

# IB IL AI 4/I/4-20-ECO - Analog module



2702495

<https://www.phoenixcontact.com/us/products/2702495>

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Inline, Analog input terminal, Analog inputs: 4, 4 mA ... 20 mA, connection technology: 2-conductor, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connector

## Product description

The terminal is designed for use within an Inline station. The measured values are depicted in standardized representation format. Inline ECO terminals are approved for the temperature range from 0°C to +55°C. The electronics base and Inline connector are supplied as standard.

## Your advantages

- 4 analog input channels
- Connection of sensors in 2-conductor technology
- Current range: 4 mA ... 20 mA
- Data format: standardized representation
- Resolution: 12 bits
- Diagnostic indicator

## Commercial data

Item number	2702495
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI141
Catalog page	Page 118 (C-6-2019)
GTIN	4055626306759
Weight per piece (including packing)	84.7 g
Weight per piece (excluding packing)	69 g
Customs tariff number	85389099
Country of origin	DE

# IB IL AI 4/I/4-20-ECO - Analog module

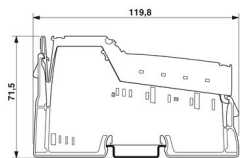
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## Technical data

### Dimensions

Dimensional drawing	
Width	12.2 mm
Height	119.8 mm
Depth	71.5 mm

### Interfaces

#### Inline local bus

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

### System properties

#### Module

ID code (dec.)	126
ID code (hex)	7E
Length code (hex)	04
Length code (dec)	04
Process data channel	64 bit
Input address area	8 Byte
Output address area	0 Byte
Register length	64 bit
Required parameter data	1 Byte
Required configuration data	4 Byte

### Input data

#### Analog

Input name	Analog inputs
Description of the input	Single-ended inputs, current
Number of inputs	4
A/D converter resolution	12 bit
Connection method	Inline connector
Connection technology	2-conductor
Note regarding the connection technology	shielded, twisted pair

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Current input signal	4 mA ... 20 mA
Input resistance current input	200 $\Omega$
Data formats	Standardized representation
Measured value representation	16 bits
Protective circuit	Overload protection; max. $\pm 10$ V DC, corresponds to max. $\pm 50$ mA through the shunts
	Transient protection; Suppressor diode

## Product properties

Type	modular
Product type	I/O component
Product family	Inline
Scope of delivery	including Inline connector
Diagnostics messages	Failure of the internal I/O supply I/O error message sent to the bus coupler
	Checksum error I/O error message sent to the bus coupler

## Electrical properties

### Potentials

Power consumption	typ. 0.8 W
	max. 0.9 W

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

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 70 mA
	typ. 60 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. 15 mA

### Electrical isolation/isolation of the voltage ranges

Test voltage: Bus logic (local bus, communications power)	500 V AC, 50 Hz, 1 min.
Test voltage: Analog I/O	500 V AC, 50 Hz, 1 min.
Test voltage: Functional ground	500 V AC, 50 Hz, 1 min.

## Connection data

### Connection technology

Connection name	Inline connector
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### Conductor connection

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>

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Conductor cross section AWG	28 ... 16
Stripping length	8 mm

## 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)	0 °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 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	10 % ... 95 % (according to DIN EN 61131-2)

## Standards and regulations

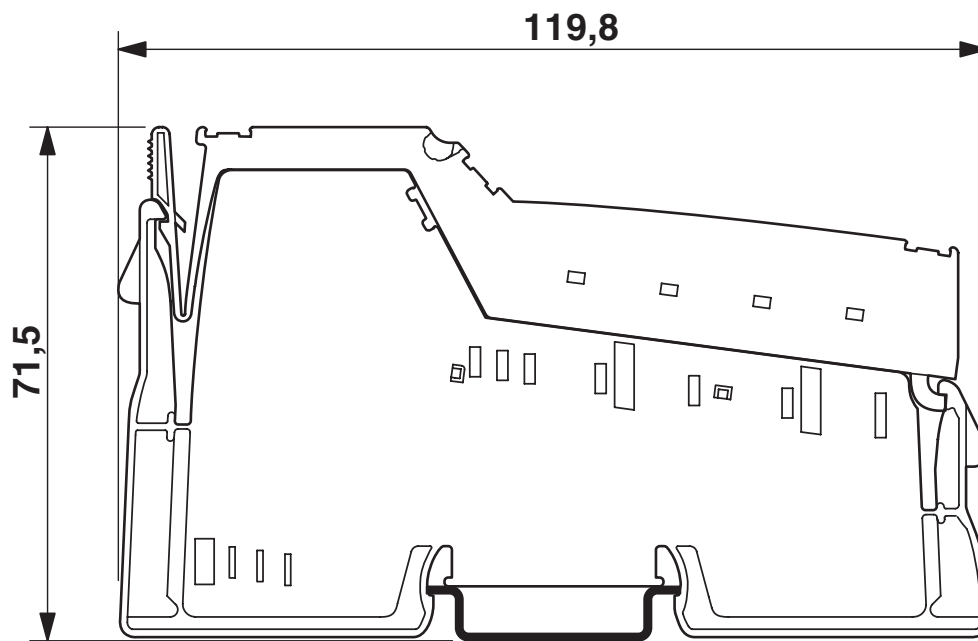
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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## Mounting

Mounting type	DIN rail mounting
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## Drawings

Dimensional drawing



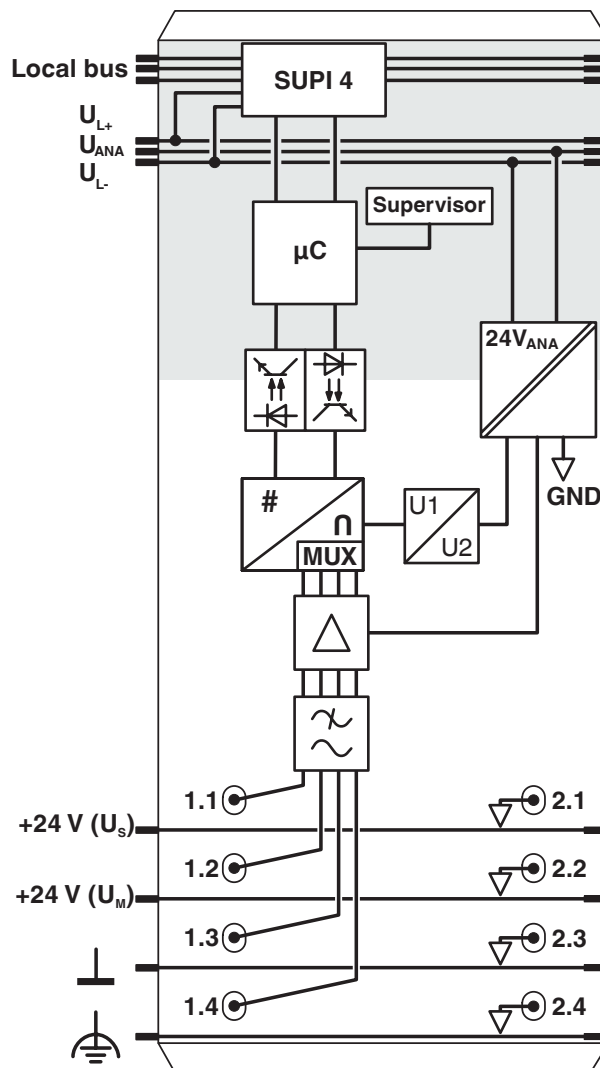
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### Block diagram



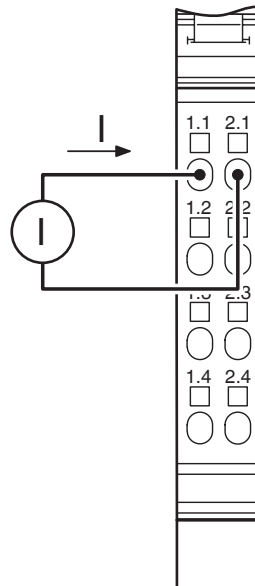
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Connection diagram



Connecting the sensors


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## Approvals

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**UL Listed**

Approval ID: FILE E 238705



**cUL Listed**

Approval ID: FILE E 238705

**cULus Listed**



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## Classifications

### ECLASS

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

### ETIM

ETIM 8.0	EC001596
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### UNSPSC

UNSPSC 21.0	32151600
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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
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## Accessories

### SK 8 - Shield connection clamp

3025163

<https://www.phoenixcontact.com/us/products/3025163>



Shield connection clamp, for shield on busbars, contact resistance  $< 1 \text{ m}\Omega$

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### SK 14 - Shield connection clamp

3025176

<https://www.phoenixcontact.com/us/products/3025176>



Shield connection clamp, for shield on busbars, contact resistance  $< 1 \text{ m}\Omega$

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## SK 20 - Shield connection clamp

3025189

<https://www.phoenixcontact.com/us/products/3025189>



Shield connection clamp, for shield on busbars, contact resistance  $< 1 \text{ m}\Omega$

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## SK 35 - Shield connection clamp

3026463

<https://www.phoenixcontact.com/us/products/3026463>



Shield connection clamp, for shield on busbars, contact resistance  $< 1 \text{ m}\Omega$

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## AB-SK - Support bracket

3025341

<https://www.phoenixcontact.com/us/products/3025341>

Support bracket for busbars



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## AB-SK 65 - Support bracket

3026489

<https://www.phoenixcontact.com/us/products/3026489>

Support bracket, Bracket for busbars, set every 20 cm, length: 95.5 mm, width: 6.2 mm, height: 95.5 mm, number of positions: 1, color: gray, mounting type: DIN rail mounting



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## AB-SK/E - Support bracket

3026476

<https://www.phoenixcontact.com/us/products/3026476>

Support bracket, Bracket for busbars, set every 20 cm, length: 10 mm, width: 56 mm, height: 10 mm, diameter: 4.5 mm, number of positions: 2, color: silver, mounting type: Direct mounting



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## NLS-CU 3/10 SN 1000MM - Neutral busbar

0402174

<https://www.phoenixcontact.com/us/products/0402174>

Neutral busbar, DIN VDE 0611-4: 1991-02, material: Copper, tin-plated, color: silver



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## AK 4 - Connection terminal block

0404017

<https://www.phoenixcontact.com/us/products/0404017>



Connection terminal block, connection method: Screw connection, Rated cross section: 4 mm<sup>2</sup>, cross section: 0.5 mm<sup>2</sup> - 6 mm<sup>2</sup>, mounting: Neutral busbar, color: silver

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## AKG 4 GNYE - Connection terminal block

0421029

<https://www.phoenixcontact.com/us/products/0421029>



Connection terminal block, nom. voltage: 300 V, nominal current: 41 A, connection method: Screw connection, Rated cross section: 4 mm<sup>2</sup>, cross section: 0.5 mm<sup>2</sup> - 6 mm<sup>2</sup>, mounting: Neutral busbar, color: green-yellow

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## AKG 4 BK - Connection terminal block

0421032

<https://www.phoenixcontact.com/us/products/0421032>



Connection terminal block, nom. voltage: 300 V, nominal current: 41 A, connection method: Screw connection, Rated cross section: 4 mm<sup>2</sup>, cross section: 0.5 mm<sup>2</sup> - 6 mm<sup>2</sup>, mounting: Neutral busbar, color: black

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## IB IL SCN-8 - Inline connector

2726337

<https://www.phoenixcontact.com/us/products/2726337>

Connector, for digital 1, 2 or 8-channel Inline terminals





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## IB IL FIELD 2 - Marking field

2727501

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Marking field, width: 12.2 mm



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## ESL 62X10 - Insert strip

0809492

<https://www.phoenixcontact.com/us/products/0809492>

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems, CMS-P1-PLOTTER, mounting type: insert, lettering field size: 62 x 10 mm, Number of individual labels: 72



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