

# 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

- ▶ pressure sensor welded
- ▶ 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 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

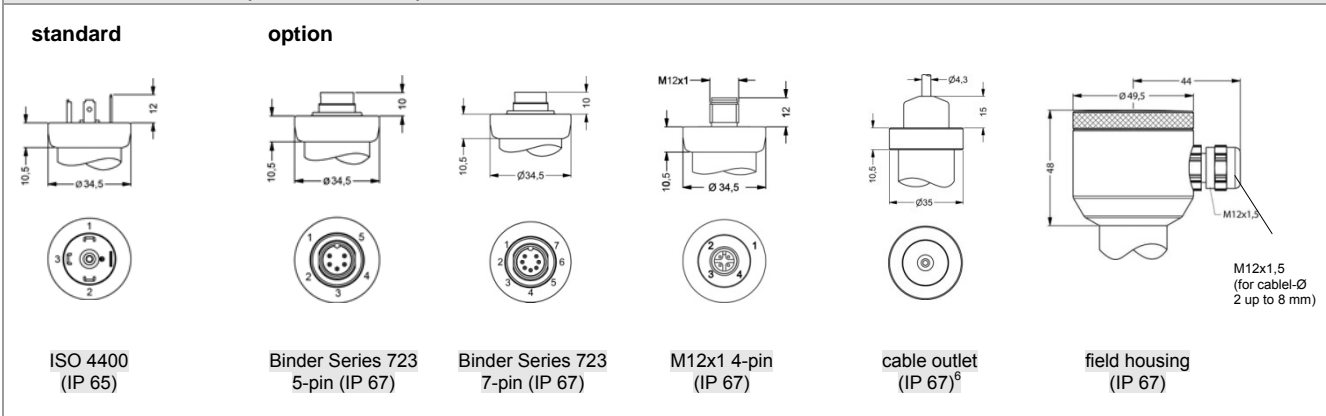


Input pressure range	
Nominal pressure gauge [bar]	600 <sup>1</sup> 1000      1600      2000      2200
Overpressure [bar]	800      1400      2200      2800      2800
<sup>1</sup> only available with pressure port G1/2" EN 837	
Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / V <sub>S</sub> = 12 ... 36 V <sub>DC</sub>
Options	2-wire: 4 ... 20 mA with communication interface <sup>2</sup> 3-wire: 0 ... 10 V / V <sub>S</sub> = 14 ... 36 V <sub>DC</sub> 0 ... 10 V with communication interface <sup>2</sup>
<sup>2</sup> only possible with el. connection Binder series 723 (7-pin)	
Performance	
Accuracy performance after turn-down - TD ≤ 1:5 - TD > 1:5	IEC 60770 <sup>3</sup> : ≤ ± 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	current 2-wire: R <sub>max</sub> = [(V <sub>S</sub> - V <sub>S,min</sub> ) / 0.02 A] Ω      voltage 3-wire: R <sub>min</sub> = 10 kΩ
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 <sup>4</sup> ): - electronic damping: 0 ... 100 sec - offset: 0 ... 90 % FSO - turn down of span: max. 1:10
<sup>3</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability) <sup>4</sup> 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 ... 80 °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)
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
Miscellaneous	
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 300 g
Installation position	any
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		ISO 4400	Binder 723 (5-pin)	Binder 723 (7-pin)	M12x1/ metal (4-pin)	field housing	cable colours (IEC 60757)
Electrical connections	Supply +	1	3	3	3	IN +	wh (white)
	Supply -	2	4	1	1	IN -	bn (brown)
	Signal + (only for 3-wire)	3	1	6	-	OUT +	gn (green)
	shield	ground pin	5	2	4		gnye (green-yellow)
Communication interface <sup>5</sup>	RxD	-	-	4	-	-	-
	TxD	-	-	5	-	-	-
	GND	-	-	7	-	-	-

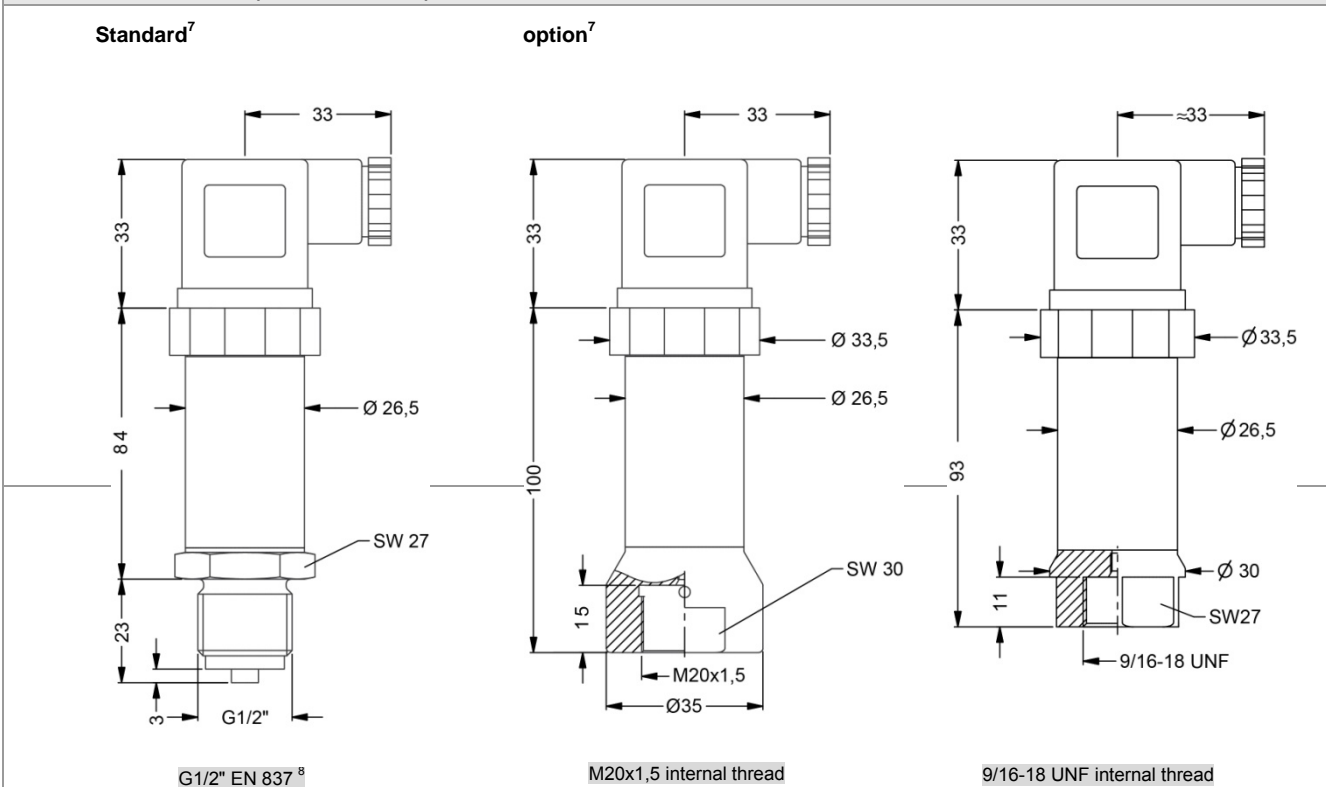
<sup>5</sup> may not be connected directly with the PC (the suitable adapter is available as accessory)

**Electrical connections (dimensions in mm)**



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

**Mechanical connection (dimensions in mm)**



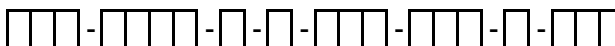
<sup>7</sup> adjustable version is only possible in combination with Binder Series 723, 7 pin

<sup>8</sup> 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



<b>Pressure</b>									
gauge	1	4	0						
<b>Input</b>									
[bar]									
600 <sup>1</sup>	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
<b>Output</b>									
4 ... 20 mA / 2-wire									1
0 ... 10 V / 3-wire									3
customer									9
<b>Accuracy</b>									
0.1 %									1
customer									9
<b>Electrical connection</b>									
Male and female plug ISO 4400									1 0 0
Male plug Binder series 723 (5-pin)									2 0 0
Cable outlet with PVC cable <sup>2,3</sup>									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
<b>Mechanical connection</b>									
G1/2" EN 837 <sup>4</sup>									2 0 0
M20x1.5 internal thread									D 2 8
9/16 UNF internal thread									V 0 0
customer									9 9 9
<b>Seals</b>									
without (welded version)									2
customer									9
<b>Special version</b>									
standard									1 1 1
RS-232 interface <sup>5</sup>									1 2 1
customer									9 9 9

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

<sup>2</sup> different cable types and lengths deliverable

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

<sup>4</sup> 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!

<sup>5</sup> 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<sup>®</sup> 95, 98, 2000, NT Version 4.0 or newer and XP)

Windows<sup>®</sup> is a registered trademark of Microsoft Corporation