

IB IL SGI 1/CAL - Inline terminal



2700064

<https://www.phoenixcontact.com/us/products/2700064>

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Inline analog strain gauge input terminal, without accessories, evaluating electronics with EC type approval



Product description

The terminal is designed for use within an Inline station. This terminal can be used as a robust and precise piece of evaluation electronics to set up non-automatic weighing instruments (NAWI). The terminal block satisfies the EC type approval as an electronic evaluating device to set up non-automatic weighing instruments (NAWI) of commercial class III with 3,000 scale intervals or class IIII ordinary scales with 1,000 scale intervals in accordance with the EN 45501 and OIML R76 standards. A network-compatible serial interface can be used to connect primary and secondary displays for displaying measured gross/net and tare values to the evaluating electronics. The measurement and configuration data is transmitted via the parameter channel (PCP). The terminal has an alibi memory to store up to 65536 measurement protocols, including date and time. A specific DTM enables easy commissioning and data management (e.g., of the measurement protocols).

Your advantages

- 1 input for DMS
- Serial interface for external weight displays
- Connection of strain gauges in 6-conductor technology
- Electronic evaluating device to set up non-automatic weighing instruments (NAWI)
- Can be calibrated by EC type approval according to standards EN 45501 and OIML R76
- Alibi storage for up to 65536 test reports
- Zero point, tare, and standstill display
- Up to 3000 pitch values
- Parameterization and calibration using FDT/DTM technology
- Various filter settings

Commercial data

Item number	2700064
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DRI144
GTIN	4046356484022
Weight per piece (including packing)	182.5 g
Weight per piece (excluding packing)	160 g
Country of origin	DE

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Technical data

Dimensions

Dimensional drawing	
Width	48.8 mm
Height	120 mm
Depth	71.5 mm
Note on dimensions	Dimensions with covering hood

Notes

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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Material specifications

Color	green
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Interfaces

Inline local bus

Connection method	Inline data jumper
Transmission speed	500 kbps

Serial

Designation	RS-485
Network	Yes
Addressing	Address 0 = Broadcast, alternating display of measured gross/net value and measured tare value Address 1 = Measured gross/net value Address 2 = Measured tare value Address 3 ... 9 = reserved
Termination resistor	120 Ω
Transmission protocol	STX/ETX

System properties

Memory type	Measurement protocol memory Alibi memory: non-volatile Flash memory 20 years
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Module

ID code (dec.)	220
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ID code (hex)	DC
Length code (hex)	02
Length code (dec)	02
Process data channel	32 bit
Input address area	4 Byte
Output address area	4 Byte
Register length	64 bit
Required parameter data	23 Byte
Required configuration data	5 Byte

Input data

Analog

Description of the input	Input channel for strain gauge
Number of inputs	1
Connection technology	6-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	Process data: status bits and measured value including decimal places of the gross/net display PCP: see PCP; test report meets the requirements of DIN EN 45501 and OIML R76
Process data update	typ. 100 ms
Characteristics	$\pm 1 \text{ mV/V}$, $\pm 2 \text{ mV/V}$, $\pm 3 \text{ mV/V}$, $\pm 3.33 \text{ mV/V}$, $\pm 4 \text{ mV/V}$, $\pm 5 \text{ mV/V}$

Contacts

Description	Lock of parameters
Quantity	1 (PS_a - PS_b)
Logic	PS_a - PS_b connected = Parameter locked
Typical response time	< 100 ms

Output data

Analog:

Protective circuit	Short-circuit protection of the voltage outputs; Yes, at least 1 minute through temperature monitoring
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Analog

Output description	Voltage output
Number of outputs	1
Impedance	> 55 Ω max. 5 k Ω
Output voltage	typ. 5 V $\pm 2 \%$ max. 5 V $\pm 5 \%$
Output current	max. 90 mA
Maximum output current	max. 90 mA

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Product properties

Product type	I/O component
Type	modular
Operating mode	Inline
Diagnostics messages	Process data operation with 2 words, PCP with 2 words
	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
	User error Error message in the process data

Electrical properties

Real-time clock

Description realtime clock	Second, minute, hour, day, month, year 5 years, timer buffered
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Potentials

Power consumption	typ. 1 W (Device in nominal operation)
	max. 2 W (Device with maximum load)

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 100 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	max. 50 mA
	typ. 12 mA (For a typical load of 350 Ω and display)
	43 mA (for a maximum load of 55 Ω and display)

Electrical isolation/isolation of the voltage ranges

Test voltage: Logic/analog I/O (digital isolator)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (U_{ANA})/analog I/O (DC/DC converter)	500 V AC, 50 Hz, 1 min
Test voltage: RS-485/analog I/O (isolating distance)	500 V AC, 50 Hz, 1 min
Test voltage: Contacts PS _a - PS _b /analog I/O (isolating distance)	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/24 V supply (U_{ANA}) (DC/DC converter)	500 V AC, 50 Hz, 1 min
Test voltage: RS-485/24 V supply (U_{ANA}) (DC/DC converter)	500 V AC, 50 Hz, 1 min
Test voltage: Functional ground/24 V supply (U_{ANA}) (isolating distance)	500 V AC, 50 Hz, 1 min
Test voltage: Logic/RS-485 (digital isolator)	500 V AC, 50 Hz, 1 min
Test voltage: Functional ground/RS-485 (isolating distance)	500 V AC, 50 Hz, 1 min
Test voltage: Logic/contacts PS _a - PS _b (optocoupler)	500 V AC, 50 Hz, 1 min

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Test voltage: Functional ground/contacts PS _a - PS _b (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

Conductor connection	
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

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

SMKDS terminals	
Connection method	Screw connection
Conductor cross-section, rigid	0.14 mm ² ... 1.5 mm ²
Conductor cross-section, flexible	0.14 mm ² ... 1 mm ²
Conductor cross-section AWG	26 ... 16
Stripping length	8 mm

Environmental and real-life conditions

Ambient conditions	
Ambient temperature (operation)	-25 °C ... 55 °C (Type approval according to DIN EN 45501 and OIML R76: -10°C ... 40°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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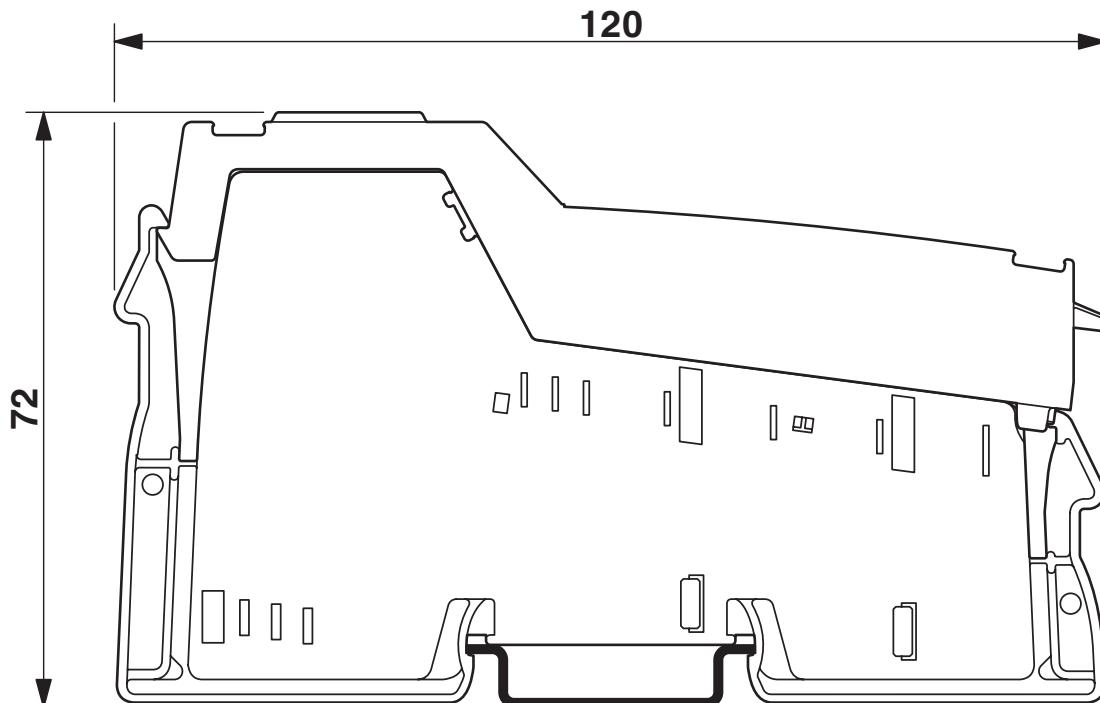


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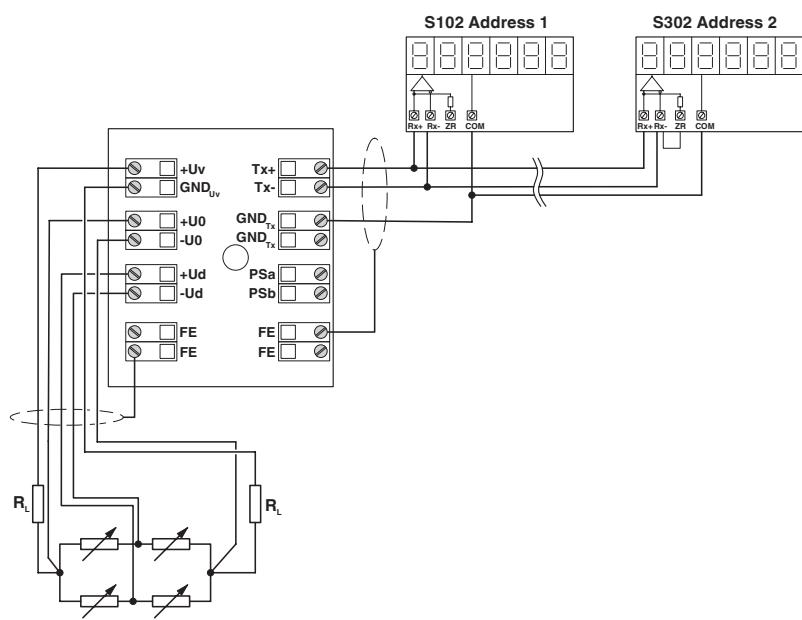
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Drawings

Dimensional drawing



Connection diagram



Connection of strain gauges in 6-conductor technology (calibration set)

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Environmental product compliance

China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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