I/O module - AXL SE AI4 U 0-10 - 1088104

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Axioline Smart Elements, Analog input module, Analog inputs: 4, 0 V ... 10 V, connection method: 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 voltage signals.

Your advantages

- 4 analog input channels
- Connection of sensors in 2-conductor technology
- Voltage range: 0 V ... 10 V
- Data format: standardized representation
- Resolution: 12 bits
- Substitute value behavior can be parameterized for each input
- Device rating plate stored

RoHS COMPLETE line

Key Commercial Data

Packing unit	1 pc
GTIN	4 055626 887715
GTIN	4055626887715
Weight per Piece (excluding packing)	40.000 g
Custom tariff number	85389091
Country of origin	Germany

Technical data

Note

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Technical data

Note

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

Dimensions

Caption	Dimensions
Width	14.9 mm
Height	62.2 mm
Depth	62 mm

Ambient conditions

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

Connection data

Designation	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 solid min.	0.25 mm²
Conductor cross section solid max.	1.5 mm²
Conductor cross section flexible min.	0.25 mm²
Conductor cross section flexible max.	1.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 1.5 mm²
Stripping length	8 mm

General

Mounting type	Smart Element slot
Color	traffic grey A RAL 7042
Net weight	35 g
Degree of pollution	2 (EN 60664-1)
Mounting position	See the system in which the Smart Element is used.

Interfaces

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Interfaces

Designation	Smart Element interface
Number	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

Axioline potentials

Designation	Communications power supply of the Smart Elements (U_{SE})
Additional text	using card edge connectors
Current consumption	max. 22 mA
Designation	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 consumption	min. 12 mA (without connected peripherals)
	typ. 15 mA
	max. 20 mA
Power consumption	min. 288 mW
	max. 480 mW
Protective circuit	Surge protection See the system in which the Smart Element is used.
	Reverse polarity protection Polarity protection diode
Protection	See the system in which the Smart Element is used.

Analog inputs

Description of the input	Single-ended inputs, voltage
Input name	Analog inputs
Number of inputs	4
Connection method	Push-in technology
Connection technology	2-conductor
Note regarding the connection technology	shielded, twisted pair
A/D converter resolution	12 bit
Type of protection	Transient protection
Data formats	Standardized representation
Measured value representation	16 bits
Voltage input signal	0 V ... 10 V
Input resistance of voltage input	> 100 kΩ

Electrical isolation

Test section	Communications supply / 24 V supply (I/O) 500 V AC 50 Hz 1 min.
	Communications supply / functional ground 500 V AC 50 Hz 1 min.

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Electrical isolation

	24 V supply (I/O) / functional ground 500 V AC 50 Hz 1 min.

Standards and Regulations

Immunity to ESD	Noise immunity test in accordance with EN 61000-6-2 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion B, 6 kV contact discharge, 8 kV air discharge
Immunity to EF	Noise immunity test in accordance with EN 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Noise immunity test in accordance with EN 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion A, 2 kV
Immunity to surge	Noise immunity test in accordance with EN 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion B, shielded I/O cables: ±1 kV asymmetrical
Immunity to conducted interference	Noise immunity test in accordance with EN 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test as per EN 61000-6-4 Class A
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
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II (IEC 60664-1)

Environmental Product Compliance

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Drawings

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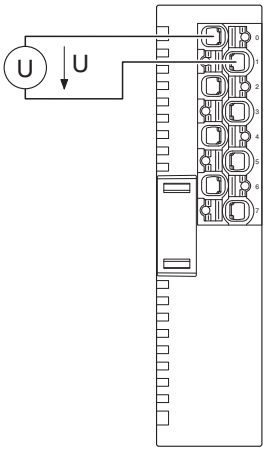
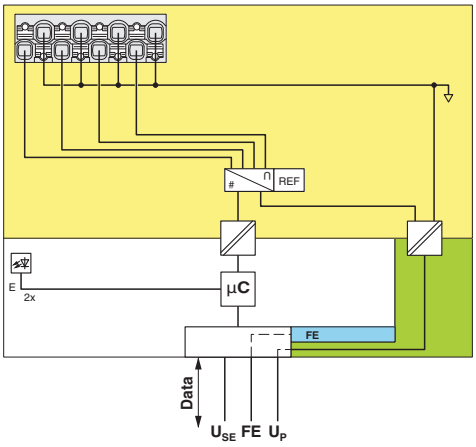
Connection diagram



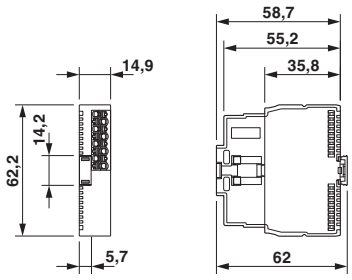
Block diagram



Internal wiring of the terminal points

Connection example

Dimensional drawing



Dimensions

Classifications

eCl@ss

eCl@ss 10.0.1	27242601
eCl@ss 11.0	27242601
eCl@ss 9.0	27242601

ETIM

ETIM 7.0	EC001596

Accessories

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Accessories

Crimping tool

Crimping pliers - CRIMPFOX 6 - 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 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

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Crimping pliers - CRIMPFOX DUO 10 - 1031721

Crimping pliers, type of contact: Insulated and uninsulated ferrules, min. cross section: 0.14 mm², max. cross section: 10 mm², for TWIN ferrules up to 2 x 4 mm², automatic cross section adjustment, rotating die, lateral and frontal insertion, compression: Trapezoidal crimp, black/green

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Crimping pliers - CRIMPFOX 10T-F - 1134913

Crimping pliers, type of contact: Insulated and uninsulated ferrules, standards/specifications: DIN 46228-1, DIN 46228-4, min. cross section: 0.14 mm², max. cross section: 10 mm², For TWIN ferrules up to 2 x 4 mm², automatic cross section adjustment, frontal insertion, compression: Trapezoidal crimp, black

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I/O component

Module carrier - AXL F BP SE4 - 1088135

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

Module carrier - AXL F BP SE6 - 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

Screwdriver tools

Screwdriver - SZS 0,4X2,5 VDE - 1205037

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

Terminal marking

Label - MM-TML (EX4,2)R C1 TR/BK - 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 4.2 mm

Marker strip - SK 5,0 WH:REEL - 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

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

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

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Accessories

Marker for terminal blocks from the SNK series from ABB - UCT6M-TM 5 - 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: snap into tall marker groove, for terminal block width: 5.2 mm, lettering field size: 4.17 x 11.3 mm