PU Error Locked:	00000000
06.09: 87BB monitoring:	00000000
06.0A: 87BB&50BF disabl:	00000000
DATE AND TIME	
08.01: Date/Time:	2024-09-24 17:29:17.208
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Enabled
08.13: SNTP Status:	Server 1 OK
08.20: LocalTime Enable:	Fixed
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0F: Busbar Option:	Visible
09.10: Diff Busbar Prot:	Enabled
09.25: Input Labels:	Visible
09.26: Output Labels:	Visible
09.29: Record Control:	Visible
09.2A: Disturb Recorder:	Visible
09.2B: Measure't Setup:	Visible
09.2C: Comms Settings:	Invisible
09.2D: Commission Tests:	Visible
09.2E: Setting Values:	Primary



Settings File Report

Substation:

File: 240924.set

Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:43:57

09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.50: Function Key: Visible

RECORD CONTROL

0B.04: Alarm Event: Enabled
0B.05: Relay O/P Event: Enabled
0B.06: Opto Input Event: Enabled
0B.07: General Event: Enabled
0B.08: Fault Rec Event: Enabled
0B.09: Maint Rec Event: Enabled
0B.0A: Protection Event: Enabled
0B.0B: DDB 31 - 0: 11111111111111111111111111111111
0B.0C: DDB 63 - 32: 11111111111111111111111111111111
0B.0D: DDB 95 - 64: 11111111111111111111111111111111
0B.0E: DDB 127 - 96: 11111111111111111111111111111111
0B.0F: DDB 159 - 128: 11111111111111111111111111111111
0B.10: DDB 191 - 160: 11111111111111111111111111111111
0B.11: DDB 223 - 192: 11111111111111111111111111111111
0B.12: DDB 255 - 224: 11111111111111111111111111111111
0B.13: DDB 287 - 256: 11111111111111111111111111111111
0B.14: DDB 319 - 288: 11111111111111111111111111111111
0B.15: DDB 351 - 320: 11111111111111111111111111111111
0B.16: DDB 383 - 352: 11111111111111111111111111111111
0B.17: DDB 415 - 384: 11111111111111111111111111111111
0B.18: DDB 447 - 416: 11111111111111111111111111111111
0B.19: DDB 479 - 448: 11111111111111111111111111111111
0B.1A: DDB 511 - 480: 11111111111111111111111111111111
0B.1B: DDB 543 - 512: 11111111111111111111111111111111
0B.1C: DDB 575 - 544: 11111111111111111111111111111111
0B.1D: DDB 607 - 576: 11111111111111111111111111111111
0B.1E: DDB 639 - 608: 11111111111111111111111111111111
0B.1F: DDB 671 - 640: 11111111111111111111111111111111
0B.20: DDB 703 - 672: 11111111111111111111111111111111
0B.21: DDB 735 - 704: 11111111111111111111111111111111
0B.22: DDB 767 - 736: 11111111111111111111111111111111
0B.23: DDB 799 - 768: 11111111111111111111111111111111
0B.24: DDB 831 - 800: 11111111111111111111111111111111
0B.25: DDB 863 - 832: 11111111111111111111111111111111
0B.26: DDB 895 - 864: 11111111111111111111111111111111
0B.27: DDB 927 - 896: 11111111111111111111111111111111
0B.28: DDB 959 - 928: 11111111111111111111111111111111
0B.29: DDB 991 - 960: 11111111111111111111111111111111
0B.2A: DDB 1022 - 992: 11111111111111111111111111111111
0B.30: Clear Dist Recs: No

DISTURB RECORDER

0C.01: Duration: 1.200 s
0C.02: Trigger Position: 33.34 %
0C.03: Trigger Mode: Single
0C.04: Analog Channel 1: IA Diff
0C.05: Analog Channel 2: IB Diff
0C.06: Analog Channel 3: IC Diff
0C.07: Analog Channel 4: IN Diff
0C.08: Analog Channel 5: IA Bias
0C.09: Analog Channel 6: IB Bias
0C.0A: Analog Channel 7: IC Bias
0C.0B: Analog Channel 8: IN Bias
0C.0C: Digital Input 1: Circut Flt Lck z1
0C.0D: Digital Input 2: Circut Flt Lck z2
0C.0E: Digital Input 3: 87BB Blocked
0C.0F: Digital Input 4: Ext Start DR
0C.10: Digital Input 5: Earth Fault
0C.11: Digital Input 6: Fault Check Zone
0C.12: Digital Input 7: Fault Phase A
0C.13: Digital Input 8: Fault Phase B



Settings File Report

Substation:

File: 240924.set

Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:43:57

OC.14: Digital Input 9:	Fault Phase C
OC.15: Digital Input 10:	Flt 87BB Zone 1
OC.16: Digital Input 11:	Flt 87BB Zone 2
OC.17: Digital Input 12:	Manual Start DR
OC.18: Digital Input 13:	Topo/Set Changed
OC.19: Digital Input 14:	Trip Manual Zone
OC.1A: Digital Input 15:	Trip 50BF Zone 1
OC.1B: Digital Input 16:	Trip 50BF Zone 2
OC.1C: Digital Input 17:	Trip 87BB Zone 1
OC.1D: Digital Input 18:	Trip 87BB Zone 2
OC.1E: Digital Input 19:	PU Error Lck z1
OC.1F: Digital Input 20:	PU Error Lck z2
OC.20: Digital Input 21:	unused
OC.21: Digital Input 22:	unused
OC.22: Digital Input 23:	unused
OC.23: Digital Input 24:	unused
OC.24: Digital Input 25:	unused
OC.25: Digital Input 26:	unused
OC.26: Digital Input 27:	unused
OC.27: Digital Input 28:	unused
OC.28: Digital Input 29:	unused
OC.29: Digital Input 30:	unused
OC.2A: Digital Input 31:	unused
OC.2B: Digital Input 32:	unused
OC.2C: Manual Trigger:	No
OC.2D: Zone To Record:	10000000
MEASURE'T SETUP	
OD.01: Default Display:	IDiff CZ
OD.02: Local Values:	Primary
OD.03: Remote Values:	Primary
COMMISSION TESTS	
OF.01: Opto I/P Status:	00010001
OF.02: Relay O/P Status:	00010000
OF.03: Test Port Status:	00010000
OF.05: Monitor Bit 1:	Relay Label 01
OF.06: Monitor Bit 2:	Relay Label 02
OF.07: Monitor Bit 3:	Relay Label 03
OF.08: Monitor Bit 4:	Relay Label 04
OF.09: Monitor Bit 5:	Relay Label 05
OF.0A: Monitor Bit 6:	Relay Label 06
OF.0B: Monitor Bit 7:	Relay Label 07
OF.0C: Monitor Bit 8:	Relay Label 08
OF.0D: Test Mode:	Disabled
OF.10: Test LEDs:	No operation
OF.12: 87BB monitoring:	00000000
OF.13: 87BB&50BF disabl:	00000000
OF.14: 87BBTrip Pattern:	00000000
OF.15: 87BB Trip Order:	No operation
OF.16: Red LED Status:	000000000000000000
OF.17: Green LED Status:	000000000000000000
OF.30: DDB 543 - 512:	00000000000000000000000000000000
OF.31: DDB 575 - 544:	00000000000000000000000000000000
OF.32: DDB 607 - 576:	00000000000000000000000000000000
OF.33: DDB 639 - 608:	00000000000000000000000000000000
OF.34: DDB 671 - 640:	00000000000000000000000000000000
OF.35: DDB 703 - 672:	00000000000000000000000000000000
OF.36: DDB 735 - 704:	00000000000000000000000000000001
OF.37: DDB 767 - 736:	00000000000000000000000000000000
OF.38: DDB 799 - 768:	00000000000000000000000000000000
OF.39: DDB 831 - 800:	00000000000000000000000000000000
OF.3A: DDB 863 - 832:	00000000000000000000000000000000
OF.3B: DDB 895 - 864:	00000000000000000000000000000000
OF.3C: DDB 927 - 896:	00000000000000000000000000000000
OF.3D: DDB 959 - 928:	00000000000000000000000000000000
OF.3E: DDB 991 - 960:	00000000000000000000000000000000
OF.3F: DDB 1022 - 992:	00000000000000000000000000000000



Settings File Report

Substation:

File: 240924.set

Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:43:58

OPTO CONFIG	
11.01: Global Nominal V: 220/250V	
CTRL I/P CONFIG	
13.01: Hotkey Enabled:	11111111111111111111111111111111
13.10: Control Input 1:	Latched
13.11: Ctrl Command 1:	SET/RESET
13.14: Control Input 2:	Latched
13.15: Ctrl Command 2:	SET/RESET
13.18: Control Input 3:	Latched
13.19: Ctrl Command 3:	SET/RESET
13.1C: Control Input 4:	Latched
13.1D: Ctrl Command 4:	SET/RESET
13.20: Control Input 5:	Latched
13.21: Ctrl Command 5:	SET/RESET
13.24: Control Input 6:	Latched
13.25: Ctrl Command 6:	SET/RESET
13.28: Control Input 7:	Latched
13.29: Ctrl Command 7:	SET/RESET
13.2C: Control Input 8:	Latched
13.2D: Ctrl Command 8:	SET/RESET
13.30: Control Input 9:	Latched
13.31: Ctrl Command 9:	SET/RESET
13.34: Control Input 10:	Latched
13.35: Ctrl Command 10:	SET/RESET
13.38: Control Input 11:	Latched
13.39: Ctrl Command 11:	SET/RESET
13.3C: Control Input 12:	Latched
13.3D: Ctrl Command 12:	SET/RESET
13.40: Control Input 13:	Latched
13.41: Ctrl Command 13:	SET/RESET
13.44: Control Input 14:	Latched
13.45: Ctrl Command 14:	SET/RESET
13.48: Control Input 15:	Latched
13.49: Ctrl Command 15:	SET/RESET
13.4C: Control Input 16:	Latched
13.4D: Ctrl Command 16:	SET/RESET
13.50: Control Input 17:	Latched
13.51: Ctrl Command 17:	SET/RESET
13.54: Control Input 18:	Latched
13.55: Ctrl Command 18:	SET/RESET
13.58: Control Input 19:	Latched
13.59: Ctrl Command 19:	SET/RESET
13.5C: Control Input 20:	Latched
13.5D: Ctrl Command 20:	SET/RESET
13.60: Control Input 21:	Latched
13.61: Ctrl Command 21:	SET/RESET
13.64: Control Input 22:	Latched
13.65: Ctrl Command 22:	SET/RESET
13.68: Control Input 23:	Latched
13.69: Ctrl Command 23:	SET/RESET
13.6C: Control Input 24:	Latched
13.6D: Ctrl Command 24:	SET/RESET
13.70: Control Input 25:	Latched
13.71: Ctrl Command 25:	SET/RESET
13.74: Control Input 26:	Latched
13.75: Ctrl Command 26:	SET/RESET
13.78: Control Input 27:	Latched
13.79: Ctrl Command 27:	SET/RESET
13.7C: Control Input 28:	Latched
13.7D: Ctrl Command 28:	SET/RESET
13.80: Control Input 29:	Latched
13.81: Ctrl Command 29:	SET/RESET
13.84: Control Input 30:	Latched
13.85: Ctrl Command 30:	SET/RESET
13.88: Control Input 31:	Latched
13.89: Ctrl Command 31:	SET/RESET



Settings File Report
Substation:
File: 240924.set
Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:43:58

13.8C: Control Input 32: Latched
13.8D: Ctrl Command 32: SET/RESET

FUNCTION KEYS

17.01: Fn Key Status: 0000000000
17.02: Fn Key 1: Unlocked
17.03: Fn Key 1 Mode: Normal
17.04: Fn Key 1 Label: Function Key 1
17.05: Fn Key 2: Unlocked
17.06: Fn Key 2 Mode: Normal
17.07: Fn Key 2 Label: Function Key 2
17.08: Fn Key 3: Unlocked
17.09: Fn Key 3 Mode: Normal
17.0A: Fn Key 3 Label: Function Key 3
17.0B: Fn Key 4: Unlocked
17.0C: Fn Key 4 Mode: Normal
17.0D: Fn Key 4 Label: Function Key 4
17.0E: Fn Key 5: Unlocked
17.0F: Fn Key 5 Mode: Normal
17.10: Fn Key 5 Label: Function Key 5
17.11: Fn Key 6: Unlocked
17.12: Fn Key 6 Mode: Normal
17.13: Fn Key 6 Label: Function Key 6
17.14: Fn Key 7: Unlocked
17.15: Fn Key 7 Mode: Normal
17.16: Fn Key 7 Label: Function Key 7
17.17: Fn Key 8: Unlocked
17.18: Fn Key 8 Mode: Normal
17.19: Fn Key 8 Label: Function Key 8
17.1A: Fn Key 9: Unlocked
17.1B: Fn Key 9 Mode: Normal
17.1C: Fn Key 9 Label: Function Key 9
17.1D: Fn Key 10: Unlocked
17.1E: Fn Key 10 Mode: Normal
17.1F: Fn Key 10 Label: Function Key 10

IED CONFIGURATOR

19.70: GoEna: Disabled

CTRL I/P LABELS

29.01: Control Input 1: Control Input 1
29.02: Control Input 2: Control Input 2
29.03: Control Input 3: Control Input 3
29.04: Control Input 4: Control Input 4
29.05: Control Input 5: Control Input 5
29.06: Control Input 6: Control Input 6
29.07: Control Input 7: Control Input 7
29.08: Control Input 8: Control Input 8
29.09: Control Input 9: Control Input 9
29.0A: Control Input 10: Control Input 10
29.0B: Control Input 11: Control Input 11
29.0C: Control Input 12: Control Input 12
29.0D: Control Input 13: Control Input 13
29.0E: Control Input 14: Control Input 14
29.0F: Control Input 15: Control Input 15
29.10: Control Input 16: Control Input 16
29.11: Control Input 17: Control Input 17
29.12: Control Input 18: Control Input 18
29.13: Control Input 19: Control Input 19
29.14: Control Input 20: Control Input 20
29.15: Control Input 21: Control Input 21
29.16: Control Input 22: Control Input 22
29.17: Control Input 23: Control Input 23
29.18: Control Input 24: Control Input 24
29.19: Control Input 25: Control Input 25
29.1A: Control Input 26: Control Input 26
29.1B: Control Input 27: Control Input 27
29.1C: Control Input 28: Control Input 28
29.1D: Control Input 29: Control Input 29



Settings File Report

Substation:

File: 240924.set

Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:43:58

29.1E: Control Input 30:	Control Input 30
29.1F: Control Input 31:	Control Input 31
29.20: Control Input 32:	Control Input 32
Group 1	
GROUP 1 DIFF BUSBAR PROT	
30.01: GROUP 1 Diff Phase Fault:	
30.02: GROUP 1 CZ Parameters:	
30.04: Phase Slope kCZ:	30.00 %
30.05: IDCZ>2 Current:	2400 A
30.06: GROUP 1 Zone Parameters:	
30.08: Phase Slope k2:	65.00 %
30.09: ID>2 Current:	2400 A
30.0A: GROUP 1 Common:	
30.0B: ID>1 Current:	80.00 A
30.0C: Phase Slope k1:	10.00 %
30.0D: ID>1 Alarm Timer:	600.0 s
30.10: Diff Earth Fault:	Disabled
GROUP 1 BUSBAR OPTION	
31.01: CZ Circ Flt Mode:	Alarm Latched
31.02: Zx Circ Flt Mode:	Self-Reset
31.03: Circuitry tReset:	60.00 s
31.04: Circ. Blok Mode:	Blocking / phase
31.05: CZ PU Err.Mode:	Alarm Latched
31.06: Zx PU Err.Mode:	Alarm Latched
31.07: PU Error Timer:	5.000 s
31.08: PU Error tReset:	60.00 s
31.09: SEF Block Alarm:	Disabled
31.0A: Reset PU Error:	Without Comm Err
GROUP 1 INPUT LABELS	
4A.01: Opto Input 1:	BB IN SERVICE
4A.02: Opto Input 2:	M1 OUT OF SERVIC
4A.03: Opto Input 3:	BB OUT OF SERVIC
4A.04: Opto Input 4:	RELAY RESET
4A.05: Opto Input 5:	M2 CT HEALTHY
4A.06: Opto Input 6:	CUB UNHEALTHY
4A.07: Opto Input 7:	Opto Label 07
4A.08: Opto Input 8:	Opto Label 08
GROUP 1 OUTPUT LABELS	
4B.01: Relay 1:	Relay Label 01
4B.02: Relay 2:	SPARE
4B.03: Relay 3:	SPARE
4B.04: Relay 4:	SPARE
4B.05: Relay 5:	TO OPT M1 CT HEL
4B.06: Relay 6:	M1 CT F/M2 CT H
4B.07: Relay 7:	TO M1 F/M2 CT H
4B.08: Relay 8:	Relay Label 08
Group 2	
Group 3	
Group 4	

400kV-CUB



Settings File Report

Substation:

File: 240924.set

Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:44:38

SYSTEM DATA	
00.01: Language:	English
00.02: Password: ****	
00.04: Description:	MiCOM P741
00.05: Plant Reference:	MiCOM
00.06: Model Number:	P741336A6M0400K
00.08: Serial Number:	507646P
00.09: Frequency:	50 Hz
00.0A: Comms Level:	2
00.0B: Relay Address:	6
00.0C: Plant Status:	0000000000000000
00.0D: Control Status:	0000000000000000
00.0E: Active Group:	1
00.11: Software Ref. 1:	D2.6
00.12: Software Ref. 2:	D2.6
00.20: Opto I/P Status:	00010001
00.21: Relay O/P Status:	00010000
00.22: Alarm Status 1:	00000000000000000000000000000000
00.40: Relay O/P Status:	00010000
00.50: Alarm Status 1:	00000000000000000000000000000000
00.51: Alarm Status 2:	00000000000000000000000000000000
00.52: Alarm Status 3:	00000000000000000000000000000000
00.D0: Access Level:	2
00.D1: Password Control:	2
00.D2: Password Level 1:	****
00.D3: Password Level 2:	****
PU CONF & STATUS	
06.01: PU in service:	11111111111000000000000000000000
06.02: PU connected:	11111111111000000000000000000000
06.03: PU topo valid:	11111111111000000000000000000000
06.04: Reset Circ Fault:	No
06.05: Circ Fault Alarm:	00000000
06.06: Circ Fault Phase:	
06.07: Reset PU Error:	No
06.08: PU Error Locked:	00000000
06.09: 87BB monitoring:	00000000
06.0A: 87BB&50BF disabl:	00000000
DATE AND TIME	
08.01: Date/Time:	2024-09-24 17:33:11.72
08.06: Battery Status:	Healthy
08.07: Battery Alarm:	Enabled
08.13: SNTP Status:	Server 1 OK
08.20: LocalTime Enable:	Fixed
08.21: LocalTime Offset:	330.0 min
08.22: DST Enable:	Disabled
CONFIGURATION	
09.01: Restore Defaults:	No Operation
09.02: Setting Group:	Select via Menu
09.03: Active Settings:	Group 1
09.04: Save Changes:	No Operation
09.05: Copy From:	Group 1
09.06: Copy To:	No Operation
09.07: Setting Group 1:	Enabled
09.08: Setting Group 2:	Disabled
09.09: Setting Group 3:	Disabled
09.0A: Setting Group 4:	Disabled
09.0F: Busbar Option:	Visible
09.10: Diff Busbar Prot:	Enabled
09.25: Input Labels:	Visible
09.26: Output Labels:	Visible
09.29: Record Control:	Visible
09.2A: Disturb Recorder:	Visible
09.2B: Measure't Setup:	Visible
09.2C: Comms Settings:	Invisible
09.2D: Commission Tests:	Visible
09.2E: Setting Values:	Primary



Settings File Report

Substation:

File: 240924.set

Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:44:39

09.2F: Control Inputs: Visible
09.35: Ctrl I/P Config: Visible
09.36: Ctrl I/P Labels: Visible
09.39: Direct Access: Enabled
09.50: Function Key: Visible

RECORD CONTROL

0B.04: Alarm Event: Enabled
0B.05: Relay O/P Event: Enabled
0B.06: Opto Input Event: Enabled
0B.07: General Event: Enabled
0B.08: Fault Rec Event: Enabled
0B.09: Maint Rec Event: Enabled
0B.0A: Protection Event: Enabled
0B.0B: DDB 31 - 0: 11111111111111111111111111111111
0B.0C: DDB 63 - 32: 11111111111111111111111111111111
0B.0D: DDB 95 - 64: 11111111111111111111111111111111
0B.0E: DDB 127 - 96: 11111111111111111111111111111111
0B.0F: DDB 159 - 128: 11111111111111111111111111111111
0B.10: DDB 191 - 160: 11111111111111111111111111111111
0B.11: DDB 223 - 192: 11111111111111111111111111111111
0B.12: DDB 255 - 224: 11111111111111111111111111111111
0B.13: DDB 287 - 256: 11111111111111111111111111111111
0B.14: DDB 319 - 288: 11111111111111111111111111111111
0B.15: DDB 351 - 320: 11111111111111111111111111111111
0B.16: DDB 383 - 352: 11111111111111111111111111111111
0B.17: DDB 415 - 384: 11111111111111111111111111111111
0B.18: DDB 447 - 416: 11111111111111111111111111111111
0B.19: DDB 479 - 448: 11111111111111111111111111111111
0B.1A: DDB 511 - 480: 11111111111111111111111111111111
0B.1B: DDB 543 - 512: 11111111111111111111111111111111
0B.1C: DDB 575 - 544: 11111111111111111111111111111111
0B.1D: DDB 607 - 576: 11111111111111111111111111111111
0B.1E: DDB 639 - 608: 11111111111111111111111111111111
0B.1F: DDB 671 - 640: 11111111111111111111111111111111
0B.20: DDB 703 - 672: 11111111111111111111111111111111
0B.21: DDB 735 - 704: 11111111111111111111111111111111
0B.22: DDB 767 - 736: 11111111111111111111111111111111
0B.23: DDB 799 - 768: 11111111111111111111111111111111
0B.24: DDB 831 - 800: 11111111111111111111111111111111
0B.25: DDB 863 - 832: 11111111111111111111111111111111
0B.26: DDB 895 - 864: 11111111111111111111111111111111
0B.27: DDB 927 - 896: 11111111111111111111111111111111
0B.28: DDB 959 - 928: 11111111111111111111111111111111
0B.29: DDB 991 - 960: 11111111111111111111111111111111
0B.2A: DDB 1022 - 992: 11111111111111111111111111111111
0B.30: Clear Dist Recs: No

DISTURB RECORDER

0C.01: Duration: 1.200 s
0C.02: Trigger Position: 33.34 %
0C.03: Trigger Mode: Single
0C.04: Analog Channel 1: IA Diff
0C.05: Analog Channel 2: IB Diff
0C.06: Analog Channel 3: IC Diff
0C.07: Analog Channel 4: IN Diff
0C.08: Analog Channel 5: IA Bias
0C.09: Analog Channel 6: IB Bias
0C.0A: Analog Channel 7: IC Bias
0C.0B: Analog Channel 8: IN Bias
0C.0C: Digital Input 1: Circut Flt Lck z1
0C.0D: Digital Input 2: Circut Flt Lck z2
0C.0E: Digital Input 3: 87BB Blocked
0C.0F: Digital Input 4: Ext Start DR
0C.10: Digital Input 5: Earth Fault
0C.11: Digital Input 6: Fault Check Zone
0C.12: Digital Input 7: Fault Phase A
0C.13: Digital Input 8: Fault Phase B



Settings File Report

Substation:

File: 240924.set

Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:44:39

OC.14: Digital Input 9:	Fault Phase C
OC.15: Digital Input 10:	Flt 87BB Zone 1
OC.16: Digital Input 11:	Flt 87BB Zone 2
OC.17: Digital Input 12:	Manual Start DR
OC.18: Digital Input 13:	Topo/Set Changed
OC.19: Digital Input 14:	Trip Manual Zone
OC.1A: Digital Input 15:	Trip 50BF Zone 1
OC.1B: Digital Input 16:	Trip 50BF Zone 2
OC.1C: Digital Input 17:	Trip 87BB Zone 1
OC.1D: Digital Input 18:	Trip 87BB Zone 2
OC.1E: Digital Input 19:	PU Error Lck z1
OC.1F: Digital Input 20:	PU Error Lck z2
OC.20: Digital Input 21:	unused
OC.21: Digital Input 22:	unused
OC.22: Digital Input 23:	unused
OC.23: Digital Input 24:	unused
OC.24: Digital Input 25:	unused
OC.25: Digital Input 26:	unused
OC.26: Digital Input 27:	unused
OC.27: Digital Input 28:	unused
OC.28: Digital Input 29:	unused
OC.29: Digital Input 30:	unused
OC.2A: Digital Input 31:	unused
OC.2B: Digital Input 32:	unused
OC.2C: Manual Trigger:	No
OC.2D: Zone To Record:	10000000
MEASURE'T SETUP	
OD.01: Default Display:	IDiff CZ
OD.02: Local Values:	Primary
OD.03: Remote Values:	Primary
COMMISSION TESTS	
OF.01: Opto I/P Status:	00010001
OF.02: Relay O/P Status:	00010000
OF.03: Test Port Status:	00010000
OF.05: Monitor Bit 1:	Relay Label 01
OF.06: Monitor Bit 2:	Relay Label 02
OF.07: Monitor Bit 3:	Relay Label 03
OF.08: Monitor Bit 4:	Relay Label 04
OF.09: Monitor Bit 5:	Relay Label 05
OF.0A: Monitor Bit 6:	Relay Label 06
OF.0B: Monitor Bit 7:	Relay Label 07
OF.0C: Monitor Bit 8:	Relay Label 08
OF.0D: Test Mode:	Disabled
OF.10: Test LEDs:	No operation
OF.12: 87BB monitoring:	00000000
OF.13: 87BB&50BF disabl:	00000000
OF.14: 87BBTrip Pattern:	00000000
OF.15: 87BB Trip Order:	No operation
OF.16: Red LED Status:	000000000000000000
OF.17: Green LED Status:	000000000000000000
OF.30: DDB 543 - 512:	00000000000000000000000000000000
OF.31: DDB 575 - 544:	00000000000000000000000000000000
OF.32: DDB 607 - 576:	00000000000000000000000000000000
OF.33: DDB 639 - 608:	00000000000000000000000000000000
OF.34: DDB 671 - 640:	00000000000000000000000000000000
OF.35: DDB 703 - 672:	00000000000000000000000000000000
OF.36: DDB 735 - 704:	00000000000000000000000000000001
OF.37: DDB 767 - 736:	00000000000000000000000000000000
OF.38: DDB 799 - 768:	00000000000000000000000000000000
OF.39: DDB 831 - 800:	00000000000000000000000000000000
OF.3A: DDB 863 - 832:	00000000000000000000000000000000
OF.3B: DDB 895 - 864:	00000000000000000000000000000000
OF.3C: DDB 927 - 896:	00000000000000000000000000000000
OF.3D: DDB 959 - 928:	00000000000000000000000000000000
OF.3E: DDB 991 - 960:	00000000000000000000000000000000
OF.3F: DDB 1022 - 992:	00000000000000000000000000000000



Settings File Report

Substation:

File: 240924.set

Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:44:39

OPTO CONFIG	
11.01: Global Nominal V:	220/250V
CTRL I/P CONFIG	
13.01: Hotkey Enabled:	11111111111111111111111111111111
13.10: Control Input 1:	Latched
13.11: Ctrl Command 1:	SET/RESET
13.14: Control Input 2:	Latched
13.15: Ctrl Command 2:	SET/RESET
13.18: Control Input 3:	Latched
13.19: Ctrl Command 3:	SET/RESET
13.1C: Control Input 4:	Latched
13.1D: Ctrl Command 4:	SET/RESET
13.20: Control Input 5:	Latched
13.21: Ctrl Command 5:	SET/RESET
13.24: Control Input 6:	Latched
13.25: Ctrl Command 6:	SET/RESET
13.28: Control Input 7:	Latched
13.29: Ctrl Command 7:	SET/RESET
13.2C: Control Input 8:	Latched
13.2D: Ctrl Command 8:	SET/RESET
13.30: Control Input 9:	Latched
13.31: Ctrl Command 9:	SET/RESET
13.34: Control Input 10:	Latched
13.35: Ctrl Command 10:	SET/RESET
13.38: Control Input 11:	Latched
13.39: Ctrl Command 11:	SET/RESET
13.3C: Control Input 12:	Latched
13.3D: Ctrl Command 12:	SET/RESET
13.40: Control Input 13:	Latched
13.41: Ctrl Command 13:	SET/RESET
13.44: Control Input 14:	Latched
13.45: Ctrl Command 14:	SET/RESET
13.48: Control Input 15:	Latched
13.49: Ctrl Command 15:	SET/RESET
13.4C: Control Input 16:	Latched
13.4D: Ctrl Command 16:	SET/RESET
13.50: Control Input 17:	Latched
13.51: Ctrl Command 17:	SET/RESET
13.54: Control Input 18:	Latched
13.55: Ctrl Command 18:	SET/RESET
13.58: Control Input 19:	Latched
13.59: Ctrl Command 19:	SET/RESET
13.5C: Control Input 20:	Latched
13.5D: Ctrl Command 20:	SET/RESET
13.60: Control Input 21:	Latched
13.61: Ctrl Command 21:	SET/RESET
13.64: Control Input 22:	Latched
13.65: Ctrl Command 22:	SET/RESET
13.68: Control Input 23:	Latched
13.69: Ctrl Command 23:	SET/RESET
13.6C: Control Input 24:	Latched
13.6D: Ctrl Command 24:	SET/RESET
13.70: Control Input 25:	Latched
13.71: Ctrl Command 25:	SET/RESET
13.74: Control Input 26:	Latched
13.75: Ctrl Command 26:	SET/RESET
13.78: Control Input 27:	Latched
13.79: Ctrl Command 27:	SET/RESET
13.7C: Control Input 28:	Latched
13.7D: Ctrl Command 28:	SET/RESET
13.80: Control Input 29:	Latched
13.81: Ctrl Command 29:	SET/RESET
13.84: Control Input 30:	Latched
13.85: Ctrl Command 30:	SET/RESET
13.88: Control Input 31:	Latched
13.89: Ctrl Command 31:	SET/RESET



Settings File Report
Substation:
File: 240924.set
Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:44:40

13.8C: Control Input 32: Latched
13.8D: Ctrl Command 32: SET/RESET

FUNCTION KEYS

17.01: Fn Key Status: 0000000000
17.02: Fn Key 1: Unlocked
17.03: Fn Key 1 Mode: Normal
17.04: Fn Key 1 Label: Function Key 1
17.05: Fn Key 2: Unlocked
17.06: Fn Key 2 Mode: Normal
17.07: Fn Key 2 Label: Function Key 2
17.08: Fn Key 3: Unlocked
17.09: Fn Key 3 Mode: Normal
17.0A: Fn Key 3 Label: Function Key 3
17.0B: Fn Key 4: Unlocked
17.0C: Fn Key 4 Mode: Normal
17.0D: Fn Key 4 Label: Function Key 4
17.0E: Fn Key 5: Unlocked
17.0F: Fn Key 5 Mode: Normal
17.10: Fn Key 5 Label: Function Key 5
17.11: Fn Key 6: Unlocked
17.12: Fn Key 6 Mode: Normal
17.13: Fn Key 6 Label: Function Key 6
17.14: Fn Key 7: Unlocked
17.15: Fn Key 7 Mode: Normal
17.16: Fn Key 7 Label: Function Key 7
17.17: Fn Key 8: Unlocked
17.18: Fn Key 8 Mode: Normal
17.19: Fn Key 8 Label: Function Key 8
17.1A: Fn Key 9: Unlocked
17.1B: Fn Key 9 Mode: Normal
17.1C: Fn Key 9 Label: Function Key 9
17.1D: Fn Key 10: Unlocked
17.1E: Fn Key 10 Mode: Normal
17.1F: Fn Key 10 Label: Function Key 10

IED CONFIGURATOR

19.70: GoEna: Disabled

CTRL I/P LABELS

29.01: Control Input 1: Control Input 1
29.02: Control Input 2: Control Input 2
29.03: Control Input 3: Control Input 3
29.04: Control Input 4: Control Input 4
29.05: Control Input 5: Control Input 5
29.06: Control Input 6: Control Input 6
29.07: Control Input 7: Control Input 7
29.08: Control Input 8: Control Input 8
29.09: Control Input 9: Control Input 9
29.0A: Control Input 10: Control Input 10
29.0B: Control Input 11: Control Input 11
29.0C: Control Input 12: Control Input 12
29.0D: Control Input 13: Control Input 13
29.0E: Control Input 14: Control Input 14
29.0F: Control Input 15: Control Input 15
29.10: Control Input 16: Control Input 16
29.11: Control Input 17: Control Input 17
29.12: Control Input 18: Control Input 18
29.13: Control Input 19: Control Input 19
29.14: Control Input 20: Control Input 20
29.15: Control Input 21: Control Input 21
29.16: Control Input 22: Control Input 22
29.17: Control Input 23: Control Input 23
29.18: Control Input 24: Control Input 24
29.19: Control Input 25: Control Input 25
29.1A: Control Input 26: Control Input 26
29.1B: Control Input 27: Control Input 27
29.1C: Control Input 28: Control Input 28
29.1D: Control Input 29: Control Input 29



Settings File Report

Substation:

File: 240924.set

Model Number: P741336A6M0400K

Printed on: 30/09/2024 10:44:40

29.1E: Control Input 30:	Control Input 30
29.1F: Control Input 31:	Control Input 31
29.20: Control Input 32:	Control Input 32
Group 1	
GROUP 1 DIFF BUSBAR PROT	
30.01: GROUP 1 Diff Phase Fault:	
30.02: GROUP 1 CZ Parameters:	
30.04: Phase Slope kCZ:	30.00 %
30.05: IDCZ>2 Current:	2400 A
30.06: GROUP 1 Zone Parameters:	
30.08: Phase Slope k2:	65.00 %
30.09: ID>2 Current:	2400 A
30.0A: GROUP 1 Common:	
30.0B: ID>1 Current:	80.00 A
30.0C: Phase Slope k1:	10.00 %
30.0D: ID>1 Alarm Timer:	600.0 s
30.10: Diff Earth Fault:	Disabled
GROUP 1 BUSBAR OPTION	
31.01: CZ Circ Flt Mode:	Alarm Latched
31.02: Zx Circ Flt Mode:	Alarm Latched
31.03: Circuitry tReset:	60.00 s
31.04: Circ. Blok Mode:	Blocking / phase
31.05: CZ PU Err.Mode:	Alarm Latched
31.06: Zx PU Err.Mode:	Alarm Latched
31.07: PU Error Timer:	5.000 s
31.08: PU Error tReset:	60.00 s
31.09: SEF Block Alarm:	Disabled
31.0A: Reset PU Error:	Without Comm Err
GROUP 1 INPUT LABELS	
4A.01: Opto Input 1:	BB IN SERVICE
4A.02: Opto Input 2:	M2 OUT OF SERVIC
4A.03: Opto Input 3:	BB OUT OF SERVIC
4A.04: Opto Input 4:	RELAY RESET
4A.05: Opto Input 5:	M1 CT HEALTHY
4A.06: Opto Input 6:	CUA UNHEALTHY
4A.07: Opto Input 7:	SPARE
4A.08: Opto Input 8:	SPARE
GROUP 1 OUTPUT LABELS	
4B.01: Relay 1:	Relay Label 01
4B.02: Relay 2:	SPARE
4B.03: Relay 3:	SPARE
4B.04: Relay 4:	SPARE
4B.05: Relay 5:	TO OPT M2 CT HEL
4B.06: Relay 6:	M2 CT F/M1 CT H
4B.07: Relay 7:	TO RESET M2 CT H
4B.08: Relay 8:	Relay Label 08
Group 2	
Group 3	
Group 4	

Chapter - II

Protection Audit Report of Generators, GTs and UATs

UNIT 1,2 & 3

1.0 Input data for Generators, Generator Transformers and NGT

GENERATOR UNIT DATA										
Generator Ratings			Gen. Busduct CT data							
			Phase Side							
MVA	294.00	MVA		Primary	Secondary	CLASS	Vk or Rated Burden	Vk/Imag	Rct	Lead Resistance
MW	250.00	MW	CT-F	12500	5	PS	2000	2000V/150mA	5	NA
kV	16.50	kV	CT-G	12500	5	0.2	75VA	NA	NA	
Rated Stator Current	10291	Amps.	CT-H	12500	5	0.2	75VA	NA	NA	
Field Current - IFN	2395	Amps.	Neutral side			NA	NA	NA	NA	
Xd = Xq (Round Rot)	213.40%	pu	CT-A	12500	5	PS	2000	2000V/150mA	5	
Xd' (Sat)	25.30%	pu	CT-B	12500	5	PS	2000	2000V/150mA	5	
Xd" (Sat)	16.90%	pu	CT-C	12500	5	0.2	75VA	NA	NA	
Xd' (Un-Sat)	26.50%	pu	CT-D	12500	5	0.2	75VA	NA	NA	
Xd" (Un-Sat)	20.30%	pu	CT-E	12500	5	PS	2000	2000V/150mA	5	

GENERATOR 'Neutral Grounding Transformer'			BUS DUCT 'PT' DETAILS					
DATA	Py	Sy	PT REFERENCE	PT-1		PT-2		PT3
VOLTAGE RATIO	16500.0	220	Winding No.	Wdg 1 (Prot. Gr I)	Wdg 2 (Not in Use)	Wdg 1 (Prot. Gr II)	Wdg 2 (Not in Use)	Wdg 1 (METERING/ SYNC SYSTEM)
RATED CAPACITY- kVA	42kVA continuous / 165 KVA for 5 min.		Ratio	16.5 kV/ $\sqrt{3}$ / 110/ $\sqrt{3}$	16.5kV/ $\sqrt{3}$ / 110/ $\sqrt{3}$	16.5kV/ $\sqrt{3}$ / 110/ $\sqrt{3}$	16.5kV/ $\sqrt{3}$ / 110/ $\sqrt{3}$	16.5kV/ $\sqrt{3}$ / 110/ $\sqrt{3}$
R (On LV Side) in Ω		0.23	Accuracy Class	3P	0.2	3P	0.2	0.2
NGT LV (Sec.) CT Ratio	400	5	Rated Burden (VA)	60VA		60VA		60VA
Voltage Divider ratio	2 out of 5			NA		NA		

GT Ratings (from name plate details)			G Tr. - 'HV' PHASE SIDE 'CT' DATA		G Tr. - 'LV' PHASE SIDE 'CT' DATA		G Tr. - 'NCT' DATA	
MVA	315.00	MVA	Ratio (REF prot)	600/1	Ratio	NA	Ratio(REF prot)	600/1
HV	420	kV	Vk >	600	Vk >		Vk >	600
LV	16.50	kV	Rct <	3	Rct <		Rct <	3
NA			Class	PS	Class		Class	PS
			Ratio (HV prot)	1000/1	NA		Ratio (S/B earth fault prot)	600/1
			Vk >	1000			Vk >	
			Rct <	5			Rct <	
			Class	PS			Class	5P20

1.1 Setting Review of Generator Protection, Generator Transformer and UAT Protection (Main-1)

SL. No.	Protection Function	Generic Code	Relay Type	Setting Range	Adopted Setting	Reviewed Setting	Trip Class	Remarks / Comments
1	GENERATOR NEGATIVE PHASE SEQUENCE	46	SIEMENS SIPROTEC 7UM622	I2>>10% to 200% permissible negative sequence time =1 to 100 sec cooling down time =0 to 50000 sec TI2>> 0 to 60 sec	1.Permissible Negative Sequence Time K = 6.8 sec. 2.Time of cooling Down = 1563sec. 3.Pick up = 53 % 4.Time Delay = 3 sec.	1.Permissible Negative Sequence Time K = 6.8 sec. 2.Time of cooling Down = 1563sec. 3.Pick up = 53 % 4.Time Delay = 3 sec.	A	Same setting as existing to be retained.
2	GENERATOR DIFFERENTIAL	87G	SIEMENS SIPROTEC 7UM622	Is Set.= 0.05 In to 2 In Slope 1 = 0.1 to 0.50 In/In0 Slope 2 =0.25 to 0.95 In/In0 Highset Trip =0.5 to 12 I/In0	1.Pick up setting = 0.25 A 2.Pick up value High set = 5.0 A 3.Slope 1 = 25 % 4.Base point of Slope 1 = 0.0 I/In 5.Slope 2 = 50 % 6.Base point of Slope 2 = 2.50 I/In 7.I-DIFF> Time delay = 0.0 sec 8.I-DIFF> >Time delay = 0.0 sec	1. Pick up setting = 0.25 A 2. Pick up value High set = 5.917 A 3. Slope 1 = 25 % 4. Base point of Slope 1 = 0.0 I/In 5. Slope 2 = 50 % 6. Base point of Slope 2 = 2.50 I/In 7. I-DIFF> Time delay = 0.0 sec 8. I-DIFF> >Time delay = 0.0 sec	A	Same setting as existing to be retained.

3	LOSS OF EXCITATION	40G	SIEMENS SIPROTEC 7UM622	1/Xd Char 1 = 0.2 to 3 mho time delay 1 = 0 to 60 sec char angle 1 = 50 to 120 deg	1. Susceptance Intersect characteristic 1 = 0.48 2. Inclination Angle of Characteristic 1 = 80° 3. Characteristic 1 Time delay = 10.00 sec. 4. Susceptance Intersect characteristic 2 = 0.43 5. Inclination Angle of Characteristic 2 = 90° 6. Susceptance Intersect characteristic 3 = 1.1 7. Inclination Angle of Characteristic 3 = 100°	1. Susceptance Intersect characteristic 1 = 0.42 2. Inclination Angle of Characteristic 1 = 80° 3. Characteristic 1 Time delay = 10.00 sec. 4. Susceptance Intersect characteristic 2 = 0.38 5. Inclination Angle of Characteristic 2 = 90° 6. Susceptance Intersect characteristic 3 = 0.76 7. Inclination Angle of Characteristic 3 = 100°	A	Same setting as existing to be retained.
4	GENERATOR REVERSE POWER PROTECTION	32R	SIEMENS SIPROTEC 7UM622	Power -30% to -0.50 % W Time Delay TSV OPEN 0 to 10 sec. Time Delay TSV CLOSED 0 to 60 sec.	1. P>Reverse Pick up = -0.50 % 2. Time delay short = 2.0 sec. 3. Time delay long = 0 sec.	1. P>Reverse Pick up = -0.50 % 2. Time delay short = 2.0 sec. 3. Time delay long = 0 sec.	A	Same setting as existing to be retained.
5	GENERATOR LOW FORWARD POWER PROTECTION	37F	SIEMENS SIPROTEC 7UM622	Power = 0% to 120 % Time Delay = 0 to 60 sec. Time Delay = 0 to 60 sec.	1. P<Forward Supervision Pick up = 0.50 % 2. T-P-forw.<Time delay = 0 sec. 3. P>Forward Supervision Pick up = 120 % 4. T-P-forw.>Time delay = ∞ sec.	1. P<Forward Supervision Pick up = 0.50 % 2. T-P-forw.<Time delay = 0 sec. 3. P>Forward Supervision Pick up = 120 % 4. T-P-forw.>Time delay = ∞ sec.	A	Same setting as existing to be retained.

6	SYSTEM BACKUP IMPEDANCE	21G	SIEMENS SIPROTEC 7UM622	Imp I> 5A to 100 A U<10 to 125V Z1=0.01 to 60Ω for 1A Relay T-Z1 0 to 60 sec.	1.Fault Detection Pick up I> = 5 A 2.Impedance Zone Z1 = 1.42 Ω 3.Impedance Zone Z1 Time Delay =0.60sec. 4.Impedance Zone Z1B= 2.02 Ω 5.Impedance Zone Z1B Time Delay = 0.60 sec. 6.Impedance Zone Z2 = 2.26 Ω 7.Impedance Zone Z2 Time Delay = 2 sec.	1. Fault Detection Pick up I> = 5 A 2.Impedance Zone Z1 = 1.42 Ω 3.Impedance Zone Z1 Time Delay =0.60sec. 4.Impedance Zone Z1B= 2.02 Ω 5.Impedance Zone Z1B Time Delay = 0.60 sec. 6.Impedance Zone Z2 = 2.26 Ω 7.Impedance Zone Z2 Time Delay = 2 sec.	A	Same setting as existing to be retained.
7	OUT OF STEP	78	SIEMENS SIPROTEC 7UM622	I1>Release 20 to 400% I2<Release 5 to 100% ZA=0.04 to 26 Ω ZD-ZC=0 to 26 Ω T-Holding= 0.2 to 60 sec. T-SIGNAL=0.02 to 5 sec.	1.Resistance Za of the Polygon (width) = 1.62Ω 2.Reactance Zb of the Polygon (reverse) = 3.90Ω 3.Reactance Zc of Polygon (forward char.1) = 1.71Ω 4.Reactance Dif. Char.1 - Char.2 (forward) = 0.43Ω 5.Number of Power Swing: Characteristic 1 = 1 6.Number of Power Swing: Characteristic 2 = 3	1.Resistance Za of the Polygon (width) = 1.33Ω 2.Reactance Zb of the Polygon (reverse) =3.90Ω 3.Reactance Zc of Polygon (forward char.1) = 2.09Ω 4.Reactance Dif. Char.1 - Char.2 (forward) = 0.30Ω 5.Number of Power Swing: Characteristic 1 = 1 6.Number of Power Swing: Characteristic 2 = 3	A	Zc Setting to be reviewed.
8	OVER VOLTAGE	59G	SIEMENS SIPROTEC 7UM622	Vn-30-170V(P-P) Delay TU> 0 to 60 sec.	Stage I 1.U> Pickup = 121.0 V 2.Time Delay = 5sec Stage II 1.U> Pickup = 154.0 V 2.Time Delay = 0.1 sec.	Stage I 1.U> Pickup = 126.5 V 2.Time Delay = 3 sec Stage II 1.U> Pickup = 143.0 V 2.Time Delay = 0 sec.	A	Settings to be reviewed.

9	UNDER VOLTAGE	27G	SIEMENS SIPROTEC 7UM622	V _n -30-170V(P-P) Delay TU> 0 to 60 sec.	<u>Stage I</u> 1.U< Pickup = 77 V 2.Time Delay = 1.0 sec <u>Stage II</u> 1.U< Pickup = 65V 2.Time Delay = ∞ sec.	<u>Stage I</u> 1.U< Pickup = 77 V 2.Time Delay = 0 sec <u>Stage II</u> 1.U< Pickup = 66V 2.Time Delay = ∞ sec.	NA	For EXC fail detect only.
10	UNDER/OVER FREQUENCY	81U/81O	SIEMENS SIPROTEC 7UM622	Under Frequency: F1: Pickup= 40 to 66 Hz F2: Pickup= 40 to 66 Hz TF1=0 to 100 sec. TF2=0 to 100 sec. Over Frequency: F3: Pickup= 40 to 66 Hz F4: Pickup= 40 to 66 Hz V _{min} = 10 to 125V TF3=0 to 100 sec. TF4=0 to 100 sec.	Under Frequency: f1 Pick up = 48.5 Hz f1 Time Delay = 20.0 sec. f2 Pick up = 47.5 Hz f2 Time Delay = 4.0 sec. Over Frequency: f3 Pick up = 51.5 Hz f3 Time Delay = 5.0 sec. f4 Pick up = 52.5 Hz f4 Time Delay = 10.0 sec. Minimum required Voltage for operation = 70 V	Under Frequency: f1 Pick up = 48.5 Hz f1 Time Delay = 20.0 sec. f2 Pick up = 47.5 Hz f2 Time Delay = 4.0 sec. Over Frequency: f3 Pick up = 51.5 Hz f3 Time Delay = 5.0 sec. f4 Pick up = 52.5 Hz f4 Time Delay = 10.0 sec. Minimum required Voltage for operation = 70 V	C	Same setting as existing to be retained.
11	OVER EXCITATION	24G	SIEMENS SIPROTEC 7UM622	V/F>1 to 1.2 T(V/F>)=0 to 60 SEC	<u>Stage I</u> 1.V/F> Pickup = 1.1 2.Time Delay = 10 sec <u>Stage II</u> 1.V/F> Pickup = 1.40 2.Time Delay = 4 sec	<u>Stage I</u> 1.V/F> Pickup = 1.1 2.Time Delay = 10 sec <u>Stage II</u> 1.V/F> Pickup = 1.40 2.Time Delay = 4 sec	A	Settings need to be Enabled with settings as per OEM recommendations as applicable

12	Sensitive Rotor Earth Fault Protection (1 to 3Hz Square Wave Voltage Injection)	64R-G	7UM62	RE< WARN 5.0 .. 80.0 kΩ RE<< TRIP 1.0 .. 10.0 kΩ T-WARN-RE< 0.00 .. 60.00 sec; ∞ T-TRIP-RE<< 0.00 .. 60.00 sec; ∞ Qc < 0.00 .. 1.00 mAs Testing Resistor: 1...10 kOhm	1.RE< WARN = 25.0 kOhm 2.T-WARN-RE< 10.0 sec 3.RE<< TRIP << 5 kOhm 4.T-TRIP-RE<< 1.0 Sec 5.Qc=0.02mAs 6.Testing Resistor: 3.3kOhm	1.RE< WARN = 25.0 kOhm 2.T-WARN-RE< 10.0 sec 3.RE<< TRIP << 5 kOhm 4.T-TRIP-RE<< 1.0 Sec 5.Qc=0.02mAs 6.Testing Resistor: 3.3kOhm	A	Same setting as existing to be retained.
13	DEAD MACHINE PROTECTION	50/27	SIEMENS SIPROTEC 7UM622	Istage=0.5 to 100A V< 10 to 125 V T V< 0 to 60 sec Drop Out V< 0 to 60 sec.	1.I Stage Pick up = 5.0 A 2.Release Threshold V1< 77.0V 3.Time delay for Pick up = 3.0 sec 4.Drop out Time Delay = 1.0 sec	1.I Stage Pick up = 5.0 A 2.Release Threshold V1< 77.0V 3.Time delay for Pick up = 3.0 sec 4.Drop out Time Delay = 1.0 sec	A	Same setting as existing to be retained.
14	OA DIFFERENTIAL	87OA	Areva MiCOM P633	Is1.= 0.1 In to 2.5 In K1=0 to 150 % Is2.= 0.1 In to 10 In K2 = 15% to 150 %	1. Is1 = 0.2 pu 2. k1 = 10 % 3. Is2 = 4.0 pu 4. k2 = 20%	1. Is1 = 0.2 pu 2. k1 = 10 % 3. Is2 = 4.0 pu 4. k2 = 20%	A	Same setting as existing to be retained.
15	GT DIFFERENTIAL	87T	Areva MiCOM P632	Is1.= 0.1 In to 2.5 In K1=0 to 150 % Is2.= 0.1 In to 10 In K2 = 15% to 150 %	1. Is1 = 0.2 pu 2. k1 = 10 % 3. Is2 = 4.0 pu 4. k2 = 20%	1. Is1 = 0.2 pu 2. k1 = 10 % 3. Is2 = 4.0 pu 4. k2 = 20%	A	Same setting as existing to be retained.
16	GT OVER CURRENT	51GT	Areva MiCOM P143	Pick up =0.1 to 25A TMS =0.025 to 1.5	1. Pick up = 435 A 2.TMS = 500ms	1.Pick up = 435 A 2.TMS = 500ms	A	Same setting as existing to be retained.

17	UAT DIFFERENTIAL	87UAT	MiCOM P633	Is1.= 0.1 In to 2.5 In K1=0 to 150 % Is2.= 0.1 In to 10 In K2 = 15% to 150 %	1.ps1 = 0.20 pu 2.k1 = 10 % 3.ps2 = 4.0 pu 4.k2 = 20%	1.ps1 = 0.20 pu 2.k1 = 10 % 3.ps2 = 4.0 pu 4.k2 = 20%	A	Same setting as existing to be retained.
18	UAT OVER CURRENT (LV SIDE)	51UAT	MiCOM P143	PSM =0.1 to 25 A TMS = 0.025 to 1.5 High set = 0.5 to 40 A Time delay = 0 to 150 sec.	1. Pick up = 5.370 A 2. TMS = 1s	1. Pick up = 5.370 A 2. TMS = 1s	A	Same setting as existing to be retained.

1.2 Setting Review of Generator Protection, Generator Transformer and UAT Protection (Main-2)

Sl.No.	PROTECTION FUNCTION	Generic Code	Relay Type (Used)	Adopted Setting	Recommended Setting	Trip class	Remark/ comment
1	GENERATOR DIFFERENTIAL (Biased type) (Group 1 & 2)	87G	ALSTOM P345	Percentage Bias Is1 = 0.4 A k1 = 0 % Is2 = 5.0 A k2 = 150%	Percentage Bias Is1 = 0.412 A k1 = 0 % Is2 = 4.94 A k2 = 150%	CLASS A	Same setting as existing to be retained.
2	100% STATOR EARTH FAULT PROTECTION (20Hz INJECTION ON 'NGT' SIDE-METHOD) (Group 1 & 2)	64G	ALSTOM P345	700 Ω / 500 ms-ALARM 105.2 Ω / 1Sec - TRIP	700 Ω / 500 ms-ALARM 105.2 Ω / 1Sec - TRIP	CLASS A	Same setting as existing to be retained.
3	INTERTURN FAULT	95IT	Areva, P923	1.Residual OV = 5.4 V 2.Time = 2s 3.IVT Used after 16.5kV/110V PT= 110V/73.3V, Burden 25VA	1.Residual OV = 5.4 V 2.Time = 2s 3.IVT Used after 16.5kV/110V PT= 110V/73.3V, Burden 25VA	CLASS A	Same setting as existing to be retained.

4	IMPEDANCE PROTECTION WITH OVER CURRENT STARTER, UNDER VOLTAGE SUPERVISION AND 'POWER SWING BLOCK' FUNCTION (Group 1 & 2)	21G	ALSTOM P345	$Z<1 = 1.400 \text{ Ohm} / 0.6 \text{ Sec}$ $Z<2 = 2.0 \text{ Ohm} / 2.0 \text{ Sec}$	$Z<1 = 1.41 \text{ Ohm} / 0.6 \text{ Sec}$ $Z<2 = 2.10 \text{ Ohm} / 2.5 \text{ Sec}$	CLASS A	Same setting as existing to be retained.
5	GENERATOR UNBALANCE LOAD (NEGATIVE SEQUENCE) PROTECTION RELAY (Group 1 & 2)	46G	ALSTOM P345	0.25 A / 5.0 Sec - Alarm 0.35 A, Kset = 10.0 Sec tMax = 1000 Sec tMin = 10.0 Sec	0.288 A / 3.0 Sec Alarm 0.412 A, Kset = 10.0 Sec tMax = 1000 Sec tMin = 10.0 Sec	CLASS A	Same setting as existing to be retained.
6	UNDER EXCITATION PROTECTION (Group 1 & 2)	40G	ALSTOM P345	15 Deg/ 2.0 Sec -Alarm -Xa1 = 3.0 Ohm, Xb1 = 14.60 Ohm, -Xa2 = 3.0 Ohm, Xb2 = 29 Ohm	15 Deg/ 2.0 Sec -Alarm -Xa1 = 1.95 Ohm, Xb1 = 15.434 Ohm, -Xa2 = 1.95 Ohm, Xb2 = 30.499 Ohm	CLASS A	Setting to be reviewed. (Offset - Xa1 & Xa2)
7	GENERATOR REVERSE POWER PROTECTION RELAY (Group 1 & 2)	32G	ALSTOM P345	5 W/ 0 Sec (DT)	3.33 W/ 0 Sec (DT)	CLASS A	Setting to be reviewed.

8	GENERATOR 'OUT OF STEP' PROTECTION RELAY (Group 1 & 2)	95G	ALSTOM P345	Za = 2.2 Ohm, Zb = 7.8 Ohm, Zc = 1.800 Ohm Lens Angle = 90 deg T1 = 15.0 mS, T2 = 15.0 mS Blinder Angle = 80 Deg	Za = 2.298 Ohm, Zb = 8.355 Ohm, Zc = 1.823 Ohm Lens Angle = 90 deg T1 = 15.0 mS, T2 = 15.0 mS Blinder Angle = 80 Deg	CLASS A	Same setting as existing to be retained.
9	OVER VOLTAGE PROTECTION (Group 1 & 2)	59G	ALSTOM P345	121 V / 5 Sec (DT) 154.0 V/ 100 ms (DT)	126.5 V/ 5 Sec (DT) 154.0 V/ 100 ms (DT)	CLASS A	Setting to be reviewed.
10	UNDER VOLTAGE PROTECTION	27G	ALSTOM P345	77.0 V/ 0.0 Sec - ALARM	77.0 V/ 0.0 Sec - ALARM	CLASS A	For EXC fail detect only.
11	UNDER FREQUENCY PROTECTION RELAY (Group 1 & 2)	81G	ALSTOM P345	48.50 Hz / 5 Sec (DT) - ALARM 47.40 Hz/ 2.0 Sec (DT)- TRIP	48.50 Hz / 2.0 Sec (DT) - ALARM 47.4 Hz/ 1.0 Sec (DT)- TRIP	CLASS C	Setting to be reviewed.
12	Inadvertent Energisation (Accidental Back Energisation) PROTECTION Inadvertent (Dead Machine - 50,27)	50/27 G	ALSTOM P345	4 Amp	4 Amp	CLASS A	Enabled in Overcurrent logic
13	GENERATOR FORWARD POWER SUPERVISION (Group 1 & 2)	37G	ALSTOM P345	5.0 MW/ 0 Sec (DT)	3.33 MW/ 0 Sec (DT)	CLASS A	Setting to be reviewed.

14	Generators and Generator Transformers (Overall Differential)	87OA	P633	Is1 = 0.2 pu k1 = 10 % Is2 = 4.0 pu k2 = 20%	Is1 = 0.2 pu k1 = 10 % Is2 = 4.0 pu k2 = 20%	CLASS A	Same setting as existing to be retained.
15	Generator Transformers HV Restricted Earth Fault	64R GT	ALSTOM P143	High Z REF Is= 48 A	High Z REF Is= 48 A	CLASS A	
16	Generator Transformers Back Up Over Current	51GT	ALSTOM P143	435 A/500ms	435 A/500ms	CLASS A	
17	Unit Auxiliary Transformer-1 Differential	87UAT-1	Areva, Micom P633	ps1 = 0.20 pu k1 = 10 % ps2 = 4.0 pu k2 = 20%	ps1 = 0.20 pu k1 = 10 % ps2 = 4.0 pu k2 = 20%	CLASS A	Same setting as existing to be retained.
18	Unit Auxiliary Transformer-2 Differential	87UAT-2	Areva, Micom P633	ps1 = 0.20 pu k1 = 10 % ps2 = 4.0 pu k2 = 20%	ps1 = 0.20 pu k1 = 10 % ps2 = 4.0 pu k2 = 20%	CLASS A	
19	Unit Auxiliary Transformer-3 Differential	87UAT-3	Areva, Micom P633	ps1 = 0.20 pu k1 = 10 % ps2 = 4.0 pu k2 = 20%	ps1 = 0.20 pu k1 = 10 % ps2 = 4.0 pu k2 = 20%	CLASS A	

20	Unit Auxiliary Transformer-1 Back Up Over Current	50/51U AT-1	ALSTOM P143	1.Pick up = 5.370 A 2.TMS = 1 Sec	1.Pick up = 5.370 A 2.TMS = 1 Sec	CLASS A	Same setting as existing to be retained.
21	Unit Auxiliary Transformer-2 Back Up Over Current	50/51U AT-2	ALSTOM P143	1.Pick up = 5.370 A 2.TMS = 1 Sec	1.Pick up = 5.370 A 2.TMS = 1 Sec	CLASS A	
22	Unit Auxiliary Transformer-3 Back Up Over Current	50/51U AT-3	ALSTOMP 143	1.Pick up = 5.370 A 2.TMS = 1 Sec	1.Pick up = 5.370 A 2.TMS = 1 Sec	CLASS A	
23	Unit Auxiliary Transformer-1 Restricted Earth Fault	64R UT-1	ALSTOM P144	High Z REF Is= 80.0mA	High Z REF Is= 80.0mA	CLASS A	
24	Unit Auxiliary Transformer-2 Restricted Earth Fault	64R UT-2	ALSTOM P145	High Z REF Is= 80.0mA	High Z REF Is= 80.0mA	CLASS A	
25	Unit Auxiliary Transformer-3 Restricted Earth Fault	64R UT-3	ALSTOM P146	High Z REF Is= 80.0mA	High Z REF Is= 80.0mA	CLASS A	