SEL-2505

Remote I/O Module

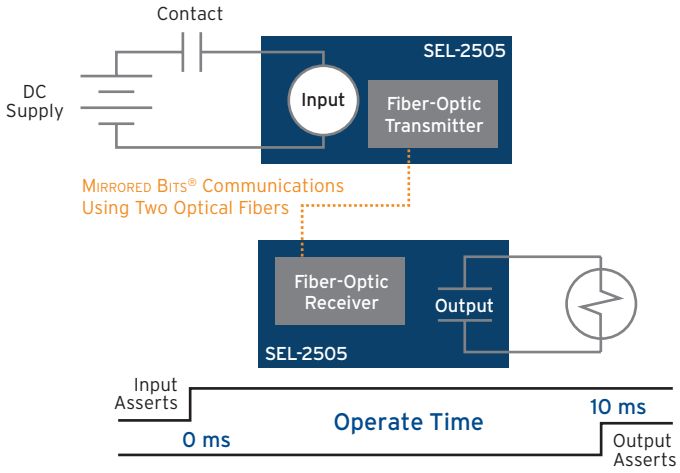
Reduce installation costs, improve employee safety, and increase system reliability

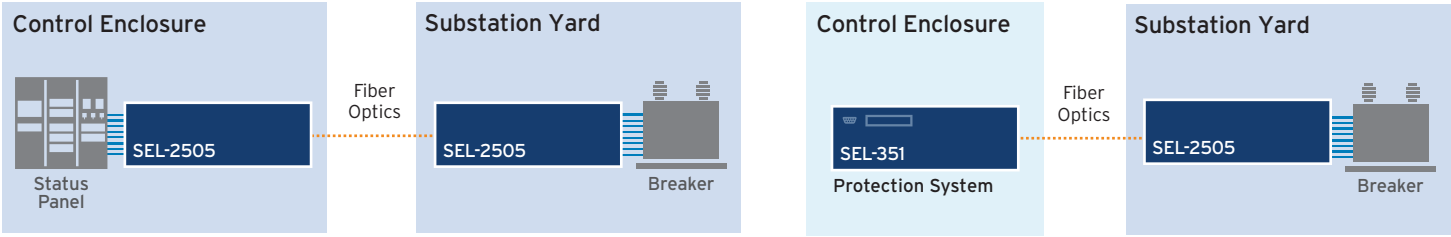
- Protect and monitor using contact inputs and outputs from existing relays.
- Increase safety with fiber-optic control cables, negating the need for dangerous high-voltage cable.
- Reduce capital expenditures with 2 fibers versus 32 large-diameter wires between the control building and remote equipment.

Functional Overview

The SEL-2505 Remote I/O Module communicates with a remote device using MIRRORED BITS® communications through a fiber-optic port. Each contact input controls one of the eight transmit bits, while each of the eight receive bits controls an output contact.

Transmitted contact input status provides control and indication of remote devices. Remote devices can control SEL-2505 output contacts for trip, close, and other types of schemes. Two optical fibers replace 32 large-diameter wires, significantly reducing material and labor costs.





Key Features

Protection and Monitoring

Employ contact inputs and outputs from existing relays to add simple bus protection. Secure pilot communications with existing two- and three-terminal line applications. The SEL-2505 includes remote tripping and close-coil monitoring capabilities.

Integration

Expand the I/O of SEL relays that are MIRRORED BITS communications-compatible without modification to the control panel face. Provide the I/O status from any relay available to SEL MIRRORED BITS communications schemes. Combine the SEL-2505 with any SEL Real-Time Automation Controller (RTAC) for high-speed control applications.

Dependability

Communications monitoring will alarm when fiber-optic control cabling has been damaged, disturbed, or altered.

Safety

Replace control wiring to outside cabinets with fiber-optic cable, eliminating paths for dangerous voltages.

Savings

Reduce project costs using 2 fibers instead of 32 large-diameter wires, with less material expense, reduced trench and raceway requirements, and less labor for design, documentation, installation, testing, and maintenance.

High Reliability and Rugged Design

Built to the same high standards as SEL protective relays, the SEL-2505 withstands vibration, electrical surges, fast transients, and extreme temperatures, meeting stringent industry standards. The printed circuit boards are conformally coated to provide an additional barrier to airborne contaminants, such as hydrogen sulfide, chlorine, salt, and moisture.

Specifications

Communications Port Options

Connector	Optical Fiber or Wire	Compatible Transceiver	Maximum Recommended Distance
V-pin	200 µm multimode[1]	SEL-2800	0.5 km
ST®	50, 62.5, or 200 µm multimode[1]	SEL-2812 SEL-2814 SEL-9220	4 km
ST	50, 62.5, or 200 µm multimode[1]	SEL-2815	15 km
ST	9 or 10 µm single-mode[2]	SEL-2830	80 km
9-pin D	Copper wire	EIA-232	0.015 km

[1]Class 1 LED product; complies with 21 CFR 1040.10 and EN 60825-1
[2]Class 1 laser product; complies with 21 CFR 1040.10 and EN 60825-1

Digital Input Ratings[1]

Voltage Range	On	Off
12 Vdc	9.6–15 Vdc	<6 Vdc
24 Vdc		<12 Vdc
48 Vdc	38.4–60 Vdc	<28.8 Vdc
110 Vdc	88–132 Vdc	<66 Vdc
125 Vdc	105–150 Vdc	<75 Vdc
220 Vdc	176–264 Vdc	<132 Vdc
250 Vdc	210–300 Vdc	<150 Vdc

[1]4 mA nominal input current

Output Contacts[1]

Make	Carry	MOV-Protected
30 A	6 A	270 Vac rms; 360 Vdc continuous

[1]IEEE C37.90 tripping output performance

Specifications Continued

General	
Data Rate and Operate Time	**38,400 bps** 10 ms **19,200 bps** 12 ms **9,600 bps** 18 ms
Power Supply	**12/24 V** 9.6—36 Vdc, 5 W maximum **48/125 V**[1] 36—200 Vdc or 85—140 Vac, 5 W maximum **125/250 V**[1] 85—300 Vdc or 85—264 Vac, 5 W maximum
Dimensions	338.6 mm H × 165.1 mm W × 55.2 mm D (13.33 in × 6.5 in × 2.175 in)
Operating Temperature Range	−40°C to +85°C (−40 to +185°F)

[1]UL-listed

SEL SCHWEITZER ENGINEERING LABORATORIES

Making Electric Power Safer, More Reliable, and More Economical
+1.509.332.1890 | info@selinc.com | selinc.com

PF00017 • 20171024