

# Model DPM400-M series

Differential Pressure Transmitter  
Range 100mbar...25bar

**Materontek**  
Sensing and Internet of Things

## Features

- Measuring ranges from 100mbar to 25bar
- Differential pressure
- Accuracy:  $\pm 0.25\%$ FSO(Typ.)
- Calibrated and temperature compensated
- Stainless steel pressure sensor
- Excellent overload pressure
- Output 4...20mA, 0...5VDC, RS485 Modbus, HART, I<sup>2</sup>C

## Application

- Hydraulic and pneumatic
- Machine building
- Level measurement
- IoT pressure measurement



## Technical data

### Pressure range

|                                    |        |        |         |         |         |         |         |         |         |         |         |
|------------------------------------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Nominal pressure [P <sub>N</sub> ] | 0.1bar | 0.2bar | 0.35bar | 0.7bar  | 1 bar   | 2.5 bar | 4 bar   | 6 bar   | 10 bar  | 16 bar  | 25 bar  |
| Overpressure [Positive]            | 0.2bar | 0.4bar | 0.6bar  | 1.2bar  | 2 bar   | 4 bar   | 7 bar   | 10 bar  | 15 bar  | 30 bar  | 40 bar  |
| Static pressure                    | 50 bar | 50 bar | 100 bar | 100 bar | 100 bar | 100 bar | 100 bar | 100 bar | 100 bar | 100 bar | 100 bar |

### Performance

|                               |                                              |                                                              |
|-------------------------------|----------------------------------------------|--------------------------------------------------------------|
| Accuracy*                     | $\pm 0.25\%$ FS (typ.) $\pm 0.5\%$ FS (max.) | *Linearity (best straight line) + Hysteresis + Repeatability |
| Operating Temperature         | -20 to 85°C                                  |                                                              |
| Compensated Temperature Range | 0 to 70°C                                    |                                                              |
| Vibration                     | 5 g RMS(20 to 2000Hz)                        |                                                              |
| Shock                         | 100 g(10 ms)                                 |                                                              |
| Long Term Stability           | <0.2 %FS/year                                |                                                              |

### Electrical @25°C

|                             |                                                        |
|-----------------------------|--------------------------------------------------------|
| Output signal / Supply      | 2-wire 4...20mA / V <sub>S</sub> = 9...30VDC           |
|                             | 3-wire 1...5VDC / V <sub>S</sub> = 9...30VDC           |
|                             | 3-wire 0.5...4.5VDC / V <sub>S</sub> = 5VDC            |
|                             | 2-wire 4...20mA+HART / V <sub>S</sub> = 12... 30VDC    |
|                             | 4-wire RS485 Modbus RTU / V <sub>S</sub> = 12... 30VDC |
|                             | 4-wire I <sup>2</sup> C / V <sub>S</sub> = 3.3...5VDC  |
| Insulation Resistance       | 100 MΩ@100VDC                                          |
| EMC Test                    | IEC61000-6-2/IEC61000-6-3                              |
| Reverse polarity protection | No damage – no function                                |

### Physical Specifications

|             |                      |
|-------------|----------------------|
| Housing     | 304 stainless steel  |
| Diaphragm   | 316L stainless steel |
| Oil Filling | Silicone oil         |
| Protection  | IP65                 |
| Weight      | ~200g                |

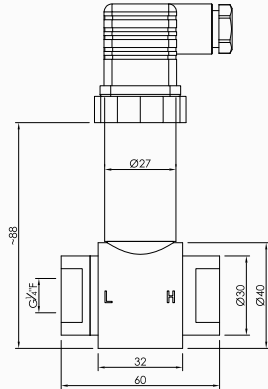
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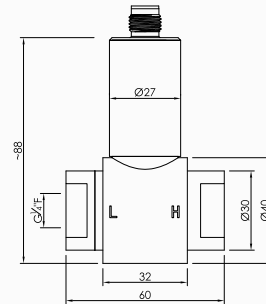
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## Dimensions (All dimensions in mm)

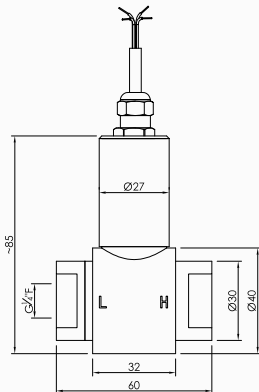
Code E1  
DIN175301-803A/DIN43650/IP65



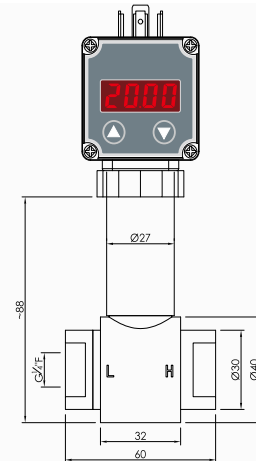
Code E2  
M12 connector/IP66



Code E3/E4  
Cable outlet, 1.5m/IP66/IP68



Code E5  
DIN175301-803A with DP-4 display



## Electrical connections

| DIN175301-803-A | 4...20mA<br>2-wire | 1...5VDC<br>3-wire | 0.5...4.5VDC<br>3-wire | RS485<br>4-wire |
|-----------------|--------------------|--------------------|------------------------|-----------------|
| +Vcc            | 1                  | 1                  | 1                      | 1               |
| OUT             | 2                  | 3                  | 3                      | -               |
| GND             | -                  | 2                  | 2                      | 2               |
| RS485A          | -                  | -                  | -                      | 3               |
| RS485B          | -                  | -                  | -                      | ⊕               |

| Connector<br>M12x1(4-pin) | 4...20mA<br>2-wire | 1...5VDC<br>3-wire | 0.5...4.5VDC<br>3-wire | RS485<br>4-wire |
|---------------------------|--------------------|--------------------|------------------------|-----------------|
| +Vcc                      | 1                  | 1                  | 1                      | 1               |
| OUT                       | 3                  | 4                  | 4                      | -               |
| GND                       | -                  | 3                  | 3                      | 3               |
| RS485A                    | -                  | -                  | -                      | 2               |
| RS485B                    | -                  | -                  | -                      | 4               |

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## Ordering code

| Model           | Range                   | Type                  | Output                                 | Pressure Port            | Electrical Connection              |
|-----------------|-------------------------|-----------------------|----------------------------------------|--------------------------|------------------------------------|
| <b>DPM400-M</b> | <b>01</b> 0.1bar        | <b>D</b> Differential | <b>42</b> 4...20mA/9...30VDC           | <b>01</b> G1/4" female   | <b>E1</b> DIN175301-803A/IP65      |
|                 | <b>02</b> 0.2bar        |                       | <b>15</b> DC 1...5V/9...30VDC          | <b>02</b> 1/4"NPT female | <b>E2</b> M12 connector/IP66       |
|                 | <b>03</b> 0.35bar       |                       | <b>05</b> DC 0...5V/9...30VDC          | <b>03</b> PT1/4" female  | <b>E3</b> Cable outlet,1.5m/IP66   |
|                 | <b>04</b> 0.7bar        |                       | <b>45</b> DC 0.5...4.5V/5VDC           | <b>04</b> G1/4" male     | <b>E4</b> Cable outlet,1.5m/IP68   |
|                 | <b>05</b> 1bar          |                       | <b>10</b> DC 0...10V/15...30VDC        | <b>05</b> G1/2" male     | <b>E5</b> DIN175301-803A with DP-4 |
|                 | <b>06</b> 2.5bar        |                       | <b>25</b> DC 0...2.5V/5VDC             | <b>06</b> 1/4"NPT male   |                                    |
|                 | <b>07</b> 4bar          |                       | <b>R4</b> RS485 Modbus RTU/12... 30VDC | <b>99</b> customer       |                                    |
|                 | <b>08</b> 6bar          |                       | <b>HR</b> 4...20mA+HART/12... 30VDC    |                          |                                    |
|                 | <b>09</b> 10bar         |                       | <b>IC</b> I <sup>2</sup> C/3.3...5VDC  |                          |                                    |
|                 | <b>10</b> 16bar         |                       |                                        |                          |                                    |
|                 | <b>11</b> 25bar         |                       |                                        |                          |                                    |
|                 | <b>12</b> -0.1...0.1bar |                       |                                        |                          |                                    |
|                 | <b>13</b> -0.2...0.2bar |                       |                                        |                          |                                    |
|                 | <b>14</b> -0.5...0.5bar |                       |                                        |                          |                                    |
|                 | <b>15</b> -1...1bar     |                       |                                        |                          |                                    |
|                 | <b>99</b> customer      |                       |                                        |                          |                                    |

| Accuracy                    | Label                    |
|-----------------------------|--------------------------|
| <b>A1</b> 0.1%FS            | <b>S</b> Standard        |
| <b>A2</b> 0.25%FS(Standard) | <b>N</b> Neutral packing |
| <b>A3</b> 0.5%FS            | <b>C</b> Custom label    |