



DMP 333P

Industrial Pressure Transmitter

Pressure Ports with Flush Welded
Stainless Steel Diaphragm

accuracy according to IEC 61298-2:
standard: 0.35 % FSO
option: 0.25% FSO

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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Technical Data

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 % FSO option: ≤ ± 0.25 % FSO						
Permissible load	current 2-wire: R _{max} = [(U _B – U _{B.min}) / 0.02 A] Ω voltage 3-wire: R _{min} = 10 kΩ						
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ						
Long term stability	≤ ± 0.1 % FSO / year at reference conditions						
Response time	2-wire: ≤ 10 msec 3-wire: ≤ 3 msec						
² accuracy according to IEC 61298-2 – limit point adjustment (non-linearity, hysteresis, repeatability)							
Thermal effects (Offset and Span) / Permissible temperatures							
Tolerance band	≤ ± 0.75 % FSO						
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 / 10 ... 2000 Hz						
Shock according to DIN EN 60068-2-27	500 g / 1 msec half sine						
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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Technical Data

Explosion protection (only for 4 ... 20 mA / 2-wire) in preparation

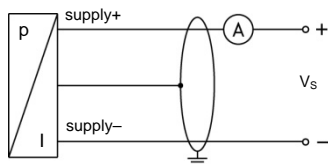
Approvals DX19-DMP 333P	IBExU 10 ATEX xxxx X zone 0: II 1G Ex ia IIC T4 Ga; zone 20: II 1D Ex ia IIIC T 135°C Da
Safety technical maximum values	$U_i = 28 \text{ V}$, $I_i = 93 \text{ mA}$, $P_i = 660 \text{ mW}$, $C_i \approx 0 \text{ nF}$, $L_i \approx 0 \text{ }\mu\text{H}$, the supply connections 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: 1 $\mu\text{H}/\text{m}$

Miscellaneous

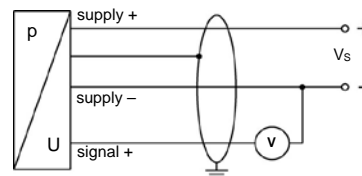
Current consumption	signal output current: max. 25 mA	signal output voltage: max. 7 mA
Weight	min. 200 g (depending on process connection)	
Installation position	any (standard calibration in a vertical position with the pressure port connection down)	
Operational life	100 million load cycles	
CE-conformity	EMC Directive: 2014/30/EU	
ATEX Directive	2014/34/EU	

Wiring diagrams

2-wire-system (current)



3-wire-system (voltage)

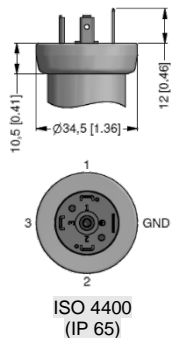


Pin configuration

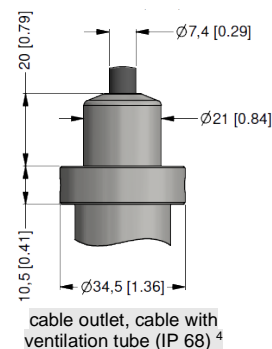
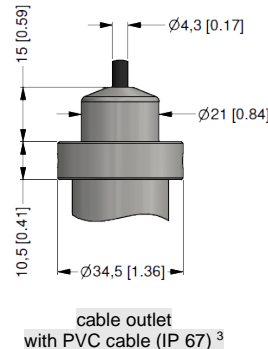
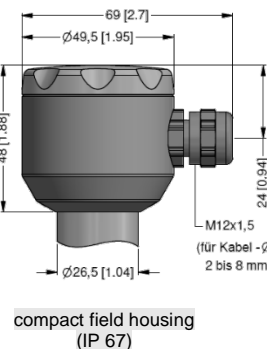
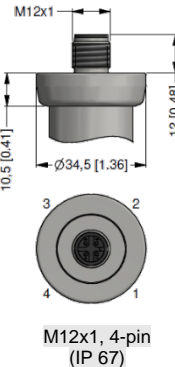
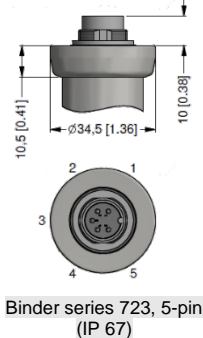
Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	compact field housing	cable colours (IEC 60757)
Supply +	1	3	1	IN +	WH (white)
Supply -	2	4	2	IN -	BN (brown)
Signal + (only 3-wire)	3	1	3	OUT +	GN (green)
Shield	ground pin \oplus	5	4	\oplus	GNYE (green-yellow)

Electrical connections (dimensions mm / in)

Standard



Optional

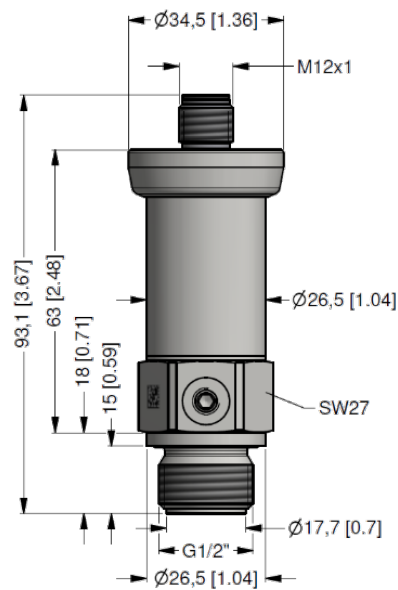


⇒ universal field housing stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request

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

DMP 333P

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Pressure					
	gauge ¹	5	4	C	
	absolute	5	4	D	
Input [bar]					
	60	6	0	0	2
	100	1	0	0	3
	160	1	6	0	3
	250	2	5	0	3
	400	4	0	0	3
	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 4 ... 20 mA / 2-wire				E
	customer				9
Accuracy					
standard:	0.35 % FSO				3
option:	0.25 % FSO				2
	customer				9
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 (IP67) ²		T	A	0
	male plug M12x1 (4-pin) / metal		M	1	0
	compact field housing		8	5	0
	stainless steel1.4301 (304)				
	customer		9	9	9
Mechanical connection					
	G1/2" DIN 3852 with flush diaphragm		Z	0	0
	customer		9	9	9
Diaphragm					
	stainless steel 1.4435 (316L)			1	
	stainless steel 1.4435 (316L), golden			G	
	customer			9	
Seal					
	FKM			1	
	customer			9	
Filling fluid					
	silicone oil			1	
	customer			9	
Special version					
	standard			0	0
	customer			9	9

¹ measurement starts with ambient pressure

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

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