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Axioline E-Ethernet device in a metal housing with 8 IO-Link ports and 4 digital inputs, 24 V DC, M12 fast connection technology

#### **Product Description**

The Axioline E device is designed for use within an Ethernet network (Modbus/TCP).

It enables the operation of up to eight IO-Link sensors/actuators and is also used to acquire digital signals.

The device is designed for use in systems manufacturing.

It is suitable for use without a control cabinet under harsh industrial conditions.

The Axioline E device can be used on tool platforms, directly on welding robots or in conveying technology, for example.

#### Why buy this product

- ☑ Connection of four IO-Link devices with additional digital input
- ☑ Connection of four IO-Link actuators with additional power supply
- Diagnostic and status indicators
- Short-circuit and overload protection of the sensor supply
- ☑ IP65/IP67 degree of protection



Modbus/TCP (UDP) OIO-Link

## **Key Commercial Data**

| Packing unit | 1 STK           |
|--------------|-----------------|
| GTIN         | 4 046356 763899 |
| GTIN         | 4046356763899   |

### Technical data

#### Note

| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|
|-------------------------|---|

### **Dimensions**

| Width  | 60 mm  |
|--------|--------|
| Height | 185 mm |
| Depth  | 38 mm  |



## Technical data

## Dimensions

|                    | The height is 194.5 mm including the mounting plate. With fixing clips pulled out, the height is 212 mm. The depth is 38 mm including the mounting plate (30.5 mm without the mounting plate). |
|--------------------|--|
| Drill hole spacing | 198.5 mm   |

#### Ambient conditions

| Ambient temperature (operation)          | -25 °C 60 °C                                  |
|--|---|
| Ambient temperature (storage/transport)  | -25 °C 85 °C                                  |
| Permissible humidity (operation)         | 5 % 95 %                                      |
| Permissible humidity (storage/transport) | 5 % 95 %                                      |
| Air pressure (operation)                 | 70 kPa 106 kPa (up to 3000 m above sea level) |
| Air pressure (storage/transport)         | 70 kPa 106 kPa (up to 3000 m above sea level) |
| Degree of protection                     | IP65/IP67                                     |

#### General

| Housing material | Zinc die-cast   |
|------------------|---|
| Mounting type    | Wall mounting or DIN rail mounting; both with mounting plate. |
| Net weight       | 704.3 g   |

### Interfaces

| Designation                   | Ethernet                            |
|-------------------------------|-------------------------------------|
| No. of channels               | 2                                   |
| Connection method             | M12 fast connection technology      |
| Note on the connection method | D-coded                             |
| Designation connection point  | Copper cable                        |
| Transmission speed            | 10/100 Mbps (with auto negotiation) |
| Number of positions           | 4                                   |

## System limits of the bus coupler

| Designation               | Modbus/TCP                        |
|---------------------------|-----------------------------------|
| Equipment type            | Modbus slave (server)             |
| System-specific protocols | Modbus protocols Modbus/TCP       |
| Protocols supported       | SNMP v1                           |
|                           | НТТР                              |
|                           | TFTP                              |
|                           | FTP                               |
|                           | BootP                             |
|                           | DHCP                              |
| Specification             | Modbus application protocol V1.1b |

# Supply

| Designation         | Module electronics and sensors (U <sub>s</sub> ) |
|---------------------|--|
| Connection method   | M12 connector (T-coded)                          |
| Number of positions | 4  |



## Technical data

## Supply

| Supply voltage               | 24 V DC  |
|------------------------------|--|
| Nominal supply voltage range | 18 V DC 31.2 V DC (including all tolerances, including ripple) |
| Current consumption          | max. 12 A  |
| Typical current consumption  | 180 mA ±15 % (at 24 V DC)                                      |
| Designation                  | Actuators (U <sub>A</sub> )                                    |
| Connection method            | M12 connector (T-coded)  |
| Number of positions          | 4  |
| Supply voltage               | 24 V DC  |
| Nominal supply voltage range | 18 V DC 31.2 V DC (including all tolerances, including ripple) |
| Current consumption          | max. 12 A  |
| Typical current consumption  | 28 mA ±15 % (at 24 V DC)                                       |

## Axioline potentials

| Type of protection | Surge protection of the supply voltage             |
|--------------------|--|
|                    | Polarity reversal protection of the supply voltage |
| Protection         | max. 8 A (polarity reversal protection up to 5 A)  |

# Digital inputs

| IO-Link ports in digital input (DI) mode       |
|--|
| M12 connector, X01 X04 have double occupancy   |
| 3-wire   |
| 24 V DC  |
| -0.3 V DC 5 V DC                               |
| 15 V DC 30 V DC                                |
| typ. 3 mA                                      |
| max. 200 mA (from L+/L-)                       |
| max. 1.6 A (from L+/L-)                        |
| < 1000 µs                                      |
| 0.5 kHz  |
| Overload protection                            |
| Short-circuit protection for the sensor supply |
|  |

## Digital outputs

| Output description                 | IO-Link ports in digital output (DO) mode    |
|------------------------------------|--|
| Connection method                  | M12 connector, X01 X04 have double occupancy |
| Connection technology              | 3-wire                                       |
| Number of outputs                  | max. 8                                       |
| Nominal output voltage             | 24 V DC                                      |
| Maximum output current per channel | 150 mA                                       |
| Maximum output current per device  | 1.2 A  |
| Nominal load, ohmic                | 3.6 W (160 $\Omega$ , at nominal load)       |
| Nominal load, inductive            | 3.6 VA (0.8 H, 160 Ω, at nominal load)       |



## Technical data

## Digital outputs

| Signal delay  | max. 150 µs (when switched on)                    |
|---|---|
|   | max. 200 µs (when switched off)                   |
| Switching rate  | 1 per second, maximum (at nominal inductive load) |
| Limitation of the voltage induced on circuit interruption | -15 V DC  |
| Output voltage when switched off                          | max. 1 V  |
| Output current when switched off                          | max. 300 μA                                       |
| Type of protection  | Overload protection                               |
|   | Short-circuit protection                          |
| Behavior with overload                                    | Shutdown with automatic restart                   |

### Electrical isolation

| Test section | 24 V supply (communications power and sensor supply, IO-Link ports)/ bus connection (Ethernet 1) 500 V AC 50 Hz 1 min.    |
|--------------|---|
|              | 24 V supply (communications power and sensor supply, IO-Link ports)/<br>bus connection (Ethernet 2) 500 V AC 50 Hz 1 min. |
|              | 24 V supply (communications power and sensor supply, IO-Link ports)/<br>FE 500 V AC 50 Hz 1 min.                          |
|              | Bus connection (Ethernet 1)/FE 500 V AC 50 Hz 1 min.  |
|              | Bus connection (Ethernet 2)/FE 500 V AC 50 Hz 1 min.  |
|              | Bus connection (Ethernet 1)/bus connection (Ethernet 2) 500 V AC 50 Hz 1 min.   |
|              | 24 V supply (actuator supply)/24 V supply (communications power and sensor supply, IO-Link ports) 500 V AC 50 Hz 1 min.   |
|              | 24 V supply (actuator supply)/bus connection (Ethernet 1) 500 V AC 50 Hz 1 min.   |
|              | 24 V supply (actuator supply)/bus connection (Ethernet 2) 500 V AC 50 Hz 1 min.   |
|              | 24 V supply (actuator supply)/FE 500 V AC 50 Hz 1 min.  |

## Standards and Regulations

| Mechanical tests | Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g                          |
|------------------|--|
|                  | Shock in acc. with EN 60068-2-27/IEC 60068-2-27 30g, 11 ms period, half-sine shock pulse |
|                  | Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g                           |
| Protection class | III, IEC 61140, EN 61140, VDE 0140-1   |

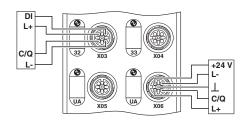
## **Environmental Product Compliance**

| China RoHS | Environmentally Friendly Use Period = 25;   |
|------------|---|
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

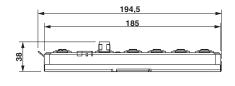
# **Drawings**

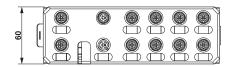


### Connection diagram

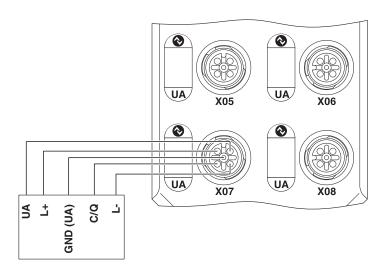


### Dimensional drawing





## Connection diagram



# Approvals

### Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

### Approval details

UL Listed



http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm

FILE E 140324



# Approvals

cUL Listed



http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm

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