



# DMP 333P

## Industrial Pressure Transmitter

Pressure Ports with Flush Welded Stainless Steel Diaphragm

accuracy according to IEC 60770:  
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
- ▶ cooling element for media temperatures up to 200 °C
- ▶ 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 temperature decoupler can also be provided for medium temperatures of up to 200 °C. 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

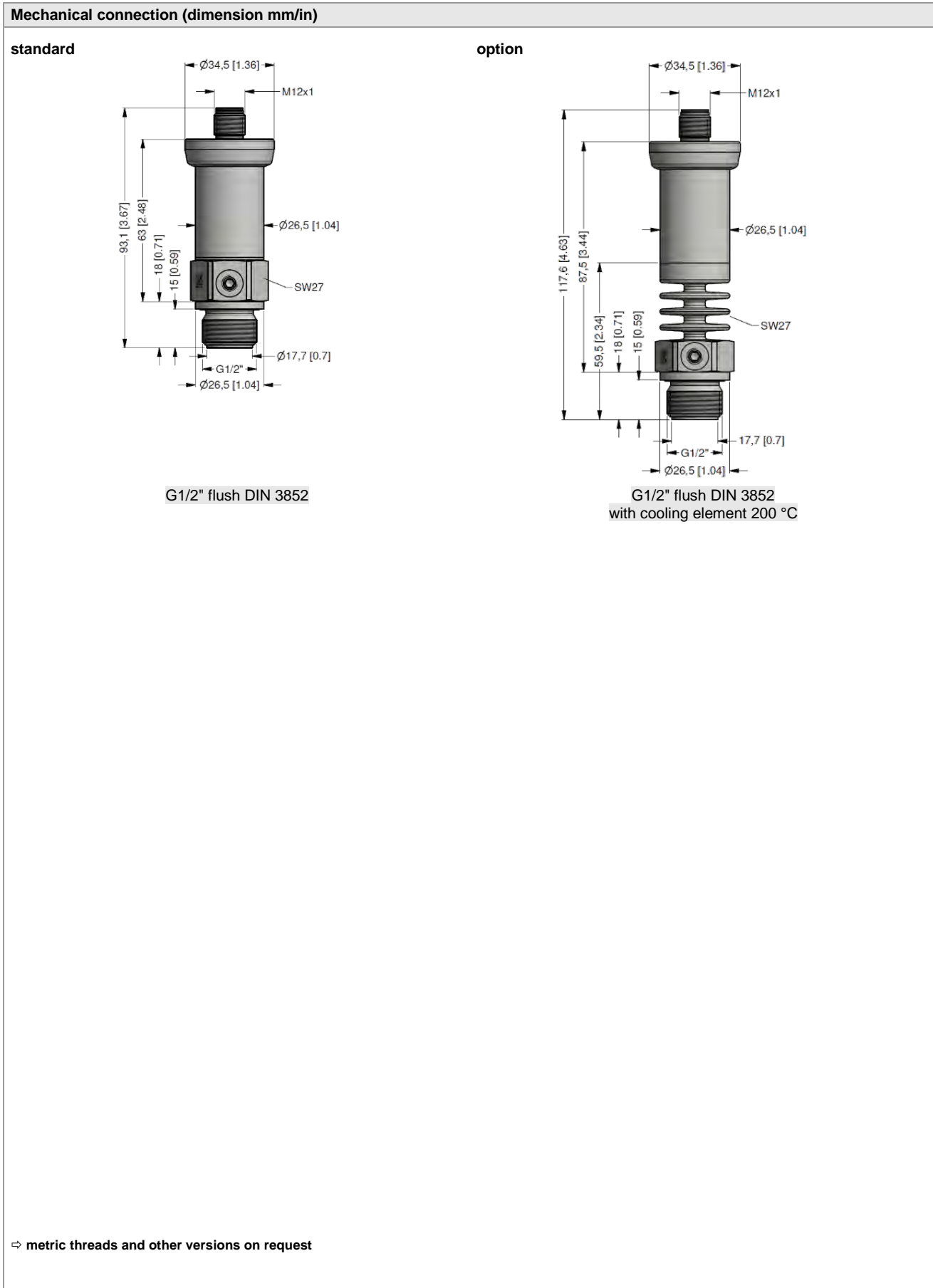
# DMP 333P

Industrial Pressure Transmitter

Technical Data

Input pressure range							
Nominal pressure gauge <sup>1</sup>	[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
<sup>1</sup> measurement starts with ambient pressure							
Output signal / Supply							
Standard	2-wire: 4 ... 20 mA / V <sub>S</sub> = 8 ... 32 V <sub>DC</sub>						
Option IS-protection	2-wire: 4 ... 20 mA / V <sub>S</sub> = 10 ... 28 V <sub>DC</sub> (in preparation)						
Options 3-wire	3-wire: 0 ... 10 V / V <sub>S</sub> = 14 ... 30 V <sub>DC</sub>						
Performance							
Accuracy <sup>2</sup>	standard: ≤ ± 0.35 % FSO option: ≤ ± 0.25 % FSO						
Permissible load	current 2-wire: R <sub>max</sub> = [(U <sub>B</sub> - U <sub>B 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 % FSO / year at reference conditions						
Response time	2-wire: ≤ 10 msec 3-wire: ≤ 3 msec						
<sup>2</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)							
Thermal effects (Offset and Span) <sup>3</sup> / 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						
Permissible temperature medium for cooling element 200 °C	overpressure: -40 ... 200 °C vacuum: -40 ... 150 °C						
<sup>3</sup> an optional cooling element can influence thermal effects for offset and span depending on installation position and filling conditions							
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)			with cooling element: 10 g RMS (25 ... 2000 Hz)			
Shock according to DIN EN 60068-2-27	500 g / 1 msec			with cooling element: 100 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	standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM (recommended for medium temperatures > 200 °C) others on request						
Media wetted parts	pressure port, seal, diaphragm						

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 <sub>i</sub> = 28 V, I <sub>i</sub> = 93 mA, P <sub>i</sub> = 660 mW, C <sub>i</sub> ≈ 0 nF, L <sub>i</sub> ≈ 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 <sub>atm</sub> 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 μH/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)							
<b>Standard</b>		<b>Optional</b>					
ISO 4400 (IP 65)		Binder series 723, 5-pin (IP 67)		M12x1, 4-pin (IP 67)			
		compact field housing (IP 67)		cable outlet with PVC cable (IP 67) <sup>3</sup>		cable outlet, cable with ventilation tube (IP 68) <sup>4</sup>	
⇒ universal field housing stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request							
<sup>3</sup> standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70°C)							
<sup>4</sup> different cable types and lengths available, permissible temperature depends on kind of cable							



© 2022 BD|SENSORS GmbH – The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.

