

# AXL SE IOL4 - Communication module



1088132

<https://www.phoenixcontact.com/us/products/1088132>

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Axioline Smart Elements, IO-Link master, IO-Link ports Class A: 4, connection method: Push-in connection, connection technology: 3-conductor, degree of protection: IP20

## Product description

You can integrate Axioline Smart Elements into systems with the Smart Element interface. The IO-Link master enables the operation of up to four IO-Link devices. Alternatively, you can connect a standard digital sensor or actuator to each port.

## Your advantages

- Connection of 4 IO-Link devices
- Alternatively: connection of one digital sensor or actuator per port
- Connection of IO-Link devices in 3-conductor technology
- Connection of sensors in 3-conductor technology
- Connection of actuators in 2- and 3-conductor technology
- Parameter data storage on the master
- IO-Link specification V1.1.2
- Substitute value behavior of inputs and outputs can be parameterized for each port
- IOL-CONF supported
- Device rating plate stored

## Commercial data

Item number	1088132
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR05
Product key	DRIB53
GTIN	4055626887470
Weight per piece (including packing)	40 g
Weight per piece (excluding packing)	37 g
Customs tariff number	85389091
Country of origin	DE

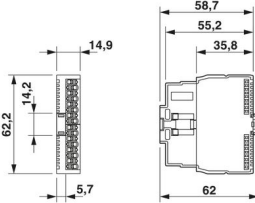
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## Technical data

### Dimensions

Dimensional drawing	
Width	14.9 mm
Height	62.2 mm
Depth	62 mm

### Interfaces

#### Smart Element interface

Number of interfaces	1
Connection method	Card edge connector
Transmission speed	See system in which you use the Smart Element.
Start time until ready to operate	< 500 ms

### System properties

#### Module

ID code (hex)	none
Process data channel	512 bit
Input address area	64 Byte
Output address area	64 Byte

### Input data

#### Digital

Description of the input	IO-Link ports in digital input (DI) mode
Number of inputs	max. 4 (EN 61131-2 type 1)
Connection method	Push-in connection
Connection technology	3-conductor
Nominal input voltage $U_{IN}$	24 V DC
Input voltage range "0" signal	-0.3 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC
Nominal input current	typ. 2.5 mA
Sensor current per channel	max. 500 mA (from L+/L-)
Input filter time	1 $\mu$ s

#### IO-Link

Number of ports	4
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Connection method	Push-in connection
Connection technology	3-conductor
Port type	Class A

## Output data

### Digital

Output description	IO-Link ports in digital output (DO) mode
Connection method	Push-in connection
Connection technology	2-, 3-conductor
Number of outputs	max. 4
Nominal output voltage	24 V DC
Nominal current per channel	200 mA

## Product properties

Type	modular
Product type	I/O component
Product family	Axioline Smart Elements
Mounting position	See the system in which the Smart Element is used.

### Insulation characteristics

Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

## Electrical properties

### Supply: IO-Link

Nominal voltage for I/O supply	24 V DC
Supply voltage range	18 V DC ... 30 V DC (including all tolerances, including ripple)
Nominal current for every IO-Link port	500 mA (at L+/L-) 200 mA (at C/Q)
Protective circuit	Overload protection for L+; electronically limited to 0.6 A Short-circuit protection for L+; by switching off after 55 ms

### Potentials: Communications power supply of the Smart Elements ( $U_{SE}$ )

Supply voltage	using card edge connectors
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### Potentials: I/O supply ( $U_P$ ) incl. IO-Link port supply

Supply voltage	24 V DC (using card edge connectors)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 2030 mA (Internal current consumption + full load of the 4 IO-Link ports (4 x 500 mA)) typ. 2020 mA
Current consumption	min. 18 mA (without connected peripherals)
Power consumption	max. 61 W (of which 1.45 W internal losses) min. 432 mW

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Protective circuit	Surge protection; See the system in which the Smart Element is used.
	Reverse polarity protection; Polarity protection diode
Electrical isolation/isolation of the voltage ranges	
Test voltage: Communications supply / 24 V supply (I/O)	500 V AC, 50 Hz, 1 min.
Test voltage: Communications supply / functional ground	500 V AC, 50 Hz, 1 min.
Test voltage: 24 V supply (I/O) / functional ground	500 V AC, 50 Hz, 1 min.

## Connection data

### Connection technology

Connection name	I/O
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline Smart Elements" user manual.

### Conductor connection

Connection method	Push-in connection
Conductor cross section rigid	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Stripping length	8 mm

### I/O

Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline Smart Elements" user manual.
Conductor cross section, rigid	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Stripping length	8 mm

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Degree of protection	IP20
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)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)

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## Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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## Mounting

Mounting type	Smart Element slot
Mounting position	See the system in which the Smart Element is used.

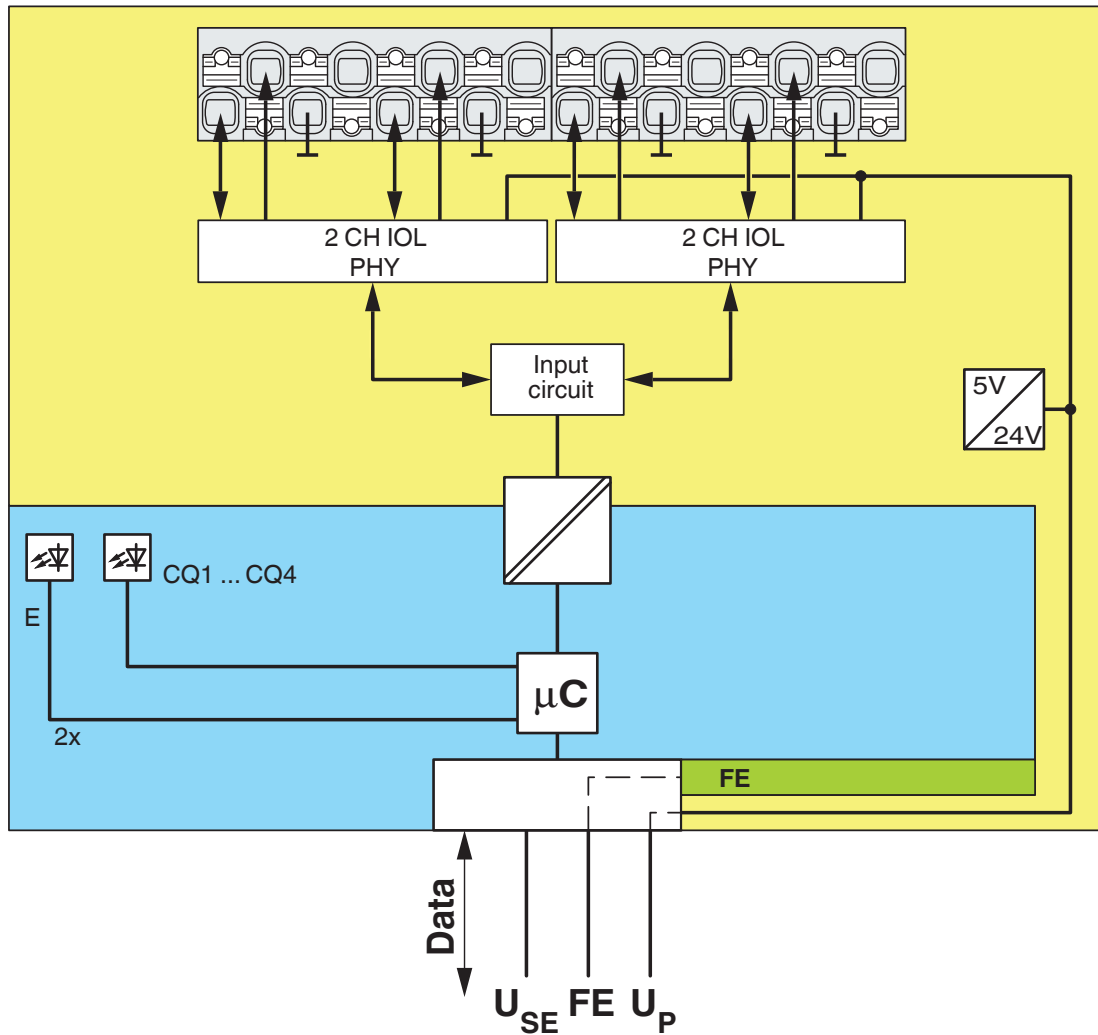
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## Drawings

Block diagram



Internal wiring of the terminal points

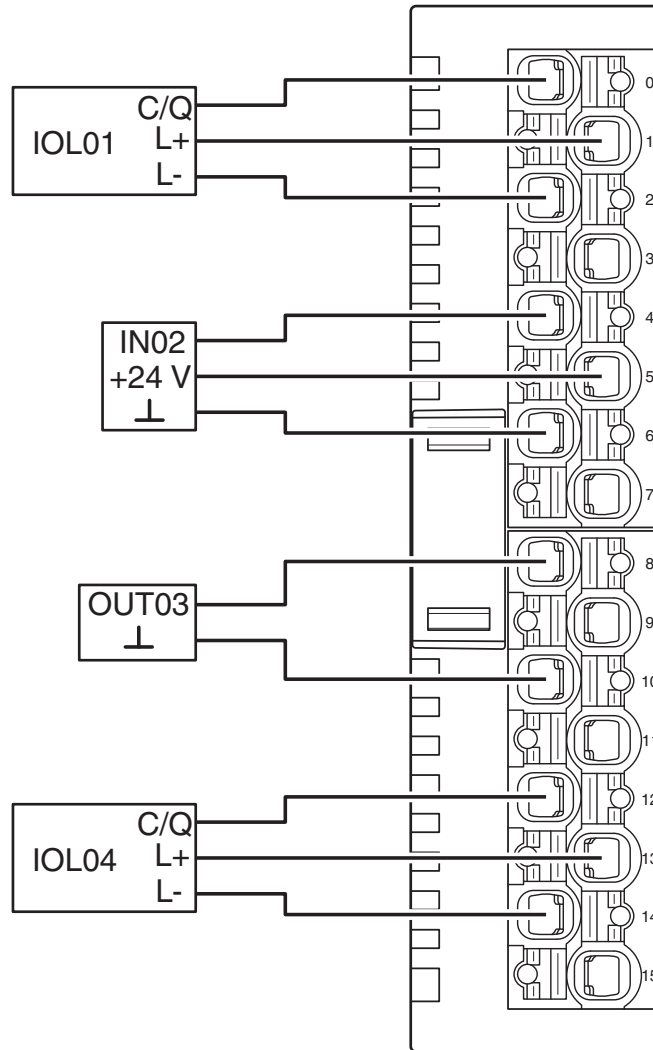
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Connection diagram



Connection example

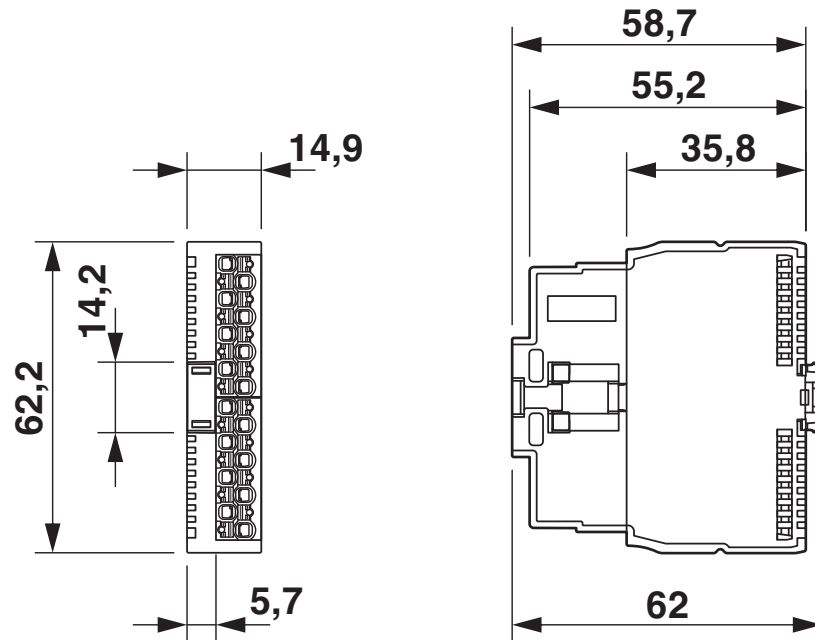
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Dimensional drawing



Dimensions



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## Approvals

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**UL Listed**

Approval ID: E238705



**cUL Listed**

Approval ID: E238705

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-11.0	27242608
ECLASS-12.0	27242608
ECLASS-13.0	27242608

### ETIM

ETIM 9.0	EC001604
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### UNSPSC

UNSPSC 21.0	32151600
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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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## Mandatory accessories

### AXL F BP SE4 - Module carrier

1088135

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Axioline F, Backplane, 4 slots for Axioline Smart Elements, transmission speed in the local bus: 100 Mbps, degree of protection: IP20



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### AXL F BP SE6 - Module carrier

1088136

<https://www.phoenixcontact.com/us/products/1088136>

Axioline F, Backplane, 6 slots for Axioline Smart Elements, transmission speed in the local bus: 100 Mbps, degree of protection: IP20



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## Accessories

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## SZS 0,4X2,5 VDE - Screwdriver

1205037

<https://www.phoenixcontact.com/us/products/1205037>



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

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## CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/us/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

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## CRIMPFOX DUO 10 - Crimping pliers

1031721

<https://www.phoenixcontact.com/us/products/1031721>



Crimping pliers, contact connection type: Insulated and uninsulated ferrules, standards/specifications: DIN 46228-1, DIN 46228-4, UL 486F, form A, E, F, min. cross section: 0.14 mm<sup>2</sup>, max. cross section: 10 mm<sup>2</sup>, for TWIN ferrules up to 2 x 4 mm<sup>2</sup>, automatic cross section adjustment, rotating die, lateral and frontal insertion, compression: Trapezoidal crimp, black/green

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## CRIMPFOX 10T-F - Crimping pliers

1134913

<https://www.phoenixcontact.com/us/products/1134913>



Crimping pliers, contact connection type: Insulated and uninsulated ferrules, standards/specifications: DIN 46228-1, DIN 46228-4, min. cross section: 0.14 mm<sup>2</sup>, max. cross section: 10 mm<sup>2</sup>, For TWIN ferrules up to 2 x 4 mm<sup>2</sup>, automatic cross section adjustment, frontal insertion, compression: Trapezoidal crimp, black

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## MM-TML (EX4,2)R C1 TR/BK - Label

0803979

<https://www.phoenixcontact.com/us/products/0803979>



Label, Roll, transparent/black, unlabeled, can be labeled with: THERMOFOX, THERMOMARK GO, THERMOMARK GO.K, mounting type: adhesive, lettering field size: continuous x 3.2 mm, Number of individual labels: 1

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## SK 5,0 WH:REEL - Marker strip

0805221

<https://www.phoenixcontact.com/us/products/0805221>



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 5 mm, Number of individual labels: 10

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## UM6M-TM (5X12) - Marker for terminal blocks

0830928

<https://www.phoenixcontact.com/us/products/0830928>



Marker for terminal blocks, Strip, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5 x 12 mm, Number of individual labels: 24

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## UCT6M-TM 5 - Marker for terminal blocks

0830756

<https://www.phoenixcontact.com/us/products/0830756>



Marker for terminal blocks, for marking ABB terminal blocks from the SNK series, Sheet, white, unlabeled, can be labeled with: THERMOMARK CARD, THERMOMARK CARD 2.0, THERMOMARK PRIME, BLUEMARK ID, BLUEMARK ID COLOR, TOPMARK LASER, TOPMARK NEO, mounting type: snapped, for terminal block width: 5.2 mm, lettering field size: 4.17 x 11.3 mm



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## IOL-CONF - Configuration and diagnostic software

1083065

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IOL-CONF is a browser-based configuration software tool for the easy startup of IO-Link masters and IO-Link devices

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