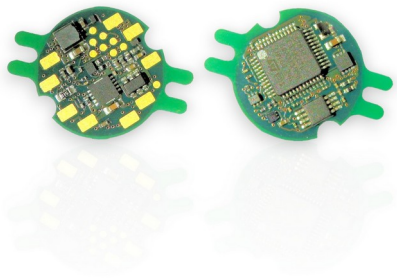
Measuring amplifier GSV-13i 4-20-12/1000/2

Item number: 9629



Highlights

- Analog output 4-20 mA
- Supply voltage 9V ... 28V DC
- Solder pads for strain gauge connection
- automatic zero adjustment to 12mA via control input "Tare"
- automatic scaling via control input "Scale"

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 1kHz.

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

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deliver as customized version. Other data frequencies from 10Hz to 25kHz can be realized on request.

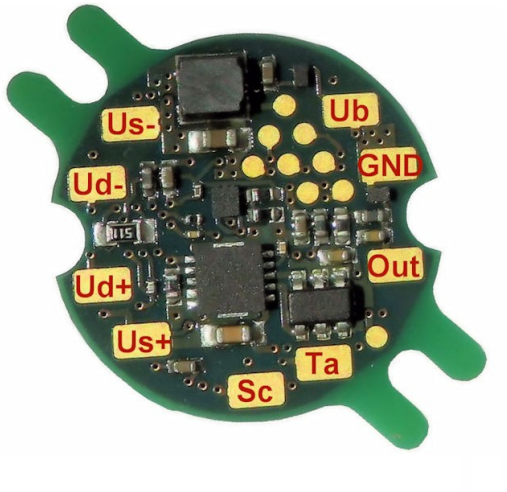
Noise Amplitude

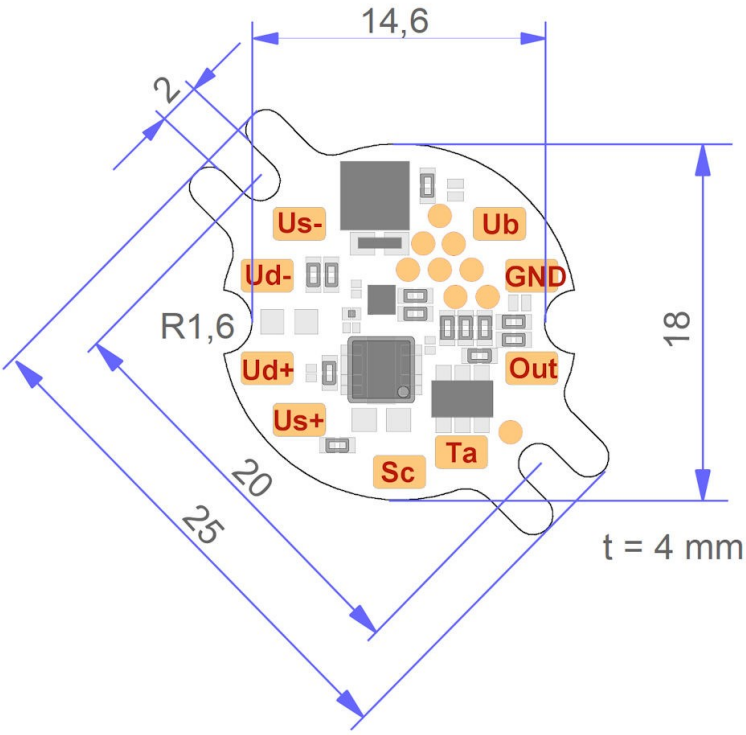
- Noise amplitude about 2 µV/V Pk-Pk bei 10 Hz Bandwidth
- Noise amplitude about 20 µV/V Pk-Pk bei 1 kHz Bandwidth

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 ± 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 1.5V ± 1V, configurable from 10Hz to 25kHz

Technical Drawing





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Technical Data

Basic Data		Unit
Dimensions	Ø18 x 4	mm²
Housing	Circuit board	
Connection	Soldering connection	
Number of channels	1-channel	
Interface	12mA±8mA	
Functions	Tara, Scale, Lock	
bandbreite	1kS/s	

Input analog		Unit
Number of analog inputs	1	
Input sensitivity-steps	2.0	mV/V
input sensitivity-stepsless from	0.1	mV/V
input sensitivity-stepsless to	3	mV/V

Output analog		Unit
Number of analog outputs	1	
Current output from	4	mA
Current output to	20	mA
Zero adjustment to	12	mA

Accuracy data		Unit
Accuracy class	0,1%	
Relative linearity error	0.1	%
Temperature effect on the zero point	0.1	%FS/10°C
Temperature effect on the measuring sensitivity	0.05	%RD/10°C
Resolution	16	Bit

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Measuring frequency		Unit
Data frequency from	1000	Hz

Supply		Unit
Supply voltage from	9	V
Supply voltage to	28	V
Current consumption from	20	mA
Strain gauge bridge supply	3	V

Interface		Unit

Zero Adjustment		Unit
Type	Digital	
Debouncing time	2	s
Trigger level from	9	V
Trigger level to	24	V
Trigger edge	falling	

Filter		Unit
Type	low-pass	
Limit frequency (analog) from	200	Hz

Environmental Data		Unit
Rated temperature range from	-10	°C
Rated temperature range to	70	°C
Operating temperature range from	-40	°C
Operating temperature range to	85	°C
Environmental protection	IP00	

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