

DMP 334i

Precision-Pressure Transmitter for High Pressure

Thinfilm Sensor

accuracy according to IEC 60770:
0.1 % 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

- ▶ welded pressure sensor
- ▶ Turn-Down 1:10
- ▶ excellent accuracy
- ▶ extremely robust and excellent long-term stability

Optional versions

- ▶ communication interface for adjusting offset, span and damping
- ▶ pressure port M20 x 1.5 or 9/16 UNF
- ▶ different kinds of electrical connections

The precision pressure transmitter DMP 334i is a consistent further development of the approved industrial pressure transmitter DMP 334. Basic element is a thinfilm sensor which is welded with the pressure port.

The integrated digital electronics compensates actively sensor specific deviations like non-linearity and thermal error.

It is therefore possible to offer a high pressure transmitter with excellent metrological qualities.

Preferred areas of use are



Plant and machine engineering

Test stand



Commercial vehicles and mobile hydraulics



DMP 334i

Precision Pressure Transmitter

Technical Data

Input pressure range	
Nominal pressure gauge [bar]	600 ¹ 1000 1600 2000 2200
Overpressure [bar]	800 1400 2200 2800 2800
¹ only available with pressure port G1/2" EN 837	
Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / $V_S = 12 \dots 36 V_{DC}$
Options	2-wire: 4 ... 20 mA with communication interface ² 3-wire: 0 ... 10 V / $V_S = 14 \dots 36 V_{DC}$ 0 ... 10 V with communication interface ²
² only possible with el. connection Binder series 723 (7-pin)	
Performance	
Accuracy	IEC 60770 ³ : $\leq \pm 0.1 \% \text{ FSO}$
performance after turn-down - TD $\leq 1:5$ - TD $> 1:5$	no change of accuracy for calculation use the following formula: $\leq \pm (0.1 + 0.015 \times \text{turn down}) \% \text{ FSO}$ with turn-down = nominal pressure range / adjusted range e.g. with a turn-down of 1:10 following accuracy is calculated: $\leq \pm (0.1 + 0.015 \times 10) \% \text{ FSO}$ i.e. accuracy is $\leq \pm 0.25 \% \text{ FSO}$
Permissible load	current 2-wire: $R_{\max} = [(V_S - V_{S_{\min}}) / 0.02 \text{ A}] \Omega$ 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	$\leq \pm (0.1 \times \text{turn-down}) \% \text{ FSO} / \text{year}$ at reference conditions
Response time	approx. 10 msec
Adjustability	configuration of following parameters possible (interface / software necessary ⁴): - electronic damping: 0 ... 100 sec - offset: 0 ... 90 % FSO - turn down of span: max. 1:10
³ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability) ⁴ software, interface, and cable have to be ordered separately (software appropriate for Windows® 95, 98, 2000, NT Version 4.0 or higher, and XP)	
Thermal effects (Offset and Span) / Permissible temperatures	
TC, average [% FSO / 10 K]	$< 0.25 \%$ 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	EMC-directive: 2004/108/EG 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
Miscellaneous	
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 300 g
Installation position	any
Operational life	$p_N = 600 \text{ bar}$: 100 million load cycles $p_N > 600 \text{ bar}$: 10 million load cycles
CE-conformity	EMC Directive: 2014/30/EU Pressure Equipment Directive: 2014/68/EU (module A)
Wiring diagrams	
<p>2-wire-system (current)</p>	<p>3-wire-system (current / voltage)</p>

Pin configuration						
Electrical connections	ISO 4400	Binder 723 (5-pin)	Binder 723 (7-pin)	M12x1/ metal (4-pin)	field housing	cable colours (IEC 60757)
Supply +	1	3	3	1	IN +	wh (white)
Supply -	2	4	1	2	IN -	bn (brown)
Signal + (only for 3-wire)	3	1	6	3	OUT +	gn (green)
shield	ground pin	5	2	4		gnye (green-yellow)
Communication interface ⁵	RxD	-	4	-	-	-
	TxD	-	5	-	-	-
	GND	-	7	-	-	-

⁵ may not be connected directly with the PC (the suitable adapter is available as accessory)

Electrical connections (dimensions in mm)

standard	option				
ISO 4400 (IP 65)	Binder Series 723 5-pin (IP 67)	Binder Series 723 7-pin (IP 67)	M12x1 4-pin (IP 67)	cable outlet with PVC cable (IP 67) ⁶	field housing (IP 67)

M12x1,5 (for cable-Ø 2 up to 8 mm)

⁶ standard: 2 m PVC cable (without ventilation tube, permissible temperature: -5 ... 70 °C)

Mechanical connection (dimensions in mm)

Standard ⁷	option ⁷	
G1/2" EN 837 ⁸	M20x1.5 internal thread	9/16-18 UNF internal thread

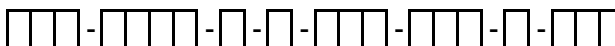
⁷ adjustable version is only possible in combination with Binder Series 723, 7 pin

⁸ 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 334i

DMP 334i



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	
	customer								9	consult
Accuracy										
	0.1 %								1	
	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)									
	Male and female plug					A	0	0		
	Binder series 723 (7-pin)					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								1	1
	RS-232 interface								1	2
	customer								9	9

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)

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 RS-232 interface only possible with el. connection Binder serie 723 (7pin)

Software, Interface and cable for DMP 334i with option RS-232 have to be order separately

(Ordering code: CIS Set 510; Software appropriate for Windows[®] 95, 98, 2000, NT Version 4.0 or newer and XP)

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