

Pressure switch series B4 and B7

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 IP66 or NEMA 3, 4, 4X, 7, 9 and 13 (UL)
- Wetted parts available in several materials
- High proof pressure

Ranges

-37,5/+37,5 mbar up to 210 bar
 -15/+15 in. H₂O up to 3000 psi

Applications

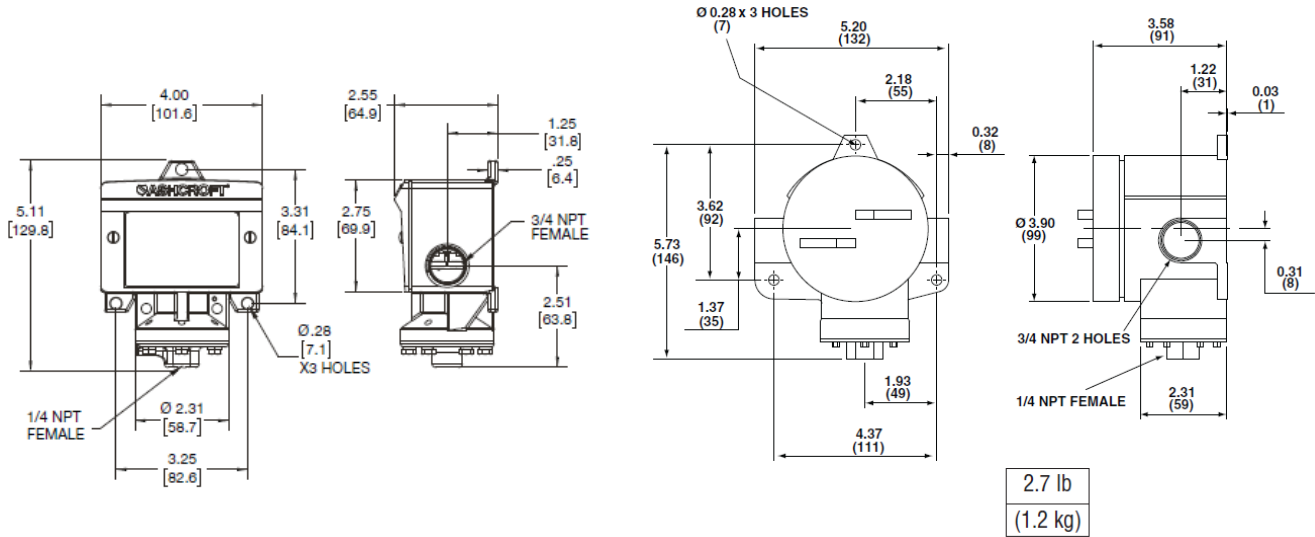
Chemical and petrochemical industry
 Machine and apparatus construction
 Food and beverage industry
 Pulp and paper industry



Technical specification	B4 series	B7 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	One setpoint, single pole double throw (SPDT) or 2 times SPDT (2SPDT)													
Adjustable range	From 15 % to 100 %, 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 in mbar	25	75	150	250	375	-37,5/37,5	-75/75							
Range in bar	1	2	4	7	14	28	42	70	140	210	-1/0	-1/1	-1/2	-1/4
Limits (pressure ranges)	mbar		vacuum		1 to 4 bar		7 to 14 bar		28 to 42 bar		70 to 210 bar			
Proof pressure in bar	1,4		17		35		69		165		827			
Burst pressure in bar	2,4		28		103		207		207		1240			
Pressure type	Gauge, vacuum and compound													
Process connection	$\frac{1}{4}$ NPT female, $\frac{1}{2}$ NPT male/ $\frac{1}{4}$ NPT female (standard for ≥ 70 bar) $\frac{1}{2}$ NPT female, G $\frac{1}{2}$ B male, M20x1,5, others on request (metric connections with adapter)													
Connection location	Lower													
Material	Stainless steel 316 (1.4401), optional Monel													
Pressure connection	For mbar ranges steel epoxy coated standard, stainless steel on request Buna N, Viton (max. 70 bar), Teflon, stainless steel 316 (1.4401) or Monel (stainless steel and Monel only from 1 bar to 70 bar)													
Diaphragm	Aluminum, epoxy coated black													
Housing														
Accuracy	1,0 % F.S.													
Electrical specification														
Microswitch ratings	From 6 A 30 VDC up to 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 2 GD 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	$\frac{3}{4}$ NPT female, optional cable glands, $\frac{1}{2}$ 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 and Monel -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		IP66									
Protection according EN 60 529/IEC 529	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 in kg	1,2/0,7		1,6/1,2											
Accessories, options	Diaphragm seals, valves, adapters, NACE													

All specifications are subject to change without notice.

General dimensions in inch (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⁾	-15/ 15 -30/ 30	INH2O	(IP) Standard IP66	(25) ¼ NPT female	(=) Standard	(NH) Tagging wired
(21) Ammonia service (5A 250 VAC, 6 A 30 VDC)	(V) Viton ²⁾	-30/ 0	INHG/PSI	(UL) UL approval B4 NEMA 4 B7 NEMA 7 & 9	(06) ¼ NPT female/ ½ NPT male ¹⁾	(JL) ¼ to ½ NPT female reducing bushing	(FS) Factory adjusted set-point
(22) Hermetically sealed (5 A 250 VAC)	(T) Teflon ¹⁾	-30/ 15 -30/ 30					
(23) Heavy duty AC (22 A 250 VAC)	(S) 316 (1.4401) ³⁾	-30/ 60					
(24) General purpose ¹⁾ (15 A 250 VAC, 6 A 30 VDC)	(P) Monel ³⁾	10 30 60 100 150	INH2O	(CEN3) ATEX Ex d with cable gland Ex d PG13,5 (only for B7)	(07) ½ NPT female (15) G ½ B male ²⁾	(JM) ¼ NPT to M20x1,5 female reducing bushing (K3) Terminal block (standard for B7 with 2xSPDT, not for B4)	(6B) Oxygen cleaned (not for Buna N diaphragm; in. H ₂ O ranges only with option TA)
(26) Sealed environment proof ¹⁾ (15 A 250 VAC, 0.4A 120VDC)							
(27) High temp. (max. 150 °C) (15 A 250 VAC)		15 30 60 100 200 400 600 1000 2000 3000	PSI	(CEN4) ATEX Ex d and Ex t ¼ NPT thread female (only for B7)	(16) M20x1,5 male ²⁾	Only for protection IP	(TM) 2" pipe mounting bracket
(31) Low level (gold) contacts (1 A 125 VAC)							
(32) Hermetically sealed general purpose (11 A 250 VAC, 5 A 28 VDC)				(CEN6) ATEX Ex ia ¼ NPT thread female (only for B7)			(TA) 316 (1.4401) pressure connection for in. H ₂ O ranges
(42) Hermetically sealed, gold contacts (1 A 125 VAC)				(CEN7) ATEX Ex ia with cable gland Ex d PG13,5 (only for B7)		(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	(BP) Wall mounting bracket for in. H ₂ O ranges (MD) Metric ranges
(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 B4 series) (68) see code (32) (not B4 series) (70) see code (31) (71) see code (42) (not B4 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 1000 psi	Note the range can also be specified in mbar or bar			¹⁾ standard for ranges ≥ 70 bar ²⁾ with Adapter		

Order example

Type	Switch element	Material actuator seal	Range	Engineering unit	Protection	Process connection	Electrical connection	Option
B7	24	B	100	PSI	UL	25	JL	NH

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