

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, ± 20 mA, 0 mA ... 40 mA, ± 40 mA
- Voltage ranges: 0 V ... 5 V, ± 5 V, 0 V ... 10 V, ± 10 V, 0 V ... 25 V, ± 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
Catalog page	Page 135 (C-6-2019)
GTIN	4017918894351
Weight per piece (including packing)	256.1 g
Weight per piece (excluding packing)	213 g
Customs tariff number	85389099
Country of origin	DE

IB IL AI 8/SF-PAC - Analog module



2861412

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

Technical data

Dimensions

Dimensional drawing	
Width	48.8 mm
Height	136.8 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

Notes

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

Interfaces

Inline local bus		
Connection method	Inline data jumper	
Transmission speed	500 kbps	
Transmission physics	Copper	

System properties

Module		
ID code (dec.)	95	
ID code (hex)	5F	
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	5 Byte	

Input data

Analog		
Input name	Analog inputs	
Description of the input	Single-ended inputs, voltage or current	

IB IL AI 8/SF-PAC - Analog module



2861412

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

Number of inputs	8
A/D conversion time	approx. 10 µs
A/D converter resolution	16 bit
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 Ω (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 kΩ
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

Type	modular
Product type	I/O component
Product family	Inline
Scope of delivery	including Inline connectors and marking fields
Operating mode	Process data operation with 2 words
Diagnostics messages	Failure of the power supply at U _{ANA}
	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	7.2 W
---	-------

IB IL AI 8/SF-PAC - Analog module



2861412

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

Potentials

Power consumption	typ. 936 mW (entire device)
-------------------	-----------------------------

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
-----------------	------------------

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

IB IL AI 8/SF-PAC - Analog module



2861412

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

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)
------------------	---------------------------------------

Mounting

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

IB IL AI 8/SF-PAC - Analog module



2861412

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

Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001596
----------	----------

UNSPSC

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

IB IL AI 8/SF-PAC - Analog module



2861412

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

Environmental product compliance

REACH SVHC	Lead 7439-92-1
------------	----------------

Phoenix Contact 2024 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com