

# IB IL RTD 4/PT100-ECO - Temperature module



2702499

<https://www.phoenixcontact.com/us/products/2702499>

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Inline, Temperature measurement terminal, Analog RTD inputs: 4 (Pt 100), connection technology: 2-conductor, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connector

## Product description

The terminal is designed for use within an Inline station. It is used to acquire signals from resistive temperature sensors. The measured values are depicted in standardized representation format. Inline ECO terminals are approved for the temperature range from 0°C to +55°C. The electronics base and Inline connector are supplied as standard.

## Your advantages

- 4 analog inputs
- Connection of sensors in 2-conductor technology
- Supported sensors: Pt 100
- Data format: standardized representation
- Diagnostic information in the process data word

## Commercial data

Item number	2702499
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI143
GTIN	4055626203195
Weight per piece (including packing)	83.6 g
Weight per piece (excluding packing)	69 g
Customs tariff number	85389099
Country of origin	DE

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## Technical data

### Dimensions

Dimensional drawing	
Width	12.2 mm
Height	119.8 mm
Depth	71.5 mm

### Notes

Note on application

Note on application	Only for industrial use
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### Interfaces

Inline local bus

Number of interfaces	2
Connection method	Inline data jumper
Transmission speed	500 kbps

### System properties

Module

ID code (dec.)	126
ID code (hex)	7E
Length code (hex)	04
Length code (dec)	04
Process data channel	64 bit
Input address area	8 Byte
Output address area	0 Byte
Register length	64 bit
Required parameter data	1 Byte
Required configuration data	4 Byte

### Input data

Analog:

Input name	Analog RTD inputs
Description of the input	Inputs for resistive temperature sensors
Number of inputs	4 (Pt 100)

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Connection method	Inline connector
Connection technology	2-conductor
Note regarding the connection technology	shielded
A/D conversion time	typ. 120 ms
A/D converter resolution	24 bit
Sensor types (RTD) that can be used	Pt 100 (IEC 60751/EN 60751)
Tolerance, relative	typ. 0.2 % (of measuring range final value, at $T_A = 25^\circ\text{C}$ )
Data formats	Standardized representation
Input filter	Digital filter
Input filter time	120 ms (per channel)
Nominal value of the current sources	1 mA (pulsed current, the data is valid during the sampling phase)
Process data update	< 10 ms
Protective circuit	Overload protection; max. $\pm 40$ V DC, 1 min. Transient protection; Suppressor diode

## Product properties

Product type	I/O component
Product family	Inline
Type	modular
Installation location	Control cabinet
Scope of supply	including Inline connector
Diagnostics messages	Failure of the internal I/O supply I/O error message sent to the bus coupler Checksum error I/O error message sent to the bus coupler

## Insulation characteristics

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

## Electrical properties

Maximum power dissipation for nominal condition	0.95 W
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### Potentials: Communications power ( $U_L$ )

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 85 mA typ. 56 mA

### Potentials: Supply of analog modules ( $U_{ANA}$ )

Supply voltage	24 V DC (via voltage jumper)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 14 mA typ. 7.3 mA

### Electrical isolation/isolation of the voltage ranges

Test voltage: Bus logic (local bus, communications power)	500 V AC, 50 Hz, 1 min
Test voltage: Analog I/O	500 V AC, 50 Hz, 1 min

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Test voltage: Functional ground	500 V AC, 50 Hz, 1 min
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## Connection data

### Connection technology

Connection name	Inline connector
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### Inline connector

Connection method	Spring-cage connection
Conductor cross-section, rigid	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section AWG	28 ... 16
Stripping length	8 mm

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	0 °C ... 55 °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)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	10 % ... 95 % (according to DIN EN 61131-2)

## Standards and regulations

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

Mounting type	DIN rail mounting
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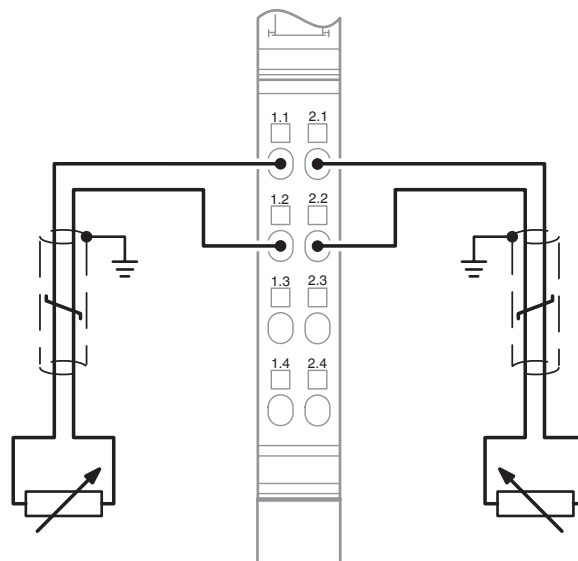
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## Drawings

Dimensional drawing



Connection diagram



Connecting the sensors

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## Approvals

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**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	fef5791c-bf83-4f47-964d-423d176f33a0

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