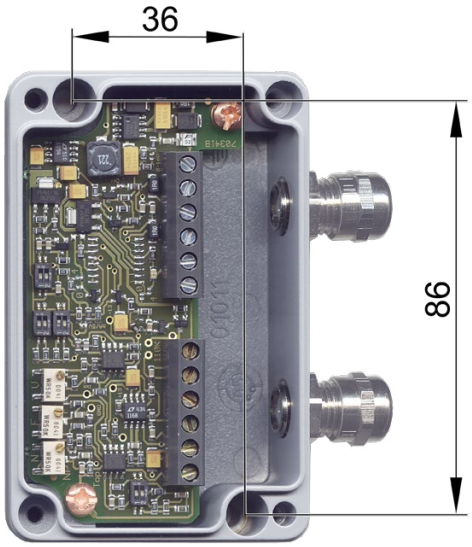
Lorenz® messtechnik gmbh

Strain Gauge Sensor-Interface SI

Data sheet



Performance Features

- High accuracy
- Voltage or current output
- Direct connection to PLC
- Long input lead from SI to evaluation possible
- Applicable in heavy industries by robust aluminum casting housing
- Level of Protection IP66

Application

- Research and development
- Process measuring and control technology
- Automotive engineering
- Energy and environmental technology
- Mechanical engineering

Description

The sensor-interface SI is designed for the interface adaption between sensor and evaluation. The interference-prone output signals of strain gauge sensors are raised to a high level. Thus, the measurement safety and the measurement accuracy is crucially increased.
The excitation voltage range of 16 ... 32VDC and the analog outputs of ±10V, resp. 0/4 ... 20 mA allow the direct signal processing with a PLC-Control. The sensor is powered with stabilized DC voltage which is generated from unregulated supply (16 ... 32VDC).
The subsequent precision measuring amplifier converts the output signals of the sensor into standardized signals.
An universal and easy adaptation to different sensors is possible through a wide control range of the zero point and the amplification by determining the coarse adjustment through a switch and by fine adjustment with the potentiometers.
An optional external control signal excitation allows to activate the control signal in the sensor (if available) with a control signal, externally. By this, the adjustment and the subsequent evaluation can be checked at any time.
Furthermore, an input filter is adjustable with a potentiometer (to eliminate interferences, e.g. by frequency converters etc.).

Scope of Delivery

Serially, the interface is being delivered with M12x1.5 screw connections.

Lorenz Messtechnik GmbH Obere Schlossstrasse 127/129/131
73553 Alfdorf Tel. +49 7172 93730-0, Fax +49 7172 93730-22
info@lorenz-messtechnik.de, www.lorenz-messtechnik.de

Technical Data

Strain Gauge Sensor-Interface SI						
Type	SI-U10	SI-U5	SI-I0	SI-I4	SI-I10	SI-I12
Article-No.	101131	103756	102146	101130	103755	103627
Evaluation Side						
Output signal	±10V ≤5 mA	±5V ≤5 mA	0 ... 20 mA	4 ... 20 mA	10 ±10 mA	12 ±8 mA
Ripple U-out/I-out at 400 Ω	<20 mV					
Gain drift	<0.05 %/10 K		<0.1 %/10 K			
Zero point drift	<0.15 %/10 K		<0.2 %/10 K			
Linearity	<0.02 %					
Output resistance	<1 Ω		-			
Rated burden	>2 kΩ		max. 400 Ω			
Supply voltage	16 ... 32VDC					
Ripple of supply voltage	≤100 mV RMS					
Current consumption	≤40 mA		≤60 mA			
Maximum input lead resistance	10 Ω		30 Ω			
Cable length SI - evaluation	3 m (max.10 m)		3 m (max.100 m)			
Sensor Side						
Sensor supply	10V (option 5V) ≤150 mA					
Temperature coefficient of the excitation voltage	0.1 mV/K					
Input range	0.25 ... 4 mV/V					
Input resistance	10^9 Ω					
Cable length SI - sensor	1 m (max. 3 m)					
Miscellaneous						
Cut-off frequency	1 kHz -3 dB					
Rated temperature range	10 ... 40 °C					
Operating temperature range	0 ... 60 °C					
Storage temperature range	-10 ... 70 °C					
Housing dimension with front cover (L x W x H)	98 x 64 x 36 mm					
Level of protection	IP66					
Weight	0.3 kg					

Options

Article-No.	Description	Type
110564	mV/V adjusted rated characteristic value	mV/V
113512	Output signal 2.5 ±2.5V	2.5 ±2.5V
110651	Output signal 5 ±5V	5 ±5V
112711	Control signal excitation external 8 ... 28VDC	SI/KS
116697	Sensor supply 5V 150 mA	SI/S5
103758	Sensor connection pluggable ED6	SI/EED6
103759	Excitation/output pluggable ES6	SI/AES6
103757	Excitation voltage 8 ... 16VDC (not for SI-U10)	SI/V8
103340	Cable input for second sensor	SI/2S
108200	Increased dynamic 5 kHz -3 dB	5 kHz -3 dB
108533	Increased dynamic 10 kHz -3 dB	10 kHz -3 dB
10301	Female cable connector 6-pin	KD6
10302	Male cable connector 6-pin	KS6