

# Differential Pressure switch series MD

General purpose

Accuracy:  $\pm 1$  %

## Features

- Protection IP54, IP66
- Wetted parts available in several materials
- High static pressure up to 140 bar

## Ranges

75 mbar diff. up to 42 bar diff.

30 in. H<sub>2</sub>O up to 600 psid

## Applications

Chemical and petrochemical industry

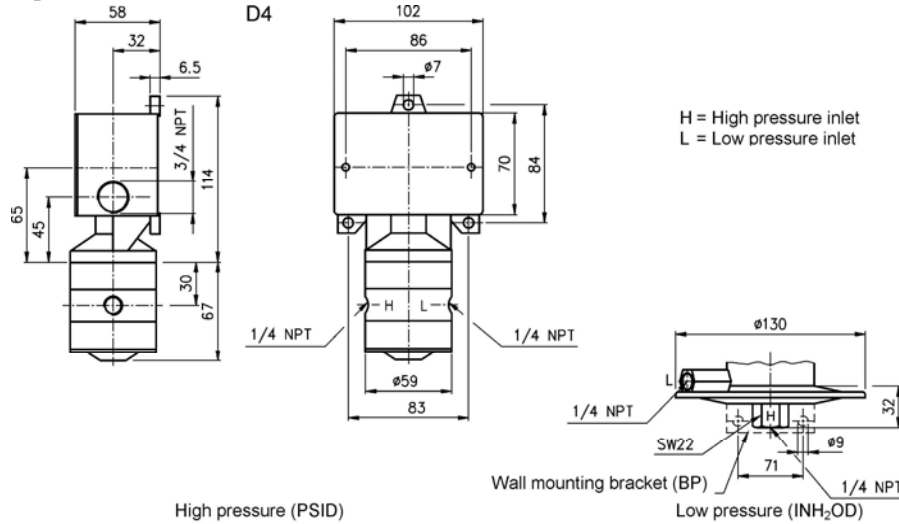
Machine and apparatus construction

Food and beverage industry

Pulp and paper industry

Technical specification	MD series
Construction	Weatherproof
Switch functions	One setpoint, single pole double throw (SPDT) or 2 times SPDT (2SPDT)
Adjustable range	From 15 % to 100 % F.S., below 15 % consult factory
Deadband	From 0,5 % to 15 % F.S., depending on material, range and microswitch
Measuring principle	Diaphragm-piston-cylinder-system
Range [mbar]	75 150 250 375
[bar]	1 2 4 6 7 14 28 42
Limits (pressure ranges)	mbar 1 to 6 bar 7 to 14 bar 28 bar 42 bar
Max. static pressure [bar]	0,37 35 69 69 138
Proof pressure [bar]	1,5 138 276 551 551
Pressure type	Optional 100 bar static pressure for the ranges 1 bar and 2 bar (only diaphragm Buna N or Viton) Differential pressure
Process connection	¼ NPT female (standard), ½ NPT male, ½ NPT female G ½ B male, M20x1,5 (metric connections with adapter), others on request
Connection location	For mbar ranges lower and side, for bar ranges at the side
Material	
Pressure connection	Standard Nickel plated brass, optional stainless steel 316 (1.4401) or Monel
Diaphragm	For mbar ranges steel epoxy coated standard, stainless steel on request
Housing	Buna N, Viton (max. 42 bar), Teflon, stainless steel 316 (1.4401) (stainless steel only from 1 to 6 bar) Aluminum, epoxy coated black
Accuracy	1,0 % F.S.
<b>Electrical specification</b>	
Microswitch ratings	Up to max. 6 A 30 VDC respectively 22 A 250 VAC (see microswitch table)
Electrical connection	¼ NPT female, optional cable glands, ½ NPT with reducer bushing, M20x1,5, others on request
<b>General specification</b>	
Permissible	
Ambient temperature	-25 ... 60 °C
Medium temperature	Buna N and Teflon -18 ... 65 °C, Viton -7 ... 150 °C, stainless steel -18 ... 150 °C (Medium temperature of ATEX approved switches is restricted due to temperature class.)
Storage temperature	-40 ... 60 °C
Effect	Max. 0,4 % / 10 K ref. 20 °C
Protection according UL	NEMA 4, 4X and 13
Protection according EN 60 529/IEC 529	IP54, optional IP66
CE-mark	Low voltage regulations: EN 61 010-1, EN 60 947-1
Mounting	Standard stem, wall (BP) or 2" pipe mounting (TM)
Weight mbar/bar [kg]	1,2/1,6
Accessories, options	Diaphragm seals, valves, adapters, NACE

### General dimensions [mm]



### Order information

Switch element	Material actuator seal	Range	Engineering unit	Protection	Process connection	Electrical connection	Options
<b>SPDT</b>	<b>(B)</b> Buna N <sup>1)</sup>	<b>30</b>	<b>INH2OD</b>	<b>(IP)</b> Standard D4 IP54	<b>(25)</b> ¼ NPT female	<b>(=)</b> Standard	<b>(NH)</b> Tagging wired
<b>(K)</b> Narrow deadband (15 A 250/480 VAC, 0,4A 120VDC)	<b>(V)</b> Viton <sup>2)</sup>	<b>60</b> <b>100</b> <b>150</b>	<b>PSID</b>	<b>(IP65)</b> IP66 (for D4)	<b>(06)</b> ½ NPT male <sup>1)</sup>	<b>(JL)</b> ¾ to ½ NPT female re- ducing bush- ing	<b>(FS)</b> Factory ad- justed setpoint
<b>(W)</b> Ammonia service (5A 250 VAC, 6 A 30 VDC)	<b>(T)</b> Teflon <sup>1)</sup>	<b>15</b>					
<b>(P)</b> Hermetically sealed (5 A 250 VAC)	<b>(S)</b> 316 (1.4401) <sup>3)</sup>	<b>30</b> <b>60</b> <b>90</b> <b>100</b> <b>200</b> <b>400</b> <b>600</b>					
<b>(C)</b> Heavy duty AC (22 A 250 VAC)							
<b>(H)</b> General purpose (15 A 250 VAC, 6 A 30 VDC)							
<b>(F)</b> Sealed environment proof (15 A 250 VAC, 0,4A 120VDC)							
<b>(Y)</b> High temp. (max. 150 °C) (15 A 250 VAC)							
<b>(M)</b> Low level (gold) contacts (1 A 125 VAC, 500mA 28VDC)							
<b>(J)</b> Hermetically sealed general purpose (11 A 250 VAC, 5 A 28 VDC)							
<b>(L)</b> Hermetically sealed, gold contacts (1 A 125 VAC)							
<b>(Z)</b> Variable deadband (15 A 250 VAC)							
<b>2xSPDT</b>	<sup>1)</sup> max. medium temperature -18 ... 65 °C	Note the range can also be speci- fied in mbar or bar					
<b>(KK)</b> see code (K)	<sup>2)</sup> max. medium temperature -7 ... 150 °C						
<b>(FF)</b> see code (F)							
<b>(YY)</b> see code (Y)							
<b>(HH)</b> see code (H)							
<b>(WW)</b> see code (W)							
<b>(MM)</b> see code (M)	<sup>3)</sup> max. medium temperature -18 ... 150 °C only ranges from 15 to 90 psid						
						<b>(TM)</b> 2" pipe mount- ing bracket	
					<b>(15)</b> G ½ B male <sup>1)</sup>	<b>(KV2)</b> Plastic cable gland IP65, PG11	<b>(TA)</b> 316 (1.4401) pressure connection for in. H <sub>2</sub> OD ranges
					<b>(16)</b> M20x1,5 male <sup>1)</sup>	<b>(KV3)</b> Plastic cable gland IP65, PG13,5	<b>(UD)</b> 316 (1.4401) pressure connection for psid ranges
						<b>(KV4)</b> Plastic cable gland IP65, PG16	<b>(BP)</b> Wall mounting bracket for in. H <sub>2</sub> OD ranges
						<b>(KV52)</b> Plastic cable gland PG13,5	<b>(HS)</b> High static pressure 100 bar (only for ranges 15 and 30 psid and diaph- ragm Buna N or Vi- ton)
					<sup>1)</sup> with adapter		<b>(MD)</b> Metric ranges

### How to order

Type	Switch element	Material actuator seal	Range	Engineering unit	Protection	Process connection	Electrical connection	Option
D4	H	B	10/100	PSID	IP	25	JL	NH

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