

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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Technical Data

Input pressure range						
Nominal pressure gauge	[bar]	600 ¹	1000	1600	2000	2200
Overpressure	[bar]	800	1400	2200	2800	2800
Burst pressure ≥	[bar]	3000	4000	6000	6000	6000
¹ only available with pressure port G1/2" EN 837						
Output signal / Supply						
Standard	2-wire:	4 ... 20 mA / V _S = 12 ... 36 V _{DC}				
Option IS-protection	2-wire:	4 ... 20 mA / V _S = 14 ... 28 V _{DC}				
Option 3-wire	3-wire:	0 ... 10 V / V _S = 14 ... 30 V _{DC}				
Performance						
Accuracy ²	≤ ± 0.35 % FSO					
Permissible load	current 2-wire:	R _{max} = [(V _S - V _S min) / 0.02 A] Ω				
	voltage 3-wire:	R _{min} = 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.					
² 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:	-40 ... 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	stainless steel 1.4404 (316L)					
Option compact field housing	stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 ... 8 mm)					
Seals	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 _i = 28 V _{DC} , I _i = 93 mA, P _i = 660 mW, C _i ≈ 0 nF, L _i ≈ 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 _{atm} 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 _N = 600 bar:	100 million load cycles			p _N > 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)			

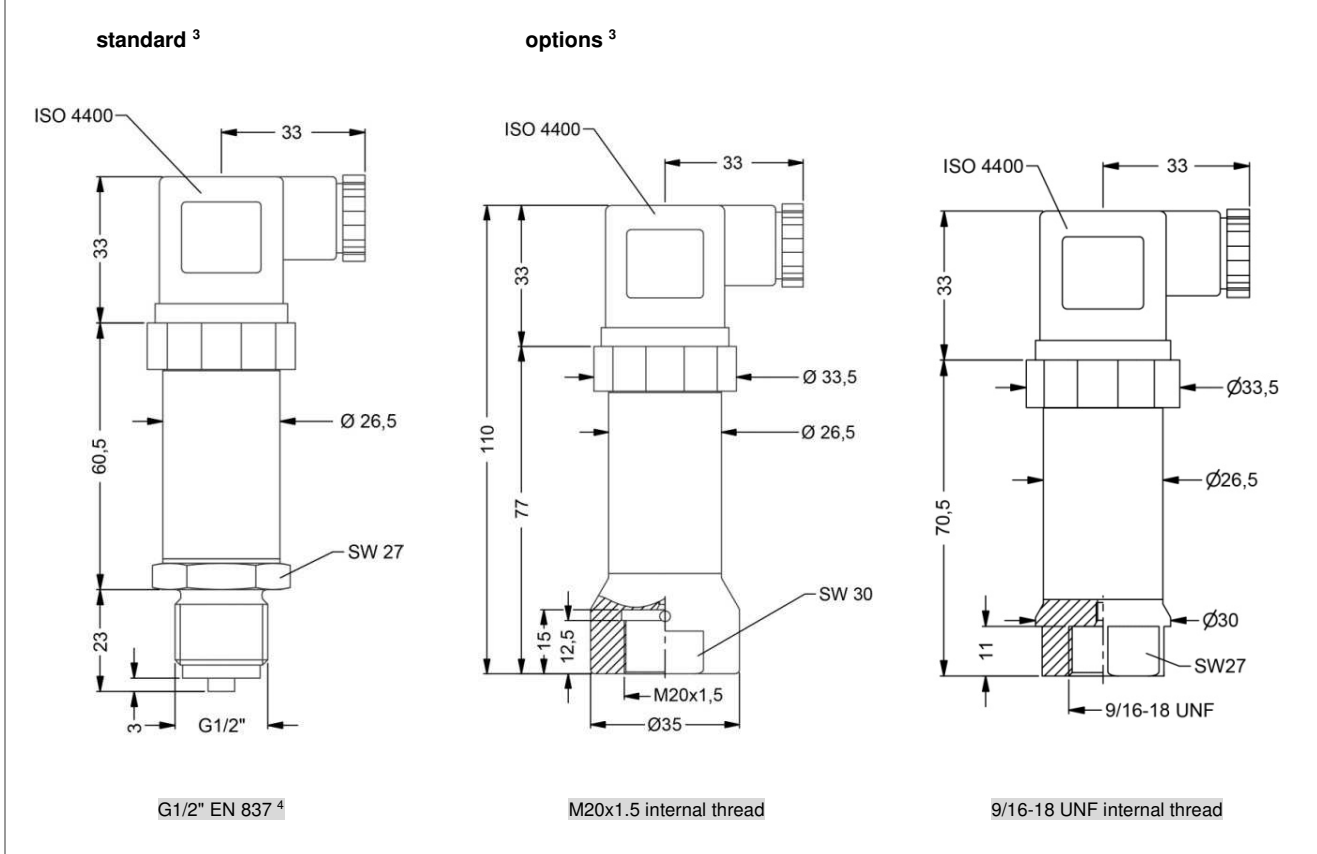
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Industrial Pressure Transmitter

Technical Data

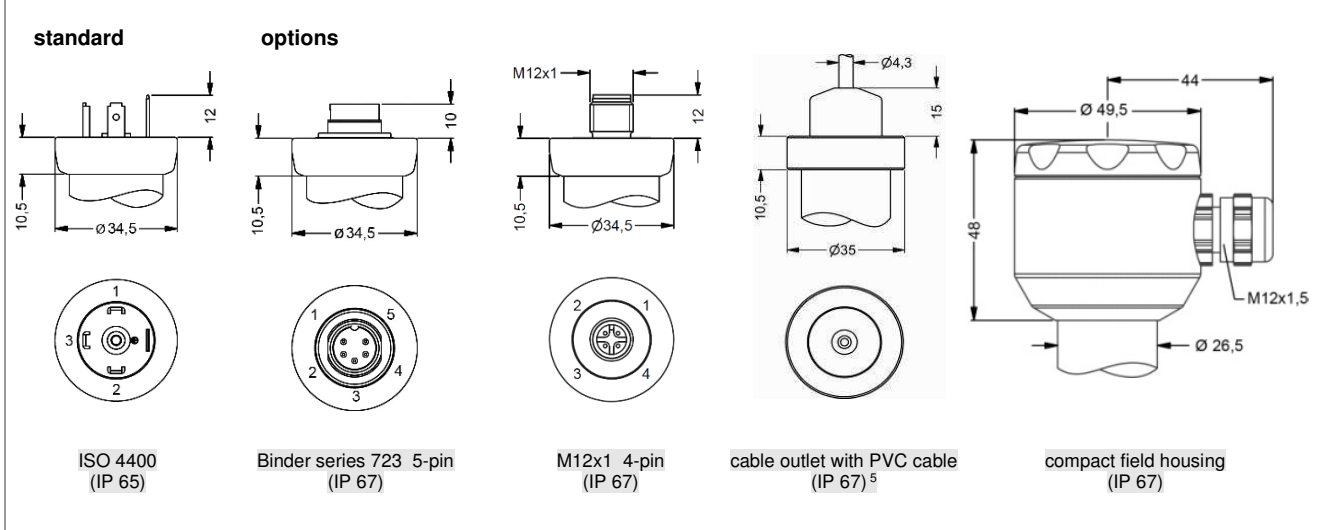
Pin configuration					
Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	compact field housing	cable colours (IEC 60757)
Supply +	1	3	1	IN +	WH (white)
Supply -	2	4	2	IN -	BN (brown)
Signal + (only for 3-wire)	3	1	3	OUT+	GN (green)
Shield	ground pin \oplus	5	4	\oplus	GNYE (green-yellow)

Mechanical connection (dimensions in mm) - drawings of standard version (adjustable), with plastic grip ring -



³ adjustable version is not possible in combination with IS-version, compact field housing and cable outlet
⁴ 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!

Electrical connections (dimensions in mm) - drawings of IS-version / cable outlet with stainless steel grip ring -



⁵ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)

Ordering code DMP 334

DMP 334

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Pressure		gauge	1	4	0															
Input		[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
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 % FSO					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 (IP67) ²					T	A	0												
	male plug M12x1 (4-pin) / metal					M	1	0												
	compact field housing					8	5	0												
	stainless steel 1.4301 (304)																			
	customer					9	9	9												consult
Mechanical connection																				
	G1/2" EN 837 ³						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) ⁴						0	4	1											
	IS version, cable outlet, field housing						0	0	0											
	customer						9	9	9											consult

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

² standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request

³ 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 N/mm² in accordance with DIN 17440. The maximum allowed pressure is 1600 bar!

⁴ not possible in combination with IS-version, compact field housing and cable outlet with PVC cable