









**PROFINET - IO-Link Masters (60 mm, M12 Power)****Technical Information**

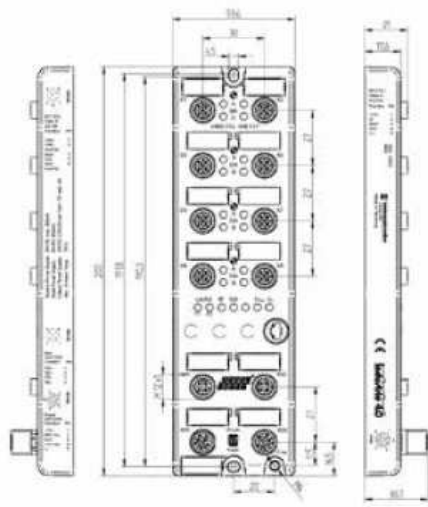
| Product Description                    |  |
|--|--|
| Type                                   | 0980 ESL 309-121   |
|  | <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">  </div> <div style="text-align: right;">  </div> </div> <div style="text-align: center; margin: 10px 0;">  </div> <div style="text-align: right; margin-top: 10px;">  </div> |
| Description                            | LiON-P PROFINET device, 4 digital input channels, 8 IO-Link channels, M12 LAN connection, 4-poles, D-coded, M12 L-coded power supply, 5-poles  |
| Order No.                              | 934878004  |
| Technical Data                         |  |
| Protection Degree                      | IP65, IP67, IP69K (only if mounted and locked in combination with Hirschmann/Lumberg connector)  |
| Ambient Temperature (Operation)        | -20 °C to +70 °C   |
| Dimensions (W x H x D)                 | 59.6 x 30.7 x 200 (mm)   |
| Weight                                 | 500 g  |
| Housing Material                       | Metal, Zinc Die-cast   |
| Bus System                             |  |
| Protocol                               | PROFINET IO Device   |
| Connection                             | M12 LAN connection, 4-poles, D-coded   |
| Transmission Rate                      | Fast Ethernet (100 Mbit/s), Full Duplex  |
| Rotary Address Switches                | No   |
| Power Supply                           |  |
| Nominal Voltage                        | 24 V DC (SELV/PELV)  |
| Nominal Voltage Range                  | 18 to 30 V DC  |
| Connection                             | M12, L-coded, 5-poles  |
| Current Carrying Capacity of Connector | 16 A   |
| Current Consumption (typ.)             | 180 mA (+/-20% at 24 V DC)   |
| IO-Link Master Channels                |  |
| Number of Channels                     | 8  |
| Connection                             | M12, 5-poles, A-coded  |
| Number of A Ports (IOL)                | 4 (X1 to X4)   |
| Number of B Ports (IOL)                | 4 (X5 to X8)   |
| Nominal Voltage (IOL)                  | 24 V DC via US (system power supply)   |
| Nominal Current C/Q (Pin 4)            | 500 mA   |
| Nominal Current L+/L- (Pin 1 and 3)    | 500 mA   |
| Nominal Current Uaux (Pin 2, B Ports)  | max. 2 A per port/max. 4 A per module  |
| Input Channels                         |  |
| Number of Channels                     | max. 12, 4 x (Pin 2, fixed) + 8 x (Pin 4, configurable)  |
| Connection                             | M12, 5-poles, A-coded  |
| Channel Type                           | Type 1 acc. to IEC 61131-2   |
| Nominal Voltage                        | 24 V DC via US (system power supply)   |
| Sensor Current Supply                  | 500 mA per Port via L+/L-  |
| Sensor Type                            | PNP  |
| Output Channels                        |  |
| Number of Channels                     | max. 12, 8 x (Pin 4, configurable) + 4 x (Uaux, configurable)  |
| Connection                             | M12, 5-poles, A-coded  |
| Channel Type                           | p-switching  |
| Nominal Voltage                        | 24 V DC via Uaux (actuator power supply)   |
| Output Current per Channel             | Pin 4: max. 500 mA/Uaux: max. 2 A  |
| Output Current per Module              | max. 9 A   |
| Protective Circuit                     | Electronically: Overload protection, short-circuit protection  |
| Galvanically Isolated                  | Pin 4: No/Uaux: Yes  |

**Diagnostic Indication**

| LED              | Indicator                       | Condition   |
|------------------|---------------------------------|---|
| 1...8 A          | Yellow                          | Channel status  |
| 1...8 DIA A      | Red                             | Periphery error   |
| 1...8 B          | White                           | Channel status  |
| 1...8 DIA B      | Red                             | Periphery error   |
| 1...8 I/O-Link   | Green<br>Green blinking<br>Off  | No I/O-Link device connected<br>I/O-Link communication available<br>Port is not configured as I/O-Link  |
| P1 Lnk/Act       | Green<br>Green blinking<br>Off  | Connection to an Ethernet device<br>I/O device exchanging data<br>No connection to another device       |
| P2 Lnk/Act       | Green<br>Yellow blinking<br>Off | Connection to an Ethernet device<br>I/O device exchanging data<br>No connection to another device       |
| BF               | Red<br>Off                      | Bus error, no data exchange with I/O controller via PROFINET<br>No error message                        |
| DIA              | Red<br>Red blinking<br>Off      | Common indicator for periphery errors<br>Firmware update<br>No error message                            |
| Us               | Green                           | Voltage $19\text{ V} \leq U_s \leq 30\text{ V}$   |
| U <sub>AUX</sub> | Green<br>Red                    | Voltage $19\text{ V} \leq U_L \leq 30\text{ V}$<br>$U_L$ Voltage $< 19\text{ V}$ or $U_L > 30\text{ V}$ |

**Pin Assignment**

| M12 I/O-Link Port, A-coded   |  | M12 PROFINET I/O-Link Port, D-coded   |  |
|--|--|---|--|
|  <p><b>Type A</b></p> <p>1 = +24 V<br/>2 = IN<br/>3 = GND<br/>4 = C/Q<br/>5 = n.c.</p> | <p><b>Type B</b></p> <p>1 = +24 V<br/>2 = +24 V AUX/OUT<br/>3 = GND<br/>4 = C/Q<br/>5 = GND AUX</p>                                    |  <p>1 = +24 V<br/>2 = +24 V AUX/OUT<br/>3 = GND<br/>4 = C/Q<br/>5 = GND AUX/OUT</p> |  |
| M12 Power Supply, L-coded  |  | M12 PROFINET, D-coded   |  |
|  <p>1 = +24 V<br/>2 = GND AUX<br/>3 = GND<br/>4 = +24 V AUX<br/>5 = FE</p>            |  <p>1 = TD+<br/>2 = RD+<br/>3 = TD-<br/>4 = RD-</p> |   |  |



0980 ESL 309-121



The application of these products in harsh environments should always be checked before use. Technical modifications reserved.