Profibus I/O Modules with 16-Digital Inputs and 16-Digital Outputs

0970 PSL 700

Profibus-DP device with 16 digital I/O channels, channels can be used universally as inputs or outputs, combined 12 socket, rotary switches for addressing, M12 bus connection, 7/8" power supply.

### Bit Assignment

<table>
<thead>
<tr>
<th>Bit</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M12 Input</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Byte 0</td>
<td>4B</td>
<td>4A</td>
<td>3B</td>
<td>3A</td>
<td>2B</td>
<td>2A</td>
<td>1B</td>
<td>1A</td>
</tr>
<tr>
<td>Byte 1</td>
<td>8B</td>
<td>8A</td>
<td>7B</td>
<td>7A</td>
<td>6B</td>
<td>6A</td>
<td>5B</td>
<td>5A</td>
</tr>
</tbody>
</table>

### Diagnostic Indication

<table>
<thead>
<tr>
<th>LED</th>
<th>Indication</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1...8 A/B</td>
<td>yellow</td>
<td>channel status</td>
</tr>
<tr>
<td>1...8 A/DIA</td>
<td>red</td>
<td>periphery fault</td>
</tr>
<tr>
<td>Us</td>
<td>green</td>
<td>sensor/system power supply</td>
</tr>
<tr>
<td>BF</td>
<td>red</td>
<td>bus error</td>
</tr>
<tr>
<td>DIA</td>
<td>red</td>
<td>common indication for periphery faults</td>
</tr>
</tbody>
</table>

### Pin Assignment

**Bus connection M12**

- 1 = -5 V
- 2 = Line A - GN
- 3 = GND (0 V)
- 4 = Line B - RD
- 5 = earth - housing

**Power supply 7/8”**

- 1 = GND (0 V)
- 2 = GND (0 V)
- 3 = Earth
- 4 = +24 V
- 5 = +24 V

**Input M12**

- 1 = +24 V
- 2 = IN/OUT B
- 3 = GND (0 V)
- 4 = IN/OUT A
- 5 = Earth

- 1 = internal signals: galvanically separated to sensors
- 2 = actuators
- 3 = system sensors
## Technical Data

### Environmental
- **Degree of protection:** IP 67
- **Operating temperature range:** -10°C (+14°F) to +60°C (+140°F)

### Mechanical
- **Weight:** 380 g
- **Housing material:** PBT

### Bus system
- **ID number:** Profibus
- **GSD file:** Lum_09CA.GSD
- **Transmission rate:** max. 12 MBaud
- **Address range:** 1–125 dec
- **Rotary address switches:** 1–99 dec
- **Default address:** 99 dec

### System/Sensors power supply
- **Rated voltage:** 24 V DC
- **Voltage range:** 19–30 V DC
- **Power consumption:** 120 mA
- **Reverse polarity protection:** yes

### Input power supply
- **Us:** min. (U<sub>System</sub> - 1.5 V)
- **Sensor current:** 100 mA (at Tamb 30°C) per socket
- **Short circuit-proof:** yes
- **Indication:** LED green

### Inputs
- **Type 3 acc. to IEC 61131-2**
- **Rated input voltage:** 24 V DC
- **Channel type N.O.:** p-switching
- **Number of digital channels:** max. 16
- **Channel status indicator:** LED yellow per channel
- **Diagnostic indication:** LED red per channel

### Output power supply
- **Us:** 24 V DC
- **Voltage range:** 19–30 V DC
- **Reverse polarity protection:** yes/antiparallel diode
- **Indication:** LED green

### Outputs
- **Rated output current:** 1.6 A per channel
- **Short circuit-proof:** yes
- **Max. output current:** 9 A (12 A*) per module
  *Test proven and approved under the following conditions:
  - looped through System/Sensor power supply max. 2,5 A
  - Power supply cable STL 204 (5 x 1.00 mm²)
  - Operating temperature range max. 40°C
- **Overload-proof:** yes
- **Number of digital channels:** max. 16
- **Channel type N.O.:** p-switching
- **Channel status indicator:** LED yellow per channel
- **Diagnostic indication:** LED red per channel/socket

### Diagnostic
- Module diagnostic and single channel diagnostic according to Profibus specification (please see operating instructions under www.beldensolutions.com/downloads)

### Included in delivery/accessories
- Dust covers M12: 2 pieces
- Attachable labels: 10 pieces

## Part Number

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The application of these products in harsh environments should always be checked before use.
 Specifications subject to alteration.