SEL-411L-2 With Sampled Values or TiDL Technology

Current Differential Relay with full Distance Backup Protection

NOTE: When applying the SEL-411L relay in line current differential applications, relays at all terminals of a protected line must use firmware that is compatible as shown in Table A.1.

Part Number:	0	4	1	1	L	2							X				4					X	X

Firmware

Standard Current Differential and Distance elements Plus Sub-cycle Distance Elements, Series Compensation Logic, and Broken Conductor Detection						2																		

Connector Type

None[1](SV Subscriber)							X	X	X					E			4			X	X	X		
Time-Domain Link (TiDL)[2]*							R	X	X								4			X	X	X		
Time-Domain Link (TiDL With SFPs)[2]*							T	X	X								4			X	X	X		

Conformal Coat

None									X															
Conformally Coated Circuit Boards*									1															

Power Supply

24-48 Vdc										2														
48-125 Vdc or 110-120 Vac										4														
125-250 Vdc or 110-240 Vac										6														

Serial Line Current Differential Communications Channel 1

None[3]											0	0												
Isolated EIA-422*											A													
Isolated G.703 Co-Directional*											B													
850 nm IEEE C37.94 Fiber*											C													
1300 nm Fiber*											D													
1550 nm Fiber*											E													
1300 nm IEEE C37.94 Fiber*											H													

Serial Line Current Differential Communications Channel 2

None[3]												0												
Isolated EIA-422*												A												
Isolated G.703 Co-Directional*												B												
850 nm IEEE C37.94 Fiber*												C												
1300 nm Fiber*												D												
1550 nm Fiber*												E												
1300 nm IEEE C37.94 Fiber*												H												

Ethernet Communications Protocols

FTP, Telnet, Synchrophasors, and DNP3														B										
FTP, Telnet, Synchrophasors, DNP3, and IEC 61850*														C										
FTP, Telnet, Synchrophasors, DNP3, and IEC 61850 with Sampled Values Subscription*														E										

Ethernet Connection Options

Four 10/100BASE-T Connectors[4]															6									
Four 100BASE-FX Connectors[4]*															7									

Two 10/100BASE-T and Two 100BASE-FX Connectors[4][5]*	8
Two 100/1000BASE and Three 100BASE SFP Ports (Order SFP Transceivers Separately)[6]*	9

Mounting

Horizontal Rack Mount	H
Horizontal Panel Mount	3
Vertical Rack Mount	V
Vertical Panel Mount	4

Chassis

4U, One I/O Board	4

I/O Board Position B for 4U Chassis

8 Optoisolated Independent Level-Sensitive Inputs, 13 Standard Form A, 2 Standard Form C Outputs*	2
18 Common and 6 Independent Optoisolated Level-Sensitive Inputs, 6 High-Speed High-Current Interrupting Form A Outputs, 2 Standard Form A Outputs*	4
8 Optoisolated Independent Level-Sensitive Inputs, 8 High-Speed High-Current Interrupting Form A Outputs*	8

I/O Board Position B Input Voltage

24 Vdc	1
48 Vdc	2
110 Vdc	3
125 Vdc	4
220 Vdc	5
250 Vdc	6

Accessories

Literature		
	Instruction Manual Set for SEL-411L-2[7]	PM411L-KT-02

* Additional Cost

[1] Sampled values subscriber relays have no analog input boards and instead receive voltages and currents via Ethernet.
[2] Not compatible with Axion based TiDL systems.
[3] Line current differential protection requires serial line differential communication options.
[4] IEEE Precision Time Protocol (PTP) is available on Ports 5A, 5B.
[5] Ports 5A and 5C are dedicated as 100BASE-FX and Ports 5B and 5D are dedicated as 10/100BASE-T.
[6] IEEE Precision Time Protocol (PTP) and IEC Parallel Redundancy Protocol (PRP) are available on the process and station bus ports. Two independent IP addresses are available: one for the station bus and one for engineering access. See the instruction manual or selinc.com/products/sfp/ for a list of compatible SFP transceivers.
[7] This product comes standard with a CD manual. One complimentary instruction manual kit is available upon request with each product purchased.

Table A.1

411L-2 Firmware Version	411L-2 Firmware is Compatible with	411L-0,-1,-A Firmware is Compatible with
R200 and Higher	R200 and Higher	R128 and Higher

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