

Analog module - IB IL SGI 2/F-PAC



2878638

<https://www.phoenixcontact.com/pc/products/2878638>

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Inline analog strain gauge input terminal, complete with accessories (connector and marking field), 2 fast inputs, 4-, 6-conductor connection technology



Product Description

The terminal is designed for use within an Inline station. This terminal is a fast input module used to connect load cells, force transducers, mass pressure transducers, and similar devices based on strain gauges. The strain gauges can be connected using 6- or 4-conductor technology. The strain gauge output signals are measured in each bus cycle and updated in the process data (bus-synchronous process data update). The terminal is suitable for control applications with increased speed requirements. There are two options for data exchange: - via process data (both inputs in one bus cycle) - via PCP Compact (both inputs in the "Analog Values" PCP object)The measured values are represented by standardized 16-bit values. The measured values are represented by standardized 16-bit values.

Your advantages

- 2 fast inputs for strain gauge
- Connection of strain gauges in 6- and 4-conductor technology
- Sensor supply voltage provided by the terminal, no external power supply required
- Communication either via process data or parameter channel (PCP Compact)
- The channels are parameterized independently of one another via the bus system
- Bus-synchronous process data update

Commercial Data

Item number	2878638
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	DRI144
Catalog Page	Page 138 (C-6-2019)
GTIN	4017918996406
Weight per Piece (including packing)	231.3 g
Weight per Piece (excluding packing)	190 g
Customs tariff number	85389091
Country of origin	DE

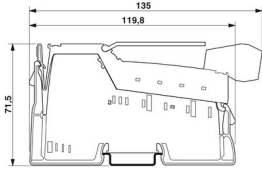
Analog module - IB IL SGI 2/F-PAC

2878638

<https://www.phoenixcontact.com/pc/products/2878638>

Technical Data

Dimensions

Dimensional drawing	
Width	48.8 mm
Height	136 mm
Depth	71.5 mm

Notes

Utilization restriction

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

Color	green
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Interfaces

Inline local bus

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

System properties

Module

ID code (dec.)	223
ID code (hex)	DF
Length code (hex)	03
Length code (dec)	03
Process data channel	48 Bit
Input address area	6 Byte
Output address area	6 Byte
Register length	64 Bit
Required parameter data	15 Byte
Required configuration data	5 Byte

Input data

Analog

Analog module - IB IL SGI 2/F-PAC



2878638

<https://www.phoenixcontact.com/pc/products/2878638>

Description of the input	Input channels for strain gauge
Number of inputs	2
Connection technology	6 or 4-wire, twisted pair shielded cable
Bridge difference U_d	Measuring range specified by selecting the characteristic and the bridge voltage
Bridge voltage U_0	3.3 V
	5 V
Measured value representation	15 bit + sign bit
Characteristics	± 1 mV/V, ± 2 mV/V, ± 3 mV/V, ± 4 mV/V
	+1 mV/V, +2 mV/V, +3 mV/V, +4 mV/V

Output data

Analog

Output description	Voltage output
Number of outputs	2
Impedance	> 58.3 Ω (typical; permissible total resistance of the strain gauge)
Output voltage	5 V
	3.3 V
Output current	typ. 55 mA (with $U_V = 3.3$ V)
	typ. 85 mA (with $U_V = 5$ V)

Product properties

Type	modular
Product type	I/O component
Operating mode	Process data operation with 3 words, PCP with 1 word
Diagnostics messages	Failure of the power supply at U_{ANA} Error message in the process data
	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

Electrical properties

Maximum power dissipation for nominal condition	0.59 W
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Potentials

Power consumption	typ. 0.76 W (Device in nominal operation)
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Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 85 mA
	typ. 75 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	typ. 32 mA (with maximum load of 58.3 Ω when $U_V = 5$ V)

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2878638

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typ. 8 mA (without strain gauge)

Connection data

Connection technology

Connection name	Inline connector
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Conductor connection

Connection method	Spring-cage connection
Conductor cross section solid	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

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)

Standards and regulations

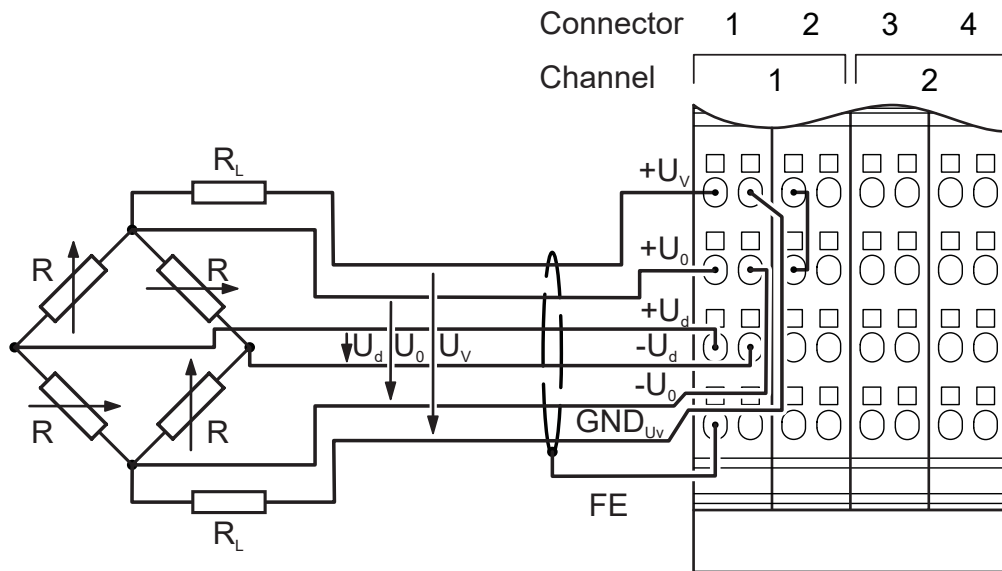
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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Mounting

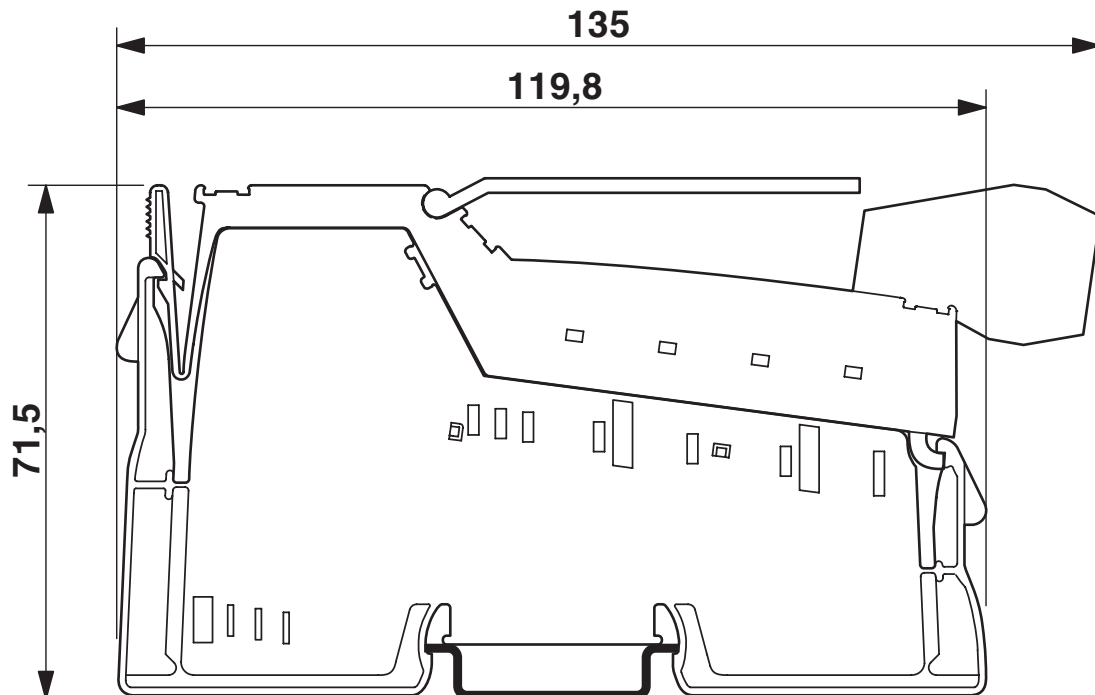
Mounting type	DIN rail mounting
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Drawings

Connection diagram



Dimensional drawing



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2878638

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Approvals



cUL Recognized
Approval ID: FILE E 140324



UL Recognized
Approval ID: FILE E 140324



cUL Listed
Approval ID: FILE E 199827



UL Listed
Approval ID: FILE E 199827

cULus Recognized

cULus Listed

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Classifications

ECLASS

ECLASS-9.0	27242601
ECLASS-10.0.1	27242601
ECLASS-11.0	27242601
ECLASS-12.0	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

Inline shield connector

Inline shield connector - IB IL SCN-6 SHIELD - 2726353

<https://www.phoenixcontact.com/pc/products/2726353>



Inline shield connector

Inline connector

Inline connector - IB IL SCN-8 - 2726337

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

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2878638

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Shield connection clamp

Shield connection clamp - SK 8 - 3025163

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



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

Shield connection clamp

Shield connection clamp - SK 14 - 3025176

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



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

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2878638

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Shield connection clamp

Shield connection clamp - SK 20 - 3025189

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



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

Shield connection clamp

Shield connection clamp - SK 35 - 3026463

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



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

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2878638

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Support bracket

Support bracket - AB-SK - 3025341

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

Support bracket for busbars



Support bracket

Support bracket - AB-SK 65 - 3026489

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

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



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2878638

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Support bracket

Support bracket - AB-SK/E - 3026476

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

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



Neutral busbar

Neutral busbar - NLS-CU 3/10 SN 1000MM - 0402174

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

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



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2878638

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Connection terminal block

Connection terminal block - AK 4 - 0404017

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



Connection terminal block, connection method: Screw connection, Rated cross section: 4 mm², cross section: 0.5 mm² - 6 mm², mounting: Neutral busbar, color: silver

Connection terminal block

Connection terminal block - AKG 4 GNYE - 0421029

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



Connection terminal block, nom. voltage: 300 V, nominal current: 41 A, connection method: Screw connection, Rated cross section: 4 mm², cross section: 0.5 mm² - 6 mm², mounting: Neutral busbar, color: green-yellow

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2878638

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Connection terminal block

Connection terminal block - AKG 4 BK - 0421032

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



Connection terminal block, nom. voltage: 300 V, nominal current: 41 A, connection method: Screw connection, Rated cross section: 4 mm², cross section: 0.5 mm² - 6 mm², mounting: Neutral busbar, color: black

Software

Software - AX+ BASIC - 2985068

<https://www.phoenixcontact.com/pc/products/2985068>



Software CD for FDT container for integrating device DTMs (free download)

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2878638

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Programming software

Programming software - AX DTM LIB - 2988065

<https://www.phoenixcontact.com/pc/products/2988065>



DTM library

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