SG-KP-12E/24E-xxx

Single channel strain gauge amplifier for DIN top hat rail mounting

- **Supply voltage 10 … 18 VDC / 18 … 30 VDC**
- **Analogue output 0 … 10 V / ±10 V / 4 … 20 mA**
- **Plastic enclosure (IP20) for DIN-top hat rail mounting**
- **Dimension (B x H x D) 23 x 99 x 115 mm**

The single channel strain gauge amplifier allows the supply and signal amplification of one strain gauge transducer. The connecting of the transducer, which should have a full bridge resistance greater than 300 ohms, can occur in 4-wire-technology or, by using of a long connecting cable or variable length of the connecting cable, in 6-wire-technology. For further evaluation are standard analogue outputs available.
The measuring amplifier is installed in a plastic enclosure (IP20) which is intended for the top hat rail mounting.

The amplification can be adapted by an internal precision resistance.

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

With the help of an internal resistance, a change of the zero-range can be reached.

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. 5 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 (shiftable low-pass filter of 10 Hz per DIP-switch)	
Input resistance:	>3 MΩ	
Max. input sensitivity:	100 mV/V at ±5 VDC excitation supply	
Non-linearity:	±0.05 % FSO	
Electrical connection:	Pluggable screw clamps	
Enclosure:	Plastic enclosure for top hat rail mounting (IP20)	
Dimension (B x H x D):	23 x 99 x 115 mm	
Weight:	approx. 150 g	
Temperature, storage:	-20 °C … +60 °C	
Temperature, operating:	0 °C … +50 °C	

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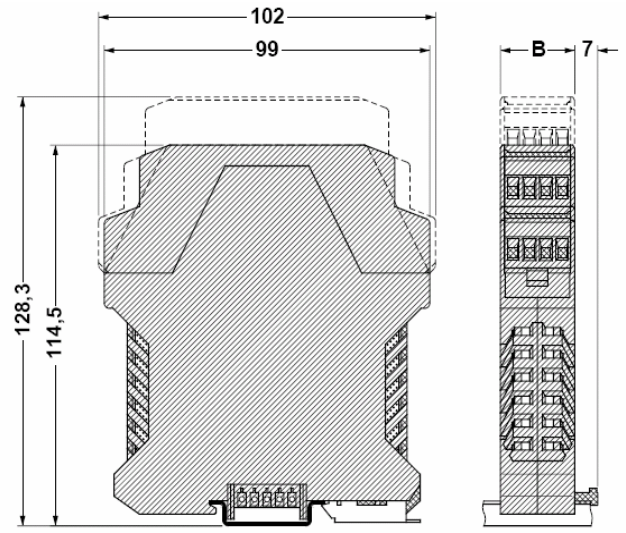
Order Description:

SG-KP-…	Single channel strain gauge amplifier in plastic enclosure for top hat rail mounting (IP20)	
…-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	Other limit frequency on demand	

No declaration (GFxx) for standard version (1 kHz)

Enclosure Dimension



Terminal Wiring

Electrical connections are made via pluggable screw clamps located on the frontside and the backside of the enclosure. The terminal numbering is to be found beyond and below the screw clamps. The maximum cable cross section amounts 2.5 mm². The maximum interference immunity is achieved with direct connecting of the cable screen with "clean" and “low resistant” protective ground (PG). A lengthening of the cable screen with a cable makes the interference immunity considerably worse. The connection of the cable screen should occur directly with a cable clamp.

If no connecting with protective ground (PG) should be possible, the cable screen can be connected to clamp 15 (Analogue ground/ Screen). Anyhow, enough interference immunity is to be ensured.

PIN	*Description*
1	Supply voltage
2	Supply Ground
3	Supply Ground
4	Analogue Ground
5	Analogue Ground
6	Analogue output 2 (Version 4 … 20 mA)
7	Analogue Ground
8	Analogue output 1 (0 … +10 V / ± 10 V)

PIN	*Description*
9	-SG-Signal Transducer
10	+SG-Signal Transducer
11	+SG-Sense Transducer
12	+SG-Excitation Transducer
13	-SG-Sense Transducer
14	-SG-Excitation Transducer
15	Analogue Ground/Screen
16	Analogue Ground

With connection in 4-wire technology, the connections 11 and 12 as well as 13 and 14 are internally with Jumper or externally to be bridged. With connection of a transducer which is laid out for 6-wire technology, the connections exist in the transducer.
The clamps 3 and 4 are galvanically isolated. To lift the galvanic isolation, the clamps are to be bridged externally.

Tip: It is recommended, that the measuring amplifier is to be mounted to neighbouring devices/amplifiers with a distance of mind. 20 mm to avoid a possible influencing.

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.

Due to continual product development ALTHEN reserves the right to vary the foregoing details without prior notice.

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