

## Measuring amplifier GSV-11H 4-20-12/20/2

Item number: 3017



### Highlights

- Taring function via control cable
- 20 Hz filter in the standard design
- 100Hz filter optional
- Amplification configurable
- 4...20mA output signal
- 0V...5V output optional
- 0V ...10V output optional
- 5V  $\pm$ 5V output optional
- 2.5V  $\pm$ 2.5V output optional
- Power consumption <40 mA

The GSV-11H is a measuring amplifier with analogue output for strain gauge full bridges.

In addition to the current output 4...20mA, voltage outputs 0.0...10.0V or 0.0V...5.0 volt are also available as an option.

The particular features of GSV-11H are

- the automatic zero adjustment across 2 mV/V (100% of the largest) of measuring range
- the low current consumption of just 38mA (plus output current),
- the optional amplification levels via jumpers, and
- the option to set the amplification in a continuously variable manner.

The zero adjustment is triggered by means of a control signal from the PLC or via a microswitch on the printed circuit board. The control level at the "tare" taring input should lie in the range of 10 volt to 30 volt.

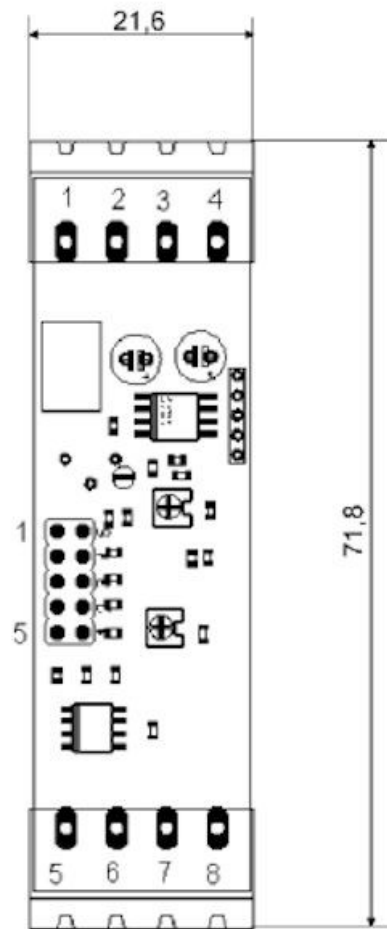
The zero adjustment is triggered with the falling edge of a control level of at least 4ms at the tare input.

The GSV-11H is also available in another version as a printed circuit board (GSV.11L).

Even for a high input sensitivity of 0.5 mV/V, the range for the zero adjustment is a full 2mV/V so that even the smallest load changes are shown for a preload of e.g. 80% (magnify function).

The GSV-11H can supply up to 4 parallel weighing cells with a 350 ohm bridge resistance each and is therefore also perfectly suitable for applications in weighing technology.

## Technical Drawing



## Technical Data

| Basic Data         |                | Unit            |
|--------------------|----------------|-----------------|
| Dimensions         | 75 x 25 x 53   | mm <sup>3</sup> |
| Housing            | Din rail       |                 |
| Connection         | Screw terminal |                 |
| Number of channels | 1-channel      |                 |
| Functions          | Tara, Range    |                 |

| Input analog            |                       | Unit |
|-------------------------|-----------------------|------|
| Input sensitivity-steps | 2.0   1.0   0.5   0.2 | mV/V |

| Output analog            |    | Unit |
|--------------------------|----|------|
| Number of analog outputs | 1  |      |
| Current output from      | 4  | mA   |
| Current output to        | 20 | mA   |

| Accuracy data                                   |      | Unit     |
|-------------------------------------------------|------|----------|
| Accuracy class                                  | 0,1% |          |
| Relative linearity error                        | 0.02 | %FS      |
| Temperature effect on the zero point            | 0.1  | %FS/10°C |
| Temperature effect on the measuring sensitivity | 0.05 | %RD/10°C |

| Measuring frequency      |    | Unit |
|--------------------------|----|------|
| Limit frequency (analog) | 20 | Hz   |

| Supply                     |    | Unit |
|----------------------------|----|------|
| Supply voltage from        | 21 | V    |
| Supply voltage to          | 28 | V    |
| Strain gauge bridge supply | 5  | V    |

| Interface | Unit |
|-----------|------|
|-----------|------|

| Zero Adjustment | Unit |
|-----------------|------|
|-----------------|------|

|                    |            |     |
|--------------------|------------|-----|
| Type               | regulation |     |
| Tolerance          | 1          | %FS |
| Time period        | 250        | ms  |
| Debouncing time    | 4          | ms  |
| Trigger level from | 10.5       | V   |
| Trigger edge       | falling    |     |

| Filter | Unit |
|--------|------|
|--------|------|

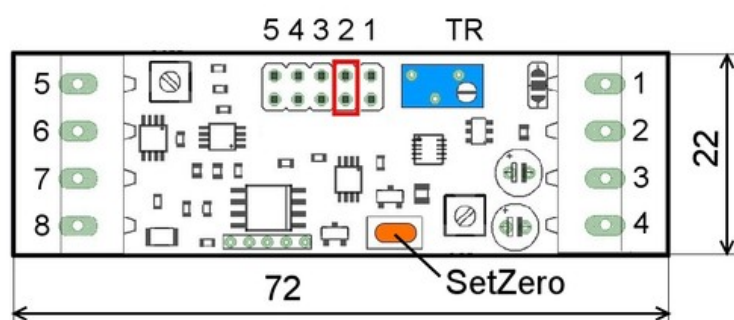
|                               |          |    |
|-------------------------------|----------|----|
| Type                          | low-pass |    |
| Limit frequency (analog) from | 20       | Hz |
| Order                         | 3        |    |
| Algorithm                     | Bessel   |    |

| Environmental Data | Unit |
|--------------------|------|
|--------------------|------|

|                                  |      |    |
|----------------------------------|------|----|
| Rated temperature range from     | -10  | °C |
| Rated temperature range to       | 65   | °C |
| Operating temperature range from | -40  | °C |
| Operating temperature range to   | 85   | °C |
| Environmental protection         | IP40 |    |

## Mounting

## Amplification levels



| Position | Amplification factor | Input sensitivity in mV/V |
|----------|----------------------|---------------------------|
| 1        | 1...10               | 2...0,2                   |
| 2        | 1                    | 2                         |
| 3        | 2                    | 1                         |
| 4        | 4                    | 0,5                       |
| 5        | 10                   | 0,2                       |

## Terminal assignment

| Terminal | Designation             |                                        |
|----------|-------------------------|----------------------------------------|
| 1        | Ub (24V DC)             | Supply voltage                         |
| 2        | GND                     | Ground supply voltage and signal       |
| 3        | Ua (4...20mA / 0...10V) | Signal 4...20mA (order option 0...10V) |
| 4        | Tara                    | Control input for zero adjustment      |
| 5        | -Ud                     | - Differential input (-sensor signal)  |
| 6        | +Ud                     | + Differential input (+sensor signal)  |
| 7        | +Us                     | + Sensor supply (+excitation)          |
| 8        | -Us                     | - Sensor supply (-excitation)          |