

# 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 [bar] gauge <sup>1</sup> /abs. <sup>2</sup> (calibration)	0 ... 1	0 ... 2	0 ... 3,5	0 ... 7	0 ... 20	0 ... 35	0 ... 70
Permissible static pressure [bar] one-sided	1	2	3,5	7	20	35	70
<sup>1</sup> gauge: If the reference point is the ambient atmosphere, the value "0" is displayed with unloaded system.							
<sup>2</sup> 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 <sub>DC</sub> ± 10 %			
Permissible load	500 Ω						
Accuracy <sup>1</sup>	≤ ± 1 % BFSL						
<sup>1</sup> accuracy according to EN IEC 6228-2– 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 <sup>1</sup>	≤ ± 0.5 % span						
Repeatability	≤ ± 0.1 % span						
Switching cycles	> 100 x 10 <sup>6</sup>						
Delay time	0 ... 100 sec						
Programming							
Adjustability	analogue output / contact refers to:			- pressure (+ port) - pressure (- port) - differential pressure			
	turn-down: max. 10:1						
Thermal error <sup>2</sup> (offset and span) / Permissible temperatures							
Tolerance band	≤ ± 1.5 % span						
TC, average	± 0.2 % span / 10 K						
In compensated range	0 ... 70 °C						
Permissible temperatures	medium: -40 ... 125 °C		electronics / environment: -25 ... 85 °C			storage: -40 ... 85 °C	
<sup>2</sup> 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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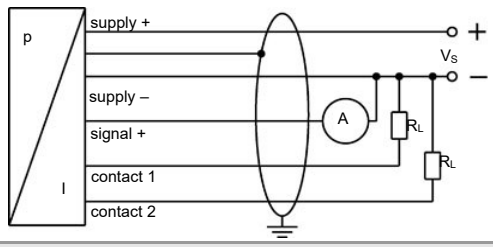
Differential Pressure Transmitter

Technical Data

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	

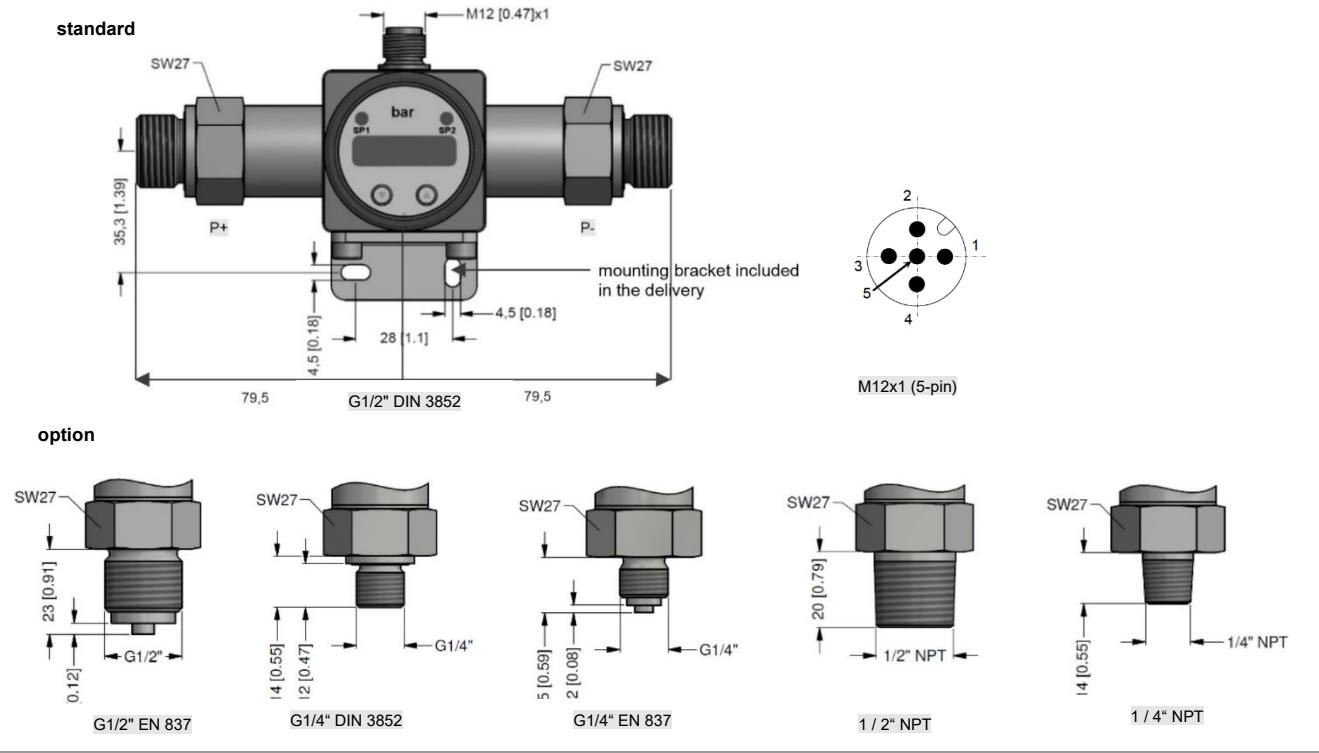
Electrical connections		
Standard	connector M12x1 / 5- pin (IP 67)	others on request

### Wiring diagram



Electrical connections	M12x1 (5-pin), plastic	cable outlet (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)



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

Ordering code DMD 831

23.08.2024

DMD 831

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Pressure																									
Differential		7	3	2																					
Max. static pressure	Differential pressure																								
1 bar	(0 ... 1 bar)					D	5																		
2 bar	(0 ... 2 bar)					D	6																		
3,5 bar	(0 ... 3,5 bar)					D	7																		
7 bar	(0 ... 7 bar)					D	8																		
20 bar	(0 ... 20 bar)					D	A																		
35 bar	(0 ... 35 bar)					D	B																		
70 bar	(0 ... 70 bar)					H	1																		
Customer						9	9																		
Differential pressure	D5 D6 D7 D8 DA DB H1																								
0 ... 1 bar		X	X	X	X							1	0	0	1										
0 ... 2 bar			X	X	X	X						2	0	0	1										
0 ... 3,5 bar				X	X	X	X					3	5	0	1										
0 ... 7 bar					X	X	X	X				7	0	0	1										
0 ... 20 bar						X	X	X				2	0	0	2										
0 ... 35 bar							X	X				3	5	0	2										
0 ... 70 bar								X				7	0	0	2										
Customer												9	9	9	9										
Output																									
4 ... 20 mA / 3-wire													7												
Customer														9											
Contact																									
Without contact																				0					
1 contact PNP																				1					
2 contacts PNP																				2					
Accuracy																									
2 %																				G					
Customer																				9					
Electrical connection																									
Connector M12 x 1 (5-pin)(IP 65)																				N	0	1			
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																									
Viton (FKM)																							1		
Customer																							9		
Special version																									
Standard																							0	0	0
Customer																							9	9	9

0,-...without additional charge  
On request...in accordance with the producer

BD SENSORS reserves the right to change sensor specifications without further notice.  
X - selected version of max. pressure on input "+" and differential pressure is producible.



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The company BD SENSORS s.r.o. is certified by Bureau Veritas Czech according to the standard ISO 9001.