

I/O module - AXL SE RTD4 PT100 - 1088106

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Axioline Smart Elements, Temperature recording module, Analog RTD inputs: 4 (Pt 100), connection method: 3-conductor, degree of protection: IP20

Product Description


You can integrate Axioline Smart Elements into systems with the Smart Element interface. This Smart Element detects the signals of resistive temperature sensors.

Your advantages

- 4 analog input channels for the connection of resistance temperature detectors (Pt 100)
- Connection of sensors in 3-conductor technology
- 2- and 4-conductor sensors can also be connected
- Data format: standardized representation
- Resolution: 16 bits
- Wire-break detection
- Substitute value behavior can be parameterized for each input
- Device rating plate stored



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 886176
GTIN	4055626886176
Weight per Piece (excluding packing)	40.000 g
Custom tariff number	85389091
Country of origin	Germany

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Technical data

Note

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

Caption	Dimensions (in mm)
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 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.25 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1.5 mm ²
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.

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Technical data

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. 25 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. 5 mA
	typ. 8 mA
	max. 12 mA
Power consumption	min. 120 mW
	max. 290 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

Number of inputs	4 (Pt 100)
Input name	Analog RTD inputs
Description of the input	Inputs for resistive temperature sensors
Connection method	Push-in connection
Connection technology	3-conductor
Note regarding the connection technology	shielded, 2-, 3-, and 4-conductor sensors can be connected
Sensor types (RTD) that can be used	Pt 100 (IEC 60751/EN 60751)
Nominal value of the current sources	1 mA (pulsed current, the data is valid during the sampling phase)
Measured value representation	16 bits (15 bits + sign bit)
A/D converter resolution	16 bit
Process data update	typ. 1 ms
Type of protection	Overload protection
	Transient protection
Data formats	Standardized representation

Electrical isolation

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Technical data

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.
	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 B, 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)

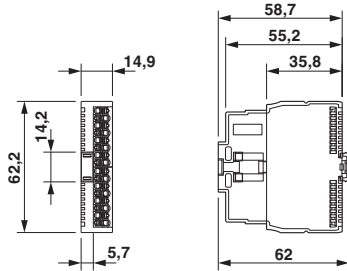
Environmental Product Compliance

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

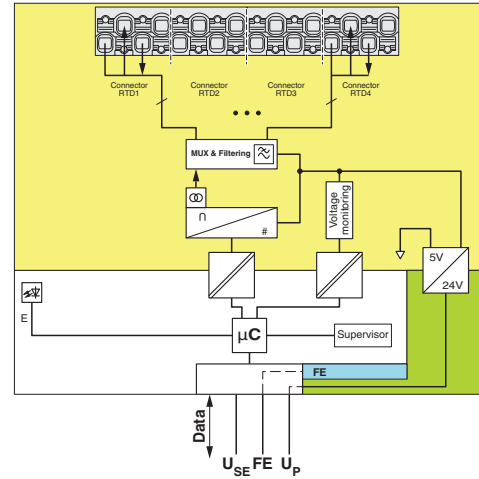
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Dimensional drawing



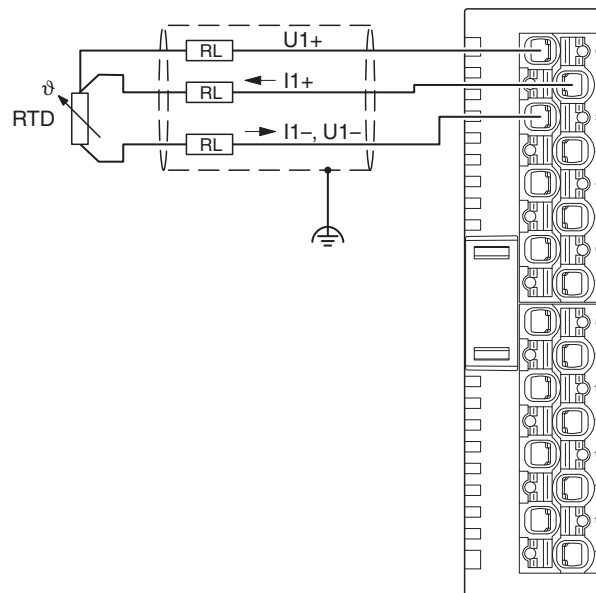
Dimensions (in mm)

Block diagram



Internal wiring of the terminal points

Connection diagram



Connection example

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Classifications

eCl@ss

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

ETIM

ETIM 7.0	EC001596
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Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cULus Listed			
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Accessories

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Crimping tool

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Accessories

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

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

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

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/Entelec, 24-section, unmarked, can be marked with THERMOMARK CARD and BLUEMARK, color: white



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

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Accessories

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