

# SEL-2506

## Rack-Mount Remote I/O Module



## Simple teleprotection and remote I/O

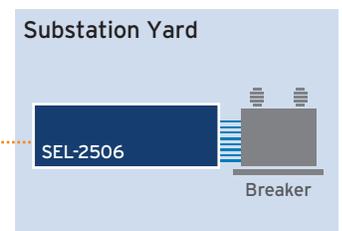
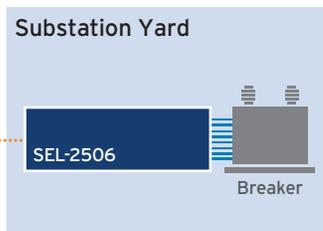
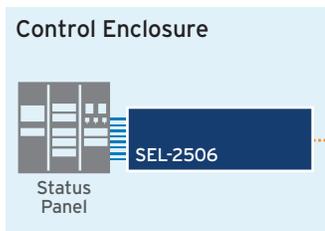
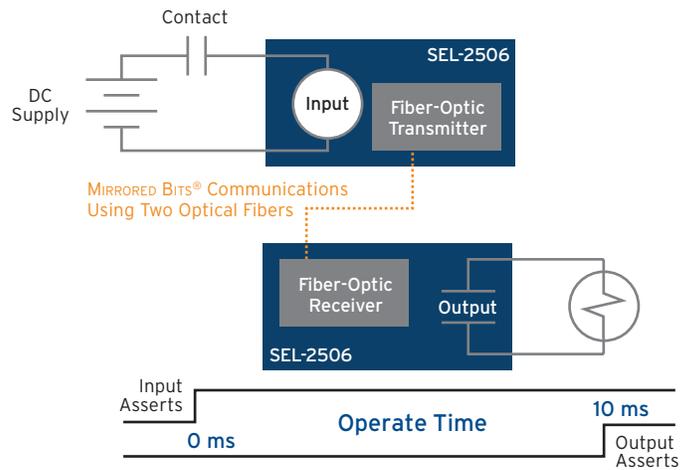
- Increase safety by replacing control wiring to outside cabinets with fiber-optic cables to eliminate paths for dangerous voltages.
- Enhance reliability by using communications monitoring to alarm when fiber-optic control cables have been damaged, disturbed, or altered.
- Improve protection and monitoring with the local or remote trip- and close-coil monitoring capability.





## Functional Overview

The SEL-2506 Rack-Mount Remote I/O Module communicates with remote devices using MIRRORRED BITS® communications through one fiber-optic or serial port. With a fiber port, you can use 2 optical fibers instead of the 32 large-diameter wires typical of standard I/O modules, saving material and labor costs. Contact inputs and outputs in the SEL-2506 control transmit and receive bits, which you can use to control and monitor remote devices or use to allow remote devices to control the SEL-2506.





## Key Features

### Protection and Monitoring

Improve the security of pilot communications for existing two- and three-terminal line applications. The SEL-2506 offers a local or remote trip- and close-coil monitoring capability, which lets you implement simple bus protection using contact inputs and outputs from existing relays.

### Integration

Economically extend the number of I/O contacts on SEL relays that are MIRRORRED BITS communications-compatible. The SEL-2506 provides the I/O status from any relay to MIRRORRED BITS communications schemes for situational awareness. You can use the SEL-2506 with an SEL-2100 Logic Processor to enable high-speed communications and monitoring in control applications.

### Dependability

Add the reliability and security of MIRRORRED BITS communications to your installations. The communications monitoring feature alarms when fiber-optic cables have been damaged, disturbed, or altered, helping you identify problems quickly and avoid extended outages.

### Safety

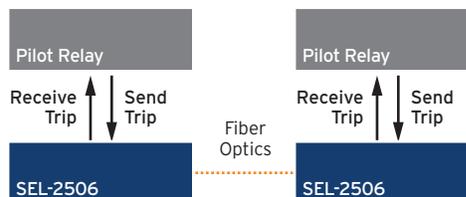
Replace control wiring to outside cabinets with fiber-optic cables to eliminate paths for dangerous voltages. All wiring is behind the panel.

### Status Indication

Print user-configurable labels to clearly indicate I/O usage. LEDs provide the I/O and device status and indicate channel activity.

### Easy Application and Installation

Set parameters with control switches. Patented screw-terminal Connectorized® blocks enable you to quickly install and remove the SEL-2506 without disturbing wiring.



Telecommunication application using two optical fibers for MIRRORRED BITS communications.

# Product Overview

LEDs indicate the input and output status, channel activity, device status, and communications channel health.

Input and output LED labels are user-configurable.



Level-sensitive contact inputs do not assert during dc grounds when applied to center-grounded systems.

Output contacts are rated for trip and close duty.

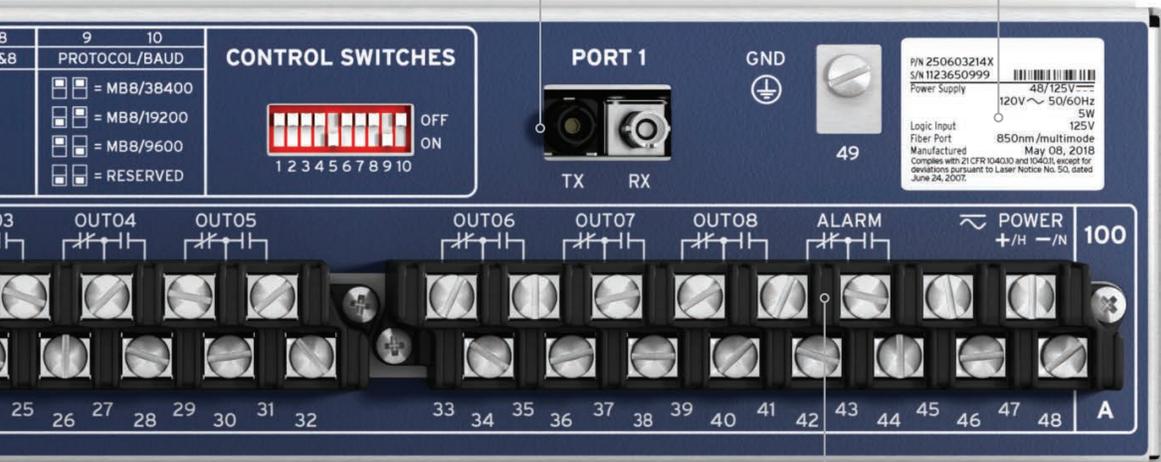


Connectorized screw terminals accept ring lugs with wires up to #10 AWG.



Standard serial or V-pin fiber port or optional ST® fiber port.

Wide-range power supply consumes less than 5 W.



Alarm contacts signal self-test and communications channel statuses.

# SEL-2506 Specifications

## Communications Port Options

Connector	Fiber or Wire (Serial)	Compatible Transceiver	Maximum Recommended Distance
V-pin	200 $\mu\text{m}$ multimode fiber <sup>1</sup>	SEL-2800	0.5 km
ST	50 or 62.5 $\mu\text{m}$ multimode fiber <sup>1</sup>	SEL-2815	15 km
ST	9 or 10 $\mu\text{m}$ single-mode fiber <sup>2</sup>	SEL-2829	23 km
ST	9 or 10 $\mu\text{m}$ single-mode fiber <sup>2</sup>	SEL-2830	80 km
ST	9 or 10 $\mu\text{m}$ single-mode fiber <sup>2</sup>	SEL-2831	110 km
9-pin D	Copper wire <sup>3</sup>	EIA-232	0.015 km

<sup>1</sup>Class 1 LED product; complies with 21 CFR 1040.10 and EN 60825-1

<sup>2</sup>Class 1 laser product; complies with 21 CFR 1040.10 and EN 60825-1

<sup>3</sup>Wire recommended only within the same cabinet

## Digital Output Ratings

	Standard	High-Speed
Make	30 A	30 A
Carry @ 70°C	6 A	6 A
Pickup time	<5 ms	<200 $\mu\text{s}$
MOV protection	270 Vac rms	DC only
Continuous	360 Vdc	330 Vdc
Break L/R = 40 ms	0.3 A @ 125 Vdc	10 A

## Digital Input Ratings<sup>1</sup>

Voltage Range (Vdc)	On (Vdc)	Off (Vdc)
24	15–30	
48	38.4–60	<28.8
110	88–132	<66
125	105–150	<75
220	176–264	<132
250	210–300	<150

<sup>1</sup>4 mA nominal input current



## General

<b>Data Rate and Operate Time</b>	<b>38,400 bps</b> 10 ms (standard); 4 ms (high-speed)
	<b>19,200 bps</b> 12 ms (standard); 6 ms (high-speed)
	<b>9,600 bps</b> 18 ms (standard); 12 ms (high-speed)
<b>Power Supply</b>	<b>48/125 V<sup>1</sup></b> 36–200 Vdc or 85–140 Vac, 5 W maximum
	<b>125/250 V<sup>1</sup></b> 85–350 Vdc or 85–264 Vac, 5 W maximum
<b>Dimensions</b>	Two rack units
	88.9 mm H × 482.6 mm W × 236.2 mm D (3.5 in × 19 in × 9.3 in)
<b>Operating Temperature Range</b>	–40°C to +85°C (–40 to +185°F)

<sup>1</sup>UL- and CSA-listed



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