

AXL SE RTD4 PT100 - Temperature module



1088106

<https://www.phoenixcontact.com/us/products/1088106>

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Axioline Smart Elements, Temperature recording module, Detection of Pt 100 temperature sensors, Analog RTD inputs: 4 (Pt 100), connection technology: 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

Commercial data

Item number	1088106
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR05
Product key	DRIB43
GTIN	4055626886176
Weight per piece (including packing)	39.8 g
Weight per piece (excluding packing)	35 g
Customs tariff number	85389099
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

Note on application

Note on application	Only for industrial use
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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	< 1000 ms

System properties

Module

ID code (hex)	none
Process data channel	64 bit
Input address area	8 Byte
Output address area	0 Byte
Required parameter data	24 Byte
Required configuration data	6 Byte

Input data

Analog:

Input name	Analog RTD inputs
Description of the input	Inputs for resistive temperature sensors
Number of inputs	4 (Pt 100)
Connection method	Push-in connection
Connection technology	3-conductor
Note regarding the connection technology	shielded, 2-, 3-, and 4-conductor sensors can be connected

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A/D converter resolution	16 bit
Sensor types (RTD) that can be used	Pt 100 (IEC 60751/EN 60751)
Tolerance, relative	typ. 0.05 % (Measuring range: -200°C ... 400°C, based on the positive measuring range final value of 850°C)
	max. 0.1 % (Measuring range: -200°C ... 400°C, based on the positive measuring range final value of 850°C)
	typ. 0.1 % (Measuring range: -200°C ... 850°C, based on the positive measuring range final value of 850°C)
	max. 0.2 % (Measuring range: -200°C ... 850°C, based on the positive measuring range final value of 850°C)
Tolerance, absolute	see tables for tolerance values
Data formats	Standardized representation
Measured value representation	16 bits (15 bits + sign bit)
Nominal value of the current sources	1 mA (pulsed current, the data is valid during the sampling phase)
Process data update	typ. 1 ms
Protective circuit	Overload protection; max. ±40 V DC, 1 min.
	Transient protection

Product properties

Product family	Axiline Smart Elements
Application	Detection of Pt 100 temperature sensors
Type	modular
Mounting position	See the system in which the Smart Element is used.

Insulation characteristics

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

Electrical properties

Maximum power dissipation for nominal condition	0.4 W
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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)

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. 12 mA
	typ. 8 mA
Current consumption	min. 5 mA (without connected peripherals)
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

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Test voltage: 24 V supply (I/O) / functional ground	500 V AC, 50 Hz, 1 min
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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 ² ... 1.5 mm ²
Conductor cross-section flexible	0.25 mm ² ... 1.5 mm ²
Conductor cross-section AWG	24 ... 16
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²
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 ² ... 1.5 mm ²
Conductor cross-section, flexible	0.25 mm ² ... 1.5 mm ²
Conductor cross-section AWG	24 ... 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

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)

Standards and regulations

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

Mounting type	Plug-in mounting (Smart Element slot)
Mounting position	See the system in which the Smart Element is used.

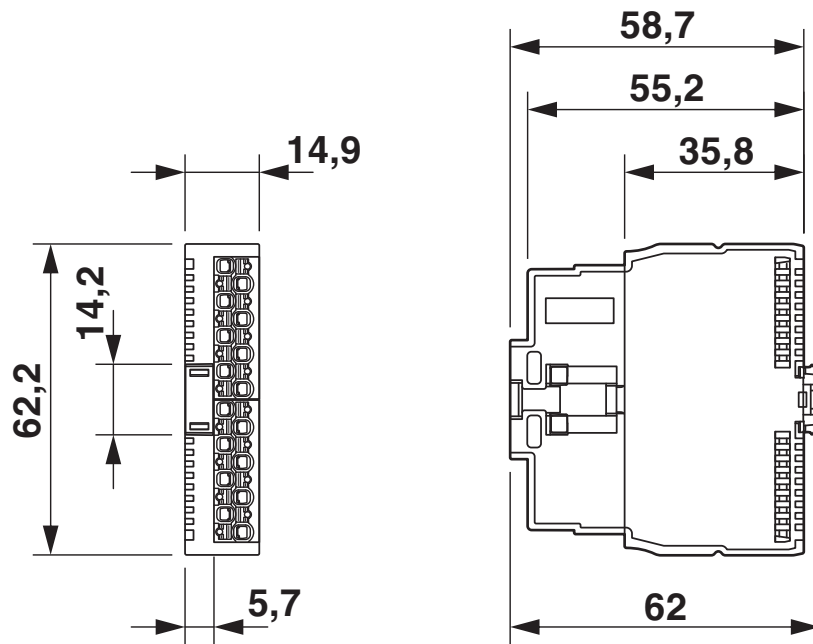
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Drawings

Dimensional drawing



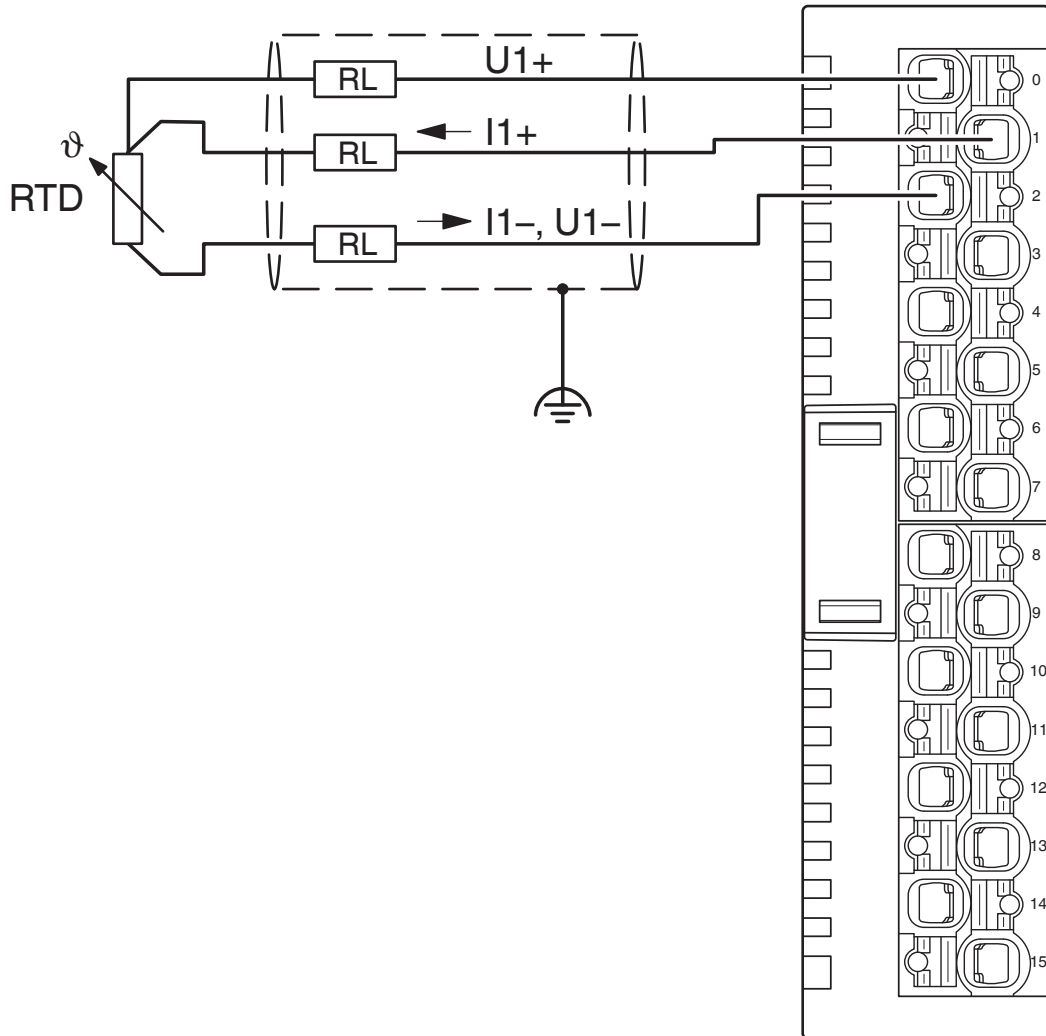
Dimensions (in mm)

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Connection diagram



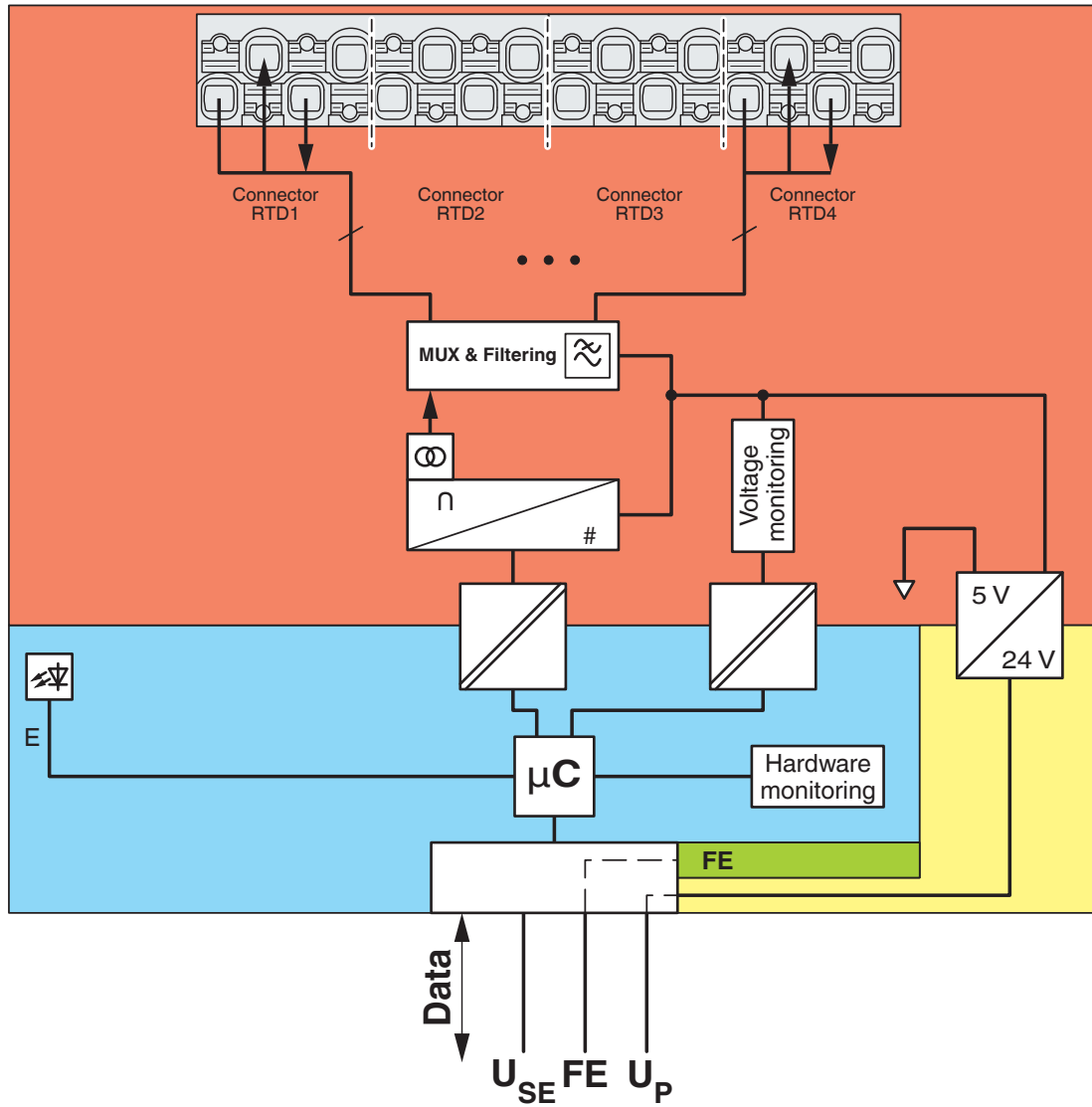
Connection example

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Block diagram



Internal wiring of the terminal points

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Approvals

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LR

Approval ID: LR23402057TA



RINA

Approval ID: ELE263623XG

ABS

Approval ID: 24-2510075-PDA

DNV

Approval ID: TAA00003B0



cULus Listed

Approval ID: E238705

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Classifications

ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

ETIM

ETIM 10.0	EC001596
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UNSPSC

UNSPSC 21.0	32151600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I, 7(c)-II

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	86f43deb-d15d-404d-8cf4-cbb255172da5

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