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

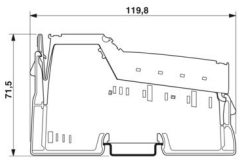
- 4 analog inputs
- Connection of sensors in 2-conductor technology
- Supported sensors: Pt 1000
- Data format: standardized representation
- Diagnostic information in the process data word
- Diagnostic indicator

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

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

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 µA (pulsed current, the data is valid during the sampling phase)
Process data update	< 10 ms
Protective circuit	Overload protection; max. ±40 V DC, 1 min.
	Transient protection; Suppressor diode

Product properties

Product type	I/O component
Product family	Inline
Type	modular
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

Connection method	Spring-cage connection
Conductor cross section rigid	0.08 mm² ... 1.5 mm²
Conductor cross section flexible	0.08 mm² ... 1.5 mm²
Conductor cross section AWG	28 ... 16
Stripping length	8 mm

Inline connector

Connection method	Spring-cage connection
Conductor cross section, rigid	0.08 mm² ... 1.5 mm²
Conductor cross section, flexible	0.08 mm² ... 1.5 mm²
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

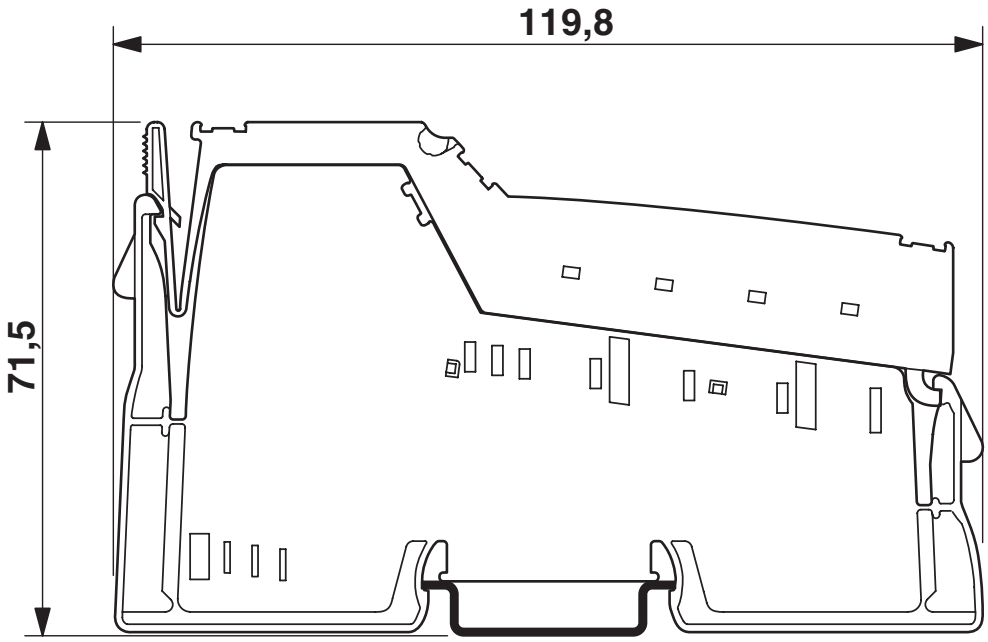
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

Mounting

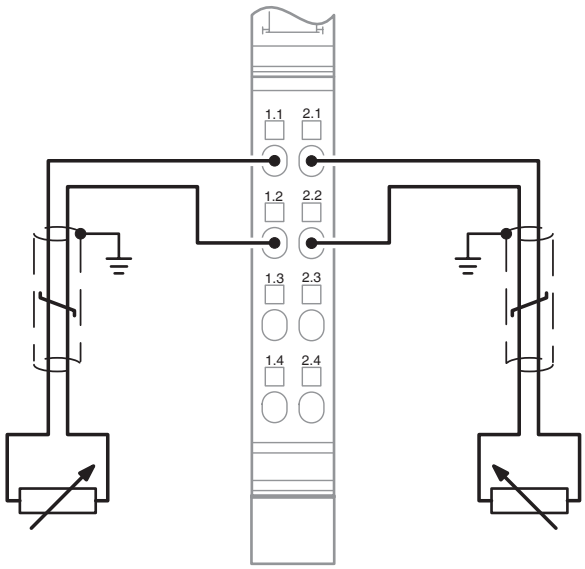
Mounting type	DIN rail mounting

Drawings

Dimensional drawing



Connection diagram



Connecting the sensors

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2702501

UL Listed
Approval ID: FILE E 238705

cUL Listed
Approval ID: FILE E 238705

UAE-RoHS
Approval ID: 22-04-13090

cULus Listed

Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001596

UNSPSC

UNSPSC 21.0	32151600

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	09ce3481-a852-4c5f-a1a4-64cdccbee3c9

Accessories

IB IL SCN-8 - Inline connector

2726337

https://www.phoenixcontact.com/us/products/2726337

Connector, for digital 1, 2 or 8-channel Inline terminals



IB IL FIELD 2 - Marking field

2727501

https://www.phoenixcontact.com/us/products/2727501

Marking field, width: 12.2 mm



ESL 62X10 - Insert strip

0809492

https://www.phoenixcontact.com/us/products/0809492



Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems, CMS-P1-PLOTTER, mounting type: insert, lettering field size: 62 x 10 mm, Number of individual labels: 72

SK 8 - Shield connection clamp

3025163

https://www.phoenixcontact.com/us/products/3025163



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

SK 14 - Shield connection clamp

3025176

https://www.phoenixcontact.com/us/products/3025176



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

SK 20 - Shield connection clamp

3025189

https://www.phoenixcontact.com/us/products/3025189



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

SK 35 - Shield connection clamp

3026463

https://www.phoenixcontact.com/us/products/3026463



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

AB-SK - Support bracket

3025341

https://www.phoenixcontact.com/us/products/3025341

Support bracket for busbars



AB-SK 65 - Support bracket

3026489

https://www.phoenixcontact.com/us/products/3026489

Support bracket, Bracket for busbars, set every 20 cm, width: 6.2 mm, height: 95.5 mm, number of positions: 1, color: gray, mounting type: DIN rail mounting



AB-SK/E - Support bracket

3026476

https://www.phoenixcontact.com/us/products/3026476

Support bracket, Bracket for busbars, set every 20 cm, depth: 20 mm, width: 56 mm, height: 10 mm, diameter: 4.5 mm, number of positions: 2, color: silver, mounting type: Direct mounting



NLS-CU 3/10 SN 1000MM - Neutral busbar

0402174

https://www.phoenixcontact.com/us/products/0402174



Neutral busbar, DIN VDE 0611-4: 1991-02, color: silver

AK 4 - Connection terminal block

0404017

https://www.phoenixcontact.com/us/products/0404017



Connection terminal block, connection method: Screw connection, Rated cross section: 4 mm^2, cross section: 0.5 mm^2 - 6 mm^2, mounting: Neutral busbar, color: silver

AKG 4 GNYE - Connection terminal block

0421029

https://www.phoenixcontact.com/us/products/0421029



Connection terminal block, nom. voltage: 300 V, nominal current: 41 A, connection method: Screw connection, Rated cross section: 4 mm^2, cross section: 0.5 mm^2 - 6 mm^2, mounting: Neutral busbar, color: green-yellow

AKG 4 BK - Connection terminal block

0421032

https://www.phoenixcontact.com/us/products/0421032



Connection terminal block, nom. voltage: 300 V, nominal current: 41 A, connection method: Screw connection, Rated cross section: 4 mm^2, cross section: 0.5 mm^2 - 6 mm^2, mounting: Neutral busbar, color: black

SKS 8 - Shield connection clamp

3240210

https://www.phoenixcontact.com/us/products/3240210



Shield connection terminal block, for applying the shield to busbars

SKS 14 - Shield connection clamp

3240211

https://www.phoenixcontact.com/us/products/3240211



Shield connection terminal block, for applying the shield to busbars

SKS 20 - Shield connection clamp

3240212

https://www.phoenixcontact.com/us/products/3240212



Shield connection terminal block, for applying the shield to busbars

SKS 8-D - Shield connection clamp

3240213

https://www.phoenixcontact.com/us/products/3240213



Shield connection terminal block, for direct shield on conductive mounting panels

SKS 14-D - Shield connection clamp

3240214

https://www.phoenixcontact.com/us/products/3240214



Shield connection terminal block, for direct shield on conductive mounting panels

SKS 20-D - Shield connection clamp

3240215

https://www.phoenixcontact.com/us/products/3240215



Shield connection terminal block, for direct shield on conductive mounting panels

SKS 8-NS35 - Shield connection clamp

3240216

https://www.phoenixcontact.com/us/products/3240216



Shield connection terminal block, for applying the shield to busbars

SKS 14-NS35 - Shield connection clamp

3240217

https://www.phoenixcontact.com/us/products/3240217



Shield connection terminal block, for applying the shield to busbars

SKS 20-NS35 - Shield connection clamp

3240218

https://www.phoenixcontact.com/us/products/3240218



Shield connection terminal block, for applying the shield to busbars

SKS 8-SNS35 - Shield connection clamp

3062786

https://www.phoenixcontact.com/us/products/3062786



Shield connection terminal block, for applying the shield to busbars

SKS 14-SNS35 - Shield connection clamp

3062799

https://www.phoenixcontact.com/us/products/3062799



Shield connection terminal block, for applying the shield to busbars

SKS 20-SNS35 - Shield connection clamp

3062809

https://www.phoenixcontact.com/us/products/3062809



Shield connection terminal block, for applying the shield to busbars

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