

## ME01 || Digital Pressure Gauge

### Application

The ME01 is an electronic manometer with on-site display and signal transmitter for positive and negative pressure measurement of liquid and gaseous media.

This type series' manometers are suitable for various measuring tasks; they apply to measuring ranges of 0..1.6 bar up to 0.. 60 bar.

### Operation and Construction

The pressure sensor consists of a ceramic measuring cell. The high durability of the used ceramic materials allows even application with aggressive media. On the diaphragm's side facing away from the medium a wheatstone bridge is attached. During pressurization the diaphragm is strained. The resistance values of the wheatstone bridge change according to the acting pressure. These values are displayed and transmitted as an electrical output signal 0..20 mA (3-wire).



### Main Features

- Directly measuring sensor without transfer fluid
- High vibration-resistance
- High accuracy
- High overpressure safety
- Minimum hysteresis

### Typical Applications

- Process engineering
- Process technology
- Environmental engineering
- Machine and plant construction



## Specifications

|                            |       |       |     |     |      |      |      |      |      |
|----------------------------|-------|-------|-----|-----|------|------|------|------|------|
| Measuring range in bar     | 0-1.6 | 0-2.5 | 0-4 | 0-6 | 0-10 | 0-16 | 0-25 | 0-40 | 0-60 |
| Overpressure safety in bar | 3.2   | 5     | 8   | 12  | 20   | 32   | 50   | 80   | 120  |

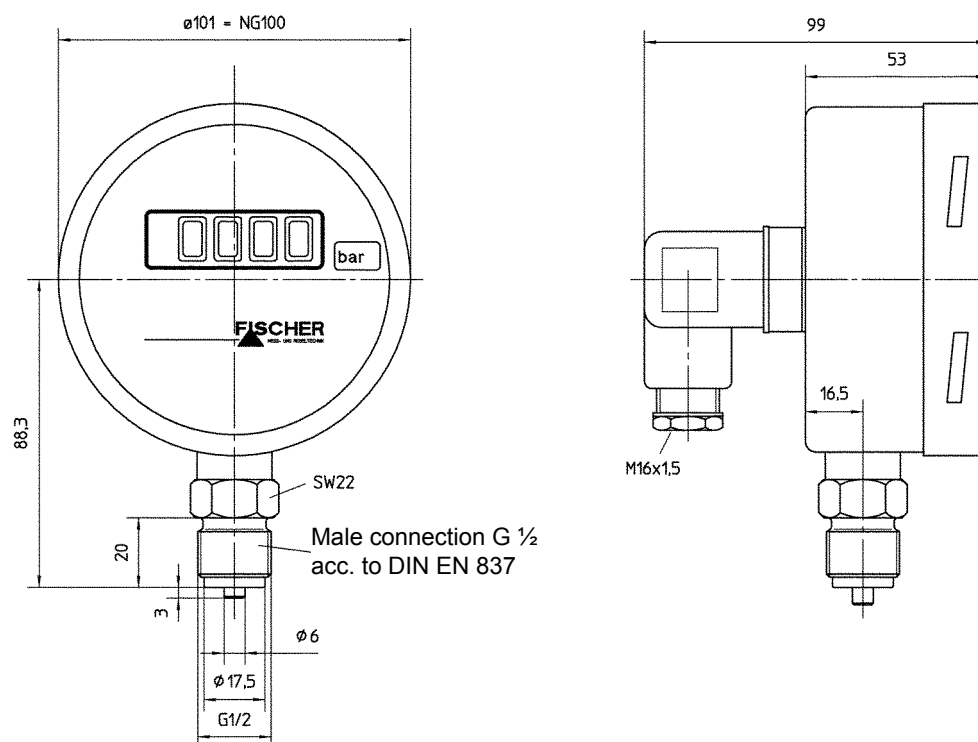
|                            |        |         |         |       |       |       |        |        |
|----------------------------|--------|---------|---------|-------|-------|-------|--------|--------|
| Measuring range in bar     | - 1..0 | -1..0.6 | -1..1.5 | -1..3 | -1..5 | -1..9 | -1..15 | 0...-1 |
| Overpressure safety in bar | 2      | 3       | 3       | 8     | 12    | 20    | 32     | 2      |

|                            |                                                                           |
|----------------------------|---------------------------------------------------------------------------|
| Linearity                  | < 1% FS                                                                   |
| Hysteresis                 | < 0.5% FS                                                                 |
| Perm. ambient temperature  | 0 .. 60°C                                                                 |
| Perm. medium temperature   | 0 .. 85°C                                                                 |
| Protection class           | IP 65 acc. to DIN EN 60529                                                |
| <b>Electrical Data</b>     |                                                                           |
| Nominal power supply       | 24V DC $\pm$ 10%                                                          |
| Output signal              | 0..20 mA / 4..20 mA / 0..10 V                                             |
| Electrical connection      | 3-wire                                                                    |
| Max. load                  | 500 $\Omega$ (0/4..20 mA); >5k (0..10 V)                                  |
| Current / voltage limiting | for output 0..10V: approx. 10.5 V<br>for output 0/4..20 mA: approx. 24 mA |
| Temperature drift, zero    | 0.4 % FS/10 K                                                             |
| Temperature drift, range   | 0.05 % FS/10 K                                                            |

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| <b>Connections</b>    |                                                     |
| Electrical connection | Connection plug M16 x 1.5 acc. to DIN EN 175301-803 |
| Pressure connection   | Male connection G ½ acc. to DIN EN 837              |

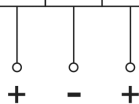
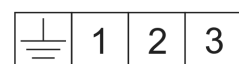
|                          |                                    |
|--------------------------|------------------------------------|
| <b>Materials</b>         |                                    |
| Material, medium contact | AISI 316L (1.4404), gasket: Viton® |
| Material, body           | AISI 304 (1.4305)                  |

## Dimensions (all units in mm unless otherwise stated)



## Electrical Connection

3-wire



Output signal      Operating voltage

## Ordering Code

**Digital Pressure Gauge**
**ME01**

|  |  |  |   |   |  |   |   |   |   |   |   |
|--|--|--|---|---|--|---|---|---|---|---|---|
|  |  |  | 8 | 7 |  | H | L | 0 | 0 | 0 | 0 |
|--|--|--|---|---|--|---|---|---|---|---|---|

**Measuring Range**

|                |       |
|----------------|-------|
| 0 ... 1 bar    | > 0 2 |
| 0 ... 1.6 bar  | > 0 3 |
| 0 ... 2.5 bar  | > 0 4 |
| 0 ... 4 bar    | > 0 5 |
| 0 ... 6 bar    | > 0 6 |
| 0 ... 10 bar   | > 0 7 |
| 0 ... 16 bar   | > 0 8 |
| 0 ... 25 bar   | > 0 9 |
| 0 ... 40 bar   | > 1 0 |
| 0 ... 60 bar   | > 1 1 |
| -1 ... 0 bar   | > 3 1 |
| -1 ... 0.6 bar | > 3 2 |
| -1 ... 1.5 bar | > 3 3 |
| -1 ... 3 bar   | > 3 4 |
| -1 ... 5 bar   | > 3 5 |
| -1 ... 9 bar   | > 3 6 |
| -1 ... 15 bar  | > 3 7 |

**Accuracy**

|                                       |     |
|---------------------------------------|-----|
| Linearity error relative pressure 1.0 | > M |
| Linearity error absolute pressure 1.0 |     |
| (only for ranges ≤16 bar)             | > S |

**Pressure Connection**

|                                         |       |
|-----------------------------------------|-------|
| Male connection G 1/2 B stainless steel | > 8 7 |
|-----------------------------------------|-------|

**Electrical Output Signal**

|                             |     |
|-----------------------------|-----|
| 0 - 20 mA 3-wire (STANDARD) | > A |
| 0 - 10 V 3-wire (STANDARD)  | > C |
| 4 - 20 mA 3-wire (STANDARD) | > P |

**Electrical Connection**

|                                                    |     |
|----------------------------------------------------|-----|
| 4-pin connection plug acc. to DIN EN 175 301-803-A | > H |
|----------------------------------------------------|-----|

**Power Supply**

|              |     |
|--------------|-----|
| 24 V DC / AC | > L |
|--------------|-----|