

IB IL SGI 2/F-2MBD-PAC - Analog module



2878735

<https://www.phoenixcontact.com/us/products/2878735>

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Inline, Strain gauge measurement terminal, transmission speed in the local bus: 2 Mbps, 2 fast inputs, 4-, 6-conductor connection technology, degree of protection: IP20, including Inline connectors and marking fields

Product description

Inline terminals with "2 MBD" added to their item designation work with a transmission speed of 2 Mbps. These terminal blocks are discontinued or no longer in the range. If you require this transmission speed, please ask your local Phoenix Contact representative. If you can work with a transmission speed of 500 kbps, select as a replacement the corresponding variant that does not have "2MBD" added to its item designation. Please note that a uniform transmission speed must always be used within one inline station.

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)
- The channels are parameterized independently of one another via the bus system
- Bus-synchronous process data update
- Diagnostic and status indicators

Commercial data

Item number	2878735
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI144
GTIN	4017918996437
Weight per piece (including packing)	226.4 g
Weight per piece (excluding packing)	190 g
Customs tariff number	85389091
Country of origin	DE

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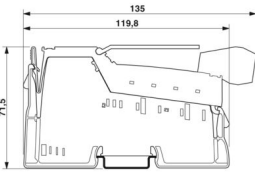


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Technical data

Dimensions

Dimensional drawing	
Width	48.8 mm
Height	136 mm
Depth	71.5 mm

Notes

Note on application

Note on application	Only for industrial use
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Material specifications

Color (Housing)	green (RAL 6021)
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Interfaces

Inline local bus

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

System properties

Programming data (LocalbusSlave)

Length code (hex)	03
ID code (dec.)	223
Length code (dec)	03
Process data channel	48 bit
Input address area	6 Byte
Output address area	6 Byte
Parameter channel (PCP)	2 Byte
Register length (bus)	32 bit

Fieldbus data telegram (PROFIBUS)

Required parameter data	15 Byte
Required configuration data	5 Byte

Input data

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Analog

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

Product type	I/O component
Product family	Inline
Type	modular
Scope of supply	including Inline connectors and marking fields
Operating mode	Process data operation with 3 words, PCP with 1 word
Special properties	2 fast inputs 4-, 6-conductor connection technology
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

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)

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Current draw	max. 110 mA
	typ. 100 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)
	typ. 8 mA (without strain gauge)

Electrical isolation/isolation of the voltage ranges

Test voltage: Logic/analog I/O (digital isolator)	500 V AC, 50 Hz, 1 min
Test voltage: Functional ground/analog I/O (isolating distance)	500 V AC, 50 Hz, 1 min
Test voltage: Logic/functional ground (isolating distance)	500 V AC, 50 Hz, 1 min

Connection data

Connection technology

Connection name	Inline connector
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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
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)
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Mounting

Mounting type	DIN rail mounting
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Approvals

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cULus Recognized

Approval ID: E140324



cULus Listed

Approval ID: E199827

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Classifications

ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

ETIM

ETIM 10.0	EC001596
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UNSPSC

UNSPSC 21.0	32151600
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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)
SCIP	d61a25cb-640e-46a5-86e1-3d383d564322

EF3.1 Climate Change

CO2e kg	7.274 kg CO2e
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