

Differential Pressure switch series D4 and D7

General purpose or Ex-proof according UL or ATEX
 (Ex d or Ex ia)
 Accuracy: ± 1 %

Features

- Ambient temperature up to 60 °C for Ex applications
- Ex II 2 GD or Ex II 1 GD
- Class 1 Division 1 Gr. B, C and D according UL
- Protection IP54, IP66 or NEMA 4, 4X, 7, 9 and 13 (UL)
- Wetted parts available in several materials
- High static pressure up to 140 bar

Ranges

75 mbar diff. up to 42 bar diff.
 30 in. H₂O up to 600 psid

Applications

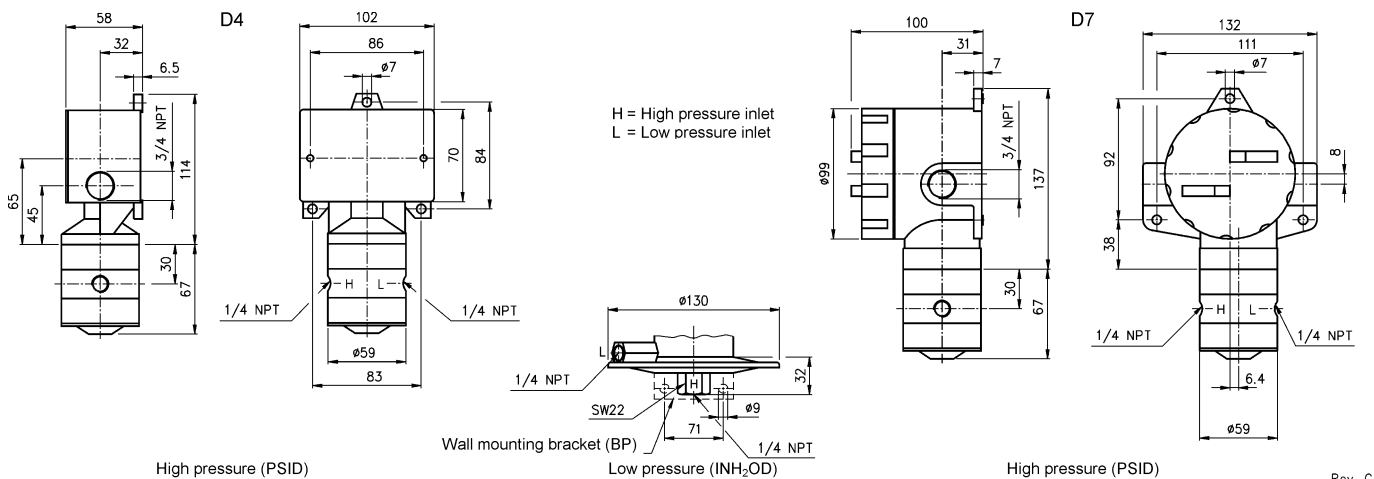
Chemical and petrochemical industry
 Machine and apparatus construction
 Food and beverage industry
 Pulp and paper industry



Technical specification		D4 series		D7 series					
Construction		Weatherproof		Ex-proof according UL CSA on request	Flame proof according EN 60079-0, -1, -31 Intrinsically safe acc. IEC 60079-0 and EN 60079 -11, -26				
Switch functions Adjustable range Deadband		One setpoint, single pole double throw (SPDT) or 2 times SPDT (2SPDT) From 15 % to 100 % F.S., below 15 % consult factory 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) For mbar ranges steel epoxy coated standard, stainless steel on request							
Diaphragm		Buna N, Viton (max. 42 bar), Teflon, stainless steel 316 (1.4401) (stainless steel only from 1 to 6 bar)							
Housing		Aluminum, epoxy coated black							
Accuracy		1,0 % F.S.							
Electrical specification									
Microswitch ratings		Up to max. 6 A 30 VDC respectively 22 A 250 VAC (see microswitch table)							
Flameproof and dust ignition protection by enclosure				Class 1 Div. 1 Gr. B, C and D Class 2 Div. 1 Gr. E, F and G	Ex II 2GD Ex d IIC T6 Gb Ex t IIIC T85°C Db IP6X Sira 02 ATEX 1391X				
Intrinsically safe and dust ignition protection by enclosure					Ex II 1 GD Ex ia IIC T4 Ga Ex ia IIIC T135°C Da SIRA 04 ATEX 2081				
Electrical connection		¾ NPT female, optional cable glands, ½ NPT with reducer bushing, M20x1,5, others on request							
General specification									
Permissible									
Ambient temperature		-25 ... 60 °C		-25 ... 65 °C	-20 ... 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		NEMA 7 and 9					
Protection according EN 60 529/IEC 529		IP54, optional IP66		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		1,7/2,0					
Accessories, options		Diaphragm seals, valves, adapters, NACE							

All specifications are subject to change without notice.

General dimensions [mm]



Order information

Switch element	Material actuator seal	Range	Engineering unit	Protection	Process connection	Electrical connection	Options
SPDT (20) Narrow deadband ¹⁾ (15 A 250/480 VAC, 0,4A 120VDC)	(B) Buna N ¹⁾	30	INH2OD	(IP) Standard D4 IP54 D7 IP66	(25) ¼ NPT female	(=) Standard	(NH) Tagging wired
(21) Ammonia service (5A 250 VAC, 6 A 30 VDC)	(V) Viton ²⁾	60	PSID	(IP65) IP66 (for D4) (UL) UL approval D4 NEMA 4 D7 NEMA 7 & 9	(06) ½ NPT male ¹⁾ (07) ½ NPT female ¹⁾ (15) G ½ B male ¹⁾ (16) M20x1,5 male ¹⁾	(JL) ¾ to ½ NPT female reducing bushing (JM) ¾ NPT to M20x1,5 female reducing bushing (K3) Terminal block (standard for D7 with 2xSPDT, not for D4) Only for protection IP (KV2) Plastic cable gland IP65, PG11 (KV3) Plastic cable gland IP65, PG13,5 (KV4) Plastic cable gland IP65, PG16 (KV52) Plastic cable gland PG13,5	(FS) Factory adjusted setpoint (6B) Oxygen cleaned (not for Buna N diaphragm; in. H ₂ O ranges only with option TA) (TM) 2" pipe mounting bracket (TA) 316 (1.4401) pressure connection for in. H ₂ OD ranges (UD) 316 (1.4401) pressure connection for psid ranges (BP) Wall mounting bracket for in. H ₂ OD ranges (HS) High static pressure 100 bar (only for ranges 15 and 30 psid and diaphragm Buna N or Viton) (MD) Metric ranges
(22) Hermetically sealed (5 A 250 VAC)	(T) Teflon ¹⁾	100					
(23) Heavy duty AC (22 A 250 VAC)	(S) 316 (1.4401) ³⁾	150					
(24) General purpose ¹⁾ (15 A 250 VAC, 6 A 30 VDC)		15					
(26) Sealed environment proof ¹⁾ (15 A 250 VAC, 0,4A 120VDC)		30					
(27) High temp. (max. 150 °C) (15 A 250 VAC)		60					
(31) Low level (gold) contacts (1 A 125 VAC, 500mA 28VDC)		90					
(32) Hermetically sealed general purpose (11 A 250 VAC, 5 A 28 VDC)		100					
(42) Hermetically sealed, gold contacts (1 A 125 VAC)		200					
(50) Variable deadband (15 A 250 VAC)		400					
2xSPDT (61) see code (20) (62) see code (26) (63) see code (27) (64) see code (24) (65) see code (21) (67) see code (22) (not D4 series) (68) see code (32) (not D4 series) (70) see code (31) (71) see code (42) (not D4 series)	¹⁾ max. medium temperature -18 ... 65 °C ²⁾ max. medium temperature -7 ... 150 °C ³⁾ max. medium temperature -18 ... 150 °C only ranges from 15 to 90 psid	600		(CEN3) ATEX Ex d with cable gland Ex d M20x1.5 (only for D7) (CEN4) ATEX Ex d and Ex t ¾ NPT thread female (only for D7) (CEN6) ATEX Ex ia ¾ NPT thread female (only for D7) (CEN7) ATEX Ex ia with cable gland Ex d M20x1.5 (only for D7)			
¹⁾ VDC rating not UL listed		Note the range can also be specified in mbar or bar			¹⁾ with adapter		

How to order

Type	Switch element	Material actuator seal	Range	Engineering unit	Protection	Process connection	Electrical connection	Option
D7	24	B	10/100	PSID	UL	25	JL	NH

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