

DMP 334i



Precision-Pressure Transmitter for High Pressure

Thinfilm Sensor

accuracy according to IEC 60770:
0.2 % 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 M20x1.5 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



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 ... 36 V _{DC}					
Option	2-wire: 4 ... 20 mA with communication interface ²					
² only possible with electrical connection Binder series 723 (7-pin)						
Performance						
Accuracy performance after turn-down	IEC 60770 ³ : ≤ ± 0.2 % FSO no change of accuracy for calculation use the following formula: ≤ ± (0.2 + 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: ≤ ± (0.2 + 0.015 x 10) % FSO i.e. accuracy is ≤ ± 0.35 % FSO					
- TD ≤ 1:5						
- TD > 1:5						
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 (option) ⁴	configuration of following parameters possible (interface / software necessary): - 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 adjustable version is only possible in combination with Binder Series 723, 7-pin; 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)						
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)					

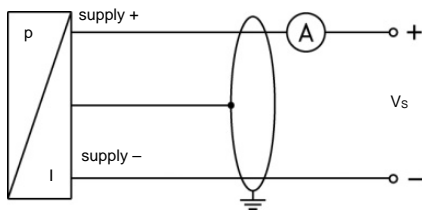
DMP 334i

Precision Pressure Transmitter

Technical Data

Wiring diagram

2-wire-system (current)

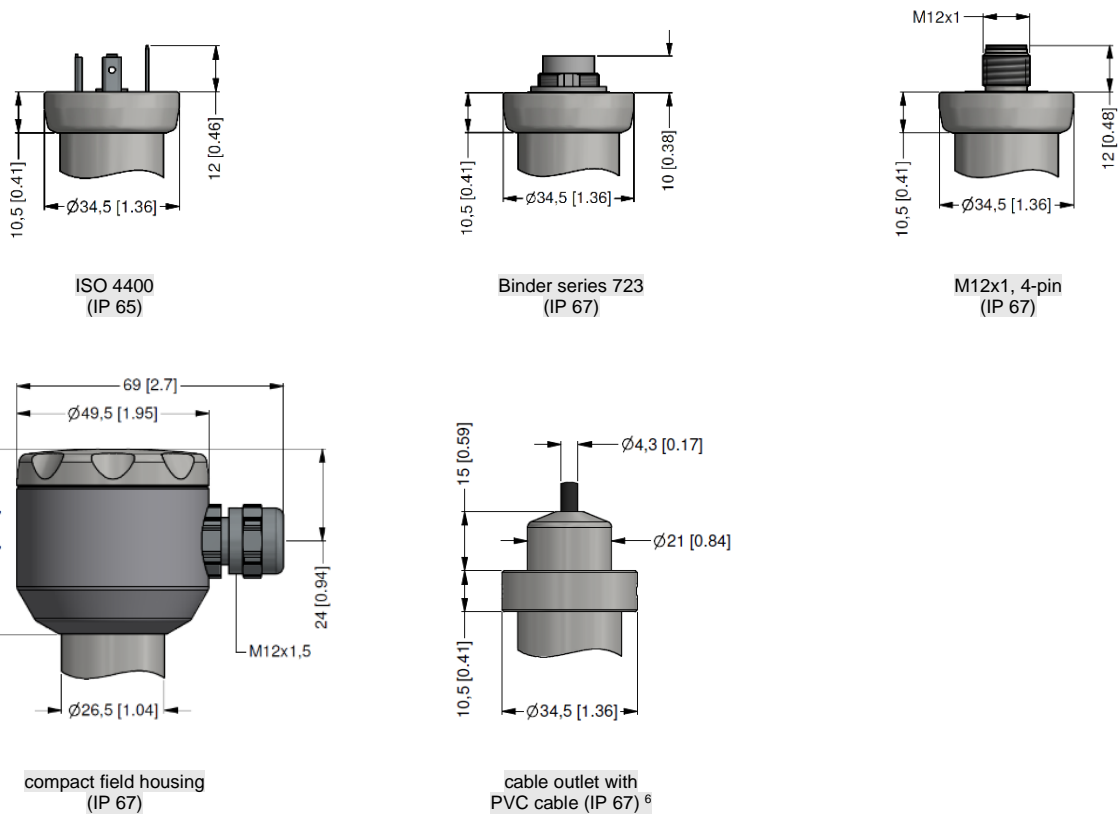


Pin configuration

Electrical connections	ISO 4400	Binder 723 (5-pin)	Binder 723/423 (7-pin)	M12x1 / metal (4-pin)	compact field housing	cable colour (IEC 60757)
Supply +	1	3	3	1	V _{S+}	WH (white)
Supply -	2	4	1	2	V _{S-}	BN (brown)
Shield	ground pin	5	2	4	GND	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)

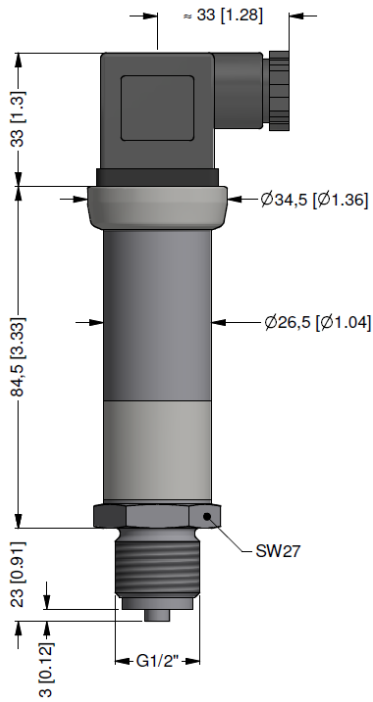
Electrical connections (dimensions mm / in)



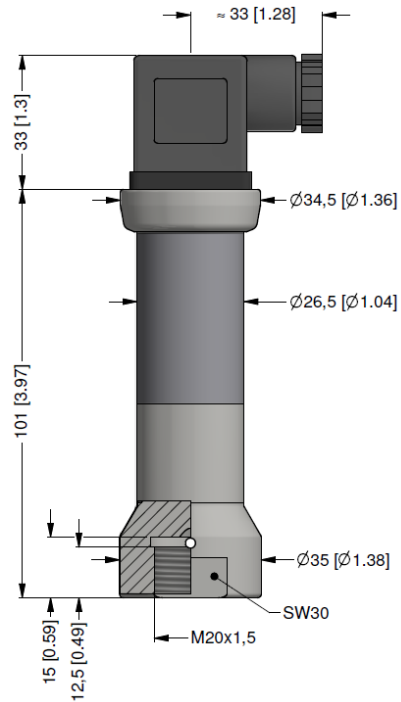
⇒ universal field housing in stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request

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

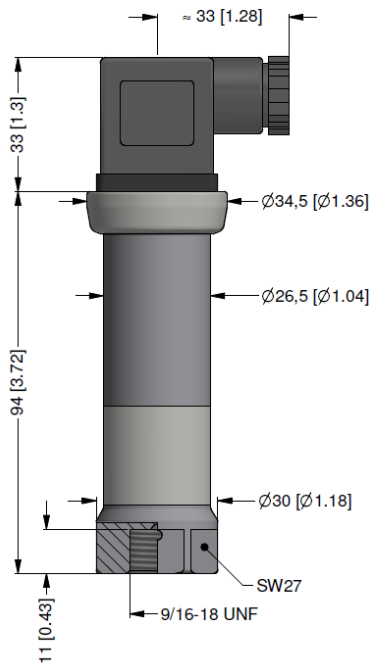
Mechanical connection (dimensions mm / in)



G1/2" EN 837⁷



M20x1.5 internal thread



9/16-18 UNF internal thread

⁷ 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									
	customer									9									consult
Accuracy	0.2 % FSO									B									
	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)									A	0	0							
	and female plug Binder series 423 (7-pin)																		
	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
Seal	without (welded version)									2									
	customer									9									consult
Special version	standard										1	1	1						
	RS232 interface ⁴										1	2	1						
	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 $R_p > 260 \text{ N/mm}^2$ in accordance with DIN 17440. The maximum allowed pressure is 1600 bar!

⁴ RS232 interface only possible with electrical connection Binder serie 723/423 (7-pin)

software, interface and cable for DMP 334i with option RS232 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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