



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

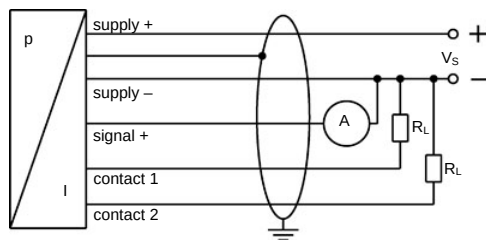


Technical Data

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	≤ ± 2 % FSO							
² accuracy according to IEC 61298-2 – limit point adjustment (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							

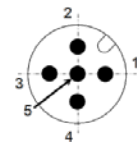
Mechanical stability		
Vibration	20 g RMS / 10 ... 2000 Hz	according to DIN EN 60068-2-6
Shock	500 g / 1 msec half sine	according to DIN EN 60068-2-27
Materials		
Pressure port	stainless steel 1.4404 (316L)	
Housing	PA 6.6, Polycarbonate	
Seals	FKM	others on request
Diaphragm	stainless steel 1.4435 (316L)	
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



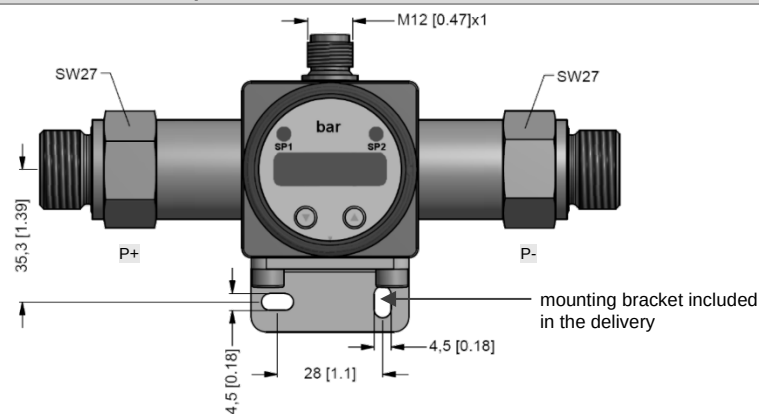
Pin configuration

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

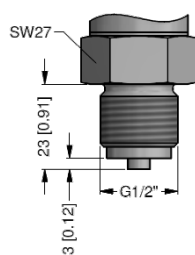


Mechanical connections (dimensions mm / in)	
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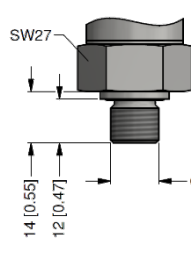
standard



option

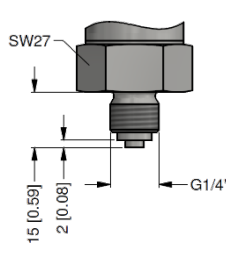


G1/2" EN 837

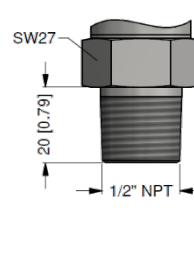


G1/4" DIN 3852

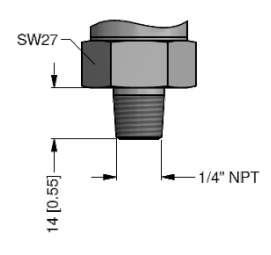
G1/2" DIN 3852



G1/4" EN 837



1/2" NPT



1/4" NPT

Ordering code DMD 831

DMD 831

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[illegible]