



# DMP 334

## Industrial Pressure Transmitter for very high Pressure

### Thinfilm Sensor

accuracy according to IEC 60770:  
0.35 % FSO



Industrial - Pressure Transmitter

DMP 334

#### **Nominal pressure ranges**

from 0 ... 600 bar  
up to 0 ... 2200 bar

#### **Analogue output**

2-wire: 4 ... 20 mA  
3-wire: 0 ... 10 V  
others on request

#### **Special characteristics**

- ▶ extremely robust and excellent long-term stability
- ▶ pressure sensor welded

#### **Optional versions**

- ▶ IS-version  
Ex ia = intrinsically safe for gases and dusts
- ▶ pressure port  
M20 x 1.5 or 9/16 UNF
- ▶ adjustability of span and offset
- ▶ different kinds of electrical connections



The industrial pressure transmitter DMP 334 has been especially designed for use in hydraulic systems up to 2200 bar.

The base element of DMP 334 is a thinfilm sensor, that is welded with the pressure port and meets high demands of foolproofness and reliability.

All of characteristics and the excellent measurement data of DMP 334 as well as distinguished offset stability offer a pressure transmitter with easy handling, reliability and robustness for hydraulic user. The DMP 334 is deliverable with pressure ports of extrem pressure technics.

#### **Preferred areas of use are**



Plant and Machine Engineering



Commercial Vehicles and Mobile Hydraulics

# DMP 334

Industrial Pressure Transmitter

Technical Data

| Input pressure range   |   |
|--|---|
| Nominal pressure gauge [bar]   | 600 <sup>1</sup> 1000      1600      2000      2200   |
| Overpressure [bar]   | 800      1400      2200      2800      2800   |
| <sup>1</sup> only available with pressure port G1/2" EN 837  |   |
| Output signal / Supply   |   |
| Standard   | 2-wire: 4 ... 20 mA / V <sub>S</sub> = 12 ... 36 V <sub>DC</sub>  |
| Option IS-protection   | 2-wire: 4 ... 20 mA / V <sub>S</sub> = 14 ... 28 V <sub>DC</sub>  |
| Option 3-wire  | 3-wire: 0 ... 10 V / V <sub>S</sub> = 14 ... 36 V <sub>DC</sub>   |
| Performance  |   |
| Accuracy   | ≤ ± 0.35 % FSO IEC 60770 <sup>2</sup>   |
| Permissible load   | current 2-wire: R <sub>max</sub> = [(V <sub>S</sub> - V <sub>S</sub> min) / 0.02 A] Ω<br>voltage 3-wire: R <sub>min</sub> = 10 kΩ                         |
| Influence effects  | supply: 0.05 % FSO / 10 V      load: 0.05 % FSO / kΩ  |
| Long term stability  | ≤ ± 0.2 % FSO / year  |
| Response time  | < 5 msec  |
| Adjustability  | Adjustment of offset is possible within the range of ± 5 % of the nominal pressure range, without an influence of characteristic curve and accuracy.      |
| <sup>2</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability) |   |
| Thermal effects (Offset and Span) / Permissible temperatures   |   |
| Thermal error  | ≤ ± 0.25 % FSO / 10 K      in compensated range -20 ... 85 °C   |
| Permissible temperatures   | medium: -40 ... 140 °C      electronics / environment: -25 ... 85 °C      storage: -40 ... 100 °C   |
| Electrical protection  |   |
| Short-circuit protection   | permanent   |
| Reverse polarity protection  | no damage, but also no function   |
| Electromagnetic compatibility  | emission and immunity according to EN 61326   |
| Mechanical stability   |   |
| Vibration  | 10 g RMS (20 ... 2000 Hz)   |
| Shock  | 100 g / 11 msec.  |
| Materials  |   |
| Pressure port  | stainless steel 1.4542 (17-4 PH)  |
| Housing  | standard: stainless steel 1.4404 (316L)<br>field housing: stainless steel 1.4404 (316L), cable gland: brass, nickel plated                                |
| Seals (media wetted)   | none (welded version)   |
| Diaphragm  | stainless steel 1.4542 (17-4 PH)  |
| Media wetted parts   | pressure port / diaphragm   |
| Explosion protection (with option IS-protection)   |   |
| Approval DX13-DMP 334  | zone 0: II 1 G Ex ia IIC T4<br>zone 20: II 1 D Ex tD A20 IP65 T 85°C  |
| Safety technical maximum values  | U <sub>i</sub> = 28 V, I <sub>i</sub> = 93 mA, P <sub>i</sub> = 660 mW, C <sub>i</sub> ≤ 1 nF, L <sub>i</sub> ≤ 10 μH                                     |
| Permissible temperatures for environment   | in zone 0: -20 ... 60 °C with p <sub>atm</sub> 0.8 bar up to 1.1 bar<br>in zone 1 or higher: -25 ... 70 °C  |
| Connecting cables (by factory)   | cable capacitance: signal line/shield also signal line/signal line: 160 pF/m<br>cable inductance: signal line/shield also signal line/signal line: 1 μH/m |
| Miscellaneous  |   |
| Current consumption  | signal output current: max. 25 mA<br>signal output voltage: max. 7 mA   |
| Weight   | approx. 200 g   |
| Installation position  | any   |
| CE-conformity  | EMC Directive: 2004/108/EC      Pressure Equipment Directive: 97/23/EC (module A)   |
| Wiring diagrams  |   |
| <p>2-wire-system (current)</p>   | <p>3-wire-system (current / voltage)</p>  |

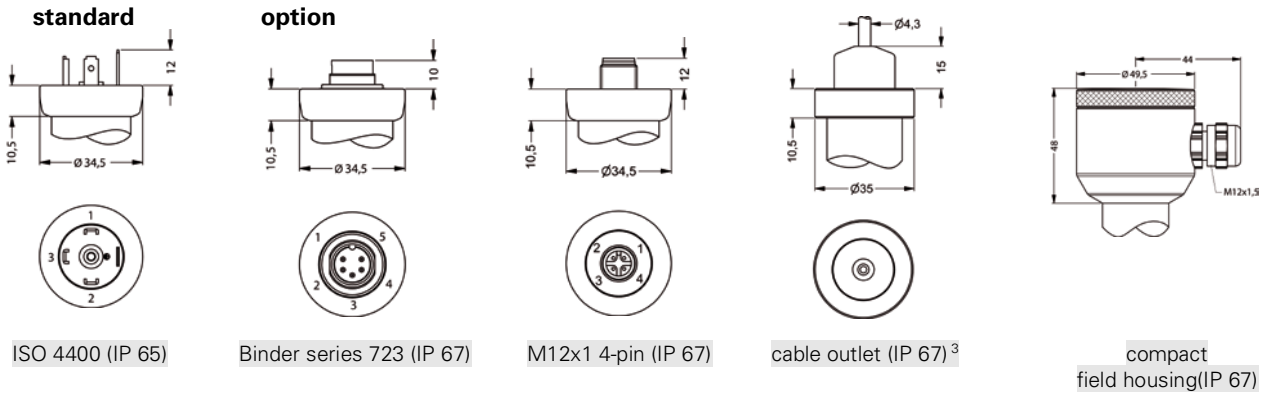
# DMP 334

Industrial Pressure Transmitter

Technical Data

| Pin configuration     |            |                    |               |               |                           |
|-----------------------|------------|--------------------|---------------|---------------|---------------------------|
| Electrical connection | ISO 4400   | Binder 723 (5-pin) | M12x1 (4-pin) | Field housing | Cable colours (DIN 47100) |
| Supply +              | 1          | 3                  | 1             | IN +          | white                     |
| Supply -              | 2          | 4                  | 2             | IN -          | brown                     |
| Signal + (for 3-wire) | 3          | 1                  | 3             | OUT+          | green                     |
| Shield                | ground pin | 5                  | 4             | ⏏             | yellow / green            |

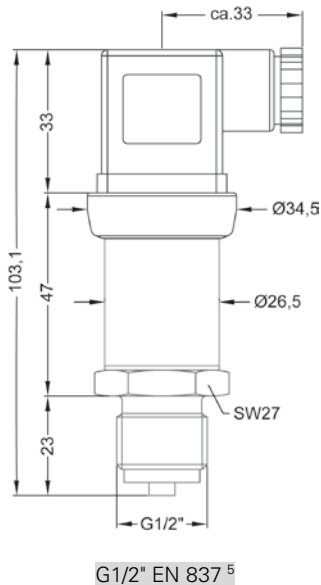
### Electrical connections (dimensions in mm)



<sup>3</sup> standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)

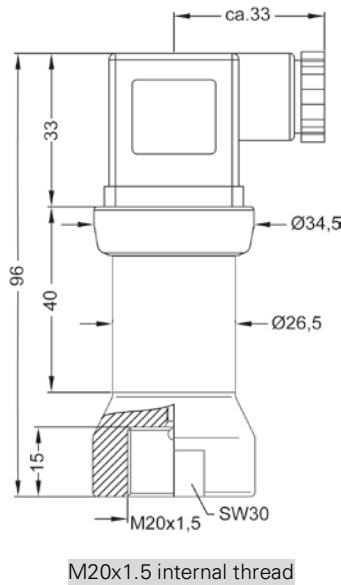
### Mechanical connection (dimensions in mm)

#### standard <sup>4</sup>

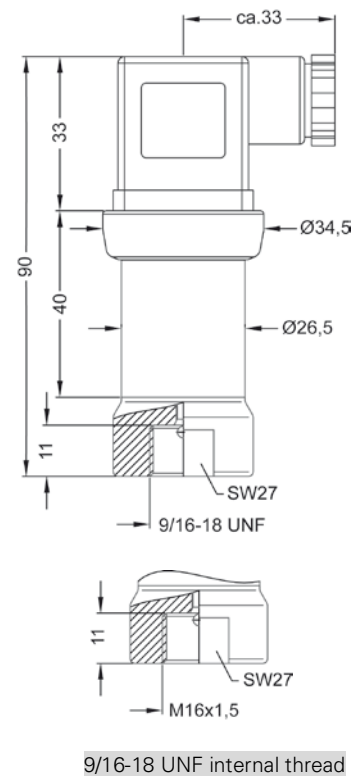


G1/2" EN 837 <sup>5</sup>

#### option <sup>4</sup>



M20x1.5 internal thread



9/16-18 UNF internal thread

⇒ IS-version: total length increases by 25 mm!

<sup>4</sup> adjustable version is not possible in combination with Is-version, compact field housing and cable outlet

<sup>5</sup> According to EN 837, the pressure port and the complement at pressure over 1000 bar must be preferably made of stainless steel with a tensile strength of  $R_p > 260 \text{ N/mm}^2$  in accordance with DIN 17440. The maximum allowed pressure is 1600 bar!

This data sheet contains product specification, properties are not guaranteed. Subject to change without notice.

# Ordering code DMP 334

## DMP 334



|                              |  |   |   |   |   |   |  |  |   |         |         |         |
|------------------------------|--|---|---|---|---|---|--|--|---|---------|---------|---------|
| <b>Pressure</b>              |  |   |   |   |   |   |  |  |   |         |         |         |
|                              | gauge                                      | 1 | 4 | 0 |   |   |  |  |   |         |         |         |
| <b>Input</b>                 |  |   |   |   |   |   |  |  |   |         |         |         |
|                              | [bar]                                      |   |   |   |   |   |  |  |   |         |         |         |
|                              | 600  | 1 | 6 | 0 | 0 | 3 |  |  |   |         |         |         |
|                              | 1000                                       |   | 1 | 0 | 0 | 4 |  |  |   |         |         |         |
|                              | 1600                                       |   | 1 | 6 | 0 | 4 |  |  |   |         |         |         |
|                              | 2000                                       |   | 2 | 0 | 0 | 4 |  |  |   |         |         |         |
|                              | 2200                                       |   | 2 | 2 | 0 | 4 |  |  |   |         |         |         |
|                              | customer                                   |   | 9 | 9 | 9 | 9 |  |  |   | consult |         |         |
| <b>Output</b>                |  |   |   |   |   |   |  |  |   |         |         |         |
|                              | 4 ... 20 mA / 2-wire                       |   |   |   |   |   |  |  | 1 |         |         |         |
|                              | 0 ... 10 V / 3-wire                        |   |   |   |   |   |  |  | 3 |         |         |         |
|                              | Intrinsic safety 4 ... 20 mA / 2-wire      |   |   |   |   |   |  |  | E |         |         |         |
|                              | customer                                   |   |   |   |   |   |  |  | 9 | consult |         |         |
| <b>Accuracy</b>              |  |   |   |   |   |   |  |  |   |         |         |         |
|                              | 0.35 %                                     |   |   |   |   |   |  |  | 3 |         |         |         |
|                              | customer                                   |   |   |   |   |   |  |  | 9 | consult |         |         |
| <b>Electrical connection</b> |  |   |   |   |   |   |  |  |   |         |         |         |
|                              | Male and female plug ISO 4400              |   |   |   |   |   |  |  | 1 | 0       | 0       |         |
|                              | Male plug Binder series 723 (5-pin)        |   |   |   |   |   |  |  | 2 | 0       | 0       |         |
|                              | Cable outlet with PVC cable <sup>2,3</sup> |   |   |   |   |   |  |  | T | A       | 0       |         |
|                              | Male plug M12x1 (4-pin) / metal            |   |   |   |   |   |  |  | M | 1       | 0       |         |
|                              | Compact field housing                      |   |   |   |   |   |  |  | 8 | 5       | 0       |         |
|                              | stainless steel 1.4404 (316L)              |   |   |   |   |   |  |  |   |         |         |         |
|                              | customer                                   |   |   |   |   |   |  |  | 9 | 9       | 9       |         |
| <b>Mechanical connection</b> |  |   |   |   |   |   |  |  |   |         |         |         |
|                              | G1/2" EN 837 <sup>4</sup>                  |   |   |   |   |   |  |  | 2 | 0       | 0       |         |
|                              | M20x1.5 internal thread                    |   |   |   |   |   |  |  | D | 2       | 8       |         |
|                              | 9/16 UNF internal thread                   |   |   |   |   |   |  |  | V | 0       | 0       |         |
|                              | customer                                   |   |   |   |   |   |  |  | 9 | 9       | 9       |         |
| <b>Seals</b>                 |  |   |   |   |   |   |  |  |   |         |         |         |
|                              | without (welded version)                   |   |   |   |   |   |  |  |   | 2       |         |         |
|                              | customer                                   |   |   |   |   |   |  |  |   | 9       | consult |         |
| <b>Special version</b>       |  |   |   |   |   |   |  |  |   |         |         |         |
|                              | standard                                   |   |   |   |   |   |  |  |   | 0       | 0       | 0       |
|                              | adjustable <sup>5</sup>                    |   |   |   |   |   |  |  |   | 0       | 4       | 1       |
|                              | customer                                   |   |   |   |   |   |  |  |   | 9       | 9       | 9       |
|                              |  |   |   |   |   |   |  |  |   |         |         | consult |

<sup>1</sup> only available with pressure port G1/2" EN 837

<sup>2</sup> different cable types and lengths deliverable

<sup>3</sup> standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C), optionally cable with ventilation tube

<sup>4</sup> According to EN 837, the pressure port and the complement, at pressure over 1000 bar must be preferably made of stainless steel with a tensile strength of  $R_p > 260 \text{ N/mm}^2$  in accordance with DIN 17440. The maximum allowed pressure is 1600 bar!

<sup>5</sup> not possible in combination with IS-version, compact field housing and cable outlet with PVC cable