

GSV-6K



Description

The measurement amplifier GSV-6K includes a strain gauge input via a 5-pin M12 casing bushing and an analogue output via a 5-pin M12 housing connector.

The GSV-6K is used to convert the bridge signal from force, torque or strain sensors to an analogue output signal.

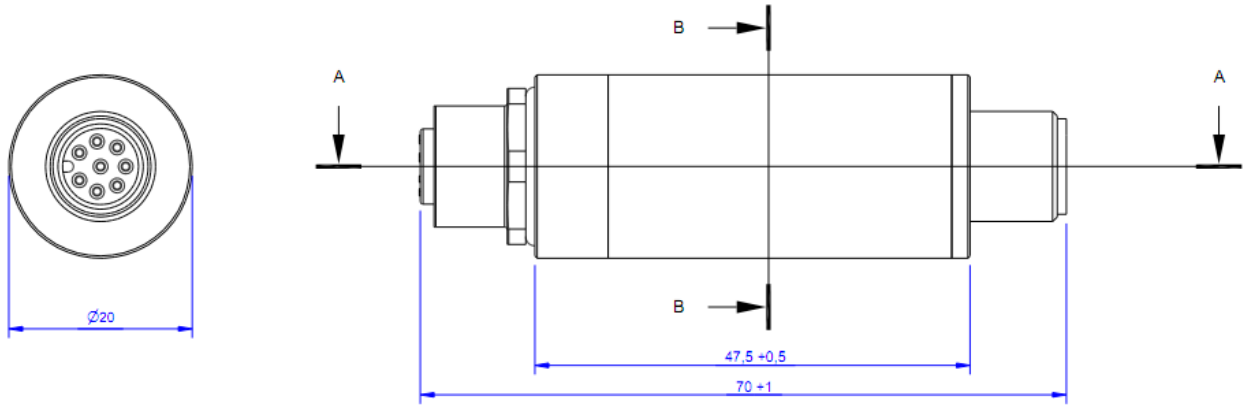
The electronic data sheet of the sensor can be read via a TEDS interface. The measurement amplifier scales the output signal to the end value of the set output signal using the TEDS interface.

The output signal can be set as a voltage output or current output.

The outputs 0...10V, $\pm 10V$, 0...5V, $\pm 5V$, 4...20mA, 0...20mA can be set using the "Tare" and "Scale" control cables.

Similarly, an offset or sampling frequency can also be set.

Dimensions



Technical Data

Input analog

Number of analog inputs	1
Input sensitivity-stepsless f	0.1 ... 8 mV/V
Input voltage f	0 ... 3 V

Output analog

Number of analog outputs	1
Voltage output f	-10 ... 10 V
Output resistance - voltage output	0.12 Ohm
Current output f	0 ... 20 mA

Measuring frequency

Data frequency f	1 ... 25000 Hz
Sampling frequency	50 kHz

Supply

Supply voltage f	12 ... 24 V
Current consumption from	22 mA
Strain gauge bridge supply	3 V

Interface

Type of the interface	teds
Quantity of the interface	1

Zero adjustment

Tolerance	0.1 FS
Time period	1 ms
Debouncing time	1 s
Trigger level f	9 ... 28 V
Trigger edge	rising

Environmental data

Rated temperature range f	-10 ... 70 °C
Operating temperature range f	-25 ... 85 °C
Environmental protection	IP66
MTTFd	92,7 Jahre
PFHd	1,25 * 10E-6
PerformanceLevel	C

Basic Data

Connection	Connector
Number of channels	1-Kanal



Precision data

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



Manual

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

Functions

The unit is factory-configured to the desired output signal and with the desired functions. The configuration can be modified using the "Tare" and "Scale" control cables.

Terminal assignment

M12 plug connector with A-coding;

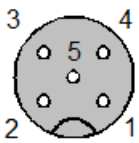


Figure: Contact configuration M12 socket

5-pin socket

Pin No.	Terminal assignment	ME (Type 1)	ME (Type 2)	Phoenix SAC-5P
1	+U _S Positive bridge excitation	brown	red	brown
2	-U _S Negative bridge excitation	white	black	white
3	+U _D Positive differential input	green	green	blue
4	-U _D Negative differential input	yellow	white	black
5	TEDS input	grey		grey

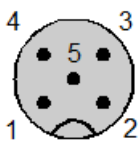


Figure 7: Contact configuration M12 plug

5-pin plug

Pin No.	Terminal assignment	ME (Type 1)	Phoenix SAC-5P
1	Voltage supply 12V / 24V DC	brown	brown
2	Analogue output 4...20mA / $\pm 10V$	white	white
3	Ground	green	blue
4	Tare (Control input for zero adjustment)	yellow	black
5	Scale (Control input for autoscale)	grey	grey

Functions





The functions can be adjusted using the "Tare" and "Scale" control cables.

A simulator to configure the GSV-6 via control cables is also available via

<http://www.me-systeme.de/click/click.php>

Function	Settings
Analog output "type"	0...10V, ±10V, 0...5V, ±5V, 4...20mA, 0...20mA
Analog output "Offset"	0%, 10%, 12.5%, 20%, 25%, 30%, 37.5%, 40%, 50% Example: an offset of 50% with an analogue output 0...10V shifts the zero point at 0 mV/V to 5V. With an output of 4...20mA, the zero point is shifted to 12mA with an offset of 50%. The input sensitivity is shown at all times on the remaining "End Value - Offset" area.
Data frequency in Hz (Updating of measurement values at the analogue output or interface)	1, 2, 10, 20, 50, 100, 200, 500, 1k, 2k, 5k, 10k, 20k, 25k; The smallest data frequency at the output is 10Hz. At levels below 10Hz, a second-order IIR filter is used.
input sensitivity in mV/V	0.1, 0.2, 0.3, 0.4, 0.5, 1, 2, 3, 4, 5, 8 (standard mode) 0.1, 0.2, 0.3, 0.4, 0.5, 1, 2, 5, 8 (high-res. mode) In high-res. mode the physical measuring range is restricted, which means there is less "reserve" available for a zero adjustment with the Tare function. Available physical measuring ranges: 8 mV/V, 2 mV/V, 1 mV/V The input sensitivity can also be set to 5-digit precision using the Tare and Scale cables in the ClickRClickR menu ("seamless").
Adjust autoscale level	The autoscale level allows the output signal to be defined as a % of the end value, which is shown by implementing "Scale" with the current weight limit. Default setting: 100% (a weight limit of 100% is expected). The autoscale level can be adjusted in stages, from 5% within the range 0 to 100%. When "0%" is set, the autoscale function is deactivated.
Level for threshold value indicator "On"	The switch-on threshold of the threshold value indicator can be adjusted in steps of 5% within the range 0 to 100%. When 0% is set, the threshold value indicator is deactivated.
Level for threshold value indicator "Off"	The switch-off threshold of the threshold value indicator can be adjusted in steps of 5% within the range 3 to 98%. The switch-off threshold should be set lower than the switch-on threshold. If "0%" is set, the switch-off threshold is deactivated.
Operating mode	"Actual value display" (Default), Maximum value display, Inversion of the display, Non-volatile Tare setting (default) or volatile when switched off, "Gradient" setting (special function, not included in the standard configuration), TEDS activated (default) / deactivated.
Load pre-setting	Selecting this menu option loads the default settings included on delivery. ±10V, 1 mV/V, 100Hz, Actual value display, TEDS active, Non-inverted display,

accessories

Description	Description
 Configuration GSV-6	as a free service we offer the configuration for GSV-6K and GSV-6L, setting parameters are selectable
 Configuration 5p/m/M12/TEDS	Assembling the connector to sensor cable; Circular connector type M12, 5-pin, pins, assembled to connection cable / sensor;
 Connector xp/f/M12/x	Sensor-/actuator cable; 4 / 5 pin;
 Connector xp/f/M12/x	Sensor-/actuator cable; 4 / 5 pin;