

Bourdon Tube Switch

Series B1S, B2S, B1T, B2T

Features

- ▶ High accuracy
- ▶ High proof pressure up to 24,000 psi
- ▶ Tamper-proof external adjustment
- ▶ Single and dual switching capability
- ▶ Water tight housing versions available (NEMA 4)

Applications

- ▶ Oil & gas
- ▶ Medical applications
- ▶ Mining
- ▶ Compressors
- ▶ Power plants
- ▶ Water pumps
- ▶ Hydraulic power units
- ▶ Pneumatic devices
- ▶ General industrial applications



General Specifications*

Electrical Characteristics:	All models incorporate Underwriters Laboratories, Inc. and CSA Listed single pole double throw snap-action switching elements.
Accuracy¹:	± 1% of the adjustable range
Switch: Type: Rating:	Single pole double throw (SPDT) snap action; single or dual circuit 10 amp @ 125/250 VAC 3 amp @ 480 VAC 0.5 amp @ 24 VDC
Wetted Parts: Process Fitting & Bourdon Tube:	316 series stainless steel
Enclosure:	Anodized aluminum
Electrical Connection: Stripped Model:	21" Free Leads
Housed Model:	Internal terminal strip via conduit connection
Enclosure Ratings: Housed Model:	NEMA 4

Pressure Connection:	Housed models with proof pressure up to 7,200 psi and stripped models with proof pressure up to 6,000 psi; 1/4" NPT female; All higher pressure ranges: superpressure fitting for 1/4" O.D. tube.
Approvals: UL/CSA (optional):	UL File E42816 Class 3231 02; File No. 022355-0.000
Temperature Range: Operating:	-40° to +165°F (-40° to +74 °C)
Adjustment Instructions:	Turn adjustment screw clockwise to lower setpoint, counterclockwise to raise setpoint
Options:	-UL/CSA approval (max rating 300 VAC) -NEMA 4X -Temperature stabilization and pre-cycle -Cleaned for oxygen service
Shipping Weight: Stripped Model:	1.5 lbs. approximate
Housed Model:	2.5 lbs. approximate

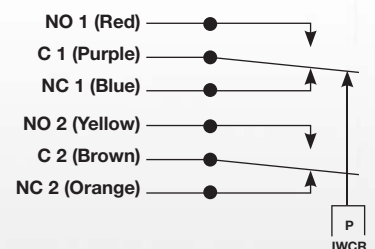
* See product configurator for additional options.

¹ ±1% for 32-110°F; ±2% for > 110°F; -2/+3°F for <32°F

Wiring Code

Lead	Circuit #1	Circuit #2
Normally Closed	Blue	Orange
Common	Purple	Brown
Normally Open	Red	Yellow

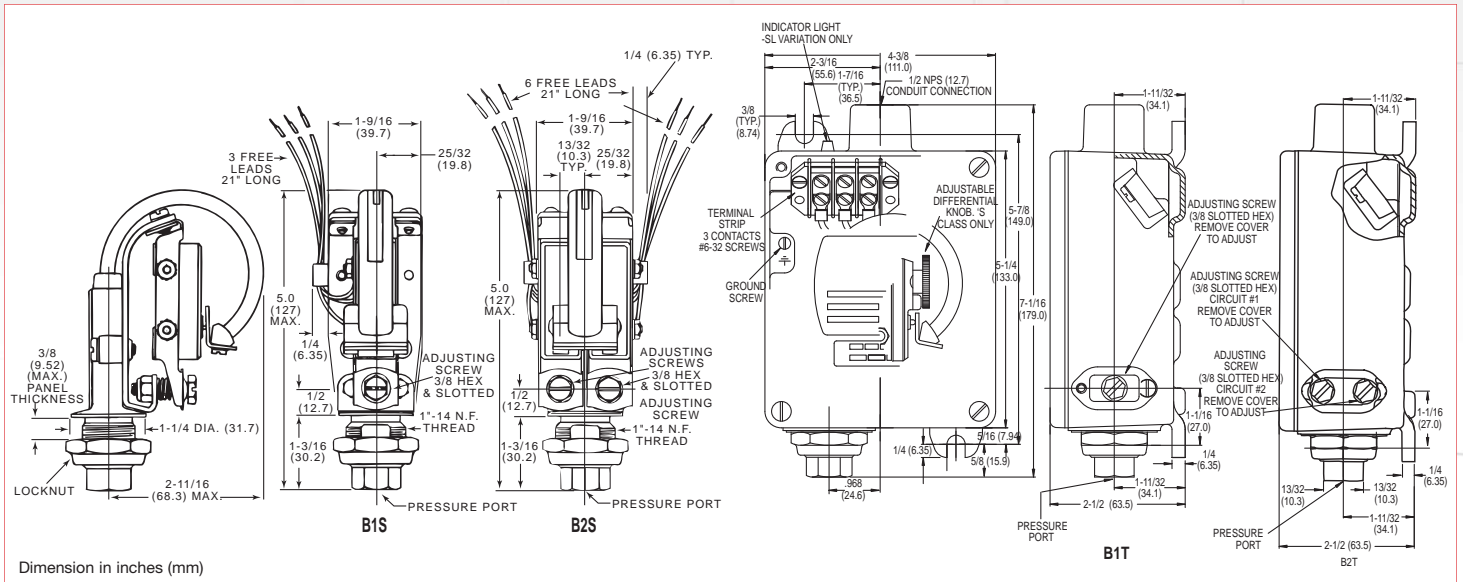
Wiring Diagram



Bourdon Tube Switch

Series B1S, B2S, B1T, B2T

Technical Drawing



Product Configurator

Example	H	B1T	-AA	180	SS		
---------	---	-----	-----	-----	----	--	--

H Hermetically sealed limit switch option (requires AA, CC, GH or HH limit switch)

Series

B1T	Single Setpoint Housed
B2T	Dual Setpoint Housed
B1S	Single Setpoint Stripped
B2S	Dual Setpoint Stripped

Limit Switch¹

-A	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (standard for pressure range 12, 48, 65, 120 and 180)
-B	10 amps @ 125/250/480 VAC; 0.05 amps @ 125 VDC; 0.03 amps @ 250 VDC
-H	10 amps @ 125/250/480 VAC; 0.1 amps @ 125VDC; 0.05 amps @ 250 VDC
-J	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (comes with an elastomer boot)
-M	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; 0.5 amps @ 125 VDC; 0.25 amps @ 250 VDC
-S	15 amps @ 125/250/480 VAC; 0.05 amps @ 125 VDC; 0.03 amps @ 250 VDC (adjustable differentials)
-GH	1 amp @ 125 VAC with Gold Contacts
-AA	Hermetically sealed; 4 amps @ 125/250 VAC
-CC	Hermetically sealed; 10 amps @ 125/250 VAC
-GH	Hermetically sealed; 1 amp @ 125 VAC with Gold Contacts
-HH	Hermetically sealed; 5 amps @ 125/250 VAC

Options

-CS ⁴	UL & CSA Approval (only available with B1T & B2T)
-FX	NEMA 4X enclosure (only available with B1T & B2T)
-Z1	Cleaned for oxygen service
-TC	Temperature cycling and stabilization
-Wxxx	Extra wire length (XXX = inches)
-Sxxx	Factory preset (consult factory)

Process Connection

Blank	1/4" NPT for 32 & 48 Pressure Ranges & 1/4" Tube for 65, 120 & 180 Pressure Ranges (standard)
-P4	1/4" NPT Female (available on 65, 120, and 180 ranges only)

SS Stainless steel bourdon tube

Pressure Range⁵

	Adjustable Range				Approx. Deadband ² (Actuation Value) psi-(bar)	Proof psi (bar)	Proof psi (bar)
	Decreasing - psi (bar)		Increasing - psi (bar)				
	Min	Max	Min	Max			
12	50 (3.4)	1180 (80.3)	70 (4.8)	1200 (81.6)	11 - 27 (0.7 - 1.8)	1800 (122)	1500 (103)
32	160 (11)	3161 (211)	199 (13.5)	3200 (213)	16 - 39 (1.1 - 2.7)	4800 (327)	4000 (275)
48	240 (16)	4715 (321)	325 (21.7)	4800 (327)	40 - 85 (2.7 - 5.8)	7200 (490)	6000 (414)
65	325 (22)	6385 (434)	440 (29.9)	6500 (442)	54 - 115 (3.7 - 7.8)	9750 (663)	8125 (560)
120 ³	600 (41)	11450 (779)	1150 (78)	12000 (816)	275 - 550 (18.7 - 37.4)	18000 (1224)	15000 (1034)
180 ³	600 (41)	17450 (1187)	1150 (78)	18000 (1224)	275 - 550 (18.7 - 37.4)	24000 (1632)	20000 (1379)

¹ Consult sales drawings for specific deadband values

² Deadband values indicated when used with the "standard" limit switch

³ Limited to CSA approval with '-CS' option

⁴ Limited to 300VAC

⁵ Subject to change