

SEL-351R-4 Settings Report

Overview Information

File Name	SE TENO SEL 351R-C2 ENCONTRADO 31-OCT-2024
RDB	TENO.rdb
Device	SEL-351R-4
Setting Version Number	002
Part Number	0351R41284115XAA0
Firmware ID	SEL-351R-4-RXXX-VX-Z002001-DXXXXXXXXX

Settings

[Global](#)[Global EZ Settings](#)[EZ Group 1](#)[EZ Group 2](#)[EZ Group 3](#)[EZ Group 4](#)[EZ Group 5](#)[EZ Group 6](#)[Group 1](#)[Group 2](#)[Group 3](#)[Group 4](#)[Group 5](#)[Group 6](#)[Logic 1](#)[Logic 2](#)[Logic 3](#)[Logic 4](#)[Logic 5](#)[Logic 6](#)[Report](#)[Text](#)[Port 1](#)[Port 2](#)[Port 3](#)[Port 4](#)

Settings Legend

Visible Setting

Hidden Setting

Invalid Setting

Global			
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Setting	Description	Range	Value
TGR	Group Change Delay	0.00-16000.00cyc	0,00
NFREQ	Nominal Frequency	Select: 50, 60	50
PHROT	Phase Rotation	Select: ABC, ACB	ABC
DATE_F	Date Format	Select: MDY, YMD	MDY
FP_TO	Front Panel Timeout	0-30min	15
LER	Length of Event Report	Select: 15, 30	30
PRE	Cycle Length of Prefault in Event Report	1-29	4
IN101D	Input IN_ Debounce cycles	AC,0.00-1.00	1,00
IN102D	Input IN_ Debounce cycles	AC,0.00-1.00	1,00
IN103D	Input IN_ Debounce cycles	AC,0.00-1.00	1,00
IN104D	Input IN_ Debounce cycles	AC,0.00-1.00	1,00
IN105D	Input IN_ Debounce cycles	AC,0.00-1.00	1,00
IN106D	Input IN_ Debounce cycles	AC,0.00-1.00	1,00
EBMON	Breaker Monitor	Select: N, Y	Y
COSP1	Close/Open Operations Set Point 1-max	0-65000	10000
COSP2	Close/Open Operations Set Point 2-mid	0-65000	80
COSP3	Close/Open Operations Set Point 3-min	0-65000	80
KASP1	kA(pri) Interrupted Set Point 1-min	0.10-999.00	0,48
KASP2	kA(pri) Interrupted Set Point 2-mid	0.10-999.00	12,00
KASP3	kA(pri) Interrupted Set Point 3-max	0.10-999.00	12,00
LED11L	Trip latch LED11	Select: N, Y	N
LED12L	Trip latch LED12	Select: N, Y	N
LED13L	Trip latch LED13	Select: N, Y	N
LED14L	Trip latch LED14	Select: N, Y	Y
LED15L	Trip latch LED15	Select: N, Y	Y
LED16L	Trip latch LED16	Select: N, Y	Y
LED17L	Trip latch LED17	Select: N, Y	Y
LED18L	Trip latch LED18	Select: N, Y	N
LED19L	Trip latch LED19	Select: N, Y	N
LED20L	Trip latch LED20	Select: N, Y	N
LED24L	Trip latch LED24	Select: N, Y	Y
LED25L	Trip latch LED25	Select: N, Y	Y
RSTLED	Reset trip-latched LEDs on close	Select: N, N1, Y, Y1	N
PB8D	PB8 time delay setting	0.00-3600.00cyc	0,00
PB9D	PB9 time delay setting	0.00-3600.00cyc	0,00
3PVOLT	True three-phase voltage connected	Select: N, Y	Y
VPCONN	V123 Terminal Conn.	Select: ABC, ACB, BAC, BCA, CAB, CBA	ABC

IPCONN	I123 Terminal Conn.	Select: ABC, ACB, BAC, BCA, CAB, CBA	ABC
CTPOL	CT Polarity	Select: POS, NEG	POS
EZGRPS	# of EZ settings groups enabled	Select: 0-6	2
AMPHR	Battery Amp-hours	6.5-20.0	8,0
PWR_AC	Power-off Delay After AC Loss	OFF,1-1440min	180
PWR_WU	Power-off Delay After Wake Up	OFF,1-1440min	20
V_LOW1	Power-off Voltage Level 1	19.2-24.0Vdc	19,2
UTCOFF	Offset from UTC	-24.00-24.00hour	0,00
Global			
Top			

Global EZ Settings				Top
Setting	Description	Range	Value	
SYSFREQ	System Frequency	Select: 50, 60	50	
PROT	Phase Rotation	Select: ABC, ACB	ABC	
RWM	Recloser Wear Monitor	Select: N, Y, AUTO	AUTO	
RTYPE	Recloser type	Select: OIL, VAC1, VAC2	VAC2	
INTRATING	Interrupt rating	500-20000	12000	
RTLLEDS	Reset trip-latched LEDs on close	Select: N, N1, Y, Y1	N	
T3PVOL	True three-phase voltage connected	Select: N, Y	Y	
VPCONN	V123 Terminal Conn.	Select: ABC, ACB, BAC, BCA, CAB, CBA	ABC	
IPCONN	I123 Terminal Conn.	Select: ABC, ACB, BAC, BCA, CAB, CBA	ABC	
CTPOL	CT Polarity	Select: POS, NEG	POS	
BATAH	Battery Amp-hours	6.5-20.0	8,0	
PWR_AC	Power-off Delay After AC Loss	OFF,1-1440min	180	
PWR_WU	Power-off Delay After Wake Up	OFF,1-1440min	20	
V_LOW1	Power-off Voltage Level 1	19.2-24.0Vdc	19,2	
Global EZ Settings				Top

EZ Group 1			
			Top
Setting	Description	Range	Value
RID	Control Identifier (30 chars)		RECONECTADOR 52C2
TID	Circuit Identifier (30 chars)		ALIMENTADOR VISTA HERMOSA
CTR	CT Ratio	1.0-6000.0	1000,0
PTR	PT Ratio	1.0-10000.0	130,0
MTPHASE	Min. trip - phase	OFF,50.00-3199.99 A pri.	560,00
MTGND	Min. trip - ground	OFF,5.00-3199.99 A pri.	60,00
MTSEF	Min. trip - SEF	OFF,5.00-1499.99 A pri.	12,00
FCPHASE	Fast curve - phase (OFF,U1-U5,C1-C5,recloser or user curve)		C3
TDFCPHASE	Time-dial - phase fast curve	0.05-1.00	1,00
EMRFCPHASE	EM reset - phase fast curve	Select: N, Y	N
FCGND	Fast curve - ground (OFF,U1-U5,C1-C5,recloser or user curve)		C4
TDFCGND	Time-dial - ground fast curve	0.05-1.00	0,50
EMRFCGND	EM reset - ground fast curve	Select: N, Y	N
DCPHASE	Delay curve - phase (OFF,U1-U5,C1-C5,recloser or user curve)		C3
TDDCPHASE	Time-dial - phase delay curve	0.05-1.00	1,00
EMRDCPHASE	EM reset - phase delay curve	Select: N, Y	N
DCGND	Delay curve - ground (OFF,U1-U5,C1-C5,recloser or user curve)		C4
TDDCGND	Time-dial - ground delay curve	0.05-1.00	0,50
EMRDCGND	EM reset - ground delay curve	Select: N, Y	N
TDSEF	Time delay - SEF	0.00-16000.00cyc	4500,00
OPPFC	Operations - phase fast curve	OFF,1-5	OFF
OPGFC	Operations - ground fast curve	OFF,1-5	OFF
OPTLPHASE	Operations to lockout - phase	OFF,1-5	2
OPTLGND	Operations to lockout - ground	OFF,1-5	2
OPTLSEF	Operations to lockout - SEF	OFF,1-5	1
RCL1	Reclose interval 1	0.00-999999.00cyc	250,00
RTAR	Reset time for auto-reclose	0.00-999999.00cyc	500,00
RTLO	Reset time from lockout	0.00-999999.00cyc	1500,00
CPWT	Close power wait time	OFF,0.00-999999.00cyc	900,00
CFCPHASE	Complex fast curve - phase	Select: N, Y	Y
CTAFCPHASE	Const. time adder - phase fast curve	0.00-60.00cyc	0,00
MINRFCPHASE	Min. response - phase fast curve	0.00-60.00cyc	0,00
CFCGND	Complex fast curve - ground	Select: N, Y	N
CDCPHASE	Complex delay curve - phase	Select: N, Y	Y

CTADCPHASE	Const. time adder - phase delay curve	0.00-60.00cyc	0,00
MINRDCPHASE	Min. response - phase delay curve	0.00-60.00cyc	0,00
CDCGND	Complex delay curve - ground	Select: N, Y	N
HCTPHASEYN	High current trip - phase	Select: N, Y	N
HCTGNDYN	High current trip - ground	Select: N, Y	N
HCLOPHASEYN	High current lockout - phase	Select: N, Y	N
HCLOGNDYN	High current lockout - ground	Select: N, Y	N
CLPUSCH	Cold load pickup scheme	Select: N, Y	N
SEQCOORD	Sequence coordination	Select: N, Y	N
UFREQLS	Underfrequency loadshedding	Select: N, Y	N
DMTC	Demand meter time constant	Select: 5, 10, 15, 30, 60	15
EZ Group 1			
Top			

EZ Group 2			
Top			
Setting	Description	Range	Value
RID	Control Identifier (30 chars)		RECLOSER R1
TID	Circuit Identifier (30 chars)		FEEDER 2101
CTR	CT Ratio	1.0-6000.0	1000,0
PTR	PT Ratio	1.0-10000.0	100,0
MTPHASE	Min. trip - phase	OFF,50.00-3199.99 A pri.	400,00
MTGND	Min. trip - ground	OFF,5.00-3199.99 A pri.	100,00
MTSEF	Min. trip - SEF	OFF,5.00-1499.99 A pri.	OFF
FCPHASE	Fast curve - phase (OFF,U1-U5,C1-C5,recloser or user curve)		A
FCGND	Fast curve - ground (OFF,U1-U5,C1-C5,recloser or user curve)		1
DCPHASE	Delay curve - phase (OFF,U1-U5,C1-C5,recloser or user curve)		C
DCGND	Delay curve - ground (OFF,U1-U5,C1-C5,recloser or user curve)		13
OPPFC	Operations - phase fast curve	OFF,1-5	2
OPGFC	Operations - ground fast curve	OFF,1-5	2
OPTLPHASE	Operations to lockout - phase	2-5	4
OPTLGND	Operations to lockout - ground	2-5	4
RCL1	Reclose interval 1	0.00-999999.00cyc	300,00
RCL2	Reclose interval 2	0.00-999999.00cyc	600,00
RCL3	Reclose interval 3	0.00-999999.00cyc	600,00
RTAR	Reset time for auto-reclose	0.00-999999.00cyc	1800,00
RTLO	Reset time from lockout	0.00-999999.00cyc	600,00
CPWT	Close power wait time	OFF,0.00-999999.00cyc	900,00
CFCPHASE	Complex fast curve - phase	Select: N, Y	N
CFCGND	Complex fast curve - ground	Select: N, Y	N
CDCPHASE	Complex delay curve - phase	Select: N, Y	N
CDCGND	Complex delay curve - ground	Select: N, Y	N
HCTPHASEYN	High current trip - phase	Select: N, Y	N
HCTGNDYN	High current trip - ground	Select: N, Y	N
HCLOPHASEYN	High current lockout - phase	Select: N, Y	N
HCLOGNDYN	High current lockout - ground	Select: N, Y	N
CLPUSCH	Cold load pickup scheme	Select: N, Y	N
SEQCOORD	Sequence coordination	Select: N, Y	N
UFREQLS	Underfrequency loadshedding	Select: N, Y	N
DMTC	Demand meter time constant	Select: 5, 10, 15, 30, 60	5
EZ Group 2			
Top			

EZ Group 3				Top
Setting	Description	Range	Value	
EZ Group 3				Top

EZ Group 4				Top
Setting	Description	Range	Value	
EZ Group 4				Top

EZ Group 5				Top
Setting	Description	Range	Value	
EZ Group 5				Top

EZ Group 6				Top
Setting	Description	Range	Value	
EZ Group 6				Top

Group 1			
			Top
Setting	Description	Range	Value
RID	Relay Identifier (30 chars)		RECONECTADOR 52C2
TID	Terminal Identifier (30 chars)		ALIMENTADOR VISTA HERMOSA
CTR	CT Ratio	1.0-6000.0	1000,0
PTR	Phase (VA,VB,VC) PT Ratio	1.0-10000.0	130,0
PTRS	Synch. Voltage (VS) PT Ratio	1.0-10000.0	130,0
Z1MAG	Pos-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	32,10
Z1ANG	Pos-Seq Line Impedance Angle	40.00-90.00	68,86
Z0MAG	Zero-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	95,70
Z0ANG	Zero-Seq Line Impedance Angle	40.00-90.00	72,47
LL	Line Length - unitless	0.10-999.00	4,84
E50P	Phase	Select: N, 1-6	6
E50N	Neutral Ground	Select: N, 1-6	6
E50G	Residual Ground	Select: N, 1-6	6
E50Q	Negative-Sequence	Select: N, 1-6	N
E51P	Phase	Select: N, 1, 2	2
E51N	Neutral Ground	Select: N, 1, 2	2
E51G	Residual Ground	Select: N, 1, 2	2
E51Q	Negative-Sequence	Select: N, Y	N
E32	Directional Control	Select: N, Y, AUTO	N
ELOAD	Load Encroachment	Select: N, Y	N
ESOTF	Switch-Onto-Fault	Select: N, Y	N
EVOLT	Voltage Elements	Select: N, Y	Y
E25	Synchronism Check	Select: N, Y	N
EFLOC	Fault Location	Select: N, Y	N
ELOP	Loss-Of-Potential	Select: N, Y, Y1	N
ECOMM	Comm.-Assisted Trip Scheme	Select: N, DCB, POTT, DCUB1, DCUB2	N
E81	Frequency Elements	Select: N, 1-6	6
E79	Reclosures	Select: N, 1-4	4
ESV	SELogic Variable Timers	Select: N, 1-16	16
EDEM	Demand Metering	Select: THM, ROL	THM
50P1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50P2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50P3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50P4P	Level 4	OFF,0.05-20.00Amp,sec	0,56
50P5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50P6P	Level 6	OFF,0.05-20.00Amp,sec	0,56

67P1D	Level 1	0.00-16000.00cyc	0,00
67P2D	Level 2	0.00-16000.00cyc	0,00
67P3D	Level 3	0.00-16000.00cyc	0,00
67P4D	Level 4	0.00-16000.00cyc	0,00
50PP1P	Level 1	OFF,0.20-34.00Amp,sec	OFF
50PP2P	Level 2	OFF,0.20-34.00Amp,sec	OFF
50PP3P	Level 3	OFF,0.20-34.00Amp,sec	OFF
50PP4P	Level 4	OFF,0.20-34.00Amp,sec	OFF
50N1P	Level 1	OFF,0.005-1.500Amp,sec	OFF
50N2P	Level 2	OFF,0.005-1.500Amp,sec	OFF
50N3P	Level 3	OFF,0.005-1.500Amp,sec	0,012
50N4P	Level 4	OFF,0.005-1.500Amp,sec	0,012
50N5P	Level 5	OFF,0.005-1.500Amp,sec	OFF
50N6P	Level 6	OFF,0.005-1.500Amp,sec	0,060
67N1D	Level 1	0.00-16000.00cyc	0,00
67N2D	Level 2	0.00-16000.00cyc	0,00
67N3D	Level 3	0.00-16000.00cyc	4500,00
67N4D	Level 4	0.00-16000.00cyc	0,00
50G1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50G2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50G3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50G4P	Level 4	OFF,0.05-20.00Amp,sec	OFF
50G5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50G6P	Level 6	OFF,0.05-20.00Amp,sec	OFF
67G1D	Level 1	0.00-16000.00cyc	0,00
67G2D	Level 2	0.00-16000.00cyc	0,00
67G3D	Level 3	0.00-16000.00cyc	0,00
67G4D	Level 4	0.00-16000.00cyc	0,00
51P1P	Pickup	OFF,0.05-3.20Amp,sec	0,56
51P1C	Curve (U1-U5,C1-C5,recloser or user curve)		C3
51P1TD	Time Dial	0.05-1.00	1,00
51P1RS	EM Reset Delay	Select: N, Y	N
51P1CT	Constant time adder	0.00-60.00cyc	0,00
51P1MR	Minimum response	0.00-60.00cyc	0,00
51P2P	Pickup	OFF,0.05-3.20Amp,sec	0,56
51P2C	Curve (U1-U5,C1-C5,recloser or user curve)		C3
51P2TD	Time Dial	0.05-1.00	1,00
51P2RS	EM Reset Delay	Select: N, Y	N
51P2CT	Constant time adder	0.00-60.00cyc	0,00
51P2MR	Minimum response	0.00-60.00cyc	0,00
51N1P	Pickup	OFF,0.005-0.160Amp,sec	0,060
51N1C	Curve (U1-U5,C1-C5,recloser or user curve)		C4
51N1TD	Time Dial	0.05-1.00	0,50

51N1RS	EM Reset Delay	Select: N, Y	N
51N1CT	Constant time adder	0.00-60.00cyc	0,00
51N1MR	Minimum response	0.00-60.00cyc	0,00
51N2P	Pickup	OFF,0.005-0.160Amp,sec	0,060
51N2C	Curve (U1-U5,C1-C5,recloser or user curve)		C4
51N2TD	Time Dial	0.05-1.00	0,50
51N2RS	EM Reset Delay	Select: N, Y	N
51N2CT	Constant time adder	0.00-60.00cyc	0,00
51N2MR	Minimum response	0.00-60.00cyc	0,00
51G1P	Pickup	OFF,0.05-3.20Amp,sec	OFF
51G1C	Curve (U1-U5,C1-C5,recloser or user curve)		C4
51G1TD	Time Dial	0.05-1.00	0,50
51G1RS	EM Reset Delay	Select: N, Y	N
51G1CT	Constant time adder	0.00-60.00cyc	0,00
51G1MR	Minimum response	0.00-60.00cyc	0,00
51G2P	Pickup	OFF,0.05-3.20Amp,sec	OFF
51G2C	Curve (U1-U5,C1-C5,recloser or user curve)		C4
51G2TD	Time Dial	0.05-1.00	0,50
51G2RS	EM Reset Delay	Select: N, Y	N
51G2CT	Constant time adder	0.00-60.00cyc	0,00
51G2MR	Minimum response	0.00-60.00cyc	0,00
27P1P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
27P2P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59P1P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	104,0
59P2P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N1P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N2P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59QP	Neg.-Seq.(V2) Overvoltage Pickup	OFF,0.0-200.0V,sec	OFF
59V1P	Pos.-Seq. (V1) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27SP	Channel VS Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S1P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S2P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27PP	Phase-Phase Undervoltage Pickup	OFF,0.0-520.0V,sec	OFF
59PP	Phase-Phase Overvoltage Pickup	OFF,0.0-520.0V,sec	OFF
27B81P	Undervoltage Block	20.0-300.0V,sec	80,0
81D1P	Pickup	OFF,40.10-65.00Hz	OFF
81D1D	Time Delay	2.00-16000.00cyc	6,00
81D2P	Pickup	OFF,40.10-65.00Hz	OFF
81D2D	Time Delay	2.00-16000.00cyc	2,00
81D3P	Pickup	OFF,40.10-65.00Hz	OFF
81D3D	Time Delay	2.00-16000.00cyc	2,00
81D4P	Pickup	OFF,40.10-65.00Hz	OFF
81D4D	Time Delay	2.00-16000.00cyc	2,00

81D5P	Pickup	OFF,40.10-65.00Hz	OFF
81D5D	Time Delay	2.00-16000.00cyc	2,00
81D6P	Pickup	OFF,40.10-65.00Hz	OFF
81D6D	Time Delay	2.00-16000.00cyc	2,00
79OI1	Open Interval	0.00-999999.00cyc	250,00
79OI2	Open Interval	0.00-999999.00cyc	0,00
79OI3	Open Interval	0.00-999999.00cyc	0,00
79OI4	Open Interval	0.00-999999.00cyc	0,00
79RSD	Reset Time from Reclose Cycle	0.00-999999.00cyc	500,00
79RSLD	Reset Time from Lockout	0.00-999999.00cyc	1500,00
79CLSD	Reclose Supv. Time Limit	OFF,0.00-999999.00cyc	900,00
DMTC	Time Constant	Select: 5, 10, 15, 30, 60	15
PDEMP	Phase Pickup	OFF,0.10-3.20Amp,sec	OFF
NDEMP	Neutral Ground Pickup	OFF,0.005-0.160Amp,sec	OFF
GDEMP	Residual Ground Pickup	OFF,0.10-3.20Amp,sec	OFF
QDEMP	Negative-Sequence Pickup	OFF,0.10-3.20Amp,sec	OFF
TDURD	Minimum Trip Duration Time	4.00-16000.00cyc	12,00
CFD	Close Failure Time Delay	OFF,0.00-16000.00cyc	60,00
3POD	Three-Pole Open Time Delay	0.00-60.00cyc	1,50
50LP	Load Detection Phase Pickup	OFF,0.05-20.00Amp,sec	0,05
SV1PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV1DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV2PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV2DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV3PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV3DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV4PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV4DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV5PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV5DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV6PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV6DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV7PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV7DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV8PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV8DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV9PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV9DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV10PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV10DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV11PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV11DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV12PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00

	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV13PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV13DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV14PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV14DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV15PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV15DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV16PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV16DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
OPPH	Operations - phase fast curve	OFF,1-5	OFF
OPGR	Operations - ground fast curve	OFF,1-5	OFF
OPLKPH	Operations to lockout - phase	OFF,1-5	2
OPLKGR	Operations to lockout - ground	OFF,1-5	2
OPLKSF	Operations to lockout - SEF	OFF,1-5	1
HITRPH	Activate high current trip - phase	OFF,1-5	OFF
HITRGR	Activate high current trip - ground	OFF,1-5	OFF
HILKPH	Activate high current lockout - phase	OFF,1-5	OFF
HILKGR	Activate high current lockout - ground	OFF,1-5	OFF
ECOLDP	Cold load pickup scheme - phase	Select: N, Y	N
ECOLDG	Cold load pickup scheme - ground	Select: N, Y	N
RPPH	Restore min. trip - phase	Select: N, Y	N
RPGR	Restore min. trip - ground	Select: N, Y	N
RPSEF	Restore min. trip - SEF	Select: N, Y	N
ESEQ	Sequence coordination	Select: N, Y	N
PRECED	Ground trip precedence	Select: N, Y	N
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Setting	Description	Range	Value
RID	Relay Identifier (30 chars)		RECLOSER R1
TID	Terminal Identifier (30 chars)		FEEDER 2101
CTR	CT Ratio	1.0-6000.0	1000,0
PTR	Phase (VA,VB,VC) PT Ratio	1.0-10000.0	100,0
PTRS	Synch. Voltage (VS) PT Ratio	1.0-10000.0	100,0
Z1MAG	Pos-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	32,10
Z1ANG	Pos-Seq Line Impedance Angle	40.00-90.00	68,86
Z0MAG	Zero-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	95,70
Z0ANG	Zero-Seq Line Impedance Angle	40.00-90.00	72,47
LL	Line Length - unitless	0.10-999.00	4,84
E50P	Phase	Select: N, 1-6	6
E50N	Neutral Ground	Select: N, 1-6	6
E50G	Residual Ground	Select: N, 1-6	6
E50Q	Negative-Sequence	Select: N, 1-6	N
E51P	Phase	Select: N, 1, 2	2
E51N	Neutral Ground	Select: N, 1, 2	2
E51G	Residual Ground	Select: N, 1, 2	2
E51Q	Negative-Sequence	Select: N, Y	N
E32	Directional Control	Select: N, Y, AUTO	N
ELOAD	Load Encroachment	Select: N, Y	N
ESOTF	Switch-Onto-Fault	Select: N, Y	N
EVOLT	Voltage Elements	Select: N, Y	Y
E25	Synchronism Check	Select: N, Y	N
EFLOC	Fault Location	Select: N, Y	N
ELOP	Loss-Of-Potential	Select: N, Y, Y1	N
ECOMM	Comm.-Assisted Trip Scheme	Select: N, DCB, POTT, DCUB1, DCUB2	N
E81	Frequency Elements	Select: N, 1-6	6
E79	Reclosures	Select: N, 1-4	4
ESV	SELogic Variable Timers	Select: N, 1-16	16
EDEM	Demand Metering	Select: THM, ROL	THM
50P1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50P2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50P3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50P4P	Level 4	OFF,0.05-20.00Amp,sec	0,40
50P5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50P6P	Level 6	OFF,0.05-20.00Amp,sec	0,40
67P1D	Level 1	0.00-16000.00cyc	0,00

67P2D	Level 2	0.00-16000.00cyc	0,00
67P3D	Level 3	0.00-16000.00cyc	0,00
67P4D	Level 4	0.00-16000.00cyc	0,00
50PP1P	Level 1	OFF,0.20-34.00Amp,sec	OFF
50PP2P	Level 2	OFF,0.20-34.00Amp,sec	OFF
50PP3P	Level 3	OFF,0.20-34.00Amp,sec	OFF
50PP4P	Level 4	OFF,0.20-34.00Amp,sec	OFF
50N1P	Level 1	OFF,0.005-1.500Amp,sec	OFF
50N2P	Level 2	OFF,0.005-1.500Amp,sec	OFF
50N3P	Level 3	OFF,0.005-1.500Amp,sec	OFF
50N4P	Level 4	OFF,0.005-1.500Amp,sec	OFF
50N5P	Level 5	OFF,0.005-1.500Amp,sec	OFF
50N6P	Level 6	OFF,0.005-1.500Amp,sec	OFF
67N1D	Level 1	0.00-16000.00cyc	0,00
67N2D	Level 2	0.00-16000.00cyc	0,00
67N3D	Level 3	0.00-16000.00cyc	0,00
67N4D	Level 4	0.00-16000.00cyc	0,00
50G1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50G2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50G3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50G4P	Level 4	OFF,0.05-20.00Amp,sec	OFF
50G5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50G6P	Level 6	OFF,0.05-20.00Amp,sec	0,10
67G1D	Level 1	0.00-16000.00cyc	0,00
67G2D	Level 2	0.00-16000.00cyc	0,00
67G3D	Level 3	0.00-16000.00cyc	0,00
67G4D	Level 4	0.00-16000.00cyc	0,00
51P1P	Pickup	OFF,0.05-3.20Amp,sec	0,40
51P1C	Curve (U1-U5,C1-C5,recloser or user curve)		A
51P1TD	Time Dial	0.10-2.00	1,00
51P1CT	Constant time adder	0.00-60.00cyc	0,00
51P1MR	Minimum response	0.00-60.00cyc	0,00
51P2P	Pickup	OFF,0.05-3.20Amp,sec	0,40
51P2C	Curve (U1-U5,C1-C5,recloser or user curve)		C
51P2TD	Time Dial	0.10-2.00	1,00
51P2CT	Constant time adder	0.00-60.00cyc	0,00
51P2MR	Minimum response	0.00-60.00cyc	0,00
51N1P	Pickup	OFF,0.005-0.160Amp,sec	OFF
51N1C	Curve (U1-U5,C1-C5,recloser or user curve)		1
51N1TD	Time Dial	0.10-2.00	1,00
51N1CT	Constant time adder	0.00-60.00cyc	0,00
51N1MR	Minimum response	0.00-60.00cyc	0,00
51N2P	Pickup	OFF,0.005-0.160Amp,sec	OFF

51N2C	Curve (U1-U5,C1-C5,recloser or user curve)		13
51N2TD	Time Dial	0.10-2.00	1,00
51N2CT	Constant time adder	0.00-60.00cyc	0,00
51N2MR	Minimum response	0.00-60.00cyc	0,00
51G1P	Pickup	OFF,0.05-3.20Amp,sec	0,10
51G1C	Curve (U1-U5,C1-C5,recloser or user curve)		1
51G1TD	Time Dial	0.10-2.00	1,00
51G1CT	Constant time adder	0.00-60.00cyc	0,00
51G1MR	Minimum response	0.00-60.00cyc	0,00
51G2P	Pickup	OFF,0.05-3.20Amp,sec	0,10
51G2C	Curve (U1-U5,C1-C5,recloser or user curve)		13
51G2TD	Time Dial	0.10-2.00	1,00
51G2CT	Constant time adder	0.00-60.00cyc	0,00
51G2MR	Minimum response	0.00-60.00cyc	0,00
27P1P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
27P2P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59P1P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	104,0
59P2P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N1P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N2P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59QP	Neg.-Seq.(V2) Overvoltage Pickup	OFF,0.0-200.0V,sec	OFF
59V1P	Pos.-Seq. (V1) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27SP	Channel VS Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S1P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S2P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27PP	Phase-Phase Undervoltage Pickup	OFF,0.0-520.0V,sec	OFF
59PP	Phase-Phase Overvoltage Pickup	OFF,0.0-520.0V,sec	OFF
27B81P	Undervoltage Block	20.0-300.0V,sec	80,0
81D1P	Pickup	OFF,40.10-65.00Hz	OFF
81D1D	Time Delay	2.00-16000.00cyc	6,00
81D2P	Pickup	OFF,40.10-65.00Hz	OFF
81D2D	Time Delay	2.00-16000.00cyc	2,00
81D3P	Pickup	OFF,40.10-65.00Hz	OFF
81D3D	Time Delay	2.00-16000.00cyc	2,00
81D4P	Pickup	OFF,40.10-65.00Hz	OFF
81D4D	Time Delay	2.00-16000.00cyc	2,00
81D5P	Pickup	OFF,40.10-65.00Hz	OFF
81D5D	Time Delay	2.00-16000.00cyc	2,00
81D6P	Pickup	OFF,40.10-65.00Hz	OFF
81D6D	Time Delay	2.00-16000.00cyc	2,00
79OI1	Open Interval	0.00-999999.00cyc	300,00
79OI2	Open Interval	0.00-999999.00cyc	600,00
79OI3	Open Interval	0.00-999999.00cyc	600,00

79OI4	Open Interval	0.00-999999.00cyc	0,00
79RSD	Reset Time from Reclose Cycle	0.00-999999.00cyc	1800,00
79RSLD	Reset Time from Lockout	0.00-999999.00cyc	600,00
79CLSD	Reclose Supv. Time Limit	OFF,0.00-999999.00cyc	900,00
DMTC	Time Constant	Select: 5, 10, 15, 30, 60	5
PDEMP	Phase Pickup	OFF,0.10-3.20Amp,sec	OFF
NDEMP	Neutral Ground Pickup	OFF,0.005-0.160Amp,sec	OFF
GDEMP	Residual Ground Pickup	OFF,0.10-3.20Amp,sec	OFF
QDEMP	Negative-Sequence Pickup	OFF,0.10-3.20Amp,sec	OFF
TDURD	Minimum Trip Duration Time	4.00-16000.00cyc	12,00
CFD	Close Failure Time Delay	OFF,0.00-16000.00cyc	60,00
3POD	Three-Pole Open Time Delay	0.00-60.00cyc	1,50
50LP	Load Detection Phase Pickup	OFF,0.05-20.00Amp,sec	0,05
SV1PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV1DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV2PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV2DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV3PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV3DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV4PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV4DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV5PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV5DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV6PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV6DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV7PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV7DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV8PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV8DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV9PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV9DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV10PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV10DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV11PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV11DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV12PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV12DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV13PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV13DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV14PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV14DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV15PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV15DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00

	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV16DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
OPPH	Operations - phase fast curve	OFF,1-5	2
OPGR	Operations - ground fast curve	OFF,1-5	2
OPLKPH	Operations to lockout - phase	OFF,1-5	4
OPLKGR	Operations to lockout - ground	OFF,1-5	4
OPLKSF	Operations to lockout - SEF	OFF,1-5	OFF
HITRPH	Activate high current trip - phase	OFF,1-5	OFF
HITRGR	Activate high current trip - ground	OFF,1-5	OFF
HILKPH	Activate high current lockout - phase	OFF,1-5	OFF
HILKGR	Activate high current lockout - ground	OFF,1-5	OFF
ECOLDP	Cold load pickup scheme - phase	Select: N, Y	N
ECOLDG	Cold load pickup scheme - ground	Select: N, Y	N
RPPH	Restore min. trip - phase	Select: N, Y	N
RPGR	Restore min. trip - ground	Select: N, Y	N
RPSEF	Restore min. trip - SEF	Select: N, Y	N
ESEQ	Sequence coordination	Select: N, Y	N
PRECED	Ground trip precedence	Select: N, Y	N
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Group 3[Top](#)

Setting	Description	Range	Value
RID	Relay Identifier (30 chars)		RECLOSER R1
TID	Terminal Identifier (30 chars)		FEEDER 2101
CTR	CT Ratio	1.0-6000.0	1000,0
PTR	Phase (VA,VB,VC) PT Ratio	1.0-10000.0	100,0
PTRS	Synch. Voltage (VS) PT Ratio	1.0-10000.0	100,0
Z1MAG	Pos-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	32,10
Z1ANG	Pos-Seq Line Impedance Angle	40.00-90.00	68,86
Z0MAG	Zero-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	95,70
Z0ANG	Zero-Seq Line Impedance Angle	40.00-90.00	72,47
LL	Line Length - unitless	0.10-999.00	4,84
E50P	Phase	Select: N, 1-6	6
E50N	Neutral Ground	Select: N, 1-6	6
E50G	Residual Ground	Select: N, 1-6	6
E50Q	Negative-Sequence	Select: N, 1-6	N
E51P	Phase	Select: N, 1, 2	2
E51N	Neutral Ground	Select: N, 1, 2	2
E51G	Residual Ground	Select: N, 1, 2	2
E51Q	Negative-Sequence	Select: N, Y	N
E32	Directional Control	Select: N, Y, AUTO	N
ELOAD	Load Encroachment	Select: N, Y	N
ESOTF	Switch-Onto-Fault	Select: N, Y	N
EVOLT	Voltage Elements	Select: N, Y	Y
E25	Synchronism Check	Select: N, Y	N
EFLOC	Fault Location	Select: N, Y	N
ELOP	Loss-Of-Potential	Select: N, Y, Y1	N
ECOMM	Comm.-Assisted Trip Scheme	Select: N, DCB, POTT, DCUB1, DCUB2	N
E81	Frequency Elements	Select: N, 1-6	6
E79	Reclosures	Select: N, 1-4	4
ESV	SELogic Variable Timers	Select: N, 1-16	16
EDEM	Demand Metering	Select: THM, ROL	THM
50P1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50P2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50P3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50P4P	Level 4	OFF,0.05-20.00Amp,sec	0,40
50P5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50P6P	Level 6	OFF,0.05-20.00Amp,sec	0,40
67P1D	Level 1	0.00-16000.00cyc	0,00

67P2D	Level 2	0.00-16000.00cyc	0,00
67P3D	Level 3	0.00-16000.00cyc	0,00
67P4D	Level 4	0.00-16000.00cyc	0,00
50PP1P	Level 1	OFF,0.20-34.00Amp,sec	OFF
50PP2P	Level 2	OFF,0.20-34.00Amp,sec	OFF
50PP3P	Level 3	OFF,0.20-34.00Amp,sec	OFF
50PP4P	Level 4	OFF,0.20-34.00Amp,sec	OFF
50N1P	Level 1	OFF,0.005-1.500Amp,sec	OFF
50N2P	Level 2	OFF,0.005-1.500Amp,sec	OFF
50N3P	Level 3	OFF,0.005-1.500Amp,sec	OFF
50N4P	Level 4	OFF,0.005-1.500Amp,sec	OFF
50N5P	Level 5	OFF,0.005-1.500Amp,sec	OFF
50N6P	Level 6	OFF,0.005-1.500Amp,sec	OFF
67N1D	Level 1	0.00-16000.00cyc	0,00
67N2D	Level 2	0.00-16000.00cyc	0,00
67N3D	Level 3	0.00-16000.00cyc	0,00
67N4D	Level 4	0.00-16000.00cyc	0,00
50G1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50G2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50G3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50G4P	Level 4	OFF,0.05-20.00Amp,sec	OFF
50G5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50G6P	Level 6	OFF,0.05-20.00Amp,sec	0,10
67G1D	Level 1	0.00-16000.00cyc	0,00
67G2D	Level 2	0.00-16000.00cyc	0,00
67G3D	Level 3	0.00-16000.00cyc	0,00
67G4D	Level 4	0.00-16000.00cyc	0,00
51P1P	Pickup	OFF,0.05-3.20Amp,sec	0,40
51P1C	Curve (U1-U5,C1-C5,recloser or user curve)		A
51P1TD	Time Dial	0.10-2.00	1,00
51P1CT	Constant time adder	0.00-60.00cyc	0,00
51P1MR	Minimum response	0.00-60.00cyc	0,00
51P2P	Pickup	OFF,0.05-3.20Amp,sec	0,40
51P2C	Curve (U1-U5,C1-C5,recloser or user curve)		C
51P2TD	Time Dial	0.10-2.00	1,00
51P2CT	Constant time adder	0.00-60.00cyc	0,00
51P2MR	Minimum response	0.00-60.00cyc	0,00
51N1P	Pickup	OFF,0.005-0.160Amp,sec	OFF
51N1C	Curve (U1-U5,C1-C5,recloser or user curve)		1
51N1TD	Time Dial	0.10-2.00	1,00
51N1CT	Constant time adder	0.00-60.00cyc	0,00
51N1MR	Minimum response	0.00-60.00cyc	0,00
51N2P	Pickup	OFF,0.005-0.160Amp,sec	OFF

51N2C	Curve (U1-U5,C1-C5,recloser or user curve)		13
51N2TD	Time Dial	0.10-2.00	1,00
51N2CT	Constant time adder	0.00-60.00cyc	0,00
51N2MR	Minimum response	0.00-60.00cyc	0,00
51G1P	Pickup	OFF,0.05-3.20Amp,sec	0,10
51G1C	Curve (U1-U5,C1-C5,recloser or user curve)		1
51G1TD	Time Dial	0.10-2.00	1,00
51G1CT	Constant time adder	0.00-60.00cyc	0,00
51G1MR	Minimum response	0.00-60.00cyc	0,00
51G2P	Pickup	OFF,0.05-3.20Amp,sec	0,10
51G2C	Curve (U1-U5,C1-C5,recloser or user curve)		13
51G2TD	Time Dial	0.10-2.00	1,00
51G2CT	Constant time adder	0.00-60.00cyc	0,00
51G2MR	Minimum response	0.00-60.00cyc	0,00
27P1P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
27P2P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59P1P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	104,0
59P2P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N1P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N2P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59QP	Neg.-Seq.(V2) Overvoltage Pickup	OFF,0.0-200.0V,sec	OFF
59V1P	Pos.-Seq. (V1) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27SP	Channel VS Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S1P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S2P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27PP	Phase-Phase Undervoltage Pickup	OFF,0.0-520.0V,sec	OFF
59PP	Phase-Phase Overvoltage Pickup	OFF,0.0-520.0V,sec	OFF
27B81P	Undervoltage Block	20.0-300.0V,sec	80,0
81D1P	Pickup	OFF,40.10-65.00Hz	OFF
81D1D	Time Delay	2.00-16000.00cyc	6,00
81D2P	Pickup	OFF,40.10-65.00Hz	OFF
81D2D	Time Delay	2.00-16000.00cyc	2,00
81D3P	Pickup	OFF,40.10-65.00Hz	OFF
81D3D	Time Delay	2.00-16000.00cyc	2,00
81D4P	Pickup	OFF,40.10-65.00Hz	OFF
81D4D	Time Delay	2.00-16000.00cyc	2,00
81D5P	Pickup	OFF,40.10-65.00Hz	OFF
81D5D	Time Delay	2.00-16000.00cyc	2,00
81D6P	Pickup	OFF,40.10-65.00Hz	OFF
81D6D	Time Delay	2.00-16000.00cyc	2,00
79OI1	Open Interval	0.00-999999.00cyc	300,00
79OI2	Open Interval	0.00-999999.00cyc	600,00
79OI3	Open Interval	0.00-999999.00cyc	600,00

79OI4	Open Interval	0.00-999999.00cyc	0,00
79RSD	Reset Time from Reclose Cycle	0.00-999999.00cyc	1800,00
79RSLD	Reset Time from Lockout	0.00-999999.00cyc	600,00
79CLSD	Reclose Supv. Time Limit	OFF,0.00-999999.00cyc	900,00
DMTC	Time Constant	Select: 5, 10, 15, 30, 60	5
PDEMP	Phase Pickup	OFF,0.10-3.20Amp,sec	OFF
NDEMP	Neutral Ground Pickup	OFF,0.005-0.160Amp,sec	OFF
GDEMP	Residual Ground Pickup	OFF,0.10-3.20Amp,sec	OFF
QDEMP	Negative-Sequence Pickup	OFF,0.10-3.20Amp,sec	OFF
TDURD	Minimum Trip Duration Time	4.00-16000.00cyc	12,00
CFD	Close Failure Time Delay	OFF,0.00-16000.00cyc	60,00
3POD	Three-Pole Open Time Delay	0.00-60.00cyc	1,50
50LP	Load Detection Phase Pickup	OFF,0.05-20.00Amp,sec	0,05
SV1PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV1DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV2PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV2DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV3PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV3DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV4PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV4DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV5PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV5DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV6PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV6DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV7PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV7DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV8PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV8DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV9PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV9DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV10PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV10DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV11PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV11DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV12PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV12DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV13PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV13DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV14PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV14DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV15PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV15DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00

	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV16DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
OPPH	Operations - phase fast curve	OFF,1-5	2
OPGR	Operations - ground fast curve	OFF,1-5	2
OPLKPH	Operations to lockout - phase	OFF,1-5	4
OPLKGR	Operations to lockout - ground	OFF,1-5	4
OPLKSF	Operations to lockout - SEF	OFF,1-5	OFF
HITRPH	Activate high current trip - phase	OFF,1-5	OFF
HITRGR	Activate high current trip - ground	OFF,1-5	OFF
HILKPH	Activate high current lockout - phase	OFF,1-5	OFF
HILKGR	Activate high current lockout - ground	OFF,1-5	OFF
ECOLDP	Cold load pickup scheme - phase	Select: N, Y	N
ECOLDG	Cold load pickup scheme - ground	Select: N, Y	N
RPPH	Restore min. trip - phase	Select: N, Y	N
RPGR	Restore min. trip - ground	Select: N, Y	N
RPSEF	Restore min. trip - SEF	Select: N, Y	N
ESEQ	Sequence coordination	Select: N, Y	N
PRECED	Ground trip precedence	Select: N, Y	N
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Setting	Description	Range	Value
RID	Relay Identifier (30 chars)		RECLOSER R1
TID	Terminal Identifier (30 chars)		FEEDER 2101
CTR	CT Ratio	1.0-6000.0	1000,0
PTR	Phase (VA,VB,VC) PT Ratio	1.0-10000.0	100,0
PTRS	Synch. Voltage (VS) PT Ratio	1.0-10000.0	100,0
Z1MAG	Pos-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	32,10
Z1ANG	Pos-Seq Line Impedance Angle	40.00-90.00	68,86
Z0MAG	Zero-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	95,70
Z0ANG	Zero-Seq Line Impedance Angle	40.00-90.00	72,47
LL	Line Length - unitless	0.10-999.00	4,84
E50P	Phase	Select: N, 1-6	6
E50N	Neutral Ground	Select: N, 1-6	6
E50G	Residual Ground	Select: N, 1-6	6
E50Q	Negative-Sequence	Select: N, 1-6	N
E51P	Phase	Select: N, 1, 2	2
E51N	Neutral Ground	Select: N, 1, 2	2
E51G	Residual Ground	Select: N, 1, 2	2
E51Q	Negative-Sequence	Select: N, Y	N
E32	Directional Control	Select: N, Y, AUTO	N
ELOAD	Load Encroachment	Select: N, Y	N
ESOTF	Switch-Onto-Fault	Select: N, Y	N
EVOLT	Voltage Elements	Select: N, Y	Y
E25	Synchronism Check	Select: N, Y	N
EFLOC	Fault Location	Select: N, Y	N
ELOP	Loss-Of-Potential	Select: N, Y, Y1	N
ECOMM	Comm.-Assisted Trip Scheme	Select: N, DCB, POTT, DCUB1, DCUB2	N
E81	Frequency Elements	Select: N, 1-6	6
E79	Reclosures	Select: N, 1-4	4
ESV	SELogic Variable Timers	Select: N, 1-16	16
EDEM	Demand Metering	Select: THM, ROL	THM
50P1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50P2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50P3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50P4P	Level 4	OFF,0.05-20.00Amp,sec	0,40
50P5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50P6P	Level 6	OFF,0.05-20.00Amp,sec	0,40
67P1D	Level 1	0.00-16000.00cyc	0,00

67P2D	Level 2	0.00-16000.00cyc	0,00
67P3D	Level 3	0.00-16000.00cyc	0,00
67P4D	Level 4	0.00-16000.00cyc	0,00
50PP1P	Level 1	OFF,0.20-34.00Amp,sec	OFF
50PP2P	Level 2	OFF,0.20-34.00Amp,sec	OFF
50PP3P	Level 3	OFF,0.20-34.00Amp,sec	OFF
50PP4P	Level 4	OFF,0.20-34.00Amp,sec	OFF
50N1P	Level 1	OFF,0.005-1.500Amp,sec	OFF
50N2P	Level 2	OFF,0.005-1.500Amp,sec	OFF
50N3P	Level 3	OFF,0.005-1.500Amp,sec	OFF
50N4P	Level 4	OFF,0.005-1.500Amp,sec	OFF
50N5P	Level 5	OFF,0.005-1.500Amp,sec	OFF
50N6P	Level 6	OFF,0.005-1.500Amp,sec	OFF
67N1D	Level 1	0.00-16000.00cyc	0,00
67N2D	Level 2	0.00-16000.00cyc	0,00
67N3D	Level 3	0.00-16000.00cyc	0,00
67N4D	Level 4	0.00-16000.00cyc	0,00
50G1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50G2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50G3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50G4P	Level 4	OFF,0.05-20.00Amp,sec	OFF
50G5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50G6P	Level 6	OFF,0.05-20.00Amp,sec	0,10
67G1D	Level 1	0.00-16000.00cyc	0,00
67G2D	Level 2	0.00-16000.00cyc	0,00
67G3D	Level 3	0.00-16000.00cyc	0,00
67G4D	Level 4	0.00-16000.00cyc	0,00
51P1P	Pickup	OFF,0.05-3.20Amp,sec	0,40
51P1C	Curve (U1-U5,C1-C5,recloser or user curve)		A
51P1TD	Time Dial	0.10-2.00	1,00
51P1CT	Constant time adder	0.00-60.00cyc	0,00
51P1MR	Minimum response	0.00-60.00cyc	0,00
51P2P	Pickup	OFF,0.05-3.20Amp,sec	0,40
51P2C	Curve (U1-U5,C1-C5,recloser or user curve)		C
51P2TD	Time Dial	0.10-2.00	1,00
51P2CT	Constant time adder	0.00-60.00cyc	0,00
51P2MR	Minimum response	0.00-60.00cyc	0,00
51N1P	Pickup	OFF,0.005-0.160Amp,sec	OFF
51N1C	Curve (U1-U5,C1-C5,recloser or user curve)		1
51N1TD	Time Dial	0.10-2.00	1,00
51N1CT	Constant time adder	0.00-60.00cyc	0,00
51N1MR	Minimum response	0.00-60.00cyc	0,00
51N2P	Pickup	OFF,0.005-0.160Amp,sec	OFF

51N2C	Curve (U1-U5,C1-C5,recloser or user curve)		13
51N2TD	Time Dial	0.10-2.00	1,00
51N2CT	Constant time adder	0.00-60.00cyc	0,00
51N2MR	Minimum response	0.00-60.00cyc	0,00
51G1P	Pickup	OFF,0.05-3.20Amp,sec	0,10
51G1C	Curve (U1-U5,C1-C5,recloser or user curve)		1
51G1TD	Time Dial	0.10-2.00	1,00
51G1CT	Constant time adder	0.00-60.00cyc	0,00
51G1MR	Minimum response	0.00-60.00cyc	0,00
51G2P	Pickup	OFF,0.05-3.20Amp,sec	0,10
51G2C	Curve (U1-U5,C1-C5,recloser or user curve)		13
51G2TD	Time Dial	0.10-2.00	1,00
51G2CT	Constant time adder	0.00-60.00cyc	0,00
51G2MR	Minimum response	0.00-60.00cyc	0,00
27P1P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
27P2P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59P1P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	104,0
59P2P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N1P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N2P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59QP	Neg.-Seq.(V2) Overvoltage Pickup	OFF,0.0-200.0V,sec	OFF
59V1P	Pos.-Seq. (V1) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27SP	Channel VS Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S1P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S2P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27PP	Phase-Phase Undervoltage Pickup	OFF,0.0-520.0V,sec	OFF
59PP	Phase-Phase Overvoltage Pickup	OFF,0.0-520.0V,sec	OFF
27B81P	Undervoltage Block	20.0-300.0V,sec	80,0
81D1P	Pickup	OFF,40.10-65.00Hz	OFF
81D1D	Time Delay	2.00-16000.00cyc	6,00
81D2P	Pickup	OFF,40.10-65.00Hz	OFF
81D2D	Time Delay	2.00-16000.00cyc	2,00
81D3P	Pickup	OFF,40.10-65.00Hz	OFF
81D3D	Time Delay	2.00-16000.00cyc	2,00
81D4P	Pickup	OFF,40.10-65.00Hz	OFF
81D4D	Time Delay	2.00-16000.00cyc	2,00
81D5P	Pickup	OFF,40.10-65.00Hz	OFF
81D5D	Time Delay	2.00-16000.00cyc	2,00
81D6P	Pickup	OFF,40.10-65.00Hz	OFF
81D6D	Time Delay	2.00-16000.00cyc	2,00
79OI1	Open Interval	0.00-999999.00cyc	300,00
79OI2	Open Interval	0.00-999999.00cyc	600,00
79OI3	Open Interval	0.00-999999.00cyc	600,00

79OI4	Open Interval	0.00-999999.00cyc	0,00
79RSD	Reset Time from Reclose Cycle	0.00-999999.00cyc	1800,00
79RSLD	Reset Time from Lockout	0.00-999999.00cyc	600,00
79CLSD	Reclose Supv. Time Limit	OFF,0.00-999999.00cyc	900,00
DMTC	Time Constant	Select: 5, 10, 15, 30, 60	5
PDEMP	Phase Pickup	OFF,0.10-3.20Amp,sec	OFF
NDEMP	Neutral Ground Pickup	OFF,0.005-0.160Amp,sec	OFF
GDEMP	Residual Ground Pickup	OFF,0.10-3.20Amp,sec	OFF
QDEMP	Negative-Sequence Pickup	OFF,0.10-3.20Amp,sec	OFF
TDURD	Minimum Trip Duration Time	4.00-16000.00cyc	12,00
CFD	Close Failure Time Delay	OFF,0.00-16000.00cyc	60,00
3POD	Three-Pole Open Time Delay	0.00-60.00cyc	1,50
50LP	Load Detection Phase Pickup	OFF,0.05-20.00Amp,sec	0,05
SV1PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV1DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV2PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV2DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV3PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV3DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV4PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV4DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV5PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV5DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV6PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV6DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV7PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV7DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV8PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV8DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV9PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV9DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV10PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV10DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV11PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV11DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV12PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV12DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV13PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV13DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV14PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV14DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV15PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV15DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00

	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV16DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
OPPH	Operations - phase fast curve	OFF,1-5	2
OPGR	Operations - ground fast curve	OFF,1-5	2
OPLKPH	Operations to lockout - phase	OFF,1-5	4
OPLKGR	Operations to lockout - ground	OFF,1-5	4
OPLKSF	Operations to lockout - SEF	OFF,1-5	OFF
HITRPH	Activate high current trip - phase	OFF,1-5	OFF
HITRGR	Activate high current trip - ground	OFF,1-5	OFF
HILKPH	Activate high current lockout - phase	OFF,1-5	OFF
HILKGR	Activate high current lockout - ground	OFF,1-5	OFF
ECOLDP	Cold load pickup scheme - phase	Select: N, Y	N
ECOLDG	Cold load pickup scheme - ground	Select: N, Y	N
RPPH	Restore min. trip - phase	Select: N, Y	N
RPGR	Restore min. trip - ground	Select: N, Y	N
RPSEF	Restore min. trip - SEF	Select: N, Y	N
ESEQ	Sequence coordination	Select: N, Y	N
PRECED	Ground trip precedence	Select: N, Y	N
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Setting	Description	Range	Value
RID	Relay Identifier (30 chars)		RECLOSER R1
TID	Terminal Identifier (30 chars)		FEEDER 2101
CTR	CT Ratio	1.0-6000.0	1000,0
PTR	Phase (VA,VB,VC) PT Ratio	1.0-10000.0	100,0
PTRS	Synch. Voltage (VS) PT Ratio	1.0-10000.0	100,0
Z1MAG	Pos-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	32,10
Z1ANG	Pos-Seq Line Impedance Angle	40.00-90.00	68,86
Z0MAG	Zero-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	95,70
Z0ANG	Zero-Seq Line Impedance Angle	40.00-90.00	72,47
LL	Line Length - unitless	0.10-999.00	4,84
E50P	Phase	Select: N, 1-6	6
E50N	Neutral Ground	Select: N, 1-6	6
E50G	Residual Ground	Select: N, 1-6	6
E50Q	Negative-Sequence	Select: N, 1-6	N
E51P	Phase	Select: N, 1, 2	2
E51N	Neutral Ground	Select: N, 1, 2	2
E51G	Residual Ground	Select: N, 1, 2	2
E51Q	Negative-Sequence	Select: N, Y	N
E32	Directional Control	Select: N, Y, AUTO	N
ELOAD	Load Encroachment	Select: N, Y	N
ESOTF	Switch-Onto-Fault	Select: N, Y	N
EVOLT	Voltage Elements	Select: N, Y	Y
E25	Synchronism Check	Select: N, Y	N
EFLOC	Fault Location	Select: N, Y	N
ELOP	Loss-Of-Potential	Select: N, Y, Y1	N
ECOMM	Comm.-Assisted Trip Scheme	Select: N, DCB, POTT, DCUB1, DCUB2	N
E81	Frequency Elements	Select: N, 1-6	6
E79	Reclosures	Select: N, 1-4	4
ESV	SELogic Variable Timers	Select: N, 1-16	16
EDEM	Demand Metering	Select: THM, ROL	THM
50P1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50P2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50P3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50P4P	Level 4	OFF,0.05-20.00Amp,sec	0,40
50P5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50P6P	Level 6	OFF,0.05-20.00Amp,sec	0,40
67P1D	Level 1	0.00-16000.00cyc	0,00

67P2D	Level 2	0.00-16000.00cyc	0,00
67P3D	Level 3	0.00-16000.00cyc	0,00
67P4D	Level 4	0.00-16000.00cyc	0,00
50PP1P	Level 1	OFF,0.20-34.00Amp,sec	OFF
50PP2P	Level 2	OFF,0.20-34.00Amp,sec	OFF
50PP3P	Level 3	OFF,0.20-34.00Amp,sec	OFF
50PP4P	Level 4	OFF,0.20-34.00Amp,sec	OFF
50N1P	Level 1	OFF,0.005-1.500Amp,sec	OFF
50N2P	Level 2	OFF,0.005-1.500Amp,sec	OFF
50N3P	Level 3	OFF,0.005-1.500Amp,sec	OFF
50N4P	Level 4	OFF,0.005-1.500Amp,sec	OFF
50N5P	Level 5	OFF,0.005-1.500Amp,sec	OFF
50N6P	Level 6	OFF,0.005-1.500Amp,sec	OFF
67N1D	Level 1	0.00-16000.00cyc	0,00
67N2D	Level 2	0.00-16000.00cyc	0,00
67N3D	Level 3	0.00-16000.00cyc	0,00
67N4D	Level 4	0.00-16000.00cyc	0,00
50G1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50G2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50G3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50G4P	Level 4	OFF,0.05-20.00Amp,sec	OFF
50G5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50G6P	Level 6	OFF,0.05-20.00Amp,sec	0,10
67G1D	Level 1	0.00-16000.00cyc	0,00
67G2D	Level 2	0.00-16000.00cyc	0,00
67G3D	Level 3	0.00-16000.00cyc	0,00
67G4D	Level 4	0.00-16000.00cyc	0,00
51P1P	Pickup	OFF,0.05-3.20Amp,sec	0,40
51P1C	Curve (U1-U5,C1-C5,recloser or user curve)		A
51P1TD	Time Dial	0.10-2.00	1,00
51P1CT	Constant time adder	0.00-60.00cyc	0,00
51P1MR	Minimum response	0.00-60.00cyc	0,00
51P2P	Pickup	OFF,0.05-3.20Amp,sec	0,40
51P2C	Curve (U1-U5,C1-C5,recloser or user curve)		C
51P2TD	Time Dial	0.10-2.00	1,00
51P2CT	Constant time adder	0.00-60.00cyc	0,00
51P2MR	Minimum response	0.00-60.00cyc	0,00
51N1P	Pickup	OFF,0.005-0.160Amp,sec	OFF
51N1C	Curve (U1-U5,C1-C5,recloser or user curve)		1
51N1TD	Time Dial	0.10-2.00	1,00
51N1CT	Constant time adder	0.00-60.00cyc	0,00
51N1MR	Minimum response	0.00-60.00cyc	0,00
51N2P	Pickup	OFF,0.005-0.160Amp,sec	OFF

51N2C	Curve (U1-U5,C1-C5,recloser or user curve)		13
51N2TD	Time Dial	0.10-2.00	1,00
51N2CT	Constant time adder	0.00-60.00cyc	0,00
51N2MR	Minimum response	0.00-60.00cyc	0,00
51G1P	Pickup	OFF,0.05-3.20Amp,sec	0,10
51G1C	Curve (U1-U5,C1-C5,recloser or user curve)		1
51G1TD	Time Dial	0.10-2.00	1,00
51G1CT	Constant time adder	0.00-60.00cyc	0,00
51G1MR	Minimum response	0.00-60.00cyc	0,00
51G2P	Pickup	OFF,0.05-3.20Amp,sec	0,10
51G2C	Curve (U1-U5,C1-C5,recloser or user curve)		13
51G2TD	Time Dial	0.10-2.00	1,00
51G2CT	Constant time adder	0.00-60.00cyc	0,00
51G2MR	Minimum response	0.00-60.00cyc	0,00
27P1P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
27P2P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59P1P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	104,0
59P2P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N1P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N2P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59QP	Neg.-Seq.(V2) Overvoltage Pickup	OFF,0.0-200.0V,sec	OFF
59V1P	Pos.-Seq. (V1) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27SP	Channel VS Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S1P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S2P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27PP	Phase-Phase Undervoltage Pickup	OFF,0.0-520.0V,sec	OFF
59PP	Phase-Phase Overvoltage Pickup	OFF,0.0-520.0V,sec	OFF
27B81P	Undervoltage Block	20.0-300.0V,sec	80,0
81D1P	Pickup	OFF,40.10-65.00Hz	OFF
81D1D	Time Delay	2.00-16000.00cyc	6,00
81D2P	Pickup	OFF,40.10-65.00Hz	OFF
81D2D	Time Delay	2.00-16000.00cyc	2,00
81D3P	Pickup	OFF,40.10-65.00Hz	OFF
81D3D	Time Delay	2.00-16000.00cyc	2,00
81D4P	Pickup	OFF,40.10-65.00Hz	OFF
81D4D	Time Delay	2.00-16000.00cyc	2,00
81D5P	Pickup	OFF,40.10-65.00Hz	OFF
81D5D	Time Delay	2.00-16000.00cyc	2,00
81D6P	Pickup	OFF,40.10-65.00Hz	OFF
81D6D	Time Delay	2.00-16000.00cyc	2,00
79OI1	Open Interval	0.00-999999.00cyc	300,00
79OI2	Open Interval	0.00-999999.00cyc	600,00
79OI3	Open Interval	0.00-999999.00cyc	600,00

79OI4	Open Interval	0.00-999999.00cyc	0,00
79RSD	Reset Time from Reclose Cycle	0.00-999999.00cyc	1800,00
79RSLD	Reset Time from Lockout	0.00-999999.00cyc	600,00
79CLSD	Reclose Supv. Time Limit	OFF,0.00-999999.00cyc	900,00
DMTC	Time Constant	Select: 5, 10, 15, 30, 60	5
PDEMP	Phase Pickup	OFF,0.10-3.20Amp,sec	OFF
NDEMP	Neutral Ground Pickup	OFF,0.005-0.160Amp,sec	OFF
GDEMP	Residual Ground Pickup	OFF,0.10-3.20Amp,sec	OFF
QDEMP	Negative-Sequence Pickup	OFF,0.10-3.20Amp,sec	OFF
TDURD	Minimum Trip Duration Time	4.00-16000.00cyc	12,00
CFD	Close Failure Time Delay	OFF,0.00-16000.00cyc	60,00
3POD	Three-Pole Open Time Delay	0.00-60.00cyc	1,50
50LP	Load Detection Phase Pickup	OFF,0.05-20.00Amp,sec	0,05
SV1PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV1DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV2PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV2DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV3PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV3DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV4PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV4DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV5PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV5DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV6PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV6DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV7PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV7DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV8PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV8DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV9PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV9DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV10PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV10DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV11PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV11DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV12PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV12DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV13PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV13DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV14PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV14DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV15PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV15DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00

	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV16DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
OPPH	Operations - phase fast curve	OFF,1-5	2
OPGR	Operations - ground fast curve	OFF,1-5	2
OPLKPH	Operations to lockout - phase	OFF,1-5	4
OPLKGR	Operations to lockout - ground	OFF,1-5	4
OPLKSF	Operations to lockout - SEF	OFF,1-5	OFF
HITRPH	Activate high current trip - phase	OFF,1-5	OFF
HITRGR	Activate high current trip - ground	OFF,1-5	OFF
HILKPH	Activate high current lockout - phase	OFF,1-5	OFF
HILKGR	Activate high current lockout - ground	OFF,1-5	OFF
ECOLDP	Cold load pickup scheme - phase	Select: N, Y	N
ECOLDG	Cold load pickup scheme - ground	Select: N, Y	N
RPPH	Restore min. trip - phase	Select: N, Y	N
RPGR	Restore min. trip - ground	Select: N, Y	N
RPSEF	Restore min. trip - SEF	Select: N, Y	N
ESEQ	Sequence coordination	Select: N, Y	N
PRECED	Ground trip precedence	Select: N, Y	N
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Setting	Description	Range	Value
RID	Relay Identifier (30 chars)		RECLOSER R1
TID	Terminal Identifier (30 chars)		FEEDER 2101
CTR	CT Ratio	1.0-6000.0	1000,0
PTR	Phase (VA,VB,VC) PT Ratio	1.0-10000.0	100,0
PTRS	Synch. Voltage (VS) PT Ratio	1.0-10000.0	100,0
Z1MAG	Pos-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	32,10
Z1ANG	Pos-Seq Line Impedance Angle	40.00-90.00	68,86
Z0MAG	Zero-Seq Line Impedance Mag.	0.50-2550.00Ohm,sec	95,70
Z0ANG	Zero-Seq Line Impedance Angle	40.00-90.00	72,47
LL	Line Length - unitless	0.10-999.00	4,84
E50P	Phase	Select: N, 1-6	6
E50N	Neutral Ground	Select: N, 1-6	6
E50G	Residual Ground	Select: N, 1-6	6
E50Q	Negative-Sequence	Select: N, 1-6	N
E51P	Phase	Select: N, 1, 2	2
E51N	Neutral Ground	Select: N, 1, 2	2
E51G	Residual Ground	Select: N, 1, 2	2
E51Q	Negative-Sequence	Select: N, Y	N
E32	Directional Control	Select: N, Y, AUTO	N
ELOAD	Load Encroachment	Select: N, Y	N
ESOTF	Switch-Onto-Fault	Select: N, Y	N
EVOLT	Voltage Elements	Select: N, Y	Y
E25	Synchronism Check	Select: N, Y	N
EFLOC	Fault Location	Select: N, Y	N
ELOP	Loss-Of-Potential	Select: N, Y, Y1	N
ECOMM	Comm.-Assisted Trip Scheme	Select: N, DCB, POTT, DCUB1, DCUB2	N
E81	Frequency Elements	Select: N, 1-6	6
E79	Reclosures	Select: N, 1-4	4
ESV	SELogic Variable Timers	Select: N, 1-16	16
EDEM	Demand Metering	Select: THM, ROL	THM
50P1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50P2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50P3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50P4P	Level 4	OFF,0.05-20.00Amp,sec	0,40
50P5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50P6P	Level 6	OFF,0.05-20.00Amp,sec	0,40
67P1D	Level 1	0.00-16000.00cyc	0,00

67P2D	Level 2	0.00-16000.00cyc	0,00
67P3D	Level 3	0.00-16000.00cyc	0,00
67P4D	Level 4	0.00-16000.00cyc	0,00
50PP1P	Level 1	OFF,0.20-34.00Amp,sec	OFF
50PP2P	Level 2	OFF,0.20-34.00Amp,sec	OFF
50PP3P	Level 3	OFF,0.20-34.00Amp,sec	OFF
50PP4P	Level 4	OFF,0.20-34.00Amp,sec	OFF
50N1P	Level 1	OFF,0.005-1.500Amp,sec	OFF
50N2P	Level 2	OFF,0.005-1.500Amp,sec	OFF
50N3P	Level 3	OFF,0.005-1.500Amp,sec	OFF
50N4P	Level 4	OFF,0.005-1.500Amp,sec	OFF
50N5P	Level 5	OFF,0.005-1.500Amp,sec	OFF
50N6P	Level 6	OFF,0.005-1.500Amp,sec	OFF
67N1D	Level 1	0.00-16000.00cyc	0,00
67N2D	Level 2	0.00-16000.00cyc	0,00
67N3D	Level 3	0.00-16000.00cyc	0,00
67N4D	Level 4	0.00-16000.00cyc	0,00
50G1P	Level 1	OFF,0.05-20.00Amp,sec	OFF
50G2P	Level 2	OFF,0.05-20.00Amp,sec	OFF
50G3P	Level 3	OFF,0.05-20.00Amp,sec	OFF
50G4P	Level 4	OFF,0.05-20.00Amp,sec	OFF
50G5P	Level 5	OFF,0.05-20.00Amp,sec	OFF
50G6P	Level 6	OFF,0.05-20.00Amp,sec	0,10
67G1D	Level 1	0.00-16000.00cyc	0,00
67G2D	Level 2	0.00-16000.00cyc	0,00
67G3D	Level 3	0.00-16000.00cyc	0,00
67G4D	Level 4	0.00-16000.00cyc	0,00
51P1P	Pickup	OFF,0.05-3.20Amp,sec	0,40
51P1C	Curve (U1-U5,C1-C5,recloser or user curve)		A
51P1TD	Time Dial	0.10-2.00	1,00
51P1CT	Constant time adder	0.00-60.00cyc	0,00
51P1MR	Minimum response	0.00-60.00cyc	0,00
51P2P	Pickup	OFF,0.05-3.20Amp,sec	0,40
51P2C	Curve (U1-U5,C1-C5,recloser or user curve)		C
51P2TD	Time Dial	0.10-2.00	1,00
51P2CT	Constant time adder	0.00-60.00cyc	0,00
51P2MR	Minimum response	0.00-60.00cyc	0,00
51N1P	Pickup	OFF,0.005-0.160Amp,sec	OFF
51N1C	Curve (U1-U5,C1-C5,recloser or user curve)		1
51N1TD	Time Dial	0.10-2.00	1,00
51N1CT	Constant time adder	0.00-60.00cyc	0,00
51N1MR	Minimum response	0.00-60.00cyc	0,00
51N2P	Pickup	OFF,0.005-0.160Amp,sec	OFF

51N2C	Curve (U1-U5,C1-C5,recloser or user curve)		13
51N2TD	Time Dial	0.10-2.00	1,00
51N2CT	Constant time adder	0.00-60.00cyc	0,00
51N2MR	Minimum response	0.00-60.00cyc	0,00
51G1P	Pickup	OFF,0.05-3.20Amp,sec	0,10
51G1C	Curve (U1-U5,C1-C5,recloser or user curve)		1
51G1TD	Time Dial	0.10-2.00	1,00
51G1CT	Constant time adder	0.00-60.00cyc	0,00
51G1MR	Minimum response	0.00-60.00cyc	0,00
51G2P	Pickup	OFF,0.05-3.20Amp,sec	0,10
51G2C	Curve (U1-U5,C1-C5,recloser or user curve)		13
51G2TD	Time Dial	0.10-2.00	1,00
51G2CT	Constant time adder	0.00-60.00cyc	0,00
51G2MR	Minimum response	0.00-60.00cyc	0,00
27P1P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
27P2P	Phase Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59P1P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	104,0
59P2P	Phase Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N1P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59N2P	Zero-Seq.(3V0) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59QP	Neg.-Seq.(V2) Overvoltage Pickup	OFF,0.0-200.0V,sec	OFF
59V1P	Pos.-Seq. (V1) Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27SP	Channel VS Undervoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S1P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
59S2P	Channel VS Overvoltage Pickup	OFF,0.0-300.0V,sec	OFF
27PP	Phase-Phase Undervoltage Pickup	OFF,0.0-520.0V,sec	OFF
59PP	Phase-Phase Overvoltage Pickup	OFF,0.0-520.0V,sec	OFF
27B81P	Undervoltage Block	20.0-300.0V,sec	80,0
81D1P	Pickup	OFF,40.10-65.00Hz	OFF
81D1D	Time Delay	2.00-16000.00cyc	6,00
81D2P	Pickup	OFF,40.10-65.00Hz	OFF
81D2D	Time Delay	2.00-16000.00cyc	2,00
81D3P	Pickup	OFF,40.10-65.00Hz	OFF
81D3D	Time Delay	2.00-16000.00cyc	2,00
81D4P	Pickup	OFF,40.10-65.00Hz	OFF
81D4D	Time Delay	2.00-16000.00cyc	2,00
81D5P	Pickup	OFF,40.10-65.00Hz	OFF
81D5D	Time Delay	2.00-16000.00cyc	2,00
81D6P	Pickup	OFF,40.10-65.00Hz	OFF
81D6D	Time Delay	2.00-16000.00cyc	2,00
79OI1	Open Interval	0.00-999999.00cyc	300,00
79OI2	Open Interval	0.00-999999.00cyc	600,00
79OI3	Open Interval	0.00-999999.00cyc	600,00

79OI4	Open Interval	0.00-999999.00cyc	0,00
79RSD	Reset Time from Reclose Cycle	0.00-999999.00cyc	1800,00
79RSLD	Reset Time from Lockout	0.00-999999.00cyc	600,00
79CLSD	Reclose Supv. Time Limit	OFF,0.00-999999.00cyc	900,00
DMTC	Time Constant	Select: 5, 10, 15, 30, 60	5
PDEMP	Phase Pickup	OFF,0.10-3.20Amp,sec	OFF
NDEMP	Neutral Ground Pickup	OFF,0.005-0.160Amp,sec	OFF
GDEMP	Residual Ground Pickup	OFF,0.10-3.20Amp,sec	OFF
QDEMP	Negative-Sequence Pickup	OFF,0.10-3.20Amp,sec	OFF
TDURD	Minimum Trip Duration Time	4.00-16000.00cyc	12,00
CFD	Close Failure Time Delay	OFF,0.00-16000.00cyc	60,00
3POD	Three-Pole Open Time Delay	0.00-60.00cyc	1,50
50LP	Load Detection Phase Pickup	OFF,0.05-20.00Amp,sec	0,05
SV1PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV1DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV2PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV2DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV3PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV3DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV4PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV4DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV5PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV5DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV6PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV6DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV7PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV7DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV8PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV8DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV9PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV9DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV10PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV10DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV11PU	SV_ Timer Pickup	0.00-999999.00cyc	900,00
SV11DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV12PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV12DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV13PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV13DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV14PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV14DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
SV15PU	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV15DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00

	SV_ Timer Pickup	0.00-999999.00cyc	0,00
SV16DO	SV_ Timer Dropout	0.00-999999.00cyc	0,00
OPPH	Operations - phase fast curve	OFF,1-5	2
OPGR	Operations - ground fast curve	OFF,1-5	2
OPLKPH	Operations to lockout - phase	OFF,1-5	4
OPLKGR	Operations to lockout - ground	OFF,1-5	4
OPLKSF	Operations to lockout - SEF	OFF,1-5	OFF
HITRPH	Activate high current trip - phase	OFF,1-5	OFF
HITRGR	Activate high current trip - ground	OFF,1-5	OFF
HILKPH	Activate high current lockout - phase	OFF,1-5	OFF
HILKGR	Activate high current lockout - ground	OFF,1-5	OFF
ECOLDP	Cold load pickup scheme - phase	Select: N, Y	N
ECOLDG	Cold load pickup scheme - ground	Select: N, Y	N
RPPH	Restore min. trip - phase	Select: N, Y	N
RPGR	Restore min. trip - ground	Select: N, Y	N
RPSEF	Restore min. trip - SEF	Select: N, Y	N
ESEQ	Sequence coordination	Select: N, Y	N
PRECED	Ground trip precedence	Select: N, Y	N
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Logic 1			
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Setting	Description	Range	Value
TR			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T + 67N3T + 81D1T + PB9 + OC * LT5 + /IN101
TRCOMM			0
TRSOTF			0
DTT			0
ULTR			!52A
PT1			0
LOG1			0
PT2			0
LOG2			0
BT			0
52A			SW1 * !CLOSE
CL			PB8 * LT4 * !LT5 + CC * LT5 + /IN102
ULCL			TRIP + !PINF * SW1 + !(LT7 + CLOSE) + !(LT4 + CLOSE + CC + 79CY)
79RI			TRIP
79RIS			52A + 79CY
79DTL			67N3T * OLS + (67P1 + 67G1 + 67N1) * TRIP + (! LT2 + !LT7) * (TRIP + !52A) + 81D1T + SV16 + PB9 + OC
79DLS			79LO
79SKP			0
79STL			TRIP
79BRS			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3 + TRIP
79SEQ			79RS * SEQC * (51P1 + 51G1 + 51N1)

79CLS			!BADBAT * ! DTFAIL
SET1			(PB1 * LT4 + RB1 * LT5) * !LT1
RST1			(PB1 * LT4 + RB2 * LT5) * LT1
SET2			(PB2 * LT4 + RB3 * LT5) * !LT2
RST2			(PB2 * LT4 + RB4 * LT5) * LT2
SET3			(PB6 * LT4 + RB5 * LT5) * !LT3 * LT1
RST3			(PB6 * LT4 + RB6 * LT5 + !LT1) * LT3
SET4			PB5 * !LT4
RST4			PB5 * LT4
SET5			(PB3 * LT4) * ! LT5
RST5			(PB3 * LT4) * LT5
SET6			PB7 * !LT6 * LT4
RST6			PB7 * LT6 * LT4
SET7			1
RST7			0
SET8			0
RST8			0
SET9			0
RST9			0
SET10			0
RST10			0
SET11			0
RST11			0
SET12			0
RST12			0
SET13			0
RST13			0
SET14			0
RST14			0
SET15			0
RST15			0
SET16			0
RST16			0
67P1TC			HLP
67P2TC			HTP
67P3TC			1

67P4TC			1
67N1TC			LT1
67N2TC			LT1
67N3TC			LT1 * 50N3 * LT3
67N4TC			1
67G1TC			LT1
67G2TC			LT1
67G3TC			1
67G4TC			1
67Q1TC			1
67Q2TC			1
67Q3TC			1
67Q4TC			1
51P1TC			!SV8 * OCP
51N1TC			LT1
51G1TC			LT1
51P2TC			!SV8 + SV8 * 50P5
51N2TC			LT1
51G2TC			(!SV10 + SV10 * 50G5) * LT1
51QTC			1
SV1			0
SV2			0
SV3			0
SV4			0
SV5			52A * (SV8 + SV10 + SV12) * (RPP + RPG + RPS)
SV6			!52A * (79LO + ! 79RS * !79CY * ! 79LO) * (CLP + CLG)
SV7			52A * !50P6 * SV8
SV8			(SV8 + SV6T) * ! (SV7T + SV5T * RPP + !CLP)
SV9			52A * !50G6 * ! 50N6 * SV10
SV10			(SV10 + SV6T) * ! (SV9T + SV5T * RPG + !CLG)
SV11			52A * !50N4 * SV12
SV12			(SV12 + SV6T) * ! (SV11T + SV5T * RPS + !CLG)

SV13			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T
SV14			50G6 + 50N6 + 51N1 + 51N2
SV15			/SV13 * (OLG * GTP * SV14 + OLG * !GTP * SV14 * !50P6 + OLP * !GTP * 50P6 + OLP * GTP * 50P6 * !SV14)
SV16			SV15 + SV13 * OLP * OLG
SC1R			1
SC1I			0
SC1D			0
SC2R			1
SC2I			0
SC2D			0
SC3R			1
SC3I			0
SC3D			0
SC4R			1
SC4I			0
SC4D			0
SC5R			1
SC5I			0
SC5D			0
SC6R			1
SC6I			0
SC6D			0
SC7R			1
SC7I			0
SC7D			0
SC8R			1
SC8I			0
SC8D			0
RCTR			TRIP
RCCL			CLOSE
OUT101			0
OUT102			0
OUT103			0
OUT104			0
OUT105			0

OUT106			0
OUT107			0
LED1			LT1
LED2			LT2
LED3			LT5
LED4			!SG1
LED5			!LT4
LED6			LT3
LED7			0
LED8			52A
LED9			!52A * PINBD
LED11			!DISCHG
LED12			0
LED13			!LT7
LED14			TRIP
LED15			51P1T + 51G1T + 51N1T
LED16			67P2T + 67G2T + 67N2T
LED17			81D1T
LED18			79RS
LED19			79CY
LED20			79LO
LED24			50G6 + 50N6 + 51N1 + 51N2
LED25			67N3T
LOCAL			0
DP1			0
DP2			0
DP3			0
DP4			0
DP5			0
DP6			0
DP7			0
DP8			0
DP9			0
DP10			0
DP11			0
DP12			0
DP13			0
DP14			0
DP15			0
DP16			0
SS1			1

SS2			0
SS3			0
SS4			0
SS5			0
SS6			0
ER			/51P1 + /51P2 + /51G1 + /51G2 + /51N1 + /51N2 + /67N3
FAULT			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3
BSYNCH			52A
CLMON			0
BKMON			TRIP
E32IV			1
TMB1A			0
TMB2A			0
TMB3A			0
TMB4A			0
TMB5A			0
TMB6A			0
TMB7A			0
TMB8A			0
TMB1B			0
TMB2B			0
TMB3B			0
TMB4B			0
TMB5B			0
TMB6B			0
TMB7B			0
TMB8B			0
Logic 1			
			Top

Logic 2			
Top			
Setting	Description	Range	Value
TR			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T + 67N3T + 81D1T + PB9 + OC
TRCOMM			0
TRSOTF			0
DTT			0
ULTR			!52A
PT1			0
LOG1			0
PT2			0
LOG2			0
BT			0
52A			SW1 * !CLOSE
CL			PB8 * LT4 * LT7 + CC * LT7
ULCL			TRIP + !PINF * SW1 + !(LT7 + CLOSE) + !(LT4 + CLOSE + CC + 79CY)
79RI			TRIP
79RIS			52A + 79CY
79DTL			67N3T * OLS + (67P1 + 67G1 + 67N1) * TRIP + (! LT2 + !LT7) * (TRIP + !52A) + 81D1T + SV16 + PB9 + OC
79DLS			79LO
79SKP			0
79STL			TRIP
79BRS			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3 + TRIP
79SEQ			79RS * SEQC * (51P1 + 51G1 + 51N1)
79CLS			59L1 * !BADBAT * !DTFAIL

SET1			PB1 * !LT1 * LT4
RST1			PB1 * LT1 * LT4
SET2			PB2 * !LT2 * LT4
RST2			PB2 * LT2 * LT4 + !(79RS + 79CY + 79LO)
SET3			PB3 * !LT3 * LT4
RST3			PB3 * LT3 * LT4
SET4			PB5 * !LT4
RST4			PB5 * LT4
SET5			PB6 * !LT5 * LT4
RST5			PB6 * LT5 * LT4
SET6			PB7 * !LT6 * LT4
RST6			PB7 * LT6 * LT4
SET7			1
RST7			0
SET8			0
RST8			0
SET9			0
RST9			0
SET10			0
RST10			0
SET11			0
RST11			0
SET12			0
RST12			0
SET13			0
RST13			0
SET14			0
RST14			0
SET15			0
RST15			0
SET16			0
RST16			0
67P1TC			HLP
67P2TC			HTP
67P3TC			1
67P4TC			1
67N1TC			HLG * LT1
67N2TC			HTG * LT1
67N3TC			LT1 * !(51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2) * (!SV12 + SV12 * 50G5 +

			SV12 * 50N5)
67N4TC			1
67G1TC			HLG * LT1
67G2TC			HTG * LT1
67G3TC			1
67G4TC			1
67Q1TC			1
67Q2TC			1
67Q3TC			1
67Q4TC			1
51P1TC			!SV8 * OCP
51N1TC			!SV10 * OCG * LT1
51G1TC			!SV10 * OCG * LT1
51P2TC			!SV8 + SV8 * 50P5
51N2TC			(!SV10 + SV10 * 50G5 + SV10 * 50N5) * LT1
51G2TC			(!SV10 + SV10 * 50G5) * LT1
51QTC			1
SV1			0
SV2			0
SV3			0
SV4			0
SV5			52A * (SV8 + SV10 + SV12) * (RPP + RPG + RPS)
SV6			!52A * (79LO + ! 79RS * !79CY * ! 79LO) * (CLP + CLG)
SV7			52A * !50P6 * SV8
SV8			(SV8 + SV6T) * ! (SV7T + SV5T * RPP + !CLP)
SV9			52A * !50G6 * ! 50N6 * SV10
SV10			(SV10 + SV6T) * ! (SV9T + SV5T * RPG + !CLG)
SV11			52A * !50N4 * SV12
SV12			(SV12 + SV6T) * ! (SV11T + SV5T * RPS + !CLG)

SV13			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T
SV14			50G6 + 50N6 + 51N1 + 51N2
SV15			/SV13 * (OLG * GTP * SV14 + OLG * !GTP * SV14 * !50P6 + OLP * !GTP * 50P6 + OLP * GTP * 50P6 * !SV14)
SV16			SV15 + SV13 * OLP * OLG
SC1R			1
SC1I			0
SC1D			0
SC2R			1
SC2I			0
SC2D			0
SC3R			1
SC3I			0
SC3D			0
SC4R			1
SC4I			0
SC4D			0
SC5R			1
SC5I			0
SC5D			0
SC6R			1
SC6I			0
SC6D			0
SC7R			1
SC7I			0
SC7D			0
SC8R			1
SC8I			0
SC8D			0
RCTR			TRIP
RCCL			CLOSE
OUT101			0
OUT102			0
OUT103			0
OUT104			0
OUT105			0

OUT106			0
OUT107			0
LED1			LT1
LED2			LT2
LED3			0
LED4			!SG1
LED5			!LT4
LED6			0
LED7			0
LED8			52A
LED9			!52A * PINBD
LED11			!DISCHG
LED12			BADBAT + DTFAIL
LED13			!LT7
LED14			TRIP
LED15			51P1T + 51G1T + 51N1T
LED16			67P2T + 67G2T + 67N2T
LED17			81D1T
LED18			79RS
LED19			79CY
LED20			79LO
LED24			50G6 + 50N6 + 51N1 + 51N2
LED25			67N3T
LOCAL			0
DP1			0
DP2			0
DP3			0
DP4			0
DP5			0
DP6			0
DP7			0
DP8			0
DP9			0
DP10			0
DP11			0
DP12			0
DP13			0
DP14			0
DP15			0
DP16			0

SS1			1
SS2			0
SS3			0
SS4			0
SS5			0
SS6			0
ER			/51P1 + /51P2 + /51G1 + /51G2 + /51N1 + /51N2 + /67N3
FAULT			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3
BSYNCH			52A
CLMON			0
BKMON			TRIP
E32IV			1
TMB1A			0
TMB2A			0
TMB3A			0
TMB4A			0
TMB5A			0
TMB6A			0
TMB7A			0
TMB8A			0
TMB1B			0
TMB2B			0
TMB3B			0
TMB4B			0
TMB5B			0
TMB6B			0
TMB7B			0
TMB8B			0
Logic 2			
			Top

Logic 3			
Top			
Setting	Description	Range	Value
TR			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T + 67N3T + 81D1T + PB9 + OC
TRCOMM			0
TRSOTF			0
DTT			0
ULTR			!52A
PT1			0
LOG1			0
PT2			0
LOG2			0
BT			0
52A			SW1 * !CLOSE
CL			PB8 * LT4 * LT7 + CC * LT7
ULCL			TRIP + !PINF * SW1 + !(LT7 + CLOSE) + !(LT4 + CLOSE + CC + 79CY)
79RI			TRIP
79RIS			52A + 79CY
79DTL			67N3T * OLS + (67P1 + 67G1 + 67N1) * TRIP + (! LT2 + !LT7) * (TRIP + !52A) + 81D1T + SV16 + PB9 + OC
79DLS			79LO
79SKP			0
79STL			TRIP
79BRS			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3 + TRIP
79SEQ			79RS * SEQC * (51P1 + 51G1 + 51N1)
79CLS			59L1 * !BADBAT * !DTFAIL

SET1			PB1 * !LT1 * LT4
RST1			PB1 * LT1 * LT4
SET2			PB2 * !LT2 * LT4
RST2			PB2 * LT2 * LT4 + !(79RS + 79CY + 79LO)
SET3			PB3 * !LT3 * LT4
RST3			PB3 * LT3 * LT4
SET4			PB5 * !LT4
RST4			PB5 * LT4
SET5			PB6 * !LT5 * LT4
RST5			PB6 * LT5 * LT4
SET6			PB7 * !LT6 * LT4
RST6			PB7 * LT6 * LT4
SET7			1
RST7			0
SET8			0
RST8			0
SET9			0
RST9			0
SET10			0
RST10			0
SET11			0
RST11			0
SET12			0
RST12			0
SET13			0
RST13			0
SET14			0
RST14			0
SET15			0
RST15			0
SET16			0
RST16			0
67P1TC			HLP
67P2TC			HTP
67P3TC			1
67P4TC			1
67N1TC			HLG * LT1
67N2TC			HTG * LT1
67N3TC			LT1 * !(51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2) * (!SV12 + SV12 * 50G5 +

			SV12 * 50N5)
67N4TC			1
67G1TC			HLG * LT1
67G2TC			HTG * LT1
67G3TC			1
67G4TC			1
67Q1TC			1
67Q2TC			1
67Q3TC			1
67Q4TC			1
51P1TC			!SV8 * OCP
51N1TC			!SV10 * OCG * LT1
51G1TC			!SV10 * OCG * LT1
51P2TC			!SV8 + SV8 * 50P5
51N2TC			(!SV10 + SV10 * 50G5 + SV10 * 50N5) * LT1
51G2TC			(!SV10 + SV10 * 50G5) * LT1
51QTC			1
SV1			0
SV2			0
SV3			0
SV4			0
SV5			52A * (SV8 + SV10 + SV12) * (RPP + RPG + RPS)
SV6			!52A * (79LO + ! 79RS * !79CY * ! 79LO) * (CLP + CLG)
SV7			52A * !50P6 * SV8
SV8			(SV8 + SV6T) * ! (SV7T + SV5T * RPP + !CLP)
SV9			52A * !50G6 * ! 50N6 * SV10
SV10			(SV10 + SV6T) * ! (SV9T + SV5T * RPG + !CLG)
SV11			52A * !50N4 * SV12
SV12			(SV12 + SV6T) * ! (SV11T + SV5T * RPS + !CLG)

SV13			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T
SV14			50G6 + 50N6 + 51N1 + 51N2
SV15			/SV13 * (OLG * GTP * SV14 + OLG * !GTP * SV14 * !50P6 + OLP * !GTP * 50P6 + OLP * GTP * 50P6 * !SV14)
SV16			SV15 + SV13 * OLP * OLG
SC1R			1
SC1I			0
SC1D			0
SC2R			1
SC2I			0
SC2D			0
SC3R			1
SC3I			0
SC3D			0
SC4R			1
SC4I			0
SC4D			0
SC5R			1
SC5I			0
SC5D			0
SC6R			1
SC6I			0
SC6D			0
SC7R			1
SC7I			0
SC7D			0
SC8R			1
SC8I			0
SC8D			0
RCTR			TRIP
RCCL			CLOSE
OUT101			0
OUT102			0
OUT103			0
OUT104			0
OUT105			0

OUT106			0
OUT107			0
LED1			LT1
LED2			LT2
LED3			0
LED4			!SG1
LED5			!LT4
LED6			0
LED7			0
LED8			52A
LED9			!52A * PINBD
LED11			!DISCHG
LED12			BADBAT + DTFAIL
LED13			!LT7
LED14			TRIP
LED15			51P1T + 51G1T + 51N1T
LED16			67P2T + 67G2T + 67N2T
LED17			81D1T
LED18			79RS
LED19			79CY
LED20			79LO
LED24			50G6 + 50N6 + 51N1 + 51N2
LED25			67N3T
LOCAL			0
DP1			0
DP2			0
DP3			0
DP4			0
DP5			0
DP6			0
DP7			0
DP8			0
DP9			0
DP10			0
DP11			0
DP12			0
DP13			0
DP14			0
DP15			0
DP16			0

SS1			PB4 * LT4 * !SG1
SS2			PB4 * LT4 * SG1
SS3			0
SS4			0
SS5			0
SS6			0
ER			/51P1 + /51P2 + /51G1 + /51G2 + /51N1 + /51N2 + /67N3
FAULT			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3
BSYNCH			52A
CLMON			0
BKMON			TRIP
E32IV			1
TMB1A			0
TMB2A			0
TMB3A			0
TMB4A			0
TMB5A			0
TMB6A			0
TMB7A			0
TMB8A			0
TMB1B			0
TMB2B			0
TMB3B			0
TMB4B			0
TMB5B			0
TMB6B			0
TMB7B			0
TMB8B			0
Logic 3			
			Top

Logic 4			
Top			
Setting	Description	Range	Value
TR			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T + 67N3T + 81D1T + PB9 + OC
TRCOMM			0
TRSOTF			0
DTT			0
ULTR			!52A
PT1			0
LOG1			0
PT2			0
LOG2			0
BT			0
52A			SW1 * !CLOSE
CL			PB8 * LT4 * LT7 + CC * LT7
ULCL			TRIP + !PINF * SW1 + !(LT7 + CLOSE) + !(LT4 + CLOSE + CC + 79CY)
79RI			TRIP
79RIS			52A + 79CY
79DTL			67N3T * OLS + (67P1 + 67G1 + 67N1) * TRIP + (! LT2 + !LT7) * (TRIP + !52A) + 81D1T + SV16 + PB9 + OC
79DLS			79LO
79SKP			0
79STL			TRIP
79BRS			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3 + TRIP
79SEQ			79RS * SEQC * (51P1 + 51G1 + 51N1)
79CLS			59L1 * !BADBAT * !DTFAIL

SET1			PB1 * !LT1 * LT4
RST1			PB1 * LT1 * LT4
SET2			PB2 * !LT2 * LT4
RST2			PB2 * LT2 * LT4 + !(79RS + 79CY + 79LO)
SET3			PB3 * !LT3 * LT4
RST3			PB3 * LT3 * LT4
SET4			PB5 * !LT4
RST4			PB5 * LT4
SET5			PB6 * !LT5 * LT4
RST5			PB6 * LT5 * LT4
SET6			PB7 * !LT6 * LT4
RST6			PB7 * LT6 * LT4
SET7			1
RST7			0
SET8			0
RST8			0
SET9			0
RST9			0
SET10			0
RST10			0
SET11			0
RST11			0
SET12			0
RST12			0
SET13			0
RST13			0
SET14			0
RST14			0
SET15			0
RST15			0
SET16			0
RST16			0
67P1TC			HLP
67P2TC			HTP
67P3TC			1
67P4TC			1
67N1TC			HLG * LT1
67N2TC			HTG * LT1
67N3TC			LT1 * !(51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2) * (!SV12 + SV12 * 50G5 +

			SV12 * 50N5)
67N4TC			1
67G1TC			HLG * LT1
67G2TC			HTG * LT1
67G3TC			1
67G4TC			1
67Q1TC			1
67Q2TC			1
67Q3TC			1
67Q4TC			1
51P1TC			!SV8 * OCP
51N1TC			!SV10 * OCG * LT1
51G1TC			!SV10 * OCG * LT1
51P2TC			!SV8 + SV8 * 50P5
51N2TC			(!SV10 + SV10 * 50G5 + SV10 * 50N5) * LT1
51G2TC			(!SV10 + SV10 * 50G5) * LT1
51QTC			1
SV1			0
SV2			0
SV3			0
SV4			0
SV5			52A * (SV8 + SV10 + SV12) * (RPP + RPG + RPS)
SV6			!52A * (79LO + ! 79RS * !79CY * ! 79LO) * (CLP + CLG)
SV7			52A * !50P6 * SV8
SV8			(SV8 + SV6T) * ! (SV7T + SV5T * RPP + !CLP)
SV9			52A * !50G6 * ! 50N6 * SV10
SV10			(SV10 + SV6T) * ! (SV9T + SV5T * RPG + !CLG)
SV11			52A * !50N4 * SV12
SV12			(SV12 + SV6T) * ! (SV11T + SV5T * RPS + !CLG)

SV13			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T
SV14			50G6 + 50N6 + 51N1 + 51N2
SV15			/SV13 * (OLG * GTP * SV14 + OLG * !GTP * SV14 * !50P6 + OLP * !GTP * 50P6 + OLP * GTP * 50P6 * !SV14)
SV16			SV15 + SV13 * OLP * OLG
SC1R			1
SC1I			0
SC1D			0
SC2R			1
SC2I			0
SC2D			0
SC3R			1
SC3I			0
SC3D			0
SC4R			1
SC4I			0
SC4D			0
SC5R			1
SC5I			0
SC5D			0
SC6R			1
SC6I			0
SC6D			0
SC7R			1
SC7I			0
SC7D			0
SC8R			1
SC8I			0
SC8D			0
RCTR			TRIP
RCCL			CLOSE
OUT101			0
OUT102			0
OUT103			0
OUT104			0
OUT105			0

OUT106			0
OUT107			0
LED1			LT1
LED2			LT2
LED3			0
LED4			!SG1
LED5			!LT4
LED6			0
LED7			0
LED8			52A
LED9			!52A * PINBD
LED11			!DISCHG
LED12			BADBAT + DTFAIL
LED13			!LT7
LED14			TRIP
LED15			51P1T + 51G1T + 51N1T
LED16			67P2T + 67G2T + 67N2T
LED17			81D1T
LED18			79RS
LED19			79CY
LED20			79LO
LED24			50G6 + 50N6 + 51N1 + 51N2
LED25			67N3T
LOCAL			0
DP1			0
DP2			0
DP3			0
DP4			0
DP5			0
DP6			0
DP7			0
DP8			0
DP9			0
DP10			0
DP11			0
DP12			0
DP13			0
DP14			0
DP15			0
DP16			0

SS1			PB4 * LT4 * !SG1
SS2			PB4 * LT4 * SG1
SS3			0
SS4			0
SS5			0
SS6			0
ER			/51P1 + /51P2 + /51G1 + /51G2 + /51N1 + /51N2 + /67N3
FAULT			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3
BSYNCH			52A
CLMON			0
BKMON			TRIP
E32IV			1
TMB1A			0
TMB2A			0
TMB3A			0
TMB4A			0
TMB5A			0
TMB6A			0
TMB7A			0
TMB8A			0
TMB1B			0
TMB2B			0
TMB3B			0
TMB4B			0
TMB5B			0
TMB6B			0
TMB7B			0
TMB8B			0
Logic 4			
			Top

Logic 5			
Top			
Setting	Description	Range	Value
TR			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T + 67N3T + 81D1T + PB9 + OC
TRCOMM			0
TRSOTF			0
DTT			0
ULTR			!52A
PT1			0
LOG1			0
PT2			0
LOG2			0
BT			0
52A			SW1 * !CLOSE
CL			PB8 * LT4 * LT7 + CC * LT7
ULCL			TRIP + !PINF * SW1 + !(LT7 + CLOSE) + !(LT4 + CLOSE + CC + 79CY)
79RI			TRIP
79RIS			52A + 79CY
79DTL			67N3T * OLS + (67P1 + 67G1 + 67N1) * TRIP + (! LT2 + !LT7) * (TRIP + !52A) + 81D1T + SV16 + PB9 + OC
79DLS			79LO
79SKP			0
79STL			TRIP
79BRS			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3 + TRIP
79SEQ			79RS * SEQC * (51P1 + 51G1 + 51N1)
79CLS			59L1 * !BADBAT * !DTFAIL

SET1			PB1 * !LT1 * LT4
RST1			PB1 * LT1 * LT4
SET2			PB2 * !LT2 * LT4
RST2			PB2 * LT2 * LT4 + !(79RS + 79CY + 79LO)
SET3			PB3 * !LT3 * LT4
RST3			PB3 * LT3 * LT4
SET4			PB5 * !LT4
RST4			PB5 * LT4
SET5			PB6 * !LT5 * LT4
RST5			PB6 * LT5 * LT4
SET6			PB7 * !LT6 * LT4
RST6			PB7 * LT6 * LT4
SET7			1
RST7			0
SET8			0
RST8			0
SET9			0
RST9			0
SET10			0
RST10			0
SET11			0
RST11			0
SET12			0
RST12			0
SET13			0
RST13			0
SET14			0
RST14			0
SET15			0
RST15			0
SET16			0
RST16			0
67P1TC			HLP
67P2TC			HTP
67P3TC			1
67P4TC			1
67N1TC			HLG * LT1
67N2TC			HTG * LT1
67N3TC			LT1 * !(51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2) * (!SV12 + SV12 * 50G5 +

			SV12 * 50N5)
67N4TC			1
67G1TC			HLG * LT1
67G2TC			HTG * LT1
67G3TC			1
67G4TC			1
67Q1TC			1
67Q2TC			1
67Q3TC			1
67Q4TC			1
51P1TC			!SV8 * OCP
51N1TC			!SV10 * OCG * LT1
51G1TC			!SV10 * OCG * LT1
51P2TC			!SV8 + SV8 * 50P5
51N2TC			(!SV10 + SV10 * 50G5 + SV10 * 50N5) * LT1
51G2TC			(!SV10 + SV10 * 50G5) * LT1
51QTC			1
SV1			0
SV2			0
SV3			0
SV4			0
SV5			52A * (SV8 + SV10 + SV12) * (RPP + RPG + RPS)
SV6			!52A * (79LO + ! 79RS * !79CY * ! 79LO) * (CLP + CLG)
SV7			52A * !50P6 * SV8
SV8			(SV8 + SV6T) * ! (SV7T + SV5T * RPP + !CLP)
SV9			52A * !50G6 * ! 50N6 * SV10
SV10			(SV10 + SV6T) * ! (SV9T + SV5T * RPG + !CLG)
SV11			52A * !50N4 * SV12
SV12			(SV12 + SV6T) * ! (SV11T + SV5T * RPS + !CLG)

SV13			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T
SV14			50G6 + 50N6 + 51N1 + 51N2
SV15			/SV13 * (OLG * GTP * SV14 + OLG * !GTP * SV14 * !50P6 + OLP * !GTP * 50P6 + OLP * GTP * 50P6 * !SV14)
SV16			SV15 + SV13 * OLP * OLG
SC1R			1
SC1I			0
SC1D			0
SC2R			1
SC2I			0
SC2D			0
SC3R			1
SC3I			0
SC3D			0
SC4R			1
SC4I			0
SC4D			0
SC5R			1
SC5I			0
SC5D			0
SC6R			1
SC6I			0
SC6D			0
SC7R			1
SC7I			0
SC7D			0
SC8R			1
SC8I			0
SC8D			0
RCTR			TRIP
RCCL			CLOSE
OUT101			0
OUT102			0
OUT103			0
OUT104			0
OUT105			0

OUT106			0
OUT107			0
LED1			LT1
LED2			LT2
LED3			0
LED4			!SG1
LED5			!LT4
LED6			0
LED7			0
LED8			52A
LED9			!52A * PINBD
LED11			!DISCHG
LED12			BADBAT + DTFAIL
LED13			!LT7
LED14			TRIP
LED15			51P1T + 51G1T + 51N1T
LED16			67P2T + 67G2T + 67N2T
LED17			81D1T
LED18			79RS
LED19			79CY
LED20			79LO
LED24			50G6 + 50N6 + 51N1 + 51N2
LED25			67N3T
LOCAL			0
DP1			0
DP2			0
DP3			0
DP4			0
DP5			0
DP6			0
DP7			0
DP8			0
DP9			0
DP10			0
DP11			0
DP12			0
DP13			0
DP14			0
DP15			0
DP16			0

SS1			PB4 * LT4 * !SG1
SS2			PB4 * LT4 * SG1
SS3			0
SS4			0
SS5			0
SS6			0
ER			/51P1 + /51P2 + /51G1 + /51G2 + /51N1 + /51N2 + /67N3
FAULT			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3
BSYNCH			52A
CLMON			0
BKMON			TRIP
E32IV			1
TMB1A			0
TMB2A			0
TMB3A			0
TMB4A			0
TMB5A			0
TMB6A			0
TMB7A			0
TMB8A			0
TMB1B			0
TMB2B			0
TMB3B			0
TMB4B			0
TMB5B			0
TMB6B			0
TMB7B			0
TMB8B			0
Logic 5			
			Top

Logic 6			
Top			
Setting	Description	Range	Value
TR			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T + 67N3T + 81D1T + PB9 + OC
TRCOMM			0
TRSOTF			0
DTT			0
ULTR			!52A
PT1			0
LOG1			0
PT2			0
LOG2			0
BT			0
52A			SW1 * !CLOSE
CL			PB8 * LT4 * LT7 + CC * LT7
ULCL			TRIP + !PINF * SW1 + !(LT7 + CLOSE) + !(LT4 + CLOSE + CC + 79CY)
79RI			TRIP
79RIS			52A + 79CY
79DTL			67N3T * OLS + (67P1 + 67G1 + 67N1) * TRIP + (! LT2 + !LT7) * (TRIP + !52A) + 81D1T + SV16 + PB9 + OC
79DLS			79LO
79SKP			0
79STL			TRIP
79BRS			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3 + TRIP
79SEQ			79RS * SEQC * (51P1 + 51G1 + 51N1)
79CLS			59L1 * !BADBAT * !DTFAIL

SET1			PB1 * !LT1 * LT4
RST1			PB1 * LT1 * LT4
SET2			PB2 * !LT2 * LT4
RST2			PB2 * LT2 * LT4 + !(79RS + 79CY + 79LO)
SET3			PB3 * !LT3 * LT4
RST3			PB3 * LT3 * LT4
SET4			PB5 * !LT4
RST4			PB5 * LT4
SET5			PB6 * !LT5 * LT4
RST5			PB6 * LT5 * LT4
SET6			PB7 * !LT6 * LT4
RST6			PB7 * LT6 * LT4
SET7			1
RST7			0
SET8			0
RST8			0
SET9			0
RST9			0
SET10			0
RST10			0
SET11			0
RST11			0
SET12			0
RST12			0
SET13			0
RST13			0
SET14			0
RST14			0
SET15			0
RST15			0
SET16			0
RST16			0
67P1TC			HLP
67P2TC			HTP
67P3TC			1
67P4TC			1
67N1TC			HLG * LT1
67N2TC			HTG * LT1
67N3TC			LT1 * !(51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2) * (!SV12 + SV12 * 50G5 +

			SV12 * 50N5)
67N4TC			1
67G1TC			HLG * LT1
67G2TC			HTG * LT1
67G3TC			1
67G4TC			1
67Q1TC			1
67Q2TC			1
67Q3TC			1
67Q4TC			1
51P1TC			!SV8 * OCP
51N1TC			!SV10 * OCG * LT1
51G1TC			!SV10 * OCG * LT1
51P2TC			!SV8 + SV8 * 50P5
51N2TC			(!SV10 + SV10 * 50G5 + SV10 * 50N5) * LT1
51G2TC			(!SV10 + SV10 * 50G5) * LT1
51QTC			1
SV1			0
SV2			0
SV3			0
SV4			0
SV5			52A * (SV8 + SV10 + SV12) * (RPP + RPG + RPS)
SV6			!52A * (79LO + !79RS * !79CY * !79LO) * (CLP + CLG)
SV7			52A * !50P6 * SV8
SV8			(SV8 + SV6T) * ! (SV7T + SV5T * RPP + !CLP)
SV9			52A * !50G6 * !50N6 * SV10
SV10			(SV10 + SV6T) * ! (SV9T + SV5T * RPG + !CLG)
SV11			52A * !50N4 * SV12
SV12			(SV12 + SV6T) * ! (SV11T + SV5T * RPS + !CLG)

SV13			51P1T + 51P2T + 51G1T + 51G2T + 51N1T + 51N2T + 67P2T + 67G2T + 67N2T
SV14			50G6 + 50N6 + 51N1 + 51N2
SV15			/SV13 * (OLG * GTP * SV14 + OLG * !GTP * SV14 * !50P6 + OLP * !GTP * 50P6 + OLP * GTP * 50P6 * !SV14)
SV16			SV15 + SV13 * OLP * OLG
SC1R			1
SC1I			0
SC1D			0
SC2R			1
SC2I			0
SC2D			0
SC3R			1
SC3I			0
SC3D			0
SC4R			1
SC4I			0
SC4D			0
SC5R			1
SC5I			0
SC5D			0
SC6R			1
SC6I			0
SC6D			0
SC7R			1
SC7I			0
SC7D			0
SC8R			1
SC8I			0
SC8D			0
RCTR			TRIP
RCCL			CLOSE
OUT101			0
OUT102			0
OUT103			0
OUT104			0
OUT105			0

OUT106			0
OUT107			0
LED1			LT1
LED2			LT2
LED3			0
LED4			!SG1
LED5			!LT4
LED6			0
LED7			0
LED8			52A
LED9			!52A * PINBD
LED11			!DISCHG
LED12			BADBAT + DTFAIL
LED13			!LT7
LED14			TRIP
LED15			51P1T + 51G1T + 51N1T
LED16			67P2T + 67G2T + 67N2T
LED17			81D1T
LED18			79RS
LED19			79CY
LED20			79LO
LED24			50G6 + 50N6 + 51N1 + 51N2
LED25			67N3T
LOCAL			0
DP1			0
DP2			0
DP3			0
DP4			0
DP5			0
DP6			0
DP7			0
DP8			0
DP9			0
DP10			0
DP11			0
DP12			0
DP13			0
DP14			0
DP15			0
DP16			0

SS1			PB4 * LT4 * !SG1
SS2			PB4 * LT4 * SG1
SS3			0
SS4			0
SS5			0
SS6			0
ER			/51P1 + /51P2 + /51G1 + /51G2 + /51N1 + /51N2 + /67N3
FAULT			51P1 + 51P2 + 51G1 + 51G2 + 51N1 + 51N2 + 67N3
BSYNCH			52A
CLMON			0
BKMON			TRIP
E32IV			1
TMB1A			0
TMB2A			0
TMB3A			0
TMB4A			0
TMB5A			0
TMB6A			0
TMB7A			0
TMB8A			0
TMB1B			0
TMB2B			0
TMB3B			0
TMB4B			0
TMB5B			0
TMB6B			0
TMB7B			0
TMB8B			0
Logic 6 Top			

Report			
Top			
Setting	Description	Range	Value
ESERDL	Auto-Removal EN	Select: N, Y	N
SER1	24 elements max.(enter NA to null)		TRIP, 51P1T, 51P2T, 51G1T, 51G2T, 51N1T, 51N2T, 67P2T, 67G2T, 67N2T, 67N3T, 81D1T, PB9, 67P1, 67G1, 67N1
SER2	24 elements max.(enter NA to null)		CLOSE, 52A, CF, 79CY, 79LO, 79RS, SH0, SH1, SH2, SH3, SH4, PB8, 59A1, OC, SW1, LT4, LT7, CC, PINF, LT2, SV16
SER3	24 elements max.(enter NA to null)		TOSLPT, TOSLPV, BADBAT, DTFail, OLS, 51N1, 51N2, 51P1, 51P2, RB1, RB2, RB3, RB4, RB5, RB6, RB7, RB8
LDLIST	Load profile list (15 elements max., enter NA to null)		0
LDAR	Load profile acquisition rate	Select: 5, 10, 15, 30, 60	5
Report			
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Text			
			Top
Setting	Description	Range	Value
NLB1	Local Bit LB_ Name(14 char; enter NA to null)		NA
CLB1	Clear Local Bit LB_ Label(7 char; enter NA to null)		NA
SLB1	Set Local Bit LB_ Label(7 char; enter NA to null)		NA
PLB1	Pulse Local Bit LB_ Label(7 char; enter NA to null)		NA
NLB2	Local Bit LB_ Name(14 char; enter NA to null)		NA
CLB2	Clear Local Bit LB_ Label(7 char; enter NA to null)		NA
SLB2	Set Local Bit LB_ Label(7 char; enter NA to null)		NA
PLB2	Pulse Local Bit LB_ Label(7 char; enter NA to null)		NA
NLB3	Local Bit LB_ Name(14 char; enter NA to null)		NA
CLB3	Clear Local Bit LB_ Label(7 char; enter NA to null)		NA
SLB3	Set Local Bit LB_ Label(7 char; enter NA to null)		NA
PLB3	Pulse Local Bit LB_ Label(7 char; enter NA to null)		NA
NLB4	Local Bit LB_ Name(14 char; enter NA to null)		NA
CLB4	Clear Local Bit LB_ Label(7 char; enter NA to null)		NA
SLB4	Set Local Bit LB_ Label(7 char; enter NA to null)		NA
PLB4	Pulse Local Bit LB_ Label(7 char; enter NA to null)		NA
NLB5	Local Bit LB_ Name(14 char; enter NA to null)		NA
CLB5	Clear Local Bit LB_ Label(7 char; enter NA to null)		NA
SLB5	Set Local Bit LB_ Label(7 char; enter NA to null)		NA
PLB5	Pulse Local Bit LB_ Label(7 char; enter NA to null)		NA
NLB6	Local Bit LB_ Name(14 char; enter NA to null)		NA
CLB6	Clear Local Bit LB_ Label(7 char; enter NA to null)		NA
SLB6	Set Local Bit LB_ Label(7 char; enter NA to null)		NA
PLB6	Pulse Local Bit LB_ Label(7 char; enter NA to null)		NA
NLB7	Local Bit LB_ Name(14 char; enter NA to null)		NA
CLB7	Clear Local Bit LB_ Label(7 char; enter NA to null)		NA
SLB7	Set Local Bit LB_ Label(7 char; enter NA to null)		NA
PLB7	Pulse Local Bit LB_ Label(7 char; enter NA to null)		NA
NLB8	Local Bit LB_ Name(14 char; enter NA to null)		NA
CLB8	Clear Local Bit LB_ Label(7 char; enter NA to null)		NA
SLB8	Set Local Bit LB_ Label(7 char; enter NA to null)		NA
PLB8	Pulse Local Bit LB_ Label(7 char; enter NA to null)		NA
NLB9	Local Bit LB_ Name(14 char; enter NA to null)		NA
CLB9	Clear Local Bit LB_ Label(7 char; enter NA to null)		NA
SLB9	Set Local Bit LB_ Label(7 char; enter NA to null)		NA
PLB9	Pulse Local Bit LB_ Label(7 char; enter NA to null)		NA
NLB10	Local Bit LB_ Name(14 char; enter NA to null)		NA
CLB10	Clear Local Bit LB_ Label(7 char; enter NA to null)		NA

SLB10	Set Local Bit LB_Label(7 char; enter NA to null)		NA
PLB10	Pulse Local Bit LB_Label(7 char; enter NA to null)		NA
NLB11	Local Bit LB_Name(14 char; enter NA to null)		NA
CLB11	Clear Local Bit LB_Label(7 char; enter NA to null)		NA
SLB11	Set Local Bit LB_Label(7 char; enter NA to null)		NA
PLB11	Pulse Local Bit LB_Label(7 char; enter NA to null)		NA
NLB12	Local Bit LB_Name(14 char; enter NA to null)		NA
CLB12	Clear Local Bit LB_Label(7 char; enter NA to null)		NA
SLB12	Set Local Bit LB_Label(7 char; enter NA to null)		NA
PLB12	Pulse Local Bit LB_Label(7 char; enter NA to null)		NA
NLB13	Local Bit LB_Name(14 char; enter NA to null)		NA
CLB13	Clear Local Bit LB_Label(7 char; enter NA to null)		NA
SLB13	Set Local Bit LB_Label(7 char; enter NA to null)		NA
PLB13	Pulse Local Bit LB_Label(7 char; enter NA to null)		NA
NLB14	Local Bit LB_Name(14 char; enter NA to null)		NA
CLB14	Clear Local Bit LB_Label(7 char; enter NA to null)		NA
SLB14	Set Local Bit LB_Label(7 char; enter NA to null)		NA
PLB14	Pulse Local Bit LB_Label(7 char; enter NA to null)		NA
NLB15	Local Bit LB_Name(14 char; enter NA to null)		NA
CLB15	Clear Local Bit LB_Label(7 char; enter NA to null)		NA
SLB15	Set Local Bit LB_Label(7 char; enter NA to null)		NA
PLB15	Pulse Local Bit LB_Label(7 char; enter NA to null)		NA
NLB16	Local Bit LB_Name(14 char; enter NA to null)		NA
CLB16	Clear Local Bit LB_Label(7 char; enter NA to null)		NA
SLB16	Set Local Bit LB_Label(7 char; enter NA to null)		NA
PLB16	Pulse Local Bit LB_Label(7 char; enter NA to null)		NA
DP1_1	Display Point DP_Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP1_0	Display Point DP_Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP2_1	Display Point DP_Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP2_0	Display Point DP_Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP3_1	Display Point DP_Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP3_0	Display Point DP_Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP4_1	Display Point DP_Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP4_0	Display Point DP_Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP5_1	Display Point DP_Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP5_0	Display Point DP_Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA

DP6_1	Display Point DP_ Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP6_0	Display Point DP_ Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP7_1	Display Point DP_ Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP7_0	Display Point DP_ Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP8_1	Display Point DP_ Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP8_0	Display Point DP_ Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP9_1	Display Point DP_ Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP9_0	Display Point DP_ Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP10_1	Display Point DP_ Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP10_0	Display Point DP_ Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP11_1	Display Point DP_ Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP11_0	Display Point DP_ Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP12_1	Display Point DP_ Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP12_0	Display Point DP_ Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP13_1	Display Point DP_ Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP13_0	Display Point DP_ Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP14_1	Display Point DP_ Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP14_0	Display Point DP_ Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP15_1	Display Point DP_ Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP15_0	Display Point DP_ Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
DP16_1	Display Point DP_ Label(displays if DP_ = logical 1; 16 char; enter NA to null)		NA
DP16_0	Display Point DP_ Label(displays if DP_ = logical 0; 16 char; enter NA to null)		NA
79LL	Last Shot Label(14 char; enter NA to null)		SET RECLOSURES
79SL	Shot Counter Label(14 char; enter NA to null)		RECLOSE COUNT
Text Top			

Port 1 Top			
Setting	Description	Range	Value
PROTO	Protocol	Select: SEL, LMD, DNP, DNPE, MBA, MBB, MB8A, MB8B	LMD
PREFIX	LMD Prefix	Select: #, \$, %, &, @	@
ADDR	LMD Address	1-99	2
SETTLE	LMD Settling Time	0.00-30.00sec	0,00
SPEED	Baud Rate	Select: 300, 1200, 2400, 4800, 9600, 19200	19200
BITS	Data Bits	Select: 6-8	8
PARITY	Parity	Select: N, E, O	N
STOP	Stop Bits	Select: 1, 2	1
T_OUT	Minutes to Port Time-out	0-30	0
AUTO	Send Auto Messages to Port	Select: N, Y, DTA	N
FASTOP	Fast Operate Enable	Select: N, Y	Y
Port 1 Top			

Port 2				Top
Setting	Description	Range	Value	
PROTO	Protocol	Select: SEL, LMD, DNP, DNPE, MBA, MBB, MB8A, MB8B	SEL	
SPEED	Baud Rate	Select: 300, 1200, 2400, 4800, 9600, 19200, 38400	2400	
RTSCTS	Enable Hardware Handshaking	Select: N, Y, MBT	N	
BITS	Data Bits	Select: 6-8	8	
PARITY	Parity	Select: N, E, O	N	
STOP	Stop Bits	Select: 1, 2	1	
T_OUT	Minutes to Port Time-out	0-30	15	
AUTO	Send Auto Messages to Port	Select: N, Y, DTA	N	
FASTOP	Fast Operate Enable	Select: N, Y	N	
Port 2				Top

Port 3				Top
Setting	Description	Range	Value	
PROTO	Protocol	Select: SEL, LMD, DNP, DNPE, MBA, MBB, MB8A, MB8B	SEL	
SPEED	Baud Rate	Select: 300, 1200, 2400, 4800, 9600, 19200, 38400	2400	
RTSCTS	Enable Hardware Handshaking	Select: N, Y, MBT	N	
BITS	Data Bits	Select: 6-8	8	
PARITY	Parity	Select: N, E, O	N	
STOP	Stop Bits	Select: 1, 2	1	
T_OUT	Minutes to Port Time-out	0-30	15	
AUTO	Send Auto Messages to Port	Select: N, Y, DTA	N	
FASTOP	Fast Operate Enable	Select: N, Y	N	
Port 3				Top

Port 4				Top
Setting	Description	Range	Value	
PROTO	Protocol	Select: SEL, LMD, DNP, DNPE, MBA, MBB, MB8A, MB8B	SEL	
SPEED	Baud Rate	Select: 300, 1200, 2400, 4800, 9600, 19200, 38400	38400	
RTSCTS	Enable Hardware Handshaking	Select: N, Y, MBT	N	
BITS	Data Bits	Select: 6-8	8	
PARITY	Parity	Select: N, E, O	N	
STOP	Stop Bits	Select: 1, 2	1	
T_OUT	Minutes to Port Time-out	0-30	15	
AUTO	Send Auto Messages to Port	Select: N, Y, DTA	N	
FASTOP	Fast Operate Enable	Select: N, Y	N	
Port 4				Top

