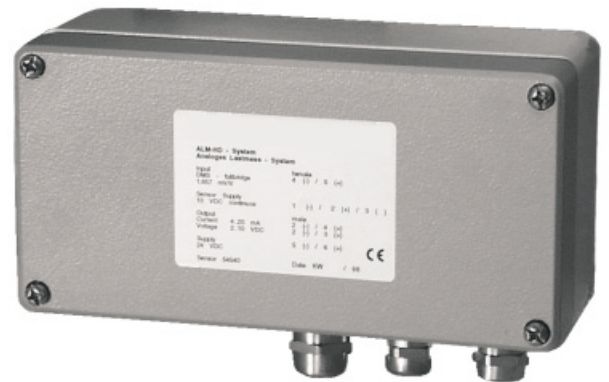


Measuring Amplifier for Resistance Strain Gauges

in field-case for all
weighing-technical application

Characteristics

- Input sensitivity (0,1 mV/V ... 4 mV/V) selectable by DIP-Switches
- Connection of max. 4 resistance strain gauge sensors (full bridge, 350)
- Change-over analog output:
0 (4) ... ± 20 mA or 0 (2) ... ± 10 V
- Sensor supply voltage internally continuously adjustable (4 ... 14 V)
- Accuracy $\pm 0,1$ % of end-scale value
- Supply voltage 115/230 VAC or 24 VAC/DC, galvanic separation

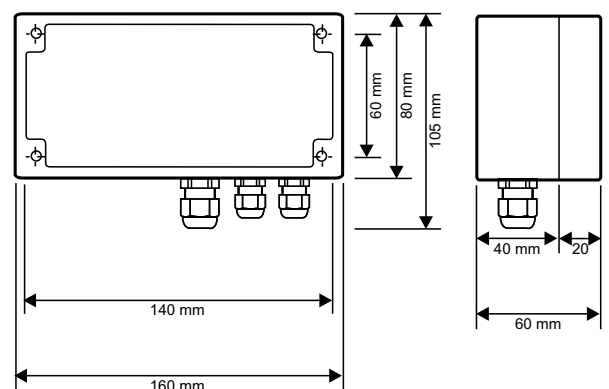


Description

The measuring amplifier is designed for use in connection with resistance strain gauge full-bridge sensors. Thanks to the top in field case, it is very simple to integrate it in existing industry installations.

Its range of use is for all weighing-technical applications and for industrial purposes. The adaption of the input sensitivity to the used sensor is made by DIP-switches which can be accessed at the inner of the case. Because of the efficient sensor supply up to 4 sensors can be connected parallel. The high range of voltage adjustment (4 - 14 V) guarantees an optimal evaluation signal.

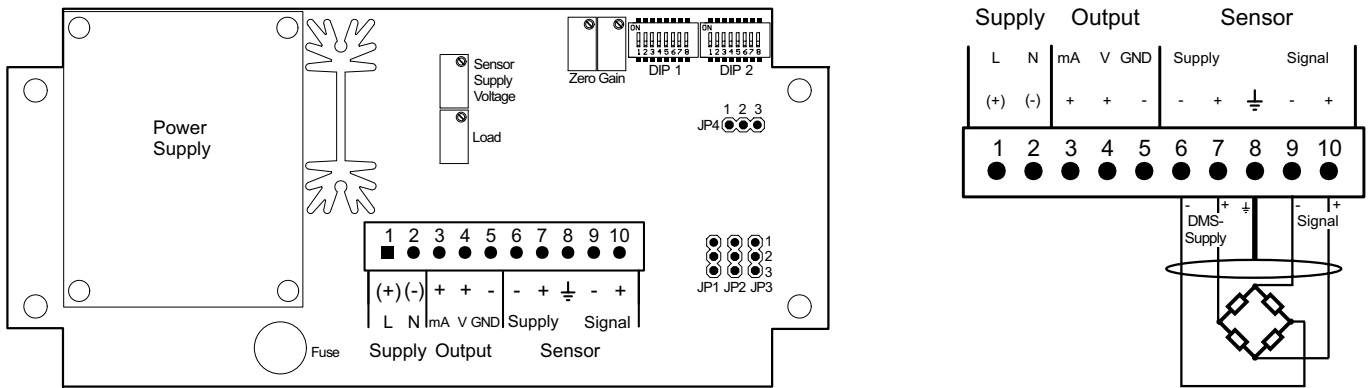
The analog outputs are available at the same time and operate bipolar at the range of -10 V ... +10 V and -20 mA ... +20 mA.



Technical Data

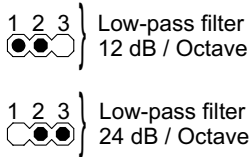
<u>Input</u>	Sensor input:	max. 4 DMS resistance strain gauge full-bridge sensors (350 Ohm), $R_L \geq 80$ Ohm
	Input sensitivity:	0,1 / 0,25 / 0,5 / 0,75 / 1 / 1,5 / 2 / 2,5 / 3 / 4 mV/V selectable by DIP-Switches
	Continuous fine adjustment:	± 20 %
	Zero shift:	± 40 %
	Active low-pass filter (20 dB/octave):	5 Hz
<u>Outputs</u>	Current output:	0 (4) - ± 20 mA, (Burden ≤ 500 Ohm) selectable by DIP-switches
	Voltage output:	0 (2) - ± 10 V ($R_{L_{ast}} \geq 600$ Ohm) selectable by DIP-switches
	Sensor supply:	4 - 14 V, continuous adjustable by potentiometer $R_L \geq 80$ Ohm
<u>Accuracy</u>	Linearity error:	< 0,02 % of measured value
	Temperature coeff.:	< 50 ppm/ $^{\circ}$ C
<u>Power Supply</u>	Mains voltage:	115/230 VAC, 24 VAC/DC, opt. 24 VDC electrically isolated
	Power consumption:	1,5 - 4 VA
<u>Ambient Conditions</u>	Operating temperature:	-10 $^{\circ}$ C - 60 $^{\circ}$ C
	Storing temperature:	-20 $^{\circ}$ C - 70 $^{\circ}$ C
<u>Dimensions</u>	Case:	160 x 80 x 60 mm
	Fixing:	internal fixing-holes in screw-channels
	Material of case:	Aluminum pressure diecasting
	Colour:	Bottom part: RAL 7035 light grey Lid: RAL 7040 window grey
	Weight:	approx. 1 kg
	Terminals:	Plug-in screw terminals in the case for wires up to 2 x 2,5 mm ² through 2 x Pg9 and 1 x Pg11-screwing, MS nickel plated optionally: Binder connector series 692 Flange plug Pin terminal configuration 2 GND 3 0(2)... ± 10 V 4 0(4)... ± 20 mA 5 + Supply voltage 6 - Supply voltage Flange socket Pin terminal configuration 1 - Sensor supply 2 + Sensor supply 3 Sensor supply 4 - Sensor signal 5 + Sensor signal

Operating, adjustment hints

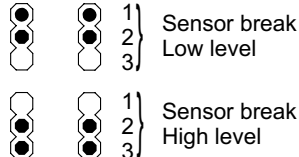


Jumper

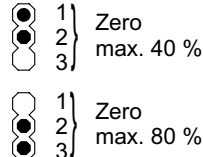
JP4



JP1 JP2

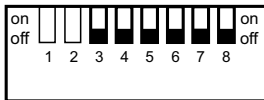


JP3



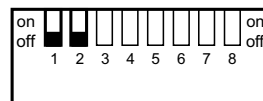
Adjustment

1. Connect supply voltage.
2. Select corresponding input sensitivity (mV/V) by DIP-switch block 1 (DIP-switches 3 to 8).



DIP-switch (block 1) \ mV/V	3	4	5	6	7	8
0,1	ON	OFF	OFF	OFF	OFF	OFF
0,25	OFF	ON	OFF	OFF	OFF	OFF
0,5	OFF	OFF	ON	ON	ON	ON
0,75	OFF	OFF	ON	OFF	OFF	ON
1,0	OFF	OFF	ON	OFF	OFF	OFF
1,5	OFF	OFF	OFF	ON	ON	OFF
2,0	OFF	OFF	OFF	OFF	ON	ON
2,5	OFF	OFF	OFF	ON	OFF	OFF
3,0	OFF	OFF	OFF	OFF	ON	OFF
4,0	OFF	OFF	OFF	OFF	OFF	ON

3. The corresponding output signal is set by DIP-switch block 1 (DIP-switches 1 and 2) as well.



DIP-switch (block 1) \ Output	1	2
2-12 V, 4-24 mA	ON	OFF
2-10 V, 4-20 mA	ON	ON

4. The filter will be adjusted by DIP-switch block 2:

a) Adjustment limit frequency

DIP-switch (block 2) \ fg / Hz	1	2	3	4	5	6	7	8
1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
10	ON	OFF	ON	OFF	ON	OFF	ON	OFF
100	ON	ON	ON	ON	ON	ON	ON	ON

b) Edge steepness (JP4, see above)

5. Connect "Zero"-Signal to input (by calibrator or by admitting the corresponding physical value to the connected sensor). Adjust trimmer "Zero" until the corresponding output signal is reached.
6. Connect rating signal to input (by calibrator or by admitting the corresponding physical value to the connected sensor). Adjust trimmer "Gain" until the rating output signal is reached.
7. Connect "Zero"-Signal again to input and check output signal. For the ranges 2 - 10 V / 4 - 20 mA, it might be necessary to repeat 5 and 6 several times until both values are correct.

Ordering key

A H X X X X X X XXX

No.	Input	Analog Output	Vibratory Protection	Supply	Sensor Supply	Connections	Measuring range
0	0,1 - 4 mV/V	0 (4) - ±20 mA 0 (2) - ±10VDC	without Protection	230 VAC	4 - 14 V	PG-screwing	without
1			electronics potted	115 VAC		Plug Binder	
2				24 VAC/DC			
3				24 VDC electr. isolated			