

# DMP 334

## Industrial Pressure Transmitter for High Pressure

Thinfilmm Sensor

accuracy according to IEC 60770:  
0.35 % FSO



### Nominal pressure

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
- ▶ welded pressure sensor



### 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 thinfilmm sensor, which is welded with the pressure port and meets high demands of operational safety and reliability.

These 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 standard HP connections.

### Preferred areas of use are

-  Plant and machine engineering
-  Commercial vehicles and mobile hydraulics



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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
Burst pressure ≥	[bar]	3000	4000	6000	6000	6000
<sup>1</sup> only available with pressure port G 1/2" 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 ... 30 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 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 at reference conditions				
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) according to DIN EN 60068-2-6				
Shock		100 g / 11 msec. according to DIN EN 60068-2-27				
Materials						
Pressure port		stainless steel 1.4542 (17-4 PH)				
Housing		standard: stainless steel 1.4404 (316L) 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 (only for 4 ... 20 mA / 2-wire)						
Approvals DX19-DMP 334		IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da				
Safety technical maximum values		U <sub>i</sub> = 28 V <sub>DC</sub> , I <sub>i</sub> = 93 mA, P <sub>i</sub> = 660 mW, C <sub>i</sub> ≈ 0 nF, L <sub>i</sub> ≈ 0 μH, the supply connections have an inner capacity of max. 27 nF to the housing				
Permissible temperatures for environment		in zone 0: -20 ... 60 °C with p <sub>atm</sub> 0.8 bar up to 1.1 bar in zone 1 or higher: -20 ... 70 °C				
Connecting cables (by factory)		cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1 μH/m				
Miscellaneous						
Current consumption		signal output current: max. 25 mA signal output voltage: max. 8.5 mA				
Weight		approx. 240 g				
Installation position		any				
Operational life		p <sub>N</sub> = 600 bar: 100 million load cycles p <sub>N</sub> > 600 bar: 10 million load cycles				
CE-conformity		EMC Directive: 2014/30/EU Pressure Equipment Directive: 2014/68/EU (module A)				
ATEX Directive		2014/34/EU				
Wiring diagrams						
2-wire-system (current)			3-wire-system (current / voltage)			

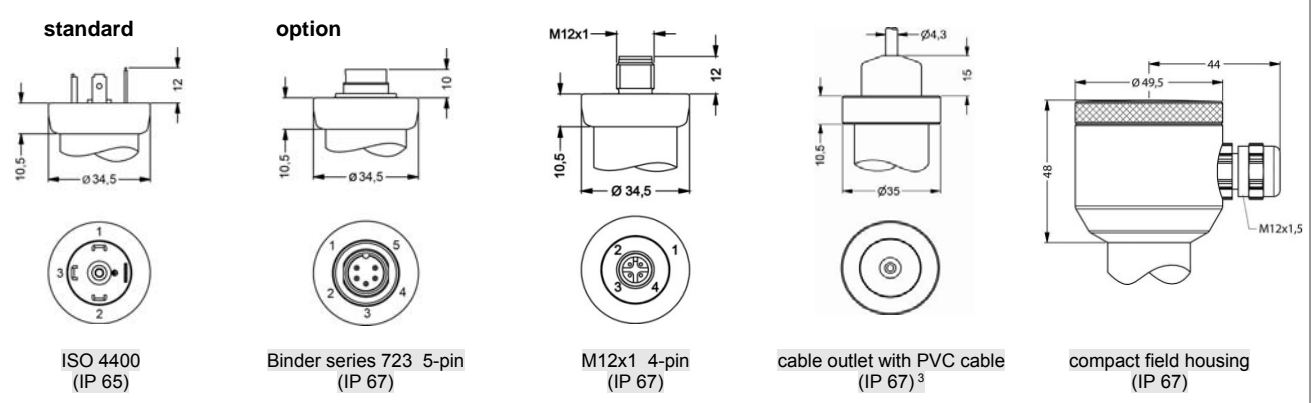
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Technical Data

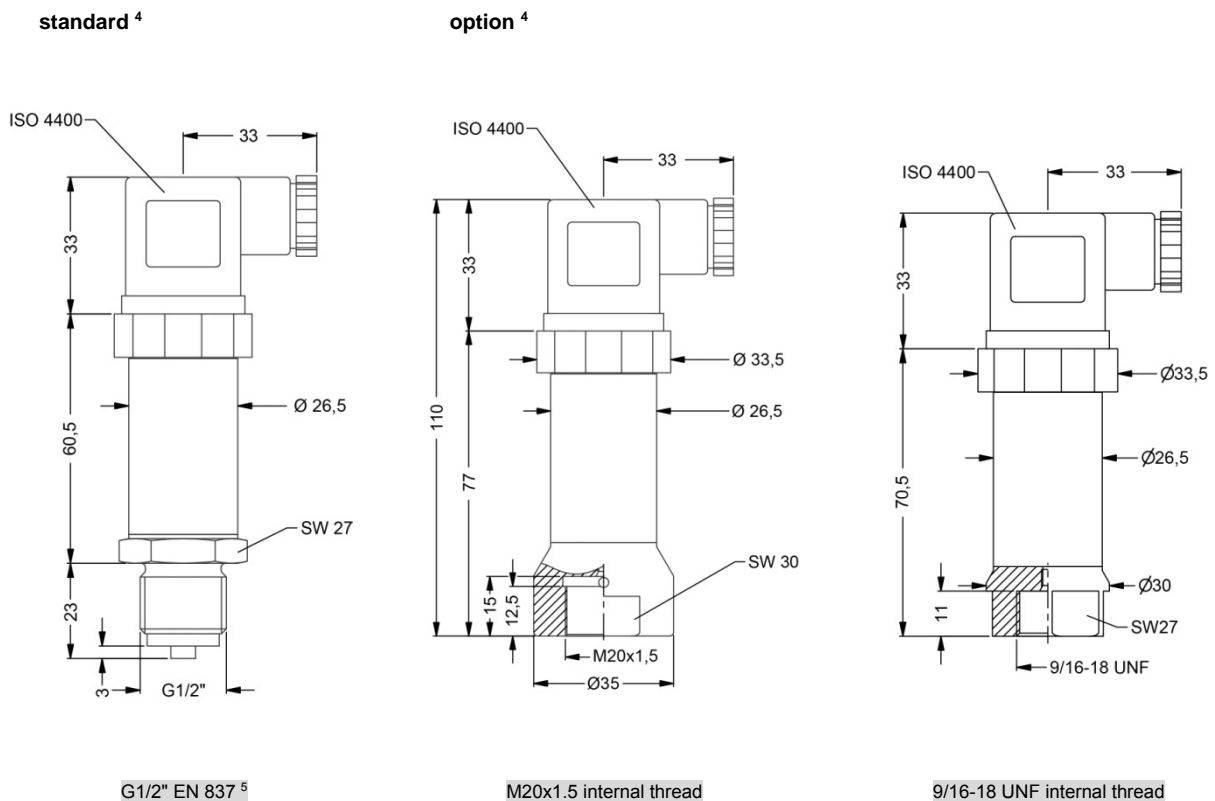
Pin configuration					
Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	field housing	cable colours (IEC 60757)
Supply +	1	3	1	IN +	wh (white)
Supply -	2	4	2	IN -	bn (brown)
Signal + (only for 3-wire)	3	1	3	OUT+	gn (green)
Shield	ground pin	5	4		gnye (green-yellow)

## 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)



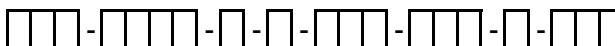
<sup>4</sup> adjustable version is not possible in combination with IS-version, compact field housing and cable outlet

<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!

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## Ordering code DMP 334

DMP 334



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					consult
Output										
	4 ... 20 mA / 2-wire					1				
	0 ... 10 V / 3-wire					3				
	Intrinsic safety 4 ... 20 mA / 2-wire					E				
	customer					9				consult
Accuracy										
	0.35 %					3				
	customer					9				consult
Electrical connection										
	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		consult
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		consult
Seals										
	without (welded version)					2				
	customer					9				consult
Special version										
	standard (adjustable) <sup>5</sup>						0	4	1	
	IS version, cable outlet, field housing						0	0	0	
	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