

# IB IL UTH 4/J-ECO - Temperature module



2702502

<https://www.phoenixcontact.com/us/products/2702502>

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Inline, Temperature measurement terminal, Analog UTH inputs: 4 (Type J), 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 J 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: -210 °C ... +1200 °C
- Connection of sensors in 2-conductor technology
- Diagnostic information in the process data word
- Diagnostic indicator

## Commercial data

Item number	2702502
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI143
GTIN	4055626206059
Weight per piece (including packing)	78.8 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 J)
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)	J
Tolerance, relative	typ. $\pm 0.21\%$ (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 <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
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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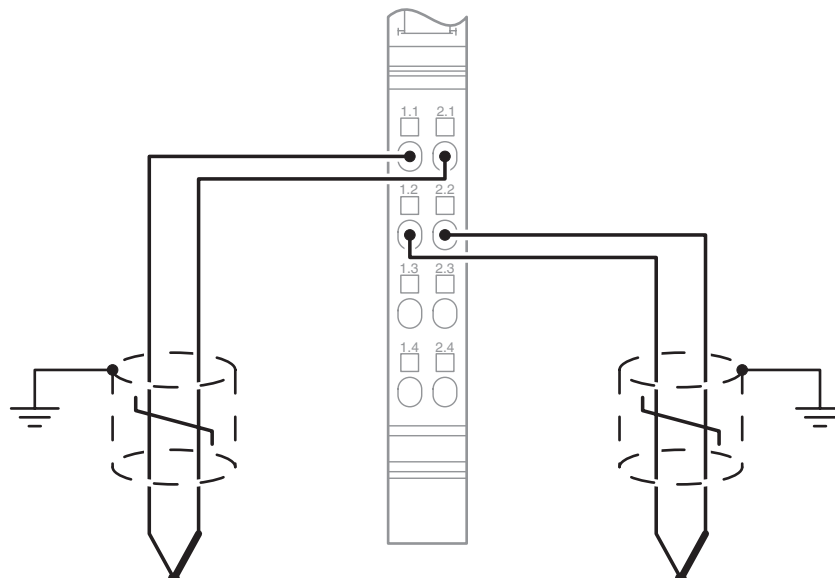
<https://www.phoenixcontact.com/us/products/2702502>

## 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	f1f342b6-9d43-4dfb-a780-31b384850f73

### EF3.1 Climate Change

CO2e kg	13.003 kg CO2e
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