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
others on request

Special characteristics

- welded pressure sensor
- turn-down 1:10
- excellent accuracy
- robust and long-term stable

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 benches
- Commercial vehicles and mobile hydraulics

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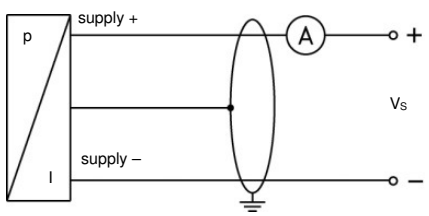
Input pressure range						
Nominal pressure gauge	[bar]	600 [1]	1000	1600	2000	2200
Overpressure	[bar]	800	1400	2200	2800	2800

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

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / V_S = 12 ... 36 V_{DC}
Option	2-wire: 4 ... 20 mA with communication interface [2]
[2] only possible with el. connection Binder series 723 (7-pin)	
Performance	
Accuracy performance after turn-down - TD ≤ 1:5 - TD > 1:5	IEC 60770 [3]: ≤ ± 0.1 % FSO no change of accuracy for calculation use the following formula: ≤ ± (0.1 + 0.015 x turn down) % FSO with turn-down = nominal pressure range / adjusted range e.g. with a turn-down of 1:10 following accuracy is calculated: ≤ ± (0.1 + 0.015 x 10) % FSO i.e. accuracy is ≤ ± 0.25 % FSO
Permissible load	R_{max} = [(V_S – $V_{S\ min}$) / 0.02 A] Ω
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ
Long term stability	≤ ± (0.1 x turn-down) % FSO / 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	< 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	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)
Diaphragm	stainless steel 1.4542 (17-4 PH)
Media wetted parts	pressure port, diaphragm
Miscellaneous	
Current consumption	max. 25 mA
Weight	approx. 300 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)

Wiring diagram

2-wire-system (current)



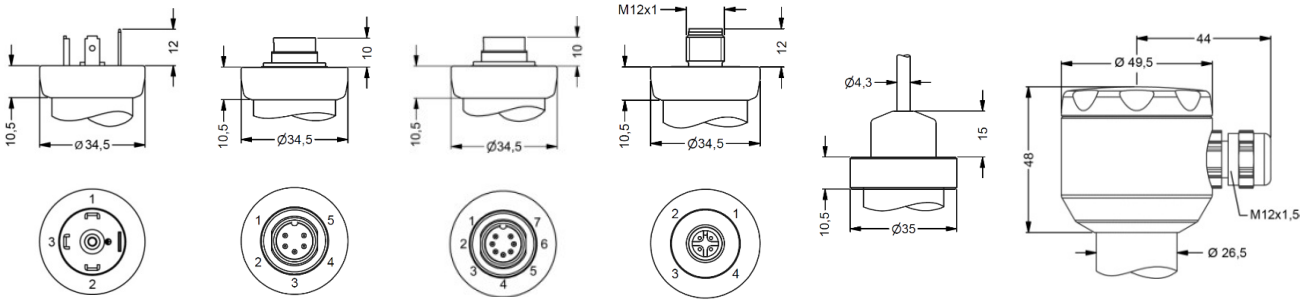
Pin configuration

Electrical connections		ISO 4400	Binder 723 (5-pin)	Binder 723 (7-pin)	M12x1/ metal (4-pin)	compact field housing	cable colours (IEC 60757)
	Supply +	1	3	3	1	IN +	WH (white)
	Supply –	2	4	1	2	IN –	BN (brown)
	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 **options**



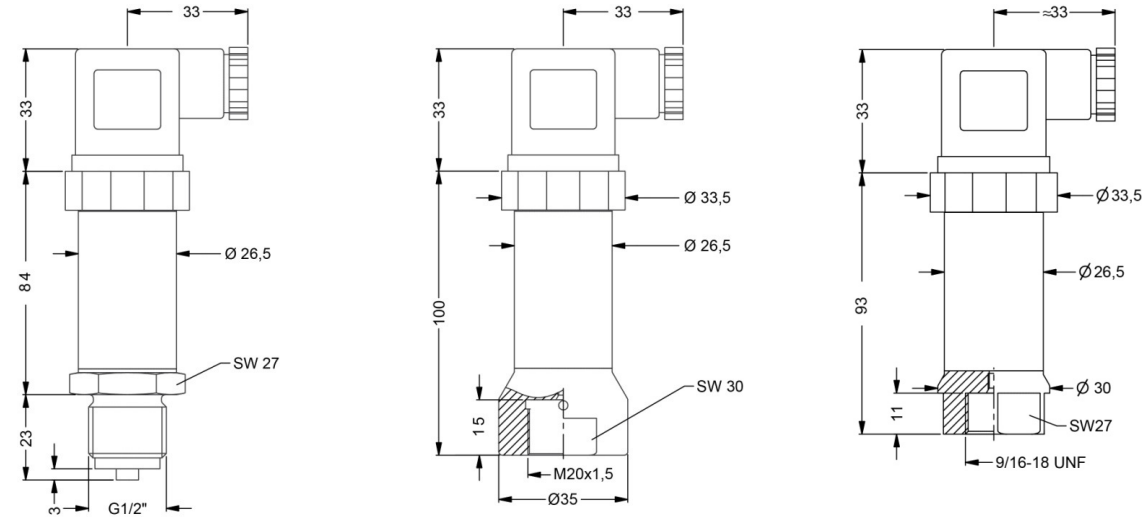
ISO 4400 (IP 65) | Binder Series 723 5-pin (IP 67) | Binder Series 723 7-pin (IP 67) | M12x1 4-pin (IP 67) | cable outlet with PVC cable (IP 67) [6] | compact field housing (IP 67)

⇨ **universal field housing in stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request**

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

Mechanical connection (dimensions in mm)

standard [7] **options [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 N/mm² in accordance with DIN 17440. The maximum allowed pressure is 1600 bar!

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BD|SENSORS pressure measurement

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	
customer	9	consult
Accuracy		
0.1 % FSO	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	
male plug Binder series 723 (7-pin) [2]	A 0 0	
cable outlet with PVC cable (IP67) [3]	T A 0	
male plug M12x1 (4-pin) / metal	M 1 0	
compact field housing stainless steel 1.4301 (304)	8 5 0	
customer	9 9 9	consult
Mechanical connection		
G1/2" EN 837 [4]	2 0 0	
M20x1.5 internal thread	D 2 8	
9/16 UNF internal thread	V 0 0	
customer	9 9 9	consult
Seal		
without (welded version)	2	
customer	9	consult
Special version		
standard	1 1 1	
RS-232 interface [5]	1 2 1	
customer	9 9 9	consult

[1] only available with pressure port G1/2" EN 837
[2] cable socket is included in delivery
[3] standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 … 70 °C), others on request
[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 N/mm² 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)

Windows® is a registrated trademark of Microsoft Corporation

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