

## Inline terminal - IB IL AI 4/EF-PAC - 2878447

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Inline, Analog input terminal, Analog inputs: 4, 0 V ... 5 V, -5 V ... 5 V, 0 V ... 10 V, -10 V ... 10 V, 0 mA ... 20 mA, 4 mA ... 20 mA, -20 mA ... 20 mA, connection method: 2, 3, 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. It is used to acquire analog voltage and current signals.

### Your advantages

- ✓ Short update time of 1 ms, maximum for all channels
- ✓ Sensor supply with channel-specific integrated short-circuit and overload protection
- ✓ Bus-synchronous provision of input values with very low jitter (< 10 µs)
- ✓ Measured value acquisition with 16-bit resolution
- ✓ 4 differential signal inputs
- ✓ Connection of sensors in 2, 3, and 4-wire technology
- ✓ Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA, ±20 mA
- ✓ Voltage ranges: 0 V ... 10 V, ±10 V, 0 V ... 5 V, ±5 V
- ✓ Short-circuit
- ✓ Diagnostic and status indicators

### Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 996376
GTIN	4017918996376
Weight per Piece (excluding packing)	251.100 g
Custom tariff number	85389091
Country of origin	Germany

## Inline terminal - IB IL AI 4/EF-PAC - 2878447

### 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	135 mm
Depth	71.5 mm

#### Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
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)
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	210 g
Note on weight specifications	with connectors
Operating mode	Process data mode with 5 words/1 word PCP

#### Interfaces

Designation	Inline local bus
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. 85 mA
	max. 100 mA
Designation	Supply of analog modules ( $U_{ANA}$ )
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	typ. 13 mA
	max. 20 mA

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### Technical data

#### Inline potentials

Designation	Main circuit supply ( $U_M$ )
Supply voltage	24 V DC (via voltage jumper)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	0 A
	max. 200 mA

#### Analog inputs

Description of the input	Differential input, including sensor supply (24 V DC)
Input name	Analog inputs
Number of inputs	4
Connection method	Inline shield connector
Connection technology	2, 3, 4-wire
Note regarding the connection technology	shielded
A/D conversion time	max. 10 $\mu$ s
A/D converter resolution	16 bit
Limit frequency (3 dB)	500 Hz
Type of protection	Transient protection
	Overload protection
Data formats	IB IL, IB ST, standardized representation, S7 compatible
Measured value resolution	16 bits (15 bits + sign bit)
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
	-20 mA ... 20 mA
Input resistance current input	approx. 110 $\Omega$
Voltage input signal	0 V ... 5 V
	-5 V ... 5 V
	0 V ... 10 V
	-10 V ... 10 V
Input resistance of voltage input	300 k $\Omega$

#### Electrical isolation

Test section	5 V supply, incoming remote bus/7.5 V supply (bus logics) 500 V AC 50 Hz 1 min.
	5 V supply, outgoing remote bus/7.5 V supply (bus logics) 500 V AC 50 Hz 1 min.
	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.

# Inline terminal - IB IL AI 4/EF-PAC - 2878447

## Technical data

### Standards and Regulations

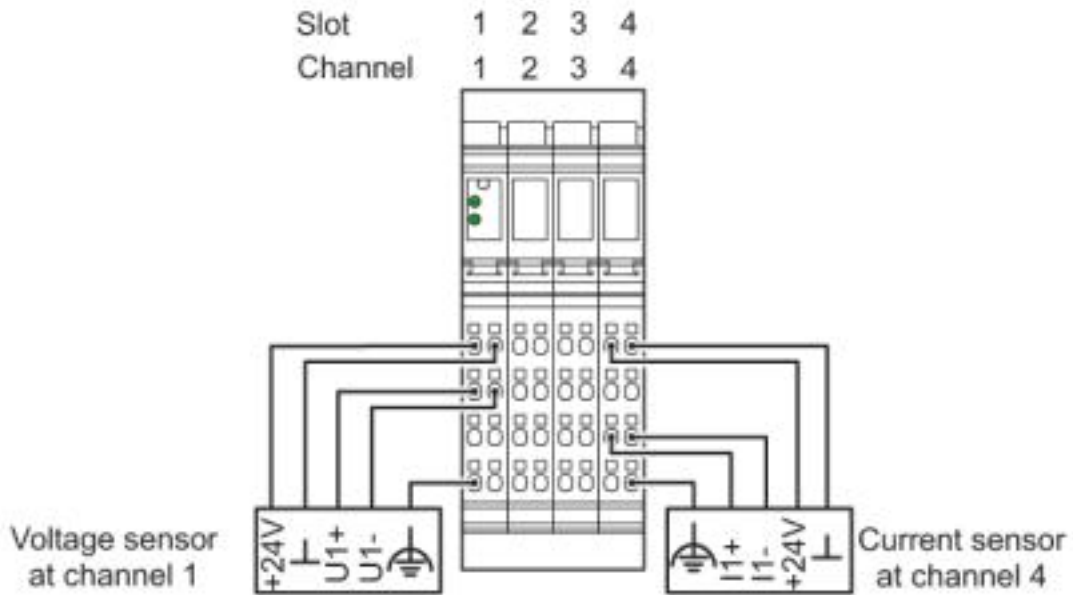
Connection in acc. with standard	CUL
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

### Environmental Product Compliance

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

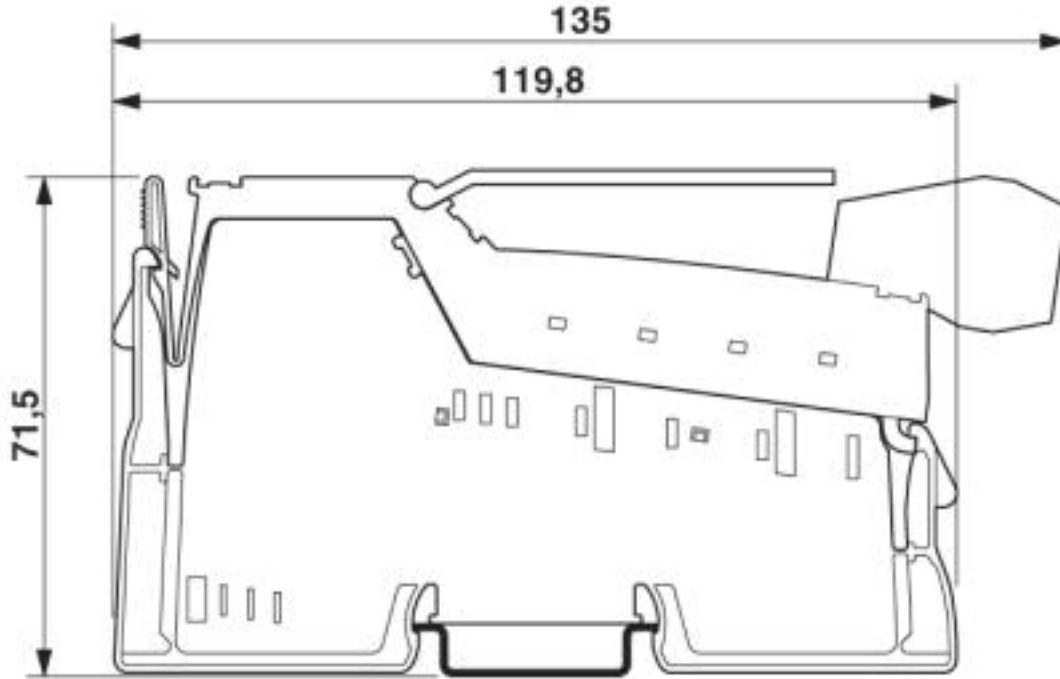
## Drawings

Connection diagram



## Inline terminal - IB IL AI 4/EF-PAC - 2878447

Dimensional drawing



### 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

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## Classifications

### 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 / BSH / BV / LR / ABS / BSH / RINA / UL Recognized / cUL Recognized / EAC / cULus Recognized

#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

### Approval details

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAA00000BN
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BSH		<a href="http://www.bsh.de/de/index.jsp">http://www.bsh.de/de/index.jsp</a>	658
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BV		<a href="http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials">http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials</a>	20989/B2_BV
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LR		<a href="http://www.lr.org/en">http://www.lr.org/en</a>	08/20033
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ABS		<a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>	17-HG1621871-PDA
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### Approvals

BSH		<a href="http://www.bsh.de/de/index.jsp">http://www.bsh.de/de/index.jsp</a>	Anwenderhinweis
RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE335818XG
UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
EAC			EAC-Zulassung
cULus Recognized			

### Accessories

#### Accessories

#### Device parameterization

#### Software - AX+ BASIC - 2985068



Software CD for FDT container for integrating device DTMs (free download)

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### Labeling panel

## Inline terminal - IB IL AI 4/EF-PAC - 2878447

### Accessories

Labeling field - IB IL FIELD 8 - 2727515

Labeling field, width: 48.8 mm



Labeling field - IB IL FIELD 2 - 2727501

Labeling field, width: 12.2 mm



### Plug

Inline shield connector - IB IL SCN-6 SHIELD - 2726353



Inline shield connector

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### Programming

Software - AX DTM LIB - 2988065



DTM library

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### Terminal marking



## Inline terminal - IB IL AI 4/EF-PAC - 2878447

### 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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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