

DMP 333

Industrial Pressure Transmitter For High Pressure

Stainless Steel Sensor

accuracy according to IEC 60770:
standard: 0.35 % FSO
option: 0.25 / 0.1 % FSO



Nominal pressure

from 0 ... 100 bar up to 0 ... 600 bar

Output signals

2-wire: 4 ... 20 mA

3-wire: 0 ... 20 mA / 0 ... 10 V

others on request

Special characteristics

- ▶ excellent long-term stability, also with high dynamic pressure loads
- ▶ insensitive to pressure peaks
- ▶ high overpressure capability

Optional versions

- ▶ IS-version
Ex ia = intrinsically safe for gases and dusts
- ▶ SIL 2 version
according to IEC 61508 / IEC 61511
- ▶ customer specific versions

The pressure transmitter type DMP 333 has been especially designed for use in hydraulic applications with high static and dynamic pressure. The transmitter is characterized by an excellent long term stability, also under fast changing pressure as well as positive and negative pressure peaks.

The modular concept of the device allows to combine different stainless steel sensors and electronic modules with a variety of electrical and mechanical versions. Thus a diversity of variations is created, meeting almost all requirements in hydraulic applications.

Preferred areas of use are

Plant and Machine Engineering

- machine tools
- hydraulic presses
- injection moulding machine
- handling equipment
- elevated platforms
- test benches



Mobile Hydraulics



Input pressure range						
Nominal pressure gauge ¹ / abs.	[bar]	100	160	250	400	600
Overpressure	[bar]	210	600	1000	1000	1000
Burst pressure ≥	[bar]	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}		SIL-version: V _S = 14 ... 28 V _{DC}		
Option IS-protection	2-wire:	4 ... 20 mA / V _S = 10 ... 28 V _{DC}		SIL-version: V _S = 14 ... 28 V _{DC}		
Option Accuracy 0.1 % FSO	2-wire:	4 ... 20 mA / V _S = 12 ... 36 V _{DC}		3-wire: 0 ... 10 V / V _S = 14 ... 30 V _{DC}		
Options 3-wire	3-wire:	0 ... 20 mA / V _S = 14 ... 30 V _{DC}		0 ... 10 V / V _S = 14 ... 30 V _{DC}		
Performance						
Accuracy ²		standard: ≤ ± 0.35 % FSO option 1: ≤ ± 0.25 % FSO option 2: ≤ ± 0.1 % FSO				
Permissible load		current 2-wire: R _{max} = [(V _S - V _S min) / 0.02 A] Ω current 3-wire: R _{max} = 500 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 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)						
Thermal effects (Offset and Span)						
Tolerance band		≤ ± 0.75 % FSO				
in compensated range		0 ... 70 °C				
Permissible temperatures						
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		10 g RMS (25 ... 2000 Hz) according to DIN EN 60068-2-6				
Shock		100 g / 11 msec according to DIN EN 60068-2-27				
Materials						
Pressure port		stainless steel 1.4404 (316 L)				
Housing		stainless steel 1.4404 (316 L)				
Option compact field housing		stainless steel 1.4305 (303), cable gland brass, nickel plated			others on request	
Seals (media wetted)		standard: FKM options: EPDM (for P _N ≤ 160 bar) NBR others on request				
Diaphragm		stainless steel 1.4435 (316 L)				
Media wetted parts		pressure port, seals, diaphragm				
Explosion protection (only for 4 ... 20 mA / 2-wire)						
Approvals DX9-DMP 333		IBExU10ATEX1122 X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da				
Safety technical maximum values		U _i = 28 V _{DC} , I _i = 93 mA, P _i = 660 mW, C _i ≈ 0 nF, L _i ≈ 0 μH, the supply connections have an inner capacity of max. 27 nF to the housing				
Ambient temperature range		in zone 0: -20 ... 60 °C with p _{atm} 0.8 bar up to 1.1 bar in zone 1 or higher: -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				