



## DMP 343

### Industrial Pressure Transmitter

- ▶ piezoresistive silicon sensor
- ▶ especially for gaseous, non-aggressive media
- ▶ accuracy:  
0.175 % FSO BFSL  
(0.350 % FSO IEC 60770)
- ▶ nominal pressure ranges  
from 0 ... 10 mbar  
up to 0 ... 1000 mbar

The pressure transmitter DMP 343 is being used for measurement of very small gauge pressure starting at 10 mbar, and for vacuum applications (-1 ... 0 bar). Permissible media are gases, pressurized air, and non-aggressive liquids of low viscosity.

Basis element of the pressure transmitter DMP 343 is the silicon sensor DSP 201 which is mounted on a ceramic substrate.

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.

#### Applications:

- ▶ process control
- ▶ pneumatic control systems
- ▶ heating and air conditioning
- ▶ filter technology
- ▶ computer peripherals and systems

- ▶ small thermal effect
- ▶ excellent linearity
- ▶ good long term stability
- ▶ option Ex: II 1 G EEx ia IIC T4  
(only for 4 ... 20 mA / 2-wire)  
(TÜV 03 ATEX 2006 X)
- ▶ customer specific versions:
  - special pressure ranges
  - variety of electrical and mechanical connections
  - other versions on request

Characteristics



**DMP 343**  
Industrial Pressure Transmitter

Pressure - Temperature - Level - Flow - Analytical - Control - Indication - Logging

Input pressure range											
Nominal pressure gauge [mbar]	-1000 ... 0	10	20	40	60	100	160	250	400	600	1000
Permissible overpressure [mbar]	3000	60			300			1000		3000	

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / $V_S = 12 \dots 36 V_{DC}$ Ex-protection: $V_S = 14 \dots 28 V_{DC}$
Optional	3-wire: 0 ... 20 mA / $V_S = 14 \dots 36 V_{DC}$ 0 ... 10 V / $V_S = 14 \dots 36 V_{DC}$

Performance	
Accuracy <sup>1</sup>	standard: $\leq \pm 0.35 \% \text{ FSO}$ (BFSL: $\leq \pm 0.175 \% \text{ FSO}$ ) nominal pressure $\leq 100 \text{ mbar}$ : $\leq \pm 0.5 \% \text{ FSO}$ (BFSL: $\leq \pm 0.25 \% \text{ FSO}$ )
Permissible load	current 2-wire: $R_{\max} = [(V_S - V_{S \min}) / 0.02] \Omega$ current 3-wire: $R_{\max} = 500 \Omega$ voltage 3-wire: $R_{\min} = 10 \text{ k}\Omega$
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / $\text{k}\Omega$

Thermal errors (Offset and Span)				
Nominal pressure $P_N$	-1000 ... 0 mbar	$\leq 100 \text{ mbar}$	$\leq 400 \text{ mbar}$	$> 400 \text{ mbar}$
Tolerance band	$\leq \pm 0.75 \% \text{ FSO}$	$\leq \pm 1.5 \% \text{ FSO}$	$\leq \pm 1 \% \text{ FSO}$	$\leq \pm 0.75 \% \text{ FSO}$
TC, average	$\pm 0.08 \% \text{ FSO} / 10 \text{ K}$	$\pm 0.15 \% \text{ FSO} / 10 \text{ K}$	$\pm 0.12 \% \text{ FSO} / 10 \text{ K}$	$\pm 0.08 \% \text{ FSO} / 10 \text{ K}$
in compensated range	0 ... 60 °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
Option Ex-protection DX13-DMP 343	II 1 G EEx ia IIC T4 (only with 4 ... 20 mA / 2-wire) safety technical maximum values: $V_i = 28 \text{ V}$ , $I_i = 93 \text{ mA}$ , $P_i = 660 \text{ mW}$

Mechanical stability	
Vibration	10 g RMS (20 ... 2000 Hz)
Shock	100 g / 11 ms

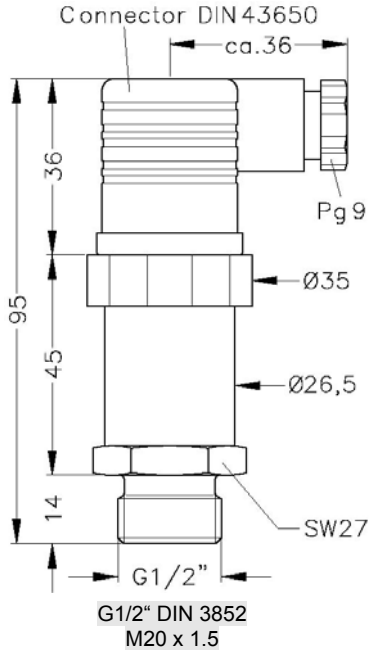
Permissible temperatures	
Medium	-25 ... 90 °C
Electronics / environment	-25 ... 85 °C
Storage	-40 ... 125 °C

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

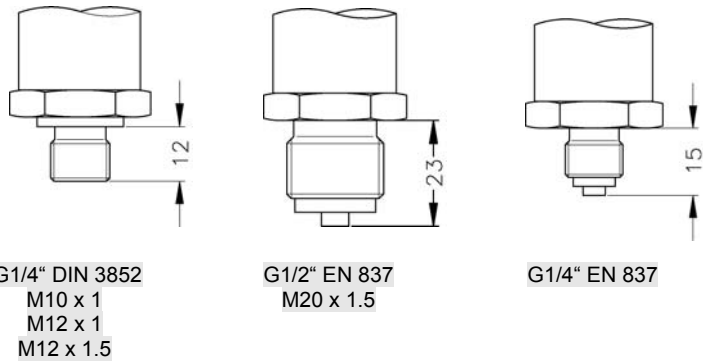
Pressure - Temperature - Level - Flow - Analytical - Control - Indication - Logging

## Mechanical connection

### Standard



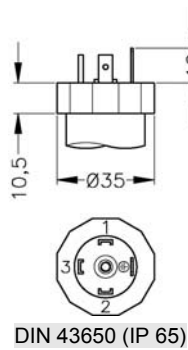
### Optional



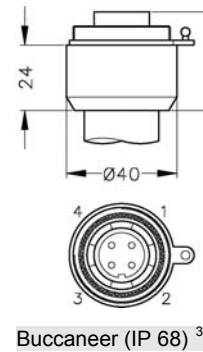
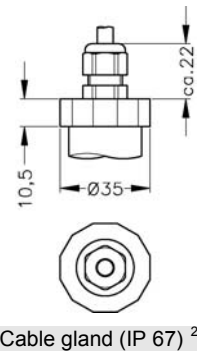
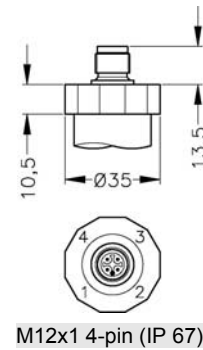
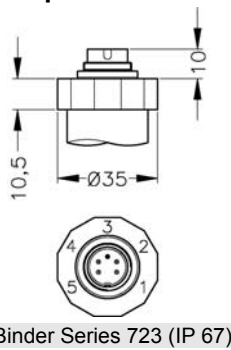
⇒ Ex-protection: total length increases by 26.5 mm!

## Electrical connection

### Standard



### Optional



<sup>2</sup> different cable types and lengths available, standard: 2 m PVC cable (without ventilation tube), optionally cable with ventilation tube  
<sup>3</sup> for gauge pressure cable with ventilation tube required

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### Materials

Pressure port	stainless steel 1.4571 (316Ti)
Housing	stainless steel 1.4301 (304)
Seals (media wetted)	FKM
Sensor	stainless steel 1.4305 (303) , RTV, ceramics Al <sub>2</sub> O <sub>3</sub> , silicon
Media wetted parts	pressure port, seals, sensor

### Miscellaneous

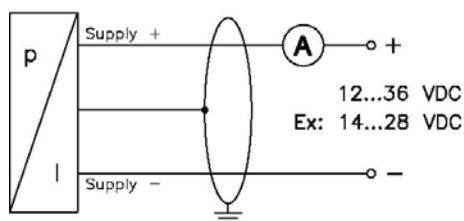
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 140 g
Installation position	any

### Pin configuration

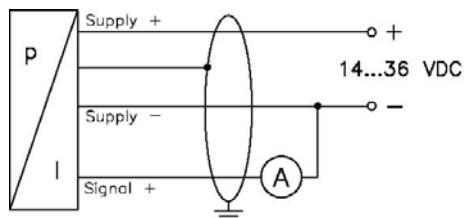
Electrical connection		DIN 43650	Binder 723 (5-pin)	M12x1 (4-pin)	Buccaneer (4-pin)	Cable colours (DIN 47100)
2-wire -system	Supply +	1	3	1	1	white
	Supply -	2	4	2	2	brown
	Ground	ground pin	5	4	4	yellow / black
3-wire -system	Supply+	1	3	1	1	white
	Supply -	2	4	2	2	brown
	Signal +	3	1	3	3	green
	Ground	ground pin	5	4	4	yellow / black

### Wiring diagrams

#### 2-wire-system (current)



#### 3-wire-system (current)



#### 3-wire-system (voltage)

