

# IB IL AI 4/EF-XC-PAC - Analog module



2701215

<https://www.phoenixcontact.com/us/products/2701215>

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.



The figure shows the standard item

Inline, Analog input terminal, Analog inputs: 4, 0 V ... 5 V, -5 V ... 5 V, 0 V ... 10 V, -10 V ... 10 V, 0 mA ... 20 mA, 4 mA ... 20 mA, -20 mA ... 20 mA, connection technology: 2-, 3-, 4-conductor, transmission speed in the local bus: 500 kbps, Extreme conditions version, 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. Thanks to special engineering measures and tests, the terminal can be used under extreme ambient conditions.

## Your advantages

- 4 differential signal inputs
- Connection of sensors in 2-, 3-, and 4-conductor technology
- Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA,  $\pm 20$  mA
- Voltage ranges: 0 V ... 10 V,  $\pm 10$  V, 0 V ... 5 V,  $\pm 5$  V
- The channels are parameterized independently of one another via the bus system
- Parameterization via process data or PCP
- Measured values can be represented in four different formats
- Resolution depends on the representation format and the measuring range
- Process data update of all channels in max. 1 ms
- Sensor supply with channel-specific integrated short-circuit and overload protection
- Bus-synchronous provision of input values with very low jitter ( $< 10 \mu\text{s}$ )
- Can be used under extreme ambient conditions
- Extended temperature range of  $-40 \text{ }^\circ\text{C}$  ...  $+70 \text{ }^\circ\text{C}$  (see "Tested successfully: use under extreme ambient conditions" in the data sheet)
- Coated PCBs

## Commercial data

Item number	2701215
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI141
GTIN	4046356727839
Weight per piece (including packing)	264.7 g
Weight per piece (excluding packing)	210 g

# IB IL AI 4/EF-XC-PAC - Analog module



2701215

<https://www.phoenixcontact.com/us/products/2701215>

Customs tariff number	85389091
Country of origin	DE

# IB IL AI 4/EF-XC-PAC - Analog module

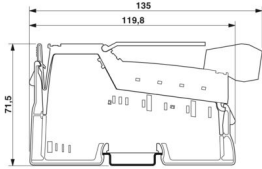


2701215

<https://www.phoenixcontact.com/us/products/2701215>

## Technical data

### Dimensions

Dimensional drawing	
Width	48.8 mm
Height	135 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

### Notes

#### Note on application

Note on application	Only for industrial use
---------------------	-------------------------

### Material specifications

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

### Interfaces

#### Inline local bus

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

### System properties

#### Programming data (LocalbusSlave)

Length code (hex)	05
ID code (dec.)	223
Length code (dec)	05
Process data channel	80 bit
Input address area	10 Byte
Output address area	10 Byte
Parameter channel (PCP)	2 Byte
Register length (bus)	96 bit

#### Fieldbus data telegram

Required parameter data	28 Byte
Required configuration data	4 Byte

### Input data

## Analog:

Input name	Analog inputs
Description of the input	Differential input, including sensor supply (24 V DC)
Number of inputs	4
A/D conversion time	max. 10 $\mu$ s
Connection method	Inline shield connector
Connection technology	2-, 3-, 4-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	typ. 110 $\Omega$
Voltage input signal	0 V ... 5 V -5 V ... 5 V 0 V ... 10 V -10 V ... 10 V
Input resistance of voltage input	typ. 300 k $\Omega$
A/D converter resolution	16 bit
Data formats	IB IL, IB ST, standardized representation, S7 compatible
Limit frequency (3 dB)	500 Hz
Measured value resolution	16 bits (15 bits + sign bit)
Protective circuit	Transient protection; Yes, via arresters Overload protection of the current inputs; electronic

## Product properties

Product type	I/O component
Product family	Inline
Type	modular
Scope of supply	including Inline connectors and marking fields
Operating mode	Process data mode with 5 words/1 word PCP
Special properties	Extreme conditions version
Diagnostics messages	Failure of the internal I/O supply I/O error message sent to the bus coupler Failure of or insufficient communications power $U_L$ I/O error message sent to the bus coupler 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

Potentials: Communications power ( $U_L$ )

# IB IL AI 4/EF-XC-PAC - Analog module



2701215

<https://www.phoenixcontact.com/us/products/2701215>

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 100 mA
	typ. 85 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. 20 mA
	typ. 13 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
	min. 0 mA (No-load)

## Supply:

Designation	Sensor supply $U_{IS}$
Supply voltage	24 V DC (via feed-in from $U_M$ )
Current consumption	max. 50 mA (per channel)

## 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 (Standard)
	-40 °C ... 70 °C (Extended, see section "Tested successfully: use under extreme ambient conditions" in the data sheet.)
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 4/EF-XC-PAC - Analog module



2701215

<https://www.phoenixcontact.com/us/products/2701215>

Ambient temperature (storage/transport)	-40 °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)
------------------	---------------------------------------

## Mounting

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

# IB IL AI 4/EF-XC-PAC - Analog module

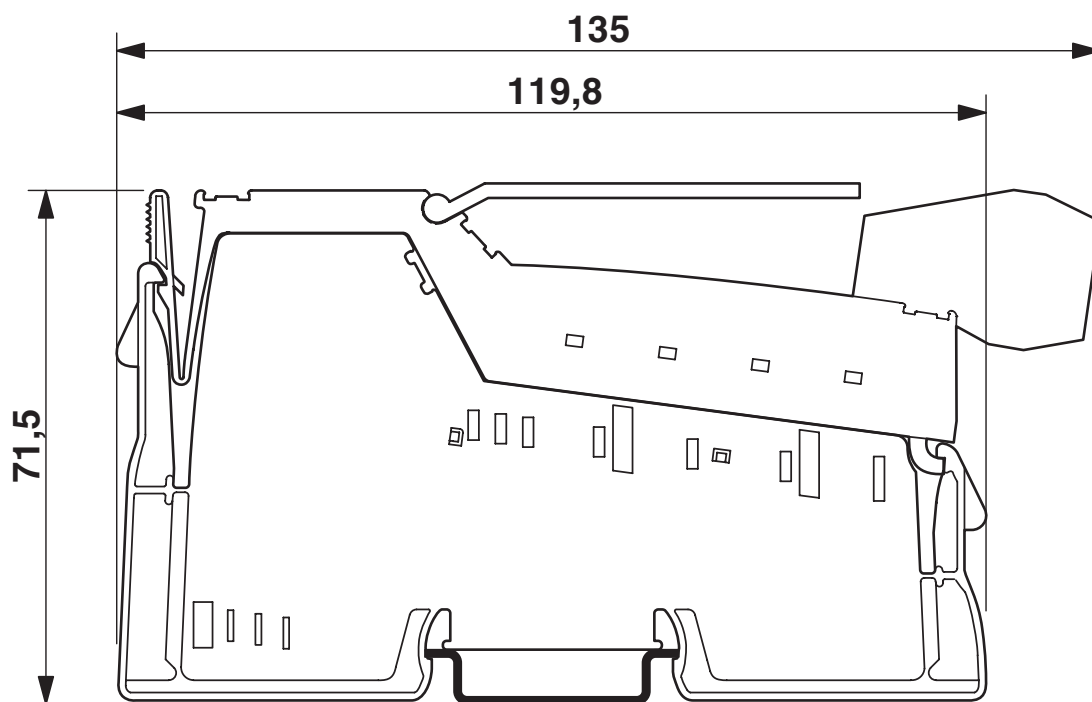


2701215

<https://www.phoenixcontact.com/us/products/2701215>

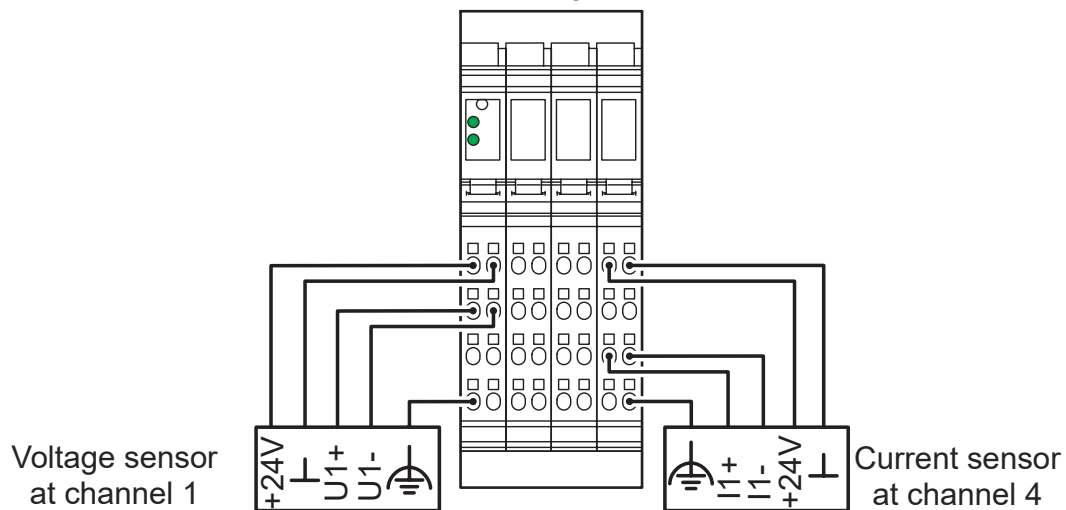
## Drawings

Dimensional drawing



Connection diagram

Slot	1	2	3	4
Channel	1	2	3	4



Connection example

# IB IL AI 4/EF-XC-PAC - Analog module



2701215

<https://www.phoenixcontact.com/us/products/2701215>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2701215>



**cULus Recognized**

Approval ID: E140324

# IB IL AI 4/EF-XC-PAC - Analog module



2701215

<https://www.phoenixcontact.com/us/products/2701215>

## Classifications

### ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

### ETIM

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

### UNSPSC

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

2701215

<https://www.phoenixcontact.com/us/products/2701215>

## 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-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	f81e82b4-b52b-485f-8db7-89b7179487d2

Phoenix Contact 2026 © - 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](mailto:info@phoenixcon.com)