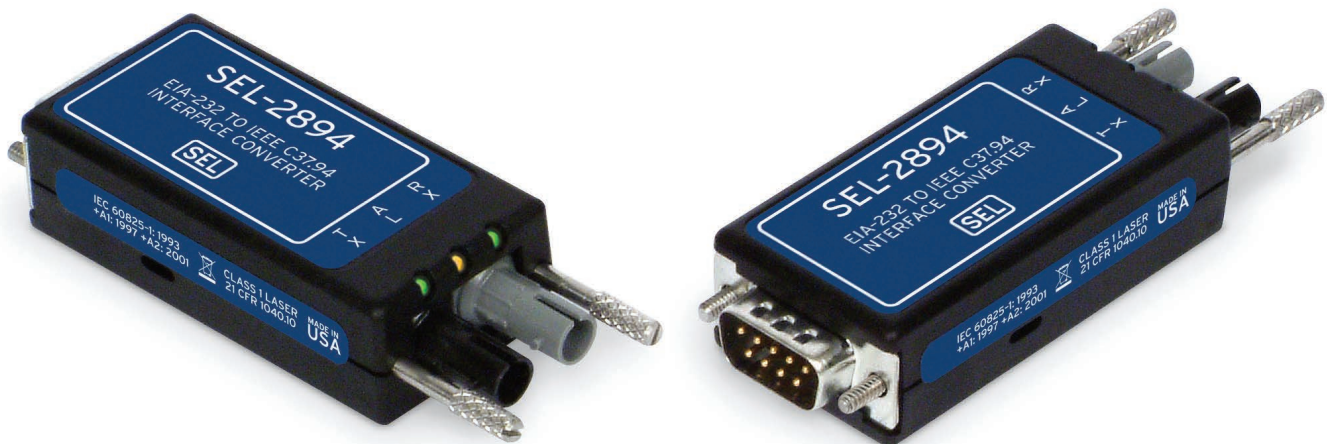


SEL-2894

Interface Converter



Improve safety and signal integrity with high-speed conversion to an optical interface

- IEEE C37.94 optical interface enables communications over distances up to 2 km.
- Low-latency data conversion in just 375 μ s supports MIRRORING[®] communications.
- ST[®] connectors and multimode fiber-optic cable provide compatibility with IEEE C37.94 devices.
- Fiber-optic communications eliminate the effects of ground potential rise and electromagnetic interference (EMI).



Features

High-Speed Communications

Reduce latency. Each SEL-2894 Interface Converter adds only 200 μ s of through delay, keeping latency to a minimum. The SEL-2894 works with EIA-232 signals from 300 bps to 19,200 bps.

Three Status Indicators

Verify the incoming (TX) and outgoing (RX) communications status via green LEDs. A yellow alarm LED indicates transmission problems.

Selectable Time Reference

Configure the internal clock for either external or internal IEEE C37.94 time reference with a side-mounted selector switch.

Easy Application

The transceiver receives power from the host device via the connector; no separate power supply or power wiring is needed.

Flexibility

Use the SEL-2894 with any EIA-232 device. The ST connectors accept multimode fiber-optic cables to connect to an IEEE C37.94 optical interface. The SEL-2894 works with SEL relays, other asynchronous EIA-232 devices, and IEEE C37.94-compliant devices.



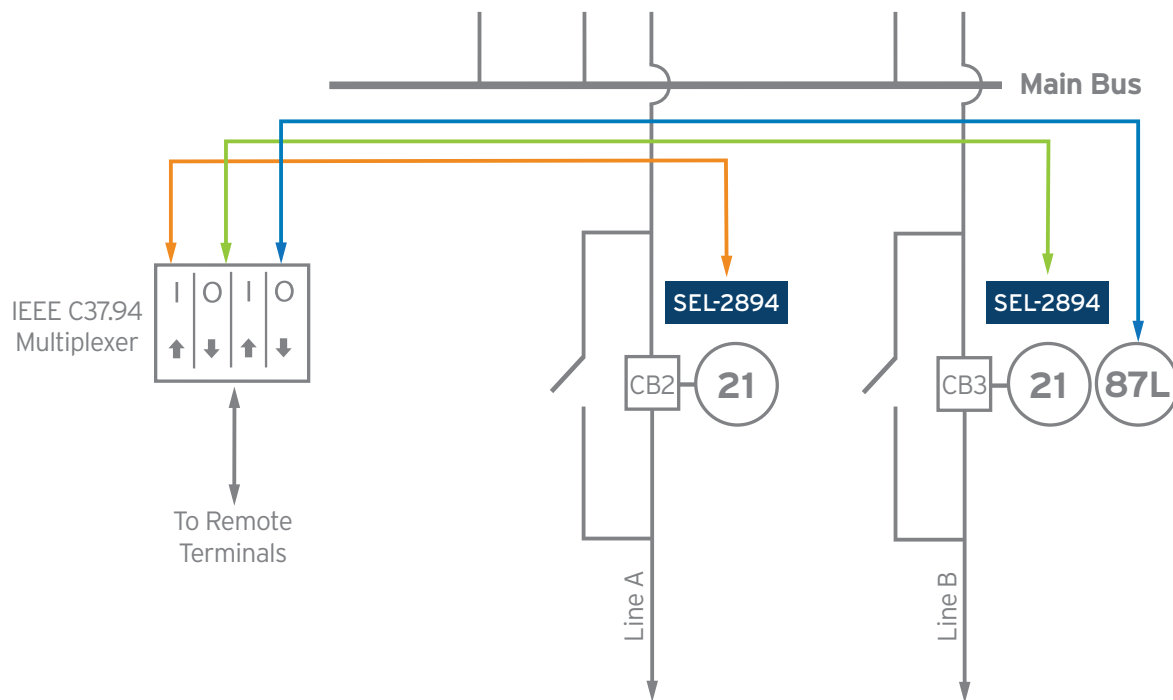
Applications

Fast MIRRORRED BITS Communications With Low Latency

Connect the SEL-2894 to any relay with MIRRORRED BITS communications. The SEL-2894 provides fast end-to-end data transport, making MIRRORRED BITS applications fast and seamless. The delay is less than 375 μ s in back-to-back tests.

SEL-2126 Fiber-Optic Transfer Switch Compatibility

Connect the SEL-2894 fiber-optic interface directly to the SEL-2126 Fiber-Optic Transfer Switch to reroute MIRRORRED BITS communications links between relays with the EIA-232 electrical interface during bypass operations.



Fiber-optic communications isolate devices from ground-potential rise, EMI, and radio frequency interference (RFI).

SEL-2894 Specifications

General

Power Requirements The SEL-2894 receives power* from the EIA-232 TXD data lines connected to Pin 3 and Pin 7 of the DB-9 connector. Additionally, the SEL-2894 accepts power applied to Pin 1.

Transmit Data Power Input

Pin	Signal
3, 7	DCE

Other Power Input

Pin/Input	Polarity and Voltage (Vdc)
1	+5 to +10

Data Link

Electrical Connection

Connector DB-9
Interface EIA-232 standard

Optical Connection

Connector 2 ST connectors
Interface IEEE C37.94 standard

Speed and Delay

Speed 300–19,200 bps (EIA-232)
Delay <200 μ s

Laser Safety Standards

Class 1 laser product

USA
21 CFR 1040.10

Europe
EN 60825-1:2014 Class 1
EN 60825-2:2004 + A1:2007 + A2:2010

Fiber-Optic Link Budget

Optical Fiber

Core Size | Optical Budget

50 μ m	9.0 dB
62.5 μ m	13.0 dB

Optical Source

850 nm VCSEL transmitter

Transmit Level

–23 to –11 dBm (50 μ m multimode fiber)
–19 to –11 dBm (62.5 μ m multimode fiber)

Fiber-Optic Receiver Sensitivity

–32 dBm

Distance

Up to 2 km

Operating Temperature

–40° to +85°C (–40° to +185°F)

*SEL-2894 Interface Converters built before May 2019 require power from Pin 1.

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Making Electric Power Safer, More Reliable, and More Economical
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