

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
Catalog page	Page 119 (C-6-2019)
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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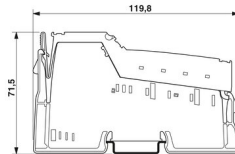


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Technical data

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	Inputs for resistive temperature sensors
Number of inputs	4 (Pt 100)
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 100 (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	1 mA (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

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

Connection data

Connection technology

Connection name	Inline connector
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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

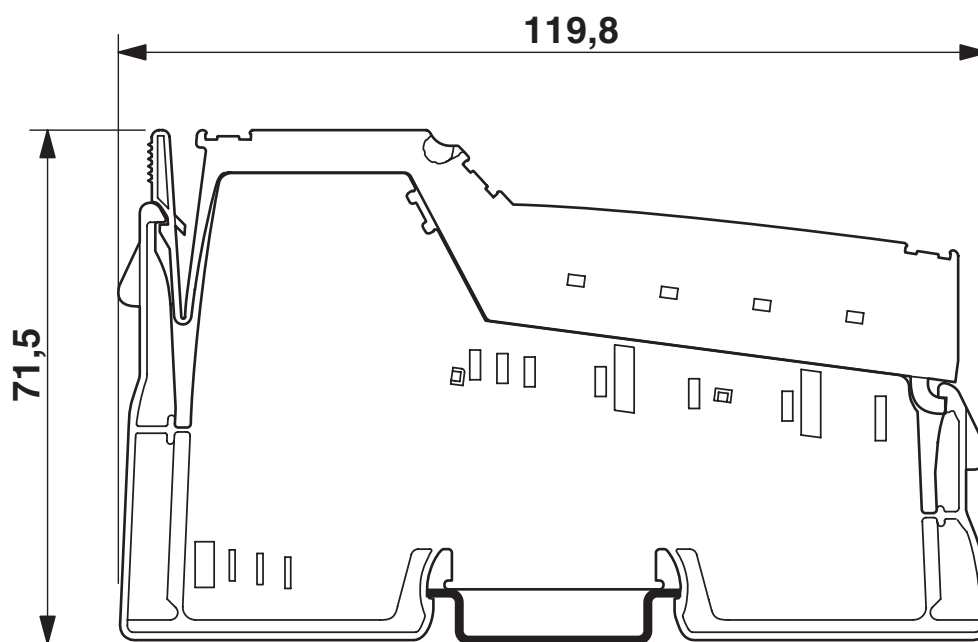
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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Mounting

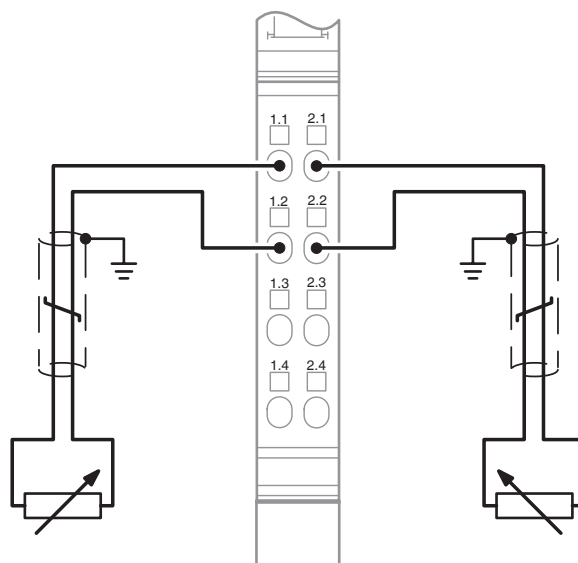
Mounting type	DIN rail mounting
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Drawings

Dimensional drawing



Connection diagram



Connecting the sensors

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2702499>



UL Listed

Approval ID: FILE E 238705



cUL Listed

Approval ID: FILE E 238705

UAE-RoHS

Approval ID: 22-04-13090

cULus Listed

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Classifications

ECLASS

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

ETIM

ETIM 8.0	EC001596
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UNSPSC

UNSPSC 21.0	32151600
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Environmental product compliance

REACH SVHC	Lead 7439-92-1
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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



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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



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SK 14 - Shield connection clamp

3025176

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



Shield connection clamp, for shield on busbars, contact resistance $< 1 \text{ m}\Omega$

SK 20 - Shield connection clamp

3025189

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



Shield connection clamp, for shield on busbars, contact resistance $< 1 \text{ m}\Omega$

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SK 35 - Shield connection clamp

3026463

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

Shield connection clamp, for shield on busbars, contact resistance $< 1 \text{ m}\Omega$



AB-SK - Support bracket

3025341

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

Support bracket for busbars



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AB-SK 65 - Support bracket

3026489

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Support bracket, Bracket for busbars, set every 20 cm, length: 95.5 mm, 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, length: 10 mm, width: 56 mm, height: 10 mm, diameter: 4.5 mm, number of positions: 2, color: silver, mounting type: Direct mounting



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

0402174

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



Neutral busbar, DIN VDE 0611-4: 1991-02, material: Copper, tin-plated, 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 mm², cross section: 0.5 mm² - 6 mm², mounting: Neutral busbar, color: silver

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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 mm², cross section: 0.5 mm² - 6 mm², 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 mm², cross section: 0.5 mm² - 6 mm², mounting: Neutral busbar, color: black

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SKS 8 - Shield connection clamp

3240210

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Shield connection terminal block, for applying the shield to busbars

SKS 14 - Shield connection clamp

3240211

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Shield connection terminal block, for applying the shield to busbars

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SKS 20 - Shield connection clamp

3240212

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Shield connection terminal block, for applying the shield to busbars

SKS 8-D - Shield connection clamp

3240213

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Shield-connection clamp, for direct shield on conductive mounting panels

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SKS 14-D - Shield connection clamp

3240214

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Shield-connection clamp, for direct shield on conductive mounting panels

SKS 20-D - Shield connection clamp

3240215

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Shield-connection clamp, for direct shield on conductive mounting panels

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SKS 8-NS35 - Shield connection clamp

3240216

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Shield connection terminal block, for applying the shield to busbars

SKS 14-NS35 - Shield connection clamp

3240217

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Shield connection terminal block, for applying the shield to busbars

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SKS 20-NS35 - Shield connection clamp

3240218

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Shield connection terminal block, for applying the shield to busbars

SKS 8-SNS35 - Shield connection clamp

3062786

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Shield connection terminal block, for applying the shield to busbars

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SKS 14-SNS35 - Shield connection clamp

3062799

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Shield connection terminal block, for applying the shield to busbars



SKS 20-SNS35 - Shield connection clamp

3062809

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Shield connection terminal block, for applying the shield to busbars



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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com