

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 piezoresistive stainless steel 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



Input pressure range												
Nominal pressure P_N (over, differential pressure) [mbar]	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 / $V_S = 8 \dots 32 V_{DC}$											
Options 3-wire	standard pressure range: 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	$P_N > 160$ mbar: $\leq \pm 0.35$ % FSO $40 \text{ mbar} \leq P_N \leq 160$ mbar: $\leq \pm 1$ % FSO $P_N < 40$ mbar: $\leq \pm 2$ % FSO											
Permissible load	current 2-wire: $R_{max} = [(V_S - V_S \text{ min}) / 0.02 \text{ A}] \Omega$ 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 / k Ω											
Long term stability	$\leq \pm 0.2$ % 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) / Permissible temperatures												
Nominal pressure P_N [mbar]	≤ 10			≤ 20			≤ 250			> 250		
Tolerance band [% FSO]	$\leq \pm 2$			$\leq \pm 1.5$			$\leq \pm 1$			$\leq \pm 0.5$		
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 $\varnothing 6.6 \times 11$: 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 μ H/m											
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA											
Weight	approx. 250 g											
Operational life	$> 100 \times 10^6$ pressure cycles											
CE-conformity	EMC Directive: 2004/108/EC											
Pin configuration												
Electrical connection	ISO 4400			M12x1 (4-pin)			cable colours (DIN 47100)					
Supply +	1			1			white					
Supply -	2			2			brown					
Signal + (only 3-wire)	3			3			green					
Shield	ground pin			4			yellow / green					

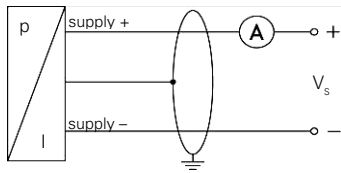
DMD 341

Differential Pressure Transmitter

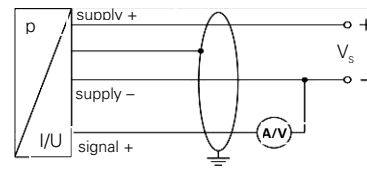
Technical Data

Wiring diagrams

2-wire-system (current)

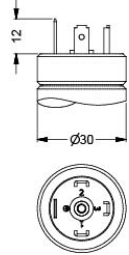


3-wire-system (current / voltage)



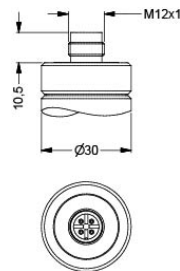
Electrical connections (dimensions in mm)

standard

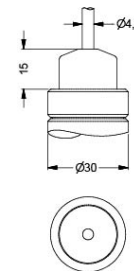


ISO 4400 (IP 65)

option



M12x1 4-pin (IP 67)

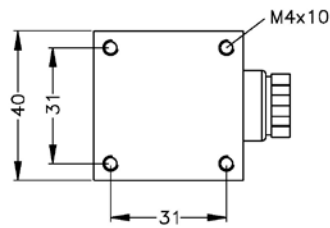


Cable outlet with PVC-cable (IP 67)²

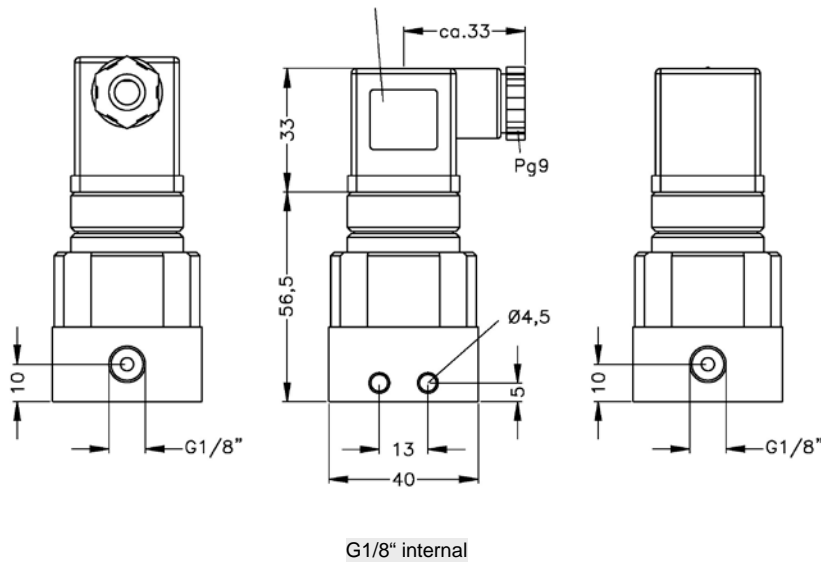
² standard: 2 m PVC cable (without ventilation tube), optionally cable with ventilation tube

Mechanical connection (dimensions in mm)

Standard



connector ISO 4400



This data sheet contains product specification, properties are not guaranteed. Subject to change without notice.

Ordering code DMD 341

DMD 341

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Pressure												
	differential pressure	3	3	0								
	gauge pressure	3	3	1								
Input [mbar]												
	6				0	0	6	0				
	10				0	1	0	0				
	20				0	2	0	0				
	40				0	4	0	0				
	60				0	6	0	0				
	100				1	0	0	0				
	160				1	6	0	0				
	250				2	5	0	0				
	400				4	0	0	0				
	600				6	0	0	0				
	1000				1	0	0	1				
	-6 ... 6				S	0	0	6			consult	
	-10 ... 10				S	0	1	0			consult	
	-20 ... 20				S	0	2	0			consult	
	-40 ... 40				S	0	4	0			consult	
	-60 ... 60				S	0	6	0			consult	
	-100 ... 100				S	1	0	0			consult	
	-160 ... 160				S	1	6	0			consult	
	-250 ... 250				S	2	5	0			consult	
	-400 ... 400				S	4	0	0			consult	
	-600 ... 600				S	6	0	0			consult	
	-1000 ... 1000				S	1	0	2			consult	
	customer				9	9	9	9			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 %							3			
	Standard for $40 \text{ mbar} \leq P_N \leq 160$ mbar	1,0 %							8			
	standard for $P_N < 40$ mbar	2,0 %							6			
	customer								9		consult	
Electrical connection												
	Male and female plug ISO 4400								1	0	0	
	Male plug M12x1 (4-pin)								M	0	0	
	Cable outlet with PVC cable ¹								T	A	0	
	customer								9	9	9	
											consult	
Mechanical connection												
	G1/8" internal thread								Q	0	0	
	Ø 6.6 x 11 (for flex. tubes Ø 6)								Y	0	0	
	customer								9	9	9	
											consult	
Seals												
	PUR, bonded									6		
Special version												
	standard									0	0	0
	customer									9	9	9
											consult	

¹ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)

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