

# IB IL AI 8/IS-PAC - Analog module



2861661

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Inline, Analog input terminal, Analog inputs: 8, 0 mA ... 20 mA, 4 mA ... 20 mA, -20 mA ... 20 mA, 0 mA ... 40 mA, -40 mA ... 40 mA, connection technology: 2-, 3-conductor, transmission speed in the local bus: 500 kbps, integrated sensor supply, 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 current signals.

## Your advantages

- 8 analog single-ended signal inputs for the connection of active and passive current sensors
- Connection of sensors in 2- and 3-conductor technology
- Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA,  $\pm 20$  mA, 0 mA ... 40 mA,  $\pm 40$  mA
- The channels are parameterized independently of one another via the bus system
- Measured values can be represented in five different formats
- 16-bit analog-to-digital converter
- Process data multiplex mode
- High measuring accuracy
- Excellent interference suppression and common mode rejection
- Integrated short-circuit-proof sensor supply
- Overload-protected current inputs

## Commercial data

Item number	2861661
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI141
GTIN	4017918894504
Weight per piece (including packing)	246.2 g
Weight per piece (excluding packing)	125 g
Customs tariff number	85389099
Country of origin	DE

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## Technical data

### Dimensions

Dimensional drawing	
Width	48.8 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
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### Material specifications

Color (Housing)	green (RAL 6021)
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### Interfaces

#### Inline local bus

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

### System properties

#### Programming data (LocalbusSlave)

Length code (hex)	02
ID code (dec.)	95
Length code (dec)	02
Process data channel	32 bit
Input address area	4 Byte
Output address area	4 Byte
Parameter channel (PCP)	0 Byte
Register length (bus)	32 bit

#### Fieldbus data telegram (PROFIBUS)

Required parameter data	6 Byte
Required configuration data	5 Byte

## Input data

### Analog:

Input name	Analog inputs
Description of the input	Single-ended inputs, current
Number of inputs	8
A/D conversion time	approx. 10 µs
Connection method	Inline shield connector
Connection technology	2-, 3-conductor
Note regarding the connection technology	shielded
Current input signal	0 mA ... 20 mA 4 mA ... 20 mA -20 mA ... 20 mA 0 mA ... 40 mA -40 mA ... 40 mA
Input resistance current input	25 Ω (Shunt)
A/D converter resolution	16 bit
Data formats	IB IL, IB ST, IB RT, standardized representation, PIO format
Limit frequency (3 dB)	3.5 kHz
Measuring principle	Successive approximation
Measured value resolution	16 bits (15 bits + sign bit)
Measured value representation	16 bits two's complement and other

## Product properties

Product type	I/O component
Product family	Inline
Type	modular
Installation location	Control cabinet
Scope of supply	including Inline connectors and marking fields
Operating mode	Process data operation with 2 words
Special properties	integrated sensor supply
Diagnosics messages	Failure of the power supply at $U_{ANA}$ I/O error message 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	1.55 W
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### Potentials: Communications power ( $U_L$ )

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 65 mA

	typ. 52 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. 40 mA typ. 31 mA

Potentials: 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 draw	max. 200 mA 0 A

Supply:

Designation	Sensor supply $U_{IS}$
Supply voltage	24 V DC (via feed-in from $U_M$ )
Current consumption	typ. 20 mA (Nominal current per channel) max. 50 mA (per I/O connector, total current for both channels on the slot)

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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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)

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Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
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## Mechanical test

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	25g

## 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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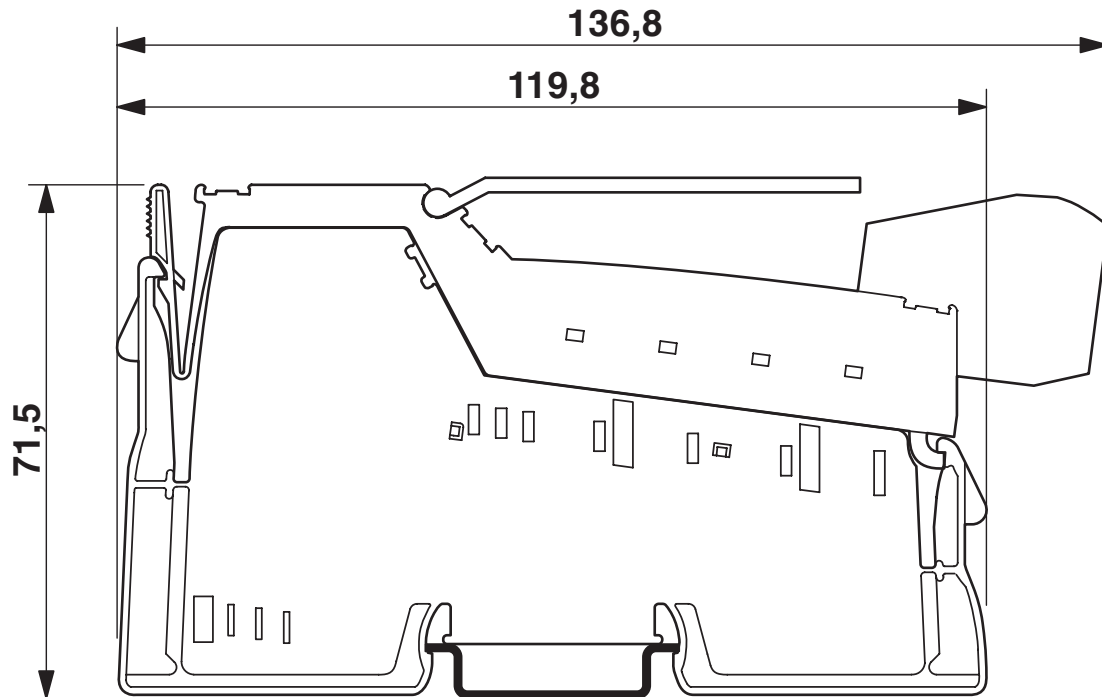
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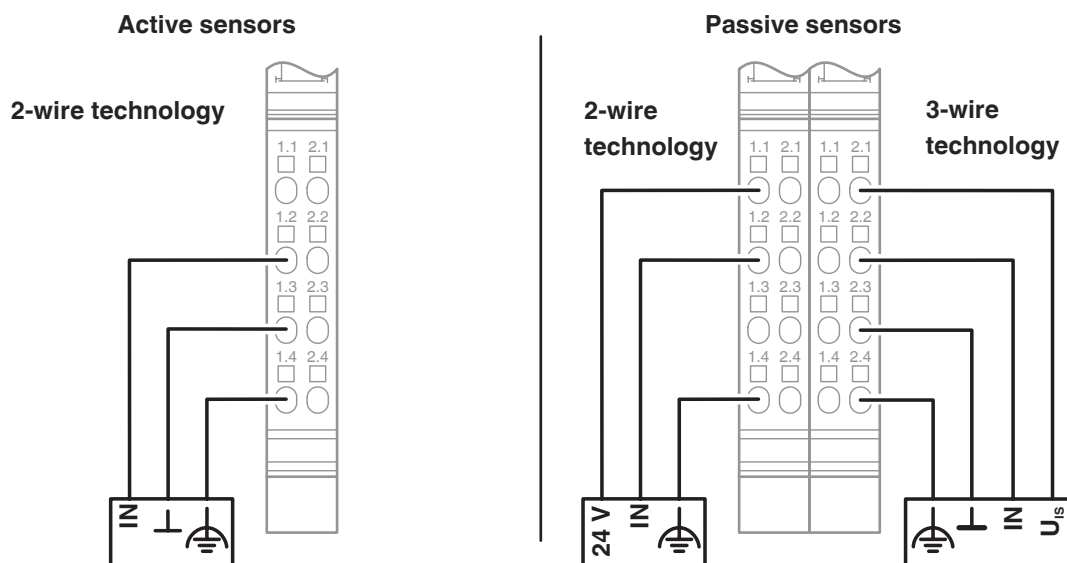
<https://www.phoenixcontact.com/us/products/2861661>

## Drawings

Dimensional drawing



Connection diagram

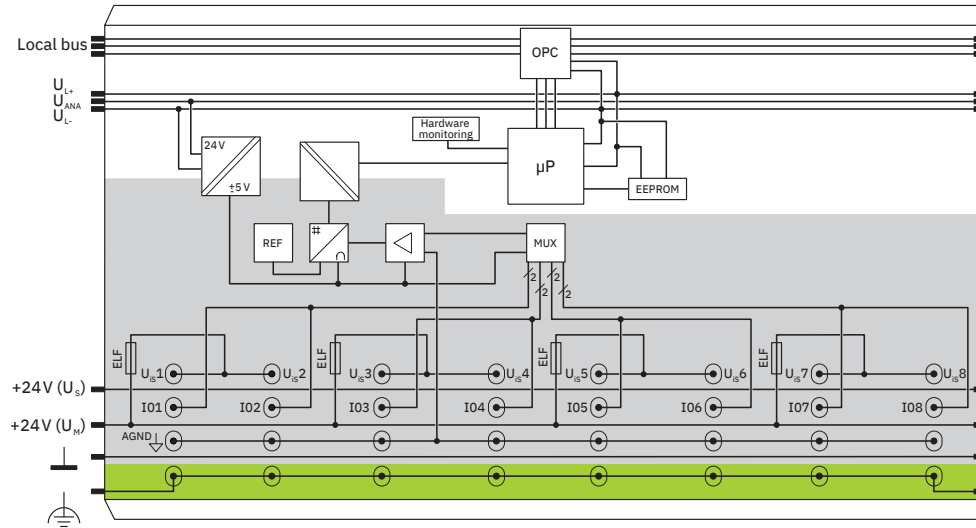


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### Block diagram



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## Approvals

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**BV**

Approval ID: 20989\_C1 BV

**BSH**

Approval ID: 658a



**RINA**

Approval ID: ELE121121XG

**ABS**

Approval ID: 22-2226444-PDA

**DNV**

Approval ID: TAA00002CU



**cULus Recognized**

Approval ID: E140324

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## Classifications

### ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

### ETIM

ETIM 10.0	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

### 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)
	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1)
SCIP	03432ea5-3ff4-4000-885b-8f9e596b82f2

### EF3.1 Climate Change

CO2e kg	8.777 kg CO2e
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