

# 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

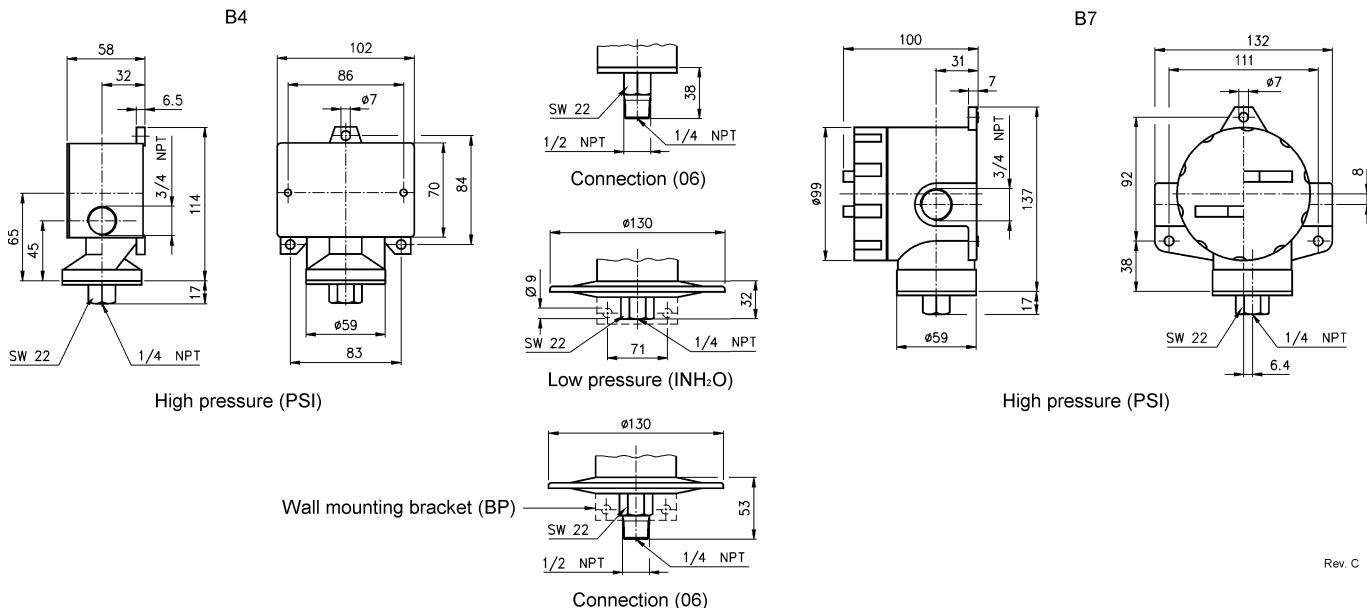
## Applications

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 Adjustable range Deadband	One setpoint, single pole double throw (SPDT) or 2 times SPDT (2SPDT) From 15 % to 100 %, below 15 % consult factory 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	70 140 210	-1/0 -1/1 -1/2 -1/4
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	70 to 210 bar	70 to 210 bar
Proof pressure in bar	1,4 17 35 69 165 827	165	827
Burst pressure in bar	2,4 28 103 207 207 1240	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 For mbar ranges steel epoxy coated standard, stainless steel on request		
Pressure connection	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	1,0 % F.S.		
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 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		
<b>General specification</b>			
Permissible	-25 ... 60 °C -25 ... 65 °C -20 ... 60 °C		
Ambient 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.)		
Medium temperature	-40 ... 60 °C		
Storage temperature	Max. 0,4 % / 10 K ref. 20 °C		
Effect	NEMA 4, 4X and 13	NEMA 7 and 9	
Protection according UL	IP54, optional IP66	IP66	
Protection according EN 60 529/IEC 529	Low voltage regulations EN 61 010-1, EN 60 947-1		
CE-mark	Standard stem, wall (BP) or 2" pipe mounting (TM)		
Mounting	1,2/0,7 1,6/1,2		
Weight mbar/bar in kg	Diaphragm seals, valves, adapters, NACE		
Accessories, options			

General dimensions in mm



Rev. C

Order information

Switch element	Material actuator seal	Range	Engineering unit	Protection	Process connection	Electrical connection	Options
<b>SPDT</b> <b>(20)</b> Narrow deadband <sup>1)</sup> (15 A 250/480 VAC, 0,4A 120VDC)	<b>(B)</b> Buna N <sup>1)</sup> <b>(V)</b> Viton <sup>2)</sup>	<b>-15/ 15</b> <b>-30/ 30</b>	<b>INH2O</b>	<b>(IP)</b> Standard B4 IP54 B7 IP66	<b>(25)</b> ¼ NPT female	<b>(=)</b> Standard	<b>(NH)</b> Tagging wired
<b>(21)</b> Ammonia service (5A 250 VAC, 6 A 30 VDC)	<b>(T)</b> Teflon <sup>1)</sup>	<b>-30/ 0</b>	<b>INHG/PSI</b>	<b>(IP65)</b> IP66 (for B4)	<b>(06)</b> ¼ NPT female/ ½ NPT male <sup>1)</sup>	<b>(JL)</b> ¾ to ½ NPT female reducing bushing	<b>(FS)</b> Factory adjusted set-point
<b>(22)</b> Hermetically sealed (5 A 250 VAC)	<b>(S)</b> 316 (1.4401) <sup>3)</sup>	<b>-30/ 15</b> <b>-30/ 30</b> <b>-30/ 60</b>		<b>(UL)</b> UL approval B4 NEMA 4 B7 NEMA 7 & 9	<b>(07)</b> ½ NPT female	<b>(JM)</b> ¾ NPT to M20x1,5 female reducing bushing	<b>(6B)</b> Oxygen cleaned (not for Buna N diaphragm; in. H <sub>2</sub> O ranges only with option TA)
<b>(23)</b> Heavy duty AC (22 A 250 VAC)	<b>(P)</b> Monel <sup>3)</sup>	<b>10</b> <b>30</b> <b>60</b> <b>100</b> <b>150</b>	<b>INH2O</b>	<b>(CEN3)</b> ATEX Ex d with cable gland Ex d PG13,5 (only for B7)	<b>(15)</b> G ½ B male <sup>2)</sup>	<b>(K3)</b> Terminal block (standard for B7 with 2xSPDT, not for B4)	<b>(TM)</b> 2" pipe mounting bracket
<b>(24)</b> General purpose <sup>1)</sup> (15 A 250 VAC, 6 A 30 VDC)				<b>(CEN4)</b> ATEX Ex d and Ex t ¾ NPT thread female (only for B7)	<b>(16)</b> M20x1,5 male <sup>2)</sup>	<b>Only for protection IP</b>	<b>(TA)</b> 316 (1.4401) pressure connection for in. H <sub>2</sub> O ranges
<b>(26)</b> Sealed environment proof <sup>1)</sup> (15 A 250 VAC, 0,4A 120VDC)				<b>(CEN6)</b> ATEX Ex ia ¾ NPT thread female (only for B7)	<sup>1)</sup> standard for ranges $\geq 70$ bar	<b>(KV2)</b> Plastic cable gland IP65, PG11	<b>(BP)</b> Wall mounting bracket for in. H <sub>2</sub> O ranges
<b>(27)</b> High temp. (max. 150 °C) (15 A 250 VAC)		<b>15</b> <b>30</b> <b>60</b> <b>100</b> <b>200</b> <b>400</b> <b>600</b> <b>1000</b> <b>2000</b> <b>3000</b>	<b>PSI</b>	<b>(CEN7)</b> ATEX Ex ia with cable gland Ex d PG13,5 (only for B7)		<b>(KV3)</b> Plastic cable gland IP65, PG13,5	<b>(MD)</b> Metric ranges
<b>(31)</b> Low level (gold) contacts (1 A 125 VAC, 500mA 28VDC)						<b>(KV4)</b> Plastic cable gland IP65, PG16	
<b>(32)</b> Hermetically sealed general purpose (11 A 250 VAC, 5 A 28 VDC)						<b>(KV52)</b> Plastic cable gland PG13,5	
<b>(42)</b> Hermetically sealed, gold contacts (1 A 125 VAC)							
<b>(50)</b> Variable deadband (15 A 250 VAC)							
<b>2xSPDT</b> <b>(61)</b> see code (20) <b>(62)</b> see code (26) <b>(63)</b> see code (27) <b>(64)</b> see code (24) <b>(65)</b> see code (21) <b>(67)</b> see code (22) (not B4 series) <b>(68)</b> see code (32) (not B4 series) <b>(70)</b> see code (31) <b>(71)</b> see code (42) (not B4 series)	<sup>1)</sup> max. medium temperature -18 ... 65 °C <sup>2)</sup> max. medium temperature -7 ... 150 °C <sup>3)</sup> max. medium temperature -18 ... 150 °C only ranges from 15 to 1000 psi						
<sup>1)</sup> VDC rating not UL listed			Note the range can also be specified in mbar or bar		<sup>2)</sup> 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