

## GSV-2MSD-DI IP43



### Highlights

- Data logger with SD-card slot
- USB-interface
- for strain gauge quarter, half and full bridges
- 0...10V, potentiometric
- 24 bit resolution
- 6 sensor configurations recallable
- battery operation
- real time clock
- IP65 execution as option
- 3750Hz measuring rate



## Description

GSV-2MSD-DI is a measuring amplifier with an integrated data logger, which is used either as hand device or for the stationary application.

Due to compact dimensions GSV-2MSD-DI fits into any pocket.

The connection of sensors occurs via 15 pole Sub-D plug connector. Force sensors, torque sensors, strain gauge quarter, half and full bridges can be connected.

The measuring amplifier has an integrated bridge completion for 120 Ohm, 350 Ohm and 1000 Ohm strain gauges.

As well active sensors with 0...10V output signal and potentiometric displacement sensors can be connected.

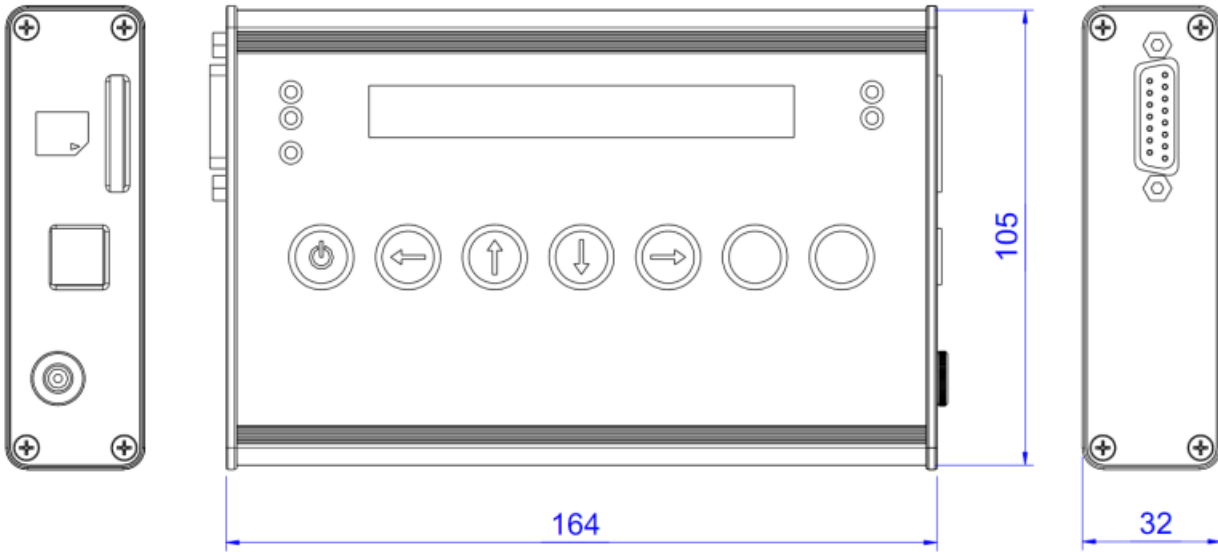
The device is also available in the protection type IP65. The SD- card slot and the USB-interface are closed with an additional covering. The Sub-D 15 sensor connection and the housing seals are strengthened for this protection type.

The measuring data is saved with a time stamp. Different operating modes, as e.g. single value query, permanent record, triggering via control cable, min-max mode and other settings are available.

The measuring rate can be set up to 3750 Hz. The record on SD-card is up to 1000 Hz possible.

Up to 6 sensor configurations can be defined and requested, e.g. for the sensor change or for the quick set of the measuring conditions.

## Dimensions



## Technical Data

### Input analog

|   |                      |
|---|----------------------|
| Number of analog inputs                         | 1                    |
| Input sensitivity-steps                         | 1.0   2.0   3.5 mV/V |
| Input resistance strain-gauge-full-/half-bridge | 87 ... 5000 Ohm      |
| Input resistance strain-gauge-quarter-bridge    | 120   350   1000 Ohm |
| Input voltage f                                 | 0 ... 10 V           |
| Input resistance-voltage                        | 56 kOhm              |

### Output analog

|                             |            |
|-----------------------------|------------|
| Number of analog outputs    | 1          |
| Voltage output f            | -5 ... 5 V |
| Output resistance - voltage | 47 Ohm     |

### Measuring frequency

|                          |               |
|--------------------------|---------------|
| Data frequency f         | 0 ... 1000 Hz |
| Limit frequency (analog) | 1700 Hz       |

### Supply

|                            |             |
|----------------------------|-------------|
| Supply voltage f           | 10 ... 29 V |
| Strain gauge bridge supply | 2.5   5 V   |

### Interface

|                           |               |
|---------------------------|---------------|
| Type of the interface     | usb           |
| Quantity of the interface | 1             |
| Version of the interface  | 2.0 Fullspeed |

### Zero adjustment

|                 |                                 |
|-----------------|---------------------------------|
| Type            | digital   software   Regulation |
| Tolerance       | 0.01 %                          |
| Time period     | 1 ms                            |
| Debouncing time | 4 ms                            |
| Trigger level f | 3.4 ... 29 V                    |
| Trigger edge    | Level                           |

### Temperature

|                               |               |
|-------------------------------|---------------|
| Rated temperature range f     | 0 ... 50 °C   |
| Operating temperature range f | -20 ... 70 °C |
| Environmental protection      | IP51/IP65     |

### Basis Data

|                    |           |
|--------------------|-----------|
| Housing            | Aluminium |
| Connection         | Connector |
| Number of channels | 1-Kanal   |



### Precision

|   |               |
|---|---------------|
| Accuracy class                                  | 0,05%         |
| Relative linearity error                        | 0.02 %FS      |
| Temperature effect on the zero point            | 0.2 %FS/10°C  |
| Temperature effect on the measuring sensitivity | 0.01 %RD/10°C |
| Resolution                                      | 24 Bit        |

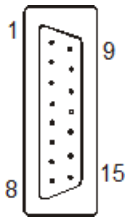
## Mounting

### Pin connection

Sensor connection, Sub-D 15

|    |                  |  |
|----|------------------|--|
| 1  | Shield           |  |
| 2  | GND <sub>A</sub> | ground analog input                            |
| 7  | Tara             | zero set input / trigger-input                 |
| 9  | U <sub>E</sub>   | analog input                                   |
| 10 | U <sub>A</sub>   | analog output                                  |
| 6  | +U <sub>S</sub>  | positive bridge supply                         |
| 5  | -U <sub>S</sub>  | negative bridge supply (GND)                   |
| 8  | +U <sub>D</sub>  | positive differential input                    |
| 15 | -U <sub>D</sub>  | negative differential input                    |
| 13 | +U <sub>F</sub>  | positive sensor cable                          |
| 12 | -U <sub>F</sub>  | negative sensor cable                          |
| 14 | HB               | selection half bridge                          |
| 11 | QB120 Ohm        | completion resistor quarter bridge<br>120 Ohm  |
| 3  | QB 350 Ohm       | completion resistor quarter bridge<br>350 Ohm  |
| 4  | QB 1000 Ohm      | completion resistor quarter bridge<br>1000 Ohm |

Table 1: assignment Sub-D 15 socket



For the connection of half and quarter bridges pin 14 should be bridged with pin 15.  
 Quarter bridges are connected to pin 2, pin 8 and QB (3, 11 or 4) in the three-wire technology.

### Connection plan for strain gauge bridges

| full bridge | half bridge              | quarter bridge           |
|-------------|--------------------------|--------------------------|
|             |                          |                          |
| no bridge   | bridge between 14 and 15 | bridge between 14 and 15 |

Table 2: Connection of full, half and quarter bridges on 15 pole Sub D socket

**As standard accessories are provided:**

- switching power supply 100..240V /18V 1,67A
- 15-pole Sub-D-mating plug connector
- USB-wire
- software-CD
- manual

**required accessory:**

- SD Memory-Card, Class 10 (recommended for records with 1000Hz)