SEL-487E-3, -4

Transformer Protection Relay and Station Phasor Measurement Unit

Standard With Synchrophasor Measurement, Serial Protocols(1), 8 Outputs, 7 Inputs, ACSELERATOR QuickSet® SEL-5030 Software(2) and Configurable Labels

UL Approved

Part Number: **0 4 8 7 E _ _ _ _ _ _ X _ _ X _ _ _ _ _ _ _ _**

Firmware

Standard	3 _ _ _ _ X
Standard Plus Distance Protection*	3 _ _ _ _ 1
Standard Plus Second Differential Zone*	3 _ _ _ _ 2
Standard Plus Distance Protection, Second Differential Zone, and Reclosing*	3 _ _ _ _ 3
Station Phasor Measurement Unit	4 _ _ _ _ X

Connector Type, Secondary Voltage Input, and Conformal Coat

Screw Terminal Block, 300 V Phase-Neutral Maximum (Wye), No Conformal Coat	_ _ _ _ _ X
Connectorized® Relay, 300 V Phase-Neutral Maximum (Wye), No Conformal Coat(10)*	_ _ _ _ _ 1
Screw Terminal Block, 300 V Phase-Neutral Maximum (Wye), Conformal Coat*	_ _ _ _ _ 2
Connectorized® Relay, 300 V Phase-Neutral Maximum (Wye), Conformal Coat(10)*	_ _ _ _ _ 3
Screw Terminal CT, Euro Connector With IEEE C37.92 Low Energy Analog Voltage Inputs (LEA), Conformal Coated(3)*	_ _ _ _ _ 4
Connectorized® CT, Euro Connector With IEEE C37.92 Low Energy Analog Voltage Inputs (LEA), Conformal Coat(3)(10)*	_ _ _ _ _ 5

Power Supply

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

AC Input Card 1 Configuration (Current Channels S, T, U)

S (Three-Phase) = 5 A T (Three-Phase) = 5 A U (Three-Phase) = 5 A	_ _ _ _ _ _ _ 1
S (Three-Phase) = 5 A T (Three-Phase) = 5 A U (Three-Phase) = 1 A	_ _ _ _ _ _ _ 2
S (Three-Phase) = 5 A T (Three-Phase) = 1 A U (Three-Phase) = 1 A	_ _ _ _ _ _ _ 3
S (Three-Phase) = 1 A T (Three-Phase) = 1 A U (Three-Phase) = 1 A	_ _ _ _ _ _ _ 4

AC Input Card 2 Configuration (Current Channels W, X, Y(4), (5))

W (Three-Phase) = 5 A X (Three-Phase) = 5 A Y (Neutral x 3) = 5 A, 5 A, 5 A	_ _ _ _ _ _ _ _ 1
W (Three-Phase) = 5 A X (Three-Phase) = 5 A Y (Neutral x 3) = 5 A, 5 A, 1 A	_ _ _ _ _ _ _ _ 2
W (Three-Phase) = 5 A X (Three-Phase) = 5 A Y (Neutral x 3) = 5 A, 1 A, 1 A	_ _ _ _ _ _ _ _ 3

W (Three-Phase) = 5 A X (Three-Phase) = 5 A Y (Neutral x 3) = 1 A, 1 A, 1 A	4
W (Three-Phase) = 1 A X (Three-Phase) = 1 A Y (Neutral x 3) = 5 A, 5 A, 5 A	5
W (Three-Phase) = 1 A X (Three-Phase) = 1 A Y (Neutral x 3) = 5 A, 5 A, 1 A	6
W (Three-Phase) = 1 A X (Three-Phase) = 1 A Y (Neutral x 3) = 5 A, 1 A, 1 A	7
W (Three-Phase) = 1 A X (Three-Phase) = 1 A Y (Neutral x 3) = 1 A, 1 A, 1 A	8

Ethernet Communications Protocols

None	XX
FTP, Telnet, and DNP3 LAN/WAN, PRP*	B
FTP, Telnet, DNP3 LAN/WAN, PRP and IEC 61850*	C

Ethernet Connection Options

None	XX
Ports 5A, 5B[6] With PTP: Ethernet Card With Two 10/100BASE-T Connectors*	1
Ports 5A, 5B[6] With PTP: Ethernet Card With Two 100BASE-FX Connectors*	3
Ports 5A, 5B[6] With PTP: Ethernet Card With One 10/100BASE-T, One 100BASE-FX Connector*	5
Ports 5C, 5D[7]: Ethernet Card With Two 10/100BASE-T Connectors*	0
Ports 5C, 5D[7]: Ethernet Card With Two 100BASE-FX Connectors*	2
Ports 5C, 5D[7]: Ethernet Card With One 10/100BASE-T, One 100BASE-FX Connector*	4

Mainboard Input Voltage

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

Mounting

Horizontal Rack Mount	H
Horizontal Panel Mount	3
Vertical Rack Mount	V5XXXXX
Vertical Panel Mount	45XXXXX

Chassis

5U, No Additional I/O Board	5XXXXX
6U, Up to One Additional I/O Board	6 XXX
7U, Up to Two Additional I/O Boards	7 X
9U, Up to Four Additional I/O Boards	9

I/O Board Position B for 6U, 7U or 9U Chassis

Empty I/O Board Position	0XXXX
8 Optoisolated Independent Level-Sensitive Inputs, 13 Standard Form A, 2 Standard Form C Outputs*	2
24 Optoisolated Level-Sensitive Inputs, 8 Outputs[8]*	4

8 Optoisolated Independent Level-Sensitive Inputs, 13 High-Current Interrupting Form A, 2 Standard Form C Outputs*	7
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

I/O Board Position C for 7U or 9U Chassis Only

Empty I/O Board Position	0 X X
8 Optoisolated Independent Level-Sensitive Inputs, 13 Standard Form A, 2 Standard Form C Outputs*	2
24 Optoisolated Level-Sensitive Inputs, 8 Outputs[8]*	4
8 Optoisolated Independent Level-Sensitive Inputs, 13 High-Current Interrupting Form A, 2 Standard Form C Outputs*	7
8 Optoisolated Independent Level-Sensitive Inputs, 8 High-Speed High-Current Interrupting Form A Outputs*	8

I/O Board Position C, D, and E Input Voltage

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

I/O Board Position D and E for 9U Chassis Only

Empty I/O Board Position	9 0
8 Optoisolated Independent Level-Sensitive Inputs, 13 Standard Form A, 2 Standard Form C Outputs*	9 2
24 Optoisolated Level-Sensitive Inputs, 8 Outputs[8]*	9 4
8 Optoisolated Independent Level-Sensitive Inputs, 13 High-Current Interrupting Form A, 2 Standard Form C Outputs*	9 7
8 Optoisolated Independent Level-Sensitive Inputs, 8 High-Speed High-Current Interrupting Form A Outputs*	9 8

Accessories

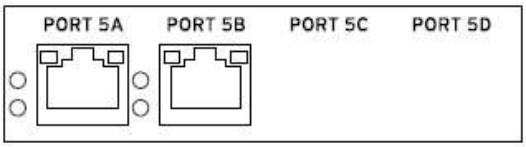
Literature		
	Instruction Manual Set for SEL-487E-3, -4 and SEL-400 Series[9]	PM487E-KT-01
Wiring Harness		
	Wiring Harness for Connectorized SEL-487E[10]*	Please see Online MOT or contact SEL REP or CSR for ordering information.
IRIG Termination Kit (50 Ohms)*		915900499

* Additional Cost

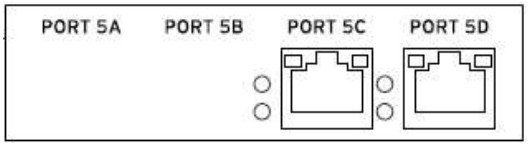
[1] Serial Protocols: SEL ASCII, Compressed ASCII, Settings File Transfer, SEL Fast Meter with Configuration, Fast Operate, Fast SER, Phasor Measurement, Enhanced MIRRORED BITS® Communications, DNP3 Level 2 Server Plus Dial-Out and Virtual Terminal.
[2] Download ACSELERATOR QuickSet SEL-5030 software for free at https://www.selinc.com/softwaresolutions/. QuickSet on CD (503001WX4) is available upon request.
[3] The LEA Voltage Input option requires Conformal Coating.

(4) Current Channel Y is comprised of three single-phase neutral current inputs.
(5) When using the Y current channels for synchrophasor data, all Y channel currents must have the same nominal current rating (1 A, 1 A, 1 A or 5 A, 5 A, 5 A) to provide proper synchrophasor scaling. **AC Input Card 2 Configuration** options 1, 4, 5, or 8 meet this criteria.

(6) Only two Ethernet ports will be populated based on the Ethernet Connection Options Selection. IEEE Precision Time Protocol (PTP) is only available on Port 5A and 5B.



(7) PTP is not available on Ports 5C and 5D.



(8) The 24 Optoisolated Inputs are comprised of 18 Common Inputs and 6 Independent Inputs. The 8 outputs are comprised of 6 High-Speed, High-Current Interrupting Outputs and 2 Standard Outputs.
(9) This product comes standard with a CD manual. One complimentary instruction manual kit is available upon request with each product purchased.
(10) Order a Connectorized® Wiring Harness for SEL-487E (harness shipped separately).

Making Electric Power Safer, More Reliable, and More Economical®

SEL SCHWEITZER ENGINEERING LABORATORIES, INC.
2350 NE Hopkins Court - Pullman, WA 99163 USA
Phone: +1.509.332.1890 - Fax: +1.509.332.7990