

FEATURES

- Setpoint adjustable from 15-100% of range
- Fixed or limited adjustable deadband
- SIL 3 capable
- Explosion proof enclosure available



SPECIFICATIONS

Set Repeatability (Accuracy):	±1% of span (Additional setpoint shift of ±1% of range per 50°F from initial setpoint set at 70°F typical)
Switch Type:	SPDT or DPDT
Setpoint:	Single setpoint - Factory set or field adjustable
Deadband:	Fixed or limited adjustable deadband
Enclosure Ratings:	B4/D4 - NEMA 4X, IP66 B7/D7 - NEMA 7/9, IP66
Enclosure Material:	Watertight: epoxy coated aluminum Explosion: epoxy coated aluminum or 316 SS
Approvals:	Watertight: UL, CSA, FM, CE, SIL 3 capable, CRN Explosion Proof: Standard: FM, UL, CE, CRN Optional: ATEX, CSA, IECEx SIL 3 capable

CLASS I DIV 1 GROUPS B, C, & D
 CLASS II DIV 1 GROUPS E, F, & G

 Sira 02ATEX1391X IECEx
 CSA 14.0077X

 II 2GD
 Ex d IIC T6 Gb
 Ex tb IIIC T85°C Db
 Ta = -20°C to +60°C

WETTED COMPONENTS

Actuator Seal:	Buna-N®, Teflon®, Viton®, 316L SS, or Monel®	
Process Connection:	Pressure Switches 316 SS or Monel® for psi ranges Epoxy coated carbon steel or 316 SS for IW ranges	Differential Switches Nickel plated brass or 316 SS for psid ranges Epoxy coated carbon steel or 316 SS for IWD ranges



B4 Pressure Switch
Watertight Enclosure



D4 Differential H₂O Pressure Switch
Watertight Enclosure



H4 Hydraulic Pressure Switch
Watertight Enclosure



D7 Differential Pressure Switch
Explosion-Proof Enclosure



B7 Pressure Switch
316 SS Explosion-Proof Enclosure



D7 Differential H₂O Pressure Switch
Explosion-Proof Enclosure



ORDERING CODE	Example:	B4	20	B	XPK	600#
Enclosure						
B4 - Pressure switch, watertight enclosure meets NEMA 3, 4, 4X, 13 and IP66 requirements		B4				
B7 - Pressure switch, explosion-proof enclosure Standard housing epoxy coated aluminum. Use variation code XYW for 316 SS housing						
D4 - Differential pressure switch, water-tight enclosure meets NEMA 3, 4, 4X, 13 and IP66 requirements						
D7 - Differential pressure switch, explosion-proof enclosure Standard housing epoxy coated aluminum. Use variation code XYW for 316 SS housing						
Switch Element Selection - UL/CSA Listed SPDT						
20 - Narrow deadband ac, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed)			20			
21 - Ammonia service, 5A - 125/250 Vac						
22 - Hermetically sealed, narrow deadband, 5A - 125/250 Vac. Estimated dc rating, 2.5A, 28 Vdc (not UL listed).						
23 - Heavy duty ac, 22A - 125/250 Vac						
24 - General purpose, 15A - 125/250/480 Vac, ½ A - 125 Vdc, ¼ A - 250 Vdc; 6A, 30 Vdc. (Standard switch)						
25 - Heavy duty dc, 10A - 125 Vac or dc, ½ HP - 125 Vac or dc. Not available with psid ranges						
26 - Sealed environment proof, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed)						
27 - High temperature 300°F, 15A - 125/250 Vac						
28 - Manual reset trip on increasing 15A - 125/250 Vac. Not available with N7 enclosure						
29 - Manual reset trip on decreasing 15A - 125/250 Vac. Not available with N7 enclosure						
31 - Low level (gold) contacts, 1A - 125 Vac						
32 - Hermetically sealed, general purpose, 11A - 125/250 Vac, 5A - 30 Vdc						
42 - Hermetically sealed, gold contacts, 1A - 125 Vac						
50 - Variable deadband, 15A - 125/250 Vac						
Switch Element Selection - UL/CSA Listed Dual (2 SPDT)						
61 - Dual narrow deadband, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed)						
62 - Dual sealed environment proof, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed)						
63 - Dual high temperature 300°F, 15A - 125/250 Vac						
64 - Dual general purpose, 15A - 125/250/480 Vac, ½A- 125 Vdc, ¼A - 250 Vdc						
65 - Dual ammonia service, 5A - 125/250 Vac						
67 - Dual hermetically sealed, narrow deadband, 5A - 125/250 Vac. Wires cannot be terminated inside B4 switch enclosure. Estimated dc. rating, 2.5A, 28 Vdc (not UL listed)						
68 - Dual hermetically sealed, general purpose, 11A - 125/250 Vac 5A, 30 Vdc. Wires cannot be terminated inside B400 switch enclosure						
70 - Dual low level gold contacts, 1A - 125 Vac						
71 - Dual hermetically sealed, gold contacts, 1A - 125 Vac. Wires cannot be terminated inside B4 switch enclosure.						
Actuator Seal						
	Temperature Limits.		Pressure Range			
Material	Ambient	Process				
B - Buna-N®	-20°F to 150°F	0°F to 150°F	B			
V - Viton®	-20°F to 150°F	20°F to 300°F				
T - Teflon®	-20°F to 150°F	0°F to 150°F				
S - 316L SS	-20°F to 150°F	0°F to 300°F	Not available in vacuum, & inches of water ranges or pressures above 1,000 psi			
P - Monel®	-20°F to 150°F	0°F to 300°F	Not available in vacuum, & inches of water ranges or pressures above 1,000 psi			
Options (use table from page 96 (If choosing an option(s) must include an "X")						X _ _
PK - Pilot light(s) top mounted						PK
Range (select from tables on page 95 for additional ranges)						
600# - 600 psi						600#

PRESSURE, DIFFERENTIAL PRESSURE RANGES

TABLE 1 - PRESSURE/VACUUM RANGES					Approximate Deadband Switch Element for Buna-N® Diaphragm				
Nominal Pressure			Overpressure Ratings		See multiplier TABLE 3 for additional material & Dual Switch multipliers				
			Proof psi	Burst psi	20, 26, 27	21, 24, 31	50	22	32, 42
Vacuum									
30IMV	-760mm Hg	-100 kPa	250	400	0.3-0.7	1.5-3.0	0.5-2.2	0.4-1.5	2.1-4.2
Compound									
15IWV/15IW	-375mm H ₂ O/ 375mm H ₂ O	-3.7 kPa/ 3.7 kPa	20	35	0.15-0.75/0.15-0.75	1.5-2.5/1.5-2.5	0.45-2.0/0.45-2.0	0.5-1.2/0.5-1.2	2.1-3.5/2.1-3.5
30IWV/30IW	-760mm H ₂ O/ 760mm H ₂ O	-7.5 kPa/ 7.5 kPa	20	35	0.30-0.60/0.30-0.60	1.5-2.5/1.5-2.5	0.45-2.0/0.45-2.0	0.5-1.5/0.5-1.5	2.1-3.5/ 2.1-3.5
30IMV/15#	-760mm Hg/ 1.0 kg/cm ²	-100 kPa/ 100 kPa	250	400	0.5-1.0/0.3-0.7	2.0-3.0/0.3-0.7	0.75-2.5/0.5-1.0	0.7-1.8/0.7-1.4	2.8-4.2/0.7-2.1
30IMV/30#	-760mm Hg/ 1.0 kg/cm ²	-100 kPa/ 200 kPa	250	400	1.0-1.5/0.3-0.8	3.0-6.0/0.3-0.8	1.2-4.5/0.7-1.5	1.4-2.4/0.4-1.3	4.2-8.4/1.4-2.8
30 IMV/60#	-760mm Hg/ 4.0 kg/cm ²	-100 kPa/ 400 kPa	250	400	2.0-3.0/0.7-1.5	5.0-9.0/3.0-5.0	2.5-7.0/3.0-5.0	2.8-4.5/3.0-5.0	7.0-12.0/4.2-7.0
Pressure									
10IW	250mm H ₂ O	2.5 kPa	20	35	0.2-0.5	1.0-2.0	0.35-1.5	0.4-1.0	1.4-2.8
30IW	750mm H ₂ O	7.5 kPa	20	35	0.3-0.6	1.5-2.5	0.45-2.0	0.5-2.0	2.1-3.5
60IW	1,500mm H ₂ O	15 kPa	20	35	0.5-1.3	1.5-3.5	0.9-2.5	0.7-3.0	2.1-5.0
100IW	2,500mm H ₂ O	25 kPa	20	35	0.6-1.6	2.5-5.5	1.1-4.0	1.0-4.0	3.5-7.7
150IW	3,750mm H ₂ O	37 kPa	20	35	1.0-2.5	4.5-8.5	1.7-6.5	2.0-6.0	6.0-12.0
15#	1.0 kg/cm ²	100 kPa	500	1,500	0.1-0.35	0.5-1.5	0.2-1.0	0.4-1.0	0.7-2.1
30#	2.0 kg/cm ²	200 kPa	500	1,500	0.1-0.50	0.5-1.5	0.3-1.0	0.4-1.0	0.7-2.1
60#	4.0 kg/cm ²	400 kPa	500	1,500	0.3-1.0	1.0-3.5	0.7-2.5	0.6-2.0	1.4-5.0
100#	7.0 kg/cm ²	700 kPa	1,000	3,000	0.5-1.7	1.5-5.0	1.1-3.5	1.0-4.5	2.1-7.0
200#	14 kg/cm ²	1,400 kPa	1,000	3,000	1-3	5-13	2-9	3.0-7.5	7.0-18.2
400#	28 kg/cm ²	2,800 kPa	2,400	3,000	4-7.5	5-24	5.5-15	4.0-11.0	7.0-33.6
600#	42 kg/cm ²	4,200 kPa	2,400	3,000	4-11	9-30	7-20	5.0-23.0	12.6-42
1000# ⁽¹⁾	70 kg/cm ²	7,000 kPa	12,000 ⁽¹⁾	18,000	7-30	30-110	18-70	15-80	42-154
3000#	210 kg/cm ²	21,000 kPa	12,000	18,000	15-60	80-235	37-160	30.0-230	112-329

(1) Proof pressure is 4,000 psi with stainless steel and Monel® welded diaphragms

TABLE 2 - DIFFERENTIAL PRESSURE RANGES					Approximate Deadband Switch for Element for Buna-N® Diaphragm				
Nominal Pressure			Pressure Ratings		See multiplier TABLE 3 for additional material & Dual Switch multipliers				
			Static Working Pressure	Proof psi	20, 26, 27	21, 24, 31	50	22	32, 42
30IWD	750mm H ₂ O	7.5 kPa	5.4	21.6	0.3-0.6	1.5-2.5	0.45-2.0	0.5-2.0	2.1-3.5
60IWD	1,500mm H ₂ O	15 kPa	5.4	21.6	0.5-1.3	1.5-3.5	0.9-2.5	0.7-3.0	2.1-5.0
100IWD	2,500mm H ₂ O	25 kPa	5.4	21.6	0.6-1.6	2.5-5.5	1.1-4.0	1.0-4.0	3.5-7.7
150IWD	3,750mm H ₂ O	37 kPa	5.4	21.6	1.0-2.5	4.5-8.5	1.8-6.5	2.0-6.0	6.3-12.0
15#D	1.0 kg/cm ²	100 kPa	500	2,000	0.5-1.0	2.0-5.0	0.7-3.5	0.7-1.4	2.8-7.0
30#D	2.0 kg/cm ²	200 kPa	500	2,000	1.0-2.0	2.0-5.0	1.5-3.5	1.4-2.8	2.8-7.0
60#D	4.0 kg/cm ²	400 kPa	500	2,000	2.0-4.0	3.0-6.0	3.0-4.5	2.8-5.6	4.2-8.5
100#D	7.0 kg/cm ²	700 kPa	1,000	4,000	4.0-10.0	11.0-20.0	7.0-15.0	6.0-14.0	16.0-28.0
200#D	14.0 kg/cm ²	1,400 kPa	1,000	4,000	5.0-15.0	12.0-40.0	10.0-26.0	7.0-21.0	17.0-56.0
400#D	28.0 kg/cm ²	2,800 kPa	1,000	8,000	10.0-20.0	20.0-60.0	15.0-40.0	14.0-28.0	28.0-84.0
600#D	42.0 kg/cm ²	4,200 kPa	1,000	8,000	20.0-40.0	80.0-150.0	30.0-115.0	30.0-56.0	12.0-210.0

TABLE 3 - DEADBAND MULTIPLIER TABLE		
Diaphragm Material	Multiply	Notes
Buna-N®	1.0	Multiplier table for additional diaphragm materials
Viton®	1.4	
Teflon®	1.7	
316 SS	1.7	
Monel®	1.7	
Dual Switch	1.6	Additional multiplier when dual switches are selected

OPTIONAL FEATURES AND ACCESSORIES

		Applicable Switch Seriesz					
Code	Description	Pressure B4/B7		Differential D4/D7		Hydraulic H4	Notes
		(psi)	(inH ₂ O)	(psi)	(inH ₂ O)		
BP	Wall mounting bracket inH ₂ O		•		•		
CH	Chained cover	•	•	•	•	•	
C8	CSA Approval	•	•	•	•		Standard on N4 Series
CN	ATEX Directive 94/9/EC/IECEx Rating	•	•	•	•		N7 Series only
D2	Dual seal rating (700 Series only)	•			•		
FM	FM Approval – Single element FM Approval – Dual element	•	•	•	•		N/A on all combinations N/A on all combinations
FP	Fungus proofing	•	•	•	•	•	
FS	Factory adjusted setpoint	•	•	•	•	•	Advise static or working pressure for differential pressure switches
G3	Belleville actuator	•					64 or 68 element only. N/A on all combinations
G5	UL Limit control to 150 inH ₂ O				•		Buna-N® and Viton® diaphragm. N/A on all combinations
G6	UL Limit control to 600 psi	•					Buna-N® and Viton® diaphragm. N/A on all combinations
G7	Secondary chamber with vent	•					SS diaphragm required. Teflon diaphragm is the backup. N7 only
G8	Steam limit control to 300 psi	•					
G9	Fire safe welded acuator	•					SS diaphragm only
HS	High static differential pressure			•			Buna-N® and Viton® diaphragm – 15 psid & 30 psid only
HX	High pressure, 40 psi, (static) d/p only 160 psi (proof) d/p only 100 psi (proof) pressure only (inH ₂ O)		•		•		
JK	Left conduit connection	•	•	•	•	•	Standard on N7 Series. N/A with DPDT element on N4 Series
JL	¾" to ½" Reducing bushing	•	•	•	•	•	
JM	Metric electrical conduit conn. M20 x 1.5	•	•	•	•	•	
K3	Terminal block (N7 Series only)	•	•	•	•		Terminal blocks standard with N7 dual switches
LE	6 Foot leads on the Micro Switch	•	•	•	•	•	
NH	SS tag	•	•	•	•	•	
NN	Paper tag	•	•	•	•	•	
PK	Pilot light(s) top mounted	•	•	•	•	•	N/A on N7 Series
PM	¾" Sealed conduit connection w/16" lead wires	•	•	•	•	•	
TA	316 SS pressure connection		•		•		
TM	2" Pipe mounting bracket	•	•	•	•		
UD	316 SS pressure conn.			•			
06	Pressure connection: ½ NPT Male, ¼ NPT Female 316 SS (Combination)	•	•	•	•		Standard with 1,000 and 3,000 psi ranges. Bottom connection
07	½ NPT Female press. conn., 316 SS	•	•	•	•		N/A with Monel® diaphragm
6B	Cleaned for oxygen service	•		•			Buna-N® cannot be cleaned for oxygen service
9F	inH ₂ O housing for outdoor use		•				
YW	316 SS Housing	•	•	•	•		
MD	Metric range on label	•	•	•	•	•	
Y53A	1½" Sanitary seal with 3A Approval	•					
Y63A	2.0" Sanitary seal with 3A Approval	•					
PJ	Pilot light 24 Vdc	•	•	•	•	•	N/A on N7 Series