

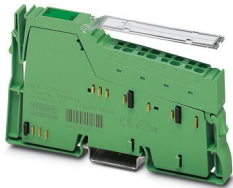
# IB IL AI 2/SF-ME - Analog module



2863944

<https://www.phoenixcontact.com/in/products/2863944>

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Inline, Analog input terminal, Analog inputs: 2, 0 V ... 10 V, -10 V ... 10 V, 0 mA ... 20 mA, 4 mA ... 20 mA, -20 mA ... 20 mA, connection technology: 2-conductor, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connector and labeling field

## Product Description

The terminal is designed for use within an Inline station. It is used to acquire analog voltage and current signals.

## Your advantages

- 2 analog single-ended signal inputs for the connection of either voltage or current signals
- Connection of sensors in 2-conductor technology
- Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA,  $\pm 20$  mA
- Voltage ranges: 0 V ... 10 V,  $\pm 10$  V
- The channels are parameterized independently of one another via the bus system
- Measured values can be represented in four different formats
- Resolution: 12 bits + sign bit
- Process data update of both channels within a max. of 1.5 ms

## Commercial Data

Item number	2863944
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DRI
Product Key	DRI141
Catalog Page	Page 134 (C-6-2019)
GTIN	4017918962654
Weight per Piece (including packing)	81.5 g
Weight per Piece (excluding packing)	81.5 g
Customs tariff number	85389099
Country of origin	DE

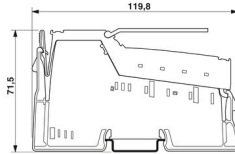
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## Technical Data

### Dimensions

Dimensional drawing	
Width	12.2 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

### Notes

#### Utilization restriction

CCEx note	Use in potentially explosive areas is not permitted in China.
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### Material specifications

Color	green
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### Interfaces

#### Inline local bus

Number of interfaces	2
Connection method	Inline data jumper
Transmission speed	500 kbps

### System properties

#### Module

ID code (dec.)	127
ID code (hex)	7F
Length code (hex)	02
Length code (dec)	02
Process data channel	32 bit
Input address area	4 Byte
Output address area	4 Byte
Register length	32 bit
Required parameter data	6 Byte
Required configuration data	4 Byte

### Input data

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## Analog

Input name	Analog inputs
Description of the input	Single-ended inputs, voltage or current
Number of inputs	2
A/D conversion time	typ. 120 µs (per channel)
Connection method	Inline connector
Connection technology	2-conductor
Current input signal	0 mA ... 20 mA 4 mA ... 20 mA -20 mA ... 20 mA
Input resistance current input	50 Ω (Shunt)
Voltage input signal	0 V ... 10 V -10 V ... 10 V
Input resistance of voltage input	> 220 kΩ
Data formats	IB IL, IB ST, IB RT, standardized representation
Limit frequency (3 dB)	40 Hz
Common mode voltage range signal - ground	40 V (Between current input and functional ground) 40 V (between voltage input and functional ground)
Measuring principle	Successive approximation
Measured value resolution	13 bits (12 bits + sign bit)
Measured value representation	13 bits (12 bits + sign bit)
Protective circuit	Surge protection; Suppressor diodes in the analog inputs

## Product properties

Type	modular
Product type	I/O component
Product family	Inline
Scope of delivery	including Inline connector and labeling field
Operating mode	Process data operation with 2 words
Diagnostics messages	Failure of the internal I/O supply yes I/O error Error message in the process data User error Error message in the process data

## Insulation characteristics

Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

## Electrical properties

Maximum power dissipation for nominal condition	1.87 W
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## Potentials

Power consumption	typ. 662 mW max. 882 mW
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Potentials: Communications power ( $U_L$ )

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Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 60 mA
	typ. 45 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. 18 mA
	typ. 13 mA

## Connection data

### Connection technology

Connection name	Inline connector
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### Conductor connection

Connection method	Spring-cage connection
Conductor cross section rigid	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	28 ... 16
Stripping length	8 mm

### Inline connector

Connection method	Spring-cage connection
Conductor cross section, rigid	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
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 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

## 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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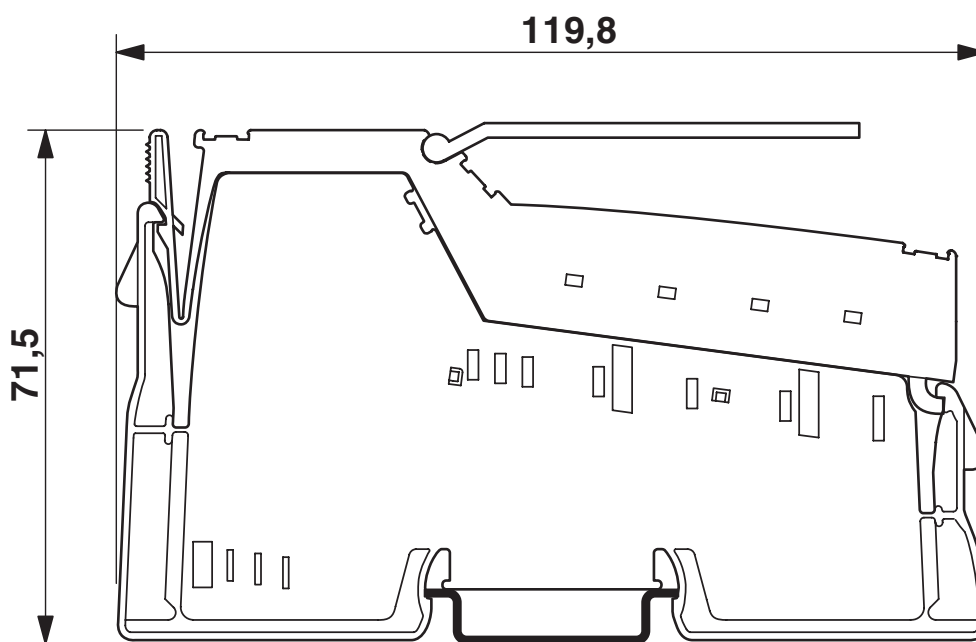
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## Drawings

Dimensional drawing



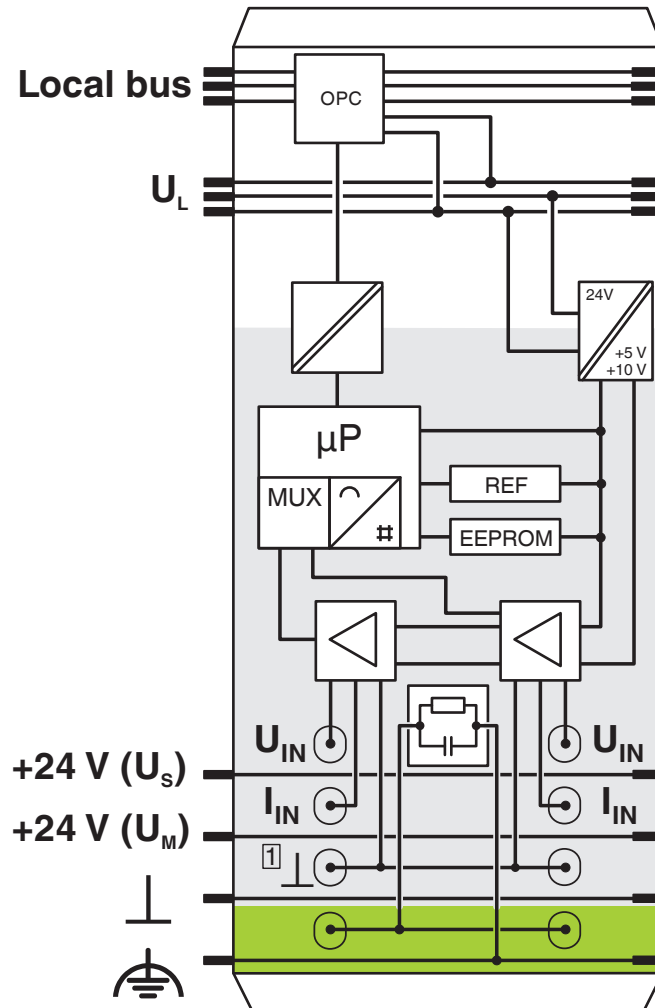
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Block diagram



Internal wiring of the terminal points

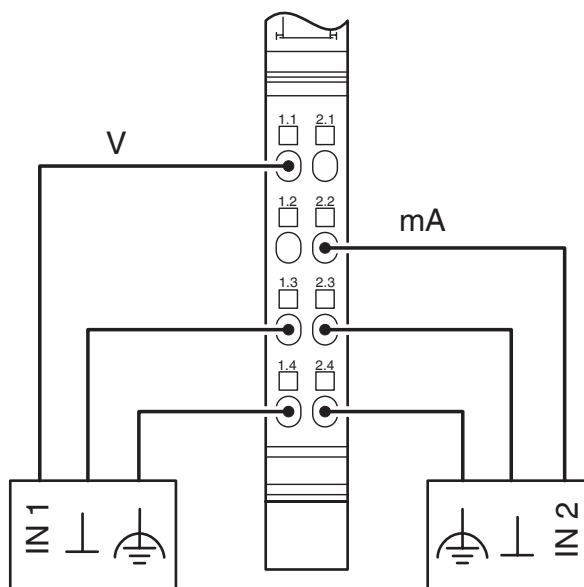
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Connection diagram



Connection example

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## Approvals



**cUL Recognized**

Approval ID: FILE E 140324



**UL Recognized**

Approval ID: FILE E 140324



**EAC**

Approval ID: TR TS\_D\_01921-19



**cUL Listed**

Approval ID: FILE E 199827



**UL Listed**

Approval ID: FILE E 199827



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## Classifications

### ECLASS

ECLASS-11.0	27242601
ECLASS-12.0	27242601
ECLASS-13.0	27242601

### ETIM

ETIM 8.0	EC001596
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### UNSPSC

UNSPSC 21.0	32151600
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## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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## Accessories

### IB IL FIELD 2 - Labeling field

2727501

<https://www.phoenixcontact.com/in/products/2727501>

Labeling field, width: 12.2 mm



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### ESL 62X10 - Insert strip

0809492

<https://www.phoenixcontact.com/in/products/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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