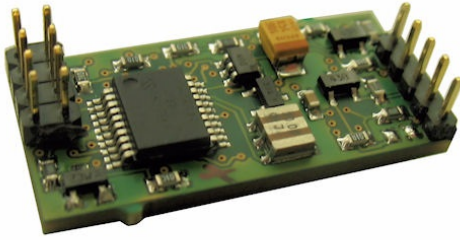


GSV-3LS 05-2,5/1k2/2



Description

The GSV-3LS circuit board contains the most important functions of the GSV-3 series.

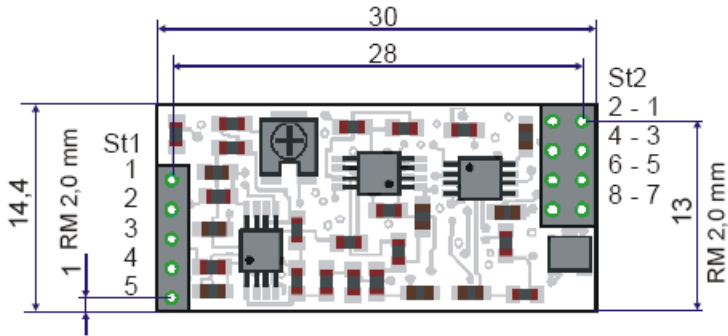
It is suitable for integration in sensors and electronic circuits with strain gauges.

When designing electronic evaluation circuits, only circuits for the supply voltage and suitable measures for electromagnetic compatibility (EMC) are to be provided.

The serial output of the UART interface works with TTL levels. The measuring amplifier GSV-3LS also has an analog output 2.5V + - 2.25V. The analogue output, unlike the serial output, is not calibrated and not adjusted and may be e.g. be used as an additional monitor output.

The bridge supply voltage is set to 2.5 volts. The current consumption is less than 24 mA at maximum data frequency and with a 350 ohm strain gauge.

Dimensions



Technical Data

Basis Data

Housing	PCB
Connection	Solder connection
Number of channels	1-Kanal

Input analog

Number of analog inputs	1
Input sensitivity-steps	2.0 mV/V
Input resistance strain-gauge-full-/half-bridge	350 ... 5000 Ohm

Precision

Accuracy class	0,1%
Relative linearity error	0.02 %FS
Temperature effect on the zero point	0.01 %FS/10°C
Temperature effect on the measuring sensitivity	0.01 %RD/10°C
Resolution	16 Bit

Supply

Supply voltage f	5 ... 5.6 V
Current consumption from	24 mA
Strain gauge bridge supply	2.5 V

Interface

Type of the interface	uart
Version of the interface	UART Schnittstelle TTL-RS232

Temperature

Rated temperature range f	-10 ... 65 °C
Operating temperature range f	-40 ... 85 °C
Environmental protection	IP40

Measuring frequency

Limit frequency (analog)	1220 Hz
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Mounting

Pin connection

St1		St2	
1	-U _D : negative differential input	1	GND: ground
2	+U _D : positive differential input	2	+U _B : voltage supply
3	+U _S : positive bridge supply	3	TxD (from GSV-3)
4	-U _S : negative bridge supply (GND)	4	RxD (for GSV-3)
5	+U _A : analog output	5	T: control input "zero balance"
		6	RB0
		7	S ₁ : switch output 1
		8	RB6

The attainable signal/noise ratio depends on the ambient conditions (cable length, shielding), the configured data rate and the FIR filtration which can be optionally applied. The figure below shows the resolution with a connecting cable 1m in length, measurement range $\pm 2\text{mV/V}$, FIR filter switched off.

