

**LioN-Power Multi-protocol – 16 Digital Outputs, M12 L-coded or 7/8" Power Supply Connection, PROFINET, EtherNet/IP or EtherCAT**

| Product Description                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                                   | 0980 ESL 392-121                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0980 ESL 392-111                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                        | <div><div>NEW!</div><div></div><div><div><div>PROFINET</div><div>EtherNet/IP</div><div>EtherCAT</div></div></div></div> | <div><div>NEW!</div><div></div><div><div><div>PROFINET</div><div>EtherNet/IP</div><div>EtherCAT</div></div></div></div> |
| Description                            | LioN-P Multi-protocol module, PROFINET, EtherNet/IP or EtherCAT device, 16 digital outputs channels, M12 LAN connection, 4-poles, D-coded, M12 L-coded power supply, 5-poles                                                                                                                                                                                                                                                                                                                                                                                                                                                  | LioN-P Multi-protocol module, PROFINET, EtherNet/IP or EtherCAT device, 16 digital outputs channels, M12 LAN connection, 4-poles, D-coded, 7/8" power supply, 5-poles                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Order No.                              | 934879002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 934882002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Technical Data                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Protection Degree                      | IP65, IP67, IP69K (only if mounted and locked in combination with Hirschmann/Lumberg connector)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IP65, IP67 (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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 59.6 x 26.2 x 206 (mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Weight                                 | 500 g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 520 g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Housing Material                       | Metal, Zinc Die-cast                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Bus System                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Protocol                               | PROFINET /EtherNet/IP/EtherCAT I/O Device                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Connection                             | M12 LAN connection, 4-poles, D-coded                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Transmission Rate                      | Fast Ethernet (10/100 Mbit/s), Full Duplex                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Rotary Address Switches                | Yes, 3x                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Power Supply                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Nominal Voltage                        | 24 V DC (SELV/PELV)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Nominal Voltage Range                  | 18 to 30 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Connection                             | M12, L-coded, 5-poles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 7/8", 5-poles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Current Carrying Capacity of Connector | 16 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 9 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Current Consumption (typ.)             | 160 mA (+/-20% at 24 V DC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Output Channels                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Number of Channels                     | 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Connection                             | M12, 5-poles, A-coded                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Channel Type                           | p-switching                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Nominal Voltage                        | 24 V DC via Uaux (actuator power supply)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Output Current per Channel             | max. 2 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Output Current per Module              | max. 9 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Protective Circuit                     | Electronically: Overload protection, short-circuit protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Galvanically Isolated                  | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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**Bit Assignment**

| Bit             | 7  | 6  | 5  | 4  | 3  | 2  | 1  | 0  |
|-----------------|----|----|----|----|----|----|----|----|
| M12 Output 16D0 |    |    |    |    |    |    |    |    |
| Byte 0          | 4B | 4A | 3B | 3A | 2B | 2A | 1B | 1A |
| Byte 1          | 8B | 8A | 7B | 7A | 6B | 6A | 5B | 5A |

## LioN-Power Multi-protocol – 16 Digital Outputs, M12 L-coded or 7/8" Power Supply Connection, PROFINET, EtherNet/IP or EtherCAT

### Diagnostic Indication | 0980 ESL 392-121 and 0980 ESL 392-111

| 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                                                                                                                                                                                                                        |
| 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                                                                                                                                      |
| <b>PROFINET</b>     |                                                                             |                                                                                                                                                                                                                                        |
| BF                  | Red<br>Off                                                                  | Bus error, no data exchange with I/O controller<br>No error message                                                                                                                                                                    |
| DIA                 | Red<br>Red blinking<br>Off                                                  | Common indicator for periphery errors<br>Firmware update<br>No error message                                                                                                                                                           |
| <b>EtherNet/IP</b>  |                                                                             |                                                                                                                                                                                                                                        |
| MS (Module status)  | Green<br>Green blinking<br>Red/green blinking<br>Red blinking<br>Off        | Device is ready for operating<br>Wrong configuration<br>Self test is running<br>Firmware update<br>IP address is available                                                                                                             |
| NS (Network status) | Green blinking<br>Green<br>Red blinking<br>Red<br>Red/green blinking<br>Off | IP address is available<br>Connection to master is available<br>At least one connection has timed out<br>IP address is already being used by another device<br>Self test is running<br>Device is switched off/device has no IP address |
| <b>EtherCAT</b>     |                                                                             |                                                                                                                                                                                                                                        |
| RUN                 | Green                                                                       | Device is in state OPERATIONAL                                                                                                                                                                                                         |
|                     | Green blinking                                                              | Device is in state PRE-OPERATIONAL                                                                                                                                                                                                     |
|                     | Green single flash                                                          | Device is in state SAFE-OPERATIONAL                                                                                                                                                                                                    |
|                     | Green flickernrg                                                            | Device is in state BOOTSTRAP                                                                                                                                                                                                           |
|                     | Off                                                                         | Device is in state INIT                                                                                                                                                                                                                |
| ERR                 | Red                                                                         | "An critical communication or application controller error has occurred "                                                                                                                                                              |
|                     | Red double flash                                                            | An application watchdog timeout has occurred.                                                                                                                                                                                          |
|                     | Red single flash                                                            | "Slave device application has changed the EtherCAT state autonomously, due to local error"                                                                                                                                             |
|                     | Red blinking                                                                | General Configuration Error                                                                                                                                                                                                            |
|                     | Red flickering                                                              | Booting Error was detected                                                                                                                                                                                                             |
|                     | Off                                                                         | No error                                                                                                                                                                                                                               |
| Us                  | Green                                                                       | Voltage 19 V <= Us <= 30 V                                                                                                                                                                                                             |
|                     | Red                                                                         | Us Voltage < 19 V or Us > 30 V                                                                                                                                                                                                         |

### Pin Assignment

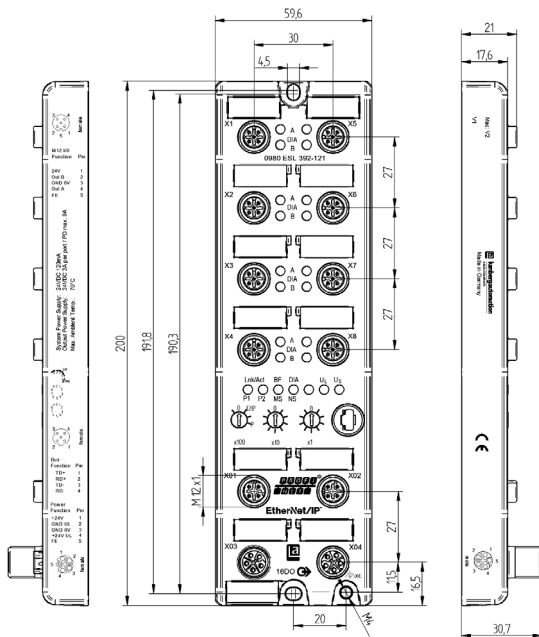
| M12 I/O Port,<br>A-coded                                                                                                                         | M12 Power Supply,<br>L-coded                                                                                                                                                                                                                                                                                         | Power Supply 7/8"                                                                                                                                                                                                                                                                                                    | M12 LAN Connection,<br>D-coded                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
|  1 = +24 V<br>2 = IN B<br>3 = GND (0 V)<br>4 = IN A<br>5 = FE |  1 = +24 V<br>2 = GND UL<br>3 = GND (0 V)<br>4 = +24 V UL<br>5 = FE<br><br> 1 = +24 V<br>2 = GND UL<br>3 = GND (0 V)<br>4 = +24 V UL<br>5 = FE |  1 = GND UL<br>2 = GND (0 V)<br>3 = FE<br>4 = +24 V<br>5 = +24 V UL<br><br> 1 = GND UL<br>2 = GND (0 V)<br>3 = FE<br>4 = +24 V<br>5 = +24 V UL |  1 = TD+<br>2 = RD+<br>3 = TD-<br>4 = RD- |

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### Technical Drawing

0980 ESL 392-121



0980 ESL 392-111

