



DMP 343

Industrial Pressure Transmitter

Without Media Isolation

accuracy according to IEC 60770:
0,5 % span

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
- ▶ 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



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	
Permissible vacuum [bar]	-1		-0.2			-0.5				-1			
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 ¹	$\leq \pm 0.5$ % span
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 % span / 10 V load: 0.05 % span / k Ω
Response time	2-wire: ≤ 10 msec 3-wire: ≤ 3 msec
Long term stability	$\leq \pm 0,3$ % span / year at reference conditions, for $P_N < 100$ mbar $\leq \pm 0,1$ % span / year at reference conditions, for $P_N \geq 100$ mbar

¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

Thermal effects (Offset and Span)				
Nominal pressure P_N [mbar]	-1000 ... 0	≤ 100	≤ 400	> 400
Tolerance band [% span]	$\leq \pm 0.75$	$\leq \pm 1.5$	$\leq \pm 1$	$\leq \pm 0.75$
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

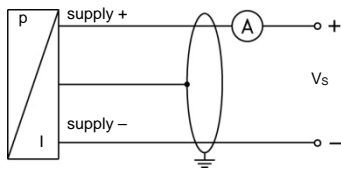
Materials	
Pressure port	stainless steel 1.4404 (316L)
Housing	stainless steel 1.4404 (316L)
Option field housing	stainless steel 1.4301 (304); cable gland M16x 1.5, brass, nickel plated (clamping range 2...8 mm)
Seals (media wetted)	FKM
Sensor	stainless steel 1.4404 (316L), silicon, epoxy or RTV, mineral glass
Media wetted parts	pressure port, seals, sensor

Explosion protection (only for 4 ... 20 mA / 2-wire)	
Approvals DX9-DMP 343	IBExU10ATEX1122 X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 135°C Da
Safety technical maximum values	$U_i = 28 V$, $I_i = 93 mA$, $P_i = 660 mW$, $C_i \approx 0nF$, $L_i \approx 0 \mu H$, the supply connections have an inner capacity of max. 27 nF opposite the housing
Ambient temperature range	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 μH /m

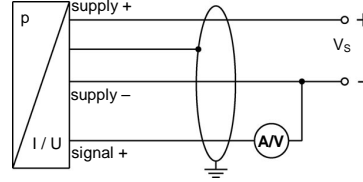
Miscellaneous	
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 140 g
Operational life	100 million load cycles
Installation position	any
CE-conformity	EMC Directive: 2014/30/EU
ATEX Directive	2014/34/EU

Wiring diagrams

2-wire-system (current)



3-wire-system (current / voltage)

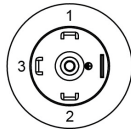
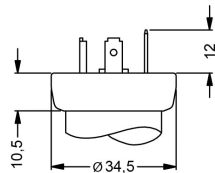


Pin configuration

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

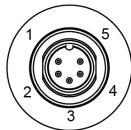
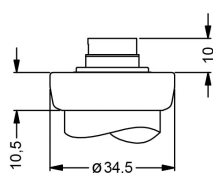
Electrical connections (dimensions in mm)

standard

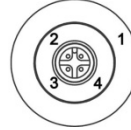
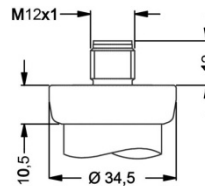


ISO 4400 (IP 65)

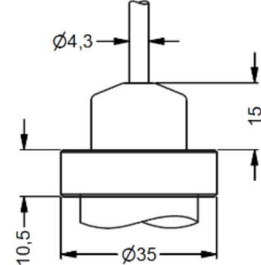
option



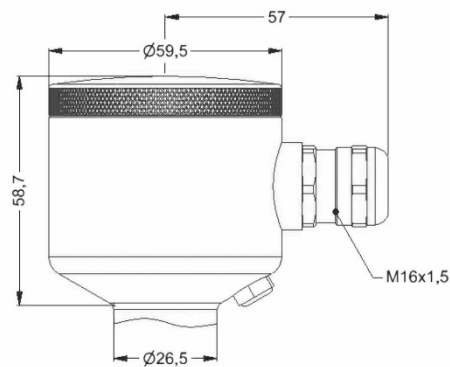
Binder Series 723 5-pin (IP 67)



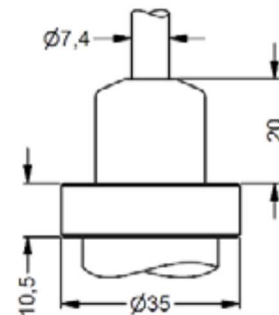
M12x1 4-pin (IP 67)



cable outlet with PVC cable (IP 67)²



field housing (IP 67)



cable outlet, cable with ventilation tube (IP 68)³

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

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

³ different cable types and lengths available, permissible temperature depends on kind of cable

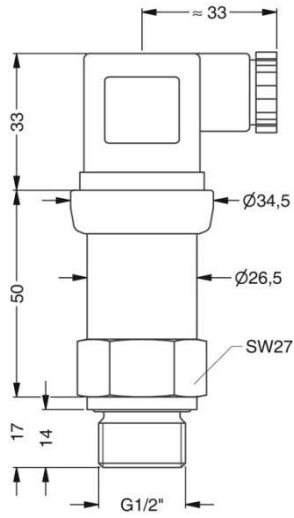
DMP 343

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Technical Data

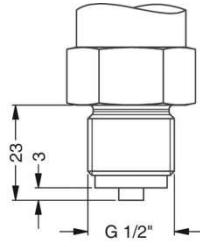
Mechanical connection (dimensions in mm)

standard

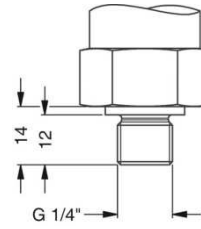


G1/2" DIN 3852
with ISO 4400

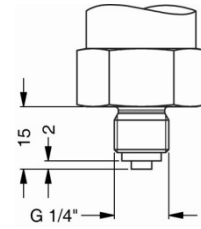
option



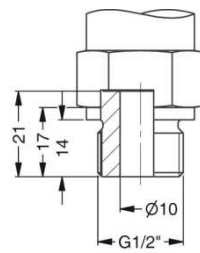
G1/2" EN 837



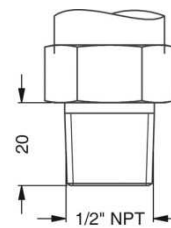
G1/4" DIN 3852



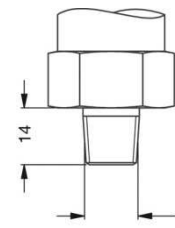
G1/4" EN 837



G1/2" open port



1/2" NPT



1/4" NPT

⇒ metric threads and others on request

Ordering code DMP 343

9.12.2020

DMP 343

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Pressure	
Gauge	1 0 0
Input [mbar]	
0 ... 6	0 0 6 0
0 ... 10	0 1 0 0
0 ... 16	0 1 6 0
0 ... 20	0 2 0 0
0 ... 40	0 4 0 0
0 ... 60	0 6 0 0
0 ... 100	1 0 0 0
0 ... 160	1 6 0 0
0 ... 250	2 5 0 0
0 ... 400	4 0 0 0
0 ... 600	6 0 0 0
0 ... 1000	1 0 0 1
-1000 ... 0	X 1 0 2
Customer	9 9 9 9
Customer underpressure	X X X X
Output	
4 ... 20 mA / 2-wire	1
0 ... 20 mA / 3-wire	2
0 ... 10 V / 3-wire	3
0 ... 5 V / 3-wire	4
Intrinsic safety Ex ia 4 ... 20 mA / 2-wire	E
Ex nA "n" 4 ... 20 mA / 2-wire (connector 105)	N
4 ... 20 mA / 3-wire	7
Customer	9
Accuracy	
1 % ($P_N \leq 10$ mbar)	8
0,35 % (standard for $P_N > 100$ mbar)	3
0,5 % ($P_N > 10$ mbar)	5
1 % including Calibration Certificate ($P_N \leq 10$ mbar)	U
0,5 % including Calibration Certificate ($P_N \geq 10$ mbar)	T
Table of measured values for accuracy 0,5 %	N
Customer	9
Electrical connection	
Connector DIN 43650 (ISO 4400) (IP 65)	1 0 0
Connector ISO 4400 (IP 65) + silicone seals for Ex nA	1 0 5
Connector Binder 723 5-pin (IP 67)	2 0 0
Cable gland PG7 / cable length specify (IP 67)	4 0 0
+ PVC cable / 1 m	
Connector Buccaneer (IP 68)	5 0 0
Connector DIN 43650 (ISO 4400) - potting compound inside (IP 67)	E 0 0
Cable outlet, cable with ventilation tube (IP68) ¹	T R 0
+ PVC cable / 1 m	
Field housing stainless steel, cable gland M 16 x 1,5 (IP 67)	8 0 0
Connector M12 x 1, 4-pin (IP 67)	M 0 0
Connector M12 x 1, 4-pin (IP 67) - metal	M 1 0
Customer	9 9 9
Mechanical connection	
G 1/2" DIN 3852 <input type="checkbox"/>	1 0 0
G 1/2" EN 837	2 0 0
G 1/4" DIN 3852	3 0 0



G 1/4" EN 837	4	0	0				
M 20 x 1,5 DIN 3852	5	0	0				
M 12 x 1 DIN 3852	6	0	0				
M 10 x 1 DIN 3852	7	0	0				
M 20 x 1,5 EN 837	8	0	0				
M 12 x 1,5 DIN 3852	C	0	0				
1/2" NPT	N	0	0				
1/4" NPT	N	4	0				
Customer ²	9	9	9				
Seals							
Viton (FKM) (standard)				1			
EPDM				3			
NBR				5			
Customer				9			
Special version							
Standard					0	0	0
Adjustable (using trimmers)					0	4	1
Customer					9	9	9

0,...without additional charge

On request...in accordance with the producer

Surcharges for calibration are not subject to any discounts. Subject to change. □

This document contains the specification for ordering the product;

detailed technical parameters of the product and its possible variants are given in the data sheet.

1 code TR0 = PVC cable, cable with ventilation tube available in different types and lengths; cable not included in the price

2 metric threads and others on request