

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



2861412

<https://www.phoenixcontact.com/us/products/2861412>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Inline, Analog input terminal, Analog inputs: 8, 0 V ... 5 V, -5 V ... 5 V, 0 V ... 10 V, -10 V ... 10 V, 0 V ... 25 V, -25 V ... 25 V, 0 V ... 50 V, 0 mA ... 20 mA, 4 mA ... 20 mA, -20 mA ... 20 mA, 0 mA ... 40 mA, -40 mA ... 40 mA, connection technology: 2-conductor, 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

- 8 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, 0 mA ... 40 mA,  $\pm 40$  mA
- Voltage ranges: 0 V ... 5 V,  $\pm 5$  V, 0 V ... 10 V,  $\pm 10$  V, 0 V ... 25 V,  $\pm 25$  V, 0 V ... 50 V
- 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

## Commercial data

Item number	2861412
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI141
GTIN	4017918894351
Weight per piece (including packing)	245.2 g
Weight per piece (excluding packing)	213 g
Customs tariff number	85389099
Country of origin	DE

## 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
---------------------	-------------------------

#### Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
------------	---

### Material specifications

Color (Housing)	green (RAL 6021)
-----------------	------------------

### 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

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



2861412

<https://www.phoenixcontact.com/us/products/2861412>

## 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, voltage or current
Number of inputs	8
A/D conversion time	approx. 10 $\mu$ s
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 0 mA ... 40 mA -40 mA ... 40 mA
Input resistance current input	25 $\Omega$ (Shunt)
Voltage input signal	0 V ... 5 V -5 V ... 5 V 0 V ... 10 V -10 V ... 10 V 0 V ... 25 V -25 V ... 25 V 0 V ... 50 V
Input resistance of voltage input	> 240 k $\Omega$
A/D converter resolution	16 bit
Data formats	IB IL, IB ST, IB RT, standardized representation, PIO format
Filtering	1st order low pass
Limit frequency (3 dB)	3.5 kHz
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, overcurrent protection; max. 100% overload (in relation to the nominal value)

## 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

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



2861412

<https://www.phoenixcontact.com/us/products/2861412>

Operating mode	Process data operation with 2 words
Diagnostics 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	1.25 W
---	--------

### Potentials: Communications power ( $U_L$ )

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 55 mA
	typ. 48 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. 35 mA
	typ. 24 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
-----------------	------------------

### 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)

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



2861412

<https://www.phoenixcontact.com/us/products/2861412>

Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

## 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)
------------------	---------------------------------------

## Mounting

Mounting type	DIN rail mounting
---------------	-------------------

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

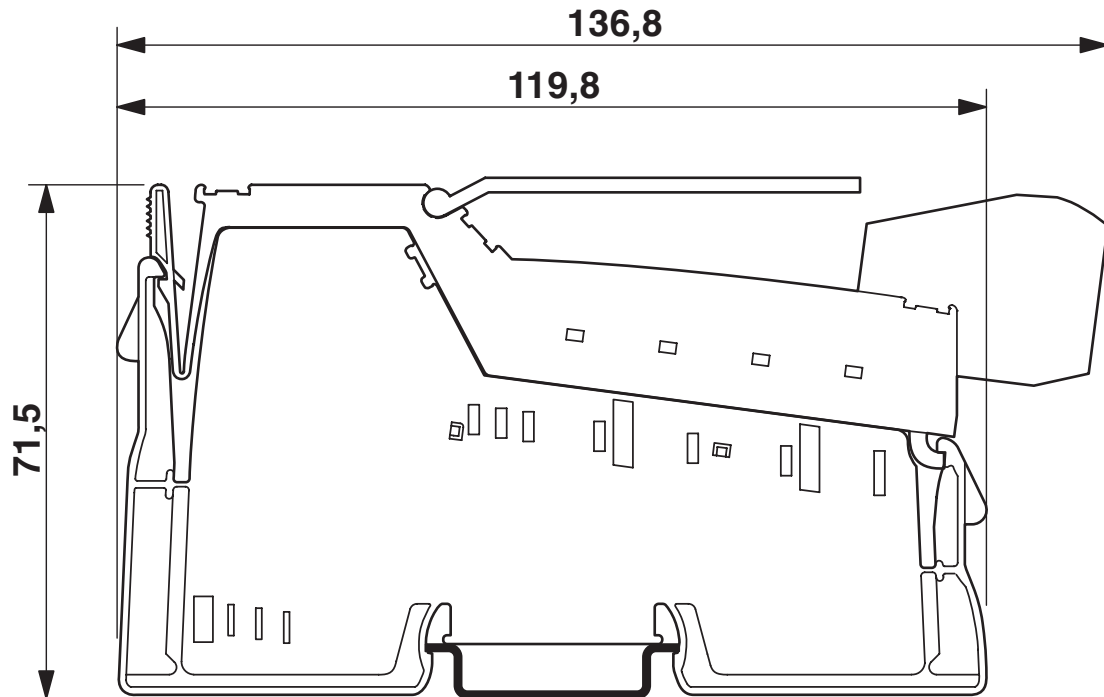


2861412

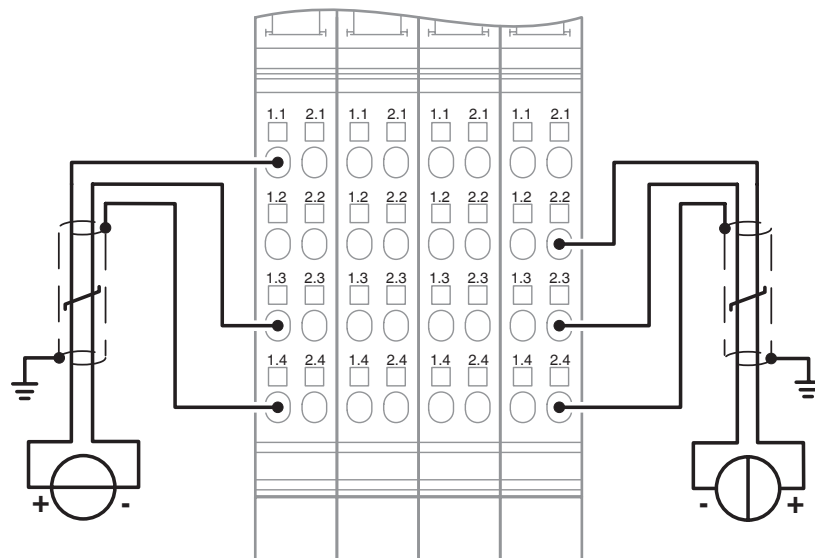
<https://www.phoenixcontact.com/us/products/2861412>

## Drawings

Dimensional drawing



Connection diagram



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



2861412

<https://www.phoenixcontact.com/us/products/2861412>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2861412>



**DNV GL**

Approval ID: TAA00000BN



**BV**

Approval ID: 20977/C1 BV

**BSH**

Approval ID: 658a



**RINA**

Approval ID: ELE121121XG

**ABS**

Approval ID: 22-2226444-PDA



**cULus Recognized**

Approval ID: E140324



**LR**

Approval ID: LR23398855TA

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



2861412

<https://www.phoenixcontact.com/us/products/2861412>

## Classifications

### ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

### ETIM

ETIM 10.0	EC001596
-----------	----------

### UNSPSC

UNSPSC 21.0	32151600
-------------	----------

## 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	864a35a6-2f2b-47dd-8cda-bd45e55cdd3b

### EF3.1 Climate Change

CO2e kg	8.596 kg CO2e
---------	---------------