

SELECTION TABLE

Protection Relay Range

SELECTION TABLE	ANSI CODE	SIA-B Specific	SIA-B Standard	SIA-C	SIA-F	SIL-A	SIL-G	SIL-C	SIL-S	SIU-C	SIR-A	SIR-C
TYPE												
SELF & DUAL POWERED (SELF+AUX)		√	√	√								
AUXILIARY POWERED					√	√	√	v	√	√	√	√
INSTRUMENTS TRANSFORMER												
Conventional Current Transformer input		3	4	4	4	4	4	4			4	4
Conventional Voltage Transformer input						1	5	5		5		
Non-Conventional LPCT/Rogowsky input									5			
Non-Conventional LEA input									5		6	6
APPLICATIONS												
Feeder						√	√	√	√	√	√	√
Transformer		√	√	√	√	√						
Generator							√	√	√			
Capacitor Bank					√	√	√	√	√	√	√	√
Arc flash							√				√	
Recloser											√	√
Seccionalizer											√	√
RTU											√	√
Wind Power		√	√	√	√	√	√	√				
Solar Power		√	√	√	√	√	√	√				
Grid Interconnection							√	√	√	√	√	√
FUNCTIONS												
Instantaneous phase overcurrent	50	√	√	√	√	√	√	√	√		√	√
Inverse time phase overcurrent	51	√	√	√	√	√	√	√	√		√	√
Inverse Time Directional Phase Overcurrent	67						√	√	√		√	√
Instantaneous Neutral overcurrent	50N/G	√	√	√	√	√	√	√	√		√	√
Inverse time Neutral overcurrent	51N/G	√	√	√	√	√	√	√	√		√	√
Inverse Time Directional Neutral Overcurrent	67N/G					√	√	√	√		√	√
Switch On To Fault	SOTF	√	√	√		√	√	√	√		√	√
Phase balance current protection	46		√	√		√	√	√	√		√	√
Broken Conductor Detection	46BC			√		√	√	√	√		√	√
Restricted Earth Fault	64REF					√	√	√	√		√	√
Thermal overload	49	√	√	√	√	√	√	√	√		√	√
External Trip	49T	√	√	√		√	√	√	√	√	√	√
Trip block for switch	TB	√	√		√	√						
Instantaneous phase undercurrent	37					√	√	√	√		√	√
Second Harmonic Blocking	SHB	√	√	√		√	√	√	√		√	√
Instantaneous phase overvoltage	59						√	√	√	√	√	√
Instantaneous Neutral Overvoltage	59N/G					√	√	√	√	√	√	√
Phase Balance voltage protection	47						√	√	√	√	√	√
Instantaneous Phase undervoltage	27						√	√	√	√	√	√
Inverse Time Positive sequence undervoltage	dv/dt									√		
Directional Overpower	32						√	√	√		√	√
Under/Overfrequency	81O/U						√	√	√	√	√	√
Rate of change of Frequency (ROCOF)	81R						√	√	√	√	√	√
Out of Step (Vector Shift)	78						√	√	√	√	√	√
Overfluxing	24						√	√	√			
Cold Load pickup	CLP		√	√	√	√	√	√	√		√	√
AC Reclosing device	79			√		√	√	√	√	√	√	√
Sequence Coordination Mode	SCM										√	√
Sectionalizer Mode	SZM										√	√
Breaker wear monitoring	52		√	√	√	√	√	√	√	√	√	√
Synchro Check	25						√	√	√	√	√	√
Hot Line Tag	HLT						√	√	√	√	√	√
Circuit Breaker Failure	BF		√	√	√	√	√	√	√	√	√	√
Trip Circuit Supervision	74TCS			√		√	√	√	√	√	√	√
Close Circuit Supervision	74CCS									√		
Phase CT Supervision	60CTS			√		√	√	√	√		√	√
Phase LPVT Supervision	60VTS						√	√	√		√	√
Trip lockout	86				√	√	√	√	√	√	√	√
Zone selection interlocking (ZSI)	68		√	√	√	√	√	√	√		√	√
Power Supply Control	PSC										√	
Programmable logic control	PGC	√	√	√	√	√	√	√	√	√	√	√
ADDITIONAL FEATURES												
Counters			√	√	√	√	√	√	√	√	√	√
Commands		√	√	√	√	√	√	√	√	√	√	√
Setting Groups		2	4	4	3	4	4	4	4	4	6	6
Digital Inputs		Up to 1	Up to 3	Up to 3	Up to 2	up to 9	Up to 24	Up to 11	Up to 11	Up to 11	Up to 24	Up to 11
Digital Outputs		Up to 2	Up to 3	Up to 3	Up to 3	Up to 7	Up to 18	Up to 7	up to 7	Up to 7	Up to 18	Up to 7
Polarized Tripping Output		1	1	1								
LEDs		2+1 mag. Indicator	4	Up to 3+3 mag. Indicator	3	8	11	11	11	11	Up to 24	11
LCD		20x2 LCD	20x2 LCD	20x2 LCD	20x2 LCD	20x2 LCD	20x4 LCD	20x4 LCD	20x4 LCD	20x4 LCD	20x4 LCD	20x4 LCD
Key-pad		8	8	8	7	11	13	13	13	13	Up to 21	13
Event records		100	1024	1024	200	2048	3072	3072	3072	3072	3072	3072
Fault Reports		Up to 4	Up to 20	Up to 20	Up to 4	Up to 100	Up to 100	Up to 100	Up to 100	Up to 100	Up to 100	Up to 100
Oscillography records (COMTRADE)			Up to 10	Up to 10	1	Up to 100	Up to 100	Up to 100	Up to 100	Up to 100	Up to 100	Up to 100
Load Data Profiling (LDP)			√	√		√	√	√	√	n/a	√	√
Local Port (frontal)		Micro USB	Micro USB	Micro USB	Micro USB	Micro USB	Micro USB	Micro USB	Micro USB	Micro USB	Micro USB	Micro USB
COMMUNICATIONS PROTOCOLS												
ModBus RTU		√	√	√	√	√	√	√	√	√	√	√
IEC60870-5-103				√		√	√	√	√	√	√	√
DNP3.0 Serial			√		√	√	√	√	√	√	√	√
Modbus TCP/IP						√	√	√	√	√	√	√
DNP3 TCP/IP						√	√	√	√	√	√	√
IEC 60870-5-104						√	√	√	√	√	√	√
IEC61850						√	√	√	√	√	√	√
SNTP						√	√	√	√	√	√	√
Web Server						√	√	√	√	√	√	√
IRIG-B							√	√	√	√	√	√
REMOTE PORT (REAR)												
RS485		√	√	√	√	√	√	√	√	√	√	√
RJ45						√	√	√	√	√	√	√
RS232											√	
FO							√				√	
MONTAGE												
Panel mounted		√	√	√	√	√	√	√	√	√	√	√
UL												
UL certified		√	√			√						
This document has been carefully reviewed by Fanox, but deviations cannot be completely ruled out.												