# IB IL TEMP 2 UTH-PAC - Temperature module

2861386

https://www.phoenixcontact.com/us/products/2861386

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Inline, Temperature measurement terminal, Analog UTH inputs: 2 (Thermocouples or linear voltage), connection technology: 2-conductor, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connector and labeling field

## Product description

The terminal is designed for use within an Inline station. This terminal can be used to acquire signals from standard thermocouples. It supports 13 different types of thermocouples according to DIN EN 60584-1 and DIN 43710, as well as a linear voltage input of -15 mV to +85 mV.

## Your advantages

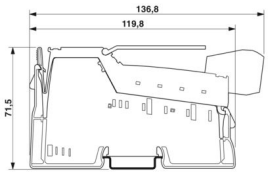
- 2 differential inputs for thermocouples or linear voltage
- 1 input for an external cold junction, Pt 1000 or Ni 1000
- The channels are parameterized independently of one another via the bus system
- Internal detection and compensation of cold junction temperature (can be parameterized)
- Absolute and differential temperature measurement (can be parameterized)
- Pt 1000 sensor in the vicinity of the connection terminal blocks of the thermocouple inputs for internal measurement of the cold junction temperature
- Measured values can be represented in three different formats

## Commercial data

| | |
|---|---|
| Item number | 2861386 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DR01 |
| Product key | DRI143 |
| GTIN | 4017918894320 |
| Weight per piece (including packing) | 90.6 g |
| Weight per piece (excluding packing) | 67 g |
| Customs tariff number | 85389099 |
| Country of origin | DE |

## Technical data

### Dimensions

| | |
|---|---|
| Dimensional drawing |  |
| Width | 12.2 mm |
| Height | 136.8 mm |
| Depth | 71.5 mm |
| Note on dimensions | Housing dimensions |

### Notes

Note on application

| | |
|---|---|
| Note on application | Only for industrial use |

Utilization restriction

| | |
|---|---|
| CCCex note | Use in potentially explosive areas is not permitted in China. |

### Interfaces

Inline local bus

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

### System properties

Module

| | |
|---|---|
| ID code (dec.) | 127 |
| ID code (hex) | 7F |
| Length code (hex) | 02 |
| Length code (dec) | 02 |
| Process data channel | 32 bit |
| Input address area | 4 Byte |
| Output address area | 4 Byte |
| Register length | 32 bit |
| Required parameter data | 6 Byte |
| Required configuration data | 4 Byte |

### Input data

Analog

| | |
|---|---|
| Input name | Analog UTH inputs |
| Description of the input | Inputs for thermocouples or linear voltage |
| Number of inputs | 2 (Thermocouples or linear voltage) |
| Connection method | Inline connector |
| Connection technology | 2-conductor |
| Note regarding the connection technology | Shielded compensating line for TC with encapsulated sensors |
| A/D conversion time | typ. 120 µs (per channel) |
| Sensor types that can be used (TC) | U, T, L, J, E, K, N, S, R, B, C, W, HK |
| Measuring principle | Successive approximation |
| Measured value representation | 16 bits (15 bits + sign bit) |
| Process data update | max. 30 ms (For both channels) |
| Protective circuit | Surge protection (TC channels); up to ±40 V |

## Product properties

| | |
|---|---|
| Product type | I/O component |
| Product family | Inline |
| Type | modular |
| Installation location | Control cabinet |
| Scope of supply | including Inline connector and labeling field |
| Operating mode | Process data operation with 2 words |
| Diagnostics messages | Failure of the internal I/O supply I/O error message sent to the bus coupler |
| | Failure of or insufficient communications power $U_L$ I/O error message sent to the bus coupler |
| | I/O error Error message in the process data |
| | User error Error message in the process data |

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 | 0.9 W |

Potentials: Communications power ($U_L$)

| | |
|---|---|
| Supply voltage | 7.5 V DC (via voltage jumper) |
| Current draw | max. 60 mA |
| | typ. 43 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. 18 mA |
| | typ. 11 mA |

Electrical isolation/isolation of the voltage ranges

| | |
|---|---|
| Test voltage: 7.5 V supply (bus logics)/24 V analog supply (analog I/O) | 500 V AC, 50 Hz, 1 min |
| Test voltage: 7.5 V supply (bus logic)/functional ground | 500 V AC, 50 Hz, 1 min |
| Test voltage: 24 V analog supply (analog I/O)/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) | -25 °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) |

## Standards and regulations

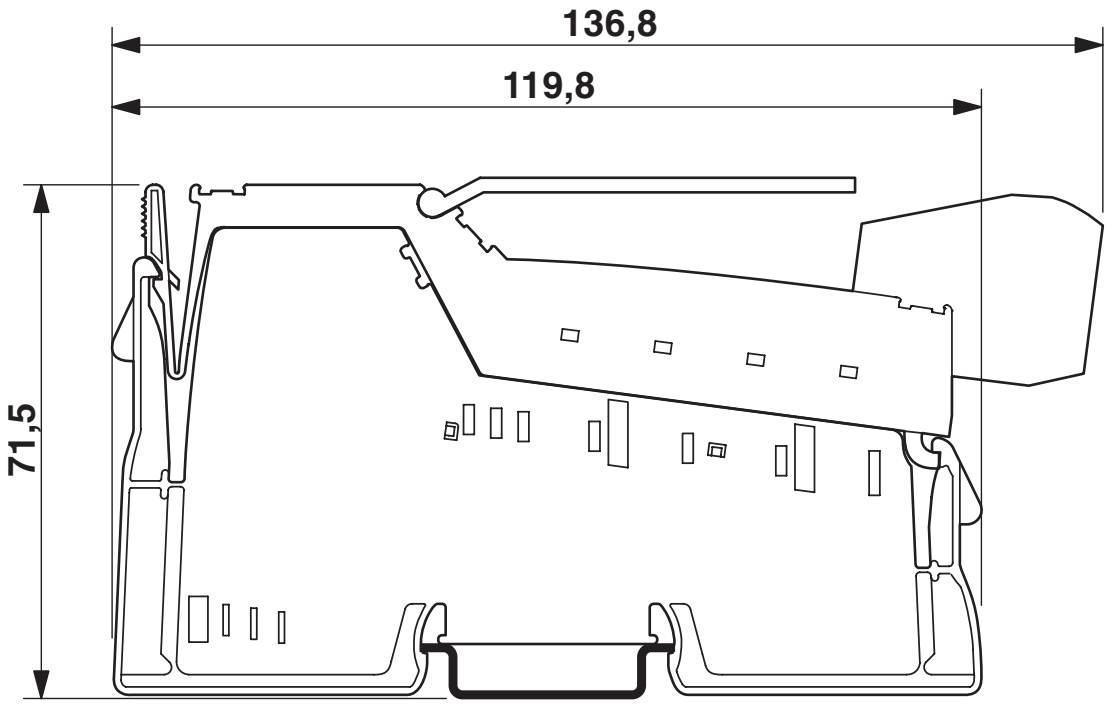
| | |
|---|---|
| Protection class | III (IEC 61140, EN 61140, VDE 0140-1) |

## Mounting

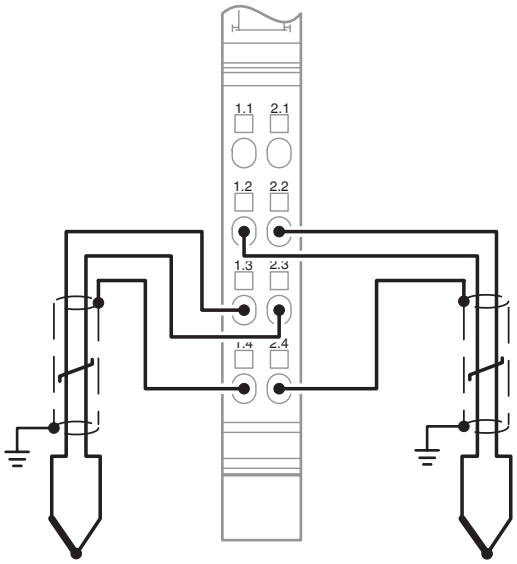
| | |
|---|---|
| Mounting type | DIN rail mounting |

## Drawings

Dimensional drawing




Connection diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2861386

**DNV GL**
Approval ID: TAA00000BN

**BV**
Approval ID: 20977/C1 BV

**BSH**
Approval ID: 658a

**RINA**
Approval ID: ELE121121XG

**ABS**
Approval ID: 22-2226444-PDA

**cULus Recognized**
Approval ID: E140324

**LR**
Approval ID: LR23398855TA

**cULus Listed**
Approval ID: E199827

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27242601 |
| ECLASS-15.0 | 27242601 |

### ETIM

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|---|---|
| ETIM 9.0 | EC001596 |

### UNSPSC

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|---|---|
| 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 | 3f230d41-61c2-4b4e-bc0d-e9e6b00a8c18 |




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