

Measuring Amplifier

for Strain Gage Sensors and Resistive Travel Sensors

Industrial measuring amplifier for signal amplification of sensors with strain gage bridge (torque or load) and resistive travel sensors.

- 24 VDC power supply
- Analog output 0 ... ± 5 V or 0 ... ± 10 V
- Compact design
- Robust metal housing

Description

The measuring amplifier Type 4701A... can be connected to the sensor and to power supply/analog output either through cable bushings directly at the soldering terminals inside the housing (version A) or via plug connectors (version B for strain gage sensors or version C for resistive travel sensors).

Gain adjustment is performed by fixed resistors (coarse tuning) and additionally by a potentiometer (fine adjustment). With another potentiometer, the zero adjustment can be done externally through a case hole with screw cap (Version A only). For simple installation, the robust metal housing of the amplifier is equipped with two holes for M4 screws.

Application

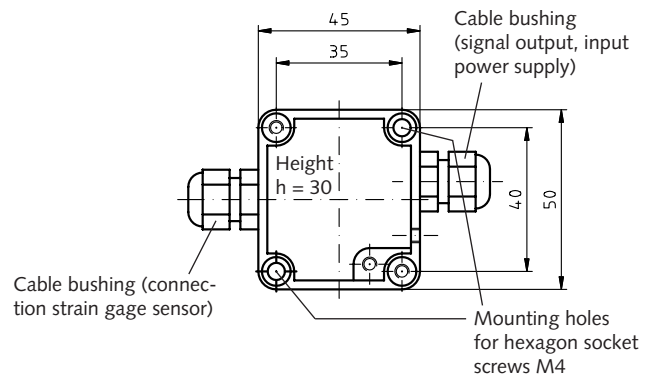
The measuring amplifier Type 4701A... is designed for industrial applications and is provided for switch board installation. This universal amplifier is suitable for the use with the following sensors:

Torque:	Type 4501A...	Type 4507A...	Type 4509A...
Load:	Type 4570A...	Type 4573A...	Type 4574A...
	Type 4575A...	Type 4576A...	Type 4577A...
Travel (resistive):	Type 2112A...		

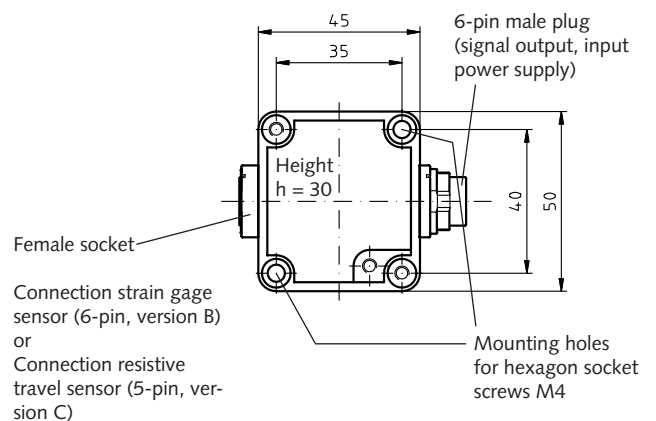
If desired, the amplifier can be delivered together with connected sensor as a calibrated measuring chain. Customized adjustments of sensitivity or output signal differing from standard are also available on request.



Dimensions Version A



Dimensions Version B and Version C

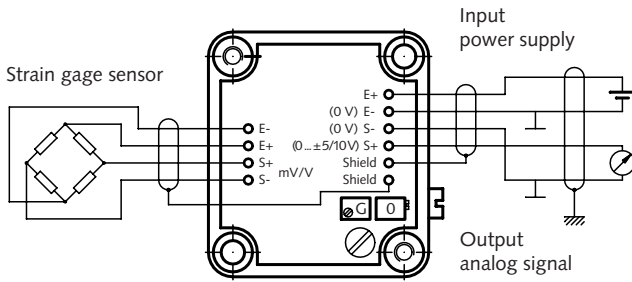


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Technical Data

Input	Strain gage (0,5 ... 3,0 mV/V, full or half bridge, bridge input resistance max. 500 Ω):	Version A:	approx. 1,5 mV/V
	resistive (input resistance 1 ... 5 kΩ):	Version B:	approx. 1,0 mV/V
		Version C:	input 0 ... 5 V
Output	Analog signal		0 ... ±5 V
	or		0 ... ±10 V
Options	Calibration together with sensor or adjustment of customized sensitivity		
Power supply	24 VDC non-stabilized (±10 %)		
Accuracy	% of full range		≤±0,1
Operation temperature range	°C		0 ... 50
Nominal temperature range	°C		10 ... 40
Gain adjustment range	%		ca. ±10
Zero signal adjustment range	%		ca. ±10
Protection class	acc. to EN 60529	Version A with cable bushings:	IP54
		Version B and C with plug connectors:	IP40

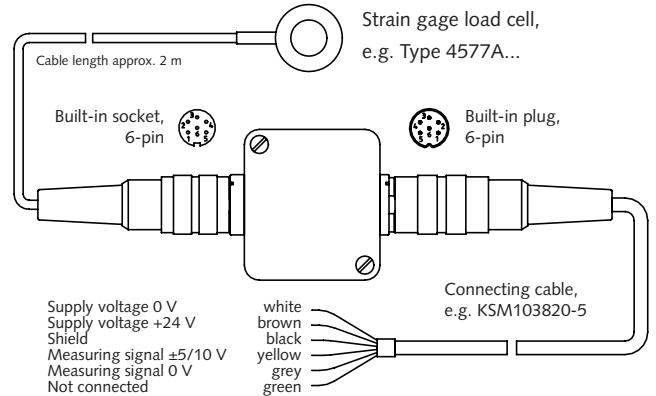
Electrical Connection (Schematic)



E = Power supply, S = Signal, G = Gain, 0 = Zero signal

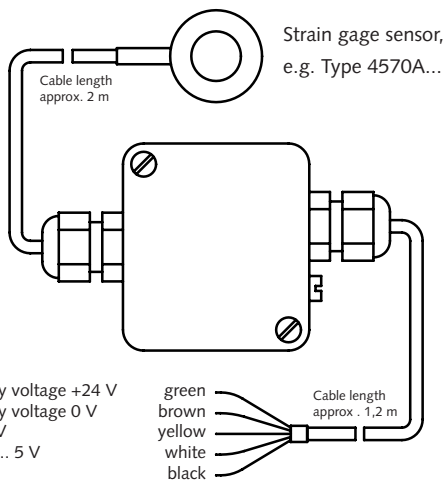
Electrical Connection Version B

Protection class: IP40



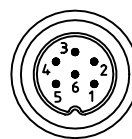
Electrical Connection Version A

Protection class: IP54



Standard adjustment of amplifier: sensitivity 1,5 mV/V, output 5 V or 10 V. Customized adjustments on request.

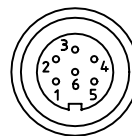
Pin Assignment for Amplifier Output (6-pin Built-in Plug, firm Binder, Series 581)



- Pin 1: Sensor power supply (0 V)
- Pin 2: Sensor power supply (24 V)
- Pin 3: Shield
- Pin 4: Output voltage (±5 V)
- Pin 5: Output voltage (0 V)
- Pin 6: Not connected

Standard adjustment of amplifier: sensitivity 1,0 mV/V, output 5 V or 10 V. Customized adjustments on request.

Pin Assignment for Amplifier Input (Connection Strain Gage Sensor, 6-pin Built-in Socket, firm Binder, Series 581)

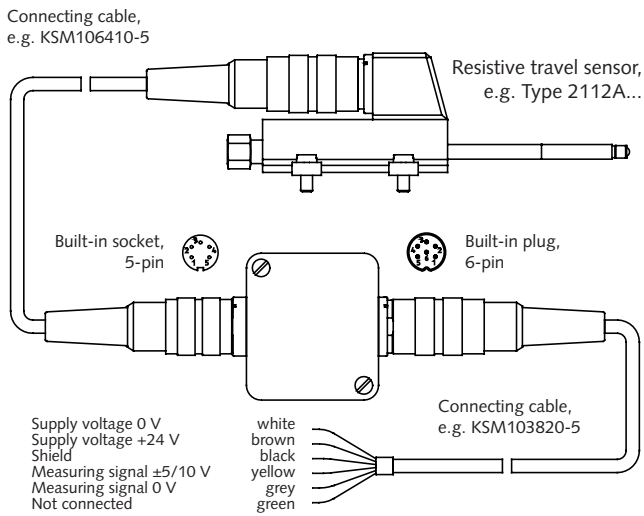


- Pin 1: Sensor power supply (0 V)
- Pin 2: Sensor power supply (+5 V)
- Pin 3: Shield
- Pin 4: Measuring signal (+)
- Pin 5: Measuring signal (-)
- Pin 6: Not connected

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Electrical Connection Version C

Protection class: IP40



Included Accessories

- None

Optionale Accessories

- Connection cable, 5 m, 6-pin/6-pin
- Connection cable, 5 m, 6-pin/free end
- Connection cable, 5 m, 5-pin/5-pin

Type/Art. No.

- KSM071860-5
- KSM103820-5
- KSM106410-5

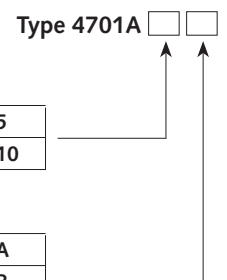
Ordering Key

Output signal

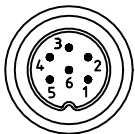
0 ... ±5 VDC	5
0 ... ±10 VDC	10

Version

Cable bushings (IP54)	A
Plug connectors str. gage sensor (IP40)	B
Plug connectors resistive sensor (IP40)	C



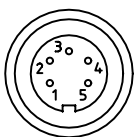
Pin Assignment for Amplifier Output (6-pin Built-in Plug, firm Binder, Series 581)



- Pin 1: Sensor power supply (0 V)
- Pin 2: Sensor power supply (24 V)
- Pin 3: Shield
- Pin 4: Output voltage (±5 V)
- Pin 5: Output voltage (0 V)
- Pin 6: Not connected

Standard adjustment of amplifier: input 0 ... 5 V, output 5 V or 10 V. Customized adjustments on request.

Pin Assignment for Amplifier Input (Connection resistive Travel Sensor, 5-pin Built-in Socket, firm Binder, Series 581)



- Pin 1: Input measuring signal
- Pin 2: Sensor power supply (0 V)
- Pin 3: Sensor power supply (+5 VDC)
- Pin 4: Shield
- Pin 5: Not connected

Ordering Example:

Type 4701A10B

Measuring amplifier Type 4701A..., output signal 0 ... ±10 VDC, with plug connectors for strain gage sensor (protection class IP40).

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