

Strain Gauge Sensor-Interface

SI/RS485

- High Accuracy
- Fast Measurement of up to 5000 Measurements/s
- Optional 2 Channel Type with 0.3...3 mV/V or +5 V Input
- Fail-safe by digital Interface
- Adjustment and Control Signal Switch via Software
- Adjusted values in EEPROM logged
- Long Input Lead from SI/RS485 to Evaluation possible
- Applicable in heavy Industries by robust Aluminum Casting Housing



DESCRIPTION

This 1 or 2 channel sensor-interface SI/RS485 contains highly precise strain gauge measuring amplifiers with 16 Bit AD-converters. These digital measured values are available through the RS485 interface.

By address assignment several SI/RS485 can be connected via the standard interface and be queried individually.

Voltage excitation of 10...30 V DC.

Factory-sided, the optional channel 2 can be configured as a strain gauge amplifier, or with +5 V input. This enables force and displacement measurement with the use of a potentiometric displacement sensor. The sensors are adjusted by software. Either by entry of the nominal values, by 2-point scaling through applying load or by the control signal switch (if available in the sensor).

These adjusted values are logged in an EEPROM, and remain there even after a power failure.

Easiest system integration by short control commands for data exchange.

Overview of some control commands:

Normal mode commands

ReadRaw	Measured value query
WriteFullStroke	Calibr. control activation
ReadConfig	Read-out of calibr. data
WriteConfig	Send calibr. data
GotoSpecialMode	Mode with abbreviated transmittal

Special mode commands

A	Meas. value A read-out
B	Meas. value B read-out
D	Control on
E	Control off

TECHNICAL DATA

Type	SI/RS485
Art.-No.	107554

Supply	10...30 V DC
Current Consumption	≤160 mA (at 10 V) ≤70 mA (at 30 V)
Accuracy Class	0.1% at 3 mV/V 0.2% at 0.35 mV/V 0.3% at +5
Measuring Rate 1 Channel Operation	5000/s*
Measuring Rate 2 Channel Operation	2500/s*
Signal Resolution	16 Bit (65536 Digits)
Baud Rate	115k/230k
Bridge Resistance SG	120...5000 Ω
Excitation Voltage SG	5 V ≤100 mA
Sensitivity	0,35...3,0 mV/V
Zero Point and Amplifier Balance	Software
Control Signal Activation	Software/internal key
Nominal Temperature Range	+15...+45 °C
Service Temperature Range	0...+50 °C
Storage Temperature Range	-10...+70 °C
Dimension (L x W x D)	115 x 65 x 35 mm
Weight	500 g
Level of Protection	IP40

Art.-No.	Options	Description
110564	mV/V	mV/V adjusted sensitivity
107555	SI/RS485-2K	Channel 2 passive 0.3...3 mV/V
109275	SI/RS485-2K	Channel 2 active +5 V
108436	LCV-USB-VS*	Measuring and evaluation software

*Limited to 200 measurements/s at operation of the LCV-USB-VS Software with Windows^{®1}.

¹ Windows[®] is either a registered brand or brand of the Microsoft Corporation in the USA and/or other countries.

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