SEL-451-5

Protection, Automation, and Control System, Standard with Serial Communication Protocols[1], Synchrophasor Measurement, 8 Outputs, 7 Inputs, AcSELERATOR® QuickSet SEL-5030 Software[2], and Configurable Labels

UL Approved

Part Number: **0 4 5 1 5** ☐ ☐ ☐ **X** ☐ ☐ ☐ ☐ ☐ ☐

Firmware

Option	Code
Standard (Replaces SEL-451-2 and SEL-451-4)	5

Power Supply

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

Connector Type

Option	Code
Screw Terminal Block	1
Connectorized® Relay*	2

Secondary Input Current

Option	Code
1 Amp Phase	1
5 Amp Phase	5
1 Amp Phase with High Impedance Fault Detection*	D
5 Amp Phase with High Impedance Fault Detection*	E

Secondary Input Voltage

Option	Code
300V Phase - Neutral Maximum (Wye)	X
Euro Connector with IEEE C37.92 Low Energy Analog Inputs (LEA)[3]	1 ... 2

Ethernet Communications Protocols

Option	Code
None	X X
FTP, Telnet, Synchrophasors, and DNP3 LAN/WAN	B
FTP, Telnet, Synchrophasors, DNP3 LAN/WAN, and IEC 61850*	C

Ethernet Connection Options

Option	Code
None	X X
Ports 5A, 5B[4] with PTP: Ethernet Card with Two 10/100BASE-T Connectors*	1
Ports 5A, 5B[4] with PTP: Ethernet Card with Two 100BASE-FX Connectors*	3
Ports 5A, 5B[4] with PTP: Ethernet Card with One 10/100BASE-T, One 100BASE-FX Connector*	5
Ports 5C, 5D[5]: Ethernet Card with Two 10/100BASE-T Connectors*	0
Ports 5C, 5D[5]: Ethernet Card with Two 100BASE-FX Connectors*	2

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Ports 5C, 5D[5]: Ethernet Card with One 10/100BASE-T, One 100BASE-FX Connector*	4

Mainboard Input Voltage

Standard with 3 High-Current Interrupting Outputs, 2 Standard Form A Outputs, 3 Standard Form C Outputs, and 7 Optoisolated Level-Sensitive Inputs	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	V
Vertical Panel Mount	4

Chassis

3U, Standard I/O	1	X	X	X X
4U, Up to One Additional I/O Board	2			X X
4U, Front Panel with 24 Target LEDs, 12 Operator Control Pushbuttons, and Tri-Color LEDs*	3			X X
5U, Up to Two Additional I/O Boards	6			
5U, Front Panel with 24 Target LEDs, 12 Operator Control Pushbuttons, and Tri-Color LEDs*	7			

I/O Board Position B For 4U or 5U Chassis

Empty I/O Board Position	0	X
8 Independent Inputs, 13 Standard Form A, 2 Standard Form C Outputs*	1	X
8 Optoisolated Independent Level-Sensitive Inputs, 13 Standard Form A, 2 Standard Form C Outputs*	2	
24 Optoisolated Level-Sensitive Inputs, 8 Outputs[6]*	4	
8 Independent Inputs, 8 High-Speed High-Current Interrupting Form A Outputs*	5	X
8 Independent Inputs, 13 High-Current Interrupting Form A, 2 Standard Form C Outputs*	6	X
8 Optoisolated Independent Level-Sensitive Inputs, 13 High-Current Interrupting Form A, 2 Standard Form C Outputs*	7	

Description		
8 Optoisolated Independent Level-Sensitive Inputs, 8 High-Speed High-Current Interrupting Form A Outputs*	8	
Auxiliary Trip/Close Pushbuttons, 24 Optoisolated Level-Sensitive Inputs, 4 High-Current Interrupting Form A Outputs[8]*	3	A
Auxiliary Trip/Close Pushbuttons, 24 Optoisolated Level-Sensitive Inputs, 4 High-Current Interrupting Form A Outputs[8]*	7	A
Auxiliary Trip/Close Pushbuttons with Guards, 24 Optoisolated Level-Sensitive Inputs, 4 High-Current Interrupting Form A Outputs[7][8]*	3	B
Auxiliary Trip/Close Pushbuttons with Guards, 24 Optoisolated Level-Sensitive Inputs, 4 High-Current Interrupting Form A Outputs[7][8]*	7	B

I/O Board Position B Input Voltage

Description	
User-Settable Pickup Voltage Level (Available only on I/O Board Options 1, 5, and 6)	X
24 Vdc	1
48 Vdc	2
110 Vdc	3
125 Vdc	4
220 Vdc	5
250 Vdc	6

I/O Board Position C For 5U Chassis Only

Description		
Empty I/O Board Position	0	X
8 Independent Inputs, 13 Standard Form A, 2 Standard Form C Outputs*	1	X
8 Optoisolated Independent Level-Sensitive Inputs, 13 Standard Form A, 2 Standard Form C Outputs*	2	
24 Optoisolated Level-Sensitive Inputs, 8 Outputs[6]*	4	
8 Independent Inputs, 8 High-Speed High-Current Interrupting Form A Outputs*	5	X
8 Independent Inputs, 13 High-Current Interrupting Form A, 2 Standard Form C Outputs*	6	X
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 Input Voltage

Description	
User-Settable Pickup Voltage Level (Available only on I/O Board Options 1, 5, and 6)	X
24 Vdc	1
48 Vdc	2

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		3	
110 Vdc		3	
125 Vdc		4	
220 Vdc		5	
250 Vdc		6	

Conformal Coat

None			X
Conformal Coated Circuit Boards*			2

Front Overlay

Standard Front Overlay			X
Bay Control Front Overlay			1

Accessories

Literature		
	Printed Instruction Manual[9]	P M 4 5 1 - 0 2

Wiring Harness		
	Connectorized® Wiring Harness for SEL-451 Relays[10] *	Please see Online MOT or contact SEL REP or CSR for ordering information.

* Additional Cost

[1] Serial Protocols: SEL ASCII, CompressedASCII, Settings FileTransfer, 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/. ACSELERATOR QuickSet on CD (503001WX4) is available upon request.

[3] The LEA Voltage Input option requires Conformal Coating.

[4] 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.

[5] PTP is not available on Ports 5C and 5D.

[6] 18 Common Inputs, 6 Independent Inputs, 6 High-Speed High-Current Interrupting Form A Outputs, 2 Standard Form A Outputs.

[7] The guards help prevent inadvertent operation of the auxiliary Trip/Close pushbuttons. These guards may be ordered separately in a kit (part number 9252001).

[8] Inputs: 6 Independent Level Sensitive Optoisolated and 18 Common Level Sensitive Optoisolated. Outputs: 4 High-Current Interrupting Form A Outputs

[9] This product comes standard with a CD manual. One complimentary printed instruction manual is available upon request with each product purchased.

[10] Specify Connectorized® Wiring Harness WA0421 using WI-2262. The standard option (WA04210BC2A) ships in the same box as the relay. All other options ship in a separate box.

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