

# AUTOMATION CONTROLLER PLATFORM ACCESSORIES



# **Accessories for Automation**

Completing an automation solution requires more than automation controllers. 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

# 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

P/N	Description
91610050	Rack-mount USB keyboard with mouse
91610049	Rack-mount USB keyboard with trackball



91610050: USB Keyboard With Mouse



91610049: USB Keyboard With Trackball

## **Touch Monitor**

This touch monitor provides a high-quality display and user-friendly touch interface for your automation applications. The PCAP (capacitive) touch interface has multitouch capability, with a scratch-resistant glass surface and drift-free accuracy.

The touch monitor is designed for panel mounting, but it can also be mounted in a 19" rack using the rack-mount bracket. The touchscreen monitor kit includes the touch monitor, rack-mount bracket, and power supply.

#### **Touch Monitor**

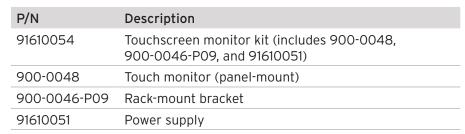
- Model: ELO 1991L, PCAP, P/N E331019
- Display: 19" diagonal active matrix TFT LCD (LED)
- Resolution: 1280 × 1024 @ 60 Hz
- Brightness: 225 nits
- Input Power: 12 Vdc, 17 W
- · Video Inputs: HDMI, VGA, DisplayPort
- · Touch Interface: USB
- · Cables Included: HDMI, DisplayPort,\* VGA, USB, RJ45 OSD remote
- Operating Temperature: 0° to 40°C (32° to 104°F)
- MTBF: 50,000 hours
- Warranty: 3 years (manufacturer)
- Details: www.elotouch.com/1991l-revb.html

#### Rack-Mount Bracket

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

# **Power Supply**

- Model: Wall Industries DTA-080A4 series
- Input Voltage Range: 90–264 Vac (47–63 Hz), 100–300 Vdc<sup>†</sup>
- 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



<sup>\*</sup>DisplayPort cable is included in the power supply package.



900-0048: Touch Monitor



900-0046-P09: Rack-Mount Bracket



91610051: Power Supply

<sup>&</sup>lt;sup>†</sup>Power supply label shows ac ratings only; however, dc sources are also supported.

# Components

# Memory Modules (RAM)

You can field-upgrade the system memory (RAM) on rack-mount automation controllers and automation platforms like the SEL-3355 Automation Controller and SEL-3555 Real-Time Automation Controller (RTAC). Surface-mount platforms like the SEL-3360 Compact Automation Controller and 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 highercapacity ones. Refer to the product instruction manual for instructions.



Memory Modules

#### 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)

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

P/N	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		

# **Solid-State Drives (SSDs)**

Add storage capacity and/or redundancy to your SEL automation controllers by installing additional SSDs. To learn about single-level cell (SLC), multilevel cell (MLC), and industrial MLC (iMLC) SSDs, read the application note "Determining Solid-State Drive (SSD) Lifetimes for SEL Rugged Computers" on the SEL website.

#### **SLC SSDs**

• Endurance: 100,000 program/erase cycles

• Operating Temperature: -40° to +85°C (-40° to +185°F)

Conformal Coating: YesWarranty: 10 years (SEL)

# iMLC SSDs

• Endurance: 20,000 program/erase cycles

• Operating Temperature: -40° to +85°C (-40° to +185°F)

Conformal Coating: YesWarranty: 5 years (SEL)

#### MLC SSDs

• Endurance: 3,000 program/erase cycles

• Operating Temperature: 0° to 60°C (32° to 140°F)

Conformal Coating: NoWarranty: 3 years (SEL)



SEL-3355 SSD With Sled



91611002-00: SEL-3355 SSD Sled



91611010-00: SEL-3360 SSD Sled

P/N	Description
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 iMLC w/ sled
91611013-02C	SEL-3355 SSD, 240 GB iMLC w/ sled
91611013-01C	SEL-3355 SSD, 480 GB iMLC w/ sled
91611016-01	SEL-3355 SSD, 240 GB MLC w/ sled
91611016-02	SEL-3355 SSD, 480 GB MLC w/ sled
91611016-03	SEL-3355 SSD, 960 GB MLC w/ sled
91611016-04	SEL-3355 SSD, 1,920 GB MLC w/ sled

P/N	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 iMLC w/ sled
91611015-02C	SEL-3360 SSD, 240 GB iMLC w/ sled
91611015-01C	SEL-3360 SSD, 480 GB iMLC w/ sled
91611017-01	SEL-3360 SSD, 240 GB MLC w/ sled
91611017-02	SEL-3360 SSD, 480 GB MLC w/ sled
91611017-03	SEL-3360 SSD, 960 GB MLC w/ sled
91611017-04	SEL-3360 SSD, 1,920 GB MLC w/ sled

# **Power Supplies**

The SEL-9331 Power Supply is a high-output +12 Vdc, 200 W fanless power supply designed for SEL's line of industrial automation controllers and is powerful enough to meet the needs of many other applications. 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. High-voltage (120/240 Vac or 125/250 Vdc) and low-voltage (48 Vdc) models enable use with a wide range of power sources.

# Input Power—High-Voltage Models (SEL-9331A)

• 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

# Input Power—Low-Voltage Models (SEL-9331B)

• DC Voltage Rating: 48 Vdc

• DC Voltage Range: 38-58 Vdc

## Output Power—All Models

Nominal Output Voltage: 12.1 Vdc

Max Output Current: 17 A @ 40°C (104°F), 11 A @ 85°C (185°F)

#### General

• Operating Temperature: -40° to +85°C (-40° to +185°F)

• Conformal Coating: Yes (optional)

• Warranty: 10 years (SEL)

• Details: selinc.com/products/9331

P/N	Description		
Configure Online*	SEL-9331 Power Supply		
91611011-01	Wall-/panel-mount conversion kit		
91611011-02	DIN rail-mount conversion kit		

<sup>\*</sup>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 comply with the PCIe form factor and can also be installed in other PCIe-compliant automation controllers or 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 Network 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

# 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



SFP Modules for SEL-3390E4

P/N	Description
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

# **Enclosure**

# SEL-3355/3555 Secure Desktop Enclosure

Protect your SEL automation controllers and appliances from tampering with this secure desktop enclosure. The metal enclosure blocks access to all ports on the front and all cabling at the rear of the controller. The clamshell design makes installing the controller into the enclosure a simple, tool-free process, and securing it is as simple as adding a padlock. A rear cable opening with a slide-and-lock panel provides clean and secure cable management. Rubber feet protect the desktop surface, and two bolt holes in the bottom of the enclosure enable secure attachment to the desktop.



Dimensions: 19.75" × 15.50" × 6.125"

• Material: Aluminum with semigloss gray finish

P/N	Description
91620020	SEL-3355/3555 Secure Desktop Enclosure







91620020: SEL-3355/3555 Secure Desktop Enclosure

# Cables and Adapters

# **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 controllers and automation platforms. For additional general-purpose cables and adapters, see the SEL website.

#### 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

P/N	Description
91610070	DisplayPort 1.2 M/M cable with ferrite chokes, black, 6 ft
91610029	Internal USB adapter for SEL-3300 series
91611005-01	Panel-mount conversion kit for SEL-3355
91611007-01	Line cord, Euro connector
91611007-02	Line cord, IEC C13 connector
91610058	Line cord for the SEL-3350, 6 ft
C477-nnn¹	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-nnn²	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-nnn³	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)

'Maximum orderable length is 150 feet.

3 Maximum orderable length is 130 feet.

<sup>2</sup>Maximum orderable length is 330 feet.



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

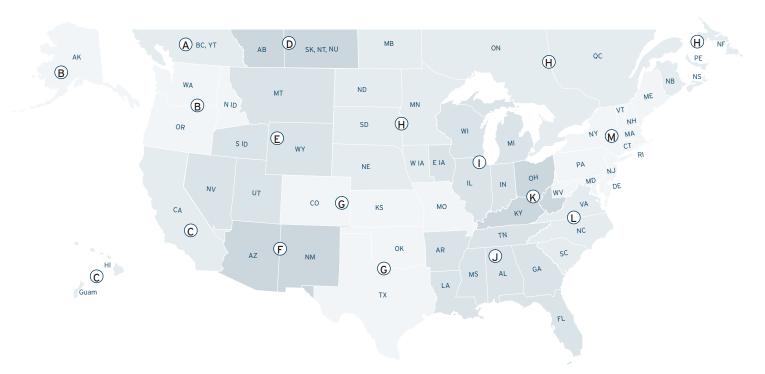


91611007-01: Line Cord, Euro Connector



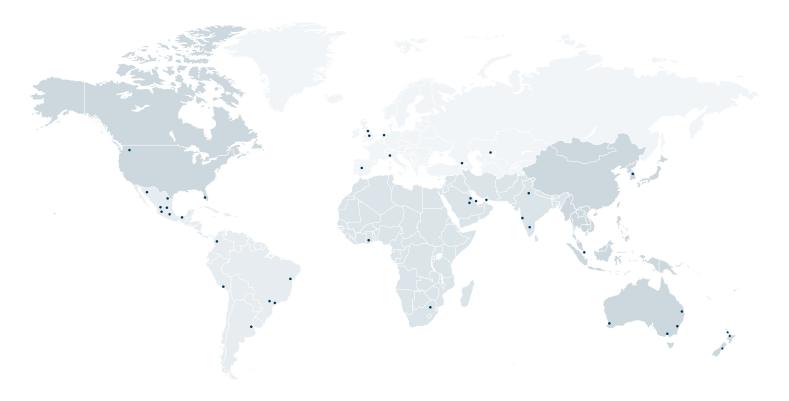
C616: 3390S8 to DB-9 M Serial Cable

# Ordering and Customer Support



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