



# DMD 341

Differential Pressure Transmitter for gases and compressed air in compact version

- ▶ piezoresistive silicon sensor
- ▶ compact and robust aluminium housing
- ▶ differential pressure from 0 ... 6 mbar up to 0 ... 1000 mbar

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 silicon pressure sensor, which features high accuracy and excellent long term stability.

In combination with our display and switching unit ASM 430 the user stands by the 4-digit LED-display for representing the differential pressure as well as up to 2 freely configurable contacts. The DMD 341 offers high flexibility with regard to mounting as well as mechanical and electrical connection.

The display is rotatable so that clear readability is guaranteed even on unusual installation positions.

Applications:

- ▶ filter controlling
- ▶ air conditioning technology

- ▶ gauge and differential pressure measurement
- ▶ for non-aggressive gases and compressed air
- ▶ current and voltage output signals in 2- and 3-wire systems
- ▶ excellent long term stability
- ▶ compact design
- ▶ mechanically robust
- ▶ option: display and switching module with up to 2 contacts
- ▶ customer specific versions on request

Characteristics



**DMD 341**  
Differential Pressure Transmitter

Input pressure range											
Nominal pressure $P_N$ [mbar] (gauge and 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
Permissible 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 / $U_B = 12 \dots 36 V_{DC}$ symmetric pressure range: 2-wire: (12 ± 8) mA / $U_B = 12 \dots 36 V_{DC}$
Optional	standard pressure range: 3-wire: 0 ... 20 mA / $U_B = 14 \dots 36 V_{DC}$ 0 ... 10 V / $U_B = 14 \dots 36 V_{DC}$ symmetric pressure range: 3-wire: (10 ± 10) mA / $U_B = 14 \dots 36 V_{DC}$ (5 ± 5) V / $U_B = 14 \dots 36 V_{DC}$

Performance			
Accuracy	$P_N > 160$ mbar: 40 mbar ≤ $P_N$ ≤ 160 mbar: $P_N < 40$ mbar:	IEC 60770 <sup>1</sup> ≤ ± 0.35 % FSO ≤ ± 1 % FSO ≤ ± 2 % FSO	BFSL ≤ ± 0.175 % FSO ≤ ± 0.5 % FSO ≤ ± 1 % FSO
Permissible load	current 2-wire: $R_{max} = [(V_s - V_{smin}) / 0.02] \Omega$ current 3-wire: $R_{max} = 500 \Omega$ voltage 3-wire: $R_{min} = 10 k\Omega$		
Influence effects	supply: load:	0.05 % FSO / 10 V 0.05 % FSO / kΩ	
Long term stability	≤ ± 0.2 % FSO / year		
Response time	< 5 msec		

Thermal errors (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 [°C]	0 ... 60			

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

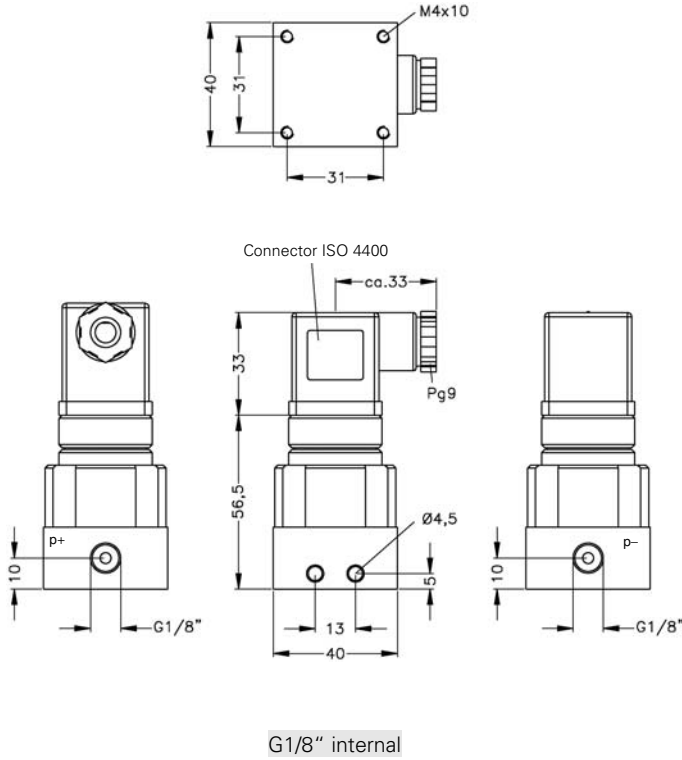
Permissible temperatures	
Media	-25 ... 125 °C
Electronics / environment	-25 ... 85 °C
Storage	-40 ... 100 °C

Display and switching unit (optional)	
Technical data of display and switching unit see data sheet ASM 430	

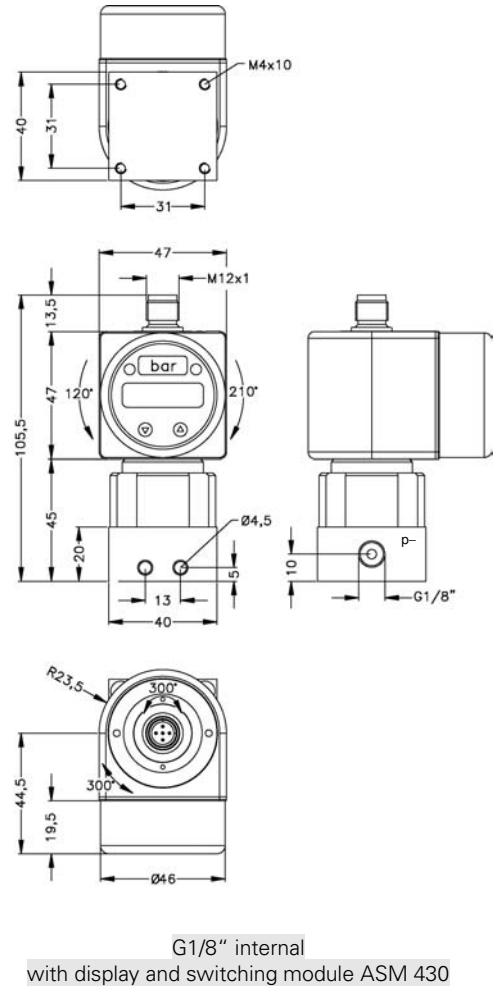
<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

Mechanical connection (dimensions in mm)

Standard

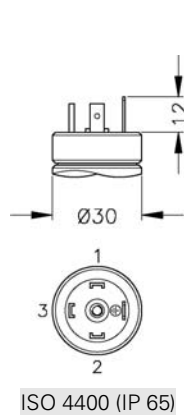


Version with ASM 430

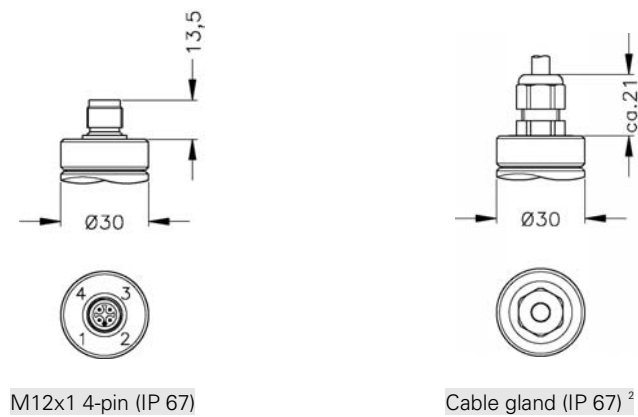


Electrical connection (dimensions in mm)

Standard



Optional



<sup>2</sup> different cable types and lengths available; standard: 2 m PVC cable without ventilation tube, optionally cable with ventilation tube

### Materials

Pressure port	G1/8" internal: aluminium, silver anodised flexible tube connection Ø6.6 x 11: brass, nickel plated
Housing	aluminium, silver anodised
Seals (media wetted)	PUR, bonded
Sensor	silicon, glass, RTV, ceramics Al <sub>2</sub> O <sub>3</sub> , nickel
Media wetted parts	pressure port, housing, seals, diaphragm

### Miscellaneous

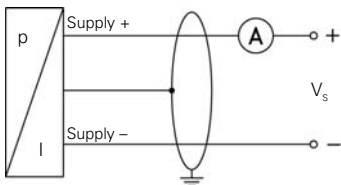
Connecting cables (by factory)	cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1 µH/m
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 250 g
Operational life	> 100 x 10 <sup>6</sup> cycles

### Pin configuration

Electrical connection		ISO 4400	M12x1 (4-pin)	cable colours (DIN 47100)
2-wire-system	Supply +	1	1	white
	Supply -	2	2	brown
	Ground	ground pin	4	yellow / green (shield)
3-wire-system	Supply +	1	1	white
	Supply -	2	2	brown
	Signal +	3	3	green
	Ground	ground pin	4	yellow / green (shield)

### Wiring diagrams

2-wire-system (current)



3-wire-system (current / voltage)

