IB IL AI 4/U-PAC - Analog module

2700459

https://www.phoenixcontact.com/us/products/2700459

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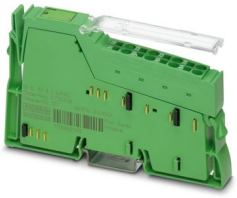
CRA-READY



The figure shows version: IB IL AI 4/I-PAC

Inline, Analog input terminal, Analog inputs: 4, 0 V ... 10 V, -10 V ... 10 V, connection technology: 2-conductor, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connector and labeling field; The product is being prepared for compliance with the Cyber Resilience Act (CRA).

Product description

The terminal is designed for use within an Inline station. It is used to acquire analog voltage signals.

Your advantages

- 4 analog, bipolar input channels for the connection of voltage signals
- Connection of sensors in 2-conductor technology
- Voltage ranges: 0 V ... 10 V, ±10 V
- Mean value generation of the inputs
- Process data update of all channels in 250 µs

ELEKTROGERÄTE RÜCKNAHME

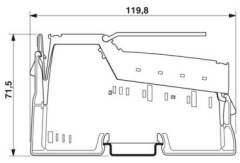
Commercial data

Item number	2700459

Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI141
GTIN	4046356566537
Weight per piece (including packing)	90 g
Weight per piece (excluding packing)	88 g
Customs tariff number	85389091
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	12.2 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

Notes

Note on application	Only for industrial use
Note on application	As things stand now, we are preparing the product so that, as of December 11, 2027, it will comply with the requirements of the EU Cyber Resilience Act (CRA) based on the information currently available regarding the CRA.

Mounting

Mounting type	DIN rail mounting

Material specifications

Color (Housing)	green (RAL 6021)

Interfaces

Inline local bus

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

System properties

Programming data

Length code (hex)	04
ID code (dec.)	127
Length code (dec)	04
Process data channel	64 bit
Input address area	8 Byte
Output address area	8 Byte
Parameter channel (PCP)	0 Byte
Register length (bus)	64 bit

Fieldbus data telegram (PROFIBUS)

Required parameter data	10 Byte
Required configuration data	5 Byte

Input data

Analog:

Input name	Analog inputs
Description of the input	Differential inputs, voltage
Number of inputs	4
Connection method	Inline connector
Connection technology	2-conductor
Process data update	typ. 250 µs (all channels)
A/D conversion time	max. 6.5 µs
A/D converter resolution	12 bit
Common mode voltage range signal - ground	max. 50 V
Limit frequency (3 dB)	300 Hz
Wire-break behavior	Goes to 0 V
Protective circuit	Overload protection; ±30 V DC, maximum
Measured value resolution	12 bits (11 bits + sign bit)
Measured value representation	12 bits (11 bits + sign bit)
Data formats	IB IL, S7-compatible
Voltage input signal	0 V ... 10 V
	-10 V ... 10 V
Input resistance of voltage input	typ. 324 kΩ
Filtering	None or mean value generation over 4, 16, or 32 measured values

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 mode with 4 words
Special properties	The product is being prepared for compliance with the Cyber Resilience Act (CRA)
Diagnostics messages	Failure of the internal I/O supply I/O error message sent to the bus coupler
	I/O supply failure Message in the diagnostic code (in the IB IL format)
	Overrange or underrange Message in the diagnostic code (in the IB IL format)
	Configuration invalid Message in the diagnostic code (in the IB IL format)

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. 60 mA
	typ. 55 mA

Potentials: Supply of analog modules (U_{ANA})

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 35 mA
	typ. 30 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 mm² ... 1.5 mm²
Conductor cross-section, flexible	0.08 mm² ... 1.5 mm²
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)

Mechanical test

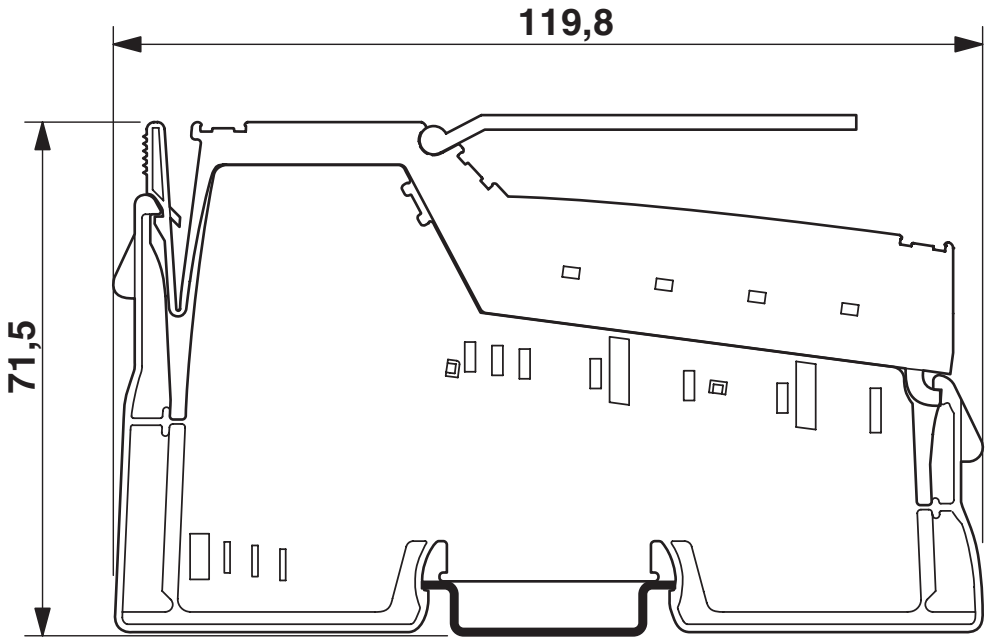
Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	25g

Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

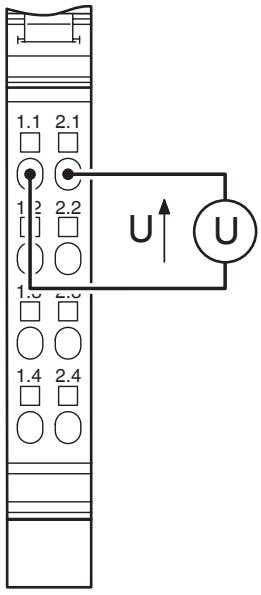
Drawings

Dimensional drawing



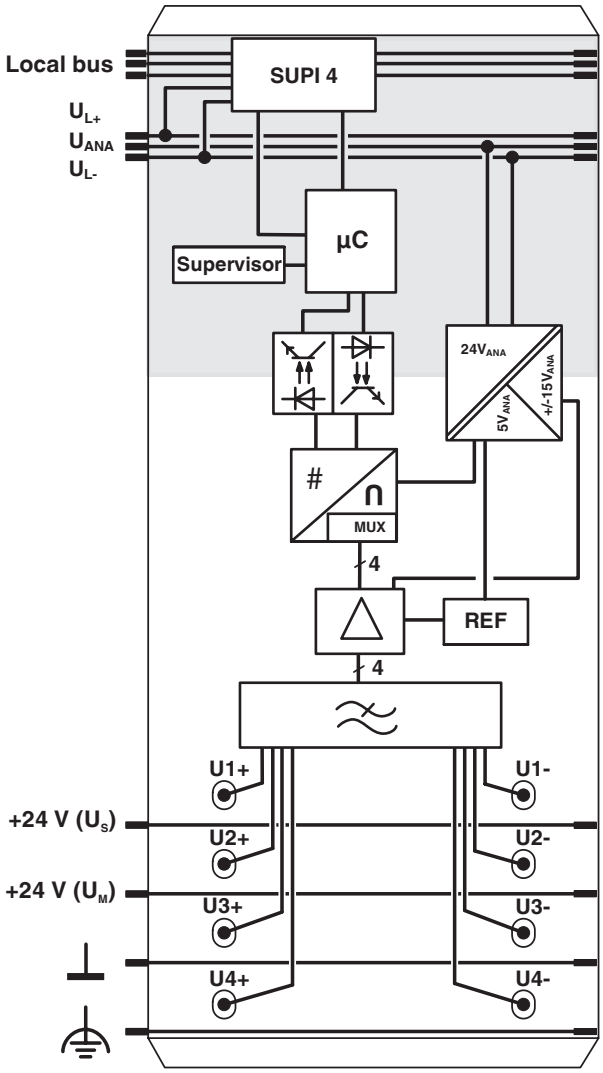
Dimensions (in mm)

Connection diagram



Connection example

Block diagram



Internal wiring of the terminal points

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2700459

cULus Listed
Approval ID: E140324

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	8c65eeb1-0f7b-4951-a887-86d3da55f0f7

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