

## Inline terminal - IB IL AI 4/EF-2MBD-PAC - 2878641

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Inline analog input terminal with differential input channels, complete with accessories (connector and labeling field), 2 Mbaud, 4 inputs, 0-20 mA, 4-20 mA,  $\pm 20$  mA, 0-10 V,  $\pm 10$  V, 0-5 V,  $\pm 5$  V, 2, 3 or 4-conductor connection method

### Product Features

- Bus-synchronous provision of input values with very low jitter ( $< 10 \mu\text{s}$ )
- 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,  $\pm 20$  mA
- Voltage ranges: 0 V ... 10 V,  $\pm 10$  V, 0 V ... 5 V,  $\pm 5$  V
- Short-circuit
- Diagnostic and status indicators



### Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	200.0 g
Custom tariff number	85389091
Country of origin	Germany

### 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

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## Technical data

### 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
Net weight	210 g
Note on weight specifications	with connectors

### Interfaces

Designation	Inline local bus
Connection method	Inline data jumper
Transmission speed	2 MBit/s
Transmission physics	Copper

### Inline potentials

Communications power $U_L$	7.5 V DC (via voltage jumper)
Current consumption from $U_L$	max. 125 mA
	typ. 110 mA
Current consumption from $U_M$	max. 200 mA
I/O supply voltage $U_{ANA}$	24 V DC
Current consumption from $U_{ANA}$	max. 20 mA
	typ. 13 mA

### Analog inputs

Description of the input	Differential input, including sensor supply (24 V DC)
Input name	Analog inputs
Number of inputs	4 (Differential inputs, voltage or current can be chosen separately)
Connection method	Inline shield connector
	2, 3, 4-wire (shielded)
A/D conversion time	max. 10 $\mu$ s
Resolution A/D	16 bit
Limit frequency (3 dB)	500 Hz
Type of protection	Transient protection
Protective circuit/component	Yes, via arresters

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## Technical data

### Analog inputs

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 Ω
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 kΩ

### Standards and Regulations

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

## Classifications

### eCl@ss

eCl@ss 4.0	27250303
eCl@ss 4.1	27250303
eCl@ss 5.0	27250303
eCl@ss 5.1	27242601
eCl@ss 6.0	27242601
eCl@ss 7.0	27242601
eCl@ss 8.0	27242601

### ETIM

ETIM 2.0	EC001431
ETIM 3.0	EC001596
ETIM 4.0	EC001596

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## Classifications

### ETIM

ETIM 5.0	EC001596
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### UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201404
UNSPSC 13.2	43201404

## Approvals

### Approvals

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#### Approvals

UL Recognized / cUL Recognized / cULus Recognized

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#### Ex Approvals

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#### Approvals submitted

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## Approval details

UL Recognized

cUL Recognized

cULus Recognized

## Accessories

### Accessories

## Inline terminal - IB IL AI 4/EF-2MBD-PAC - 2878641

### Accessories

#### Labeling panel

Labeling field - IB IL FIELD 8 - 2727515

Labeling field, width: 48.8 mm



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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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#### Terminal marking

Insert strip - ESL 62X46 - 0809502

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems, Plotter: Laser printer, Mounting type: Insert, Lettering field: 62 x 46 mm



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## Accessories

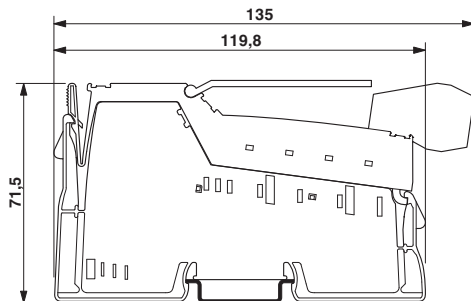
Insert strip - ESL 62X10 - 0809492

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems, Plotter: Laser printer, Mounting type: Insert, Lettering field: 62 x 10 mm

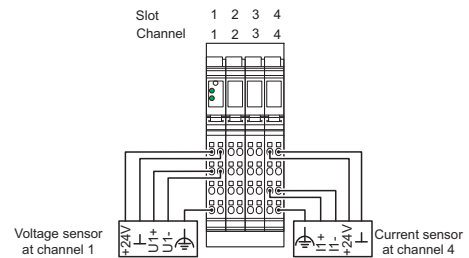


## Drawings

Dimensional drawing



Connection diagram



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