SG-IP-12E/24E-xxx-4P

Single channel strain gauge amplifier for parallel operating of up to 4 transducers with normalized signal

- **Supply voltage 10 … 18 VDC / 18 … 30 VDC**
- **Analogue output 0 … 10 V / ±10 V / 4 … 20 mA**
- **EMC-aluminium-diecast enclosure (IP65)**
- **Dimension (B x H x D) 220 x 80 x 120 mm**

The described single-channel strain gauge measuring amplifier allows the supply and signal evaluation of up to four transducer with normalized sensitivity and a strain gauge full bridge greater 300 ohms. The input and the output are galvanically isolated. The connection occurs in 4-wire technology. For further evaluation are standard analogue outputs available. The measuring amplifier is built-in in a robust EMC diecast aluminum enclosure (IP65), which is suited for the application in rough and industrial surroundings.

The amplification can be adapted by an internal precision resistance.

The potentiometer Z (Zero) and G (Gain), which are accessible after removing the enclosure lid, allow a correction of the calibration.

With the help of an internal dip switch, a change of the range of the potentiometer Z (zero) can be reached.

To allow a possible movement of the zero range, a possible basic load / tare can be suppressed with a resistance electrically.

Technical data

Number of measuring channels:	1 (full bridge resistance > 300 Ω)	
Supply voltage:	10…18 VDC 18…30 VDC	Electronic protected against voltage reversal
Isolating proof voltage input to output:	200 V	Higher isolated proof voltage on request
Power consumption:	max. 8 W	
Strain gauge excitation supply:	±2.5 VDC / ±5 VDC	
Analogue output:	0 … 10 V / ±10 V 4 … 20 mA	max. 1 mA (short-period short-circuit proof) max. 500 Ω
Limit frequency (-3 dB):	1 kHz	optional up to 30 kHz
Input resistance:	>3 MΩ	
Max. input sensitivity:	100 mV/V at ±5 VDC excitation supply	
Non-linearity:	±0.05 % FSO	
Electrical connection:	EMC-cable gland on internal terminal block	
Enclosure:	EMC-aluminium diecast enclosure (IP65)	
Dimension (B x H x D):	220 x 80 x 120 mm	
Weight:	1650 g	
Temperature, storage:	-20 °C … +60 °C	
Temperature, operating:	-20 °C … +50 °C	

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Order Description:

SG-IP-…	Single channel strain gauge amplifier in a EMC-aluminium diecast 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
	…-4P-…	For up to four strain gauge transducers with normalized sensitivity
	…-GFxx	Limit frequency optionally up to 30 kHz
		No declaration (GFxx) for standard version 1kHz
	…-2G	2 adjustable threshold value switching points as well as potential-free switching contacts (max. 30 VDC/ 0.5 A)

Terminal Wiring

Electrical connections are made via cable gland on terminal block located in the inside of the enclosure. The terminal numbering is to be found on the board. The maximum cable cross section amounts 2.5 mm². The EMC-installation informations are to be followed.

Notice: The amplifier may be pursued only with closed lid.

Clamp	*Description*
1	Supply Voltage
2	Supply Ground
3	Supply Ground
Galvanic isolation	
4	Analogue Ground
5	Analogue output 1 (0 … +10 V, ±10 V)
6	Analogue output 2 (Version 4 … 20 mA)
7	Analogue Ground
8	+SG-Signal Transducer 1
9	-SG-Signal Transducer 1
10	+SG-Excitation Transducer 1
11	-SG-Excitation Transducer 1
12	Screen/Enclosure
13	+SG-Signal Transducer 2

Clamp	*Description*
14	-SG-Signal Transducer 2
15	+SG-Excitation Transducer 2
16	-SG-Excitation Transducer 2
17	Screen/Enclosure
18	+SG-Signal Transducer 3
19	-SG-Signal Transducer 3
20	+SG-Excitation Transducer 3
21	-SG-Excitation Transducer 3
22	Screen/Enclosure
23	+SG-Signal Transducer 4
24	-SG-Signal Transducer 4
25	+SG-Excitation Transducer 4
26	-SG-Excitation Transducer 4
27	Screen/Enclosure

The clamps 2 and 4 are galvanically isolated. To lift the galvanic isolation, the clamps are to be bridged externally.

Option -2G	
28	SP 1 (Relay 1) (30 VDC / 0.5 A) MIN
29	SP 1 (Relay 1) (30 VDC / 0.5 A) MIN
30	SP 1 (Relay 1) (30 VDC / 0.5 A) MIN
31	SP 2 (Relay 3) (30 VDC / 0.5 A) MAX
32	SP 2 (Relay 3) (30 VDC / 0.5 A) MAX
33	SP 2 (Relay 3) (30 VDC / 0.5 A) MAX

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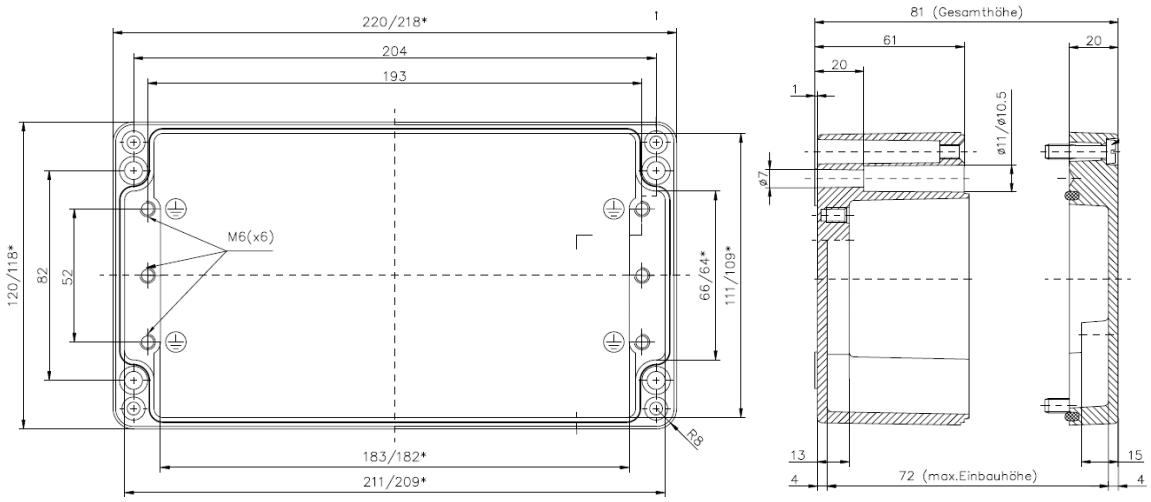
Enclosure Dimension



Alignment/Calibration:

If requested, 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 modification according customized requirement are possible on request. Moreover, we deliver Customized special solutions for a lot of measuring tasks in the section pressure-, force-, distance - and tilt-measuring using our offered measuring transducer. Do not hesitate to contact us.

Our policy is to improve specification of our products continuously, so technical and production details can be changed without any notice.

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