



# DMP 334

## Industrial Pressure Transmitter for very high Pressure

- ▶ thinfilm sensor
- ▶ extremely robust and long term stable
- ▶ accuracy:  
0.175% / 0.125% FSO BFSL  
(0.35% / 0.25% FSO IEC 60770)
- ▶ nominal pressure ranges  
from 0 ... 600 bar  
up to 0 ... 2200 bar

The DMP 334 pressure transmitter is specially designed for use in hydraulic application up to 2200 bar. Permissible media are all with stainless steel 1.4542 compatible media.

Basic element of the DMP 334 is a thinfilm sensor which is welded onto a pressure port and features optimally the demand of safety operation and reliability.

These features of the DMP 334, combined with excellent measuring parameters and good offset stability, offers the user an easy-to-use, reliable and rugged pressure transmitter. The DMP 334 is available with all pressure ports commonly used for very high pressure systems. In addition, the customer can choose between different electrical connections. In addition it is possible to use the DMP 334 in explosive area (zone 0).

Use for hydraulic systems in:

- ▶ hydraulic presses
- ▶ injection moulding machines
- ▶ handling equipment and mobile hydraulics
- ▶ elevated platforms
- ▶ test stands

- ▶ small thermal effect
- ▶ excellent linearity
- ▶ good long term stability
- ▶ option Ex-version  
(only for 4 ... 20 mA / 2-wire)  
TÜV 03 ATEX 2006 X
- ▶ option: field housing
- ▶ customer specific versions:
  - variety of electrical and mechanical connections
  - other versions on request

Characteristics



**DMP 334**  
Industrial Pressure Transmitter

# DMP 334

## Industrial Pressure Transmitter

## Technical Data

### Input pressure range

Nominal pressure gauge [bar]	600 <sup>1</sup>	1000	1600	2000	2200
Permissible overpressure [bar]	800	1400	2200	2800	2800

### Output signal / Supply

Standard	2-wire: 4 ... 20 mA / $V_s = 12 \dots 36 V_{DC}$	Ex-protection: $V_s = 14 \dots 28 V_{DC}$
Optional	3-wire: 0 ... 20 mA / $V_s = 14 \dots 36 V_{DC}$ 0 ... 10 V / $V_s = 14 \dots 36 V_{DC}$	

### Performance

Accuracy	IEC 60770 <sup>2</sup>	BFSL
	standard: $\leq \pm 0.35\%$ FSO	standard: $\leq \pm 0.175\%$ FSO
	option: $\leq \pm 0.25\%$ FSO (on request)	option: $\leq \pm 0.125\%$ FSO (on request)
Permissible load	current 2-wire: $R_{max} = [(V_s - V_{smin}) / 0.02] \Omega$ current 3-wire: $R_{max} = 500 \Omega$ voltage 3-wire: $R_{min} = 10 k\Omega$	
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / $k\Omega$	
Long term stability	$\leq \pm 0.2\%$ FSO / year	
Response time	< 5 msec	

### Thermal effects

Thermal error for offset and span	$\leq \pm 0.25\%$ FSO / 10 K
in compensated range	-20 ... 85 °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
Option Ex-protection only with 4 ... 20 mA / 2-wire DX13-DMP 334	zone 0 <sup>3</sup> : II 1 G EEx ia IIC T4 zone 20: II 1 D T 85°C safety technical maximum values: $V_i = 28 V$ , $I_i = 93 mA$ , $P_i = 660 mW$ , $C_i \leq 1 nF$ , $L_i \leq 10 \mu H$

### Mechanical stability

Vibration	10 g RMS (20 ... 2000 Hz)
Shock	100 g / 11 msec

### Permissible temperatures

Medium	-40 ... 140 °C	
Electronics / environment	-25 ... 85 °C	Ex-protection: application in zone 0: -20 ... 60 °C application in zone 1 or higher: -25 ... 70 °C
Storage	-40 ... 100 °C	

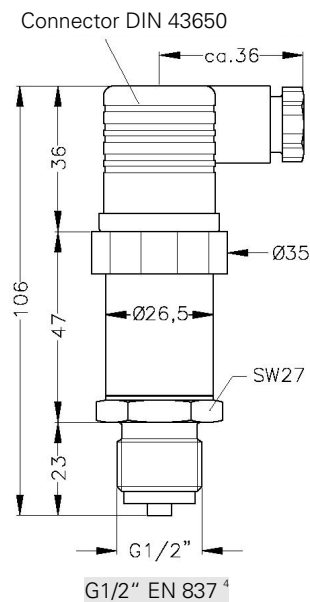
<sup>1</sup> only available with pressure port G1/2" EN 837

<sup>2</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

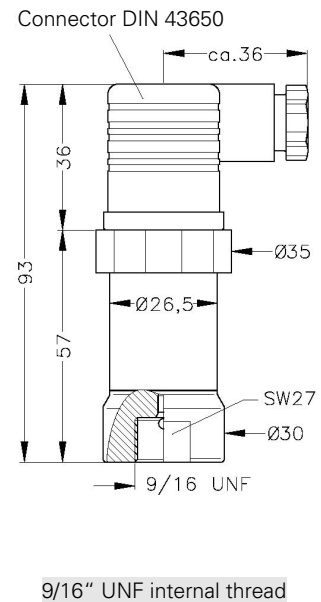
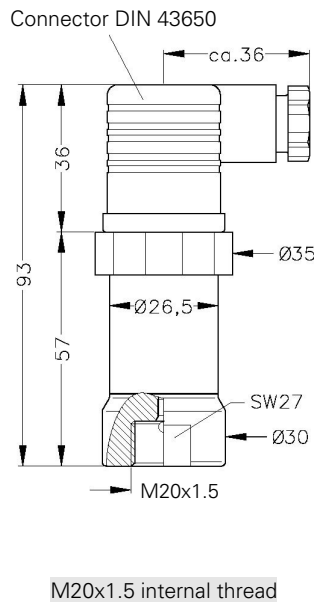
<sup>3</sup> approved for atmospheric pressure from 0.8 bar up to 1.1 bar

### Mechanical connection

#### Standard



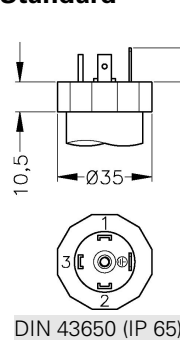
#### Optional



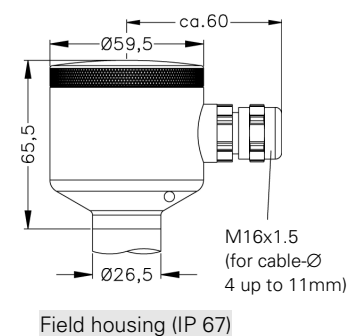
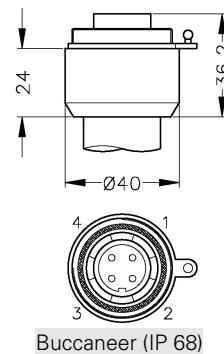
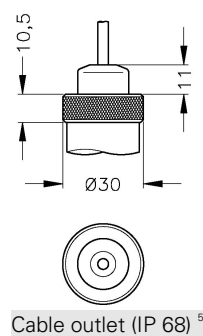
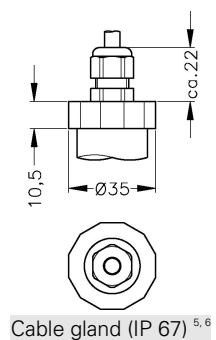
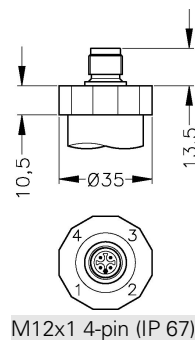
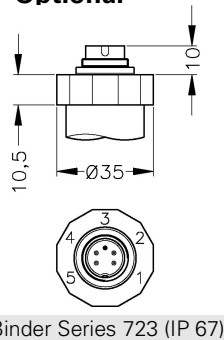
⇒ Total length of devices with Ex-protection increases by 17 mm!

### Electrical connection

#### Standard



#### Optional



<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> different cable types and lengths available

<sup>6</sup> standard: 2m PVC cable without ventilation tube

# DMP 334

Industrial Pressure Transmitter

Technical Data

## Materials

Pressure port	stainless steel 1.4542 (17-4PH)
Housing	standard: stainless steel 1.4301 (304) field housing: stainless steel 1.4305 (303), cable gland of brass, nickel plated
Seals (media wetted)	none (welded version)
Diaphragm	stainless steel 1.4542 (17-4PH)
Media wetted parts	pressure port, diaphragm

## Miscellaneous

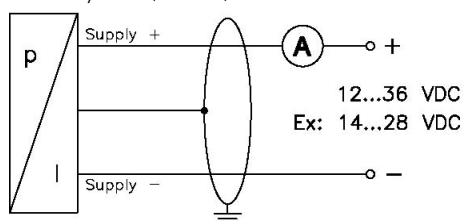
Cable capacitance <sup>7</sup>	signal line/shield: 160 pF/m	signal line/signal line: 120 pF/m
Cable inductance <sup>7</sup>	signal line/shield: 0.65 µH/m	signal line/signal line: 0.65 µH/m
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA	
Weight	approx. 200 g	
Installation position	any	

## Pin configuration

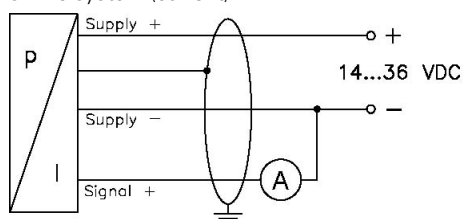
Electrical connection		DIN 43650	Binder 723 (5-pin)	M12x1 (4-pin)	Buccaneer (4-pin)	cable colours <sup>7</sup> (DIN 47100)
2-wire-system	Supply +	1	3	1	1	white
	Supply -	2	4	2	2	brown
	Ground	ground pin	5	4	4	yellow / green (shield)
3-wire-system	Supply +	1	3	1	1	white
	Supply -	2	4	2	2	brown
	Signal +	3	1	3	3	green
	Ground	ground pin	5	4	4	yellow / green (shield)

## Wiring diagrams

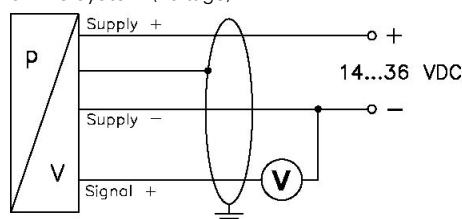
2-wire-system (current)



3-wire-system (current)



3-wire-system (voltage)



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

<sup>7</sup> if the electrical connection is a mounted cable by factory

**Ordering Code DMP 334**

**DMP 334**

[ ]	[ ]	[ ]	-	[ ]	[ ]	[ ]	-	[ ]	-	[ ]	-	[ ]	[ ]	[ ]	-	[ ]	[ ]	[ ]
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Pressure					
gauge	1	4	0		
Input [bar]					
600 <sup>1</sup>	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	
Output					
4 ... 20 mA / 2-wire				1	
0 ... 20 mA / 3-wire				2	
0 ... 10 V / 3-wire				3	
Intrinsic safety 4 ... 20 mA / 2-wire				E	
customer				9	
Accuracy					
standard 0,35 %				3	
option 0,25 %				2	
customer				9	
Electrical connection					
Male and female plug DIN 43650		1	0	0	
Binder series 723 (5-pin)		2	0	0	
Cable gland incl. Cable <sup>2, 3</sup>		4	0	0	
Cable outlet <sup>2</sup>		T	R	0	
Male plug Buccaneer IP68		5	0	0	
M12x1 (4-pin)		M	0	0	
Field housing stainless steel		8	0	0	
customer		9	9	9	
Mechanical connection					
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
Seals					
without (welded version)				2	
customer				9	
Special version					
standard					0 0 0
customer					9 9 9

<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, 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  $R_m > 260 \text{ N/mm}^2$  in accordance with DIN 17440. The maximum allowed pressure is 1600 bar!