

# DMP 335

## Industrial Pressure Transmitter

Welded, Dry  
Stainless Steel Sensor

accuracy according to IEC 60770:  
0.5 % FSO



### Nominal pressure

from 0 ... 16 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]	16	25	40	60	100	160	250	400	600	
Overpressure	[bar]	32	50	80	120	200	320	500	800	1200	
Burst pressure $\geq$	[bar]	80	125	200	300	500	800	1400	2000	3000	
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											
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 $p_{\text{atm}}$ 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) <sup>2</sup>									
ATEX Directive		2014/34/EU									
<sup>2</sup> This directive is only valid for devices with maximum permissible overpressure > 200 bar.											

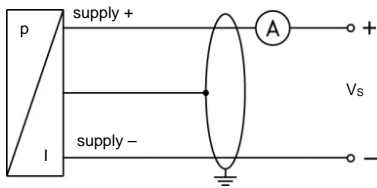
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Industrial Pressure Transmitter

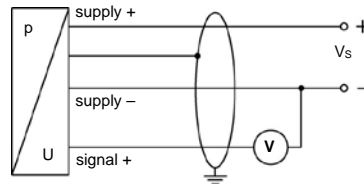
Technical Data

## Wiring diagrams

2-wire-system (current)



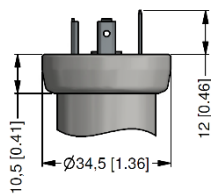
3-wire-system (voltage)



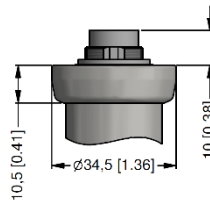
## Pin configuration

Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	compact field housing	cable colours (IEC 60757)
Supply +	1	3	1	V <sub>S</sub> +	WH (white)
Supply -	2	4	2	V <sub>S</sub> -	BN (brown)
Signal + (only for 3-wire)	3	1	3	S+	GN (green)
Shield	ground pin	5	4	GND	GNYE (green-yellow)

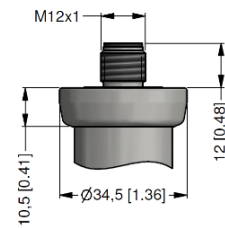
## Electrical connections (dimensions mm / in)



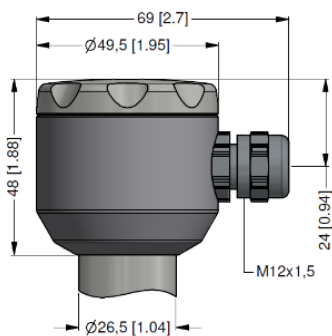
ISO 4400 (IP 65)



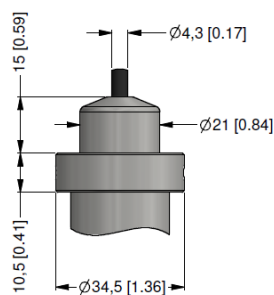
Binder series 723, 5-pin (IP 67)



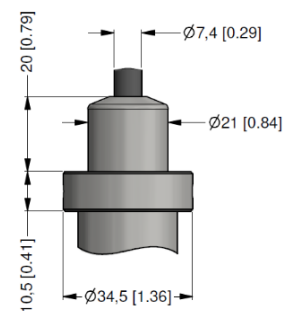
M12x1, 4-pin (IP 67)



compact field housing (IP 67)



cable outlet with PVC-cable (IP 67)<sup>3</sup>



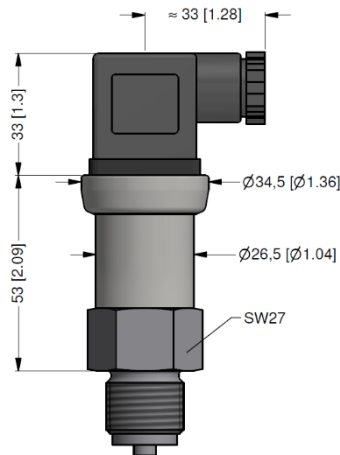
cable outlet, cable with ventilation tube (IP 68)<sup>4</sup>

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

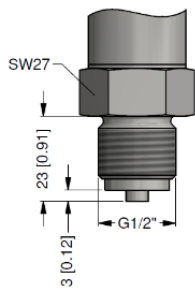
<sup>3</sup> standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)

<sup>4</sup> different cable types and lengths available, permissible temperature depends on kind of cable

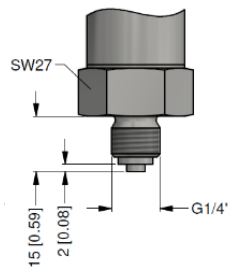
## Dimensions (mm / in)



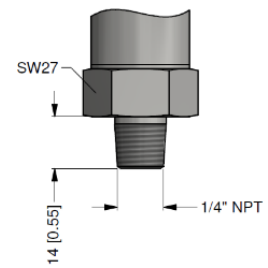
## Mechanical connections (dimensions mm / in)



G1/2" EN 837



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

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## Ordering code DMP 335

DMP 335



<b>Pressure</b>										
	gauge	2	1	0						
<b>Input</b>										
	[bar]									
	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 (IP67) <sup>1</sup>					T	A	0		
	cable outlet,									
	cable with ventilation tube (IP68) <sup>2</sup>					T	R	0		
	male plug M12x1 (4-pin) / metal					M	1	0		
	compact field housing					8	5	0		
	stainless steel 1.4301 (304)									
	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>Seal</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> code TR0 = PVC cable, cable with ventilation tube available in different types and lengths