

# 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

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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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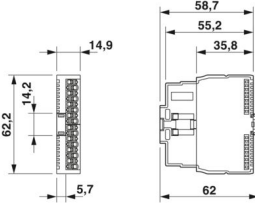


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## Technical data

### 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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### Material specifications

Color (Housing)	gray (RAL 7042)
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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

Programming data (LocalbusSlave)

Process data channel	64 bit
Input address area	8 Byte
Output address area	0 Byte

Fieldbus data telegram (PROFIBUS)

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
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 type	I/O component
Product family	Axioline 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, EN 60664-1)
Pollution degree	2 (IEC 60664-1, 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)

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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.

## 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 "Axiline Smart Elements" user manual.

### I/O

Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross-sections in the "Axiline 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> 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

## 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)

### Mechanical test

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	30g
Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	10g

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## 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.

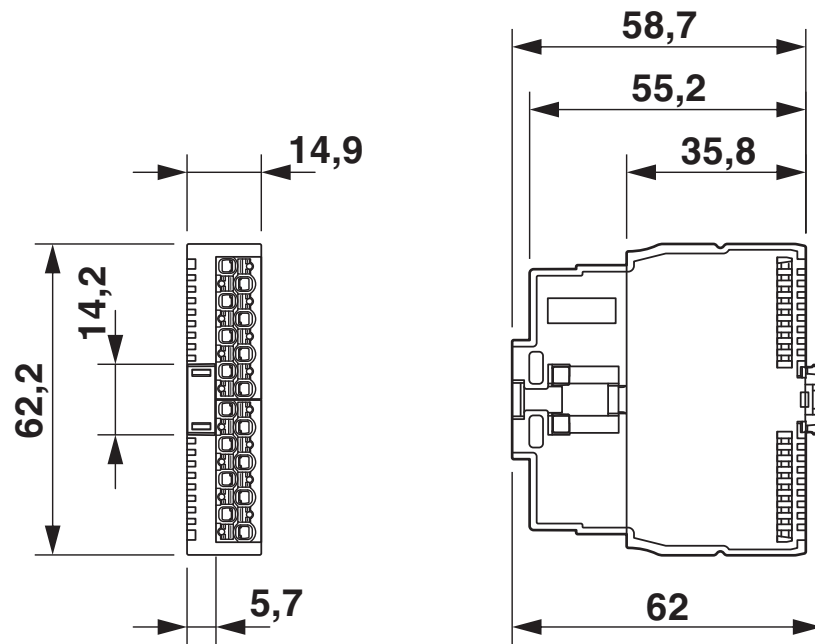
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## Drawings

Dimensional drawing



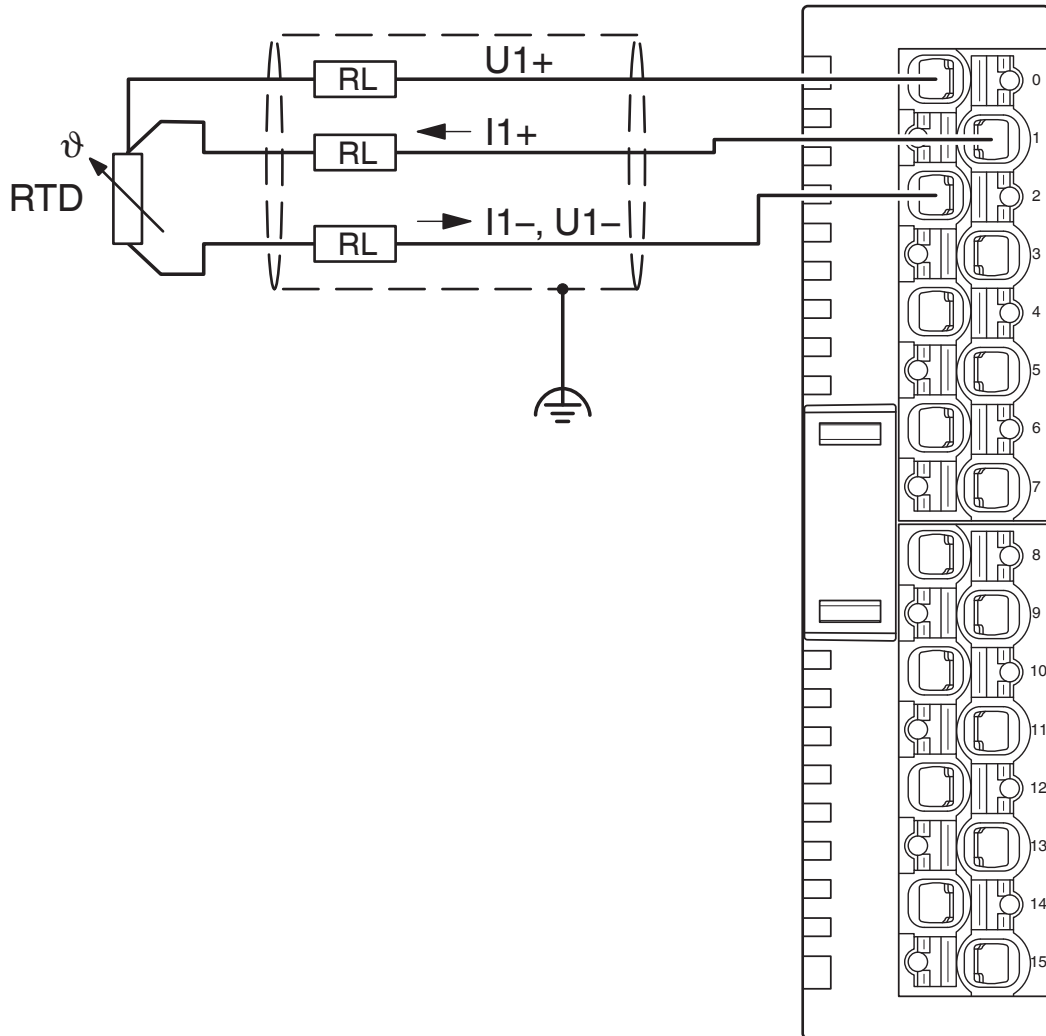
Dimensions (in mm)

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Connection diagram



Connection example



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## 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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