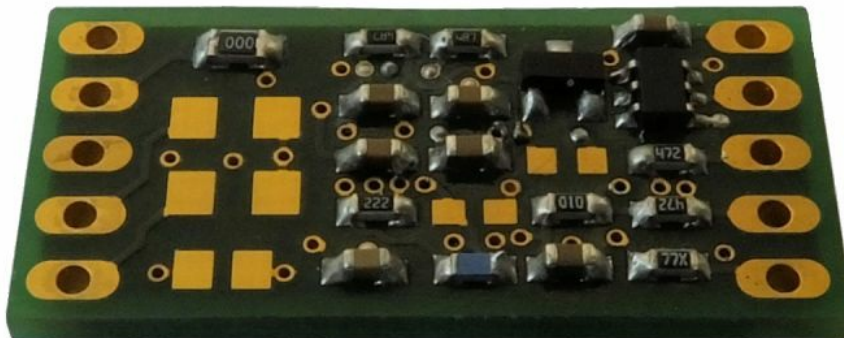


GSV-14L 03-1,5/1k/2



Highlights

- Supply voltage 3.4...10 volt
- Unipolar output signal 0V...3V
- Zeroing across fixed resistors
- Scaling across fixed resistors
- Power consumption <10 mA
- Shutdown input for limiting power consumption <0.01mA
- Low-pass filter 1kHz



Description

The measuring amplifier GSV-14L was developed for use in battery-driven devices. The measuring amplifier works from a supply voltage of 3.4V. The output signal lies between 0.2V and 3V.

For the signed measurement, the zero point is shifted to 1.5V. For an input sensitivity of ± 2 mV/V, the output signal is scaled e.g. to ± 1.5 V. The dimensions are only 13 mm x 37 mm x 5 mm. All contacts are assigned with contact spacing 2.54 mm.

The zero point (design 0805) and amplification (input sensitivity, design 0603) can be set across fixed resistors. A series resistor to the bridge power supply can also be inserted (design 0603).

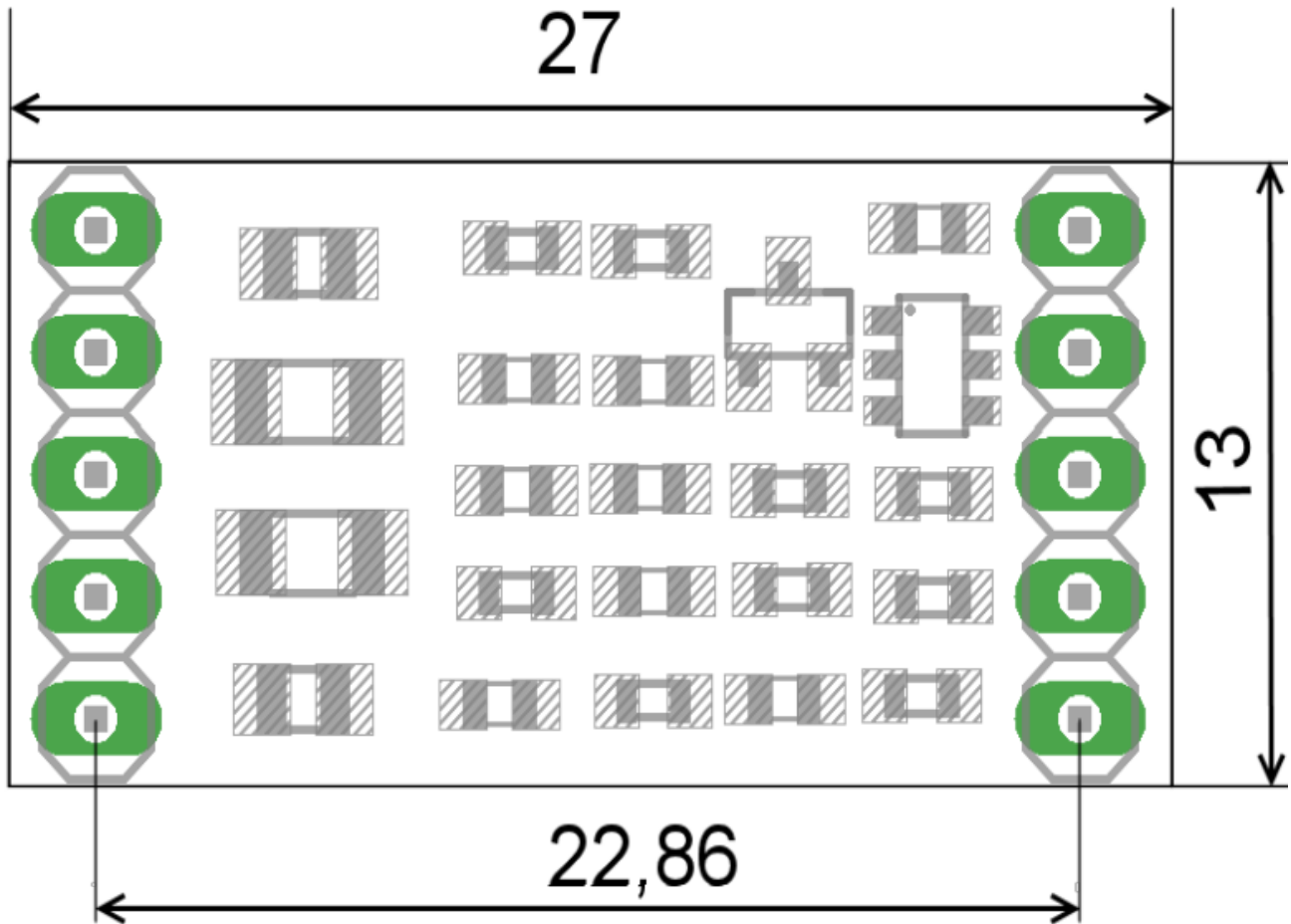
Fine-tuning can thus be carried out for the scaling, e.g. in order to scale all sensors in a series with the same output signal (normal signal adjustment). The measuring amplifier has a digital input shutdown.

This input is not connected or is connected to the ground if the measuring amplifier is to be switched on permanently.

If the energy consumption is to be controlled via a microprocessor or a modem then the shutdown input is connected to the voltage source via a high ohm resistor (100kohm ...1Mohm) and is prompted to switch on at low potential by a digital output from a modem or a microprocessor.

The output error signals a supply voltage that is too low with a low level.

Dimensions





Technical Data

Basis Data

Housing	PCB
Connection	Lötanschluss
Number of channels	1-Kanal

Eingang analog

Input sensitivity-steps	0.5 1.0 2.0 3.5	mV/V
Input resistance strain-gauge-full-/half-bridge	88 ... 5000	Ohm

Precision

Accuracy class	0,1%	
Temperature effect on the zero point	0.05	%FS/10°C
Temperature effect on the measuring sensitivity	0.02	%RD/10°C

Supply

Supply voltage f	3.4 ... 11	V
Current consumption to	10	mA

Temperature

Rated temperature range f	-10 ... 85	°C
Operating temperature range f	-40 ... 85	°C
Environmental protection	IP40	

Filter

Type	Low-pass	
Limit frequency (analog) from	1	kHz
Order	3	
Algorithm	bessel	

Mounting

Setting zero point (reducing zero point / increasing zero point)

The zero point can be adjusted using fixed resistors R_{p-} and R_{p+} (design 0805).

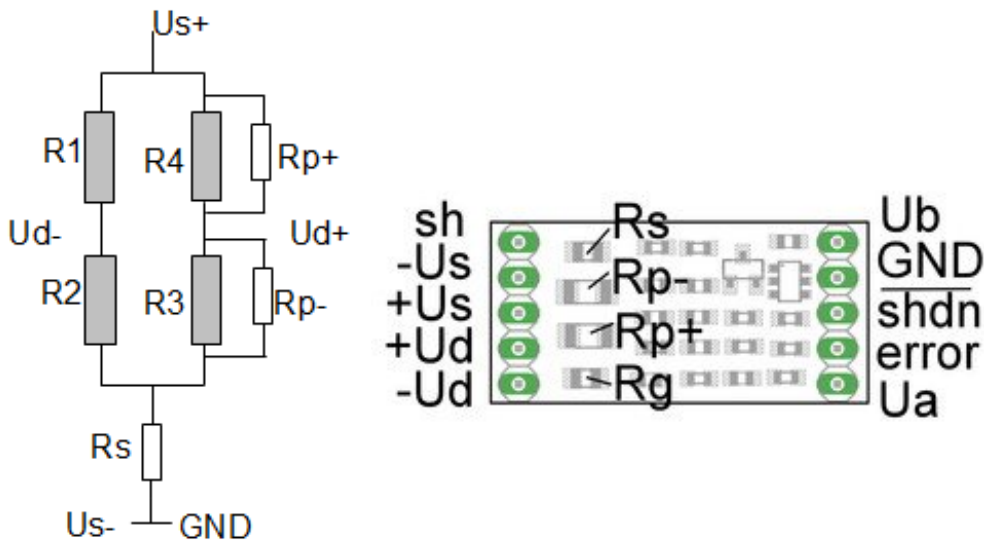
Setting the scaling / sensitivity (amplifying the signal)

The amplification of the circuit can be increased by soldering a resistor R_g (design 0603). This resistor is soldered parallel to the amplification resistor already integrated.

Absorbing the signal

The signal can be absorbed by connecting a fixed resistor R_s (design 0603) in series to the sensor.

Terminal assignment



Input sensitivity	Output signal	R21
$\pm 0,5 \text{ mV/V}$	$\pm 1,25 \text{ V}$	136 Ohm
$\pm 1,0 \text{ mV/V}$	$\pm 1,25 \text{ V}$	274 Ohm
$\pm 2,0 \text{ mV/V}$	$\pm 1,25 \text{ V}$	544 Ohm
0...+0,5 mV/V	0V ...+2,50V	68 Ohm
0...+1,0 mV/V	0V ...+2,50V	136 Ohm
0...+2,0 mV/V	0V ...+2,50V	274 Ohm

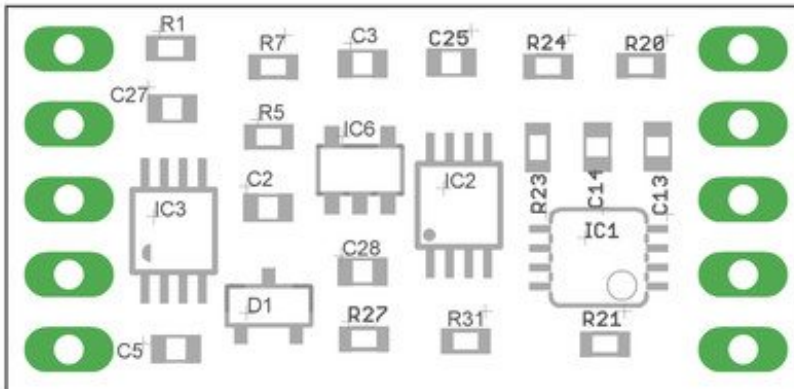


Input sensitivity	Output signal	R21
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For the bipolar application (e.g. $\pm 1,0$ mV/V) the zero point must be set with the help of the permanent resistors Rp on e.g. 1.5V. Voltages under 0.2V will not be displayed.

Name	Description
Screen	Screen connector for the sensor
-Us	negative sensor power supply
+Us	positive sensor power supply
+Ud	positive differential input
-Ud	negative differential input
Ub	Supply voltage 3.4-10 volt (optional 4-18 volt)
GND	Ground
shdn	Switch off the amplifier with a high signal
error	Error indicator when below the min supply voltage / output low
Ua	Analogue output 0.2...3.0 volt

Layout diagramm lower side GSV-14





Orderoptions

Type	Description
GSV-14L 03-1.5/1k/2	Output 1.5 V \pm 1.5V, 1 Hz, input 2 mV/V (standard type)

More versions on request;