DMP 333P

Industrial Pressure Transmitter

Pressure Ports with Flush Welded Stainless Steel Diaphragm

accuracy according to IEC 60770:
standard: 0.35 % span
option: 0.25% span

Nominal pressure

from 0 ... 60 bar up to 0 ... 600 bar

Output signals

2-wire: 4 ... 20 mA
3-wire: 0 ... 10 V
others on request

Special characteristics

- suited for viscous and pasty media

Optional versions

- IS-version
  Ex ia = intrinsically safe for
  gases and dusts (in preparation)
- gold-plated process connection for hydrogen applications
- customer specific versions

The The pressure transmitter DMP 333P is suitable for measuring the pressure of viscous, pasty or gaseous media and for applications that require a front-flush, dead space-free process connection. Especially for hydrogen applications there is the possibility to use the process connection with gold plating. A wide range of electrical connection variants are available to enable the DMP 333P to be integrated easily and quickly in the various system configurations.

Preferred areas of use are

- Plant and machine engineering
- Hydrogen

Preferred used for

- Viscous and pasty media

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Input pressure range							
Nominal pressure gauge [1]	[bar]	60	100	-	-	-	-
Nominal pressure absolute	[bar]	60	100	160	250	400	600
Overpressure	[bar]	210	210	600	1000	1000	1000
Burst pressure ≥	[bar]	1000	1000	1000	1250	1250	1800
[1] measurement starts with ambient pressure							

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / V_S = 8 ... 32 V_{DC}
Option IS-protection	2-wire: 4 ... 20 mA / V_S = 10 ... 28 V_{DC} (in preparation)
Options 3-wire	3-wire: 0 ... 10 V / V_S = 14 ... 30 V_{DC}
Performance	
Accuracy [2]	standard: ≤ ± 0.35 % span option: ≤ ± 0.25 % span
Permissible load	current 2-wire: $R_{max} = [(U_B - U_{B\,min}) / 0.02\ A]\ \Omega$ voltage 3-wire: $R_{min} = 10\ k\Omega$
Influence effects	supply: 0.05 % span / 10 V load: 0.05 % span / kΩ
Long term stability	≤ ± 0.1 % span / year at reference conditions
Response time	2-wire: ≤ 10 msec 3-wire: ≤ 3 msec
[2] accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)	
Thermal effects (Offset and Span) / Permissible temperatures	
Tolerance band	≤ ± 0.75 % span
In compensated range	-20 ... 80 °C
Permissible temperatures	medium: -40 ... 125 °C electronics / environment: -40 ... 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 according to DIN EN 60068-2-6	20 g RMS (25 ... 2000 Hz)
Shock according to DIN EN 60068-2-27	500 g / 1 msec
Filling fluids	
Standard	silicone oil others on request
Materials	
Housing	stainless steel 1.4404 (316 L)
Option compact field housing	stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 … 8 mm)
Pressure port	standard: stainless steel 1.4404 (316 L) option: stainless steel 1.4404 (316 L), golden others on request
Diaphragm	standard: stainless steel 1.4435 (316 L) option: stainless steel 1.4435 (316 L), golden others on request
Seals	FKM others on request
Media wetted parts	pressure port, seal, diaphragm

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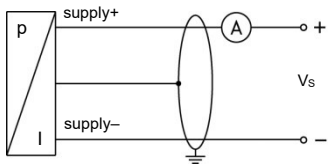
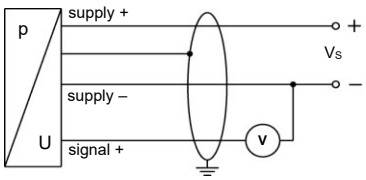
Explosion protection (only for 4 … 20 mA / 2-wire) in preparation	
Approvals DX19-DMP 333P	IBExU 10 ATEX xxxx X zone 0: II 1G Ex ia IIC T4 Ga; zone 20: II 1D Ex ia IIIC T 135°C Da
Safety technical maximum values	U_i = 28 V, I_i = 93 mA, P_i = 660 mW, $C_i \approx 0$ nF, $L_i \approx 0$ µH, the supply 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 up to bis 1.1 bar in zone 1: -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: 1µH/m
Miscellaneous	
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	min. 200 g (depending on process connection)
Installation position	any (standard calibration in a vertical position with the pressure port connection down)
Operational life	100 million load cycles
CE-conformity	EMC Directive: 2014/30/EU
ATEX Directive	2014/34/EU

Wiring diagrams

2-wire-system (current)



3-wire-system (voltage)

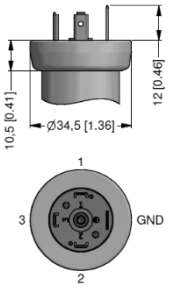


Pin configuration

Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	compact field housing	cable colours (IEC 60757)
Supply +	1	3	1	IN +	WH (white)
Supply –	2	4	2	IN –	BN (brown)
Signal + (only 3-wire)	3	1	3	OUT +	GN (green)
Shield	ground pin ⏚	5	4	⏚	GNYE (green-yellow)

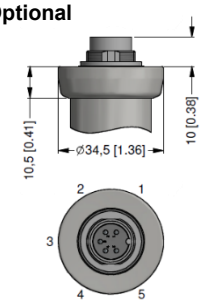
Electrical connections (dimensions mm / in)

Standard

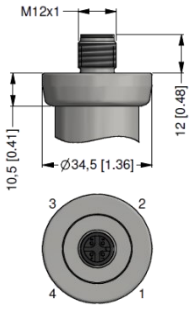


ISO 4400
(IP 65)

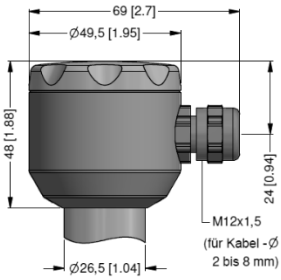
Optional



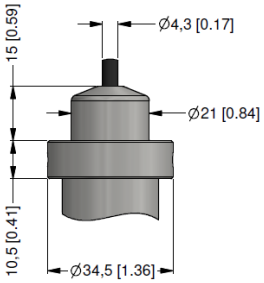
Binder series 723, 5-pin
(IP 67)



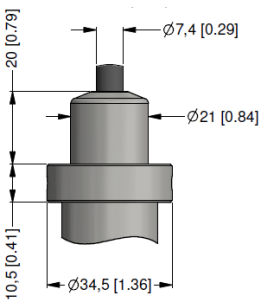
M12x1, 4-pin
(IP 67)



compact field housing
(IP 67)



cable outlet
with PVC cable (IP 67) [3]

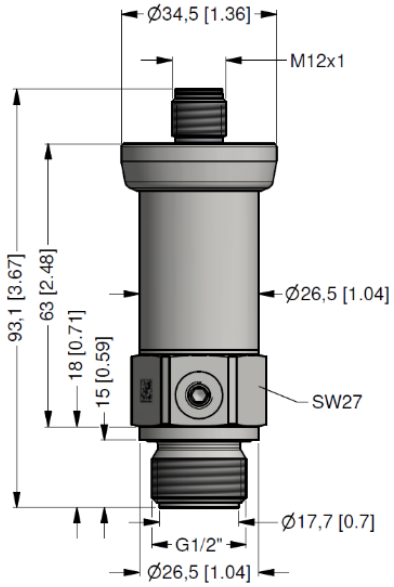


cable outlet, cable with
ventilation tube (IP 68) [4]

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

[3] standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 … 70°C)
[4] different cable types and lengths available, permissible temperature depends on kind of cable

Mechanical connection (dimension mm / in)



G1/2" flush DIN 3852

⇨ **metric threads and other versions on request**

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Ordering code DMP 333P

23.08.2024

DMP 333P | | | | - | | | | | - | | - | | - | | | | - | | | | - | | - | | - | | | |

Pressure																													
Gauge[1]	5	4	C																										
Absolute	5	4	D																										
Input [bar]																													
0 … 60				6	0	0	2																						
0 … 100				1	0	0	3																						
0 … 160				1	6	0	3																						
0 … 250				2	5	0	3																						
0 … 400				4	0	0	3																						
0 … 600				6	0	0	3																						
Customer				9	9	9	9																						
Output																													
4…20 mA / 2-wire								1																					
0 … 10 V / 3-wire								3																					
Intrinsic safety Ex ia 4…20 mA / 2-wire								E																					
Customer								9																					
Accuracy																													
0,35 %									3																				
0,25 %									2																				
Customer									9																				
Electrical connection																													
Connector DIN 43650 (ISO 4400) (IP 65)										1	0	0																	
Connector Binder 723 5-pin (IP 67)										2	0	0																	
Cable outlet with PVC-cable (IP67)[2]										T	A	0																	
+ PVC cable / 1 m																													
Connector M12 x 1, 4-pin (IP 67) - metal										M	1	0																	
Compact field housing - stainless steel 1.4301 (304)										8	5	0																	
Customer										9	9	9																	
Mechanical connection																													
G 1/2" DIN 3852 flush													Z	0	0														
Customer													9	9	9														
Diaphragm																													
Stainless steel 1.4435 (316 L)																					1								
Stainless steel 1.4435 (316L), gold-plated																					G								
Customer																					9								
Seals																													
Viton (FKM)																						1							
Customer																						9							
Filling Fluids																													
Silicone oil																							1						
Customer																							9						
Special version																													
Standard																										0	0	0	
Customer																										9	9	9	

0,-…without additional charge
On request...in accordance with the producer

!!!! When you make an order it is necessary to fill the questionnaire for transmitter with separators!!!
Surcharges for calibration are not subject to any discounts. Subject to change.
This document contains the specification for ordering the product; detailed technical parameters of the product and its possible variants are given in the data sheet.
BD SENSORS reserves the right to change sensor specifications without further notice.

1 measurement starts with ambient pressure

2 code TR0 = PVC cable, cable with ventilation tube available in different types and lengths; cable not included in the price