

# Analog module - AXL SE AI4 I 4-20

1088062

<https://www.phoenixcontact.com/us/products/1088062>

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Axioline Smart Elements, Analog input module, Analog inputs: 4, 4 mA ... 20 mA, connection technology: 2-conductor, degree of protection: IP20

## Product Description

You can integrate Axioline Smart Elements into systems with the Smart Element interface. This Smart Element detects analog current signals.

## Your advantages

- 4 analog input channels
- Connection of sensors in 2-conductor technology
- Current range: 4 mA ... 20 mA
- Data format: standardized representation
- Resolution: 12 bits
- Wire-break detection
- Device rating plate stored

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## Commercial Data

Item number	1088062
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	C21
Product Key	DRIB41
GTIN	4055626887623
Weight per Piece (including packing)	36.8 g
Weight per Piece (excluding packing)	35 g
Customs tariff number	85389091
Country of origin	DE

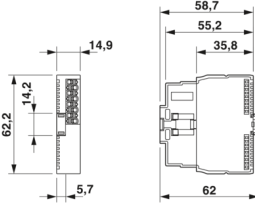
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## Technical Data

### Dimensions

Dimensional drawing	
Width	14.9 mm
Height	62.2 mm
Depth	62 mm

### Notes

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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### Material specifications

Color	traffic grey A RAL 7042
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### Interfaces

#### Smart Element interface

No. of channels	1
Connection method	Card edge connector
Transmission speed	See system in which you use the Smart Element.
Start time until ready to operate	< 1000 ms

### System properties

#### Module

ID code (hex)	none
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### Input data

#### Analog

Input name	Analog inputs
Description of the input	Single-ended inputs, current
Number of inputs	4
A/D converter resolution	12 bit
Connection method	Push-in technology
Connection technology	2-conductor
Note regarding the connection technology	shielded, twisted pair

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Current input signal	4 mA ... 20 mA
Input resistance current input	max. 60 Ω
Data formats	Standardized representation
Measured value representation	16 bits
Protective circuit	Transient protection

## Product properties

Type	modular
Product type	I/O component
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

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

Supply voltage	using card edge connectors
Current draw	max. 22 mA

### Potentials: I/O supply ( $U_p$ )

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. 20 mA typ. 15 mA
Current consumption	min. 12 mA (without connected peripherals)
Power consumption	max. 480 mW
Power consumption	min. 288 mW
Protective circuit	Surge protection; See the system in which the Smart Element is used. Reverse polarity protection; Polarity protection diode

## Connection data

### Connection technology

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

### Conductor connection

Connection method	Push-in connection
Conductor cross section solid	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>

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Stripping length	8 mm
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## 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, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Stripping length	8 mm

## 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)

## 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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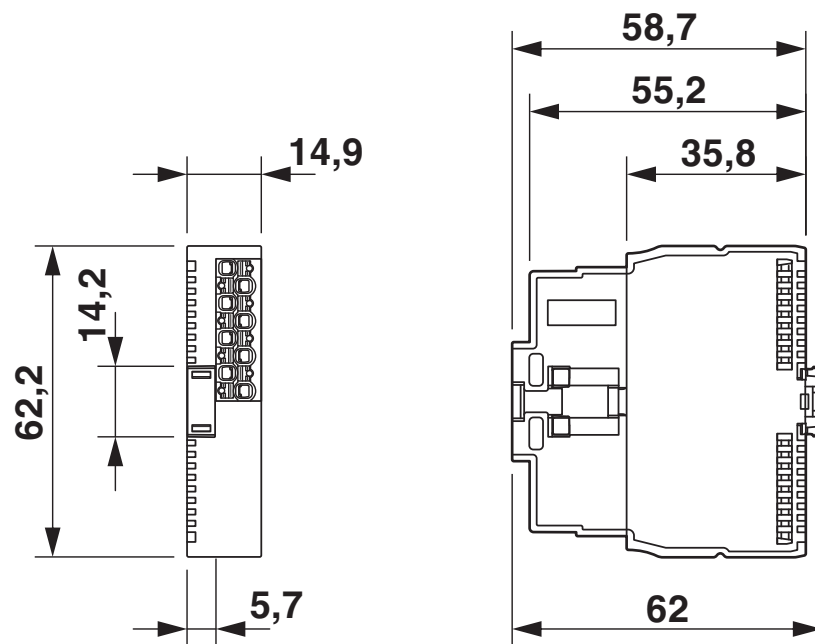
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## Drawings

Dimensional drawing



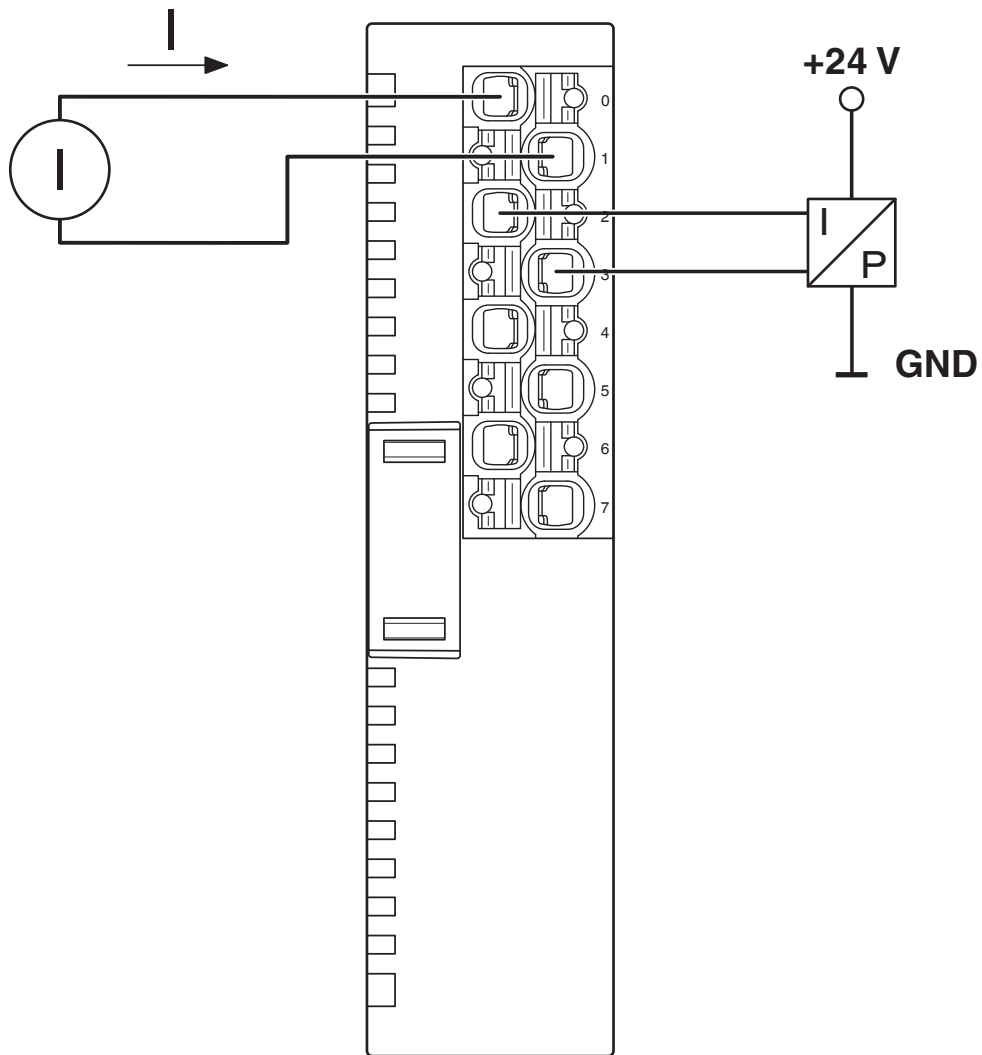
## Dimensions

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Connection diagram



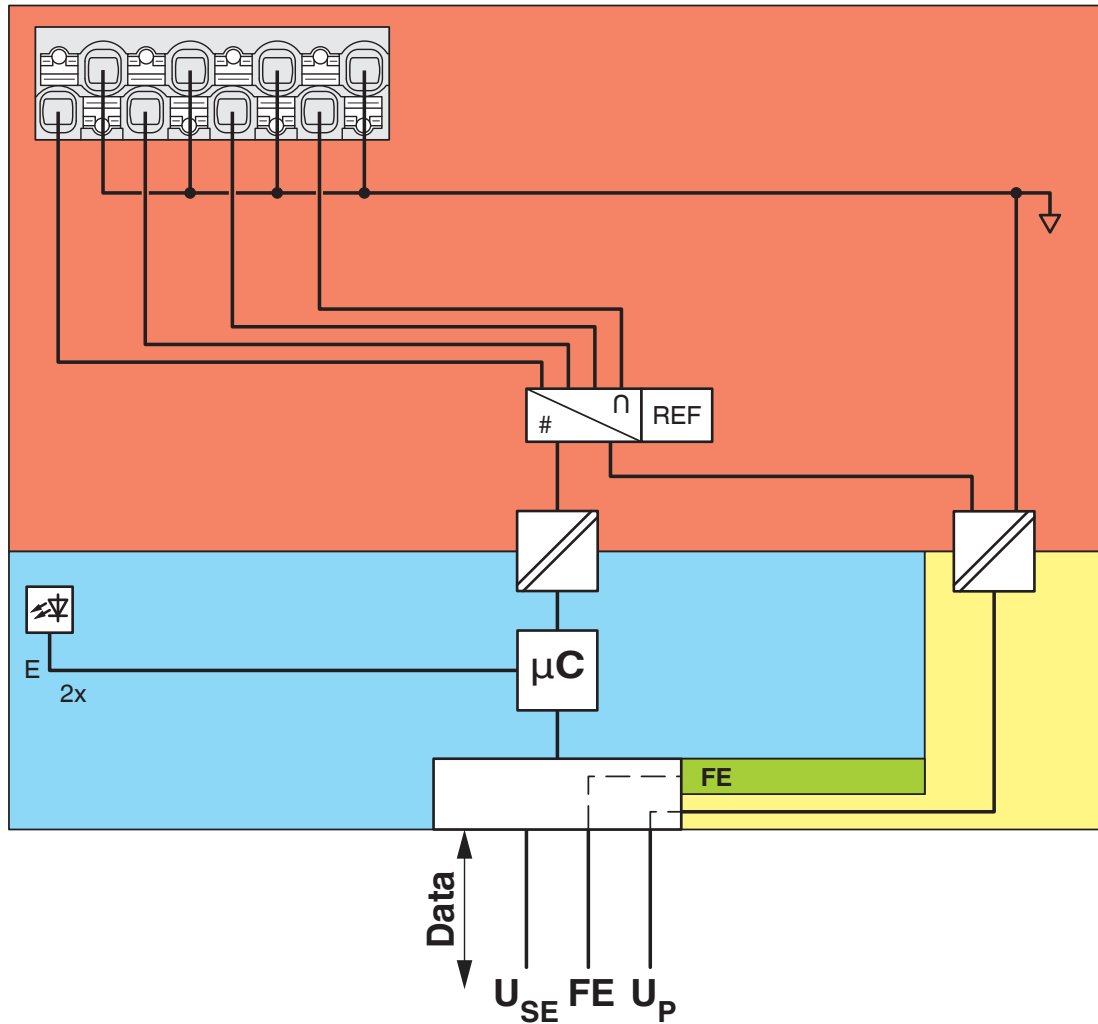
Connection example

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Block diagram



Internal wiring of the terminal points

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## Approvals



**UL Listed**

Approval ID: FILE E 238705



**cUL Listed**

Approval ID: FILE E 238705

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-9.0	27242601
ECLASS-10.0.1	27242601
ECLASS-11.0	27242601
ECLASS-12.0	27242601

### ETIM

ETIM 8.0	EC001596
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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

### Module carrier

Module carrier - AXL F BP SE4 - 1088135

<https://www.phoenixcontact.com/us/products/1088135>

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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### Module carrier

Module carrier - AXL F BP SE6 - 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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## Screwdriver

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

Crimping pliers - CRIMPFOX 6 - 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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## Crimping pliers

Crimping pliers - CRIMPFOX DUO 10 - 1031721

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



Crimping pliers, type of contact: Insulated and uninsulated ferrules, min. cross section:  $0.14 \text{ mm}^2$ , max. cross section:  $10 \text{ mm}^2$ , for TWIN ferrules up to  $2 \times 4 \text{ mm}^2$ , automatic cross section adjustment, rotating die, lateral and frontal insertion, compression: Trapezoidal crimp, black/green

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## Crimping pliers

Crimping pliers - CRIMPFOX 10T-F - 1134913

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



Crimping pliers, type of contact: Insulated and uninsulated ferrules, standards/specifications: DIN 46228-1, DIN 46228-4, min. cross section:  $0.14 \text{ mm}^2$ , max. cross section:  $10 \text{ mm}^2$ , For TWIN ferrules up to  $2 \times 4 \text{ mm}^2$ , automatic cross section adjustment, frontal insertion, compression: Trapezoidal crimp, black

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## Label

Label - MM-TML (EX4,2)R C1 TR/BK - 0803979

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



Label, Roll, transparent, unlabeled, can be labeled with: THERMOFOX, THERMOMARK GO, THERMOMARK GO.K, mounting type: adhesive, for terminal block width: 8000 mm, lettering field size: continuous x 3.2 mm

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## Marker strip

Marker strip - SK 5,0 WH:REEL - 0805221

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



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: continuous x 5 mm, Number of individual labels: 90000

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## Marker for terminal blocks

Marker for terminal blocks - UM6M-TM (5X12) - 0830928

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

Markers for marking terminal blocks from ABB/Entelec, 24-section, unmarked, can be marked with THERMOMARK CARD and BLUEMARK, color: white



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## Marker for terminal blocks from the SNK series from ABB

Marker for terminal blocks from the SNK series from ABB - UCT6M-TM 5 - 0830756

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

Marker for terminal blocks from the SNK series from ABB, 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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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)