



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 ... 160 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
- ▶ 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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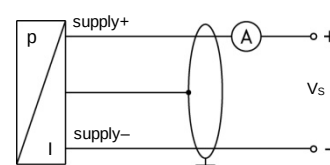
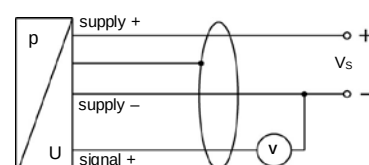
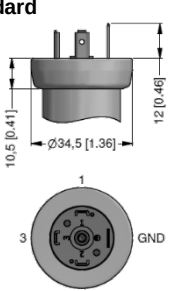
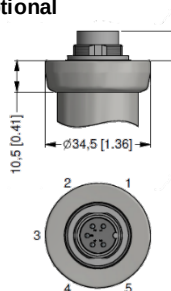
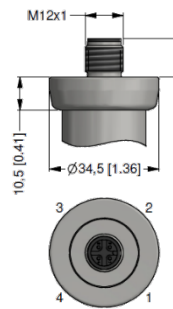
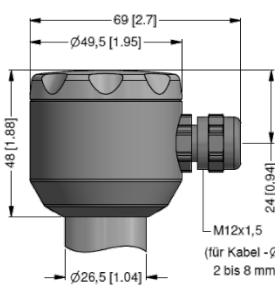
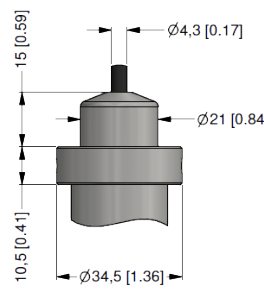
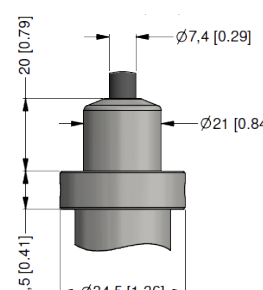
Technical Data

Input pressure range					
Nominal pressure absolute	[bar]	160	250	400	600
Overpressure	[bar]	600	1000	1000	1000
Burst pressure ≥	[bar]	1000	1250	1250	1800
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}			
Options 3-wire	3-wire:	0 ... 10 V / V _S = 14 ... 30 V _{DC}			
Performance					
Accuracy ¹	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			
¹ 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	20 g RMS / 10 ... 2000 Hz	according to DIN EN 60068-2-6			
Shock	500 g / 1 msec half sine	according to DIN EN 60068-2-27			
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 (on request) 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				

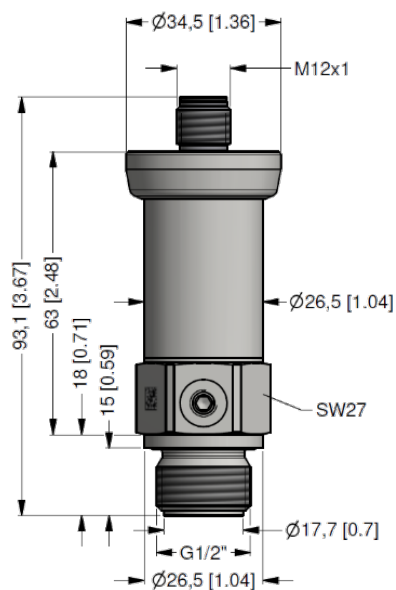
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Technical Data

Explosion protection (only for 4 ... 20 mA / 2-wire)					
Approvals DX19-DMP 333P	IBExU 10 ATEX 1068 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 	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) ²  cable outlet, cable with ventilation tube (IP 68) ³ ⇒ universal field housing stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request					
² standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70°C)					
³ 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

Ordering code DMP 333P

DMP 333P

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Pressure									
	absolute	5	4	D					
Input									
	[bar]								
	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		consult
Output									
	4 ... 20 mA / 2-wire						1		
	0 ... 10 V / 3-wire						3		
	intrinsic safety 4 ... 20 mA / 2-wire						E		
	customer						9		consult
Accuracy									
	standard:	0.35 % FSO					3		
	option:	0.25 % FSO					2		
	customer						9		consult
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) ¹						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" DIN 3852 with						Z	0	0
	flush diaphragm								
	customer						9	9	9
									consult
Diaphragm									
	stainless steel 1.4435 (316L)						1		
	stainless steel 1.4435 (316L), golden						G		consult
	customer						9		consult
Seal									
	FKM						1		
	customer						9		consult
Filling fluid									
	silicone oil						1		
	customer						9		consult
Special version									
	standard						0	0	0
	customer						9	9	9
									consult

¹ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request