

IB IL RTD 4/PT1000-ECO - Temperature module



2702501

<https://www.phoenixcontact.com/us/products/2702501>

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Inline, Temperature measurement terminal, Analog RTD inputs: 4 (Pt 1000), 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 1000
- Data format: standardized representation
- Diagnostic information in the process data word
- Diagnostic indicator

Commercial data

| | |
|--------------------------------------|---------------------|
| Item number | 2702501 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DR01 |
| Product key | DRI143 |
| Catalog page | Page 119 (C-6-2019) |
| GTIN | 4055626206035 |
| Weight per piece (including packing) | 83.5 g |
| Weight per piece (excluding packing) | 83.5 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 |

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 | Input for resistive temperature sensors |
| Number of inputs | 4 (Pt 1000) |
| Connection method | Inline connector |
| Connection technology | 2-conductor |
| Note regarding the connection technology | shielded |
| A/D conversion time | typ. 120 ms |

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| | |
|--------------------------------------|---|
| A/D converter resolution | 24 bit |
| Sensor types (RTD) that can be used | Pt 1000 (IEC 60751/EN 60751) |
| Data formats | Standardized representation |
| Input filter | Digital filter |
| Input filter time | 120 ms (per channel) |
| Nominal value of the current sources | 210 μ A (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

| | |
|----------------------|--|
| Type | modular |
| Product type | I/O component |
| Product family | Inline |
| Scope of delivery | 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 |

Electrical properties

Potentials

| | |
|-------------------|----------------------------|
| Power consumption | typ. 0.67 W max. 0.97 W |
|-------------------|----------------------------|

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. |
| Test voltage: Functional ground | 500 V AC, 50 Hz, 1 min. |

Connection data

Connection technology

| | |
|-----------------|------------------|
| Connection name | Inline connector |
|-----------------|------------------|

Conductor connection

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| | |
|----------------------------------|--|
| Connection method | Spring-cage connection |
| Conductor cross section rigid | 0.08 mm ² ... 1.5 mm ² |
| Conductor cross section flexible | 0.08 mm ² ... 1.5 mm ² |
| Conductor cross section AWG | 28 ... 16 |
| Stripping length | 8 mm |

Inline connector

| | |
|-----------------------------------|--|
| Connection method | Spring-cage connection |
| Conductor cross section, rigid | 0.08 mm ² ... 1.5 mm ² |
| Conductor cross section, flexible | 0.08 mm ² ... 1.5 mm ² |
| 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) |
|------------------|---------------------------------------|

Mounting

| | |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27242601 |
| ECLASS-12.0 | 27242601 |
| ECLASS-13.0 | 27242601 |

ETIM

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| ETIM 9.0 | EC001596 |
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UNSPSC

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| UNSPSC 21.0 | 32151600 |
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Environmental product compliance

REACH SVHC

Lead 7439-92-1

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