

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



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

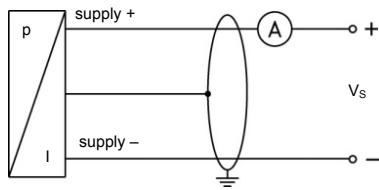
Explosion protection (only for 4 ... 20 mA / 2-wire)	
Approvals DX19-DMP 335	IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T135 °C Da
Safety technical maximum values	$U_i = 28 V_{DC}$, $I_i = 93 \text{ mA}$, $P_i = 660 \text{ mW}$, $C_i \approx 0 \text{ nF}$, $L_i \approx 0 \mu\text{H}$, 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: -40/-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

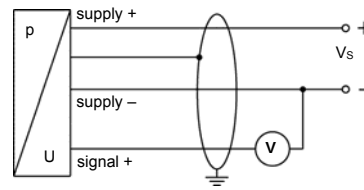
² This directive is only valid for devices with maximum permissible overpressure > 200 bar.

Wiring diagrams

2-wire-system (current)



3-wire-system (voltage)

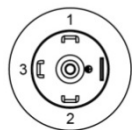
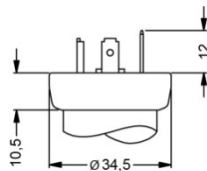


Pin configuration

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)

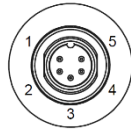
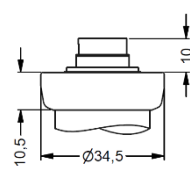
Electrical connections (dimensions in mm)

standard

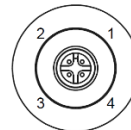
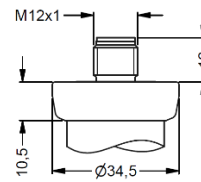


ISO 4400 (IP 65)

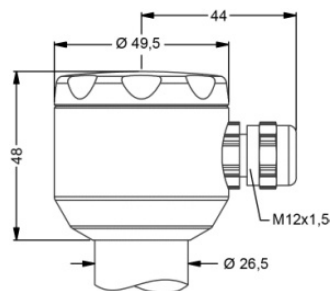
options



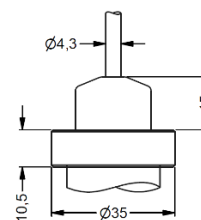
Binder series 723, 5-pin (IP 67)



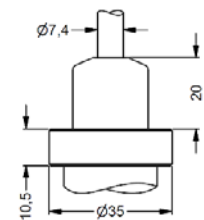
M12x1, 4-pin (IP 67)



compact field housing (IP 67)



cable outlet with PVC cable (IP 67) ³



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

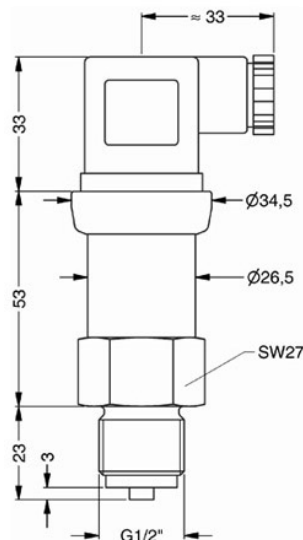
⇒ universal field housing in stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request

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

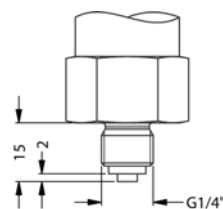
Mechanical connections (dimensions in mm)

standard

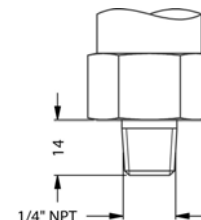


G1/2" EN 837

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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[illegible]

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