DMD 341

Differential Pressure Transmitter for Gases and Compressed Air in Compact Version

Silicon Sensor

accuracy according to IEC 60770:
0.35 % / 1% / 2%

Differential pressure

from 0 ... 6 mbar up to 0 ... 1000 mbar

Output signals

2-wire: 4 … 20 mA

3-wire: 0 ... 20 mA / 0 ... 10 V

Special characteristics

- aluminium housing
- suited for non-aggressive gases and compressed air

Optional versions

- customer specific versions

The DMD 341 is a differential pressure transmitter for non-aggressive gases and compressed air. Because of its compact and robust aluminium housing it is particularly suited for machine and plant engineering.

Basic element of the DMD 341 is a piezo-resistive silicon sensor, which features high accuracy and excellent long term stability.

Preferred areas of use are

- Plant and machine engineering
- Heating and air conditioning

Preferred used for

- Compressed air, non-aggressive gases

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Input pressure range											
Nominal pressure p_N [mbar] (over, differential pressure)	0...6	0...10	0...20	0...40	0...60	0...100	0...160	0...250	0...400	0...600	0...1000
Nominal pressure p_N symmetric (differential pressure) [mbar]	± 6	± 10	± 20	± 40	± 60	± 100	±160	± 250	± 400	± 600	±1000
Overpressure [mbar]	100	100	200	350	350	1000	1000	1000	1000	3000	3000

Output signal / Supply					
Standard	standard pressure range:	2-wire:	4 ... 20 mA	/	V_S = 8 ... 32 V_{DC}
Options 3-wire	standard pressure range:	3-wire:	0 ... 20 mA	/	V_S = 14 ... 30 V_{DC}
			0 ... 10 V	/	V_S = 14 ... 30 V_{DC}

Performance				
Accuracy [1]	p_N > 160 mbar: ≤ ± 0.35 % FSO 40 mbar ≤ p_N ≤ 160 mbar: ≤ ± 1 % FSO p_N < 40 mbar: ≤ ± 2 % FSO			
Permissible load	current 2-wire: $R_{max} = [(V_S - V_{S\ min}) / 0.02\ A]\ \Omega$ voltage 3-wire: R_{min} = 10 kΩ		current 3-wire: R_{max} = 240 Ω	
Influence effects	supply: 0.05 % FSO / 10 V		load: 0.05 % FSO / kΩ	
Long term stability	≤ ± 0.2 % FSO / year at reference conditions			
Response time	< 5 msec			
[1] accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)				

Thermal effects (offset and span)				
Nominal pressure p_N [mbar]	≤ 10	≤ 20	≤ 250	> 250
Tolerance band [% FSO]	≤ ± 2	≤ ± 1.5	≤ ± 1	≤ ± 0.5
TC, average [% FSO / 10 K]	± 0.3	± 0.25	± 0.15	± 0.08
in compensated range	0 ... 60 °C			

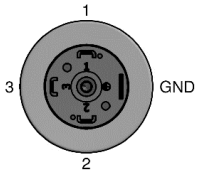
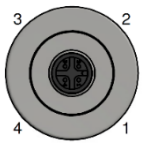
Permissible temperatures	
Medium	-25 ... 125 °C
Electronics / environment	-25 ... 85 °C
Storage	-40 ... 100 °C

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 (20 ... 2000 Hz)
Shock	100 g / 11 msec

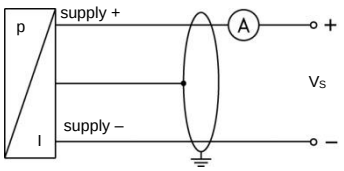
Materials	
Pressure port	G1/8″ internal: aluminium, silver anodized flexible tube connection Ø6.6 x 11: brass, nickel plated
Housing	aluminium, silver anodised
Seal (media wetted)	PUR, bonded
Sensor	silicon, glass, RTV, ceramics Al_2O_3, nickel
Media wetted parts	pressure port, housing, seal, sensor

Miscellaneous		
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
Current consumption	signal output current:	max. 25 mA
	signal output voltage:	max. 7 mA
Weight	approx. 250 g	
Operational life	100 million load cycles	
CE-conformity	EMC Directive: 2014/30/EU	

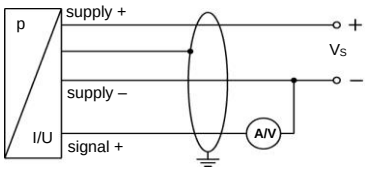
Pin configuration			
Electrical connection	ISO 4400  	M12x1 (4-pin), metal  	cable colour (IEC 60757)
Supply + Supply – Signal + (only 3-wire)	1 2 3	1 2 3	WH (white) BN (brown) GN (green)
Shield	ground pin ⏚	4	GNYE (green-yellow)

Wiring diagrams

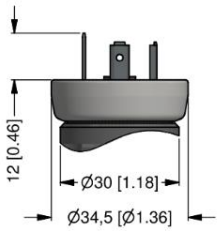
2-wire-system (current)



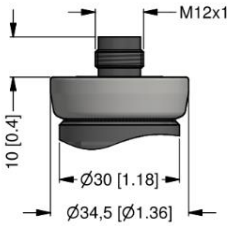
3-wire-system (current / voltage)



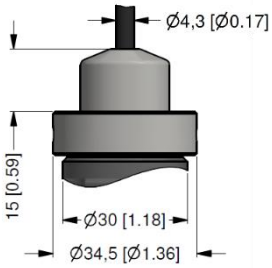
Electrical connections (dimensions mm / in)



ISO 4400 (IP 65)



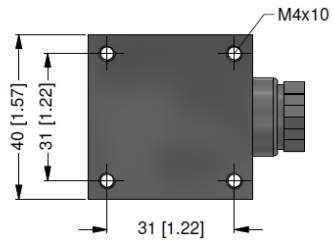
M12x1, 4-pin (IP 67)

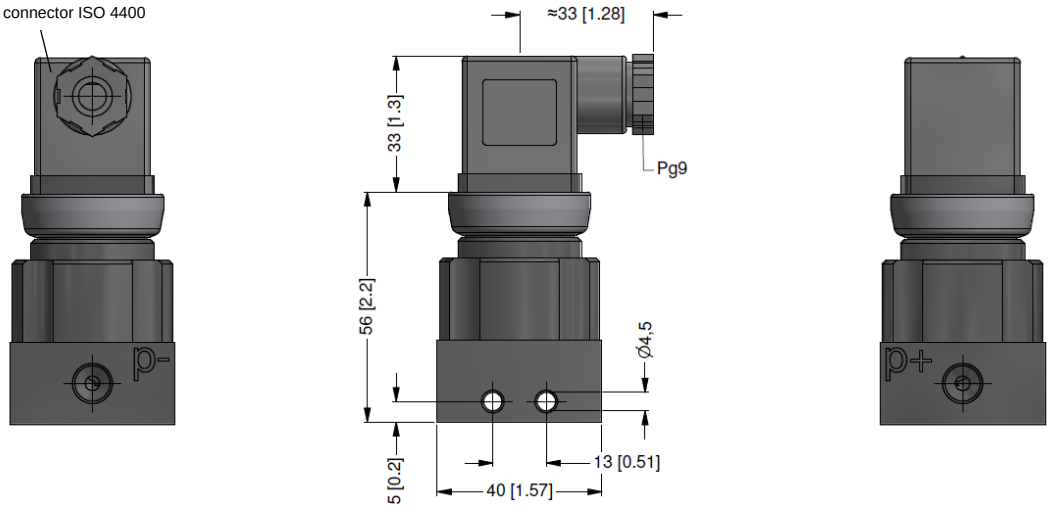


cable outlet with PVC-cable (IP 67) [2]

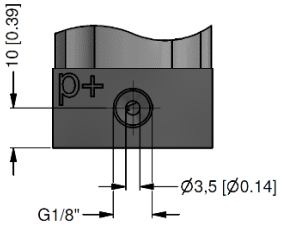
[2] *standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 … 70 °C); optionally cable with ventilation tube*

Dimensions (mm / in)

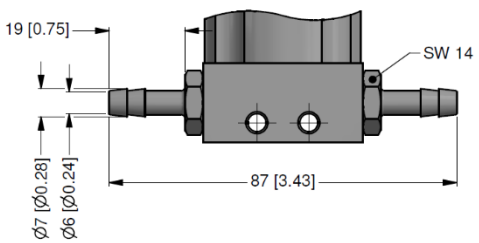




Mechanical connection (dimensions mm / in)



G1/8" internal thread



Ø6.6x11 (for flex. tubes Ø6)

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BD|SENSORS pressure measurement

Ordering code DMD 341

DMD 341 □□□-□□□□-□-□-□□□-□□□-□-□□□

Pressure		
differential pressure	330	
gauge pressure	331	
Input	**[mbar]**	
6	0060	
10	0100	
20	0200	
40	0400	
60	0600	
100	1000	
160	1600	
250	2500	
400	4000	
600	6000	
1000	1001	
-6 ... 6	S006	consult
-10 ... 10	S010	consult
-20 ... 20	S020	consult
-40 ... 40	S040	consult
-60 ... 60	S060	consult
-100 ... 100	S100	consult
-160 ... 160	S160	consult
-250 ... 250	S250	consult
-400 ... 400	S400	consult
-600 ... 600	S600	consult
-1000 ... 1000	S102	consult
customer	9999	consult
Output		
4 … 20 mA / 2-wire	1	
0 … 20 mA / 3-wire	2	
0 … 10 V / 3-wire	3	
customer	9	consult
Accuracy		
standard for p_N > 160 mbar: 0,35 % FSO	3	
standard for 40 mbar ≤ p_N ≤ 160 mbar: 1,0 % FSO	8	
standard for p_N < 40 mbar: 2,0 % FSO	G	
customer	9	consult
Electrical connection		
male and female plug ISO 4400	100	
male plug M12x1 (4-pin), metal	M10	
cable outlet with PVC cable (IP67) [1]	TA0	
customer	999	consult
Mechanical connection		
G1/8" internal thread	Q00	
Ø 6.6 x 11 (for flex. tubes Ø 6)	Y00	
customer	999	consult
Seals		
PUR, bonded	6	
Special version		
standard	000	
customer	999	consult

[1] standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request

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