

IB IL UTH 4/K-ECO - Temperature module



2702503

<https://www.phoenixcontact.com/us/products/2702503>

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Inline, Temperature measurement terminal, Analog UTH inputs: 4 (Type K), 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. This terminal can be used to acquire signals from standard thermocouples. The terminal supports type K thermocouples according to DIN EN 60584-1. 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 differential inputs for thermocouples
- Measuring range: -270 °C ... +1372 °C
- Connection of sensors in 2-conductor technology
- Diagnostic information in the process data word
- Diagnostic indicator

Commercial data

Item number	2702503
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI143
GTIN	4055626206080
Weight per piece (including packing)	88.1 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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Material specifications

Color (Housing)	green (RAL 6021)
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Interfaces

Inline local bus

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

System properties

Programming data (LocalbusSlave)

Length code (hex)	04
ID code (dec.)	126
Length code (dec)	04
Process data channel	64 bit
Input address area	8 Byte
Output address area	0 Byte
Parameter channel (PCP)	0 Byte
Register length (bus)	64 bit

Fieldbus data telegram (PROFIBUS)

Required parameter data	1 Byte
Required configuration data	4 Byte

Input data

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Analog:

Input name	Analog UTH inputs
Description of the input	Differential inputs
Number of inputs	4 (Type K)
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 that can be used (TC)	K
Tolerance, relative	typ. $\pm 0.2\%$ (of measuring range final value, incl. tolerance of the cold junction) see tables for tolerance values
Tolerance, absolute	typ. $\pm 1.9\text{ K}$ (Reference junction) see tables for tolerance values
Measuring principle	Sigma/Delta process
Measured value representation	16 bits (15 bits + sign bit)
Process data update	< 10 ms
Protective circuit	Transient protection of inputs

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, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

Electrical properties

Maximum power dissipation for nominal condition	1.35 W
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Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 55 mA typ. 38 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. 39 mA

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	typ. 32 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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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 % (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)
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Mounting

Mounting type	DIN rail mounting
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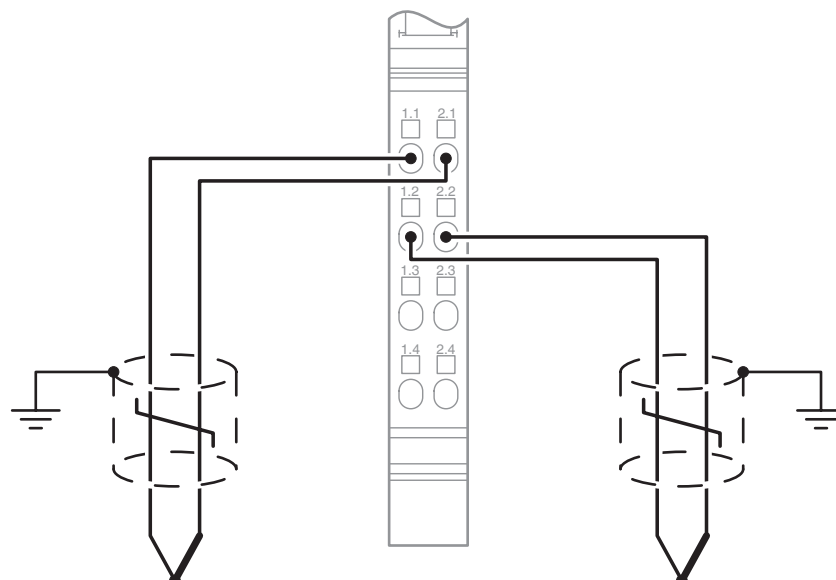
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Drawings

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)
	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1)
SCIP	99ebccd0-4cd2-4dc9-bb44-b0387be87d18

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