

Pressure switch series B4 and B7

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
- 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 proof pressure

Ranges

-37,5/+37,5 mbar up to 210 bar

-15/+15 in. H₂O up to 3000 psi

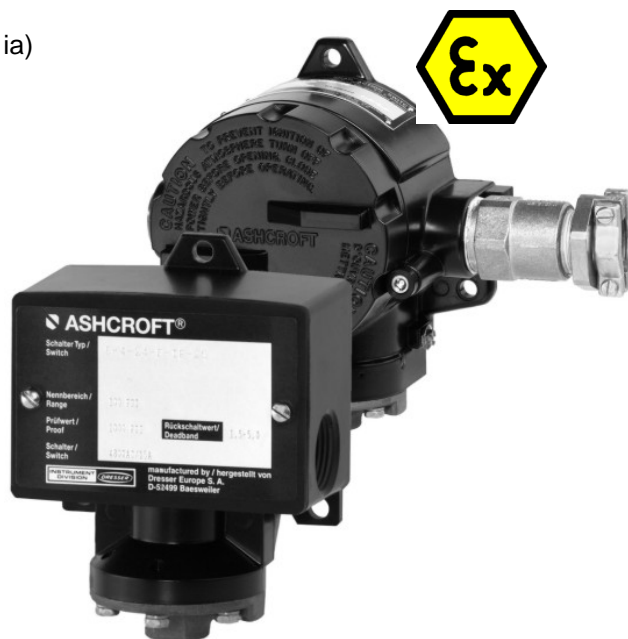
Applications

Chemical and petrochemical industry

Machine and apparatus construction

Food and beverage industry

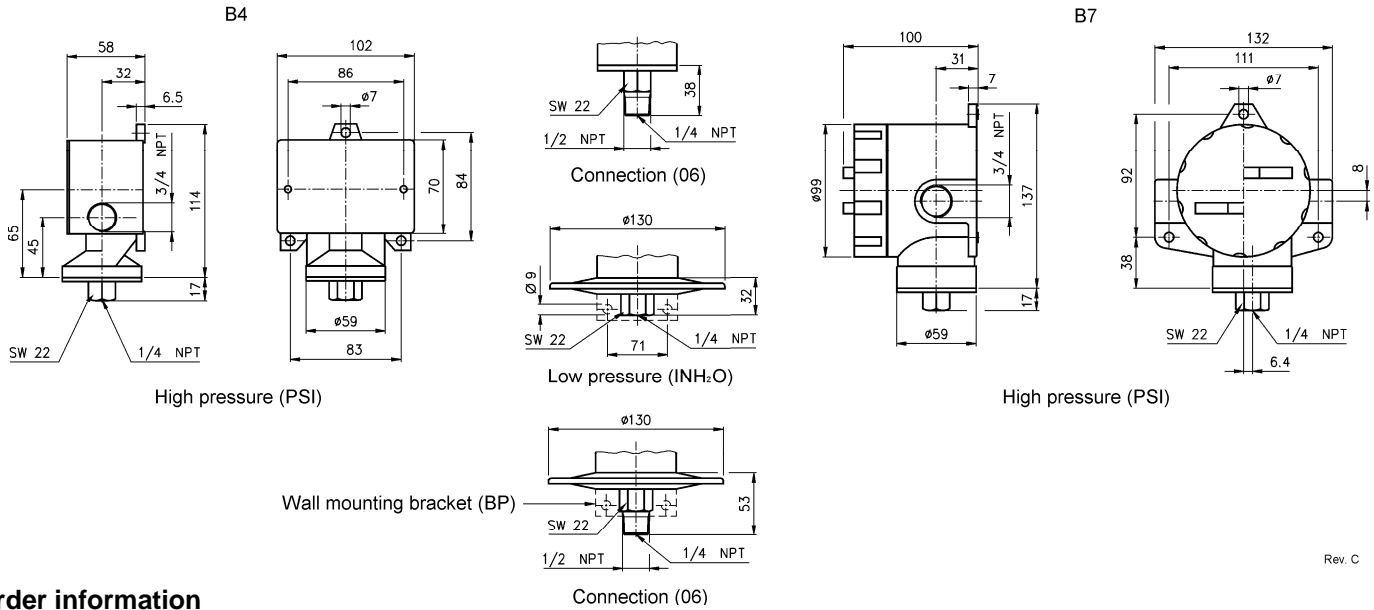
Pulp and paper industry



Technical specification	B4 series	B7 series	
Construction	Weatherproof	Ex-proof according UL CSA on request	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 %, 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]	25 75 150 250 375 -37,5/37,5 -75/75	70 140 210	-1/0 -1/1 -1/2 -1/4
[bar]	1 2 4 7 14 28 42	28 to 42 bar	70 to 210 bar
Limits (pressure ranges)	mbar vacuum 1 to 4 bar 7 to 14 bar	28 to 42 bar	70 to 210 bar
Proof pressure [bar]	1,4 17 35 69	165	827
Burst pressure [bar]	2,4 28 103 207	207	1240
Pressure type	Gauge, vacuum and compound		
Process connection	¼ NPT female, ½ NPT male/¼ NPT female (standard for ≥ 70 bar) ½ NPT female, G ½ 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		
Diaphragm	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)		
Housing	Aluminum, epoxy coated black		
Accuracy	1,0 % F.S.		
Electrical specification			
Microswitch ratings	From 6 A 30 VDC up to 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 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
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]	1,2/0,7		1,6/1,2
Accessories, options	Diaphragm seals, valves, adapters, NACE		

All specifications are subject to change without notice.

General dimensions [mm]



Rev. C

Order information

Switch element	Material actuator seal	Range	Engineering unit	Protection	Process connection	Electrical connection	Options
SPDT	(B) Buna N ¹⁾	-15/ 15	INH2O	(IP) Standard	(25) ¼ NPT female	(=) Standard	(NH) Tagging wired
(20) Narrow deadband ¹⁾ (15 A 250/480 VAC, 0,4A 120VDC)	(V) Viton ²⁾	-30/ 30		B4 IP54 B7 IP66		(JL) ¼ to ½ NPT female reducing bushing	(FS) Factory adjusted set-point
(21) Ammonia service (5A 250 VAC, 6 A 30 VDC)	(T) Teflon ¹⁾	-30/ 0	INHG/PSI	(IP65) IP66 (for B4)	(06) ¼ NPT female/ ½ NPT male ¹⁾	(JM) ¾ NPT to M20x1,5 female reducing bushing	(6B) Oxygen cleaned (not for Buna N diaphragm; in. H ₂ O ranges only with option TA)
(22) Hermetically sealed (5 A 250 VAC)	(S) 316 (1.4401) ³⁾	-30/ 30		(UL) UL approval B4 NEMA 4 B7 NEMA 7 & 9	(07) ½ NPT female	(K3) Terminal block (standard for B7 with 2xSPDT, not for B4)	(TM) 2" pipe mounting bracket
(23) Heavy duty AC (22 A 250 VAC)	(P) Monel ³⁾	-30/ 60			(15) G ½ B male ²⁾	(KV2) Plastic cable gland IP65, PG11	(TA) 316 (1.4401) pressure connection for in. H ₂ O ranges
(24) General purpose ¹⁾ (15 A 250 VAC, 6 A 30 VDC)		10	INH2O	(CEN3) ATEX EEx d with cable gland EEx d PG13,5 (only for B7)	(16) M20x1,5 male ²⁾	(KV3) Plastic cable gland IP65, PG13,5	(BP) Wall mounting bracket for in. H ₂ O ranges
(26) Sealed environment proof ¹⁾ (15 A 250 VAC, 0,4A 120VDC)		30				(KV4) Plastic cable gland IP65, PG16	(MD) Metric ranges
(27) High temp. (max. 150 °C) (15 A 250 VAC)		60	PSI	(CEN4) ATEX EEx d ¾ NPT thread female (only for B7)		(KV52) Plastic cable gland PG13,5	
(31) Low level (gold) contacts (1 A 125 VAC, 500mA 28VDC)		100		(CEN6) ATEX EEx ia ¾ NPT thread female (only for B7)			
(32) Hermetically sealed general purpose (11 A 250 VAC, 5 A 28 VDC)		200		(CEN7) ATEX EEx ia with cable gland EEx d PG13,5 (only for B7)			
(42) Hermetically sealed, gold contacts (1 A 125 VAC)		400					
(50) Variable deadband (15 A 250 VAC)		600					
2xSPDT		1000					
(61) see code (20)		3000					
(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⁾ VDC rating not UL listed	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					
					²⁾ with Adapter		

How to order

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

Ashcroft Instruments GmbH

Germany
Max-Planck-Str. 1, D-52499 Baesweiler
P.O. Box 11 20, D-52490 Baesweiler
Tel.: +49 (0) 2401 808-0, Fax: +49 (0) 2401 808-125

France
„206“ ZA Le Mandinet Rue des Campanules
F-77185 Lognes
Tel.: +33 (0) 1 60 37 25 30, Fax: +33 (0) 1 60 37 25 39

Website: www.ashcrofteurope.com

e-Mail: sales@ashcrofteurope.com

United Kingdom
Unit 5 William James House
Cowley Road, Cambridge CB4 0WX
Tel.: +44 (0) 12 23 39 55 00, Fax: +44 (0) 12 23 39 55 01