

7SG18 Solkor N

Numeric Differential Protection

Document Release History

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Pre release

2010/02	Document reformat due to rebrand

Software Revision History

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APPENDIX

Attached are Setting Configuration Sheets, which can be photocopied and used to store a record of a relay's settings and general Notes Pages, for customer use.

GENERAL INFORMATION	
Relay Type	:
Article Number	:
Serial Number	:
Date	:
Station	:
Circuit	:

The following Setting Menu Tables are for **SETTINGS GROUP G**

SYSTEM CONFIGURATION MENU		
SETTING	RANGE	SET VALUE
Active Settings Group	G1-G8	
Power System Frequency	50 / 60 Hz	
Local P/F Rating	1A, 5A	
Local E/F Rating	1A, 5A	
Local P/F CT Ratio	5 to 10000 : 1 or 5	
Local E/F CT Ratio	5 to 10000 : 1 or 5	
Remote P/F Rating	1A, 5A	
Remote P/F CT Ratio	5 to 10000 : 1 or 5	
Current Display	xIn, PRIMARY, SECONDARY	
Set Identifier	Up to 16 alphanumeric characters	
Set Alarm 1	Up to 13 alphanumeric characters	
Set Alarm 2	Up to 13 alphanumeric characters	
Set Alarm 3	Up to 13 alphanumeric characters	
Set Alarm 4	Up to 13 alphanumeric characters	
Set Alarm 5	Up to 13 alphanumeric characters	
Set Alarm 6	Up to 13 alphanumeric characters	
Set Alarm 7	Up to 13 alphanumeric characters	
Set Alarm 8	Up to 13 alphanumeric characters	
Set Alarm 9	Up to 13 alphanumeric characters	
Calendar – Set Date	DD/MM/YY	
Clock - Set Time	HH:MM:SS	
Clock Sync. From Status	Seconds or Minutes	
Default Screen Timer	10sec, 60sec, 5min, 1hour	
Change Password	4 alphanumeric characters	

DIFF. PROTECTION MENU		
SETTING	RANGE	SET VALUE
Gn P/F Diff. Setting	0.10 – 2.50xIn step 0.05xIn	
Gn P/F Bias Slope 1	20%, 30%, 50%, 70%	
Gn P/F Bias Slope 2	50%, 100%, 150%	
Gn Bias Break Point	0.50xIn – 20.00xIn step 0.10xIn	
Gn Differential Delay	0.000s – 0.200s step 0.005s 0.210s – 1.000s step 0.010s 1.100s – 10.000s step 0.100s	
P/F CT Ratio Correction	0.50 – 1.00 step 0.01	
Gn Internal Intertrip	ON, OFF	
Gn External Intertrip	ON, OFF	
Gn Ext Intertrip Delay	0.000s – 0.200s step 0.005s 0.210s – 1.000s step 0.010s 1.100s – 10.000s step 0.100s	
Gn Internal Intertrip	ON, OFF	

O/C PROTECTION MENU		
SETTING	RANGE	SET VALUE
Gn P/F Charact. Setting	0.10xIn – 2.50xIn step 0.05xIn	
Gn P/F Charact.	NI, VI, EI, LTI, DTL	
Gn P/F Charact. Time Mult	0.025 – 1.600 step 0.025	
Gn P/F Charact. Delay	0.00s – 20.00s step 0.01s	
Gn P/F Lowset Setting	OFF, 0.10xIn – 2.50xIn step 0.05xIn 3.0xIn – 52.5xIn step 0.5xIn	
Gn P/F Lowset Delay	0.00s – 20.00s step 0.01s	
Gn P/F Highset1 Setting	OFF, 0.10xIn – 2.50xIn step 0.05xIn 3.0xIn – 52.5xIn step 0.5xIn	
Gn P/F Highset1 Delay	0.00s – 20.00s step 0.01s	
Gn P/F Highset2 Setting	OFF, 0.10xIn – 2.50xIn step 0.05xIn 3.0xIn – 52.5xIn step 0.5xIn	
Gn P/F Highset2 Delay	0.00s – 20.00s step 0.01s	
Gn E/F Charact. Setting	0.10xIn – 2.50xIn step 0.05xIn	
Gn E/F Charact.	NI, VI, EI, LTI, DTL	
Gn E/F Charact. Time Mult	0.025 – 1.600 step 0.025	
Gn E/F Charact. Delay	0.00s – 20.00s step 0.01s	
Gn E/F Lowset Setting	OFF, 0.10xIn – 2.50xIn step 0.05xIn 3.0xIn – 52.5xIn step 0.5xIn	
Gn E/F Lowset Delay	0.00s – 20.00s step 0.01s	
Gn E/F Highset1 Setting	OFF, 0.10xIn – 2.50xIn step 0.05xIn 3.0xIn – 52.5xIn step 0.5xIn	
Gn E/F Highset1 Delay	0.00s – 20.00s step 0.01s	
Gn E/F Highset2 Setting	OFF, 0.10xIn – 2.50xIn step 0.05xIn 3.0xIn – 52.5xIn step 0.5xIn	
Gn E/F Highset2 Delay	0.00s – 20.00s step 0.01s	
Gn CB Fail Time Delay1	OFF, 0.01s – 20.00s step 0.01s	
Gn CB Fail Time Delay2	OFF, 0.01s – 20.00s step 0.01s	
Gn P/F CB Fail Setting	0.10xIn – 1.00xIn step 0.05xIn	
Gn E/F CB Fail Setting	0.10xIn – 1.00xIn step 0.05xIn	
Gn CT Failure Setting	OFF, 0.10xIn – 1.00xIn step 0.05xIn	
Gn CT Failure Delay	0.00s – 20s step 0.01s	
Gn Relay Reset Delay	INST, 1s – 60s step 1s	

O/P RELAY CONFIG MENU		
SETTING	RANGE	SET VALUE
Gn Prot. Healthy	RL1..RL7	
Gn P/F Diff.	RL1..RL7	
Gn P/F Starter	RL1..RL7, GPF	
Gn P/F Charact.	RL1..RL7, GPF	
Gn P/F Lowset	RL1..RL7, GPF	
Gn P/F Highset1	RL1..RL7, GPF	
Gn P/F Highset2	RL1..RL7, GPF	
Gn E/F Starter	RL1..RL7, GPF	
Gn E/F Charact.	RL1..RL7, GPF	
Gn E/F Lowset	RL1..RL7, GPF	
Gn E/F Highset1	RL1..RL7, GPF	
Gn E/F Highset2	RL1..RL7, GPF	
Gn Remote Int. iTrip	RL1..RL7, GPF	
Gn Remote Ext. iTrip1	RL1..RL7, GPF	
Gn Remote Ext. iTrip2	RL1..RL7, GPF	
Gn Status 1	RL1..RL7, GPF	
Gn Status 2	RL1..RL7, GPF	
Gn Status 3	RL1..RL7, GPF	
Gn Status 4	RL1..RL7, GPF	
Gn Status 5	RL1..RL7, GPF	
Gn Status 6	RL1..RL7, GPF	
Gn Status 7	RL1..RL7, GPF	
Gn Status 8	RL1..RL7, GPF	
Gn Status 9	RL1..RL7, GPF	
Gn CB Fail 1	RL1..RL7, GPF	
Gn CB Fail 2	RL1..RL7, GPF	
Gn Counter Alarm	RL1..RL7, GPF	
Gn Sum of I ² Alarm	RL1..RL7, GPF	
Gn Power on Count.	RL1..RL7	
Gn Signal Dist.	RL1..RL7	
Gn Signal Alarm	RL1..RL7	
Gn Signal Test	RL1..RL7	
Gn Hand Reset	RL1..RL7, GPF	
Gn Min O/P Energise Time	100ms – 500ms step 50ms	

STATUS CONFIG MENU		
SETTING	RANGE	SET VALUE
Settings Group Select	S1..S9 (Note : special setting where each status can be set from 1-8 to select active group 1-8)	
Inverted Inputs	S1..S9	
Gn P/F Diff. Inhibit	S1..S9	
Gn P/F Charac. Inhibit	S1..S9, SIG	
Gn P/F Lowset Inhibit	S1..S9, SIG	
Gn P/F Highset1 Inhibit	S1..S9, SIG	
Gn P/F Highset2 Inhibit	S1..S9, SIG	
Gn E/F Charac. Inhibit	S1..S9, SIG	
Gn E/F Lowset Inhibit	S1..S9, SIG	
Gn E/F Highset1 Inhibit	S1..S9, SIG	
Gn E/F Highset2 Inhibit	S1..S9, SIG	

STATUS CONFIG MENU		
SETTING	RANGE	SET VALUE
Gn External iTrip1	S1..S9	
Gn External iTrip2	S1..S9	
Gn Receive iTrip Inhibit	S1..S9	
Gn Send iTrip Inhibit	S1..S9	
Gn CB Open	S1..S9	
Gn CB Closed	S1..S9	
Gn Trip Circuit Fail	S1..S9	
Gn Waveform Trigger	S1..S9	
Gn Sum of I ² Update	S1..S9	
Gn Reset Flag and Outputs	S1..S9	
Gn Clock Sync.	S1..S9	
Gn ALARM 1	S1..S9	
Gn ALARM 2	S1..S9	
Gn ALARM 3	S1..S9	
Gn ALARM 4	S1..S9	
Gn ALARM 5	S1..S9	
Gn ALARM 6	S1..S9	
Gn ALARM 7	S1..S9	
Gn ALARM 8	S1..S9	
Gn ALARM 9	S1..S9	
Gn Status 1 P/U Delay	0 – 2.00 sec step 10ms 2.10 – 20.00 sec step 100ms 21 – 300 sec step 1 sec 360 – 3600 sec step 60 sec 3900 – 14400 sec step 300 sec	
Gn Status 1 D/O Delay	As above	
Gn Status 2 P/U Delay	As above	
Gn Status 2 D/O Delay	As above	
Gn Status 3 P/U Delay	As above	
Gn Status 3 D/O Delay	As above	
Gn Status 4 P/U Delay	As above	
Gn Status 4 D/O Delay	As above	
Gn Status 5 P/U Delay	As above	
Gn Status 5 D/O Delay	As above	
Gn Status 6 P/U Delay	As above	
Gn Status 6 D/O Delay	As above	
Gn Status 7 P/U Delay	As above	
Gn Status 7 D/O Delay	As above	
Gn Status 8 P/U Delay	As above	
Gn Status 8 D/O Delay	As above	
Gn Status 9 P/U Delay	As above	
Gn Status 9 D/O Delay	As above	

PROT. SIGNALLING MENU		
SETTING	RANGE	SET VALUE
Local Address	0 – 31 step 1	
Baud Rate	19200, 38400	
Signalling Delay	0.000ms – 9.375ms 9.375ms – 18.750ms 18.750ms – 28.125ms 28.125ms – 37.500ms	
Signal Alarm Timeout	1s – 60s step 1s	
Signal Test Mode	OFF, LINE TEST, LOOP TEST	
Signalling Port	DISABLED, ENABLED	

COMMS INTERFACE MENU		
SETTING	RANGE	SET VALUE
Comms Baud Rate	75, 110, 150, 300, 600, 1200, 2400, 4800, 9600, 19200	
Comms Parity	NONE, EVEN	
Relay Address	0 – 254	
Line Idle	LIGHT ON, LIGHT OFF	
Data Echo	OFF / ON	

DATA STORAGE MENU		
SETTING	RANGE	SET VALUE
Gn Fault Trigger	RL1..RL7	
Gn Waveform Trig	STA, DIF, O/C, iTp, SIG	
Gn Waveform Pre-trigger	OFF, 10%-100% step 10%	
Demand Window Type	OFF, ROLLING, FIXED	
Demand Window	5-50 mins, step 5 mins 90-300 mins, step 30 mins 360-1440 mins, step 60 mins	

CB MAINTENANCE MENU		
SETTING	RANGE	SET VALUE
Trip Counter Alarm	OFF, 1 – 999 step 1	
Sum I ² Alarm	OFF 10 – 100 step 1MA ² 200 – 20000 step 100MA ² 21000 – 100000 step 1000MA ²	
Power on Count Alarm	OFF, 999	
Phase A Reversal	OFF, ON	
Phase B Reversal	OFF, ON	
Phase C Reversal	OFF, ON	
Earth Reversal	OFF, ON	
Manual Intertrip	OFF, Internal iTrip, External iTrip, External iTrip2	