



## DMP 343

### Industrial Pressure Transmitter

Without Media Isolation

accuracy according to IEC 60770:  
0,35 % FSO

#### Nominal pressure

from 0 ... 10 mbar up to 0 ... 1000 mbar

#### Product characteristics

- ▶ excellent linearity
- ▶ small thermal effect
- ▶ excellent long term stability



#### Optional versions

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

The pressure transmitter DMP 343 has been especially designed for the measurement of very low gauge pressure and for vacuum applications. Permissible media are gases, pressurized air and non-aggressive low viscos oils.

The DMP 343 features excellent thermal behaviour and outstanding long term stability. A variety of standard output signals as well as mechanical and electrical connections make the DMP 343 covering a wide field of applications.

#### Preferred areas of use are

-  Plant and Machine Engineering
-  Heating and Air Conditioning



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Technical Data

Input pressure range														
Nominal pressure gauge	[mbar]	-1000 ... 0	10	16	25	40	60	100	160	250	400	600	1000	
Overpressure	[bar]	3	0.2	0.2	0.2	0.5	0.5	1	2	3	3	3	3	
Burst pressure	[bar]	5	0.3	0.3	0.3	0.75	0.75	1.5	3	5	5	5	5	
Output signal / Supply														
Standard	2-wire: 4 ... 20 mA / $V_S = 8 \dots 32 V_{DC}$													
Option IS-protection	2-wire: 4 ... 20 mA / $V_S = 10 \dots 28 V_{DC}$													
Options 3-wire	3-wire: 0 ... 20 mA / $V_S = 14 \dots 30 V_{DC}$ 0 ... 10 V / $V_S = 14 \dots 30 V_{DC}$													
Performance														
Accuracy <sup>1</sup>	standard: $\leq \pm 0.35\%$ FSO nominal pressure $\leq 100$ mbar: $\leq \pm 0.50\%$ FSO													
Permissible load	current 2-wire: $R_{max} = [(V_S - V_{S min}) / 0.02 A] \Omega$ current 3-wire: $R_{max} = 500 \Omega$ voltage 3-wire: $R_{min} = 10 k\Omega$													
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / $k\Omega$													
Response time	2-wire: $\leq 10$ msec 3-wire: $\leq 3$ msec													
Long term stability	$\leq \pm 0.3\%$ FSO / year at reference conditions, for $P_N < 100$ mbar $\leq \pm 0.1\%$ FSO / year at reference conditions, for $P_N \geq 100$ mbar													
<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)														
Thermal effects (Offset and Span)														
Nominal pressure $P_N$	[mbar]	-1000 ... 0	$\leq 100$				$\leq 400$				$> 400$			
Tolerance band	[% FSO]	$\leq \pm 0.75$	$\leq \pm 1.5$				$\leq \pm 1$				$\leq \pm 0.75$			
in compensated range	[°C]	-20 ... 85	0 ... 50				0 ... 70				-20 ... 85			
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	500 g / 1 msec according to DIN EN 60068-2-27													
Materials														
Pressure port	stainless steel 1.4404 (316L)													
Housing	stainless steel 1.4404 (316L)													
Seals (media wetted)	FKM													
Sensor	stainless steel 1.4404 (316L), silicon, epoxy or RTV, mineral glass													
Media wetted parts	pressure port, seals, sensor													
Explosion protection (only for 4 ... 20 mA / 2-wire)														
Approvals DX19-DMP 343	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, $I_i = 93$ mA, $P_i = 660$ mW, $C_i \approx 0$ nF, $L_i \approx 0$ $\mu$ H, the supply connections have an inner capacity of max. 27 nF opposite 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 $\mu$ H/m													
Miscellaneous														
Option SIL 2 application	according to IEC 61508 / IEC 61511													
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA													
Weight	approx. 140 g													
Installation position	any													
CE-conformity	EMC Directive: 2004/108/EC													
ATEX Directive	94/4/EG													

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**Wiring diagrams**

2-wire-system (current)

3-wire-system (current / voltage)

**Pin configuration**

Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	field housing	cable colours (DIN 47100)
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	⊥	ye/gn (yellow / green)

**Electrical connections (dimensions in mm)**

standard	option
<p>ISO 4400 (IP 65)</p>	<p>Binder Series 723 5-pin (IP 67)</p>
<p>M12x1 4-pin (IP 67)</p>	<p>cable outlet with PVC cable (IP 67)<sup>2</sup></p>
<p>compact field housing (IP 67)</p>	<p>cable outlet, cable with ventilation tube (IP 68)<sup>3</sup></p>

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

<sup>2</sup> standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70°C)  
<sup>3</sup> different cable types and lengths available, permissible temperature depends on kind of cable

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