

# OEM Relative pressure transmitter type 503

Pressure range  
0 ... 2.5 – 25 bar



Type 503 pressure transmitters, with their excellent price / performance ratio, are specially designed for industrial OEM applications.

Partially automated production techniques allow us to produce high quantities, yet retaining the flexibility to offer different versions.

- Partial automatic production, giving ideal price / performance ratio.
- Ideal for use as a control element, owing as a result of a small hysteresis
- Incorporates all the benefits of ceramics technology for industrial applications

## Technical overview

### Pressure range

Relative 0 ... 2.5 – 25 bar

### Operating conditions

|                     |         |                           |
|---------------------|---------|---------------------------|
| Medium              |         | Liquids and neutral gases |
| Temperature         | Medium  | +2 ... +90 °C             |
|                     | Ambient | +10 ... +60 °C            |
|                     | Storage | -30 ... +85 °C            |
| Overload admissible |         | 2 x fs                    |
| Rupture pressure    |         | 3 x fs (max. 50 bar)      |

### Materials

|                                      |   |  |
|--------------------------------------|---|--|
| Housing material                     | ABS for cover with connector RAST 2.5<br>PA 6 for cover with connector DIN or cable | ABS<br>PA 6                                  |
| Materials in contact with the medium | Sensor  | Ceramic Al <sub>2</sub> O <sub>3</sub> (96%) |
|                                      | Pressure connector  | Grivory GV 5H or Nonyl GTX 20% GF            |
|                                      | Sealing material  | FPM, EPDM, NBR                               |

### Electrical overview

|                               | Output  | Power supply    | Load  | Current consumption |
|-------------------------------|---|-----------------|---|---------------------|
| 2 wire                        | 4 ... 20 mA   | 10.0 ... 33 VDC | $< \frac{\text{supply voltage} - 10 \text{ V}}{0.02 \text{ A}}$ [Ohm] | < 20 mA             |
| 3 wire                        | 0 ... 5 V   | 9.0 ... 33 VDC  | > 10 kOhm / < 100 nF  | < 5 mA              |
|                               | 0 ... 10 V  | 16.2 ... 33 VDC | > 10 kOhm / < 100 nF  | < 5 mA              |
|                               | ration. 10 ... 90%  | 5 VDC ±5%       | > 10 kOhm / < 100 nF  | < 5 mA              |
| Polarity reversal protection  | Short circuit proof and protected against polarity reversal. For connector versions mechanical protection only. The correct wiring acc. to the scheme has to be guaranteed by the OEM-customer. |                 |   |                     |
| Electromagnetic compatibility | The product is designed exclusively for installation in equipment. The customer is responsible for CE conformity.   |                 |   |                     |

### Dynamic response

|               |         |
|---------------|---------|
| Response time | < 5 ms  |
| Load cycle    | < 50 Hz |

### Protection standard

|                                   |       |
|-----------------------------------|-------|
| With connector RAST 2.5           | IP 00 |
| With DIN connector or cable 1.5 m | IP 54 |

### Electrical connections

DIN connector EN 175301-803-A  
Cable 1.5 m  
Connector RAST 2.5

### Pressure connections

|                |                                  |               |
|----------------|----------------------------------|---------------|
| Outside thread | G ½ seal at front                | Grivory GV 5H |
|                | G ¾ seal at back                 | Grivory GV 5H |
|                | G 1¼ seal at back                | Grivory GV 5H |
| Plug connector | (to max. 6 bar nominal pressure) | Grivory GV 5H |

### Mounting instructions

|                          |  |
|--------------------------|--|
| Installation arrangement | Unrestricted                                     |
| Starting torque G ¾      | min. 0.4 Nm / max. 0.8 Nm<br>Destruction > 30 Nm |

### Weight

|                         |        |
|-------------------------|--------|
| With connector RAST 2.5 | ~ 41 g |
| With connector DIN      | ~ 55 g |
| With cable              | ~ 95 g |

### Packaging

|  |                              |
|--|------------------------------|
| Multiple packaging Cardboard boxes with blister pack inserts | per 240 pcs.<br>per 600 pcs. |
|--|------------------------------|

## Accuracy

| Parameter  |      | Unit     |        |
|--|------|----------|--------|
| Tolerance zero point                             | max. | % fs     | ± 1.5  |
| Tolerance full scale                             | max. | % fs     | ± 1.5  |
| Resolution                                       |      | % fs     | 0.1    |
| Total of linearity, hysteresis and repeatability |      | % fs     | ± 1.0  |
| Long term stability acc. DIN EN 60770            |      | % fs     | ± 0.5  |
| TC zero point <sup>1)</sup>                      | max. | % fs/10K | ± 0.6  |
| TC sensitivity <sup>1)</sup>                     | max. | % fs/10K | ± 0.15 |

Test conditions: 25 °C, 45% RH, power supply 24 VDC / 5 VDC  
TK0 / TKE 2 ... 85 °C

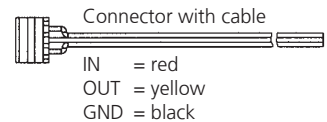
<sup>1)</sup> TC = Temperature coefficient

| Order code selection table            |  |                                 | 1             | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------------------------------------|--|---------------------------------|---------------|---|---|---|---|---|---|---|---|
|                                       |  |                                 | 503.          | X | X | X | X | X | X | X | X |
| Pressure range <sup>1)</sup>          | 0 ... 2.5 bar  |                                 | 9             | 1 | 4 |   |   |   |   |   |   |
|                                       | 0 ... 4 bar  |                                 | 9             | 1 | 5 |   |   |   |   |   |   |
|                                       | 0 ... 6 bar  |                                 | 9             | 1 | 7 |   |   |   |   |   |   |
|                                       | 0 ... 10 bar   |                                 | 9             | 3 | 0 |   |   |   |   |   |   |
|                                       | 0 ... 16 bar   |                                 | 9             | 3 | 1 |   |   |   |   |   |   |
|                                       | 0 ... 25 bar   |                                 | 9             | 3 | 2 |   |   |   |   |   |   |
| ▲ Fullscale signal at these pressures |  |                                 |               |   |   |   |   |   |   |   |   |
| Sealing material <sup>2)</sup>        | FPM  | Fluoro-elastomer                |               |   |   |   | 0 |   |   |   |   |
|                                       | EPDM   | Ethylene propylene              |               |   |   |   | 1 |   |   |   |   |
|                                       | NBR  | Butadiene Acrylonitrile         |               |   |   |   | 2 |   |   |   |   |
| Adjustment                            | Factory  |                                 |               |   |   |   | 0 |   |   |   |   |
| Output / power supply                 | 0 ... 5 V  | 9.0 ... 33 VDC                  |               |   |   |   |   |   | 3 |   |   |
|                                       | 0 ... 10 V   | 16.2 ... 33 VDC                 |               |   |   |   |   |   | 4 |   |   |
|                                       | 4 ... 20 mA  | 10.0 ... 33VDC                  |               |   |   |   |   |   | 5 |   |   |
|                                       | ratiom. 10 ... 90%   | 5 VDC ±5%                       |               |   |   |   |   |   | 6 |   |   |
| Electrical connection <sup>3)</sup>   | Connector  | RAST 2.5                        |               |   |   |   |   |   | 6 | 0 |   |
|                                       |  | DIN EN 175301-803-A             |               |   |   |   |   |   |   | 1 |   |
|                                       | Cable 1.5 m  |                                 |               |   |   |   |   |   |   | 2 |   |
| Pressure connection                   | Outside thread   | G 3/8, seal at front            | Grivory GV 5H | 1 |   |   |   |   |   |   | 0 |
|                                       |  | G 3/8, seal at back             | Grivory GV 5H |   |   |   |   |   |   |   | 1 |
|                                       |  | G 1/4, seal at back             | Grivory GV 5H | 3 |   |   |   |   |   |   | 3 |
|                                       | Plug connector   | (to max. 6 bar measuring range) | Noryl GV 5H   | 1 |   |   | 1 |   |   |   | 2 |
| Pressure range variation (optional)   | Indicate W and state range on order (e.g.: W0... + 9bar/OUT1...9V) |                                 |               |   |   |   |   |   |   |   | W |

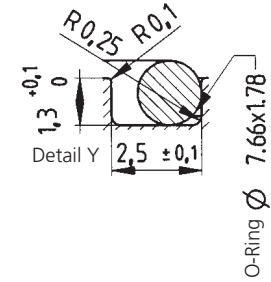
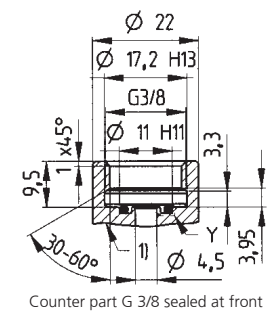
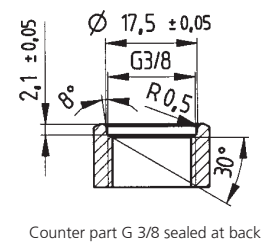
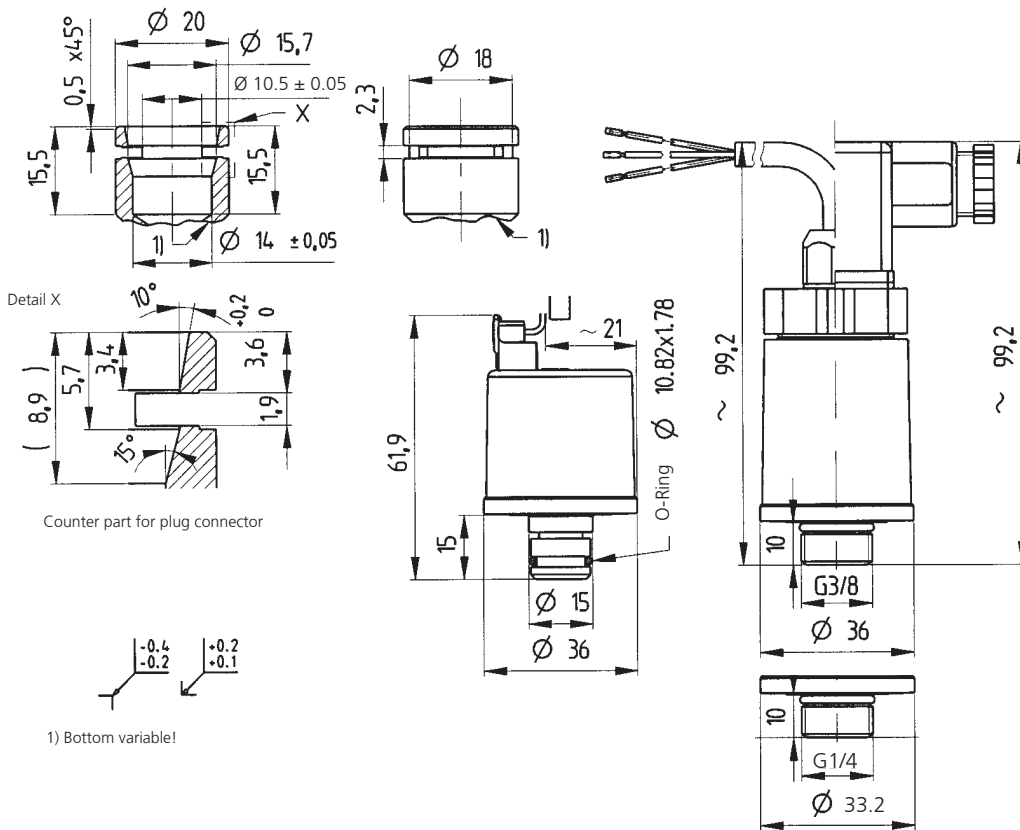
### Accessories <sup>4)</sup>

|   | Order number |
|---|--------------|
| Safety spring for plug connector                  | 105883       |
| Female connector DIN EN 175301-803-A with sealing | 103510       |
| Female connector RAST 2.5 with cable 1450 mm      | 103167       |
| Calibration Certificate                           | 104551       |

| AMP connector <sup>5)</sup> | Manufacturer's Part No. | Colour | For flexible wire  |
|-----------------------------|-------------------------|--------|--|
|                             | 3-829868-3              | grey   | 7 x 0.20 mm = 0.22 mm <sup>2</sup> or<br>12 x 0.20 mm = 0.35 mm <sup>2</sup> |
|                             | 1-966194-3              | beige  | 7 x 0.25 mm = 0.35 mm <sup>2</sup>   |



<sup>1)</sup> Other pressure ranges on request      <sup>2)</sup> According to ISO standard R 1629, other sealing materials on request      <sup>3)</sup> Delivery without female connector  
<sup>4)</sup> Accessories supplied loose      <sup>5)</sup> To be ordered separately from original manufacturer. Further information can be found in the manufacturer specification No. 114-18049



1) Bottom variable!

