SG-IP

Single Channel Strain Gauge Amplifier

- Supply voltage 10 ... 18 VDC / 18 ... 30 VDC
- Analogue output 0 ... 10 V / ±10 V / 4 ... 20 mA
- EMC Aluminium die-cast enclosure (IP65)
- Dimensions (W x H x D) 175 x 80 x 57 mm

The single-channel strain gauge measuring amplifier SG-IP allows supply and signal evaluation of one transducer with a strain gauge full bridge greater than 300 ohms. Input and output are galvanically isolated. The connection is done in 4-wire technology. For further evaluation standard analogue outputs are available. The measuring amplifier is built-in into a robust EMC die-cast aluminium enclosure (IP65) which is suited for applications in rough and industrial environments.

The amplification of the amplifier can be adapted by an internal precision resistance.

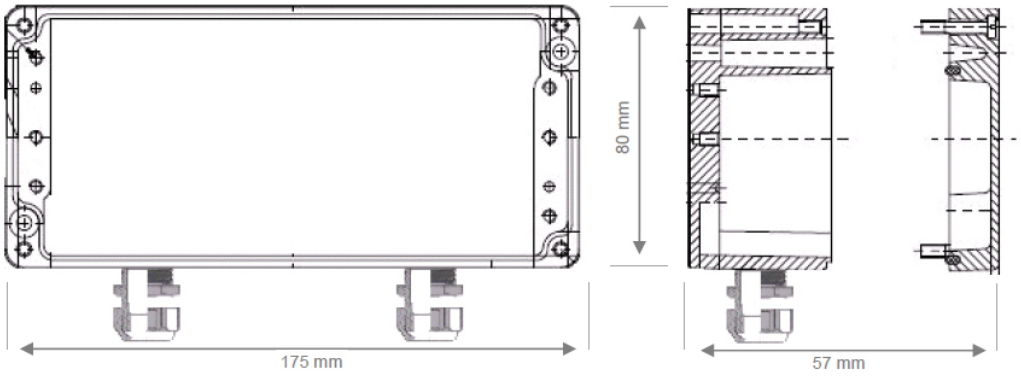
The potentiometers Z (Zero) and G (Gain) which are accessible after removing the enclosure cover allow a calibration correction.

By means of an internal dip switch a change of the range of the potentiometer Z (Zero) can be reached. To allow a zero range shift a basic load / tare can be suppressed by a resistance electrically.

Technical Data

Number of measuring channels:	1 (full bridge resistance >300 Ω)
Supply voltage:	10 ... 18 VDC, 18 ... 30 VDC, electronics protected against voltage reversal
Isolating proof voltage input to output:	200 V, higher isolated proof voltage on request
Power consumption:	4 W max.
Strain gauge excitation supply:	+5 VDC, +10 VDC
Analogue output:	0 ... 10 V, ±10 V max. 1 mA (short-period short-circuit proof) 4 ... 20mA (max. 500 Ω) and 0 ... 10V (max. 1mA, max. 30mV Offset)
Limit frequency (-3 dB):	1 kHz, optional up to 30 kHz
Input resistance:	>3 MΩ
Max. input sensitivity:	100 mV/V at +10 VDC excitation supply
Non-linearity:	±0.05 % FSO
Electrical connection:	EMC cable gland on internal terminal block
Enclosure:	EMC aluminium die-cast enclosure (IP65)
Dimensions (W x H x D):	175 x 80 x 57 mm
Weight:	750 g
Temperature, storage:	-20 ... +60 °C
Temperature, operating:	-20 ... +50 °C

Enclosure Dimensions



Terminal Wiring

Electrical connections are made via cable glands on a terminal block located inside of the enclosure. The terminal numbering is stated on the board. The maximum cable cross section amounts 2.5 mm². EMC installation information must be followed.

Note: The amplifier has to be operated with closed cover only.

Terminal	Description
1	Supply Voltage
2	Supply Ground
Galvanic Isolation	
3	Analogue Output 2 (Version 4 ... 20 mA)
4	Analogue Output 1 (0 ... +10 V, ±10 V)
5	Analogue Ground

Terminal	Description
6	+ SG Signal Transducer
7	- SG Signal Transducer
8	+ SG Excitation Transducer
9	- SG Excitation Transducer
10	Screen / Enclosure

The terminals "Supply Ground" and "Analogue Ground" are galvanically isolated. To eliminate galvanic isolation, the terminals 2 and 5 have to be bridged externally.

Ordering Description

SG-IP-...	Single channel strain gauge amplifier in a EMC aluminium die-cast enclosure (IP65)		
	...-12E-...	Supply voltage: 10 ... 18 VDC	
	...-24E-...	Supply voltage: 18 ... 30 VDC	
		...-010-...	Analogue output: 0 ... 10 V
		...-B10-...	Analogue output: ±10 V
		...-420-...	Analogue output: 0 ...10 V and 4 ... 20 mA
			...-GFxx Limit frequency optionally up to 30 kHz
			(blank) Standard version (1 kHz)

Alignment / Calibration

On request, a pre-setting of the measuring system or a factory calibration certificate with traceable references can be carried out for an extra charge.

Customized Requirements

Technical modifications according to customized requirements are available on request. Moreover, we deliver customized special solutions for a lot of measuring tasks in the section pressure, force, position and tilt measuring using our measuring transducers. Do not hesitate to contact us.

Version 2.04, 03/2020