

**SG-1K-KA | SG-2K-KA | SG-1K-EK | SG-2K-EK**

Single or Dual channel strain gauge amplifier as plug-in unit or euroboard

- Supply voltage  $\pm 15$  VDC regulated / 10 ... 18 VDC / 18 ... 30 VDC
- Analogue output 0 ... 10 V /  $\pm 10$  V
- Version -EK: Euroboard design
- Version -KA: Cartridge case with EMC frontplate



The single/dual channel strain gauge amplifier in a 19"-plug-in module is designed for installation into a 19" rack and allows supply and signal amplification of 1 or 2 strain gauge transducers. The connection of the transducers, which should have a full bridge resistance greater than 300 ohms, can be done in 4-wire technology or, by using of a long connection cable or a variable length of connection cable, in 6-wire technology. For further evaluation standard analogue outputs / channels are available. For additional measuring value presentation, option -DA offers a 3 1/2 digit display/channel. The amplification of the amplifier can be adapted by an internal precision resistance. The potentiometers Z(x) (Zero) and G(x) (Gain), which are accessible via the front, allow a calibration correction for each channel.

By means of an internal dip counter / channel (-2K-), a change of the potentiometer Zx (zero) range can be achieved. To allow a zero range shift, a basic load / tare can be suppressed electrically with a resistance.

**Technical Data**

Number of measuring channels:	1 (SG-1K-...) Full bridge resistance >300 $\Omega$ 2 (SG-2K-...) Full bridge resistance >300 $\Omega$
Supply voltage:	$\pm 15$ VDC regulated, 10 ... 18 VDC, 18 ... 30 VDC, electronics protected against reversal voltage (only with version -12E- and -24E-)
Isolating proof voltage input to output:	200 V, higher isolated proof voltage on request
Power consumption:	max. 8 W
Strain gauge excitation supply:	$\pm 2.5$ VDC / $\pm 5$ VDC
Analog output:	0 ... 10 V / $\pm 10$ V, max. 1 mA (short-period short-circuit proof)
Limit frequency (-3 dB):	1 kHz, optional up to 30 kHz
Input resistance:	>3 M $\Omega$
Max. input sensitivity:	100 mV/V at $\pm 5$ VDC excitation supply
Non-linearity:	$\pm 0.05$ % FSO
Electrical connection:	VG-pinboard 64-pin, a+c, DIN 41612 (German Institute for Standardization), BNC connector on front-plate
Enclosure:	Euroboard-design (Version -EK-), 19"-plug-in module (Version -KA-)
Installation depth:	160 mm, installation depth:
Frontplate:	7TE/3HE (Version -15B-), 10TE/3HE (Version -12E, Version -24E-), 14TE/3HE (Version -DA)
Weight:	Max. 500 g, depending on FP-Version
Temperature, storage:	-20 ... +60 $^{\circ}\text{C}$
Temperature, operating:	0 ... +50 $^{\circ}\text{C}$

## ➤ Terminal Wiring

Electrical connections are made via the 64-pin VG pin board (a+c, DIN 41612). Additionally, the analogue output can be picked off via BNC connectors on the front plate. The terminal numbering is stated on the pin board.

Terminal	Description
1	Analogue ground /Screen
2	not connected
3	+SG-Signal Transducer Ch-1
4	not connected
5	-SG-Signal Transducer Ch-1
6	not connected
7	+SG-Sense Transducer Ch-1
8	+SG-Excitation Transducer Ch-1
9	not connected
10	-SG-Sense Transducer Ch-1
11	-SG-Excitation Transducer Ch-1
12	not connected
13	Analogue output Ch-1 (0 ... 10 V/ ±10 V)
14	not connected
15	not connected
16	not connected

Terminal	Description
17	Analogue ground /Screen
18	not connected
19	+SG-Signal Transducer Ch-2
20	not connected
21	-SG-Signal Transducer Ch-2
22	not connected
23	+SG-Sense Transducer Ch-2
24	+SG-Excitation Transducer Ch-2
25	not connected
26	-SG-Sense Transducer Ch-2
27	-SG-Excitation Transducer Ch-2
28	not connected
29	Analogue output Ch-2 (0 ... 10 V/ ±10 V)

Version -15B-	
30	Supply voltage (+15 VDC)
31	Analogue ground
32	-Ub (-15 VDC)

Version -12E/24E-	
30	Supply voltage (10...18 VDC / 18...30 VDC)
31	not connected
32	Analogue ground

## ➤ Order Description

SG-1K-...	Single channel strain gauge amplifier as plug-in unit
SG-2K-...	Dual channel strain gauge amplifier as plug-in unit
...-EK-...	Euroboard design
...-KA-...	Cartridge case
...-15B-...	Supply voltage: ±15 VDC regulated (None galvanic input/output isolation)
...-12E-...	Supply voltage: 10 ... 18 VDC (Galvanic input/output isolation)
...-24E-...	Supply voltage: 18 ... 30 VDC (Galvanic input/output isolation)
...-010-...	Analogue output: 0 ... 10 V
...-B10-...	Analogue output: ±10 V
...-GFxx	Limit frequency optionally up to 30 kHz
blank	Standard version (1 kHz)
...-DA	3½ digit LCD-display/channel

## ➤ 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.

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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