

Automation and Computing Platform Accessories



Accessories for Automation

Completing an automation solution requires more than automation and computing platforms. SEL provides peripherals, components, cables, and adapters essential for the completion and success of automation projects.



Peripherals

Rack-Mount Keyboards

These keyboards provide a convenient, reliable input device that can be stowed in the rack when not in use. Made for 19" rack-mount installations, they require only 1 rack unit of space.

Rack-Mount USB Keyboard With Mouse

- Model: Synergy Global LCDK1034-bk-U-MS
- Input Devices: 88-key keyboard, optical mouse
- Interface: 2 USB ports (keyboard, mouse)
- Cables Included: 2 USB (keyboard, mouse)
- Mounting Depth: 23" min.
- Operating Temperature: 0° to 50°C (32° to 122°F)
- Warranty: 1 year (manufacturer)
- Details: www.rackmountmart.com/rmLCD/lcdK1034.htm



91610050: USB Keyboard With Mouse

Rack-Mount USB Keyboard With Trackball

- Model: Synergy Global LCDK1016-bu-V5
- Input Devices: 104-key keyboard, 3-button trackball
- Interface: 2 USB ports (keyboard, trackball)
- Cables Included: Single cable with 2 USB plugs
- Mounting Depth: 16" min.
- Operating Temperature: 0° to 50°C (32° to 122°F)
- Warranty: 1 year (manufacturer)
- Details: www.rackmountmart.com/rmLCD/lcdK1016.htm



91610049: USB Keyboard With Trackball

Part Number	Description
91610050	Rack-mount USB keyboard with mouse
91610049	Rack-mount USB keyboard with trackball

Touchscreen Monitors

These touchscreen monitors provide a high-quality display and user-friendly touch interface for your automation applications. Their PCAP (capacitive) touch interface has multitouch capability, with a scratch-resistant glass surface and drift-free accuracy.

The touchscreen monitors are designed for panel mounting, but they can also be mounted in a 19" rack using the rack-mount brackets.

The touchscreen kits include a touchscreen monitor, rack-mount bracket, DisplayPort cable, and power supply.

19" Touchscreen Monitor

- Model: ELO 1991L, PCAP, P/N E331019
- Display: 19" diagonal 5:4, active matrix TFT LCD (LED)
- Resolution: 1280 × 1024 @ 60 Hz
- Details: www.elotouch.com/open-frame-touchscreens-1991l.html

19.5" Touchscreen Monitor

- Model: ELO 2094L, PCAP, P/N E331214
- Display: 19.5" diagonal 16:9 (widescreen), active matrix TFT LCD (LED)
- Resolution: 1920 × 1080 @ 60 Hz
- Details: www.elotouch.com/open-frame-touchscreens-2094l.html

19" and 19.5" Touchscreen Monitor Specifications

- Brightness: 225 nits
- Input Power: 12 Vdc, 17 W
- Video Inputs: HDMI, VGA, DisplayPort
- Touch Interface: USB
- Cables Included: HDMI, VGA, USB, RJ45 OSD remote
- Operating Temperature: 0° to 40°C (32° to 104°F)
- MTBF: 50,000 hours
- Warranty: 3 years (manufacturer)

19" Touchscreen Rack-Mount Bracket

- Dimensions: 19.00" × 15.72" × 1.25" (19" rack, 9 rack units, 0.13" protrusion)
- Material: aluminum with textured semigloss black finish

19.5" Touchscreen Rack-Mount Bracket

- Dimensions: 19.70" × 12.00" × 1.50" (19" rack, 7 rack units, 1.50" protrusion)
- Material: aluminum with brushed black anodized finish

Power Supply

- Model: Wall Industries DTA-080A4 series
- Input Voltage Range: 90–264 Vac (47–63 Hz), 100–300 Vdc[†]
- Output Power: 12 Vdc, 80 W
- Output Connector: 5.5 mm barrel jack, center positive
- Cables Included: 7.5' NEMA 5-15P to IEC C13 line cord
- Operating Temperature: 0° to 40°C (32° to 104°F)
- MTBF: >120,000 hours
- Warranty: 2 years (manufacturer)
- Details: www.wallindustries.com/products/ac-series/dta-080a4

[†]Power supply label lists ac ratings only; however, dc sources are also supported.



900-0048: 19" Touchscreen Monitor



900-0046-P09: 19" Touchscreen Rack-Mount Bracket



91610073: 19.5" Touchscreen Monitor



91610074: 19.5" Touchscreen Rack-Mount Bracket

Part Number	Description
91610054	19" Touchscreen kit (includes 900-0048, 900-0046-P09, 91610070, and 91610051)
900-0048	19" Touchscreen monitor (panel-mount)
900-0046-P09	19" Touchscreen rack-mount bracket
91610072	19.5" Touchscreen kit (includes 91610073, 91610074, 91610070, and 91610051)
91610073	19.5" Touchscreen monitor (panel-mount)
91610074	19.5" Touchscreen rack-mount bracket
91610051	Power supply
91610070	DisplayPort 1.2 M/M cable with ferrite chokes, black, 6 ft

Components

Memory Modules (RAM)

You can field-upgrade the system memory (RAM) on rack-mount computing platforms and Real-Time Automation Controllers (RTACs) like the SEL-3355 and the SEL-3555 RTAC. Surface-mount platforms like the SEL-3360 and the SEL-3560 RTAC must be returned to the factory for RAM upgrades.

The SEL-3355 and SEL-3555 (both the base and the -2 models) have two memory module slots. The number of slots currently in use depends on the configuration; systems with 4 GB of RAM only have one slot in use, and systems with greater than 4 GB may use one or two slots. Check your system configuration before purchasing additional modules, as upgrading may require removal of lower-capacity modules to make room for higher-capacity ones. Refer to the product instruction manual for instructions.

DDR3 RAM

- Applicable Models: SEL-3355, SEL-3555 (Intel Core i7 CPU)
- Type: 244-pin DDR3 error-correcting code (ECC) mini-DIMM
- Speed: PC3-10600 (1,333 MHz)

DDR4 RAM

- Applicable Models: SEL-3355-2, SEL-3555-2 (Intel Xeon CPU)
- Type: 288-pin DDR4 ECC mini-DIMM
- Speed: PC4-17000 (2,133 MHz)

General

- Operating Temperature: -40° to +85°C (-40° to +185°F)
- Conformal Coating: Yes
- Warranty: 10 years (SEL)



Memory Module

Part Number	Description
91611001-01C	Memory, 4 GB DDR3 RAM
91611001-02C	Memory, 8 GB DDR3 RAM
91611018-01	Memory, 4 GB DDR4 RAM
91611018-02	Memory, 16 GB DDR4 RAM
91611018-03*	Memory, 32 GB DDR4 RAM

*Note: Only compatible with systems with serial number higher than 1203260001. Contact SEL to upgrade older systems to support 32 GB RAM modules.

Solid-State Drives (SSDs)

Add storage capacity and/or redundancy to your SEL automation and computing platforms by installing additional SSDs. To learn about single-level cell (SLC), pseudo-SLC (pSLC), and 3D triple-level cell (3D TLC) SSDs, read the application note AN2016-03, "Determining Solid-State Drive (SSD) Lifetimes for SEL Computing Platforms," on the SEL website.

SLC SSDs

- Endurance: 100,000 program/erase cycles
- Operating Temperature: -40° to +85°C (-40° to +185°F)
- Conformal Coating: Yes
- Warranty: 10 years (SEL)

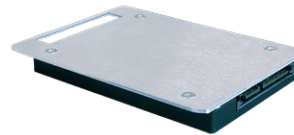
Part Number	Description
91610055	SEL-3350 empty SSD sled
91610059	SEL-3350 SSD, 32 GB SLC w/ sled
91610060	SEL-3350 SSD, 64 GB SLC w/ sled
91610061	SEL-3350 SSD, 128 GB SLC w/ sled
91610062	SEL-3350 SSD, 256 GB SLC w/ sled
91610063	SEL-3350 SSD, 120 GB pSLC w/ sled
91610064	SEL-3350 SSD, 240 GB pSLC w/ sled
91610065	SEL-3350 SSD, 480 GB pSLC w/ sled
91610066	SEL-3350 SSD, 240 GB 3D TLC w/ sled
91610067	SEL-3350 SSD, 480 GB 3D TLC w/ sled
91610068	SEL-3350 SSD, 960 GB 3D TLC w/ sled
91610069	SEL-3350 SSD, 1,920 GB 3D TLC w/ sled
91611002-00	SEL-3355 empty SSD sled
91611002-01C	SEL-3355 SSD, 32 GB SLC w/ sled
91611002-02C	SEL-3355 SSD, 64 GB SLC w/ sled
91611002-03C	SEL-3355 SSD, 128 GB SLC w/ sled
91611002-04C	SEL-3355 SSD, 256 GB SLC w/ sled
91611013-03C	SEL-3355 SSD, 120 GB pSLC w/ sled
91611013-02C	SEL-3355 SSD, 240 GB pSLC w/ sled
91611013-01C	SEL-3355 SSD, 480 GB pSLC w/ sled
91611016-01	SEL-3355 SSD, 240 GB 3D TLC w/ sled
91611016-02	SEL-3355 SSD, 480 GB 3D TLC w/ sled
91611016-03	SEL-3355 SSD, 960 GB 3D TLC w/ sled
91611016-04	SEL-3355 SSD, 1,920 GB 3D TLC w/ sled

pSLC SSDs

- Endurance: 20,000 program/erase cycles
- Operating Temperature: -40° to +85°C (-40° to +185°F)
- Conformal Coating: Yes
- Warranty: 5 years (SEL)

3D TLC SSDs

- Endurance: 3,000 program/erase cycles
- Operating Temperature: -40° to +85°C (-40° to +185°F)
- Conformal Coating: Yes
- Warranty: 5 years (SEL)



SEL-3355 SSD With Sled



91611002-00: SEL-3355 SSD Sled



91611010-00: SEL-3360 SSD Sled

Part Number	Description
91611010-00	SEL-3360 empty SSD sled
91611010-01C	SEL-3360 SSD, 32 GB SLC w/ sled
91611010-02C	SEL-3360 SSD, 64 GB SLC w/ sled
91611010-03C	SEL-3360 SSD, 128 GB SLC w/ sled
91611010-04C	SEL-3360 SSD, 256 GB SLC w/ sled
91611015-03C	SEL-3360 SSD, 120 GB pSLC w/ sled
91611015-02C	SEL-3360 SSD, 240 GB pSLC w/ sled
91611015-01C	SEL-3360 SSD, 480 GB pSLC w/ sled
91611017-01	SEL-3360 SSD, 240 GB 3D TLC w/ sled
91611017-02	SEL-3360 SSD, 480 GB 3D TLC w/ sled
91611017-03	SEL-3360 SSD, 960 GB 3D TLC w/ sled
91611017-04	SEL-3360 SSD, 1,920 GB 3D TLC w/ sled

Power Supplies

The SEL-9331 Power Supply is a high-output +12 Vdc, 200 W fanless power supply designed for the SEL line of automation and computing platforms and can also be configured as a general-purpose standalone power supply module. Capable of producing 11 A of continuous current (from -40° to +85°C [-40° to +185°F]) and 17 A of maximum current, the SEL-9331 can provide ample power in environments where many supplies cannot.

The SEL-9325 is a power supply module for the SEL-3350 platform with 3U chassis configuration only; it cannot be used as a stand-alone power supply.

SEL-9331A High-Voltage, Input

- DC Voltage Rating: 125/250 Vdc
- DC Range: 100–300 Vdc
- AC Voltage Rating: 120/220/240 Vac; 50/60 Hz
- AC Range: 85–264 Vac, 45–64 Hz

SEL-9331B Low-Voltage, Input

- DC Voltage Rating: 48 Vdc
- DC Voltage Range: 38–58 Vdc

SEL-9331A/B, Output

- Nominal Output Voltage: 12.1 Vdc
- Max Output Current: 17 A @ 40°C (104°F), 11 A @ 85°C (185°F)

SEL-9325A001 High-Voltage, Input

- DC Voltage Rating: 125–250 Vdc
- DC Range: 85–300 Vdc
- AC Voltage Rating: 110–240 Vac; 50/60 Hz
- AC Range: 85–264 Vac, 30–120 Hz

SEL-9325A002 Medium-Voltage, Input

- DC Voltage Rating: 48–125 Vdc
- DC Range: 38–140 Vdc
- AC Voltage Rating: 110–120 Vac; 50/60 Hz
- AC Range: 85–140 Vac, 30–120 Hz

SEL-9325A003 Low-Voltage, Input

- DC Voltage Rating: 24–48 Vdc
- DC Range: 16–60 Vdc

SEL-9325A001/2/3, Output

- Max Burden: 62 W, 150 VA

General

- Operating Temperature: -40° to +85°C (-40° to +185°F)
- Conformal Coating: Yes (optional)
- Warranty: 10 years (SEL)

Details: selinc.com/products/9331

Details: selinc.com/products/3350

Part Number	Description
Configure Online*	SEL-9331 Power Supply
91611011-01	SEL-9331 wall-/panel-mount conversion kit
91611011-02	SEL-9331 DIN rail-mount conversion kit
9325A001	SEL-9325 Power Supply, high-voltage
9325A001C	SEL-9325 Power Supply, high-voltage, conformal coating
9325A002	SEL-9325 Power Supply, medium-voltage
9325A002C	SEL-9325 Power Supply, medium-voltage, conformal coating
9325A003	SEL-9325 Power Supply, low-voltage
9325A003C	SEL-9325 Power Supply, low-voltage, conformal coating

*Configure at selinc.com/products/configure/9331.



SEL-9331 Module for SEL-3355



SEL-9331 With Wall/Panel Mount



SEL-9331 With DIN Rail Mount



SEL-9331 With IEC C14 Input

Expansion Cards

SEL-3390 PCI Express (PCIe) Expansion Cards are designed, built, and tested for use in harsh industrial and substation environments, providing a wide operating temperature range and immunity to ESD, shock, and vibration. They can also be ordered with conformal coating for corrosion immunity. These expansion cards are PCIe-compliant and have a standard PCIe form factor, so they are compatible with most PCIe-compliant automation controllers, computers, and servers.

SEL-3390S8 Serial Adapter Card

- Ports: Six EIA-232/422/485 serial, up to 921 kbps
- Features: IRIG-B input/output, +5 V dc port power
- Conformal Coating: Yes (optional)
- Details: selinc.com/products/3390S8

SEL-3390E4 Ethernet Adapter Card

- Ports: Four 10/100/1000 Mbps Ethernet
- Features: Optional RJ45 copper or small form-factor pluggable (SFP) fiber ports
- Conformal Coating: Yes (optional)
- Details: selinc.com/products/3390E4

SEL-3390T Time and Ethernet Adapter Card

- Ports: IRIG-B BNC input and output, two 10/100/1000 Mbps Ethernet
- Features: Optional RJ45 copper or small form-factor pluggable (SFP) fiber ports
- Conformal Coating: Yes (optional)
- Details: selinc.com/products/3390T

Small Form-Factor Pluggable (SFP) Modules

Details: selinc.com/products/sfp

General

- Operating Temperature: -40° to +85°C (-40° to +185°F)
- Warranty: 10 years (SEL)



SEL-3390S8 Serial Adapter Card



SEL-3390E4 Ethernet Adapter Card



SEL-3390T Time and Ethernet Adapter Card



SFP Modules

Part Number	Description
3390S8A001	SEL-3390S8
3390S8A001C	SEL-3390S8, conformal coating
3390E4A001	SEL-3390E4, 4 RJ45
3390E4A001C	SEL-3390E4, 4 RJ45, conformal coating
3390E4A002	SEL-3390E4, 2 RJ45 + 2 SFP
3390E4A002C	SEL-3390E4, 2 RJ45 + 2 SFP, conformal coating
3390E4A003	SEL-3390E4, 4 SFP
3390E4A003C	SEL-3390E4, 4 SFP, conformal coating
3390TA001	SEL-3390T, 2 RJ45
3390TA001C	SEL-3390T, 2 RJ45, conformal coating
3390TA002	SEL-3390T, 1 RJ45 + 1 SFP
3390TA002C	SEL-3390T, 1 RJ45 + 1 SFP, conformal coating
3390TA003	SEL-3390T, 2 SFP
3390TA003C	SEL-3390T, 2 SFP, conformal coating

Part Number	Description
8104-01	SFP, 100BASE-LX, 20 km
8104-02	SFP, 100BASE-EX, 50 km
8104-03	SFP, 100BASE-ZX, 80 km
8104-04	SFP, 100BASE-ZX, 120 km
8104-05	SFP, 100BASE-ZX, 160 km
8109-01	SFP, 100BASE-FX, 2 km
8130-01	SFP, 1000BASE-LX, 10 km
8130-02	SFP, 1000BASE-LX, 20 km
8130-03	SFP, 1000BASE-LX, 30 km
8130-04	SFP, 1000BASE-LX, 40 km
8130-05	SFP, 1000BASE-XD, 50 km
8130-06	SFP, 1000BASE-ZX, 80 km
8131-01	SFP, 1000BASE-SX, 300–500 m

Cables and Adapters

Reliably connect SEL products to other devices, including relays, information processors, automation controllers, computers, I/O modules and controllers, meters, digital fault recorders (DFRs), programmable logic controllers (PLCs), remote terminal units (RTUs), time clocks, phone switches, and modems.

The cables and adapters listed here are specific to SEL automation and computing platforms. For additional general-purpose cables and adapters, see the SEL website.



91610029: Internal USB Adapter



91611005-01: Panel-Mount Conversion Kit for SEL-3355



91610070: DisplayPort 1.2 M/M Cable With Ferrite Chokes, Black, 6 ft



91611007-01: Line Cord, Euro Connector

Accessory Cables and Adapters

Part Number	Description
91610070	DisplayPort 1.2 M/M cable with ferrite chokes, black, 6 ft
91610029	Internal USB adapter for SEL-3355/3360
91611005-01	Panel-mount conversion kit for SEL-3355
91610056	Panel-mount conversion kit for SEL-3350 1U
91610057	Rack-mount conversion kit for SEL-3350 1U
91611019-01	Panel-mount conversion kit for SEL-3350 3U
91611007-01	Line cord for SEL-3355/3360/9331, 8 ft, Euro connector
91611007-02	Line cord for SEL-3355/3360/9331, 8 ft, IEC C13 connector
91610058	Line cord for the SEL-3350, 6 ft

Data Cables

- Lengths available are subject to change; please check online.
- P/N includes length in feet: n = 1–6, nnn = 001–100 (except where otherwise noted)
- Details: selinc.com/products/cables

Part Number	Description
C477-nnn ¹	SEL-3390S8 to DB-9 M, EIA-485 GE DNP
C478A-n	SEL-3390S8 to DB-9 F, DTE-DCE
C478N-n	SEL-3390S8 to DB-9 F + BNC, DTE-DCE, IRIG
C605-n	SEL-3390S8 to DB-9 M, DTE-DTE, IRIG, +5 Vdc
C605A-nnn	SEL-3390S8 to DB-9 M, DTE-DTE, IRIG
C605R-nnn	SEL-3390S8 to DB-9 M, DTE-DTE, IRIG, 2x shield
C607-nnn ²	SEL-3390S8 to tinned wires (EIA-422/485)
C616-nnn	SEL-3390S8 to DB-9 M, DTE-DCE (modem)
C629A-nnn	SEL-3390S8 to RJ45, DTE-DTE, IRIG
C629R-nnn	SEL-3390S8 to RJ45, DTE-DTE, IRIG, 2x shield
C659-nnn	SEL-3390S8 to DB-9 M + BNC, DTE-DTE, IRIG
C972-nnn ³	SEL-3390S8 to BNC, IRIG
CA605	RJ45 Cat 5e Ethernet (configure online)
C808	LC fiber, multimode (configure online)
C809	LC fiber, single-mode (configure online)

¹Maximum orderable length is 150 feet.

²Maximum orderable length is 330 feet.

³Maximum orderable length is 130 feet.



C616: 3390S8 to DB-9 M Serial Cable



CA605: RJ45 Cat 5e Ethernet Cable



C809: LC Fiber, Single-Mode Cable



Ordering and Customer Support

Online Configuration and Ordering

Configure products to meet your exact application needs and order them online with an SEL account. Once logged in, select "Configure and Order" on a product webpage to choose from available model options, including items like power supply voltages, inputs and outputs, communications ports and protocols, and conformal coating. Save individual products to your cart, create projects to house specific product orders, and request a quote—all online. For products that do not require configuration or have been identified as common product configurations, select "Popular Models" on a product webpage to quickly and easily find the model you want.

Ordering Support

Our sales representatives and customer service teams are always happy to answer questions and help configure the right SEL solution for your application. Visit selinc.com/support for regional sales contact information.

Popular Models

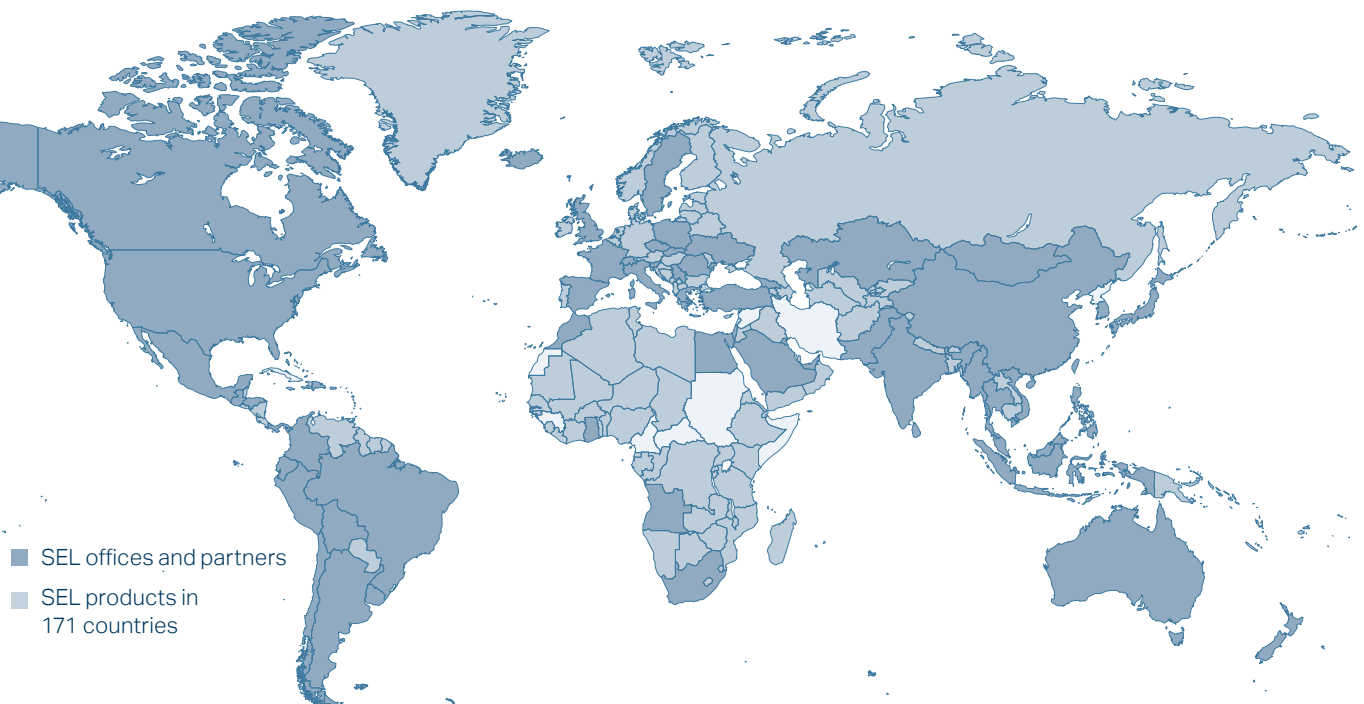
The Popular Models program makes selecting and ordering SEL products simple, fast, and convenient. SEL popular models are products preconfigured for popular applications and available for many SEL devices. Specific popular models may ship from stock. When available, the popular model configurations are displayed on the related SEL product webpage, where you can also view their technical details and popular applications. You can order these models directly from SEL or through your SEL sales representative.

Local Support. Global Expertise.

Whether it's grid modernization in the Philippines or an ambitious offshore wind integration project in Belgium, our global engineering experts have helped projects in regions like yours succeed. And with local support from technical staff in your region, you can count on us to help your successes continue.

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