

IB IL TEMP 4/8 RTD-2MBD-PAC - Inline function terminal



2878612

<https://www.phoenixcontact.com/us/products/2878612>

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

Product description

Inline terminals with "2 MBD" added to their item designation work with a transmission speed of 2 Mbps. These terminal blocks are discontinued or no longer in the range. If you require this transmission speed, please ask your local Phoenix Contact representative. If you can work with a transmission speed of 500 kbps, select as a replacement the corresponding variant that does not have "2MBD" added to its item designation. Please note that a uniform transmission speed must always be used within one inline station. The terminal is designed for use within an Inline station. This terminal provides an 8-channel input module for resistance temperature detectors.

Your advantages

- Temperature and resistance measurement in the millisecond range
- Measured values can be represented in three different formats
- Robust inputs ideal for use in harsh industrial environments with electromagnetic interference
- The channels are parameterized independently of one another via the bus system
- Communication either via process data or parameter channel (PCP)
- 8 inputs for resistive temperature sensors and linear resistors up to 20 k Ω
- Connection of sensors in 2- and 3-conductor technology
- Diagnostic and status indicators
- Pt, Ni, Cu, KTY sensor types according to DIN and SAMA

Commercial data

Item number	2878612
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	DR01
Product key	DRI143
GTIN	4017918980740
Weight per piece (including packing)	256.2 g
Weight per piece (excluding packing)	190 g
Customs tariff number	85389091
Country of origin	DE

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Technical data

Dimensions

Dimensional drawing	
Width	48.8 mm
Height	136.8 mm
Depth	71.5 mm

Notes

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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Material specifications

Color	green
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Interfaces

Inline local bus

Connection method	Inline data jumper
Transmission speed	2 Mbps
Transmission physics	Copper

System properties

Programming data (LocalbusSlave)

Length code (hex)	05
ID code (dec.)	223
Length code (dec)	05
Process data channel	80 bit
Input address area	10 Byte
Output address area	10 Byte
Parameter channel (PCP)	2 Byte
Register length (bus)	96 bit

Fieldbus data telegram

Required parameter data	31 Byte
Required configuration data	5 Byte

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Input data

Analog:

Input name	Analog RTD inputs
Description of the input	2 x 4 channels multiplex, 8 PCP channels or 4 channels without multiplex
Number of inputs	8 (for resistance temperature detectors)
Connection method	Spring-cage connection
Connection technology	2, 3-conductor
A/D conversion time	max. 10 μ s
Sensor types (RTD) that can be used	Pt, Ni, KTY sensors, linear resistors
Tolerance, relative	typ. 0.06 % (Pt 100 with 3-wire connection)
	max. 0.25 % (Pt 100 with 3-wire connection)
	see tables for tolerance values
Tolerance, absolute	typ. \pm 0.5 K (Pt 100 with 3-wire connection)
	see tables for tolerance values
Data formats	IB IL, IB ST, S7 compatible
Measuring principle	Successive approximation
Measured value representation	16 bits (15 bits + sign bit)
Linear resistance measuring range	0 Ω ... 400 Ω
	0 Ω ... 20 k Ω
Process data update	6 ms (Up to 230 ms possible depending on operating mode)

Product properties

Product type	I/O component
Type	modular
	Inline
Operating mode	Process data mode with 5 words/1 word PCP

Electrical properties

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 120 mA
	typ. 100 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. 55 mA
	typ. 41 mA

Electrical isolation/isolation of the voltage ranges

Test voltage: 7.5 V supply (bus logic)/ \pm 15.5 V, \pm 5 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

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Test voltage: ± 15.5 V, ± 5 V analog supply (analog I/O)/functional ground	500 V AC, 50 Hz, 1 min
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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)	-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 % (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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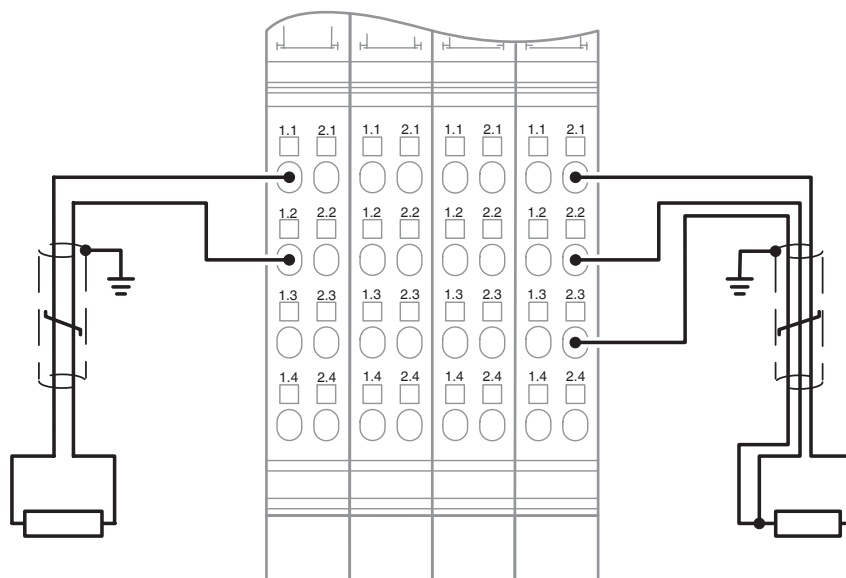
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Drawings

Dimensional drawing



Connection diagram



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Environmental product compliance

EU REACH SVHC

REACH candidate substance (CAS No.)	
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	No substance above 0.1 wt%
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