

IB IL AI 2/SF-PAC - Analog module



2861302

<https://www.phoenixcontact.com/us/products/2861302>

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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, ± 20 mA
- Voltage ranges: 0 V ... 10 V, ± 10 V
- The channels are parameterized independently of one another via the bus system
- Measured values can be represented in four different formats
- Resolution depends on the representation format and the measuring range
- Process data update of both channels within a max. of 1.5 ms

Commercial data

Item number	2861302
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI141
GTIN	4017918894245
Weight per piece (including packing)	95.8 g
Weight per piece (excluding packing)	95.8 g
Customs tariff number	85389099
Country of origin	DE

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Technical data

Dimensions

Dimensional drawing	
Width	12.2 mm
Height	136.8 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

Notes

Note on application	
Note on application	Only for industrial use
Utilization restriction	
CCCex note	Use in potentially explosive areas is not permitted in China.

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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2861302

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Analog: General

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 shield connector
Connection technology	2-conductor
Note regarding the connection technology	shielded
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	16 bits (15 bits + sign bit)
Measured value representation	16 bit two's complement
Protective circuit	Surge protection; Suppressor diodes in the analog inputs

Product properties

Product type	I/O component
Product family	Inline
Type	modular
Installation location	Control cabinet
Scope of supply	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	0.9 W
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Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 60 mA

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	typ. 45 mA
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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

Electrical isolation/isolation of the voltage ranges

Test voltage: 7.5 V supply (bus logic), 24 V supply U _{ANA} / I/O	500 V AC, 50 Hz, 1 min
Test voltage: 7.5 V supply (bus logic), 24 V supply U _{ANA} / functional ground	500 V AC, 50 Hz, 1 min
Test voltage: I/O/functional ground	500 V AC, 50 Hz, 1 min

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 ² ... 1.5 mm ²
Conductor cross-section flexible	0.08 mm ² ... 1.5 mm ²
Conductor cross-section AWG	28 ... 16
Stripping length	8 mm

Inline connector

Connection method	Spring-cage connection
Conductor cross-section, rigid	0.08 mm ² ... 1.5 mm ²
Conductor cross-section, flexible	0.08 mm ² ... 1.5 mm ²
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

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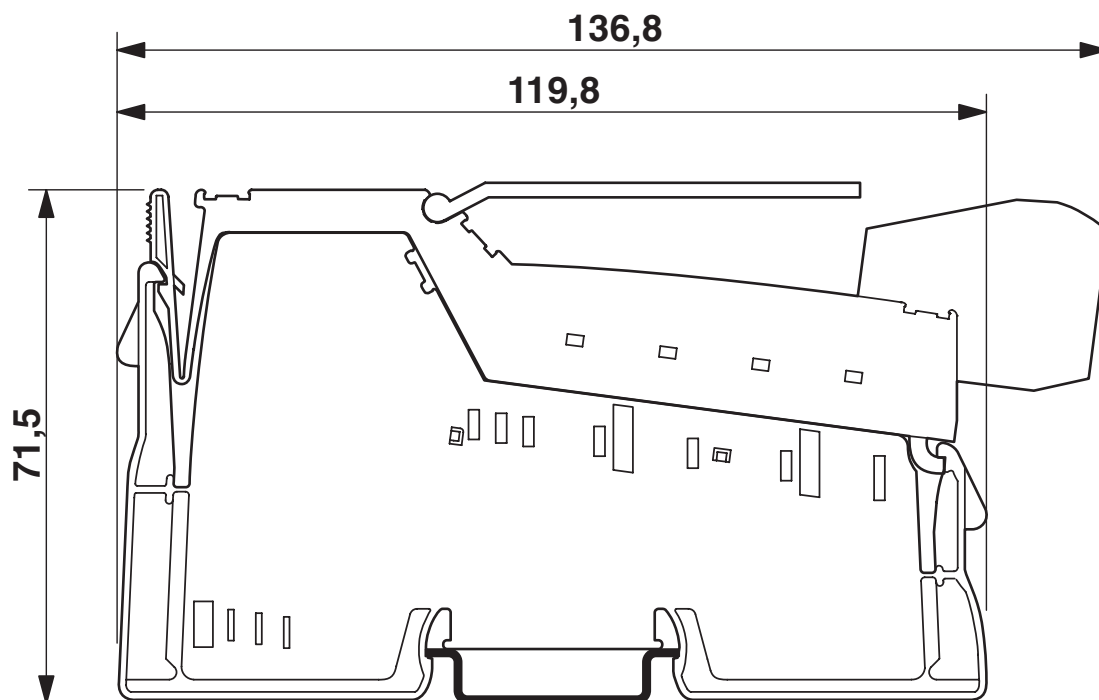
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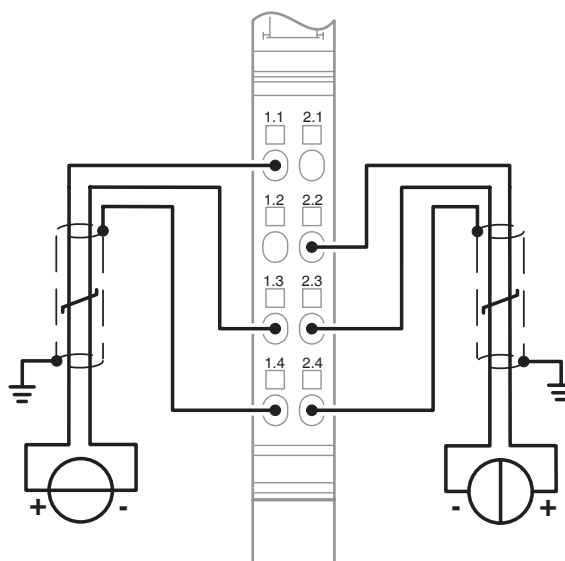
Mounting type	DIN rail mounting
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Drawings

Dimensional drawing



Connection diagram



Connection example

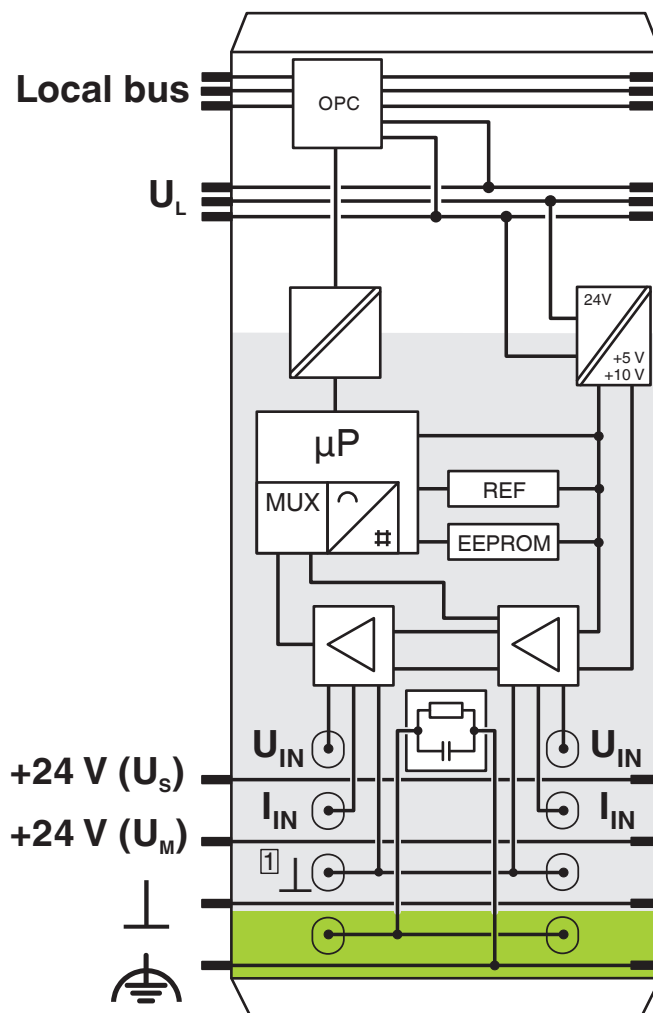
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Block diagram



Internal wiring of the terminal points

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Approvals

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DNV GL

Approval ID: TAA00000BN



LR

Approval ID: LR23398855TA

BSH

Approval ID: 658a



RINA

Approval ID: ELE121121XG

ABS

Approval ID: 22-2226444-PDA



cULus Recognized

Approval ID: E140324



BV

Approval ID: 20989_C1 BV



cULus Listed

Approval ID: E199827

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Classifications

ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

ETIM

ETIM 9.0	EC001596
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UNSPSC

UNSPSC 21.0	32151600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I, 7(c)-II

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	39c15a57-71c5-4b71-a3ef-cf37c4c19e4c

EF3.0 Climate Change

CO2e kg	4.187 kg CO2e
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