IB IL TEMP 8 UTH/RTD-PAC - Temperature module

2701000

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CRA-READY



Inline analog input terminal, complete with accessories (connector and marking field), 8 channels, TC (thermocouple), RTD (resistance temperature detector), 2 and 3-conductor connection technology

Product description

The terminal is designed for use within an Inline station. This terminal provides an 8-channel input module with two linear resistance ranges for resistance temperature detectors, and a voltage range for thermocouples. This terminal supports, for example:– Platinum and nickel sensors, e.g. , Pt 100, Pt 1000, Ni 100, and Ni 1000 according to EN 60751 and DIN 43760– All standard thermocouples according to EN 60584-1 and DIN 43710 Communication is via the parameter channel (PCP) or via the process data.

Your advantages

- 8 temperature sensor inputs
- 3-conductor connection for resistance temperature detectors (Pt 100, Ni 100, Pt 1000, Ni 1000, and others)
- 2-conductor connection for thermocouples
- Internal and external detection and compensation of cold junction temperature (configurable)
- Individual current input, 1 A for total current transformer for heating current monitoring
- Scan time: 20 ms (for all channels)
- Maximum 50 Hz/60 Hz suppression
- High precision and noise immunity
- Temperature stability
- High-resolution temperature, voltage, and resistance measurement
- Resistance values (R0) can be preset separately by means of parameterization
- Channels are parameterized independently of one another
- Diagnostic and status indicators
- Channel scout functionality, for optical channel identification during startup

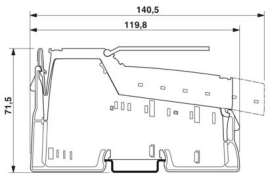


Commercial data

Item number	2701000
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI143
GTIN	4046356673594
Weight per piece (including packing)	234 g
Weight per piece (excluding packing)	234 g
Customs tariff number	85389099
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	48.8 mm
Height	119.8 mm
Depth	71.5 mm

Notes

Note on application	Only for industrial use
Note on application	As things stand now, we are preparing the product so that, as of December 11, 2027, it will comply with the requirements of the EU Cyber Resilience Act (CRA) based on the information currently available regarding the CRA.

Mounting

Mounting type	DIN rail mounting

Material specifications

Color (Housing)	green (RAL 6021)

Interfaces

Inline local bus

Connection method	Inline data jumper
Transmission speed	500 kbps
Transmission physics	Copper

System properties

Programming data

Length code (hex)	0A
ID code (dec.)	220
Length code (dec)	10
Process data channel	160 bit
Input address area	20 Byte
Output address area	20 Byte
Parameter channel (PCP)	4 Byte
Register length (bus)	192 bit

Fieldbus data telegram (PROFIBUS)

Required parameter data	25 Byte
Required configuration data	5 Byte

Input data

Analog:

Input name	Analog RTD inputs
Description of the input	Temperature sensor inputs
Number of inputs	8
Connection method	Spring-cage connection
Connection technology	2-, 3-conductor
A/D converter resolution	16 bit
Sensor types (RTD) that can be used	Pt, Ni sensors, linear resistors
Sensor types that can be used (TC)	B, C, E, J, K, L, N, R, S, T, U, mV input
Tolerance, relative	see tables for tolerance values
Tolerance, absolute	typ. ± 0.3 K (Pt 100 with 3-wire connection)
	see tables for tolerance values
Data formats	IB IL, S7-compatible
Measuring principle	Successive approximation
Measured value representation	16 bits (15 bits + sign bit)
Process data update	20 ms (with filter time of 20 ms or 100 ms)
	100 ms (with filter time of 400 ms or 1600 ms)

Product properties

Product type	I/O component
Product family	Inline
Type	modular
Installation location	Control cabinet
Scope of supply	including Inline connectors and marking fields
Operating mode	Process data mode with 10 words, PCP with 2 words
Special properties	The product is being prepared for compliance with the Cyber Resilience Act (CRA)

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	1.46 W

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 100 mA
	typ. 90 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	typ. 24 mA

Electrical isolation/isolation of the voltage ranges

Test voltage: 5 V supply, incoming remote bus/7.5 V supply (bus logics)	500 V AC, 50 Hz, 1 min
Test voltage: 5 V supply, outgoing remote bus/7.5 V supply (bus logics)	500 V AC, 50 Hz, 1 min
Test voltage: 7.5 V supply (bus logic), 24 V supply U_{ANA} / I/O	500 V AC, 50 Hz, 1 min

Connection data

Connection technology

Connection name	Inline connector

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)	-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)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

Mechanical test

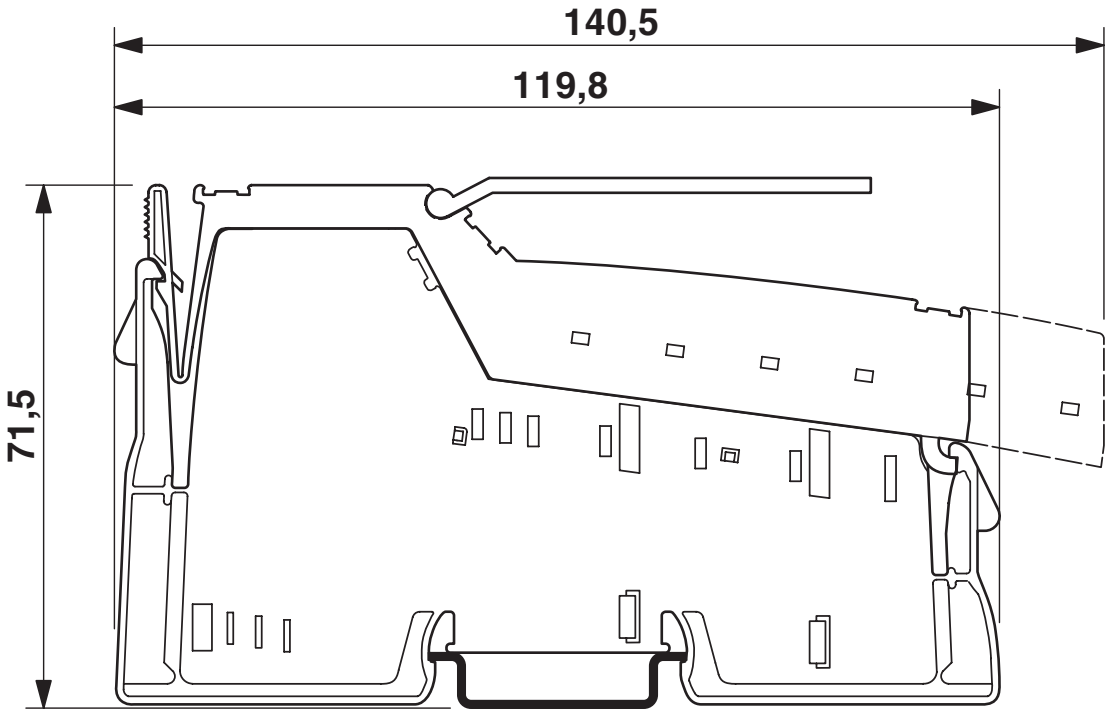
Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	25g

Standards and regulations

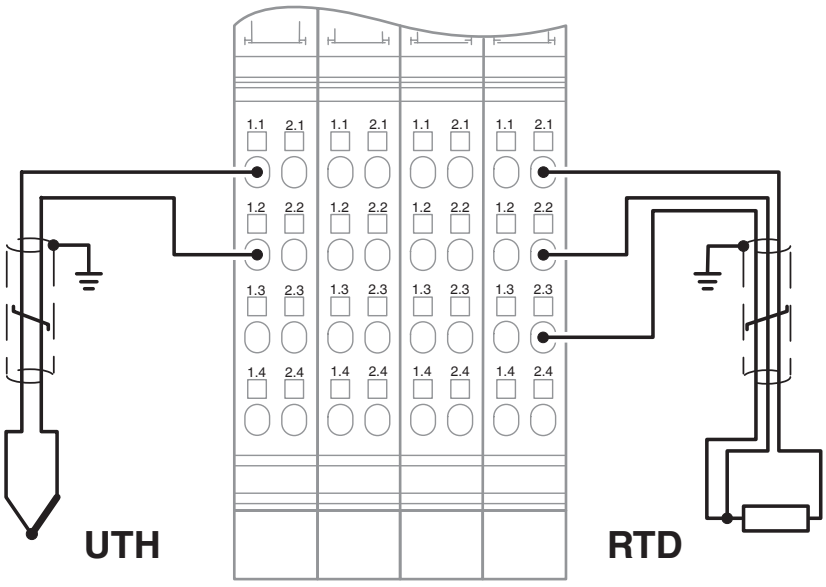
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

Drawings

Dimensional drawing



Connection diagram



Classifications

ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

ETIM

ETIM 10.0	EC001596

UNSPSC

UNSPSC 21.0	32151600

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

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	02e13784-2e73-49e9-ab3e-c33b82c76127

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