

# 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



# DMP 335

Industrial Pressure Transmitter

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 <sup>1</sup>		$\leq \pm 0.5 \% \text{ FSO}$										
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 / 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: $\leq 3 \text{ msec}$										
<sup>1</sup> 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 1.4305 (303), cable gland brass, nickel plated others on request										
Seals (media wetted)		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 $p_{\text{atm}}$ 0.8 bar up to 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		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) <sup>2</sup>										
ATEX Directive		2014/34/EU										
<sup>2</sup> This directive is only valid for devices with maximum permissible overpressure > 200 bar												

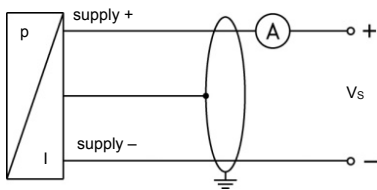
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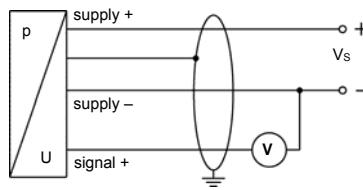
Technical Data

## Wiring diagrams

2-wire-system (current)



3-wire-system (voltage)

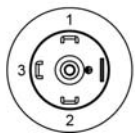
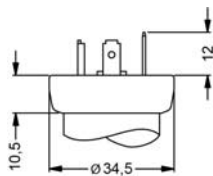


## Pin configuration

Electrical connections	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	field housing	cable colour (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	5	4	⏏	gnye (green-yellow)

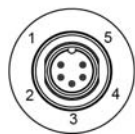
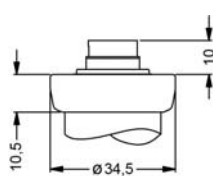
## Electrical connections (dimensions in mm)

standard

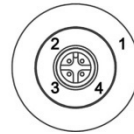
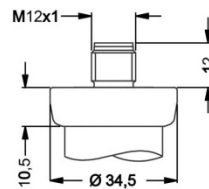


ISO 4400 (IP 65)

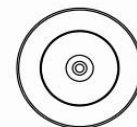
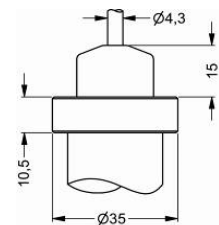
option



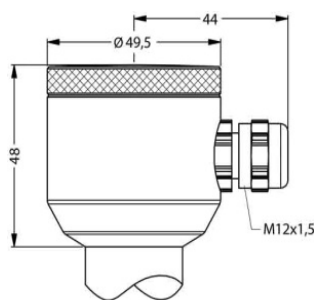
Binder series 723 5-pin (IP 67)



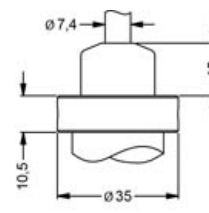
M12x1 4-pin (IP 67)



cable outlet with PVC cable (IP67)<sup>3</sup>



compact field housing (IP 67)



cable outlet, cable with ventilation tube (IP 68)<sup>4</sup>

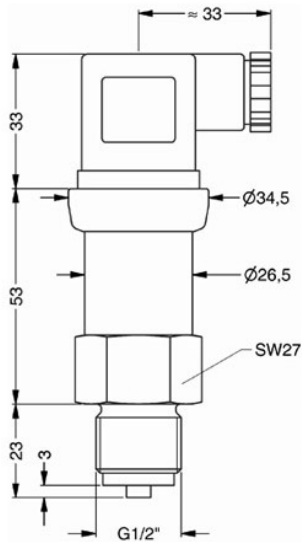
⇒ universal field housing stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request

<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

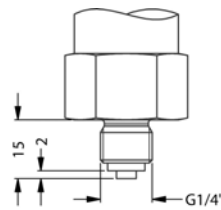
## Mechanical connections (dimensions in mm)

### standard

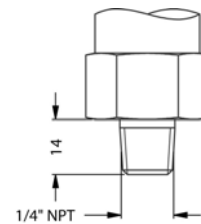


G1/2" EN 837

### option



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



<b>Pressure</b>	gauge	2	1	0																
<b>Input</b>	[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
<b>Output</b>																				
	4 ... 20 mA / 2-wire							1												
	0 ... 10 V / 3-wire							3												
	intrinsic safety 4 ... 20 mA / 2-wire							E												
	customer							9												consult
<b>Accuracy</b>																				
	0.5 % FSO							5												
	customer							9												consult
<b>Electrical connection</b>																				
	male and female plug ISO 4400							1	0	0										
	male plug Binder series 723 (5-pin)							2	0	0										
	cable outlet with PVC cable <sup>1</sup>							T	A	0										
	cable outlet with cable <sup>2</sup>							T	R	0										
	male plug M12x1 (4-pin) / metal							M	1	0										
	compact field housing							8	5	0										
	stainless steel 1.4305																			
	customer							9	9	9										consult
<b>Mechanical connection</b>																				
	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
<b>Seals</b>																				
	without (welded version)											2								
	customer											9								consult
<b>Special version</b>																				
	standard											0	0	0						
	customer											9	9	9						consult

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

<sup>2</sup> cable with ventilation tube (code TR0 = PVC cable), different cable types and lengths available, permissible temperature depends on kind of cable

