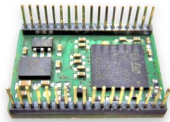


Measuring amplifier GSV-6CPU

Item number: 5837



Highlights

- 6-channel measuring amplifier
- Channel 1 for connection of Strain Gauge full bridge
- Channel 2...6 analog input for external extensions
- Analog output 0...2.5V for channel 1
- UART and CAN interface (with external extension)

GSV-6 product line provides signal processing for strain gauges on the smallest area. The centerpiece of the GSV-6 is a printed circuit board in the dimensions of 19 x 14 mm. This "GSV 6CPU" provides all necessary functions for the construction of a 1-6 channel of measurement amplifier is ready.

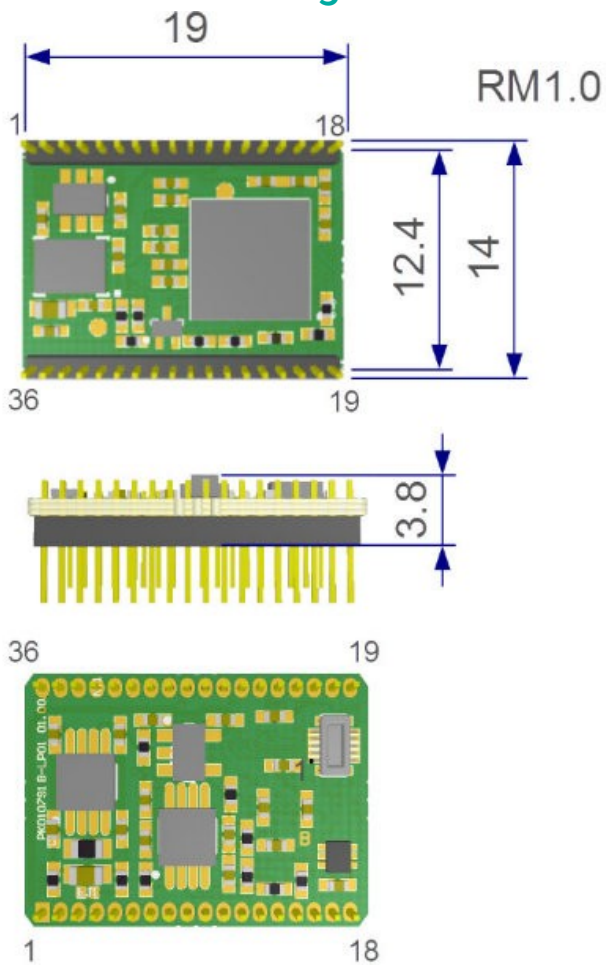
Two 18-pole pin strips in PCM 1.0 are connecting fields and functions supplements for other applications: UART, CAN bus driver, GPRS modem etc.

- Strain gauge bridge supply 3V, Max 60mA
- Strain gauge bridge input at channel 1
- Analog output 0. 2.5V for channel 1
- LED output
- TEDS input
- Digital inputs for the functions "Tare" and "Scale"
- 5 x analog input 0.. 3V
- Interfaces UART (3.3 V), CAN
- 3.6 v to 5 .5V supply voltage
- 3 x threshold switch (max. 4mA output current)
- 3, 3V voltage output
- 2.5V reference

The amplifier module GSV-6CPU is used for integration into devices with 1 to 6 channels. The integration of the GSV-6CPU is preferably via UART or CAN interface (without CANbus-transceiver).

With the TEDS interface electronic data sheets are processed. The GSV-6 CPU provides 6 input channels (without an additional extension). Channel 1 is directly suitable for measuring with strain gauge sensors, there is a bridge excitation for strain gauge (3V) and an analog output signal 0 ... 2.5V. With channels 2 to 5 voltages can be measured in the range from 0 up to 3V.

Technical Drawing



Technical Data

| Basic Data | | Unit |
|--------------------|-------------------------|-----------------|
| Dimensions | 19 x 14 x 4 | mm ³ |
| Housing | Circuit board | |
| Connection | Pin header | |
| Number of channels | 6-channel | |
| Interface | UART (3.3V), CAN, SPI | |
| Functions | Tara, Scale, Gain, TEDS | |
| bandbreite | 1 S/s ... 25 kS/s | |

| Input analog | | Unit |
|---|------------|------|
| Number of analog inputs | 6 | |
| input sensitivity-stepsless from | 0.1 | mV/V |
| input sensitivity-stepsless to | 8 | mV/V |
| Input resistance strain-gauge-half- /quarter-bridge | 1000 350 | |
| Input voltage from | 0 | V |
| Input voltage to | 3 | V |

| Output analog | | Unit |
|------------------------------------|------|------|
| Number of analog outputs | 1 | |
| Voltage output from | 0.1 | V |
| Voltage output to | 2.5 | V |
| Output resistance - voltage output | 47 | Ohm |
| Zero adjustment to | 1.25 | V |

| Accuracy data | | Unit |
|---|------|----------|
| Accuracy class | 0,1% | |
| Temperature effect on the zero point | 0.05 | %FS/10°C |
| Temperature effect on the measuring sensitivity | 0.01 | %RD/10°C |
| Resolution | 16 | Bit |

| Measuring frequency | | Unit |
|---------------------|-------|------|
| Data frequency from | 10 | Hz |
| Data frequency to | 25000 | Hz |
| Sampling frequency | 16.7 | kHz |

| Supply | | Unit |
|----------------------------|-----|------|
| Supply voltage from | 3.6 | V |
| Supply voltage to | 5.5 | V |
| Current consumption from | 33 | mA |
| Strain gauge bridge supply | 3 | V |

| Interface | | Unit |
|---------------------------|-------------------|------|
| Type of the interface | TEDS UART CAN | |
| Quantity of the interface | 5 | |

| Zero Adjustment | | Unit |
|--------------------|--------|------|
| Trigger level from | 0.8 | V |
| Trigger level to | 3.3 | V |
| Trigger edge | rising | |

| Environmental Data | | Unit |
|----------------------------------|------|------|
| Rated temperature range from | -10 | °C |
| Rated temperature range to | 85 | °C |
| Operating temperature range from | -40 | °C |
| Operating temperature range to | 125 | °C |
| Environmental protection | IP00 | |

The information on data frequency and sampling frequency refer to the use of 6 channels. By using fewer channels, the data frequency can be set higher than 800/s. Zero adjustment: internal pullup resistor 10kOhm at tare input available;

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 |

Mounting