# SEL-421-7

Protection, Automation, and Control System with IEC61850-9-2 Sampled Values

| Part Number: | 0 | 4 | 2 | 1 | 7 | | | X | | | 0 | 0 | X | | | | | | | | | | | X | X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Firmware** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Standard 421 Protection plus Sub-cycle Elements, Series Compensation Logic, and Full Automation | | | | | 7 | | | | | | | | | | | | | | | | | | | | |
| **Connector Type** | | | | | | | | | | | | | | | | | | | | | | | | | |
| None[1](SV Subscriber) | | | | | | X | X | | | | | | | E | | | 4 | | | X | X | X | X | | |
| Screw Terminal (SV Publisher)* | | | | | | 1 | | | 3 | | | | | D | | | | | | | | | | | |
| Connectorized®(SV Publisher)[7]* | | | | | | 2 | | | 3 | | | | | D | | | | | | | | | | | |
| **Secondary Current Inputs** | | | | | | | | | | | | | | | | | | | | | | | | | |
| None (SV Subscriber) | | | | | | X | X | | | | | | | E | | | | | | | | | | | |
| 1 A (SV Publisher) | | | | | | | 1 | | | | | | | D | | | | | | | | | | | |
| 5 A (SV Publisher) | | | | | | | 5 | | | | | | | D | | | | | | | | | | | |
| **Secondary Voltage Inputs and Conformal Coat** | | | | | | | | | | | | | | | | | | | | | | | | | |
| None (SV Subscriber) | | | | | | | | | X | | | | | E | | | | | | | | | | | |
| None With Conformally Coated Circuit Boards (SV Subscriber)[2]* | | | | | | | | | 1 | | | | | E | | | | | | | | | | | |
| 300 V Phase Neutral With Conformally Coated Circuit Boards (SV Publisher)* | | | | | | | | | 3 | | | | | D | | | | | | | | | | | |
| **Power Supply** | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48-125 Vdc or 110-120 Vac | | | | | | | | | | 4 | | | | | | | | | | | | | | | |
| 125-250 Vdc or 110-240 Vac | | | | | | | | | | 6 | | | | | | | | | | | | | | | |
| **Ethernet Communications Protocols[3]** | | | | | | | | | | | | | | | | | | | | | | | | | |
| IEC 61850, and IEC 61850-9-2 Publish | | | | | | | | | | | | | | D | | | | | | | | | | | |
| IEC 61850, and IEC 61850-9-2 Subscribe | | | | | | X | X | | | | | | | E | | | | | | | | | | | |
| **Ethernet Connection Options[4]** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Four 10/100BASE-T Connectors | | | | | | | | | | | | | | | 6 | | | | | | | | | | |
| Four 100BASE-FX Connectors* | | | | | | | | | | | | | | | 7 | | | | | | | | | | |
| Two 10/100BASE-T and Two 100BASE-FX Connectors[5]* | | | | | | | | | | | | | | | 8 | | | | | | | | | | |
| **Mounting** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Horizontal Rack Mount | | | | | | | | | | | | | | | | H | | | | | | | | | |
| Horizontal Panel Mount | | | | | | | | | | | | | | | | 3 | | | | | | | | | |
| Vertical Rack Mount | | | | | | | | | | | | | | | | V | | | | | | | | | |
| Vertical Panel Mount | | | | | | | | | | | | | | | | 4 | | | | | | | | | |
| **Chassis** | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4U, One I/O Board | | | | | | | | | | | | | | | | | 4 | | | X | X | X | X | | |
| 5U, Up to Two I/O Boards | | | | | | | | | | | | | | | | | 5 | | | | | X | X | | |
| 6U, Up to Three I/O Boards | | | | | | | | | | | | | | | | | 6 | | | | | | | | |

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### I/O Board Position B for 4U, 5U, 6U Chassis

| | |
|---|---|
| 8 Optoisolated Independent Level-Sensitive Inputs, 13 Standard Form A, 2 Standard Form C Outputs* | 2 |
| 8 Optoisolated Independent Level-Sensitive Inputs, 13 High-Current Interrupting Form A, 2 Standard Form C Outputs* | 7 |
| 24 Optoisolated Level-Sensitive Inputs, 2 Standard and 6 High-Speed High-Current Interrupting Form A Outputs* | C |
| 24 Optoisolated Level-Sensitive Inputs, 8 Standard Form A Outputs* | D |
| 8 Optoisolated Independent Level-Sensitive Inputs, 8 High-Speed High-Current Interrupting Form A Outputs* | E |

### I/O Board Position B Input Voltage

| | |
|---|---|
| 48 Vdc | 2 |
| 110 Vdc | 3 |
| 125 Vdc | 4 |
| 220 Vdc | 5 |
| 250 Vdc | 6 |

### I/O Board Position C for 5U or 6U Chassis

| | |
|---|---|
| Empty I/O Board Position | 0 X X X |
| 8 Optoisolated Independent Level-Sensitive Inputs, 13 Standard Form A, 2 Standard Form C Outputs* | 2 |
| 8 Optoisolated Independent Level-Sensitive Inputs, 13 High-Current Interrupting Form A, 2 Standard Form C Outputs* | 7 |
| 24 Optoisolated Level-Sensitive Inputs, 2 Standard and 6 High-Speed High-Current Interrupting Form A Outputs* | C |
| 24 Optoisolated Level-Sensitive Inputs, 8 Standard Form A Outputs* | D |
| 8 Optoisolated Independent Level-Sensitive Inputs, 8 High-Speed High-Current Interrupting Form A Outputs* | E |

### I/O Board Position C Input Voltage

| | |
|---|---|
| 48 Vdc | 2 |
| 110 Vdc | 3 |
| 125 Vdc | 4 |
| 220 Vdc | 5 |
| 250 Vdc | 6 |

### I/O Board Position D for 6U Chassis Only

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

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| | |
|---|---|
| 24 Optoisolated Level-Sensitive Inputs, 8 Standard Form A Outputs* | D |
| 8 Optoisolated Independent Level-Sensitive Inputs, 8 High-Speed High-Current Interrupting Form A Outputs* | E |

## I/O Board Position D Input Voltage

| | |
|---|---|
| 48 Vdc | 2 |
| 110 Vdc | 3 |
| 125 Vdc | 4 |
| 220 Vdc | 5 |
| 250 Vdc | 6 |

## Accessories

| | | |
|---|---|---|
| Literature | | |
| | Instruction Manual for SEL-421-7 and SEL-400 Series[5] | PM421-KT-02 |
| Wiring Harness | | |
| | Wiring Harness for Connectorized SEL-421[7]* | Please see Online MOT or contact SEL REP or CSR for ordering information. |

* Additional Cost

[1] Sampled values subscriber relays have no analog input boards and instead receive voltages and current through Ethernet
[2] Conformal coat applies to remaining boards in the relay
[3] Other Ethernet communication protocols include: FTP, Telnet, Syncrhophasors, DNP3, and IEC 61850
[4] IEEE Precision Time Protocol (PTP) is only 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] This product comes standard with a CD manual. One complimentary printed instruction manual is available upon request with each product purchased
[7] 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.

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

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