

DMD 831



Differential Pressure Transmitter with Display and Contact for Fluids and Gases

- ▶ 2 piezoresistive stainless steel sensors
- ▶ differential pressure from 0 ... 1 bar up to 0 ... 70 bar
- ▶ display mode selectable: P+, P-, ΔP
- ▶ display and pressure ports rotatable



Technical Data

Input pressure range								
Nominal pressure ¹	[bar]	1	2	3.5	7	20	35	70
Differential pressure range	[bar]							
TD 1:1		0 ... 1	0 ... 2	0 ... 3.5	0 ... 7	0 ... 20	0 ... 35	0 ... 70
up to		up to	up to	up to	up to	up to	up to	up to
TD 1:10		0 ... 0.1	0 ... 0.2	0 ... 0.35	0 ... 0.7	0 ... 2	0 ... 3.5	0 ... 7
¹ nominal pressure corresponds to the maximal permissible static pressure (one-sided)								
Analogue signal / Supply								
Standard	3-wire: 4 ... 20 mA				24 V _{DC} ± 10 %			
Permissible load	500 Ω							
Accuracy ²	≤ ± 1 % BFSL							
² accuracy according to IEC 61298-2 (non-linearity, hysteresis, repeatability)								
Contact								
Number, type	standard: 1 PNP				option: 2 independent PNP			
Max. switching current	125 mA, short-circuit proof							
Switching accuracy ²	≤ ± 0.5 % FSO							
Repeatability	≤ ± 0.1 % FSO							
Switching cycles	> 100 x 10 ⁶							
Delay time	0 ... 100 sec							
Programming								
Adjustability	analogue output / contact refers to: pressure "P+" or pressure "P-" or pressure difference							
	turn-down: max. 1:10							
Thermal error ³ (offset and span) / Permissible temperatures								
Tolerance band	≤ ± 1.5 % FSO							
TC, average	± 0.2 % FSO / 10 K							
In compensated range	0 ... 70 °C							
Permissible temperatures	medium: -40 ... 125 °C electronics / environment: -25 ... 85 °C storage: -40 ... 85 °C							
³ relating to nominal pressure range								
Electrical protection								
Short-circuit protection	permanent							
Reverse polarity protection	no damage, but also no function							
Electromagnetic compatibility	emission and immunity according to EN 61326							

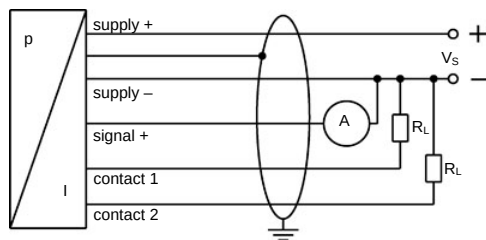
DMD 831

Differential Pressure Transmitter

Technical Data

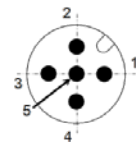
Mechanical stability		
Vibration	20 g RMS / 10 ... 2000 Hz	according to DIN EN 60068-2-6
Shock	500 g / 1 msec half sine	according to DIN EN 60068-2-27
Materials		
Pressure port	stainless steel 1.4404 (316L)	
Housing	PA 6.6, Polycarbonate	
Seals	FKM	others on request
Diaphragm	stainless steel 1.4435 (316L)	
Media wetted parts	pressure port, seals, diaphragm	
Miscellaneous		
Display	4-digit, red LED-display, digit size 7 mm; range of indication -1999 ... +9999; accuracy 0.1 % +/- 1 digit; digital damping 0.3 ... 30 sec (programmable)	
Current consumption	max. 60 mA (without switching current)	
Weight	approx. 350 g	
Operational life	100 million load cycles	
Ingress protection (device)	IP 65	

Wiring diagram



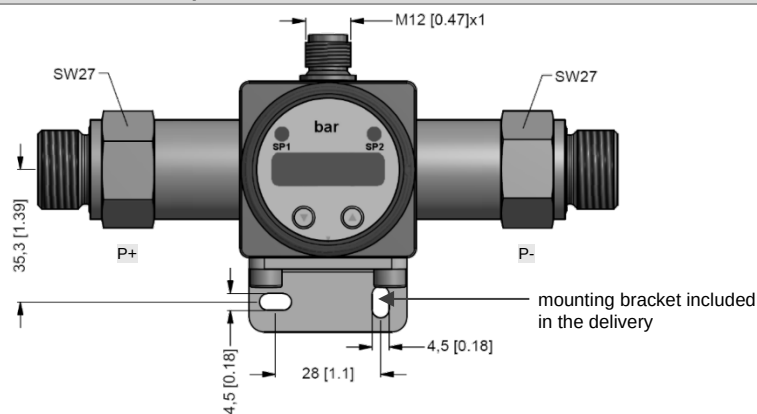
Pin configuration

Electrical connections	M12x1 (5-pin), plastic
Supply +	1
Supply -	3
Signal +	2
Contact 1	4
Contact 2	5
Shield	via pressure port

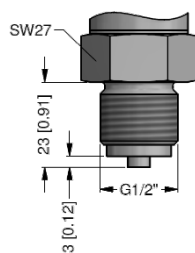


Mechanical connections (dimensions mm / in)

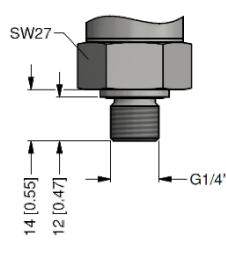
standard



option

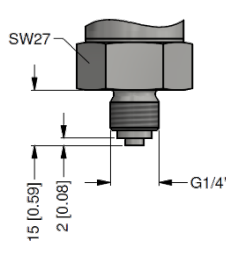


G1/2" EN 837

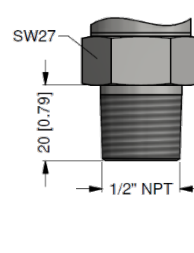


G1/4" DIN 3852

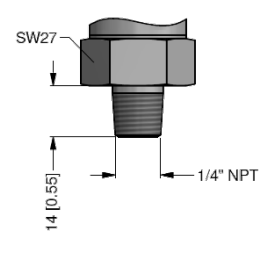
G1/2" DIN 3852



G1/4" EN 837



1/2" NPT



1/4" NPT

DMD831_E_080425

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pressure measurement

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Ordering code DMD 831

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