

GSV-1A8USB



Highlights

- USB port,
- 16 Bit, 200kHz total sampling rate,
- 8x strain gauge input, 8x analogue input ± 10 V, 8x IO
- Optional 16x strain gauge input
- Zero adjustment across 100% of the measuring range
- Integrated bridge completion 350 ohm can be activated through solder bridges,
- Analogue filter 2.5kHz, optional 250Hz or 10kHz



Description

The measuring amplifier GSV-1A8USB is a DC voltage measuring amplifier with USB interface.

The resolution is 16

bit with a total sampling rate of 200kHz. The integrated A/D measurement card NI USB 6210 has 16 analogue input channels and digital inputs/outputs which are led outside on a 37-pin Sub-D socket.

To upgrade to 16 channels, a second, structurally identical housing without A/D measuring card is connected to the basic unit via a 37-pin flat ribbon cable.

Several 16-channel devices can be evaluated using the software.

The analogue input signals from the strain gauges are amplified by 8 or 16 precision measuring amplifiers GSV-1L to ± 5 volt and digitalised by the integrated A/D card with USB interface.

A supplement for quarter bridges 350 ohm, and for half bridges 120, 350 or 1000 ohm is included in the GSV-1USB and can be activated via solder bridges.

The benefit of the GSV-1L measuring amplifier used is the low-noise amplification and automatic analogue zero adjustment.

The zero adjustment is triggered via a switch or via software.

The zero point is stored internally and is available again after a voltage interruption.

Due to the automatic zero adjustment, the low-noise amplifier and the optimally adjusted Bessel filter, high input amplifications can also be set for the A/D digital converter in order to record the smallest signals.

The supply voltage is 12...24V DC and is supplied via a plug-in power supply provided.

Advantages:

- ✓ compact dimensions and low weight,
- ✓ simple connection of strain gauge full, half and quarter bridges via 5-pin M12 or Sub-D15 plug connectors,
- ✓ automatic zero adjustment with tare switch across 100% of the measuring range (3.5mV/V),
- ✓ high limit frequencies up to 10kHz per channel as an order option (2.5kHz standard)
- ✓ low-noise input stage for high measurement resolution,
- ✓ high amplification of the output signal possible through automatic zero adjustment,
- ✓ low current consumption and supply with car supply voltage,
- ✓ stable strain gauge supply for up to 4 parallel 350 ohm full bridges per channel.



Technical Data

Basis Data

| | |
|--------------------|-----------|
| Housing | Aluminium |
| Connection | Connector |
| Number of channels | 8-Kanal |

Eingang analog

| | | |
|---|--------------|------|
| Input sensitivity-steps | 2.0 3.5 | MV/V |
| Input resistance strain-gauge-full-/half-bridge | 70 ... 50000 | Ohm |

Precision

| | |
|---|---------------|
| Accuracy class | 0,1% |
| Temperature effect on the zero point | 0.05 %FS/10°C |
| Temperature effect on the measuring sensitivity | 0.1 %RD/10°C |
| Resolution | 16 Bit |

Supply

| | | |
|----------------------------|-----------|----|
| Supply voltage f | 11 ... 28 | V |
| Current consumption from | 300 | mA |
| Strain gauge bridge supply | 5 | V |

Interface

| | |
|-----------------------|-----|
| Type of the interface | usb |
|-----------------------|-----|

Zero adjustment

| | |
|-----------------|--------------|
| Type | Button |
| Tolerance | 5 mV |
| Time period | 90 ms |
| Debouncing time | 4 ms |
| Trigger level f | 3.5 ... 30 V |
| Trigger edge | falling |

Temperature

| | |
|-------------------------------|---------------|
| Rated temperature range f | -10 ... 65 °C |
| Operating temperature range f | -20 ... 65 °C |



Environmental protection

IP40

Measuring frequency




Sampling frequency

200 kHz

Limit frequency (analog)

2.5 kHz

accessories

| | Description | Description |
|---|---------------------------|---|
|  | Configuration SubD15/m | Connector Type SubD 15 pin, pins (male), with hood, terminated on Liycy 2x2x0.25, 1.5m as an extension of KR20 (threaded sockets in the Sub-D 15) |
|  | Configuration 5p/m/M12 | Connector Type Coninvers, 5 pin, socket (female), terminated on cable |
|  | Mounting- FEET-200 | Mounting plates for GSV-1A8 / GSV-1A8USB / GSV-8DS |



Orderoptions

| Type | Description |
|--------------------|---|
| GSV-1A8USB K3D | K3D sensor connection |
| GSV-1A8USB K6D/M16 | K6D sensor connection |
| GSV-1A8USB M12 | Sensor connection with round plug connector M12 |
| GSV-1A8USB SubD15 | Sensor connection with plug connector SubD15 |