

DMP 335

Industrial Pressure Transmitter

Welded, Dry
Stainless Steel Sensor

accuracy according to IEC 60770:
0.5 % FSO



Nominal pressure

from 0 ... 6 bar up to 0 ... 600 bar

Output signals

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

Special characteristics

- ▶ suitable for oxygen applications
- ▶ insensitive to pressure peaks
- ▶ high overpressure capability






Optional versions

- ▶ IS-version
Ex ia = intrinsically safe
for gases and dusts
- ▶ customer specific versions

The industrial pressure transmitter DMP 335 is based on a welded stainless steel pressure sensor without fluid.

This characteristic has a special advantage with applications where silicone oil or elastomeric seals cannot be used.

Preferred areas of use are

-  Medical technology
-  Plant and machine engineering
-  Commercial vehicles and mobile hydraulics
-  Refrigeration
-  Oxygen application



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Technical Data

Input pressure range												
Nominal pressure gauge	[bar]	6	10	16	25	40	60	100	160	250	400	600
Overpressure	[bar]	12	20	32	50	80	120	200	320	500	800	1 200
Burst pressure \geq	[bar]	30	50	80	125	200	300	500	800	1 400	2 000	3 000
Vacuum resistance		unlimited										
Output signal / Supply												
Standard		2-wire: 4 ... 20 mA / $V_S = 8 \dots 32 V_{DC}$										
Option IS-version		2-wire: 4 ... 20 mA / $V_S = 10 \dots 28 V_{DC}$										
Option 3-wire		3-wire: 0 ... 10 V / $V_S = 14 \dots 30 V_{DC}$										
Performance												
Accuracy ¹		$\leq \pm 0.5 \% \text{ FSO}$										
Permissible load		current 2-wire: $R_{\max} = [(V_S - V_{S_{\min}}) / 0.02 \text{ A}] \Omega$ voltage 3-wire: $R_{\min} = 10 \text{ k}\Omega$										
Influence effects		supply: 0.05 % FSO / 10 V load: 0.05 % FSO / $\text{k}\Omega$										
Long term stability		$\leq \pm 0.2 \% \text{ FSO} / \text{year}$ at reference conditions										
Response time		2-wire: $\leq 10 \text{ msec}$ 3-wire: $\leq 3 \text{ msec}$										
¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)												
Thermal effects (Offset and Span)												
Thermal error		$\pm 0.3 \% \text{ FSO} / 10 \text{ K}$										
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		20 g RMS (25 ... 2000 Hz) according to DIN EN 60068-2-6										
Shock		500 g / 1 msec according to DIN EN 60068-2-27										
Materials												
Pressure port		stainless steel 1.4571 (316 Ti)										
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)										
Seals		none (welded)										
Diaphragm		stainless steel 1.4542 (17-4PH)										
Media wetted parts		pressure port, diaphragm										
Explosion protection (only for 4 ... 20 mA / 2-wire)												
Approvals DX19-DMP 335		IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da										
Safety technical maximum values		$U_i = 28 V_{DC}$, $I_i = 93 \text{ mA}$, $P_i = 660 \text{ mW}$, $C_i \approx 0 \text{ nF}$, $L_i \approx 0 \mu\text{H}$, 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 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: 1 $\mu\text{H}/\text{m}$										
Miscellaneous												
Current consumption		signal output current: max. 25 mA signal output voltage: max. 7 mA										
Weight		approx. 140 g										
Installation position		any										
Operational life		100 million load cycles										
CE-conformity		EMC Directive: 2014/30/EU Pressure Equipment Directive: 2014/68/EU (module A) ²										
ATEX Directive		2014/34/EU										
² This directive is only valid for devices with maximum permissible overpressure > 200 bar.												

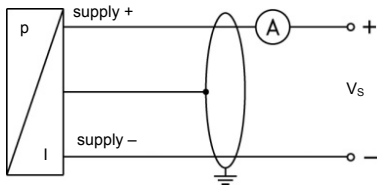
DMP 335

Industrial Pressure Transmitter

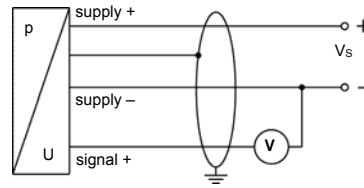
Technical Data

Wiring diagrams

2-wire-system (current)



3-wire-system (voltage)

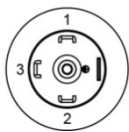
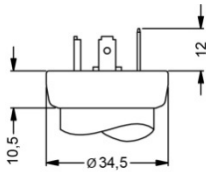


Pin configuration

Electrical connections	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 for 3-wire)	3	1	3	OUT +	GN (green)
Shield	ground pin \oplus	5	4	\oplus	GNYE (green-yellow)

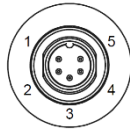
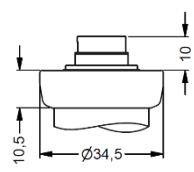
Electrical connections (dimensions in mm)

standard

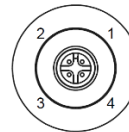
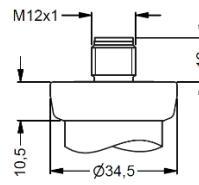


ISO 4400 (IP 65)

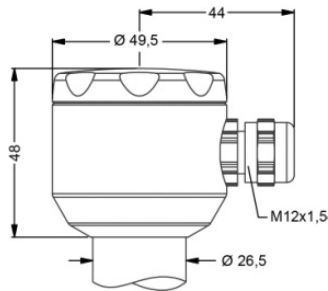
options



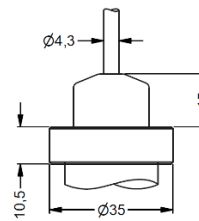
Binder series 723 5-pin (IP 67)



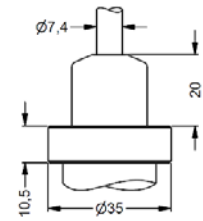
M12x1 4-pin (IP 67)



compact field housing (IP 67)



cable outlet with PVC cable (IP 67)³



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

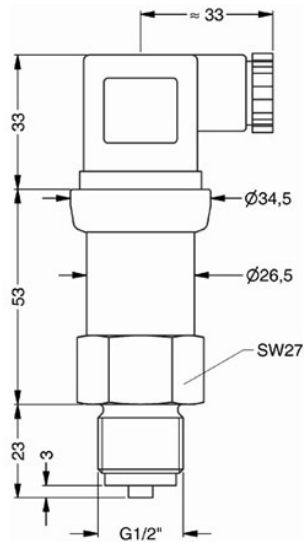
⇒ universal field housing in stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request

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

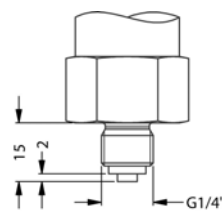
Mechanical connections (dimensions in mm)

standard

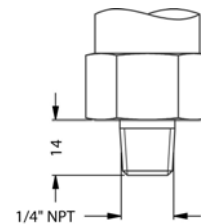


G1/2" EN 837

options



G1/4" EN 837



1/4" NPT

⇨ metric threads and other versions on request

Accessories

Plug-on Display PA 430



Functional range

- ▶ free scalable display
- ▶ switch mode, hysteresis, parameterizable deceleration of the contacts
- ▶ display 330 ° rotatable
- ▶ connector 300 ° rotatable
- ▶ no external power supply necessary

Product characteristics

- ▶ plug-on display for pressure transmitter with output signal:
4 ... 20 mA / 2-wire or 0 ... 10 V / 3-wire
- ▶ 4-digit LED display

Optional versions

- ▶ IS-version
- ▶ 1 or 2 programmable contacts

Ordering code DMP 335

DMP 335

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Pressure																				
	gauge	2	1	0																
Input																				
	[bar]																			
	6	6	0	0	1															
	10	1	0	0	2															
	16	1	6	0	2															
	25	2	5	0	2															
	40	4	0	0	2															
	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															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																				
	0.5 % FSO																			5
	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
	cable outlet,																			T R 0
	cable with ventilation tube (IP68) ²																			M 1 0
	male plug M12x1 (4-pin) / metal																			8 5 0
	compact field housing																			9 9 9
	stainless steel 1.4301 (304)																			consult
	customer																			9 9 9
																				consult
Mechanical connection																				
	G1/2" EN 837																			2 0 0
	G1/4" EN 837																			4 0 0
	1/4" NPT																			N 4 0
	customer																			9 9 9
																				consult
Seals																				
	without (welded version)																			2
	customer																			9
																				consult
Special version																				
	standard																			0 0 0
	customer																			9 9 9
																				consult

¹ standard: 2 m PVC cable without ventilation tube (permissible temperatur: -5 ... 70 °C)

² code TR0 = PVC cable, cable with ventilation tube available in different types and lengths