Remote I/O for SCADA and Station Integration

Provides additional digital inputs and outputs for SEL communications processors.

Features and Benefits

**Additional Monitoring and Control**
Eight digital inputs monitor the status of external contacts that are transmitted via SEL Fast Meter messages to a communications processor. Control eight contact outputs using SEL Fast Operate commands.

**Improved Safety**
Use fiber-optic cable instead of control wiring to outside apparatus to eliminate exposure to ground potential rise and other dangerous voltages that can be present in a substation yard.

**Easy Application**
LEDs indicate the position of each contact output and the status of each sensed input. An "ENABLE" LED indicates that the unit is properly functioning. A "LAMP TEST" pushbutton illuminates all of the LEDs. Control (DIP) switches are used to set basic operating parameters.

**Dependability**
Fiber-optic links reduce or eliminate data errors from electromagnetic interference. The SEL communications processors monitor the fiber-optic connection to the SEL-2515. The communications processors create alarms when the fiber-optic cabling is damaged, disturbed, or disconnected.
SEL-2515 Remote I/O Module

General Specifications

Fiber-Optic Port Options

<table>
<thead>
<tr>
<th>Connector</th>
<th>Optical Fiber</th>
<th>Compatible Transceiver</th>
<th>Maximum Recommended Distance (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-System®</td>
<td>200 µm multimode¹</td>
<td>SEL-2800</td>
<td>0.5</td>
</tr>
<tr>
<td>ST</td>
<td>50, 62.5, or 200 µm multimode²</td>
<td>SEL-2815</td>
<td>15</td>
</tr>
<tr>
<td>ST</td>
<td>9, 10 µm single-mode²</td>
<td>SEL-2830</td>
<td>80</td>
</tr>
</tbody>
</table>

¹Class I LED product complies with 21 CFR 1040.10
²Class 1 Laser product complies with 21 CFR 1040.10

Fiber-Optic Port Speed
19200 bps
9600 bps

Output Contacts
IEEE C37.90 Tripping Output Performance
Make 30 A
Carry 6 A
MOV Protected 270 Vac RMS; 360 Vdc continuous

Logic Input Ratings
4 mA nominal input current
Voltage Ranges (selected at order time):

<table>
<thead>
<tr>
<th>Range</th>
<th>On</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc</td>
<td>15–30 Vdc</td>
<td></td>
</tr>
<tr>
<td>48 Vdc</td>
<td>38.4–60 Vdc</td>
<td>&lt;28.8 Vdc</td>
</tr>
<tr>
<td>110 Vdc</td>
<td>88–132 Vdc</td>
<td>&lt;66 Vdc</td>
</tr>
<tr>
<td>125 Vdc</td>
<td>105–150 Vdc</td>
<td>&lt;75 Vdc</td>
</tr>
<tr>
<td>220 Vdc</td>
<td>176–264 Vdc</td>
<td>&lt;132 Vdc</td>
</tr>
<tr>
<td>250 Vdc</td>
<td>210–300 Vdc</td>
<td>&lt;150 Vdc</td>
</tr>
</tbody>
</table>

Operating Temperature Range
−40° to +85°C (−40° to +185°F)

Power Supply Ratings
24 V 16–36 Vdc, 5 W maximum
48/125 V 36–200 Vdc or 85–140 Vac, 5 W maximum
125/250 V 85–350 Vdc or 85–264 Vac, 5 W maximum

Dimensions
338.6 mm H x 165.1 mm W x 55.2 mm D (13.33 in x 6.5 in x 2.175 in)

Application Overview

Control and monitor remote devices through reliable, safe, economical fiber-optic links. Add input and output (I/O) to SEL communications processors. Communications processor-based systems are far more reliable than RTU-based systems and provide added functionality to tap the valuable data in digital protective relays.

An RTU only provides remote I/O for SCADA; therefore, you do not benefit from the other functions available through an SEL communications processor-based system—protection settings management, power system report management, high-speed local logic, and direct engineering access. The added I/O of SEL-2515 Remote I/O Modules allows you to select a communications processor solution for even more applications, instead of settling for an RTU.