

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 all common platinum sensors in accordance with DIN EN 60751 and SAMA, as well as nickel sensors in accordance with DIN 43760.

Cu10, Cu50, and Cu53 sensors as well as KTY81 and KTY84 sensors are also supported.


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

RoHS

Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 288026
GTIN	4046356288026
Weight per Piece (excluding packing)	220.000 g
Custom tariff number	85389091
Country of origin	Germany

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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
Color	green
Net weight	220 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)

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Technical data

Inline potentials

Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
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)
A/D converter resolution	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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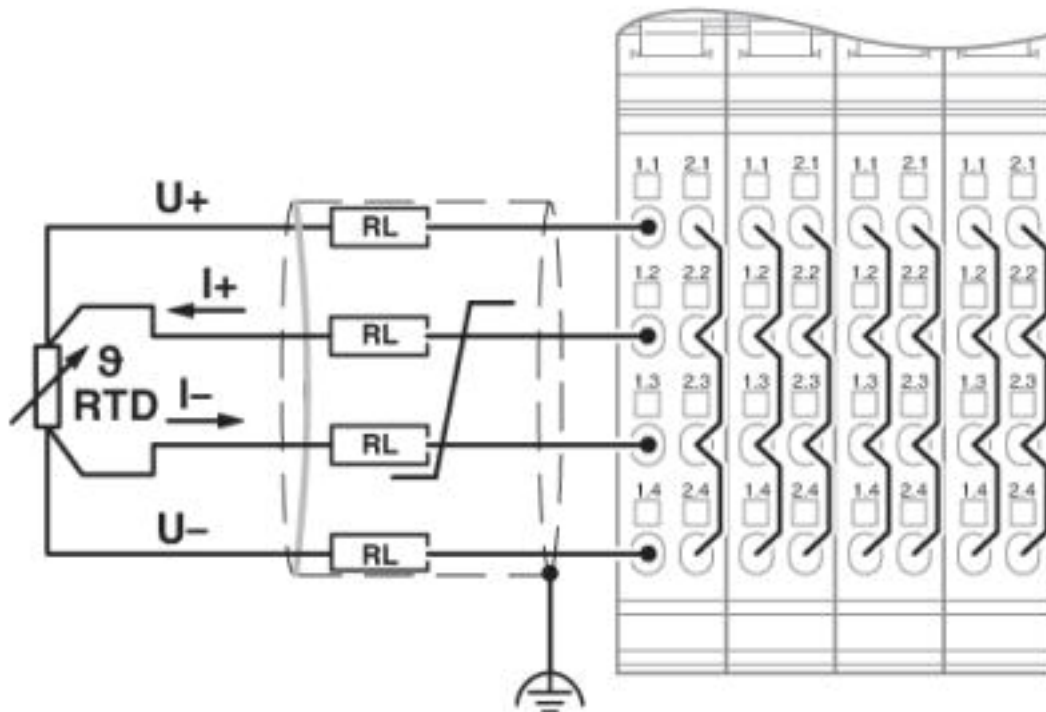
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

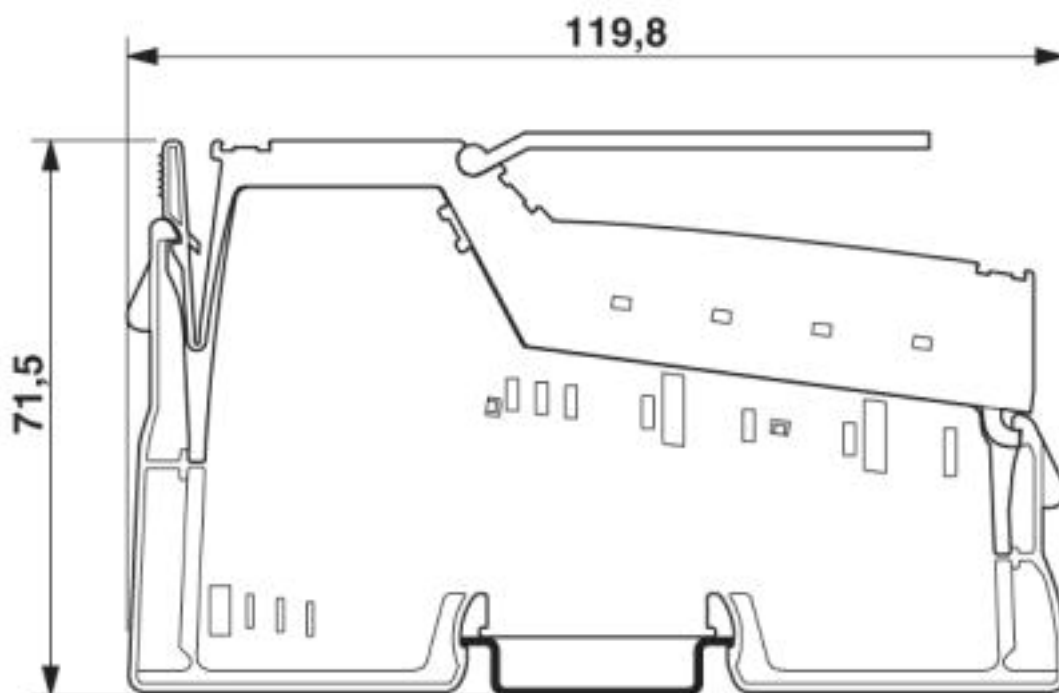
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Connection diagram



Connection example: 4-wire connection

Dimensional drawing



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Classifications

eCl@ss

eCl@ss 4.0	27250300
eCl@ss 4.1	27250300
eCl@ss 5.0	27250300
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242601
eCl@ss 8.0	27242601
eCl@ss 9.0	27242601

ETIM

ETIM 2.0	EC001431
ETIM 3.0	EC001596
ETIM 4.0	EC001596
ETIM 5.0	EC001596
ETIM 6.0	EC001596
ETIM 7.0	EC001596

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201404
UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

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

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Approvals

DNV GL		https://approvalfinder.dnvgl.com/	TAA00002CU
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
EAC			EAC-Zulassung
cULus Listed			

Accessories

Accessories

Installation terminal block

Connection terminal block - AKG 4 GNYE - 0421029



Connection terminal block, connection method: Screw connection, load current: 41 A, cross section: 0.5 mm² - 6 mm², width: 7 mm, color: green-yellow

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Accessories

Connection terminal block - AKG 4 BK - 0421032



Connection terminal block, connection method: Screw connection, load current: 41 A, cross section: 0.5 mm² - 6 mm², width: 7 mm, color: black

Labeling panel

Labeling field - IB IL FIELD 2 - 2727501

Labeling field, width: 12.2 mm



Labeling field - IB IL FIELD 8 - 2727515

Labeling field, width: 48.8 mm



Neutral conductor rail

Neutral busbar - NLS-CU 3/10 SN 1000MM - 0402174



Neutral busbar, width: 10 mm, height: 3 mm, DIN VDE 0611-4: 1991-02, material: Copper, tin-plated, length: 1000 mm, color: silver

Pick-off terminal block

Connection terminal block - AK 4 - 0404017



Connection terminal block, connection method: Screw connection, load current: 41 A, cross section: 0.5 mm² - 6 mm², width: 7 mm, color: silver

Plug

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Accessories

Inline connector - IB IL SCN-8 - 2726337

Connector, for digital 1, 2 or 8-channel Inline terminals



Inline connector - IB IL SCN- 8-GY-CP - 2861179

Inline connector, colored



Shield connection clamp

Shield connection clamp - SK 8 - 3025163



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

Shield connection clamp - SK 14 - 3025176



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

Shield connection clamp - SK 20 - 3025189



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

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Accessories

Shield connection clamp - SK 35 - 3026463



Shield connection clamp, for shield on busbars, contact resistance <math>< 1 \text{ m}\Omega</math>

Support

Support bracket - AB-SK - 3025341



Support bracket for busbars

Support bracket - AB-SK 65 - 3026489



Support bracket, Bracket for busbars, set every 20 cm, length: 95.5 mm, width: 6.2 mm, number of positions: 1, color: gray

Support bracket - AB-SK/E - 3026476



Support bracket, Bracket for busbars, set every 20 cm, length: 10 mm, width: 56 mm, height: 20 mm, number of positions: 2, color: silver

Terminal marking

Insert strip - ESL 62X10 - 0809492



Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems: Laser printer, mounting type: insert, lettering field size: 62 x 10 mm, Number of individual labels: 72

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Accessories

Insert strip - ESL 62X46 - 0809502

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems: Laser printer, mounting type: insert, lettering field size: 62 x 46 mm, Number of individual labels: 120



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