

## GSV-1A16USB



### Highlights

- USB port,
- 16 Bit, 200kHz total sampling rate,
- 8x strain gauge input, 8x analogue input  $\pm 10$  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  $\pm 5$  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	16-channel

### Input 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	0.01	%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
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### 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 5p/m/M12 Connector Type Coninvers, 5 pin, pins (male), terminated on cable
	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)



## Orderoptions

Type	Description
GSV-1A16USB K3D	K3D sensor connection
GSV-1A16USB K6D	K6D sensor connection
GSV-1A16USB M12	Sensor connection with round plug connector M12
GSV-1A16USB SubD15	Sensor connection with plug connector SubD15