

SEL-787-2, -3, -4 Transformer Protection Relay

Standard Features

- **Protection**
 - Phase Differential Elements
 - Overcurrent
 - Breaker Monitoring
 - Breaker Failure
- **Hardware**
 - 6 AC Current Inputs
 - Slot Z
 - 2 Digital Inputs (DI)
 - Slot A
 - 3 Digital Outputs (DO)
 - Slot A
 - Multimode Fiber ST (Port 2)
 - Slot B
 - IRIG-B Time Code Input
 - Slot B
- **Human Machine Interface (HMI)**
 - Display
 - Programmable Pushbuttons with Two Tri-Color LEDs each
 - 8 Target Tri-Color LEDs (6 Programmable)
 - Operator Control Interface
 - EIA-232 Port (Port F)
 - Multi-language support
- **Protocols**
 - IEEE C37.118 Synchrophasors
 - Modbus RTU
 - SEL ASCII and Compressed ASCII
 - SEL Fast Meter, Fast Operate, Fast SER
 - SEL Fast Message
 - Ymodem File Transfer
 - SEL MIRRORED BITS Communications
 - Event Messenger
- **Other**
 - Instruction Manual CD
 - ACSELEATOR QuickSet SEL-5030 Software
 - User Configurable Labels

Part Number:

| | | | | | | | | | | | | | | | | | | | |
|----------|----------|----------|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 0 | 7 | 8 | 7 | | | | | | | | | | | | | | | | |
|----------|----------|----------|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

Model Options

| | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|---|---|--|--|--|--|--|--|--|--|--|--|--|--|
| Two-Winding Current Differential | | | | | | 2 | X | | | | | | | | | | | | |
| Two-Winding Current Differential, 1 Neutral Current Input | | | | | | 2 | 1 | | | | | | | | | | | | |
| Two-Winding Current Differential, 1 Neutral Current and 3 Voltage Inputs | | | | | | 2 | E | | | | | | | | | | | | |
| Three Winding Current Differential, 1 Neutral Current and 3 Voltage Inputs | | | | | | 3 | E | | | | | | | | | | | | |
| Three Winding Current Differential with Four Voltage Inputs (Phase and Sync/Vbat) | | | | | | 3 | S | | | | | | | | | | | | |
| Four Winding Current Differential | | | | | | 4 | X | | | | | | | | | | | | |

User Interface

| | | | | | | | | | | | | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| English | | | | | | | | | | | | | | | | | | | | E |
| Spanish | | | | | | | | | | | | | | | | | | | | S |

Front Panel

| | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| 2x16 LCD With 8 Pushbuttons | | | | | | | | | | | | | | | | | | | | 0 |
| 5" Color Touchscreen With 8 Pushbuttons | | | | | | | | | | | | | | | | | | | | A |

Slot A Power Supply Voltage | Slot A Digital Input Voltage

| | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|
| 110–250 Vdc (110–240 Vac) 125 Vdc/Vac | | | | | | | | | | | | | | | | | | | | 1 | A |
| 110–250 Vdc (110–240 Vac) 24 Vdc/Vac | | | | | | | | | | | | | | | | | | | | 1 | B |
| 110–250 Vdc (110–240 Vac) 48 Vdc/Vac | | | | | | | | | | | | | | | | | | | | 1 | C |
| 110–250 Vdc (110–240 Vac) 110 Vdc/Vac | | | | | | | | | | | | | | | | | | | | 1 | D |

| | |
|---|-----|
| 4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 110 Vdc/Vac | D D |
| 4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 220 Vdc/Vac | D G |
| 4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 250 Vdc/Vac | D H |
| 4 AI / 4 AO (±20 mA or ±10 V Range) | 6 X |

Slot D | Slot D Digital Input Voltage

o Only one (1) 3 DI / 4 DO / 1 AO card per chassis

o Only one (1) 4 AI / 4 AO card per chassis

| | |
|---|-----|
| Empty | 0 X |
| 3 DI / 4 DO / 1 AO (4-20 mA Range) 125 Vdc/Vac | B A |
| 3 DI / 4 DO / 1 AO (4-20 mA Range) 24 Vdc/Vac | B B |
| 3 DI / 4 DO / 1 AO (4-20 mA Range) 48 Vdc/Vac | B C |
| 3 DI / 4 DO / 1 AO (4-20 mA Range) 110 Vdc/Vac | B D |
| 3 DI / 4 DO / 1 AO (4-20 mA Range) 220 Vdc/Vac | B G |
| 3 DI / 4 DO / 1 AO (4-20 mA Range) 250 Vdc/Vac | B H |
| 4 DI / 4 DO Electromechanical 125 Vdc/Vac | 1 A |
| 4 DI / 4 DO Electromechanical 24 Vdc/Vac | 1 B |
| 4 DI / 4 DO Electromechanical 48 Vdc/Vac | 1 C |
| 4 DI / 4 DO Electromechanical 110 Vdc/Vac | 1 D |
| 4 DI / 4 DO Electromechanical 220 Vdc/Vac | 1 G |
| 4 DI / 4 DO Electromechanical 250 Vdc/Vac | 1 H |
| 4 DI / 4 DO Fast High Current Hybrid 125 Vdc/Vac | C A |
| 4 DI / 4 DO Fast High Current Hybrid 24 Vdc/Vac | C B |
| 4 DI / 4 DO Fast High Current Hybrid 48 Vdc/Vac | C C |
| 4 DI / 4 DO Fast High Current Hybrid 110 Vdc/Vac | C D |
| 4 DI / 4 DO Fast High Current Hybrid 220 Vdc/Vac | C G |
| 4 DI / 4 DO Fast High Current Hybrid 250 Vdc/Vac | C H |
| 8 DO Electromechanical (Form A) | 2 A |
| 8 DO Electromechanical (Form B) | 2 B |
| 8 DO Electromechanical (6 Form A, 2 Form B) | 2 C |
| 8 DO Electromechanical (2 Form A, 6 Form B) | 2 D |
| 8 DO Electromechanical (4 Form A, 4 Form B) | 2 G |
| 8 DI 125 Vdc/Vac | 3 A |
| 8 DI 24 Vdc/Vac | 3 B |
| 8 DI 48 Vdc/Vac | 3 C |
| 8 DI 110 Vdc/Vac | 3 D |
| 8 DI 220 Vdc/Vac | 3 G |
| 8 DI 250 Vdc/Vac | 3 H |

| | | | | |
|--|---|---|---|---|
| 3-Phase / 1-Neutral Rogowski Coil or Low Power Current Transformer (RJ45 inputs), 3-Phase LEA Voltage Sensor (RJ45 inputs)(SELEct 4 ACI / 3 AVI) | 3 | E | L | 2 |
| 3-Phase Rogowski Coil or Low Power Current Transformer (RJ45 inputs), 3-Phase and Vsync Input LEA Voltage Sensor (RJ45 inputs)(SELEct 3 ACI / 4 AVI) | 3 | S | L | 1 |
| 3-Phase 5 Amp AC Current Input / 1 Amp Neutral AC Current Input / 3-Phase AC Voltage (300 Vac) Inputs (SELEct 4 ACI / 3 AVI) | 3 | E | 7 | 3 |
| 3-Phase 1 Amp AC Current Input / 5 Amp Neutral AC Current Input / 3-Phase AC Voltage (300 Vac) Inputs (SELEct 4 ACI / 3 AVI) | 3 | E | 7 | 7 |
| 3-Phase 1 Amp AC Current Input / 3-Phase AC Voltage (300 Vac) and Vsync/Vbat Inputs (300 V) (SELEct 3 ACI / 4 AVI) | 3 | S | 7 | 1 |
| 3-Phase 5 Amp AC Current Input / 3-Phase AC Voltage and Vsync/Vbat Inputs (300 V) (SELEct 3 ACI / 4 AVI) | 3 | S | 7 | 5 |
| 6-Phase AC Current Input (1 Amp Winding 3/1 Amp Winding 4) (SELEct 6 ACI) | 4 | X | A | 1 |
| 6-Phase AC Current Input (1 Amp Winding 3/5 Amp Winding 4) (SELEct 6 ACI) | 4 | X | A | 2 |
| 6-Phase AC Current Input (5 Amp Winding 3/5 Amp Winding 4) (SELEct 6 ACI) | 4 | X | A | 5 |
| 6-Phase Rogowski Coil or Low Power Current Transformer (RJ45 inputs) (SELEct 6 ACI) | 4 | X | L | 0 |

Slot Z Current Inputs

| | | |
|---|---|---|
| 6-Phase AC Current Input (1 Amp Winding 1/1 Amp Winding 2) (SELEct 6 ACI) | 8 | 1 |
| 6-Phase AC Current Input (1 Amp Winding 1/5 Amp Winding 2) (SELEct 6 ACI) | 8 | 2 |
| 6-Phase AC Current Input (5 Amp Winding 1/5 Amp Winding 2) (SELEct 6 ACI) | 8 | 5 |
| 6-Phase Rogowski Coil or Low Power Current Transformer (RJ45 inputs) (SELEct 6 ACI) | L | 0 |

Conformal Coat

| | |
|------------------------------------|---|
| None | 0 |
| Conformally Coated Circuit Boards* | 1 |

Accessories

| | |
|----------------------------|-----------------|
| Literature | |
| Printed Instruction Manual | P M 7 8 7 - 0 2 |

| | | |
|--|--|---------------|
| | Configurable Label Kit for SEL-710-5, SEL-751, SEL-787-2, -3, -4, SEL-700BT, SEL-787L, SEL-787Z and 8 PB SEL-700G (2 Sheets)* | 9 2 6 0 1 3 6 |
| | Configurable Label Kit for SEL-710-5, SEL-751, SEL-787-2, -3, -4, SEL-700BT, SEL-787L, SEL-787Z and 8 PB SEL-700G (25 Sheets)* | 9 2 6 0 1 3 7 |

SEL Cables

| | | |
|--|---|---|
| | SEL-C222 Serial Cable for Modem (RS-232, DTE-DCE, DB9 M/DB25 M, Hardware Flow Control)* | Please see Online MOT or contact SEL REP or CSR for ordering information. |
| | SEL-C227A Serial Cable for PC (RS-232, DTE-DTE, DB9 M/DB25 F, Hardware Flow Control)* | Please see Online MOT or contact SEL REP or CSR for ordering information. |
| | SEL-C234 Serial Cable (RS-232, DTE-DTE, DB9 M/DB9 F)* | Please see Online MOT or contact SEL REP or CSR for ordering information. |
| | SEL-C272 Serial Cable (RS-232, DTE-DTE, DB9 M/DB9 M, Hardware Flow Control)* | Please see Online MOT or contact SEL REP or CSR for ordering information. |
| | SEL-C273 Serial Cable (RS-232, DTE-DTE, DB9 M/DB9 M, IRIG-B)* | Please see Online MOT or contact SEL REP or CSR for ordering information. |
| | SEL-C805 200 μm Multimode Fiber-Optic Cable (configurable length)* | Please see Online MOT or contact SEL REP or CSR for ordering information. |
| | SEL-C807 62.5/200μm Multimode Fiber-Optic Cable (configurable length)* | Please see Online MOT or contact SEL REP or CSR for ordering information. |
| | SEL-C808 62.5/125 μm Multimode Fiber-Optic Cable* | Please see Online MOT or contact SEL REP or CSR for ordering information. |
| | SEL-CA605 CAT5e, Shielded Twisted Pair (STP) Ethernet Cable* | Please see Online MOT or contact SEL REP or CSR for ordering information. |

Additional Information

- Base unit includes slots A, B (EIA-232), Z, HMI, and Front EIA-232 Port.
- The protocols SNMP, IEEE 1588-2008 firmware-based PTP and Modbus TCP are included in the standard offering with Single Ethernet option.
- The protocols SNMP, IEEE 1588-2008 firmware-based PTP, PRP, Rapid Spanning Tree Protocol (RSTP), and Modbus TCP are included in the standard offering with Dual Ethernet option.

- DNP3 LAN/WAN are included with DNP3 and Ethernet options.
- Download ACSELEATOR QuickSet SEL-5030 software for free at <https://www.selinc.com/software/solutions/>. ACSELEATOR QuickSet on CD (503001WX4) is available upon request.
- The SEL-787-2,-3,-4 comes standard with a CD manual. One complimentary printed instruction manual is available upon request with each product purchased.
- A configuration kit is provided for the front panel configurable labels (packaged in the shipping box). For additional kits, order SEL part number 9260136 (2 Sheet Kit) or 9260137 (25 Sheet Kit).
- For additional remote I/O capability, order SEL-2505 Remote I/O Module that is SEL-2812 compatible (ST option only).
- Order external AC powered RTD module SEL-2600A or external DC powered RTD module SEL-2600D using WI-5997 to interface remote external resistive temperature devices (RTD) or use internal RTD inputs option in Slot D.
- The SEL-787-2,-3,-4 option cards are orderable separately for field installation. Use WI-12174 and contact your SEL representative to order option cards.
- For relay wire termination kits, please see Application Note AN2014-08 on the SEL website or contact SEL REP or CSR for ordering information.
- For SEL-787-2,-3,-4 Mounting Accessories including adapter plates, dust protectors, etc go to <https://selinc.com/applications/mountingselector/>.
- ACSELEATOR Bay Screen Builder SEL-5036 software is available with touchscreen models.
- All Digital Outputs are Form-A unless noted otherwise.

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

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