

Inline terminal - IB IL TEMP 4/8 RTD/EF-PAC - 2897402

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Inline, Temperature measurement terminal, Analog RTD inputs: 8 (for resistance temperature detectors), connection method: 4-wire, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connectors and marking fields

Product Description

The terminal is designed for use within an Inline station.

This terminal provides an 8-channel input module with three linear resistance ranges for resistance temperature detectors.

The terminal supports, for example:

- Platinum and nickel sensors, e.g., Pt 100, Pt 1000, Ni 100, and Ni 1000 according to standard DIN EN 60751 and directive SAMA RC 21-4-1966
- KTY 81 and KTY 84 sensors
- Cu 10, Cu 50, and Cu 53 sensors

Communication either takes place via the parameter channel (PCP, all eight measuring channels) or via four process data words (always four channels in multiplex mode).

Your advantages

- ✓ Pt, Ni, Cu, KTY sensor types according to DIN and SAMA
- ✓ Connection of 8 RTD temperature sensors and linear resistors in 4-wire technology
- ✓ High precision and noise immunity
- ✓ Temperature stability
- ✓ High-resolution temperature and resistance measurement
- ✓ Resistance values can be preset separately via parameterization bits
- ✓ The channels are parameterized independently of one another via the bus system
- ✓ Parameterization of open-circuit detection sensitivity (as of firmware 1.10)
- ✓ Additional representation in float format according to IEEE754
- ✓ Channel scout functionality, for optical channel identification during startup



Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356288026

Technical data

Note

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Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	48.8 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
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)
Degree of protection	IP20

General

Mounting type	DIN rail
Net weight	221.6 g
Note on weight specifications	with connectors
Operating mode	Process data mode with 5 words/1 word PCP
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
	User error Error message in the process data

Interfaces

Designation	Inline local bus
No. of channels	2
Connection method	Inline data jumper
Transmission speed	500 kbps
Transmission physics	Copper

Inline potentials

Designation	Communications power (U_L)
Supply voltage	7.5 V DC (via voltage jumper)
Current consumption	typ. 95 mA
	max. 120 mA
Designation	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)

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Inline potentials

Current consumption	typ. 6 mA
	max. 15 mA
Power consumption	typ. 0.85 W (entire device)

Analog inputs

Number of inputs	8 (for resistance temperature detectors)
Input name	Analog RTD inputs
Description of the input	Input for resistive temperature sensors
Connection method	Spring-cage connection
Connection technology	4-wire
Note regarding the connection technology	shielded
Sensor types (RTD) that can be used	Pt, Ni, KTY, Cu sensors, linear resistors
Linear resistance measuring range	0 Ω ... 500 Ω
	0 Ω ... 5 kΩ
	0 Ω ... 30 kΩ
Measuring principle	Sigma/Delta process
Measured value representation	16 bits (15 bits + sign bit)
Resolution A/D	24 bit
Process data update	1.8 s (Up to 3.3 s possible depending on operating mode)
Data formats	IB IL, S7-compatible
Input filter time	100 ms

Electrical isolation

Test section	7.5 V supply (bus logic), 24 V supply U_{ANA} / I/O 500 V AC 50 Hz 1 min.
	7.5 V supply (bus logic), 24 V supply U_{ANA} /functional earth ground 500 V AC 50 Hz 1 min.
	I/O / functional earth ground 500 V AC 50 Hz 1 min.

Standards and Regulations

Protection class	III, IEC 61140, EN 61140, VDE 0140-1
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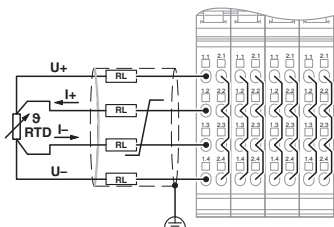
Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

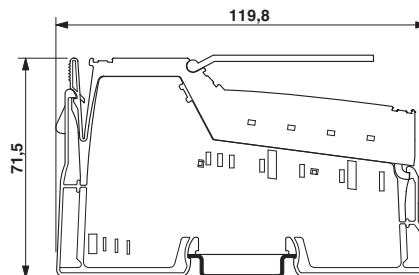
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Connection diagram



Connection example: 4-wire connection

Dimensional drawing



Approvals

Approvals

Approvals

DNV GL / BV / LR / ABS / UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

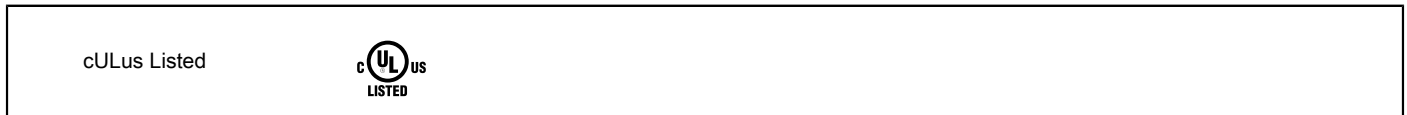
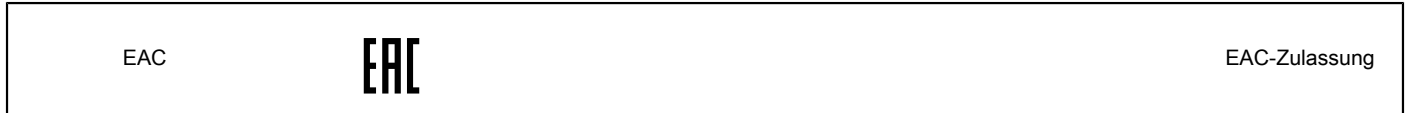
ATEX / UL Listed / cUL Listed / cULus Listed

Approval details

DNV GL		http://exchange.dnv.com/tari/	A-13984
BV		http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials	20989/B2_BV
LR		http://www.lr.org/en	08/20033
ABS		http://www.eagle.org/eagleExternalPortalWEB/	17-HG1621871-PDA
UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324

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