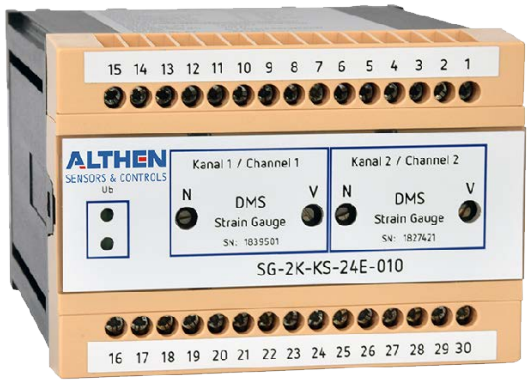
SG-2K-KS

Dual 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) 100 x 73.2 x 118.2 mm



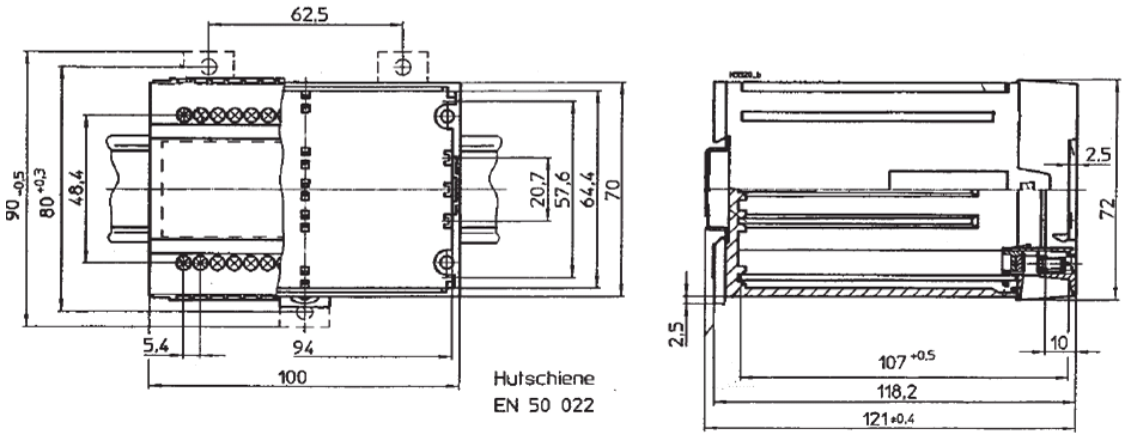
The dual-channel SG-Amplifier allows supply and signal evaluation of two transducers with a strain gauge full bridge greater than 300 ohms. The connecting of the transducers, which should have a full bridge resistance greater than 300 ohms, can be done in 4-wire-technology or, by using a long connecting cable or variable length of the connecting cable, in 6-wire-technology. For further evaluation standard analogue outputs are available. The measuring amplifier is installed in a plastic enclosure (IP20) which is intended for the top hat rail mounting. The amplification per channel can be adapted by an internal precision resistance.

The potentiometers Zx (Zero) and Gx (Gain), which are accessible via the enclosure cover, allow a calibration correction for each channel.

Technical Data

Number of measuring channels:	2 (full bridge resistance >300 Ω)
Supply voltage:	10 ... 18 VDC, 18 ... 30 VDC, electronics protected against reversal voltage
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, optionally 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:	Screw terminals
Enclosure:	Plastic enclosure for top hat rail mounting (IP20)
Dimension (B x H x D):	100 x 73.2 x 118.2 mm
Weight:	450 g
Temperature, storage:	-20 ... +60 °C
Temperature, operating:	0 ... +50 °C

Enclosure Dimension



Terminal Wiring

Electrical connections are made via 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 is 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 has to be done directly with a cable clamp. If a connection with protective ground (PG) is not possible, the cable screen can be connected to terminal 30 (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	n.c.
6	n.c.
7	n.c.
8	Analogue Ground
9	Analogue output K-2 4 ... 20 mA (Option -420-)
10	Analogue Ground
11	Analogue output K-2 0 ... 10 V / ±10 V
12	Analogue ground
13	Analogue output K-1 4 ... 20 mA (Option -420-)
14	Analogue Ground
15	Analogue output K-1 0 ... 10 V / ±10 V

Terminal	Description
16	Analogue ground/Screen
17	+SG-Signal Transducer Ch-1
18	-SG-Signal Transducer Ch-1
19	+SG-Excitation Transducer Ch-1
20	+SG-Excitation Transducer Ch-2
21	+SG-Excitation
22	+SG-Sense
23	Analogue Ground/Screen
24	-SG-Excitation Transducer Ch-1
25	-SG-Excitation Transducer Ch-2
26	-SG-Excitation
27	-SG-Sense
28	+SG-Signal Transducer Ch-2
29	-SG-Signal Transducer Ch-2
30	Analogue Ground/Screen

When connecting in 4-wire technology, the terminals 21 and 22 as well as 26 and 27 have to be bridged internally by jumpers or externally.
When connecting in 6-wire technology, the connections are available by the transducer.
The terminals "Supply Ground" and "Analogue Ground" are galvanically isolated. To eliminate galvanic isolation, the terminals 3 and 4 have to be bridged externally.

Order Description

SG-2K-KS...	Dual 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, 4 ... 20 mA	
			...-GFxx	Limit frequency 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.

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