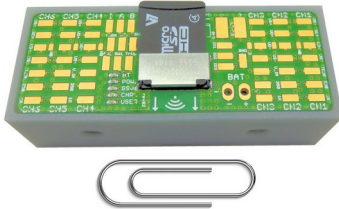


Measuring amplifier GSV-6BT

Item number: 9190



The GSV-6BT is a 6-channel measuring amplifier with Bluetooth connection and data logger function, which offers exceptionally many features in the smallest dimensions.

The GSV-6BT has 6 measurement channels, of which is the first channel for full-bridge strain gauges, channels 2 - 6 are individually configurable as voltage input (single-ended) or strain gauge bridge input including half and quarter bridge configuration. Another 7th channel for acquiring digital pulses is available for connecting incremental encoders or as an input for square-wave signals. The number of channels is configurable from 1 to 7 channels. Channel 7 is reserved for the connection of incremental encoders, channel 1 for the connection of strain gauge full, half or quarter bridges. Channel 1 supports the reading of TEDS memories to configure automatically the scaling factor for the connected sensor. In addition, two threshold outputs can be configured for channel 1.

The GSV-6BT has gold-plated solder pads for connecting the sensors and the supply voltage.

The Bluetooth connection supports BT Classic with Serial Port Profile (SPP) for complete configuration and continuous messaging, and BT LowEnergy (LE) with some services (GATT) for reading measurement data and battery voltage, e.g. via smartphone.

The measurement data can be recorded on a micro-SD memory card, whereby there are various configuration options, such as continuous recording up to 3000 readings per second, long recording intervals with power management (battery saving mode) and digital input triggered recording. The recorded files can also be downloaded via Bluetooth SPP. A real-time clock creates timestamps in real time in the measurement data files.

Other features

- The connected 3.7 V lithium-ion battery can be charged by an integrated charging circuit.

- The power supply via a Li-Ion battery from 3,6 V ... 4,2 V is possible.
- The temperature in the device and the battery voltage can be measured
- The simultaneous zeroing of all channels can be triggered via a digital input ("tare").
- The GSV-6BT is protected against vibration by a full encapsulation in a plastic housing.
- The configuration and acquisition of measurement data is possible with the program GSVmulti in the mode "BT Classic" with Serial Port Profiles (SPP)
- The integrated Bluetooth module has its own microcontroller, which offers the self-programming user a simple scripting language to implement their own embedded applications. All functions of the GSV-6 CPU and all supported BT services as well as additional digital outputs and a dedicated LED are available to him.

Technical Data

Basic Data		Unit
Dimensions	50 x 20 x 17	mm x mm x mm
Housing	Verguss	
Connection	Soldering connection	
Number of channels	6-channel	

Input analog		Unit
Number of analog inputs	6	
Input sensitivity-steps	2.0 1.0 0.5 8	mV/V
input sensitivity-stepsless from	0.1	mV/V
input sensitivity-stepsless to	8	mV/V
Input resistance strain-gauge-half- /quarter-bridge	350 1000	Ohm
Input voltage from	0	V
Input voltage to	10	V
Input resistance-voltage	300	kOhm

Output analog		Unit
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Accuracy data		Unit
Accuracy class	0,1%	
Resolution	16	Bit

Measuring frequency		Unit
Data frequency from	1	1/s
Data frequency to	500	1/s
Sampling frequency	50	kHz

Supply		Unit
Supply voltage from	3.7	V
Supply voltage to	4.2	V
Current consumption from	0.7	mA
Current consumption to	130	mA
Strain gauge bridge supply	3	V

Interface		Unit
Type of the interface	Bluetooth TEDS	
Quantity of the interface	1	
Version of the interface	Bluetooth 4.0 (LE)	

Zero Adjustment		Unit
Type	Digital Software	
Tolerance	2	LSB
Time period	1	ms
Trigger level from	2.8	V
Trigger level to	3.3	V
Trigger edge	rising	

Environmental Data		Unit
Rated temperature range from	0	°C
Rated temperature range to	65	°C
Operating temperature range from	-20	°C
Operating temperature range to	85	°C
Environmental protection	IP20 / IP44	

Operating instructions

Note on the bridge circuit: The allowable range for + Ud and -Ud is 1.32V to 1.68V. The maximum, unbalanced series resistor (one-sided series resistance in + Us or -Us) must not exceed 26% of the bridge resistance.

The table lists the maximum possible series resistors, which may be unilaterally connected in + Us or -Us.

Strain Gauge bridge circuit	Max. Series resistor unbalanced
350 Ohms	91 Ohms
700 Ohms	182 Ohms
1000 Ohms	260 Ohms
1400 Ohms	364 Ohms

Note on contacting

The connection of sensor, battery and voltage for trickle charging is made via solder contacts. The soldering temperature should not exceed 320°C. The cross section of the connecting cables should not be larger than 0.09 mm² (AWG 28).

Hinweis zur Spannungsversorgung

The GSV-6BT must be powered by a rechargeable battery (3.7V ...4.2V). Additionally a trickle charge with 5V can be carried out.