IB IL SGI 2/P/EF-PAC - Analog module

2702373

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Inline, Strain gauge measurement terminal, transmission speed in the local bus: 500 kbps, 2 precise and fast inputs, 4-, 6-conductor connection technology, degree of protection: IP20, including Inline connectors and marking fields

Product description

The terminal is designed for use within an Inline station. This terminal is a precise and fast input module. It is designed to connect load cells, force transducers, mass pressure transducers, and similar devices. The terminal is based on strain gauges. You can connect the strain gauges using 6- or 4-conductor technology. The measured value can be output directly on a weight display via a serial interface. There are two options for data exchange: - via process data - via PCP Compact (both inputs in the “Analog Values” PCP object) The measured values are represented by standardized 16-bit values.

Your advantages

- 2 high-precision inputs for strain gauges
- Measuring ranges adjusted with nominal characteristic values upon delivery
- Manual entry of characteristic values
- Process data update can be parameterized in increments between 200 µs and 100 ms
- Path adjustment in the process environment
- 2-point adjustment
- Connection of strain gauges in 6- and 4-conductor technology
- Advanced wire-break detection
- Sensor supply of up to 115 mA (8 load cells with 350 Ω per channel)
- Per channel: low-resistance, floating N/O contact
- The channels are parameterized independently of one another via the bus system
- Tara device
- Serial interface for external weight displays
- Status message when zero point is reached and resting of measured value

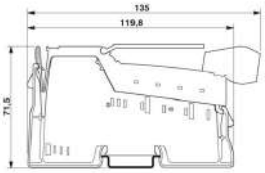
Commercial data

Item number	2702373
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DRI
Product key	DRI144
Catalog page	Page 139 (C-6-2019)
GTIN	4055626228464
Weight per piece (including packing)	241 g

Weight per piece (excluding packing)	241 g
Customs tariff number	85389099
Country of origin	DE

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

Interfaces

Inline local bus

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

Serial

Designation	V.24 (RS-485) serial interface
Addressing	Address 1 = Measured gross/net value
	Address 2 = Measured tare value
Termination resistor	120 Ω
Transmission protocol	STX/ETX

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	23 Byte
Required configuration data	5 Byte

Input data

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
Bridge voltage U_0	5 V
Measured value representation	16 bit, 20 bit, ASCII data record
Characteristics	±1 mV/V, ±2 mV/V, ±3 mV/V, ±3.33 mV/V, ±4 mV/V, ±5 mV/V, ±6 mV/V, manual characteristic value specification

Contacts

Description	Floating N/O contact
Quantity	2 (K_{a1}-K_{b1}, K_{a2}-K_{b2})
Contact resistance	< 1 Ω (typical)
	3 Ω (maximum)
Typical response time	typ. 0.2 ms (opening)
	typ. 2 ms (close)

Output data

Analog

Output description	Jumper supply
Number of outputs	2
Impedance	> 43 Ω (per channel)
Output voltage	typ. 5 V
Output current	max. 115 mA (per channel)

Product properties

Product type	I/O component
Product family	Inline
Type	modular
Scope of delivery	including Inline connectors and marking fields
Operating mode	Process data operation with 3 words, PCP with 1 word
Special properties	2 precise and 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

Data management status

Article revision	02

Electrical properties

Potentials

Power consumption	typ. 1.4 W (Device in nominal operation)
	max. 3.5 W (Device with maximum load)

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 95 mA
	typ. 80 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 (in case of typical load of 350 Ohm per channel)
	115 mA (with maximum load of 43 Ω and display)
	14 mA (for no-load operation without strain gauge or display)

Electrical isolation/isolation of the voltage ranges

Test voltage: Logic	500 V AC, 50 Hz, 1 min.
Test voltage: Analog I/O	500 V AC, 50 Hz, 1 min.
Test voltage: RS-485	500 V AC, 50 Hz, 1 min.
Test voltage: N/O contact K_{a1} - K_{b1}	500 V AC, 50 Hz, 1 min.
Test voltage: N/O contact K_{a2} - K_{b2}	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

Conductor connection

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

Inline connector

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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)

Standards and regulations

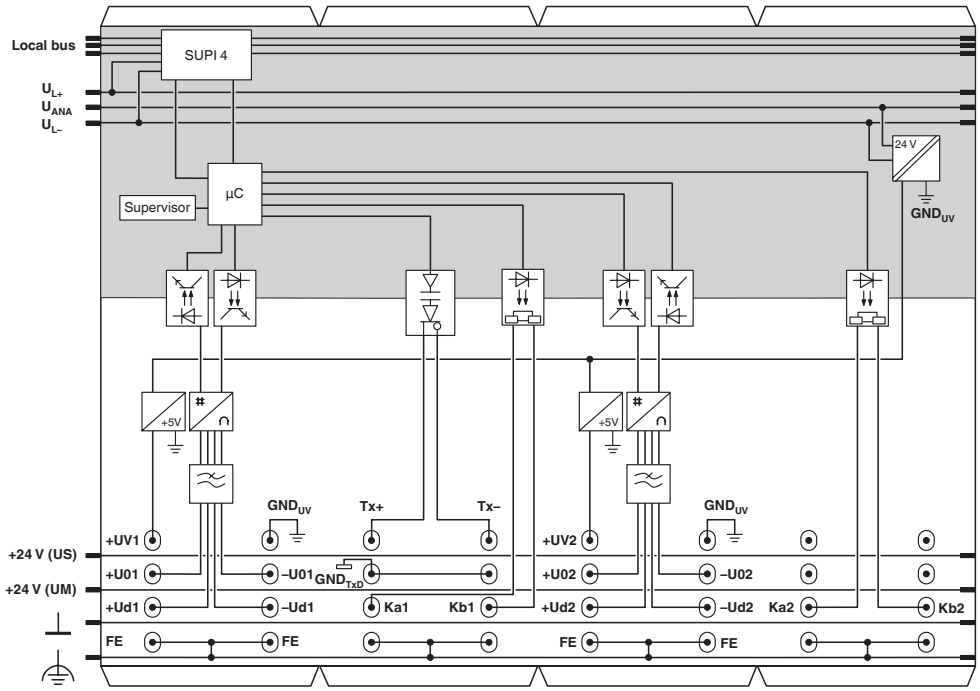
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

Mounting

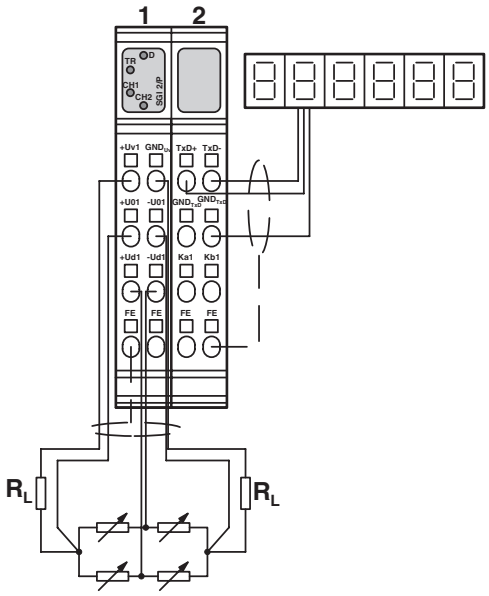
Mounting type	DIN rail mounting

Drawings

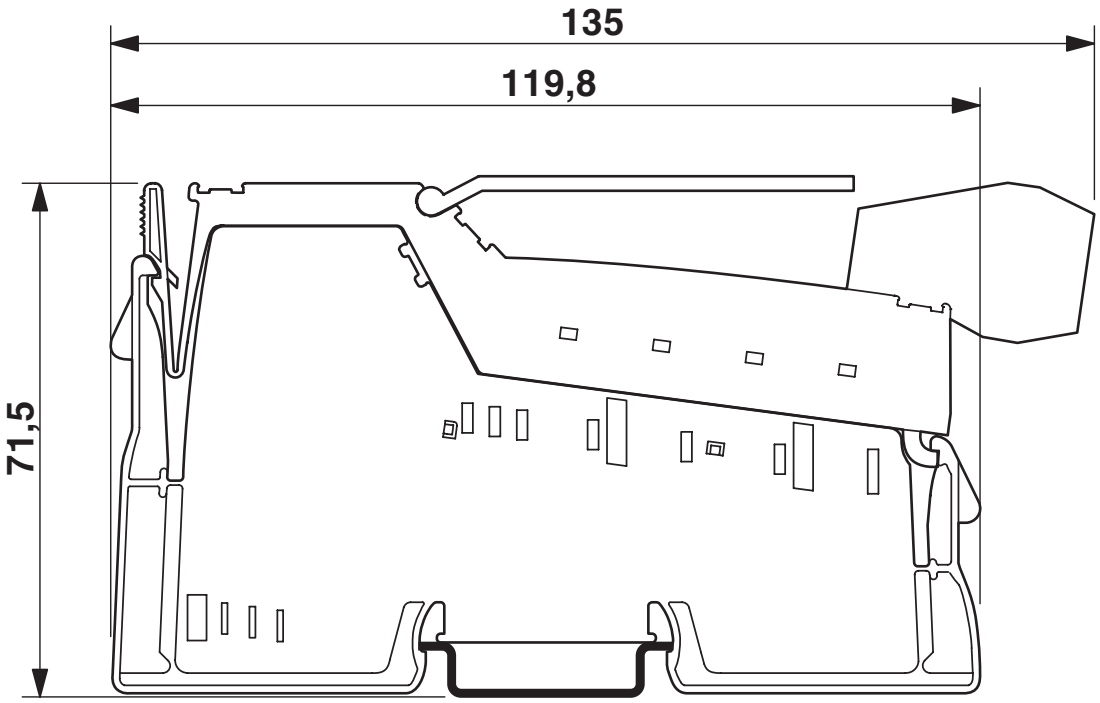
Block diagram



Connection diagram



Dimensional drawing



Approvals

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UL Listed
Approval ID: E140324

cUL Listed
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Classifications

ECLASS

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

ETIM

ETIM 9.0	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)
SCIP	7d76b1d0-aa25-4208-b081-52777d7f7519

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