

DMP 334

Industrial Pressure Transmitter for High Pressure

Thinfilm 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
- ▶ 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 accuracy and reliability.

All of the 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



Input pressure range						
Nominal pressure gauge	[bar]	600 ¹	1000	1600	2000	2200
Overpressure	[bar]	800	1400	2200	2800	2800
Burst pressure \geq	[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 / $V_S = 12 \dots 36 V_{DC}$				
Option IS-protection	2-wire:	4 ... 20 mA / $V_S = 14 \dots 28 V_{DC}$				
Option 3-wire	3-wire:	0 ... 10 V / $V_S = 14 \dots 30 V_{DC}$				
Performance						
Accuracy	$\leq \pm 0.35 \% \text{ FSO IEC 60770}^2$					
Permissible load	current 2-wire:	$R_{max} = [(V_S - V_S \text{ min}) / 0.02 \text{ A}] \Omega$				
	voltage 3-wire:	$R_{min} = 10 \text{ k}\Omega$				
Influence effects	supply:	0.05 % FSO / 10 V			load: 0.05 % FSO / k Ω	
Long term stability	$\leq \pm 0.2 \% \text{ FSO / year at reference conditions}$					
Response time	< 5 msec					
Adjustability	Adjustment of offset is possible within the range of $\pm 5 \%$ 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	$\leq \pm 0.25 \% \text{ FSO / 10 K}$		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)				
	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	$U_i = 28 V_{DC}$, $I_i = 93 \text{ mA}$, $P_i = 660 \text{ mW}$, $C_i \approx 0 \text{ nF}$, $L_i \approx 0 \mu\text{H}$, 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 $\mu\text{H}/\text{m}$				
Miscellaneous						
Current consumption	signal output current:	max. 25 mA				
	signal output voltage:	max. 8,5 mA				
Weight	approx. 240 g					
Installation position	any					
CE-conformity	EMC Directive: 2004/108/EC			Pressure Equipment Directive: 97/23/EC (module A)		
Wiring diagrams						
2-wire-system (current)			3-wire-system (current / voltage)			

Pin configuration					
Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 (4-pin)	Field housing	Cable colours (DIN 47100)
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	⏏	ye/gn (yellow / green)

Electrical connections (dimensions in mm)					
standard ISO 4400 (IP 65)	option Binder series 723 (IP 67)	 M12x1 4-pin (IP 67)	 cable outlet (IP 67) ³ with PVC cable	 compact field housing (IP 67)	

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

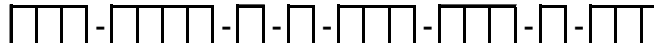
Mechanical connection (dimensions in mm)		
standard⁴ G1/2" EN 837 ⁵	option⁴ M20x1.5 internal thread	 9/16-18 UNF internal thread

⁴ adjustable version is not possible in combination with IS-version, compact field housing and cable outlet
⁵ 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	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 %								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								T	A	0									
	Male plug M12x1 (4-pin) / metal								M	1	0									
	Compact field housing								8	5	0									
	stainless steel 1.4404 (316L)								9	9	9									
	customer								9	9	9									consult
Mechanical connection																				
	G1/2" EN 837								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)																			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 different cable types and lengths deliverable

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

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!

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