

HOMOLOGACIÓN DE AJUSTES DE PROTECCIONES
REEMPLAZO PROTECCIÓN TRANSFORMADOR T1
S/E LINARES NORTE

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1. INTRODUCCIÓN

El presente informe tiene como finalidad documentar y formalizar la homologación del relé de protección diferencial del Transformador de Poder N° 1 de la S/E Linares Norte.

El procedimiento consiste en el reemplazo de la protección existente, modelo SEL 387E, por un equipo idéntico en modelo y hardware, pero con una versión de firmware actualizada. Este cambio se realiza como parte del plan de modernización y para asegurar la compatibilidad y soporte a largo plazo del sistema de protecciones.

No se contempla ninguna modificación en la filosofía de protección ni en los ajustes de los elementos habilitados.

2. OBJETIVOS

El objetivo principal de esta actividad es validar y verificar que la nueva protección SEL 387E asociada al transformador N° 1 de S/E Linares Norte, posee la misma configuración y responde con la misma lógica operativa que la protección existente, garantizando la correcta selectividad, sensibilidad y rapidez del esquema de protección del transformador.

Para lo anterior se establece mantener las mismas configuraciones para los elementos de protección del relé SEL 387E:

- Elemento de protección diferencial 87T.
- Elementos de protección de sobrecorriente de fases y residuales en el lado 66kV (AT), 50-51/50N-51N.
- Elementos de protección de sobrecorriente de fases y residuales en el lado 13,2kV (MT), 51/51N.

3. ALCANCES

El alcance del presente documento contempla la definición de los ajustes que poseerá el nuevo relé SEL 387E de protección del transformador N° 1 de S/E Linares Norte.

4. ANTECEDENTES TÉCNICOS DEL SISTEMA

En el presente apartado se establecen las características generales del equipamiento que se encuentra en servicio y el proyectado.

4.1. EQUIPAMIENTO ACTUAL Y PROYECTADO

Fabricante	SCHWEITZER	SCHWEITZER
Modelo	SEL 387E	SEL 387E
Funciones	87T 50-51/50N-51N en AT y MT	87T 50-51/50N-51N en AT y MT
Firmware	Estándar	Estándar
Montaje	Panel Horizontal, 3U	Rack Horizontal, 3U
Interface	Estándar, puerto frontal RS-232	Estándar, puerto frontal RS-232
Alimentación	125/250 VDC o VAC	125/250 VDC o VAC
Entradas de Voltaje	3 entradas - 300 VACmáx	3 entradas - 300 VACmáx
I/O Digital	- 06 entradas digitales - 110Vdc - 08 salidas digitales normales (Una salida dedicada para alarma)	- 06 entradas digitales - 110Vdc - 08 salidas digitales normales (Una salida dedicada para alarma)

Tabla 1: Antecedentes técnicos básicos del equipo actual y proyectado.

4.2. COMPARACIÓN DE AJUSTES ACTUAL Y PROYECTADO

4.2.1. Ajustes Generales del Relé (Global)

Ajuste	Descripción	Rango	Ajuste Actual	Ajuste Proyectado
RID	Relay Identifier (39 Characters)		TRANSFORMADOR 1	TRANSFORMADOR 1
TID	Terminal Identifier (59 Characters)		LUZ LINARES	LUZ LINARES
E87W1	Enable Wdg1 in Differential Element	Select: N, Y, Y1	Y	Y
E87W2	Enable Wdg2 in Differential Element	Select: N, Y, Y1	Y	Y
E87W3	Enable Wdg3 in Differential Element	Select: N, Y, Y1	N	N
EOC1	Enable Wdg1 O/C Elements and Dmd. Thresholds	Select: N, Y	Y	Y
EOC2	Enable Wdg2 O/C Elements and Dmd. Thresholds	Select: N, Y	Y	Y
EOC3	Enable Wdg3 O/C Elements and Dmd. Thresholds	Select: N, Y	N	N
EOCC	Enable Combined O/C Elements	Select: N, Y	N	N
E24	Enable Volts/Hertz Protection	Select: N, Y	N	N
E27	Enable Undervoltage Protection	Select: N, Y	N	N
E59	Enable Overvoltage Protection	Select: N, Y	N	N
E81	Enable Frequency Protection	Select: N, 1-6	N	N

4.2.2. Ajustes Generales del Relé (Grupo 1)

Ajuste	Descripción	Rango	Ajuste Actual	Ajuste Proyectado
CTR1	Wdg 1 CT Ratio	1-50000	60	60
CTR2	Wdg 2 CT Ratio	1-50000	240	240
CTR3	Wdg 3 CT Ratio	1-50000	1	1
MVA	Maximum Power Xfmr Capacity	OFF,0.2-5000.0 MVA	25	25
ICOM	Define Internal CT Connection Compensation	Select: N, Y	Y	Y
W1CTC	Wdg 1 CT Conn. Compensation	Select: 0-12	12	12
W2CTC	Wdg 2 CT Conn. Compensation	Select: 0-12	11	11
VWDG1	Wdg 1 Line-to-Line Voltage	1.00-1000.00 kV	66	66
VWDG2	Wdg 2 Line-to-Line Voltage	1.00-1000.00 kV	13.2	13.2
PTR	PT Ratio	ene-00	318	318
COMPANG	Compensation Angle	0-360deg	0	0
VIWDG	Voltage-Current Winding	Select: 1-3, 12	1	1
TPVI	Three Phase Voltage Input	Select: N, Y	Y	Y

4.2.3. Ajustes Protección Diferencial (Función 87T)

Ajuste	Descripción	Rango	Ajuste Actual	Ajuste Proyectado
O87P	Restrained Element Current PU	0.10-1.00 TAP	0.2	0.2
SLP1	Restraint Slope 1 Percentage	5-100%	35	35
SLP2	Restraint Slope 2 Percentage	OFF,25-200%	50	50
IRS1	Restraint Current Slope 1 Limit	1.0-20.0 TAP	3	3
U87P	Unrestrained Element Current PU	1-20 TAP	10	10
PCT2	2nd Harmonic Blocking Percentage	OFF,5-100%	15	15
PCT5	5th Harmonic Blocking Percentage	OFF,5-100%	35	35
TH5P	5th Harmonic Alarm Threshold	OFF,0.02-3.2 TAP	OFF	OFF
IHBL	Independent Harmonic Blocking	Select: N, Y	N	N

4.2.4. Ajustes Protección Sobrecorriente Respaldo AT (Funciones 50/51 - 50N/51N)

Ajuste	Descripción	Rango	Ajuste Actual	Ajuste Proyectado
50P11P	Phase Def-Time O/C Lvl 1 PU	OFF,0.25-100A,sec	40.8	40.8
50P11D	Phase Lvl 1 O/C Delay	0.00-16000.00cyc	5	5
50P11TC	50P11 Torque Control (SELogic Equation)		1	1
50P12P	Phase Inst O/C Lvl 2 PU	OFF,0.25-100.00A,sec	OFF	OFF
50P13P	Phase Inst O/C Lvl 3 PU	OFF,0.25-100.00A,sec	OFF	OFF
50P14P	Phase Inst O/C Lvl 4 PU	OFF,0.25-100.00A,sec	OFF	OFF
51P1P	Phase Inv-Time O/C PU	OFF,0.50-16.00A,sec	4.34	4.34
51P1C	Phase Inv-Time O/C Curve	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	C2	C2
51P1TD	Phase Inv-Time O/C Time-Dial	0.05-1.00	0.38	0.38
51P1RS	Phase Inv-Time O/C EM Reset	Select: N, Y	N	N
51P1TC	51P1 Torque Control (SELogic Equation)		1	1
50Q11P	Neg-Seq Def-Time O/C Lvl 1 PU	OFF,0.25-100A,sec	OFF	OFF
50Q12P	Neg-Seq Inst O/C Lvl 2 PU	OFF,0.25-100.00A,sec	OFF	OFF
51Q1P	Neg-Seq Inv-Time O/C PU	OFF,0.50-16.00A,sec	OFF	OFF
50N11P	Res. Def-Time O/C Lvl 1 PU	OFF,0.25-100.00A,sec	5.76	5.76
50N11D	Res. Lvl 1 O/C Delay	0.00-16000.00cyc	5	5
50N11TC	50N11 Torque Control (SELogic Equation)		1	1
50N12P	Res. Inst O/C Lvl 2 PU	OFF,0.25-100.00A,sec	OFF	OFF
51N1P	Res. Inv-Time O/C PU	OFF,0.50-16.00A,sec	1.1	1.1
51N1C	Res. Inv-Time O/C Curve	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	C1	C1
51N1TD	Res. Inv-Time O/C Time-Dial	0.05-1.00	0.05	0.05
51N1RS	Res. Inv-Time O/C EM Reset	Select: N, Y	N	N
51N1TC	51N1 Torque Control (SELogic Equation)		1	1

4.2.5. Ajustes Protección Sobrecorriente Respaldo MT (Funciones 50/51 - 50N/51N)

Ajuste	Descripción	Rango	Ajuste Actual	Ajuste Proyectado
50P21P	Phase Def-Time O/C Lvl 1 PU	OFF,0.25-100A,sec	OFF	OFF
50P22P	Phase Inst O/C Lvl 2 PU	OFF,0.25-100.00A,sec	OFF	OFF
50P23P	Phase Inst O/C Lvl 3 PU	OFF,0.25-100.00A,sec	OFF	OFF
50P24P	Phase Inst O/C Lvl 4 PU	OFF,0.25-100.00A,sec	OFF	OFF
51P2P	Phase Inv-Time O/C PU	OFF,0.50-16.00A,sec	5	5
51P2C	Phase Inv-Time O/C Curve	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	C2	C2
51P2TD	Phase Inv-Time O/C Time-Dial	0.05-1.00	0.21	0.21
51P2RS	Phase Inv-Time O/C EM Reset	Select: N, Y	N	N
51P2TC	51P2 Torque Control (SELogic Equation)		1	1
50Q21P	Neg-Seq Def-Time O/C Lvl 1 PU	OFF,0.25-100A,sec	OFF	OFF
50Q22P	Neg-Seq Inst O/C Lvl 2 PU	OFF,0.25-100.00A,sec	OFF	OFF
51Q2P	Neg-Seq Inv-Time O/C PU	OFF,0.50-16.00A,sec	OFF	OFF

50N21P	Res. Def-Time O/C Lvl 1 PU	OFF,0.25-100.00A,sec	OFF	OFF
50N22P	Res. Inst O/C Lvl 2 PU	OFF,0.25-100.00A,sec	OFF	OFF
51N2P	Res. Inv-Time O/C PU	OFF,0.50-16.00A,sec	0.59	0.59
51N2C	Res. Inv-Time O/C Curve	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	C1	C1
51N2TD	Res. Inv-Time O/C Time-Dial	0.05-1.00	0.4	0.4
51N2RS	Res. Inv-Time O/C EM Reset	Select: N, Y	N	N
51N2TC	51N2 Torque Control (SELogic Equation)		1	1

4.3. CURVAS DE SOBRECORRIENTE

En el presente apartado se verifica gráficamente la coordinación de las curvas de sobrecorriente de fase y residual del nuevo relé SEL-387E en AT y en MT, para lo cual se utilizó el software PowerFactory. Este análisis confirma que los tiempos de operación y la selectividad del esquema de protección no han sido modificados.

4.3.1. FUNCIÓN DE SOBRECORRIENTE DE FASES LADO AT

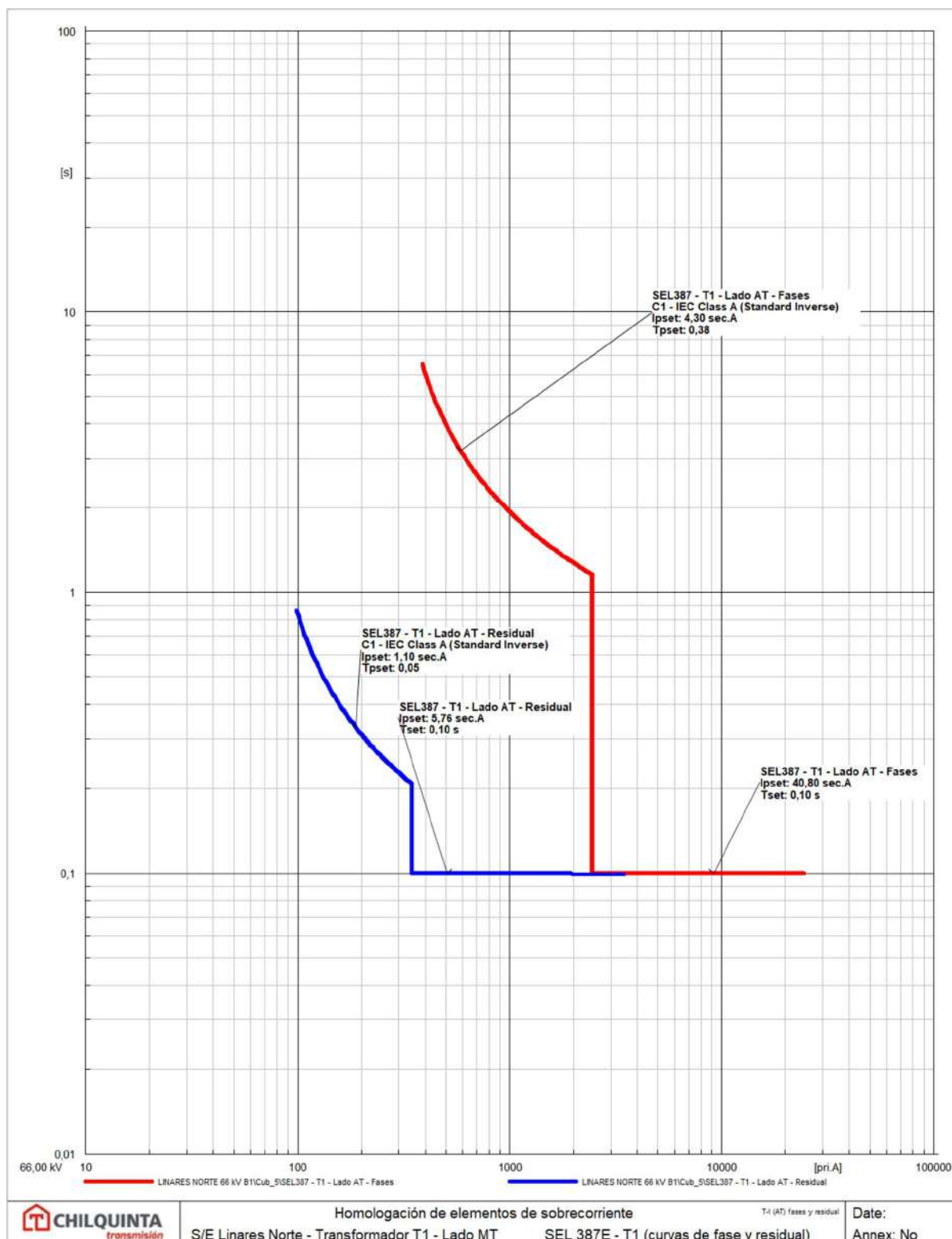


Figura 1: Homologación de elementos de sobrecorriente en el lado AT (fases y residual).

4.3.2. FUNCIÓN DE SOBRECORRIENTE RESIDUAL

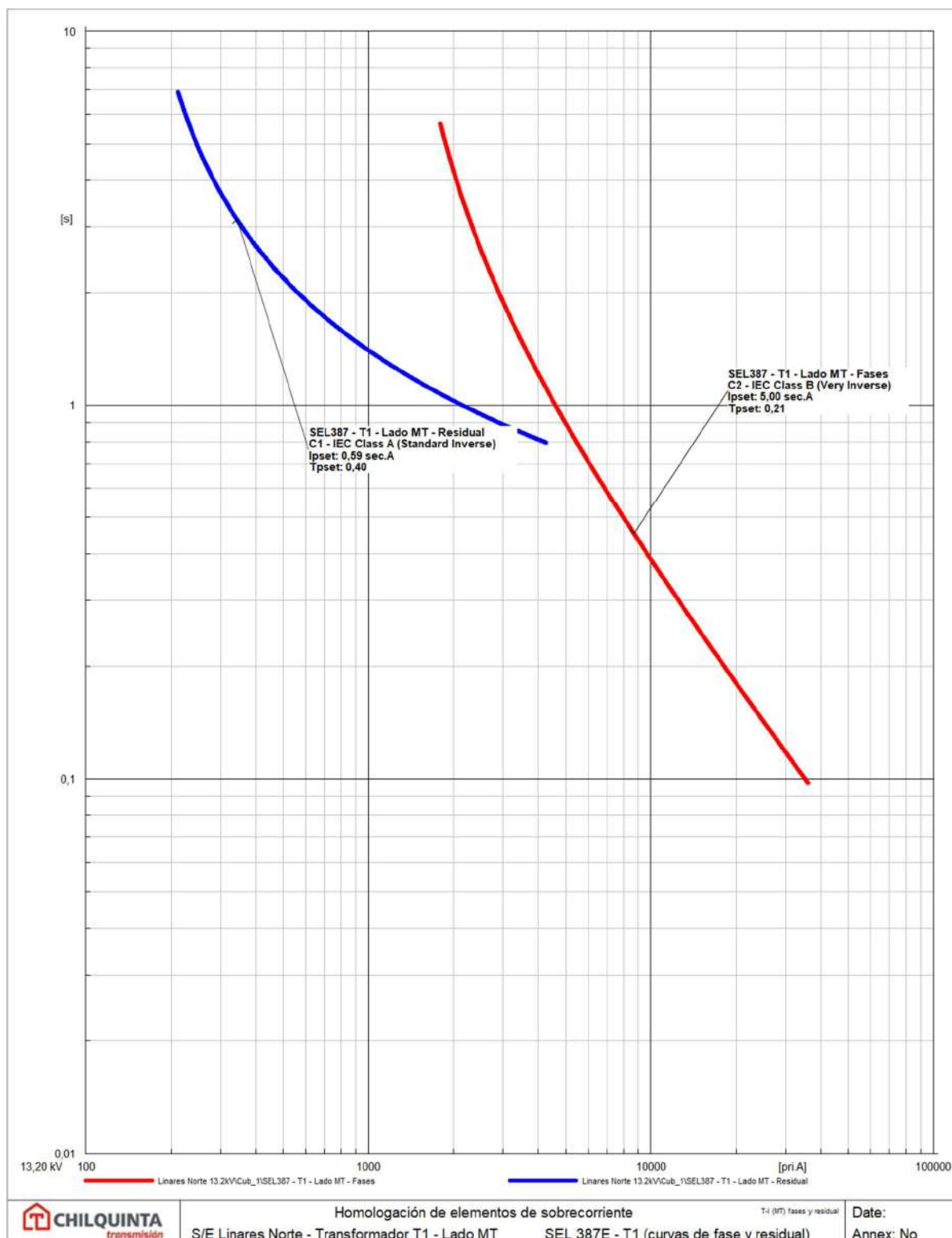


Figura 2: Homologación de elementos de sobrecorriente en el lado MT (fases y residual).

5. CONCLUSIONES

- Los ajustes de protección del relé SEL-387E del Transformador N°1 han sido homologados exitosamente en el nuevo equipo. La validación se basa en la correspondencia directa entre los archivos de configuración del equipo retirado y el instalado, garantizando la continuidad operativa.
- La intervención responde a un plan de actualización de activos para instalar una versión de firmware más reciente, asegurando la confiabilidad y el ciclo de vida del sistema de protección.
- Al no existir modificaciones en los ajustes, se preserva la coordinación de protecciones existente con los equipos adyacentes.

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6. ANEXOS

6.1. PRINT OUT SEL 387 - T1 ACTUAL

SEL-387E Settings Report

Setting	Range	Default Value	Value	Description
☐ Group : 1				
RID		XFMR 1	TRANSFORMADOR 1	RID Relay Identifier (39 Characters)
TID		STATION A	LUZ LINARES	TID Terminal Identifier (59 Characters)
E87W1	Select: N, Y, Y1	Y	Y	E87W1 Enable Wdg1 in Differential Element
E87W2	Select: N, Y, Y1	Y	Y	E87W2 Enable Wdg2 in Differential Element
E87W3	Select: N, Y, Y1	Y	N	E87W3 Enable Wdg3 in Differential Element
EOC1	Select: N, Y	Y	Y	EOC1 Enable Wdg1 O/C Elements and Dmd. Thresholds
EOC2	Select: N, Y	Y	Y	EOC2 Enable Wdg2 O/C Elements and Dmd. Thresholds
EOC3	Select: N, Y	Y	N	EOC3 Enable Wdg3 O/C Elements and Dmd. Thresholds
EOCC	Select: N, Y	N	N	EOCC Enable Combined O/C Elements
E24	Select: N, Y	Y	N	E24 Enable Volts/Hertz Protection
E27	Select: N, Y	Y	N	E27 Enable Undervoltage Protection
E59	Select: N, Y	Y	N	E59 Enable Overvoltage Protection
E81	Select: N, 1-6	N	N	E81 Enable Frequency Protection
ESLS1	Select: N, Y	N	Y	ESLS1 Enable SELogic Set 1
ESLS2	Select: N, Y	N	N	ESLS2 Enable SELogic Set 2
ESLS3	Select: N, Y	N	N	ESLS3 Enable SELogic Set 3
W1CT	Select: D, Y	Y	Y	W1CT Wdg 1 CT Connection
W2CT	Select: D, Y	Y	Y	W2CT Wdg 2 CT Connection
W3CT	Select: D, Y	Y	Y	W3CT Wdg 3 CT Connection
CTR1	1-50000	120	60	CTR1 Wdg 1 CT Ratio
CTR2	1-50000	240	240	CTR2 Wdg 2 CT Ratio
CTR3	1-50000	400	1	CTR3 Wdg 3 CT Ratio
MVA	OFF,0.2-5000.0 MVA	100.0	25.0	MVA Maximum Power Xfmr Capacity
ICOM	Select: N, Y	Y	Y	ICOM Define Internal CT Connection Compensation
W1CTC	Select: 0-12	11	12	W1CTC Wdg 1 CT Conn. Compensation
W2CTC	Select: 0-12	11	11	W2CTC Wdg 2 CT Conn. Compensation
W3CTC	Select: 0-12	0	0	W3CTC Wdg 3 CT Conn. Compensation
VWDG1	1.00-1000.00 kV	230.00	66.00	VWDG1 Wdg 1 Line-to-Line Voltage
VWDG2	1.00-1000.00 kV	138.00	13.20	VWDG2 Wdg 2 Line-to-Line Voltage
VWDG3	1.00-1000.00 kV	13.80	13.80	VWDG3 Wdg 3 Line-to-Line Voltage
PTR	1-6500	2000	318	PTR PT Ratio
☒ (((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...				

Setting	Range	Default Value	Value	Description
COMPANG	0-360deg	0	0	COMPANG Compensation Angle
VIWDG	Select: 1-3, 12	1	1	VIWDG Voltage-Current Winding
TPVI	Select: N, Y	Y	Y	TPVI Three Phase Voltage Input
TAP1	Auto. setting when MVA != OFF	2.09	3.64	TAP1 Wdg 1 Current Tap
TAP2	Auto. setting when MVA != OFF	1.74	4.56	TAP2 Wdg 2 Current Tap
TAP3	Auto. setting when MVA != OFF	10.46	1045.9	TAP3 Wdg 3 Current Tap
O87P	0.10-1.00 TAP	0.30	0.20	O87P Restrained Element Current PU
SLP1	5-100%	25	35	SLP1 Restraint Slope 1 Percentage
SLP2	OFF,25-200%	50	50	SLP2 Restraint Slope 2 Percentage
IRS1	1.0-20.0 TAP	3.0	3.0	IRS1 Restraint Current Slope 1 Limit
U87P	1-20 TAP	10.0	10.0	U87P Unrestrained Element Current PU
PCT2	OFF,5-100%	15	15	PCT2 2nd Harmonic Blocking Percentage
PCT4	OFF,5-100%	15	15	PCT4 4th Harmonic Blocking Percentage
PCT5	OFF,5-100%	35	35	PCT5 5th Harmonic Blocking Percentage
TH5P	OFF,0.02-3.2 TAP	OFF	OFF	TH5P 5th Harmonic Alarm Threshold
TH5D	0.000-8000.000 cyc	30.000	30.000	TH5D 5th Harmonic Alarm TDP
DCRB	Select: N, Y	N	N	DCRB DC Ratio Blocking
HRSTR	Select: N, Y	Y	Y	HRSTR Harmonic Restraint
IHBL	Select: N, Y	N	N	IHBL Independent Harmonic Blocking
E32I		0	0	E32I Enable 32I(SELogic Equation)
32IOP	Select: 1, 2, 12	1	1	32IOP Operating Quantity from W1,W2
a0	0.02-0.5	0.10	0.10	a0 Pos-Seq Current Restraint Factor,I0/I1
50GP	0.25-15.00A,sec	0.50	0.50	50GP Res. Current Sensitivity Thresh
50P11P	OFF,0.25-100A,sec	20.00	40.80	50P11P Phase Def-Time O/C Lvl 1 PU
50P11D	0.00-16000.00cyc	5.00	5.00	50P11D Phase Lvl 1 O/C Delay
50P11TC		1	1	50P11TC 50P11 Torque Control (SELogic Equation)
50P12P	OFF,0.25-100.00A,sec	OFF	OFF	50P12P Phase Inst O/C Lvl 2 PU
50P12TC		1	1	50P12TC 50P12 Torque Control (SELogic Equation)
50P13P	OFF,0.25-100.00A,sec	0.50	OFF	50P13P Phase Inst O/C Lvl 3 PU
50P14P	OFF,0.25-100.00A,sec	4.00	OFF	50P14P Phase Inst O/C Lvl 4 PU
51P1P	OFF,0.50-16.00A,sec	4.00	4.34	51P1P Phase Inv-Time O/C PU
51P1C	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	U2	C2	51P1C Phase Inv-Time O/C Curve
51P1TD	0.05-1.00	3.00	0.38	51P1TD Phase Inv-Time O/C Time-Dial
51P1RS	Select: N, Y	Y	N	51P1RS Phase Inv-Time O/C EM Reset

☒ ((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...

Setting	Range	Default Value	Value	Description
51P1TC		1	1	51P1TC 51P1 Torque Control (SELogic Equation)
50Q11P	OFF,0.25-100A,sec	OFF	OFF	50Q11P Neg-Seq Def-Time O/C Lvl 1 PU
50Q11D	0.50-16000.00cyc	5.00	5.00	50Q11D Neg-Seq Lvl 1 O/C Delay
50Q11TC		1	1	50Q11TC 50Q11 Torque Control (SELogic Equation)
50Q12P	OFF,0.25-100.00A,sec	OFF	OFF	50Q12P Neg-Seq Inst O/C Lvl 2 PU
50Q12TC		1	1	50Q12TC 50Q12 Torque Control (SELogic Equation)
51Q1P	OFF,0.50-16.00A,sec	6.00	OFF	51Q1P Neg-Seq Inv-Time O/C PU
51Q1C	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	U2	U2	51Q1C Neg-Seq Inv-Time O/C Curve
51Q1TD	0.50-15.00	3.00	3.00	51Q1TD Neg-Seq Inv-Time O/C Time-Dial
51Q1RS	Select: N, Y	Y	Y	51Q1RS Neg-Seq Inv-Time O/C EM Reset
51Q1TC		1	1	51Q1TC 51Q1 Torque Control (SELogic Equation)
50N11P	OFF,0.25-100.00A,sec	OFF	5.76	50N11P Res. Def-Time O/C Lvl 1 PU
50N11D	0.00-16000.00cyc	5.00	5.00	50N11D Res. Lvl 1 O/C Delay
50N11TC		1	1	50N11TC 50N11 Torque Control (SELogic Equation)
50N12P	OFF,0.25-100.00A,sec	OFF	OFF	50N12P Res. Inst O/C Lvl 2 PU
50N12TC		1	1	50N12TC 50N12 Torque Control (SELogic Equation)
51N1P	OFF,0.50-16.00A,sec	OFF	1.10	51N1P Res. Inv-Time O/C PU
51N1C	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	U2	C1	51N1C Res. Inv-Time O/C Curve
51N1TD	0.05-1.00	1.00	0.05	51N1TD Res. Inv-Time O/C Time-Dial
51N1RS	Select: N, Y	Y	N	51N1RS Res. Inv-Time O/C EM Reset
51N1TC		1	1	51N1TC 51N1 Torque Control (SELogic Equation)
DATC1	OFF,5-255min	15	OFF	DATC1 Demand Ammeter Time Constant
PDEM1P	0.50-16.00A,sec	7.00	7.00	PDEM1P Phase Demand Ammeter Thresh
QDEM1P	0.50-16.00A,sec	1.00	1.00	QDEM1P Neg-Seq Demand Ammeter Thresh
NDEM1P	0.50-16.00A,sec	1.00	1.00	NDEM1P Res. Demand Ammeter Thresh
50P21P	OFF,0.25-100A,sec	OFF	OFF	50P21P Phase Def-Time O/C Lvl 1 PU
50P21D	0.00-16000.00cyc	5.00	0.00	50P21D Phase Lvl 1 O/C Delay
50P21TC		1	1	50P21TC 50P21 Torque Control (SELogic Equation)
50P22P	OFF,0.25-100.00A,sec	OFF	OFF	50P22P Phase Inst O/C Lvl 2 PU
50P22TC		1	1	50P22TC 50P22 Torque Control (SELogic Equation)

☒ ((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group = ...

Setting	Range	Default Value	Value	Description
50P23P	OFF,0.25-100.00A,sec	0.50	OFF	50P23P Phase Inst O/C Lvl 3 PU
50P24P	OFF,0.25-100.00A,sec	3.50	OFF	50P24P Phase Inst O/C Lvl 4 PU
51P2P	OFF,0.50-16.00A,sec	3.50	5.00	51P2P Phase Inv-Time O/C PU
51P2C	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	U2	C2	51P2C Phase Inv-Time O/C Curve
51P2TD	0.05-1.00	3.50	0.21	51P2TD Phase Inv-Time O/C Time-Dial
51P2RS	Select: N, Y	Y	N	51P2RS Phase Inv-Time O/C EM Reset
51P2TC		1	1	51P2TC 51P2 Torque Control (SELogic Equation)
50Q21P	OFF,0.25-100A,sec	OFF	OFF	50Q21P Neg-Seq Def-Time O/C Lvl 1 PU
50Q21D	0.50-16000.00cyc	5.00	5.00	50Q21D Neg-Seq Lvl 1 O/C Delay
50Q21TC		1	1	50Q21TC 50Q21 Torque Control (SELogic Equation)
50Q22P	OFF,0.25-100.00A,sec	OFF	OFF	50Q22P Neg-Seq Inst O/C Lvl 2 PU
50Q22TC		1	1	50Q22TC 50Q22 Torque Control (SELogic Equation)
51Q2P	OFF,0.50-16.00A,sec	5.25	OFF	51Q2P Neg-Seq Inv-Time O/C PU
51Q2C	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	U2	U2	51Q2C Neg-Seq Inv-Time O/C Curve
51Q2TD	0.50-15.00	3.50	3.50	51Q2TD Neg-Seq Inv-Time O/C Time-Dial
51Q2RS	Select: N, Y	Y	Y	51Q2RS Neg-Seq Inv-Time O/C EM Reset
51Q2TC		1	1	51Q2TC 51Q2 Torque Control (SELogic Equation)
50N21P	OFF,0.25-100.00A,sec	OFF	OFF	50N21P Res. Def-Time O/C Lvl 1 PU
50N21D	0.00-16000.00cyc	5.00	5.00	50N21D Res. Lvl 1 O/C Delay
50N21TC		1	1	50N21TC 50N21 Torque Control (SELogic Equation)
50N22P	OFF,0.25-100.00A,sec	OFF	OFF	50N22P Res. Inst O/C Lvl 2 PU
50N22TC		1	1	50N22TC 50N22 Torque Control (SELogic Equation)
51N2P	OFF,0.50-16.00A,sec	OFF	0.59	51N2P Res. Inv-Time O/C PU
51N2C	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	U2	C1	51N2C Res. Inv-Time O/C Curve
51N2TD	0.05-1.00	1.00	0.40	51N2TD Res. Inv-Time O/C Time-Dial
51N2RS	Select: N, Y	Y	N	51N2RS Res. Inv-Time O/C EM Reset
51N2TC		1	1	51N2TC 51N2 Torque Control (SELogic Equation)
DATC2	OFF,5-255min	15	OFF	DATC2 Demand Ammeter Time Constant
PDEM2P	0.50-16.00A,sec	7.00	7.00	PDEM2P Phase Demand Ammeter Thresh
QDEM2P	0.50-16.00A,sec	1.00	1.00	QDEM2P Neg-Seq Demand Ammeter Thresh
☒ (((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group = ...				

Setting	Range	Default Value	Value	Description
NDEM2P	0.50-16.00A,sec	1.00	1.00	NDEM2P Res. Demand Ammeter Thresh
50P31P	OFF,0.25-100A,sec	7.00	7.00	50P31P Phase Def-Time O/C Lvl 1 PU
50P31D	0.00-16000.00cyc	0.00	0.00	50P31D Phase Lvl 1 O/C Delay
50P31TC		1	1	50P31TC 50P31 Torque Control (SELogic Equation)
50P32P	OFF,0.25-100.00A,sec	OFF	OFF	50P32P Phase Inst O/C Lvl 2 PU
50P32TC		1	1	50P32TC 50P32 Torque Control (SELogic Equation)
50P33P	OFF,0.25-100.00A,sec	0.50	0.50	50P33P Phase Inst O/C Lvl 3 PU
50P34P	OFF,0.25-100.00A,sec	4.00	4.00	50P34P Phase Inst O/C Lvl 4 PU
51P3P	OFF,0.50-16.00A,sec	4.00	4.00	51P3P Phase Inv-Time O/C PU
51P3C	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	U2	U2	51P3C Phase Inv-Time O/C Curve
51P3TD	0.50-15.00	1.30	1.30	51P3TD Phase Inv-Time O/C Time-Dial
51P3RS	Select: N, Y	Y	Y	51P3RS Phase Inv-Time O/C EM Reset
51P3TC		1	1	51P3TC 51P3 Torque Control (SELogic Equation)
50Q31P	OFF,0.25-100A,sec	OFF	OFF	50Q31P Neg-Seq Def-Time O/C Lvl 1 PU
50Q31D	0.50-16000.00cyc	5.00	5.00	50Q31D Neg-Seq Lvl 1 O/C Delay
50Q31TC		1	1	50Q31TC 50Q31 Torque Control (SELogic Equation)
50Q32P	OFF,0.25-100.00A,sec	OFF	OFF	50Q32P Neg-Seq Inst O/C Lvl 2 PU
50Q32TC		1	1	50Q32TC 50Q32 Torque Control (SELogic Equation)
51Q3P	OFF,0.50-16.00A,sec	OFF	OFF	51Q3P Neg-Seq Inv-Time O/C PU
51Q3C	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	U2	U2	51Q3C Neg-Seq Inv-Time O/C Curve
51Q3TD	0.50-15.00	3.00	3.00	51Q3TD Neg-Seq Inv-Time O/C Time-Dial
51Q3RS	Select: N, Y	Y	Y	51Q3RS Neg-Seq Inv-Time O/C EM Reset
51Q3TC		1	1	51Q3TC 51Q3 Torque Control (SELogic Equation)
50N31P	OFF,0.25-100.00A,sec	OFF	OFF	50N31P Res. Def-Time O/C Lvl 1 PU
50N31D	0.00-16000.00cyc	5.00	5.00	50N31D Res. Lvl 1 O/C Delay
50N31TC		1	1	50N31TC 50N31 Torque Control (SELogic Equation)
50N32P	OFF,0.25-100.00A,sec	OFF	OFF	50N32P Res. Inst O/C Lvl 2 PU
50N32TC		1	1	50N32TC 50N32 Torque Control (SELogic Equation)
51N3P	OFF,0.50-16.00A,sec	OFF	OFF	51N3P Res. Inv-Time O/C PU
51N3C	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	U2	U2	51N3C Res. Inv-Time O/C Curve
51N3TD	0.50-15.00	1.00	1.00	51N3TD Res. Inv-Time O/C Time-Dial

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Setting	Range	Default Value	Value	Description
51N3RS	Select: N, Y	Y	Y	51N3RS Res. Inv-Time O/C EM Reset
51N3TC		1	1	51N3TC 51N3 Torque Control (SELogic Equation)
DATC3	OFF,5-255min	15	15	DATC3 Demand Ammeter Time Constant
PDEM3P	0.50-16.00A,sec	7.00	7.00	PDEM3P Phase Demand Ammeter Thresh
QDEM3P	0.50-16.00A,sec	1.00	1.00	QDEM3P Neg-Seq Demand Ammeter Thresh
NDEM3P	0.50-16.00A,sec	1.00	1.00	NDEM3P Res. Demand Ammeter Thresh
51PC1P	OFF,0.50-16.00A,sec	4.00	4.00	51PC1P W1-W2 Phase Inv-Time O/C PU
51PC1C	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	U2	U2	51PC1C W1-W2 Phase Inv-Time O/C Curve
51PC1TD	0.50-15.00	3.00	3.00	51PC1TD W1-W2 Phase Inv-Time O/C Time-Dial
51PC1RS	Select: N, Y	Y	Y	51PC1RS W1-W2 Phase Inv-Time O/C EM Reset
51NC1P	OFF,0.50-16.00A,sec	1.00	1.00	51NC1P W1-W2 Res. Inv-Time O/C PU
51NC1C	Select: U1, U2, U3, U4, U5, C1, C2, C3, C4, C5	U2	U2	51NC1C W1-W2 Res. Inv-Time O/C Curve
51NC1TD	0.50-15.00	3.00	3.00	51NC1TD W1-W2 Res. Inv-Time O/C Time-Dial
51NC1RS	Select: N, Y	Y	Y	51NC1RS W1-W2 Res. Inv-Time O/C EM Reset
VNOM	0.20-800kV	230.00	66.00	VNOM Protected Winding L-L Voltage
24WDG	Select: D, Y	Y	Y	24WDG Transformer Winding Connection
24D1P	100-200%	105	105	24D1P Level 1 Volts/Hertz Pickup
24D1D	0.04-400S	1.00	1.00	24D1D Level 1 Time Delay
24CCS	Select: OFF, DD, ID, I, U	ID	ID	24CCS Level 2 Composite Curve Shape
24IP	100-200%	105	105	24IP Level 2 Inverse-time Pickup
24IC	Select: 2.0, 1.0, 0.5, 2, 1, .5	2.0	2.0	24IC Level 2 Inverse-time Curve
24ITD	0.1-10.0S	0.1	0.1	24ITD Level 2 Inverse-time Factor
24D2P1	100-200%	175	175	24D2P1 Level 2 Pickup One
24D2D1	0.04-400S	3.00	3.00	24D2D1 Level 2 Time Delay One
24D2P2	101-200%	176	176	24D2P2 Level 2 Pickup Two
24D2D2	0.04-400S	3.00	3.00	24D2D2 Level 2 Time Delay Two
24CR	0.00-400S	240.00	240.00	24CR Level 2 Reset Time
24TC		1	1	24TC 24 Element Torque Control(SELogic Equation)
27P1P	OFF,0.1-300V,sec	20.0	OFF	27P1P Level 1 Phase U/V PU
27P2P	OFF,0.1-300V,sec	OFF	OFF	27P2P Level 2 Phase U/V PU
27PP1	OFF,0.1-520V,sec	35.0	OFF	27PP1 Level 1 Phase-phase U/V PU

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Setting	Range	Default Value	Value	Description
27PP2	OFF,0.1-520V,sec	OFF	OFF	27PP2 Level 2 Phase-phase U/V PU
27V1P	OFF,0.1-100V,sec	OFF	OFF	27V1P Pos.-Seq.(V1) U/V PU
59P1P	OFF,0.0-300V,sec	74.0	OFF	59P1P Level 1 Phase O/V PU
59P2P	OFF,0.0-300V,sec	OFF	OFF	59P2P Level 2 Phase O/V PU
59G1P	OFF,0.0-300V,sec	20.0	OFF	59G1P Level 1 Residual O/V PU
59G2P	OFF,0.0-300V,sec	OFF	OFF	59G2P Level 2 Residual O/V PU
59QP	OFF,0.0-100V,sec	OFF	OFF	59QP Neg.-Seq.(V2) O/V PU
59PP1	OFF,0.0-520V,sec	128.0	OFF	59PP1 Level 1 Phase-phase O/V PU
59PP2	OFF,0.0-520V,sec	OFF	OFF	59PP2 Level 2 Phase-phase O/V PU
59V1P	OFF,0.0-100V,sec	OFF	OFF	59V1P Pos.-Seq.(V1) O/V PU
27B81P	20.0-150V,sec	40.00	40.00	27B81P Undervoltage Block
81D1P	OFF,40.10-65Hz	OFF	OFF	81D1P Level 1 Pickup
81D1D	0.04-300S	300.00	300.00	81D1D Level 1 Time Delay
81D2P	OFF,40.10-65Hz	OFF	OFF	81D2P Level 2 Pickup
81D2D	0.04-300S	300.00	300.00	81D2D Level 2 Time Delay
81D3P	OFF,40.10-65Hz	OFF	OFF	81D3P Level 3 Pickup
81D3D	0.04-300S	300.00	300.00	81D3D Level 3 Time Delay
81D4P	OFF,40.10-65Hz	OFF	OFF	81D4P Level 4 Pickup
81D4D	0.04-300S	300.00	300.00	81D4D Level 4 Time Delay
81D5P	OFF,40.10-65Hz	OFF	OFF	81D5P Level 5 Pickup
81D5D	0.04-300S	300.00	300.00	81D5D Level 5 Time Delay
81D6P	OFF,40.10-65Hz	OFF	OFF	81D6P Level 6 Pickup
81D6D	0.04-300S	300.00	300.00	81D6D Level 6 Time Delay
TDURD	4.000-8000.000 cyc	9.000	9.000	TDURD Trip Duration Delay
CFD	OFF, 0.000-8000.000 cyc	60.000	60.000	CFD Close Failure Delay
S1V1		0	LNKFAIL	S1V1 Set 1 Variable 1 (SELogic Equation)
S1V1PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S1V1PU S1V1 Timer Pickup
S1V1DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S1V1DO S1V1 Timer Dropout
S1V2		0	0	S1V2 Set 1 Variable 2 (SELogic Equation)
S1V2PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S1V2PU S1V2 Timer Pickup
S1V2DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S1V2DO S1V2 Timer Dropout
S1V3		0	0	S1V3 Set 1 Variable 3 (SELogic Equation)
S1V3PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S1V3PU S1V3 Timer Pickup
S1V3DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S1V3DO S1V3 Timer Dropout
S1V4		0	0	S1V4 Set 1 Variable 4 (SELogic Equation)
S1V4PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S1V4PU S1V4 Timer Pickup
S1V4DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S1V4DO S1V4 Timer Dropout
S1SLT1		0	0	S1SLT1 Set 1 Latch Bit 1 SET Input (SELogic Equation)

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Setting	Range	Default Value	Value	Description
S1RLT1		0	0	S1RLT1 Set 1 Latch Bit 1 RESET Input (SELogic Equation)
S1SLT2		0	0	S1SLT2 Set 1 Latch Bit 2 SET Input (SELogic Equation)
S1RLT2		0	0	S1RLT2 Set 1 Latch Bit 2 RESET Input (SELogic Equation)
S1SLT3		0	0	S1SLT3 Set 1 Latch Bit 3 SET Input (SELogic Equation)
S1RLT3		0	0	S1RLT3 Set 1 Latch Bit 3 RESET Input (SELogic Equation)
S1SLT4		0	0	S1SLT4 Set 1 Latch Bit 4 SET Input (SELogic Equation)
S1RLT4		0	0	S1RLT4 Set 1 Latch Bit 4 RESET Input (SELogic Equation)
S2V1		0	0	S2V1 Set 2 Variable 1 (SELogic Equation)
S2V1PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S2V1PU S2V1 Timer Pickup
S2V1DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S2V1DO S2V1 Timer Dropout
S2V2		0	0	S2V2 Set 2 Variable 2 (SELogic Equation)
S2V2PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S2V2PU S2V2 Timer Pickup
S2V2DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S2V2DO S2V2 Timer Dropout
S2V3		0	0	S2V3 Set 2 Variable 3 (SELogic Equation)
S2V3PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S2V3PU S2V3 Timer Pickup
S2V3DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S2V3DO S2V3 Timer Dropout
S2V4		0	0	S2V4 Set 2 Variable 4 (SELogic Equation)
S2V4PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S2V4PU S2V4 Timer Pickup
S2V4DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S2V4DO S2V4 Timer Dropout
S2SLT1		0	0	S2SLT1 Set 2 Latch Bit 1 SET Input (SELogic Equation)
S2RLT1		0	0	S2RLT1 Set 2 Latch Bit 1 RESET Input (SELogic Equation)
S2SLT2		0	0	S2SLT2 Set 2 Latch Bit 2 SET Input (SELogic Equation)
S2RLT2		0	0	S2RLT2 Set 2 Latch Bit 2 RESET Input (SELogic Equation)
S2SLT3		0	0	S2SLT3 Set 2 Latch Bit 3 SET Input (SELogic Equation)
S2RLT3		0	0	S2RLT3 Set 2 Latch Bit 3 RESET Input (SELogic Equation)
S2SLT4		0	0	S2SLT4 Set 2 Latch Bit 4 SET Input (SELogic Equation)
S2RLT4		0	0	S2RLT4 Set 2 Latch Bit 4 RESET Input (SELogic Equation)
S3V1		0	0	S3V1 Set 3 Variable 1 (SELogic Equation)
S3V1PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V1PU S3V1 Timer Pickup

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Setting	Range	Default Value	Value	Description
S3V1DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V1DO S3V1 Timer Dropout
S3V2		0	0	S3V2 Set 3 Variable 2 (SELogic Equation)
S3V2PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V2PU S3V2 Timer Pickup
S3V2DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V2DO S3V2 Timer Dropout
S3V3		0	0	S3V3 Set 3 Variable 3 (SELogic Equation)
S3V3PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V3PU S3V3 Timer Pickup
S3V3DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V3DO S3V3 Timer Dropout
S3V4		0	0	S3V4 Set 3 Variable 4 (SELogic Equation)
S3V4PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V4PU S3V4 Timer Pickup
S3V4DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V4DO S3V4 Timer Dropout
S3V5		0	0	S3V5 Set 3 Variable 5 (SELogic Equation)
S3V5PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V5PU S3V5 Timer Pickup
S3V5DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V5DO S3V5 Timer Dropout
S3V6		0	0	S3V6 Set 3 Variable 6 (SELogic Equation)
S3V6PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V6PU S3V6 Timer Pickup
S3V6DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V6DO S3V6 Timer Dropout
S3V7		0	0	S3V7 Set 3 Variable 7 (SELogic Equation)
S3V7PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V7PU S3V7 Timer Pickup
S3V7DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V7DO S3V7 Timer Dropout
S3V8		0	0	S3V8 Set 3 Variable 8 (SELogic Equation)
S3V8PU	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V8PU S3V8 Timer Pickup
S3V8DO	OFF, 0.000-999999.000 cyc	0.000	0.000	S3V8DO S3V8 Timer Dropout
S3SLT1		0	0	S3SLT1 Set 3 Latch Bit 1 SET Input (SELogic Equation)
S3RLT1		0	0	S3RLT1 Set 3 Latch Bit 1 RESET Input (SELogic Equation)
S3SLT2		0	0	S3SLT2 Set 3 Latch Bit 2 SET Input (SELogic Equation)
S3RLT2		0	0	S3RLT2 Set 3 Latch Bit 2 RESET Input (SELogic Equation)
S3SLT3		0	0	S3SLT3 Set 3 Latch Bit 3 SET Input (SELogic Equation)
S3RLT3		0	0	S3RLT3 Set 3 Latch Bit 3 RESET Input (SELogic Equation)
S3SLT4		0	0	S3SLT4 Set 3 Latch Bit 4 SET Input (SELogic Equation)
S3RLT4		0	0	S3RLT4 Set 3 Latch Bit 4 RESET Input (SELogic Equation)
S3SLT5		0	0	S3SLT5 Set 3 Latch Bit 5 SET Input (SELogic Equation)

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Setting	Range	Default Value	Value	Description
S3RLT5		0	0	S3RLT5 Set 3 Latch Bit 5 RESET Input (SELogic Equation)
S3SLT6		0	0	S3SLT6 Set 3 Latch Bit 6 SET Input (SELogic Equation)
S3RLT6		0	0	S3RLT6 Set 3 Latch Bit 6 RESET Input (SELogic Equation)
S3SLT7		0	0	S3SLT7 Set 3 Latch Bit 7 SET Input (SELogic Equation)
S3RLT7		0	0	S3RLT7 Set 3 Latch Bit 7 RESET Input (SELogic Equation)
S3SLT8		0	0	S3SLT8 Set 3 Latch Bit 8 SET Input (SELogic Equation)
S3RLT8		0	0	S3RLT8 Set 3 Latch Bit 8 RESET Input (SELogic Equation)
TR1		$50P11T + 51P1T + 51Q1T + OC1 + LB3$	$50P11T + 51P1T + 50N11T + 51N1T + OC1 + (87R + 87U) * IRB1$	TR1
TR2		$51P2T + 51Q2T + OC2$	$50P21T + 51P2T + 50N21T + 51N2T$	TR2
TR3		$50P31 + 51P3T + OC3$	0	TR3
TR4		$87R + 87U$	0	TR4
ULTR1		!50P13	!50P13	ULTR1
ULTR2		!50P23	!50P23	ULTR2
ULTR3		!50P33	!50P33	ULTR3
ULTR4		$!(50P13 + 50P23 + 50P33)$	$!(50P13 + 50P23 + 50P33)$	ULTR4
52A1		IN101	IN101	52A1
52A2		IN102	IN102	52A2
52A3		IN103	IN103	52A3
CL1		$CC1 + LB4 + /IN104$	$CC1 + LB4 + /IN104$	CL1
CL2		$CC2 + /IN105$	$CC2 + /IN105$	CL2
CL3		$CC3 + /IN106$	$CC3 + /IN106$	CL3
ULCL1		TRIP1 + TRIP4	TRIP1 + TRIP4	ULCL1
ULCL2		TRIP2 + TRIP4	TRIP2 + TRIP4	ULCL2
ULCL3		TRIP3 + TRIP4	TRIP3 + TRIP4	ULCL3
ER		$/50P11 + /51P1 + /51Q1 + /51P2 + /51Q2 + /51P3$	$/50P11 + /51P1 + /51Q1 + /51P2 + /51Q2 + /51P3 + /87R + /87U + /TRIP1$	ER
OUT101		TRIP1	$(87R + 87U) * IRB1 + TRIP1$	OUT101
OUT102		TRIP2	TRIP2	OUT102
OUT103		TRIP3	$(87R + 87U) * IRB1 + TRIP1 + TRIP2$	OUT103

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Setting	Range	Default Value	Value	Description
OUT104		TRIP4	0	OUT104
OUT105		CLS1	0	OUT105
OUT106		CLS2	0	OUT106
OUT107		CLS3	0	OUT107
OUT201		0	0	OUT201
OUT202		0	0	OUT202
OUT203		0	0	OUT203
OUT204		0	0	OUT204
OUT205		0	0	OUT205
OUT206		0	0	OUT206
OUT207		0	0	OUT207
OUT208		0	0	OUT208
OUT209		0	0	OUT209
OUT210		0	0	OUT210
OUT211		0	0	OUT211
OUT212		0	0	OUT212
OUT213		0	0	OUT213
OUT214		0	0	OUT214
OUT215		0	0	OUT215
OUT216		0	0	OUT216
OUT301		0	0	OUT301
OUT302		0	0	OUT302
OUT303		0	0	OUT303
OUT304		0	0	OUT304
OUT305		0	0	OUT305
OUT306		0	0	OUT306
OUT307		0	0	OUT307
OUT308		0	0	OUT308
OUT309		0	0	OUT309
OUT310		0	0	OUT310
OUT311		0	0	OUT311
OUT312		0	0	OUT312
OUT313		0	0	OUT313
OUT314		0	0	OUT314
OUT315		0	0	OUT315
OUT316		0	0	OUT316
☐ Group : DNPAI				
DNPAI				DNPAI DNP Analog Input map
☐ Group : DNPAO				
DNPAO				DNPAO DNP Analog Output map
☐ Group : DNPBI				
☒ ((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...				

☒ ((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...

Setting	Range	Default Value	Value	Description
B2KAP3	0.1-999kA	20.0	20.0	B2KAP3 kA Interrupted Set Point 3 min
BKMON3		TRIP3 + TRIP4	TRIP3 + TRIP4	BKMON3 Bkr 3 Monitor Input(SELogic Equation)
B3COP1	1-65000	10000	10000	B3COP1 Close/Open Operations Set Point 1 max
B3KAP1	0.1-999kA	1.2	1.2	B3KAP1 kA Interrupted Set Point 1 min
B3COP2	1-65000	160	160	B3COP2 Close/Open Operations Set Point 2 max
B3KAP2	0.1-999kA	8.0	8.0	B3KAP2 kA Interrupted Set Point 2 min
B3COP3	1-65000	12	12	B3COP3 Close/Open Operations Set Point 3 max
B3KAP3	0.1-999kA	20.0	20.0	B3KAP3 kA Interrupted Set Point 3 min
ETHRU	Select: N, 1-3	N	N	ETHRU Enable Through Fault Event Winding
THRU		0	0	THRU Through Fault Event Trigger (SELogic Equation)
ISQT	OFF,0-4294967 kA^2 sec	0	0	ISQT Through Fault I^2t Thresh
IAW1		IAW1	IAW1	IAW1
IBW1		IBW1	IBW1	IBW1
ICW1		ICW1	ICW1	ICW1
IAW2		IAW2	IAW2	IAW2
IBW2		IBW2	IBW2	IBW2
ICW2		ICW2	ICW2	ICW2
IAW3		IAW3	IAW3	IAW3
IBW3		IBW3	IBW3	IBW3
ICW3		ICW3	ICW3	ICW3
VAWX		VAWX	VAWX	VAWX
VBWX		VBWX	VBWX	VBWX
VCWX		VCWX	VCWX	VCWX
SS1		1	1	SS1
SS2		0	0	SS2
SS3		0	0	SS3
SS4		0	0	SS4
SS5		0	0	SS5
SS6		0	0	SS6
LEDA		OCA + 87E1	OCA + 87E1	LEDA
LEDB		OCB + 87E2	OCB + 87E2	LEDB
LEDC		OCC + 87E3	OCC + 87E3	LEDC
DP1		IN101	IN101	DP1
DP1_1		BREAKER 1 CLOSED	BREAKER 1 CLOSED	DP1_1 DP1 Labels(16 char; enter NA to NULL)
DP1_0		BREAKER 1 OPEN	BREAKER 1 OPEN	DP1_0

☒ ((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...

Setting	Range	Default Value	Value	Description
DP2		IN102	IN102	DP2
DP2_1		BREAKER 2 CLOSED	BREAKER 2 CLOSED	DP2_1 DP2 Labels(16 char; enter NA to NULL)
DP2_0		BREAKER 2 OPEN	BREAKER 2 OPEN	DP2_0
DP3		IN103	IN103	DP3
DP3_1		BREAKER 3 CLOSED	BREAKER 3 CLOSED	DP3_1 DP3 Labels(16 char; enter NA to NULL)
DP3_0		BREAKER 3 OPEN	BREAKER 3 OPEN	DP3_0
DP4		0	0	DP4
DP4_1		NA	NA	DP4_1 DP4 Labels(16 char; enter NA to NULL)
DP4_0		NA	NA	DP4_0
DP5		0	0	DP5
DP5_1		NA	NA	DP5_1 DP5 Labels(16 char; enter NA to NULL)
DP5_0		NA	NA	DP5_0
DP6		0	0	DP6
DP6_1		NA	NA	DP6_1 DP6 Labels(16 char; enter NA to NULL)
DP6_0		NA	NA	DP6_0
DP7		0	0	DP7
DP7_1		NA	NA	DP7_1 DP7 Labels(16 char; enter NA to NULL)
DP7_0		NA	NA	DP7_0
DP8		0	0	DP8
DP8_1		NA	NA	DP8_1 DP8 Labels(16 char; enter NA to NULL)
DP8_0		NA	NA	DP8_0
DP9		0	0	DP9
DP9_1		NA	NA	DP9_1 DP9 Labels(16 char; enter NA to NULL)
DP9_0		NA	NA	DP9_0
DP10		0	0	DP10
DP10_1		NA	NA	DP10_1 DP10 Labels(16 char; enter NA to NULL)
DP10_0		NA	NA	DP10_0
DP11		0	0	DP11
DP11_1		NA	NA	DP11_1 DP11 Labels(16 char; enter NA to NULL)
DP11_0		NA	NA	DP11_0
DP12		0	0	DP12
DP12_1		NA	NA	DP12_1 DP12 Labels(16 char; enter NA to NULL)
DP12_0		NA	NA	DP12_0
DP13		0	0	DP13

☒ ((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...

Setting	Range	Default Value	Value	Description
DP13_1		NA	NA	DP13_1 DP13 Labels(16 char; enter NA to NULL)
DP13_0		NA	NA	DP13_0
DP14		0	0	DP14
DP14_1		NA	NA	DP14_1 DP14 Labels(16 char; enter NA to NULL)
DP14_0		NA	NA	DP14_0
DP15		0	0	DP15
DP15_1		NA	NA	DP15_1 DP15 Labels(16 char; enter NA to NULL)
DP15_0		NA	NA	DP15_0
DP16		0	0	DP16
DP16_1		NA	NA	DP16_1 DP16 Labels(16 char; enter NA to NULL)
DP16_0		NA	NA	DP16_0
NLB1		NA	NA	NLB1 Local Bit LB_ Name(14 char; enter NA to null)
CLB1		NA	NA	CLB1 Clear Local Bit LB_ Label(7 char; enter NA to null)
SLB1		NA	NA	SLB1 Set Local Bit LB_ Label(7 char; enter NA to null)
PLB1		NA	NA	PLB1 Pulse Local Bit LB_ Label(7 char; enter NA to null)
NLB2		NA	NA	NLB2 Local Bit LB_ Name(14 char; enter NA to null)
CLB2		NA	NA	CLB2 Clear Local Bit LB_ Label(7 char; enter NA to null)
SLB2		NA	NA	SLB2 Set Local Bit LB_ Label(7 char; enter NA to null)
PLB2		NA	NA	PLB2 Pulse Local Bit LB_ Label(7 char; enter NA to null)
NLB3		MANUAL TRIP 1	MANUAL TRIP 1	NLB3 Local Bit LB_ Name(14 char; enter NA to null)
CLB3		RETURN	RETURN	CLB3 Clear Local Bit LB_ Label(7 char; enter NA to null)
SLB3		NA	NA	SLB3 Set Local Bit LB_ Label(7 char; enter NA to null)
PLB3		TRIP	TRIP	PLB3 Pulse Local Bit LB_ Label(7 char; enter NA to null)
NLB4		MANUAL CLOSE 1	MANUAL CLOSE 1	NLB4 Local Bit LB_ Name(14 char; enter NA to null)
CLB4		RETURN	RETURN	CLB4 Clear Local Bit LB_ Label(7 char; enter NA to null)
SLB4		NA	NA	SLB4 Set Local Bit LB_ Label(7 char; enter NA to null)
PLB4		CLOSE	CLOSE	PLB4 Pulse Local Bit LB_ Label(7 char; enter NA to null)
NLB5		NA	NA	NLB5 Local Bit LB_ Name(14 char; enter NA to null)
☒ (((Group = 1) Or (Group = DNPAL) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...				

Setting	Range	Default Value	Value	Description
CLB5		NA	NA	CLB5 Clear Local Bit LB_Label(7 char; enter NA to null)
SLB5		NA	NA	SLB5 Set Local Bit LB_Label(7 char; enter NA to null)
PLB5		NA	NA	PLB5 Pulse Local Bit LB_Label(7 char; enter NA to null)
NLB6		NA	NA	NLB6 Local Bit LB_Name(14 char; enter NA to null)
CLB6		NA	NA	CLB6 Clear Local Bit LB_Label(7 char; enter NA to null)
SLB6		NA	NA	SLB6 Set Local Bit LB_Label(7 char; enter NA to null)
PLB6		NA	NA	PLB6 Pulse Local Bit LB_Label(7 char; enter NA to null)
NLB7		NA	NA	NLB7 Local Bit LB_Name(14 char; enter NA to null)
CLB7		NA	NA	CLB7 Clear Local Bit LB_Label(7 char; enter NA to null)
SLB7		NA	NA	SLB7 Set Local Bit LB_Label(7 char; enter NA to null)
PLB7		NA	NA	PLB7 Pulse Local Bit LB_Label(7 char; enter NA to null)
NLB8		NA	NA	NLB8 Local Bit LB_Name(14 char; enter NA to null)
CLB8		NA	NA	CLB8 Clear Local Bit LB_Label(7 char; enter NA to null)
SLB8		NA	NA	SLB8 Set Local Bit LB_Label(7 char; enter NA to null)
PLB8		NA	NA	PLB8 Pulse Local Bit LB_Label(7 char; enter NA to null)
NLB9		NA	NA	NLB9 Local Bit LB_Name(14 char; enter NA to null)
CLB9		NA	NA	CLB9 Clear Local Bit LB_Label(7 char; enter NA to null)
SLB9		NA	NA	SLB9 Set Local Bit LB_Label(7 char; enter NA to null)
PLB9		NA	NA	PLB9 Pulse Local Bit LB_Label(7 char; enter NA to null)
NLB10		NA	NA	NLB10 Local Bit LB_Name(14 char; enter NA to null)
CLB10		NA	NA	CLB10 Clear Local Bit LB_Label(7 char; enter NA to null)
SLB10		NA	NA	SLB10 Set Local Bit LB_Label(7 char; enter NA to null)
PLB10		NA	NA	PLB10 Pulse Local Bit LB_Label(7 char; enter NA to null)
NLB11		NA	NA	NLB11 Local Bit LB_Name(14 char; enter NA to null)
CLB11		NA	NA	CLB11 Clear Local Bit LB_Label(7 char; enter NA to null)
☒ ((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...				

Setting	Range	Default Value	Value	Description
SLB11		NA	NA	SLB11 Set Local Bit LB_Label(7 char; enter NA to null)
PLB11		NA	NA	PLB11 Pulse Local Bit LB_Label(7 char; enter NA to null)
NLB12		NA	NA	NLB12 Local Bit LB_Name(14 char; enter NA to null)
CLB12		NA	NA	CLB12 Clear Local Bit LB_Label(7 char; enter NA to null)
SLB12		NA	NA	SLB12 Set Local Bit LB_Label(7 char; enter NA to null)
PLB12		NA	NA	PLB12 Pulse Local Bit LB_Label(7 char; enter NA to null)
NLB13		NA	NA	NLB13 Local Bit LB_Name(14 char; enter NA to null)
CLB13		NA	NA	CLB13 Clear Local Bit LB_Label(7 char; enter NA to null)
SLB13		NA	NA	SLB13 Set Local Bit LB_Label(7 char; enter NA to null)
PLB13		NA	NA	PLB13 Pulse Local Bit LB_Label(7 char; enter NA to null)
NLB14		NA	NA	NLB14 Local Bit LB_Name(14 char; enter NA to null)
CLB14		NA	NA	CLB14 Clear Local Bit LB_Label(7 char; enter NA to null)
SLB14		NA	NA	SLB14 Set Local Bit LB_Label(7 char; enter NA to null)
PLB14		NA	NA	PLB14 Pulse Local Bit LB_Label(7 char; enter NA to null)
NLB15		NA	NA	NLB15 Local Bit LB_Name(14 char; enter NA to null)
CLB15		NA	NA	CLB15 Clear Local Bit LB_Label(7 char; enter NA to null)
SLB15		NA	NA	SLB15 Set Local Bit LB_Label(7 char; enter NA to null)
PLB15		NA	NA	PLB15 Pulse Local Bit LB_Label(7 char; enter NA to null)
NLB16		NA	NA	NLB16 Local Bit LB_Name(14 char; enter NA to null)
CLB16		NA	NA	CLB16 Clear Local Bit LB_Label(7 char; enter NA to null)
SLB16		NA	NA	SLB16 Set Local Bit LB_Label(7 char; enter NA to null)
PLB16		NA	NA	PLB16 Pulse Local Bit LB_Label(7 char; enter NA to null)
☐ Group : P1				
PROTO	Select: SEL, LMD, DNP, TELNET	SEL	SEL	PROTO Protocol
PREFIX	Select: #, \$, %, &, @	@	@	PREFIX LMD prefix
ADDR	1-99	1	1	ADDR LMD address
SETTLE	0.00-30.00 sec	0.00	0.00	SETTLE LMD settling time
SPEED	Select: 300, 1200, 2400, 4800, 9600, 19200	2400	2400	SPEED Baud rate
☒ (((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...				

Setting	Range	Default Value	Value	Description
BITS	Select: 7, 8	8	8	BITS Data bits
PARITY	Select: N, E, O	N	N	PARITY Parity
STOP	Select: 1, 2	1	1	STOP Stop bits
T_OUT	0-30 min	5	5	T_OUT Timeout
AUTO	Select: N, Y	N	N	AUTO Send auto messages to port
RTSCTS	Select: N, Y	N	N	RTSCTS Enable hardware handshaking
FASTOP	Select: N, Y	N	N	FASTOP Fast operate enable
TPORT	1-65534	23	23	TPORT Telnet Port for Relay Access
TIDLE	1-30 min	15	15	TIDLE Telnet Port Timeout
DNPADR	0-65534	0	0	DNPADR DNP Address
MODEM	Select: N, Y	N	N	MODEM Modem connected?
MSTR		E0X0&D0S0=2	E0X0&D0S0=2	MSTR Modem startup string (30 chars.)
PH_NUM		Tel num	TEL NUM	PH_NUM Phone number (30 chars.)
MDTIME	5-300 sec.	60	60	MDTIME Dial-out time
MDRETI	5-3600 sec.	120	120	MDRETI Time between Dial-out attempts
MDRETN	0-5	3	3	MDRETN Number of Dial-out attempts
ECLASSA	Select: 0-3	2	2	ECLASSA Class for Analog Event Data
ECLASSB	Select: 0-3	1	1	ECLASSB Class for Binary Event Data
ECLASSC	Select: 0-3	0	0	ECLASSC Class for Counter Event Data
DECPLA	0-3	1	1	DECPLA Currents Scaling Decimal Places
DECPLV	0-3	1	1	DECPLV Voltage Scaling Decimal Places
DECPLM	0-3	1	1	DECPLM Misc. Scaling Decimal Places
TIMERQ	0-32767 min.	0	0	TIMERQ Timeset Request Interval
STIMEO	0.0-30.0 sec.	1.0	1.0	STIMEO Select/Operate Time-out
DTIMEO	0.0-5.0 sec.	1	1	DTIMEO Data Link Time-out
MINDLY	0.00-1.00 sec.	0.05	0.05	MINDLY Minimum Time from DCD to Tx
MAXDLY	0.00-1.00 sec.	0.10	0.10	MAXDLY Maximum Time from DCD to Tx
PREDLY	OFF, 0.00-30.00 sec.	0.00	0.00	PREDLY Time from RTS ON to Tx
PSTDLY	0.00-30.00 sec.	0.00	0.00	PSTDLY Time from Tx to RTS OFF
ANADBA	0-32767 counts	100	100	ANADBA Analog reporting deadband
ANADBV	0-32767 counts	100	100	ANADBV Analog reporting deadband
ANADBM	0-32767 counts	100	100	ANADBM Analog reporting deadband
ETIMEO	0.1-50.0 sec.	2.0	2.0	ETIMEO Event Data confirmation time-out
DRETRY	0-15	3	3	DRETRY Data Link Retries
UNSOL	Select: N, Y	N	N	UNSOL Enable Unsolicited Reporting

☒ ((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...

Setting	Range	Default Value	Value	Description
PUNSOL	Select: N, Y	N	N	PUNSOL Enable Unsolicited Reporting at Power-up
REPADR	0-65534	0	0	REPADR DNP Address to Report to
NUMEVE	1-200	10	10	NUMEVE Number of Events to Transmit on
AGEEVE	0-60sec.	2.0	2.0	AGEEVE Age of oldest evnt to Tx on
☐ Group : P2				
PROTO	Select: SEL, LMD, DNP	SEL	SEL	PROTO Protocol
PREFIX	Select: #, \$, %, &, @	@	@	PREFIX LMD prefix
ADDR	1-99	1	1	ADDR LMD address
SETTLE	0.00-30.00 sec	0.00	0.00	SETTLE LMD settling time
SPEED	Select: 300, 1200, 2400, 4800, 9600, 19200	2400	19200	SPEED Baud rate
BITS	Select: 7, 8	8	8	BITS Data bits
PARITY	Select: N, E, O	N	N	PARITY Parity
STOP	Select: 1, 2	1	1	STOP Stop bits
T_OUT	0-30 min	5	5	T_OUT Timeout
AUTO	Select: N, Y	N	N	AUTO Send auto messages to port
RTSCTS	Select: N, Y	N	N	RTSCTS Enable hardware handshaking
FASTOP	Select: N, Y	N	N	FASTOP Fast operate enable
TPORT	1-65534	23	23	TPORT Telnet Port for Relay Access
TIDLE	1-30 min	15	15	TIDLE Telnet Port Timeout
DNPADR	0-65534	0	0	DNPADR DNP Address
MODEM	Select: N, Y	N	N	MODEM Modem connected?
MSTR		E0X0&D0S0=2	E0X0&D0S0=2	MSTR Modem startup string (30 chars.)
PH_NUM		Tel num	TEL NUM	PH_NUM Phone number (30 chars.)
MDTIME	5-300 sec.	60	60	MDTIME Dial-out time
MDRETI	5-3600 sec.	120	120	MDRETI Time between Dial-out attempts
MDRETN	0-5	3	3	MDRETN Number of Dial-out attempts
ECLASSA	Select: 0-3	2	2	ECLASSA Class for Analog Event Data
ECLASSB	Select: 0-3	1	1	ECLASSB Class for Binary Event Data
ECLASSC	Select: 0-3	0	0	ECLASSC Class for Counter Event Data
DECPLA	0-3	1	1	DECPLA Currents Scaling Decimal Places
DECPLV	0-3	1	1	DECPLV Voltage Scaling Decimal Places
DECPLM	0-3	1	1	DECPLM Misc. Scaling Decimal Places
TIMERQ	0-32767 min.	0	0	TIMERQ Timeset Request Interval
STIMEO	0.0-30.0 sec.	1.0	1.0	STIMEO Select/Operate Time-out
DTIMEO	0.0-5.0 sec.	1	1	DTIMEO Data Link Time-out
☒ (((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...				

Setting	Range	Default Value	Value	Description
MINDLY	0.00-1.00 sec.	0.05	0.05	MINDLY Minimum Time from DCD to Tx
MAXDLY	0.00-1.00 sec.	0.10	0.10	MAXDLY Maximum Time from DCD to Tx
PREDLY	OFF, 0.00-30.00 sec.	0.00	0.00	PREDLY Time from RTS ON to Tx
PSTDLY	0.00-30.00 sec.	0.00	0.00	PSTDLY Time from Tx to RTS OFF
ANADBA	0-32767 counts	100	100	ANADBA Analog reporting deadband
ANADBV	0-32767 counts	100	100	ANADBV Analog reporting deadband
ANADBM	0-32767 counts	100	100	ANADBM Analog reporting deadband
ETIMEO	0.1-50.0 sec.	2.0	2.0	ETIMEO Event Data confirmation time-out
DRETRY	0-15	3	3	DRETRY Data Link Retries
UNSOL	Select: N, Y	N	N	UNSOL Enable Unsolicited Reporting
PUNSOL	Select: N, Y	N	N	PUNSOL Enable Unsolicited Reporting at Power-up
REPADR	0-65534	0	0	REPADR DNP Address to Report to
NUMEVE	1-200	10	10	NUMEVE Number of Events to Transmit on
AGEEVE	0-60sec.	2.0	2.0	AGEEVE Age of oldest evnt to Tx on
☐ Group : P3				
PROTO	Select: SEL, LMD, DNP	SEL	SEL	PROTO Protocol
PREFIX	Select: #, \$, %, &, @	@	@	PREFIX LMD prefix
ADDR	1-99	1	1	ADDR LMD address
SETTLE	0.00-30.00 sec	0.00	0.00	SETTLE LMD settling time
SPEED	Select: 300, 1200, 2400, 4800, 9600, 19200	2400	2400	SPEED Baud rate
BITS	Select: 7, 8	8	8	BITS Data bits
PARITY	Select: N, E, O	N	N	PARITY Parity
STOP	Select: 1, 2	1	1	STOP Stop bits
T_OUT	0-30 min	5	5	T_OUT Timeout
AUTO	Select: N, Y	N	N	AUTO Send auto messages to port
RTSCTS	Select: N, Y	N	N	RTSCTS Enable hardware handshaking
FASTOP	Select: N, Y	N	N	FASTOP Fast operate enable
TPORT	1-65534	23	23	TPORT Telnet Port for Relay Access
TIDLE	1-30 min	15	15	TIDLE Telnet Port Timeout
DNPADR	0-65534	0	0	DNPADR DNP Address
MODEM	Select: N, Y	N	N	MODEM Modem connected?
MSTR		E0X0&D0S0=2	E0X0&D0S0=2	MSTR Modem startup string (30 chars.)
PH_NUM		Tel num	Tel num	PH_NUM Phone number (30 chars.)
MDTIME	5-300 sec.	60	60	MDTIME Dial-out time
MDRETI	5-3600 sec.	120	120	MDRETI Time between Dial-out attempts
MDRETN	0-5	3	3	MDRETN Number of Dial-out attempts
☒ (((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...				

Setting	Range	Default Value	Value	Description
ECLASSA	Select: 0-3	2	2	ECLASSA Class for Analog Event Data
ECLASSB	Select: 0-3	1	1	ECLASSB Class for Binary Event Data
ECLASSC	Select: 0-3	0	0	ECLASSC Class for Counter Event Data
DECPLA	0-3	1	1	DECPLA Currents Scaling Decimal Places
DECPLV	0-3	1	1	DECPLV Voltage Scaling Decimal Places
DECPLM	0-3	1	1	DECPLM Misc. Scaling Decimal Places
TIMERQ	0-32767 min.	0	0	TIMERQ Timeset Request Interval
STIMEO	0.0-30.0 sec.	1.0	1.0	STIMEO Select/Operate Time-out
DTIMEO	0.0-5.0 sec.	1	1	DTIMEO Data Link Time-out
MINDLY	0.00-1.00 sec.	0.05	0.05	MINDLY Minimum Time from DCD to Tx
MAXDLY	0.00-1.00 sec.	0.10	0.10	MAXDLY Maximum Time from DCD to Tx
PREDLY	OFF, 0.00-30.00 sec.	0.00	0.00	PREDLY Time from RTS ON to Tx
PSTDLY	0.00-30.00 sec.	0.00	0.00	PSTDLY Time from Tx to RTS OFF
ANADBA	0-32767 counts	100	100	ANADBA Analog reporting deadband
ANADBV	0-32767 counts	100	100	ANADBV Analog reporting deadband
ANADBM	0-32767 counts	100	100	ANADBM Analog reporting deadband
ETIMEO	0.1-50.0 sec.	2.0	2.0	ETIMEO Event Data confirmation time-out
DRETRY	0-15	3	3	DRETRY Data Link Retries
UNSOL	Select: N, Y	N	N	UNSOL Enable Unsolicited Reporting
PUNSOL	Select: N, Y	N	N	PUNSOL Enable Unsolicited Reporting at Power-up
REPADR	0-65534	0	0	REPADR DNP Address to Report to
NUMEVE	1-200	10	10	NUMEVE Number of Events to Transmit on
AGEEVE	0-60sec.	2.0	2.0	AGEEVE Age of oldest evnt to Tx on
☐ Group : P4				
PROTO	Select: SEL, LMD, DNP	SEL	SEL	PROTO Protocol
PREFIX	Select: #, \$, %, &, @	@	@	PREFIX LMD prefix
ADDR	1-99	1	1	ADDR LMD address
SETTLE	0.00-30.00 sec	0.00	0.00	SETTLE LMD settling time
SPEED	Select: 300, 1200, 2400, 4800, 9600, 19200	2400	19200	SPEED Baud rate
BITS	Select: 7, 8	8	8	BITS Data bits
PARITY	Select: N, E, O	N	N	PARITY Parity
STOP	Select: 1, 2	1	1	STOP Stop bits
T_OUT	0-30 min	5	5	T_OUT Timeout
AUTO	Select: N, Y	N	N	AUTO Send auto messages to port
RTSCTS	Select: N, Y	N	N	RTSCTS Enable hardware handshaking
☒ (((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...				

Setting	Range	Default Value	Value	Description
FASTOP	Select: N, Y	N	N	FASTOP Fast operate enable
TPORT	1-65534	23	23	TPORT Telnet Port for Relay Access
TIDLE	1-30 min	15	15	TIDLE Telnet Port Timeout
DNPADR	0-65534	0	0	DNPADR DNP Address
MODEM	Select: N, Y	N	N	MODEM Modem connected?
MSTR		E0X0&D0S0=2	E0X0&D0S0=2	MSTR Modem startup string (30 chars.)
PH_NUM		Tel num	TEL NUM	PH_NUM Phone number (30 chars.)
MDTIME	5-300 sec.	60	60	MDTIME Dial-out time
MDRETI	5-3600 sec.	120	120	MDRETI Time between Dial-out attempts
MDRETN	0-5	3	3	MDRETN Number of Dial-out attempts
ECLASSA	Select: 0-3	2	2	ECLASSA Class for Analog Event Data
ECLASSB	Select: 0-3	1	1	ECLASSB Class for Binary Event Data
ECLASSC	Select: 0-3	0	0	ECLASSC Class for Counter Event Data
DECPLA	0-3	1	1	DECPLA Currents Scaling Decimal Places
DECPLV	0-3	1	1	DECPLV Voltage Scaling Decimal Places
DECPLM	0-3	1	1	DECPLM Misc. Scaling Decimal Places
TIMERQ	0-32767 min.	0	0	TIMERQ Timeset Request Interval
STIMEO	0.0-30.0 sec.	1.0	1.0	STIMEO Select/Operate Time-out
DTIMEO	0.0-5.0 sec.	1	1	DTIMEO Data Link Time-out
MINDLY	0.00-1.00 sec.	0.05	0.05	MINDLY Minimum Time from DCD to Tx
MAXDLY	0.00-1.00 sec.	0.10	0.10	MAXDLY Maximum Time from DCD to Tx
PREDLY	OFF, 0.00-30.00 sec.	0.00	0.00	PREDLY Time from RTS ON to Tx
PSTDLY	0.00-30.00 sec.	0.00	0.00	PSTDLY Time from Tx to RTS OFF
ANADBA	0-32767 counts	100	100	ANADBA Analog reporting deadband
ANADBV	0-32767 counts	100	100	ANADBV Analog reporting deadband
ANADBM	0-32767 counts	100	100	ANADBM Analog reporting deadband
ETIMEO	0.1-50.0 sec.	2.0	2.0	ETIMEO Event Data confirmation time-out
DRETRY	0-15	3	3	DRETRY Data Link Retries
UNSOL	Select: N, Y	N	N	UNSOL Enable Unsolicited Reporting
PUNSOL	Select: N, Y	N	N	PUNSOL Enable Unsolicited Reporting at Power-up
REPADR	0-65534	0	0	REPADR DNP Address to Report to
NUMEVE	1-200	10	10	NUMEVE Number of Events to Transmit on
AGEEVE	0-60sec.	2.0	2.0	AGEEVE Age of oldest evnt to Tx on

☐ Group : P5

☒ ((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...

Setting	Range	Default Value	Value	Description
IPADDR		192.168.1.2	192.168.1.101	IPADDR IP Address (xxx.xxx.xxx.xxx)
SUBNETM		255.255.255.0	255.255.255.0	SUBNETM Subnet Mask (xxx.xxx.xxx.xxx)
DEFRTR		192.168.1.1	192.168.1.254	DEFRTR Default Router (xxx.xxx.xxx.xxx)
ETCPKA	Select: N, Y	N	Y	ETCPKA Enable TCP Keep-Alive
KAIDLE	1-20 seconds	10	10	KAIDLE TCP Keep-Alive Idle Range
KAINTV	1-20 seconds	1	1	KAINTV TCP Keep-Alive Interval Range
KACNT	1-20	6	6	KACNT TCP Keep-Alive Count Range
NETMODE	Select: FIXED, FAILOVER	FAILOVER	FIXED	NETMODE Operating Mode
FTIME	OFF,0.10-65.00 sec	1.00	1.00	FTIME Failover Time-out
ETELNET	Select: N, Y	N	Y	ETELNET Enable Telnet
TPORTC	1-65534	1024	1024	TPORTC Telnet Port for Card Access
TIDLE	1-30 min	15	15	TIDLE Telnet Port Timeout
EFTPSERV	Select: N, Y	N	Y	EFTPSERV Enable FTP Server
FTPUSER		2AC	2AC	FTPUSER FTP User Name
FTPCBAN		FTP SERVER	FTP SERVER	FTPCBAN FTP Connect Banner
FTPIDLE	5-255 min	5	5	FTPIDLE FTP Idle Timeout
EHTTP	Select: N, Y	N	Y	EHTTP Enable HTTP Server
HTTPPORT	1-65535	80	80	HTTPPORT HTTP TCP/IP Port
HTTPIDLE	1-30 min	10	10	HTTPIDLE HTTP Web Server Timeout
E61850	Select: N, Y	N	Y	E61850 Enable IEC 61850 Protocol
EGSE	Select: N, Y	N	Y	EGSE Enable IEC 61850 GSE

☐ Group : R

SER1		IN101,IN102,IN103,IN104,IN105,IN106	IN101,IN102,IN103,IN104,IN105,IN106,87R,87U,51P1T,51P2T,50P11T,50P21T	SER1
SER2		OUT101,OUT102,OUT103,OUT104,OUT105,OUT106,OUT107	OUT101,OUT102,OUT103,OUT104,OUT105,OUT106,OUT107,50N11T,51N1T,50N21T,51N2T	SER2
SER3		0	50P11,51P1,50N11,51N1,50P21,51P2,50N21,51N2	SER3
SER4		0	0	SER4
ALIAS1		NA	NA	ALIAS1
ALIAS2		NA	NA	ALIAS2
ALIAS3		NA	NA	ALIAS3
ALIAS4		NA	NA	ALIAS4
ALIAS5		NA	NA	ALIAS5
ALIAS6		NA	NA	ALIAS6

☒ (((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...

Setting	Range	Default Value	Value	Description
ALIAS7		NA	NA	ALIAS7
ALIAS8		NA	NA	ALIAS8
ALIAS9		NA	NA	ALIAS9
ALIAS10		NA	NA	ALIAS10
ALIAS11		NA	NA	ALIAS11
ALIAS12		NA	NA	ALIAS12
ALIAS13		NA	NA	ALIAS13
ALIAS14		NA	NA	ALIAS14
ALIAS15		NA	NA	ALIAS15
ALIAS16		NA	NA	ALIAS16
ALIAS17		NA	NA	ALIAS17
ALIAS18		NA	NA	ALIAS18
ALIAS19		NA	NA	ALIAS19
ALIAS20		NA	NA	ALIAS20
☒ ((Group = 1) Or (Group = DNPAI) Or (Group = DNPAO) Or (Group = DNPBI) Or (Group = DNPBO) Or (Group = DNPC) Or (Group = G) Or (Group ...				