Differential Pressure switch series D4 and D7

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

Features

- Ambient temperature up to 60 °C for EEx applications
- Ⓔx II 2 GD or Ⓔx 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

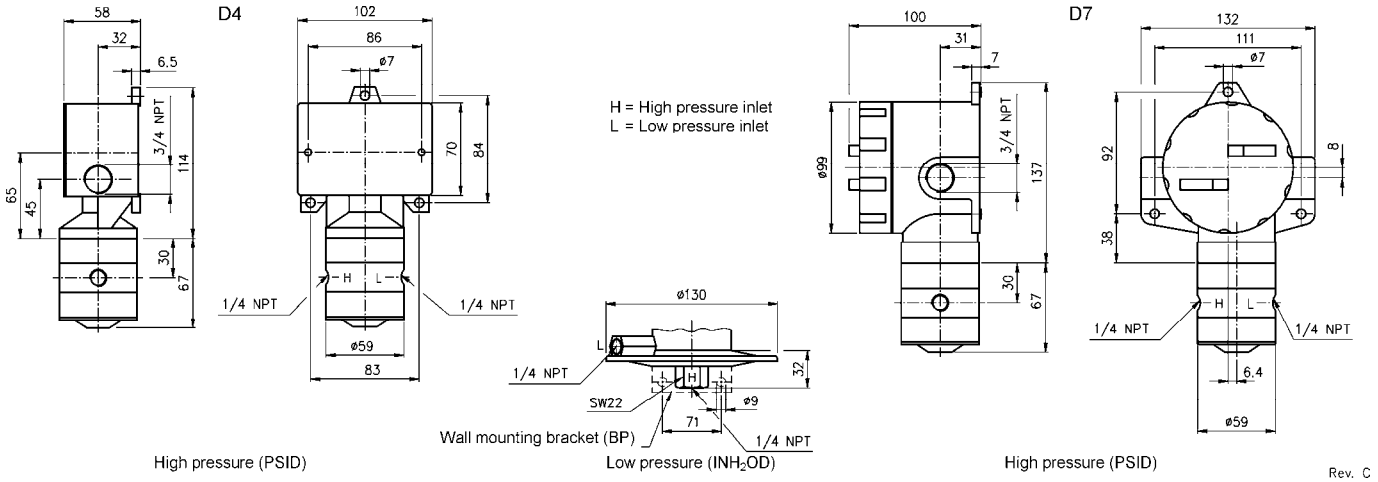
75 mbar diff. up to 42 bar diff.
30 in. H_2OD up to 600 psid

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	Ex-proof according CENELEC (ATEX) EN 50 0-14, -18, -20
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		
		Optional 100 bar static pressure for the ranges 1 bar and 2 bar (only diaphragm Buna N or Viton)		
Pressure type		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 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)		
Ex-proof			Class 1 Div. 1 Gr. B, C and D Class 2 Div. 1 Gr. E, F and G	EEx d IIC T6 Sira 02 ATEX 1391
Intrinsically safe				EEx ia IIC T4 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		

General dimensions [mm]



Rev. C

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) **(21)** Ammonia service (5A 250 VAC, 6 A 30 VDC) **(22)** Hermetically sealed (5 A 250 VAC) **(23)** Heavy duty AC (22 A 250 VAC) **(24)** General purpose [1] (15 A 250 VAC, 6 A 30 VDC) **(26)** Sealed environment proof [1] (15 A 250 VAC, 0,4A 120VDC) **(27)** High temp. (max. 150 °C) (15 A 250 VAC) **(31)** Low level (gold) contacts (1 A 125 VAC, 500mA 28VDC) **(32)** Hermetically sealed general purpose (11 A 250 VAC, 5 A 28 VDC) **(42)** Hermetically sealed, gold contacts (1 A 125 VAC) **(50)** Variable deadband (15 A 250 VAC) **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] VDC rating not UL listed	**(B)** Buna N [1] **(V)** Viton [2] **(T)** Teflon [1] **(S)** 316 (1.4401) [3] [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	**30** **60** **100** **150** **15** **30** **60** **90** **100** **200** **400** **600** Note the range can also be specified in mbar or bar	**INH2OD** **PSID**	**(IP)** Standard D4 IP54 D7 IP66 **(IP65)** IP66 (for D4) **(UL)** UL approval D4 NEMA 4 D7 NEMA 7 & 9 **(CEN3)** ATEX EEx d with cable gland EEx d PG13,5 (only for D7) **(CEN4)** ATEX EEx d ¾ NPT thread female (only for D7) **(CEN6)** ATEX EEx ia ¾ NPT thread female (only for D7) **(CEN7)** ATEX EEx ia with cable gland EEx d PG13,5 (only for D7)	**(25)** ¼ NPT female **(06)** ½ NPT male [1] **(07)** ½ NPT female [1] **(15)** G ½ B male [1] **(16)** M20x1,5 male [1] [1] with adapter	**(=)** Standard **(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	**(NH)** Tagging wired **(FS)** Factory adjusted setpoint **(6B)** Oxygen cleaned (not for Buna N diaphragm; in. H_2O ranges only with option TA) **(TM)** 2" pipe mounting bracket **(TA)** 316 (1.4401) pressure connection for in. H_2OD ranges **(UD)** 316 (1.4401) pressure connection for psid ranges **(BP)** Wall mounting bracket for in. H_2OD ranges **(HS)** High static pressure 100 bar (only for ranges 15 and 30 psid and diaphragm Buna N or Viton) **(MD)** Metric ranges

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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