

SG-KP

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
- Dimensions (W x H x D) 23 x 99 x 115 mm



This single channel strain gauge amplifier SG-KP allows the supply and signal amplification of a strain gauge transducer. The connecting of the transducer which should have a full bridge resistance greater than 300 ohms, can be done in 4-wire-technology or by using a long connecting cable in 6-wire-technology. For further evaluation standard analogue outputs are available.

The measuring amplifier is installed into a plastic enclosure (IP20) which is intended for the top hat rail mounting.

The amplification can be adapted by an internal precision resistance.

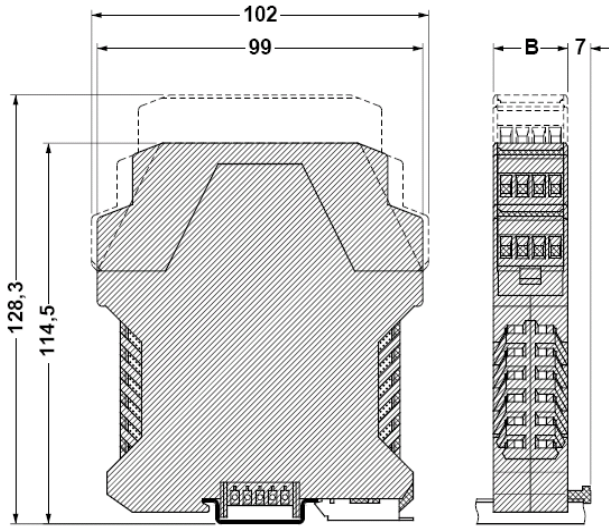
The potentiometers Z (Zero) and G (Gain), which are accessible above the enclosure cover, allow a correction of the calibration.

By means of an internal resistance, a change of the zero-range can be achieved.

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 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 (shiftable low-pass filter of 10 Hz per DIP-switch)
Input resistance:	>3 M Ω
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)
Dimensions (W x H x D):	23 x 99 x 115 mm
Weight:	approx. 150 g
Temperature, storage:	-20 ... +60 $^{\circ}$ C
Temperature, operating:	0 ... +50 $^{\circ}$ C

Enclosure Dimension



Terminal Wiring

Electrical connections are made via pluggable screw terminals located on the front and the back of the enclosure. The terminal numbering is stated beyond and below the screw terminals. 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 interference immunity considerably worse. The connection of the cable screen should be made directly with a cable clamp.

If a connection with protective ground (PG) is not possible, the cable screen can be connected to terminal 15 (analogue ground/screen). Anyhow, enough interference immunity has to be ensured.

Terminal	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)

Terminal	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

The terminals "Supply Ground" and "Analogue Ground" are galvanically isolated. To eliminate galvanic isolation, the terminals 3 and 4 have to be bridged externally.

When connecting in 4-wire technology, the terminals 11 and 12 as well as 13 and 14 have to be bridged internally by jumpers or externally. When connecting in 6-wire technology, the connections are available by the transducer.

Note: We recommend mounting with a minimum distance of 20 mm to other devices/amplifiers to avoid influences.

Ordering Information

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 request
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.

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Due to continuous product development, ALTHEN and partners reserve the right to vary the foregoing details without prior notice.

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The information provided herein is to the best of our knowledge true and accurate, it is provided for guidance only. All specifications are subject to change without prior notification.

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