

## 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 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. H<sub>2</sub>O up to 3000 psi

### Applications

Chemical and petrochemical industry

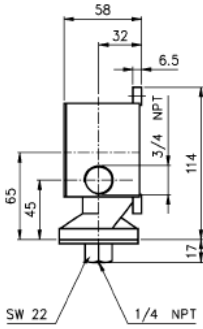
Machine and apparatus construction

Food and beverage industry

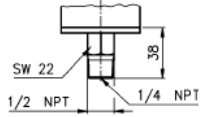
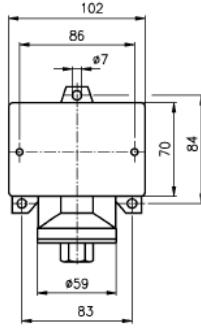
Pulp and paper industry



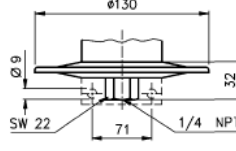
Technical specification	B4 series	B7 series	
Construction	Weatherproof	Ex-proof according UL CSA on request	Flame proof according EN 60079-0, -1, -31 Intrinsically safe acc. IEC 60079-0 and EN 60079 -11, -26
Switch functions	One setpoint, single pole double throw (SPDT) or 2 times SPDT (2SPDT)		
Adjustable 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	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			
Pressure connection	Stainless steel 316 (1.4401), optional Monel 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.		
<b>Electrical specification</b>			
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 IIIIC 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 IIIIC 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		
<b>General specification</b>			
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 in kg	1,2/0,7	1,6/1,2	
Accessories, options	Diaphragm seals, valves, adapters, NACE		



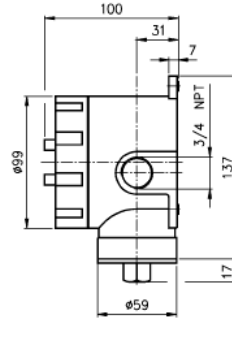
High pressure (PSI)



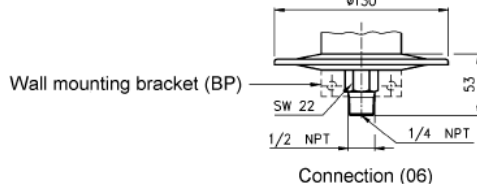
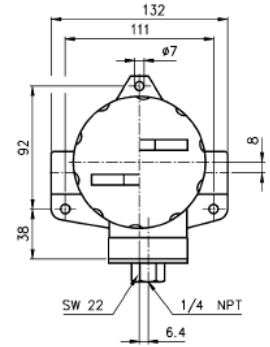
Connection (06)



Low pressure (INH<sub>2</sub>O)



High pressure (PSI)



Connection (06)

## Order information

Switch element	Material actuator seal	Range	Engineering unit	Protection	Process connection	Electrical connection	Options	
<b>SPDT</b>	(B) Buna N <sup>1)</sup>	-15/ 15	INH2O	(IP) Standard	(25) ¼ NPT female	(=) Standard	(NH) Tagging wired	
(20) Narrow deadband <sup>1)</sup> (15 A 250/480 VAC, 0,4A 120VDC)	(V) Viton <sup>2)</sup>	-30/ 30	INH2O	B4 IP54 B7 IP66	(06) ¼ NPT female/ ½ NPT male <sup>1)</sup>	(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 <sup>1)</sup>	-30/ 0		(IP65) IP66 (for B4)				
(22) Hermetically sealed (5 A 250 VAC)	(S) 316 (1.4401) <sup>3)</sup>	-30/ 15		(UL) UL approval B4 NEMA 4 B7 NEMA 7 & 9				
(23) Heavy duty AC (22 A 250 VAC)	(P) Monel <sup>3)</sup>	-30/ 30	INH2O	(CEN3) ATEX Ex d with cable gland Ex d PG13,5 (only for B7)	(07) ½ NPT female	(JM) ¼ NPT to M20x1,5 female reducing bushing	(6B) Oxygen cleaned (not for Buna N diaphragm; in. H <sub>2</sub> O ranges only with option TA)	
(24) General purpose <sup>1)</sup> (15 A 250 VAC, 6 A 30 VDC)		10	PSI	(CEN4) ATEX Ex d and Ex t ¼ NPT thread female (only for B7)	(15) G ½ B male <sup>2)</sup>	(K3) Terminal block (standard for B7 with 2xSPDT, not for B4)	(TM) 2" pipe mounting bracket	
(26) Sealed environment proof <sup>1)</sup> (15 A 250 VAC, 0,4A 120VDC)		30		(CEN6) ATEX Ex ia ¼ NPT thread female (only for B7)	1) standard for ranges ≥ 70 bar	(KV2) Plastic cable gland IP65, PG11	(KV3) Plastic cable gland IP65, PG13,5	(TA) 316 (1.4401) pressure connection for in. H <sub>2</sub> O ranges
(27) High temp. (max. 150 °C) (15 A 250 VAC)		60		(CEN7) ATEX Ex ia with cable gland Ex d PG13,5 (only for B7)				
(31) Low level (gold) contacts (1 A 125 VAC, 500mA 28VDC)		100				(KV52) Plastic cable gland PG13,5	(BP) Wall mounting bracket for in. H <sub>2</sub> O ranges	
(32) Hermetically sealed general purpose (11 A 250 VAC, 5 A 28 VDC)		200					(MD) Metric ranges	
(42) Hermetically sealed, gold contacts (1 A 125 VAC)		400						
(50) Variable deadband (15 A 250 VAC)		600						
<b>2xSPDT</b>		1000						
(61) see code (20)		2000						
(62) see code (26)		3000						
(63) see code (27)	1) max. medium temperature -18 ... 65 °C							
(64) see code (24)	2) max. medium temperature -7 ... 150 °C							
(65) see code (21)	3) max. medium temperature -18 ... 150 °C only ranges from 15 to 1000 psi							
(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			Note the range can also be specified in mbar or 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