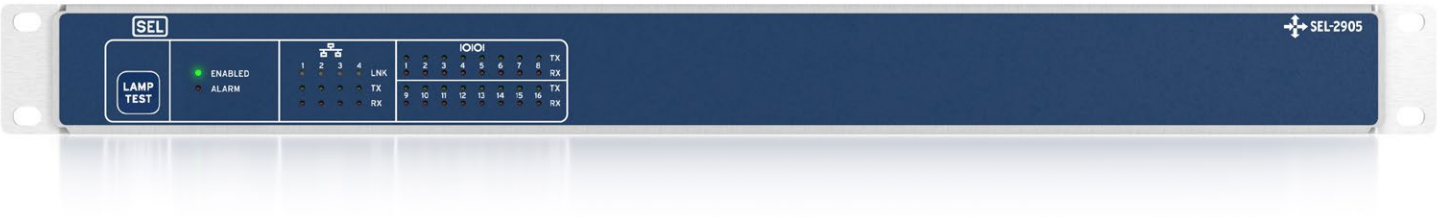
# SEL-2905

## Serial Port Expander




## Scale serial connections without adding IP-reachable devices

- Expand serial capacity for an SEL Real-Time Automation Controller (RTAC) or an SEL Port Server to 96 ports.
- Reduce the number of networked assets to manage by using a nonroutable Ethernet protocol.
- Provide accurate time distribution to every connected serial device.
- Power fiber-optic serial transceivers directly from serial ports—no additional power source is needed.

# Key Features

**High Port Density**—Each SEL-2905 provides 16 software-selectable EIA-232/422/485 serial ports. Use daisy-chain or star topologies to scale capacity up to 96 ports per RTAC or SEL Port Server.

**Simple Configuration**—The SEL RTAC or SEL Port Server automatically detects all connected SEL-2905 expanders. Configure all ports by using ACSELERATOR RTAC® SEL-5033 Software—no expander-level setup is required.

**Seamless Expansion**—Manage all connected serial devices from the host device. SEL-2905 ports appear as native RTAC or SEL Port Server ports and are enabled or disabled through the host device web-based interface.

**Port-Level Time and Power Distribution**—Deliver accurate time to every connected serial device by using IRIG-B distribution. Each serial port includes a configurable +5 V output to power fiber-optic serial transceivers.

**Substation-Grade Reliability**—Engineered and tested for harsh utility environments, the SEL-2905 meets IEEE and IEC standards for electromagnetic interference (EMI)/ESD, electrical fast transient (EFT)/burst, surge, magnetic fields, vibration, and shock and has a specified operating temperature of −40° to +85°C.

**Warranty, Service, and Support**—Every SEL-2905 is backed by a worldwide, ten-year warranty and comes with no-cost technical support for the life of the product.

# Overview

Enabled LED and alarm LED

Ethernet port link status and activity LEDs

Serial port activity LEDs

16 built-in RJ45 EIA-232/422/485 software-selectable serial ports

IRIG-B input/output

4 built-in RJ45 copper Gigabit Ethernet ports

Power supply

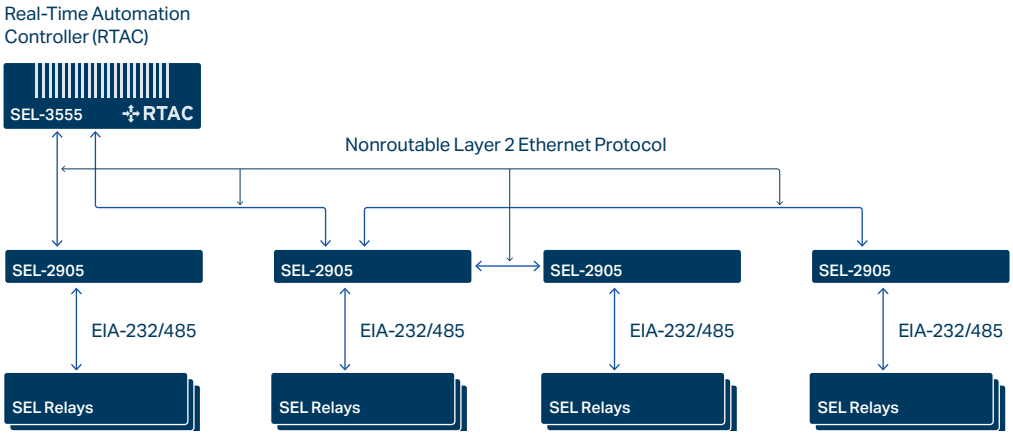
Form C alarm contact output

# Expand Serial Capacity and Distribute Precise Time

The SEL-2905 Serial Port Expander connects to an RTAC or an SEL Port Server, providing 16 additional ports per expander. Connect with no additional configuration, and then manage and time-synchronize connected field devices via the host RTAC or SEL Port Server.

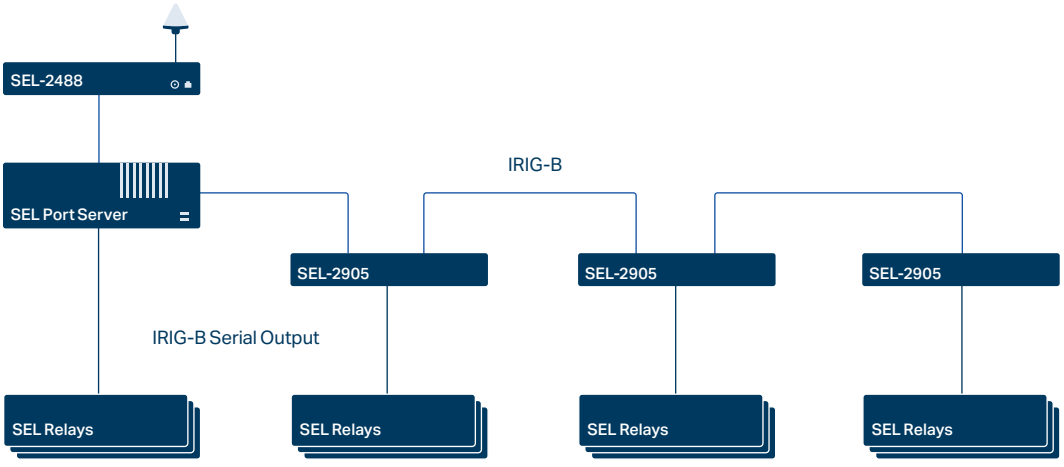
## Application 1: High-Density Serial Expansion

Expand serial connectivity without adding IP-reachable assets. Use daisy-chain or star topologies to increase the serial port capacity of a single RTAC or SEL Port Server to as many as 96 ports.




## Application 2: Precise-Time Distribution

Distribute accurate time signals to serial devices. The SEL-2905 receives an IRIG-B signal through its BNC input from an upstream time source, such as an RTAC, SEL Port Server, or SEL-2488 Satellite-Synchronized Network Clock. It distributes the IRIG-B signal to connected serial devices through its serial port connections, while its BNC output passes the IRIG-B signal to additional SEL-2905 units throughout the installation.



# Specifications

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|---|---|
| **Communications Ports** | Serial: 16 RJ45 EIA-232/422/485 software-selectable ports<br>Baud rate: 300—115,200 bps<br>Power: +5 Vdc power on Pin 1 (500 mA maximum)<br>Ethernet: 4 RJ45 copper 10/100/1000BASE |
| **Internal Power Supply** | Low voltage: 24—48 Vdc<br>Medium voltage: 48—125 Vdc or 110—120 Vac<br>High voltage: 125—250 Vdc or 120—240 Vac |
| **Mounting Options** | Horizontal 1U 19-inch rack mount<br>Horizontal 1U panel mount |
| **Relative Humidity** | 5 to 95 percent noncondensing |
| **Operating Temperature Range** | −40° to +85°C (−40° to +185°F) |
| **Time-Code Inputs and Outputs** | 1 BNC IRIG-B input<br>1 BNC IRIG-B output<br>16 RJ45 serial port outputs |
| **Options** | Conformal coating |

For more product information, visit selinc.com/products/2905.

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