HAEHNE

## Product Description

# Measuring Amplifier MV128

### Special Features

- ❒ Compact design, ideal for retrofitting and test installations
- ❒ 1 channel with connectors for 2 parallel strain gauge sensors
- ❒ Integrated strain gauge excitation supply and force display (in % $F_N$)
- ❒ 24 V DC power supply
- ❒ Power supply and signal outputs galvanically isolated

### Scope of Supply

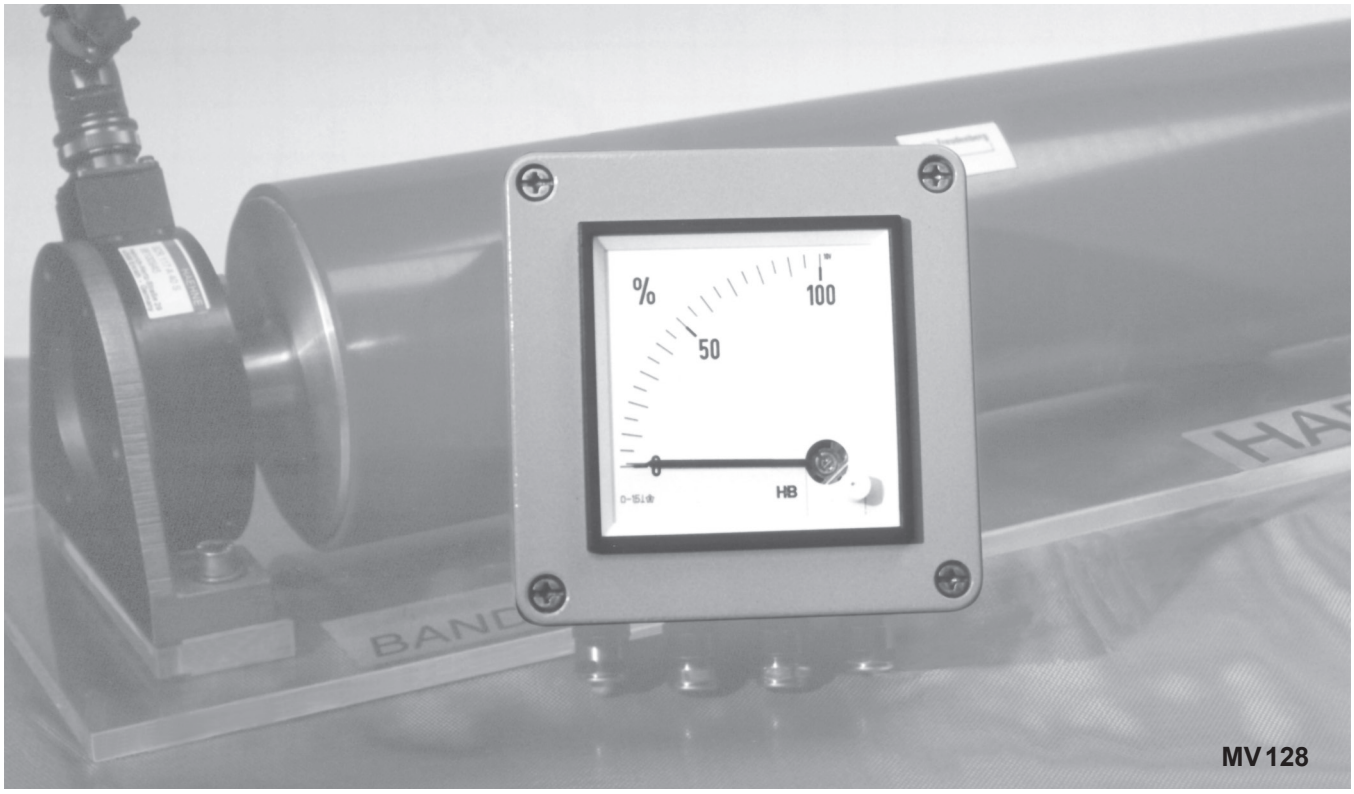
- **Amplifier in cast aluminium enclosure with analog display**
- **Standard** (Option U):
  2 voltage outputs (direct / filtered)

### Versions

- **Option C:**
  1 current output, 4…20 mA
  2 voltage outputs (direct / filtered)
- **Option N:**
  1 current output, 0…20 mA
  2 voltage outputs (direct / filtered)

### Additional Accessories

- **Option E:**
  Enlarged excitation supply 160 mA



MV128

### Application

The measuring amplifiers **MV128** are used preferably in cases when the analog measuring signals of sensors must be amplified close to their location on machines and equipment.

A 24 V DC power supply is needed only to operate the amplifier.

Due to its compact design and its competitive price, the **MV128** is an interesting alternative to more complex amplifiers.

All components of the multi-stage amplifier **MV128**, as well as the voltage regulator for the strain gauge excitation voltage are on a PCB measuring 94 × 46 mm.

Two zero adjust potentiometer are available for eliminating off sets (e.g. the roll weight). The desired gain can be adjusted with two potentiometer (coarse and fine).

Two voltage outputs with different types of filters are available. The current output (option C and N) can be connected to either one of these outputs.

The connection of the power supply is short-circuit protected. The outputs are galvanically isolated from the auxiliary power.

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## Technical Data

**Strain gauge excitation supply**

| | |
|---|---|
| Voltage $V_4$: | 10 V |
| Current max.: | 60 mA |
| Option E: | 160 mA |

**Zero adjust compensation voltage** (in relation to voltage input): -25 ... 0 ... +25 mV

**Amplification**

| | |
|---|---|
| Adjustment range: | 400 ...3200 V/V |
| Factory adjustment: | 667 V/V |

**Temperature range** 0...60°C

**Terminal cross-section** AWG 26-16

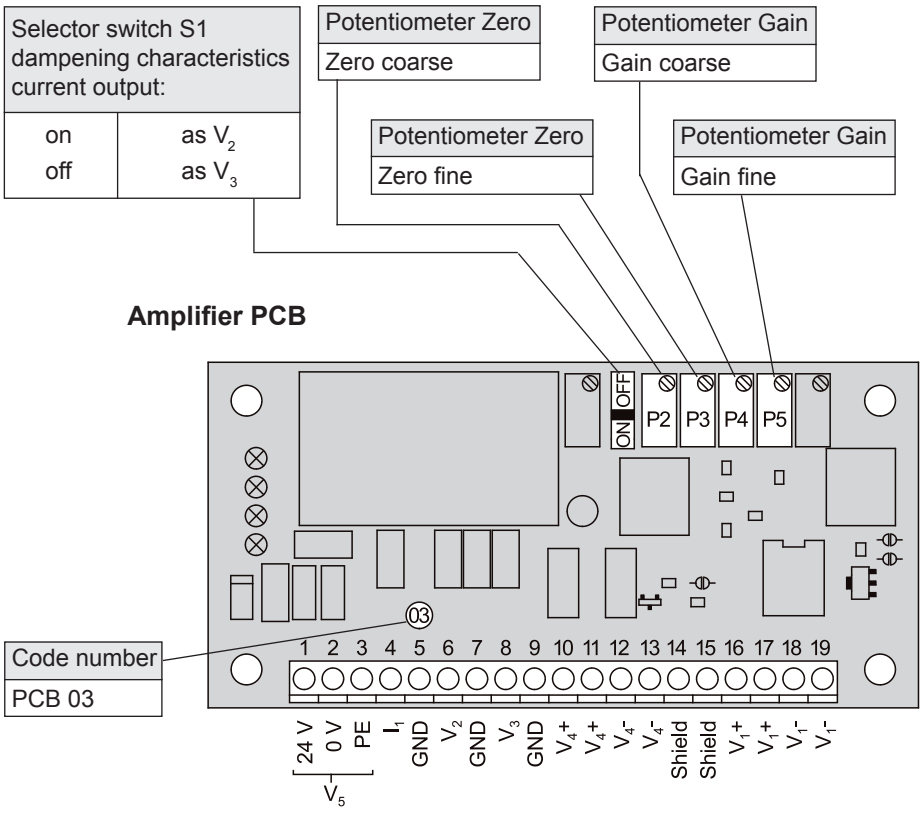
**Standard enclosure protection:** IP 50

**Signal output**

| | |
|---|---|
| Voltage ( $V_2$ , $V_3$ ): | - 10 ... 0 ...+ 10 V |
| min. load resistance ($V_2$): | 5 kΩ |
| min. load resistance ($V_3$): | 10 kΩ |
| Signal rising time (10...90 %): | $V_2$ direct: 5 ms |
| | $V_3$ filtered: 2 s |
| Current ($I_1$) | |
| Option C: | 4...20 mA |
| Option N: | 0...20 mA |
| Max. load resistance: | 600 Ω |

**Auxiliary power[1)]**

| | |
|---|---|
| Voltage ($V_5$): | 24 V DC, ± 10 % |
| Current consumption (at 24 V): | approx. 90 mA |




$V_1$: Output voltage of the full bridge strain gauges

$V_2$: Direct voltage output

$V_3$: Filtered voltage output

$V_4$: Strain gauge excitation supply

$V_5$: Auxiliary power 24 V DC[1)]

$I_1$: Current output (option C and N)

[1)] The voltage between $V_5$ 0 V and shield (PE) must not exceed 50 V *Vpp*. This is achieved if 0 V and PE (as is generally accept practice) are connected in the equipment.

**Dimensions**

Amplifier (terminal connection) in cast aluminium enclosure 140 x 140 x 90 mm (L x W x H) with four screwed joints and integrated analog display. Instrument dimensions: 96 x 96 mm, scale 0...100%, range 0...10 V, internal resistance $R_i$ = 10 kΩ

**Ordering Data**

**MV128-C**

Option

Type

**Connection:**

Cable shields are connected to the enclosure via the EMC plugs. Terminals 14 and 15 are not connected. The shield of the supply cable serves as PE.
A wire of sufficient size should balance the electrical potential between electrically connected parts of the equipment.



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