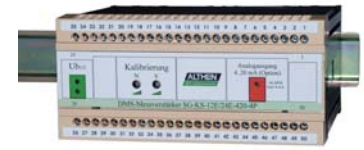




SG-KS-12E/24E-xxx-4P

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
- ▣ Plastic enclosure (IP20) for DIN-top hat rail mounting
- ▣ Dimension (W x H x D) 152 x 73.2 x 118.2 mm

The single channel strain gauge amplifier allows the supply and signal amplification of up to 4 transducers with normalized signal. The connecting of the transducers, which should have a full bridge resistance greater than 300 ohms, can occur in 4-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 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.

With version of adjustable threshold value set points (2G/3G), the amplifier is configured with the following switching characteristics:

	SP-1	SP-2	SP-3
Version -2G-	MIN	MAX	---
Version -3G-	MIN	MAX	MAX

Other switching characteristics are possible on request. These are to be given with the order separately.

▣ Technical Data

Number of measuring channels:	1 (full bridge resistance > 300 Ω)	
Supply voltage:	10 ... 18 VDC 18 ... 30 VDC	Electronic protected against reversal voltage
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 M Ω	
Max. input sensitivity:	100 mV/V at ± 5 VDC excitation supply	
Non-linearity:	± 0.05 % FSO	
Electrical connection:	Screw clamps	
Enclosure:	Plastic enclosure for top hat rail mounting (IP20)	
Dimension (B x H x D):	152 x 73.2 x 120 mm	
Weight:	Approx. 600 g	
Temperature, storage:	-20 $^{\circ}$ C ... +60 $^{\circ}$ C	
Temperature, operating:	0 $^{\circ}$ C ... +50 $^{\circ}$ C	



Order Description:

SG-KS-... Single channel strain gauge amplifier in plastic enclosure for DIN-top hat rail mounting

...-12E-... Supply voltage: 10 ... 18 VDC

...-24E-... Supply voltage: 18 ... 30 VDC

...-010-... Analogue output: 0 ... 10 V (**Option -3G not possible**)

...-B10-... Analogue output: ± 10 V (**Option -3G not possible**)

...-420-... Analogue output: 0...10 V and 4 ... 20 mA

...-4P-... Operating of up to 4 strain gauge transducers with normalized signal

...-2G-... 2 adjustable threshold value switching points as well as potential-free switching contacts (max. 30 VDC/ 0.5 A)

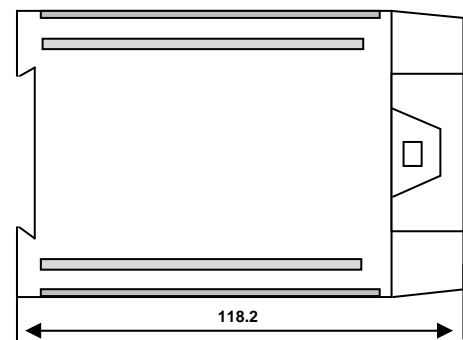
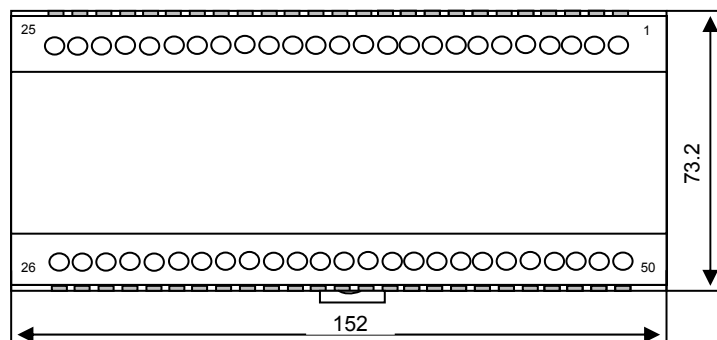
...-3G-... 3 adjustable threshold value switching points as well as potential-free switching contacts (max. 30 VDC/ 0.5 A)

...-GFxx Limit frequency optionally up to 30 kHz

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

...-DA 3½-digit display (**Option -3G not possible**)

Enclosure Dimension



Terminal Wiring

Electrical connections are made via 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 30/35/40/45 (Analogue ground/Screen). In that case, enough interference immunity is to be ensured.

PIN	Description	PIN	Description
1	Supply voltage	26	+SG-Signal Transducer
2	Supply Ground	27	-SG-Signal Transducer
3	Supply Ground	28	+SG-Excitation Transducer
4	Analogue Ground	29	-SG-Excitation Transducer
5	Analogue Ground /Test signal ground	30	Screen/Enclosure/Transducer
6	Option -2G/ -3G: Test-signal <i>n.c.</i> / SP-1	31	+SG-Signal Transducer
7	Option -2G/-3G: Test-signal <i>GW1</i> /SP-2	32	-SG-Signal Transducer
8	Option -2G/-3G: Test signal <i>GW2</i> /SP-3	33	+SG-Excitation Transducer
9	Analogue output ground	34	-SG-Excitation Transducer
10	Analogue output total signal 0 ... 10 V / ± 10 V, max.1 mA	35	Screen/Enclosure/Transducer
11	n.c.	36	+SG-Signal Transducer
12	Analogue Ground	37	-SG-Signal Transducer
13	Analogue output total signal 4 ... 20 mA, max. burden 500 Ohm	38	+SG-Excitation Transducer
14	Analogue output ground	39	-SG-Excitation Transducer
15	Analogue output ground/Screen	40	Screen/Enclosure/Transducer
16	n.c.	41	+SG-Signal Transducer
17	Option -3G: Set point SP-1 COM	42	-SG-Signal Transducer
18	Option -3G: Set point SP-1 N/C (max. 30VDC/0.5 A)	43	+SG-Excitation Transducer
19	Option -3G: Set point SP-1 N/O (max. 30VDC/0.5 A)	44	-SG-Excitation Transducer
20	Option -2G/-3G: Set point <i>SP-1</i> / SP-2 COM	45	Screen/Enclosure/Transducer
21	Option -2G/-3G: Set point <i>SP-1</i> / SP-2 N/C (max. 30VDC/0.5 A)	46	+SG-Excitation Transducer
22	Option -2G/-3G: Set point <i>SP-1</i> / SP-2 N/O (max. 30VDC/0.5 A)	47	+SG-Sense
23	Option -2G/-3G: Set point <i>SP-2</i> / SP-3 COM	48	-SG-Excitation Transducer
24	Option -2G/-3G: Set point <i>SP-2</i> / SP-3 N/C (max. 30VDC/0.5 A)	49	-SG-Sense
25	Option -2G/-3G: Set point <i>SP-2</i> / SP-3 N/O (max. 30VDC/0.5 A)	50	Analogue Ground /Test signal ground

The clamps 3 and 4 are galvanically isolated. To lift the galvanic isolation, the clamps are to be bridged externally. With wiring in 4-wire technology, the clamps 46 and 47 as well as 48 and 49, have to be bridged.

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.