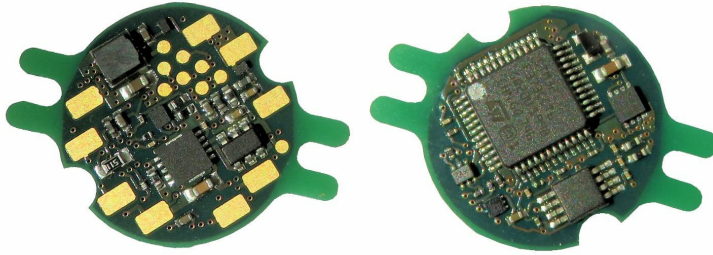


## GSV-13i 010-5/10/2



### Highlights

- Analog output 0-10V
- Supply voltage 14V ... 28V DC
- Solder pads for strain gauge connection
- automatic zero adjustment to 5V via control input "Tare"
- automatic scaling via control input "Scale"

## Description

The measuring amplifier GSV-13i is suitable for installation in sensors with strain gages, for example in force sensors, torque sensors, load cells.

The measuring amplifier is characterized by very small dimensions of only 18 mm diameter and 4 mm thickness. The fixing can be done with the help of 2 fixing straps and M2 screws.

The measuring amplifier GSV-13i has an automatic zero adjustment via control line "Tare" and an automatic scaling function "Scale". To set the characteristic, "Tare" is triggered in the unloaded state. In the loaded condition with 100% load, the gain is adjusted via the control line "Scale".

These functions allow zero calibration, calibration and adjustment to be performed in one set-up on the finished product. In contrast to the predecessor model GSV-13L, no strain gauge resistors have to be exchanged for zero point and gain adjustment.

The measured values at the analog output are updated with a frequency of 10Hz.

To trigger the functions "Tare" and "Scale", the corresponding inputs "Ta" and "Sc" are connected to the operating voltage (14V ... 28V) for a period of 3s. The functions are executed on the falling edge. The "automotive" version GSV-13i 05-2.5 / 1000/2 works safely from a supply voltage of 9V to 28V.

The functions "Tare" and "Scale" can be deactivated independently of each other, so that e.g. only the "Tare" function can be executed or that both functions are activated or deactivated. To trigger the scale function, a sensor output of at least 0.05 mV/V must be achieved.

The variants with voltage output 0 ... 10V, zero adjustment to 5V and 4 ... 20mA, voltage output 0 ... 5V, zero adjustment to 2.5V and zero adjustment to 12mA, are order options. Other variants, e.g. with zero adjustment to 4mA or zero adjustment to 0.5V we are happy to deliver as customized version. Other data frequencies from 10Hz to 25kHz can be realized on request.

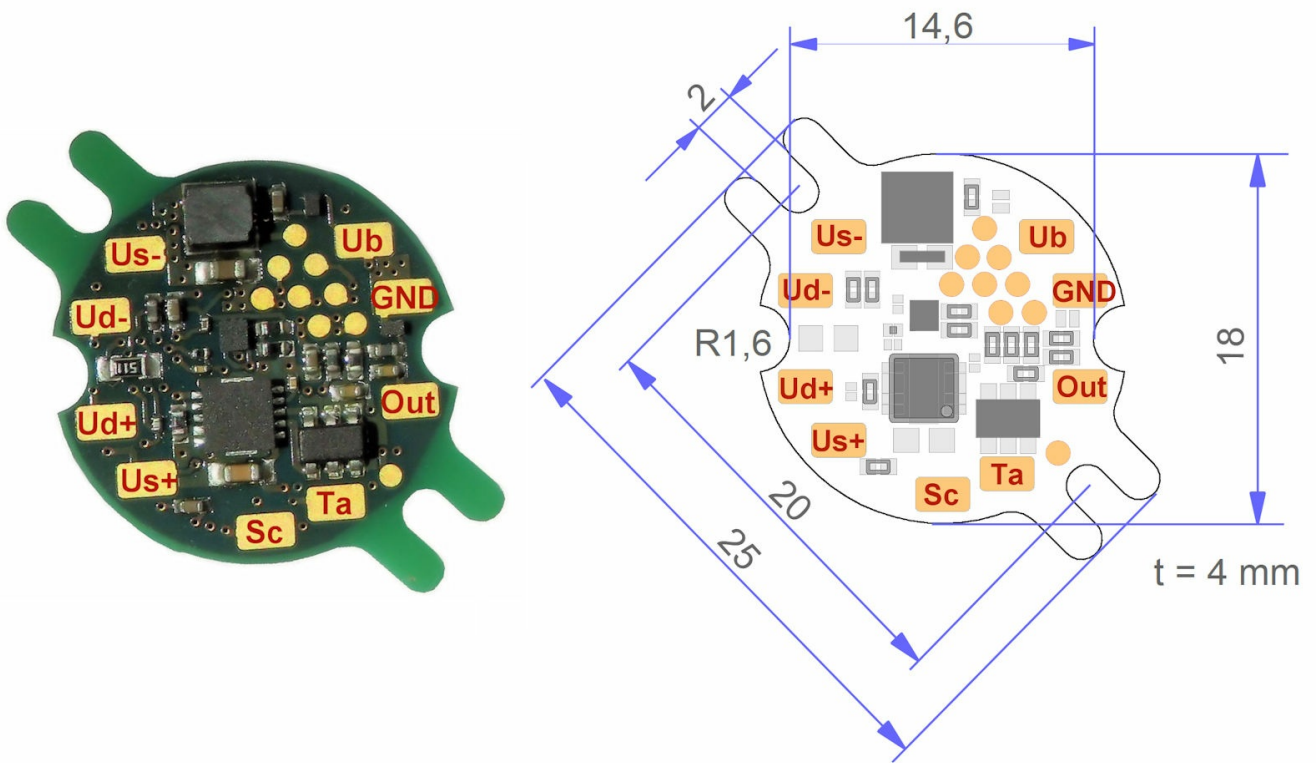
## Noise Amplitude

- Noise amplitude about 2  $\mu\text{V/V}$  Pk-Pk bei 10 Hz Bandwidth
- Noise amplitude about 20  $\mu\text{V/V}$  Pk-Pk bei 1 kHz Bandwidth

Similar products:

- GSV-13q: Dimensions 22 mm x 11 mm x 4 mm, technically largely identical to GSV-13i
- GSV-15L: Dimensions 16mm x 33mm x 5mm, readings at analogue output are updated at 105Hz
- GSV-5L: Dimensions 23 mm x 20 mm x 6 mm, Measuring amplifier with "real analog output" (time and value continuous) and best signal-to-noise ratio
- GSV-6L: Dimensions 22mm x 14mm x 9mm, configurable from 10Hz to 25kHz, current / voltage / offset
- GSV-14l: dimensions 13 mm x 27 mm x 5 mm, 1.5 volts; Stroke  $\pm 1.25$  volts, adjustment via SMD resistors, for battery operation, with enable input; Operating voltage 3.4V ... 10V;
- GSV-6CPU: Dimensions 19mm x 14mm x 4mm, UART interface, analog output  $1.5\text{V} \pm 1\text{V}$ , configurable from 10Hz to 25kHz

## Dimensions



## Technical Data

### Input analog

Number of analog inputs	1
Input sensitivity-steps	2.0 mV/V
Input sensitivity-stepsless f	0.1 ... 3 mV/V
Input resistance strain-gauge-full-bridge	120 ... 5000 Ohm

### Output analog

Number of analog outputs	1
Voltage output f	0.05 ... 10 V
Output resistance - voltage	50 Ohm

### Measuring frequency

Data frequency from	10 Hz
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### Supply

Supply voltage f	14 ... 28 V
Current consumption from	20 mA
Strain gauge bridge supply	3 V

### Interface

Type of the interface	Analog
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### Zero adjustment

Type	digital
Debouncing time	2 s
Trigger level f	9 ... 24 V
Trigger edge	falling

### Temperature

Rated temperature range f	-10 ... 70 °C
Operating temperature range f	-40 ... 85 °C
Environmental protection	IP00

### Basis Data

Dimensions	Ø18 mm
Housing	PCB
Connection	Solder connection
Number of channels	1-Kanal

### Precision

Accuracy class	0,1%
Relative linearity error	0.1 %
Temperature effect on the zero point	0.1 %FS/10°C



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Temperature effect on the measuring sensitivity	0.05	%RD/10°C
Resolution	16	Bit

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## Pin Configuration

Symbol	Description
-Us	negative bridge supply
+Us	positive bridge supply
-Ud	negative bridge input
+Ud	positive bridge input
Sc	control input for scale
Ta	control input for tare
Ub	supply voltage
GND	Ground analog output and supply voltage
Out	analog output