

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 and pressure port rotatable



Technical Data



Input pressure range							
Type	D5	D6	D7	D8	DA	DB	H1
Differential pressure range gauge ¹ / abs. ² (calibration) [bar]	0 ... 1	0 ... 2	0 ... 3,5	0 ... 7	0 ... 20	0 ... 35	0 ... 70
Permissible static pressure, one-sided [bar]	1	2	3,5	7	20	35	70
¹ gauge: If the reference point is the ambient atmosphere, the value "0" is displayed with unloaded system.							
² abs.: If the reference point is the absolute vacuum, the atmospheric pressure is indicated with unloaded system.							
Analogue signal / Supply							
Standard	3-wire: 4 ... 20 mA			24 V _{DC} ± 10 %			
Permissible load	500 Ω						
Accuracy ³	≤ ± 1 % BFSL						
³ accuracy according to IEC 60770 – (non-linearity, hysteresis, repeatability)							
Contact							
Number, type	standard: 1 PNP			option: 2 independent PNP			
Max. switching current	125 mA, short-circuit proof						
Switching accuracy ³	≤ ± 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 (+ port) / - pressure (- port) / - differential pressure turn-down: max. 1:10						
Thermal error ⁴ (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	
⁴ 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						

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Mechanical stability		
Vibration	10 g RMS (20 ... 2000 Hz)	according to DIN EN 60068-2-6
Shock	100 g / 11 msec	according to DIN EN 60068-2-27
Materials		
Pressure port	stainless steel 1.4404 (316L)	
Housing	PA 6.6, Polycarbonate	
Seals (media wetted)	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	signal output current: max. 60 mA (without switching current)	
Weight	approx. 350 g	
Operational life	100 million load cycles	
Ingress protection	IP 65	
Electrical connections		
Standard	connector M12x1 / 5- pin (IP 67)	others on request
Wiring diagram		
Pin configuration		
Electrical connections	M12x1 (5-pin), plastic	cable colour (IEC 60757) (IP 67)
Supply +	1	wh (white)
Supply -	3	bn (brown)
Signal +	2	gn (green)
Contact 1	4	gy (grey)
Contact 2	5	pk (pink)
Shield	via pressure port	gnye (green-yellow)
Mechanical connections (in mm)		Electrical connections (dimensions in mm)
<p>standard</p> <p>option</p>		

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pressure measurement

Ordering code DMD 831

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Pressure		D5		D6		D7		D8		DADBH1					
differential pressure gauge		7	3	2											
differential pressure abs.		7	3	3											
max. static pressure [bar]		D5		D6		D7		D8		DADBH1					
1			D		5										
2			D		6										
3.5			D		7										
7			D		8										
20			D		A										
35			D		B										
70			H		1										
customer					9								consult		
differential pressure range [bar]		D5		D6		D7		D8		DADBH1					
Minimum	Maximum														
0.1	1										1	0	0	1	
0.2	2										2	0	0	1	
0.35	3.5										3	5	0	1	
0.7	7										7	0	0	1	
2	20										2	0	0	2	
3.5	35										3	5	0	2	
7	70										7	0	0	2	
customer											9	9	9	9	
Analogue output															
4 ... 20 mA / 3-wire												7		consult	
customer												9		consult	
Contact															
1 contact PNP													1		
2 contacts PNP													2		
customer													9	consult	
Accuracy															
1% FSO BFSL													G		
customer													9	consult	
Electrical connection															
M12x1 (5-pin)												N	0	1	
Cable outlet with PVC cable ¹												T	A	0	
customer												9	9	9	
Mechanical connection															
G 1/2" DIN 3852												1	0	0	
G 1/2" EN 837												2	0	0	
G 1/4" DIN 3852												3	0	0	
G 1/4" EN 837												4	0	0	
1/2" NPT												N	0	0	
1/4" NPT												N	4	0	
customer												9	9	9	
Seals															
FKM													1		
customer													9	consult	
Special version															
standard													0	0	0
customer													9	9	9

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

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