

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.
Accuracy ¹ :	± 1% of the adjustable range
Switch Type:	Single pole double throw (SPDT) snap action; single or dual circuit
Rating:	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

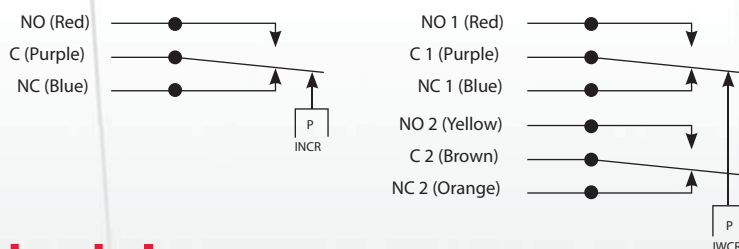
Pressure Connection:	Housed models with proof pressure up to 7,200 psi and stripped models with proof pressure up to 6,000 psi; 1/4" NPT female; All higher pressure ranges: superpressure fitting for 1/4" O.D. tube.
Approvals: UL/CSA (optional):	UL File E42816 Class 3231 02; File No. 022355-0.000
Temperature 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

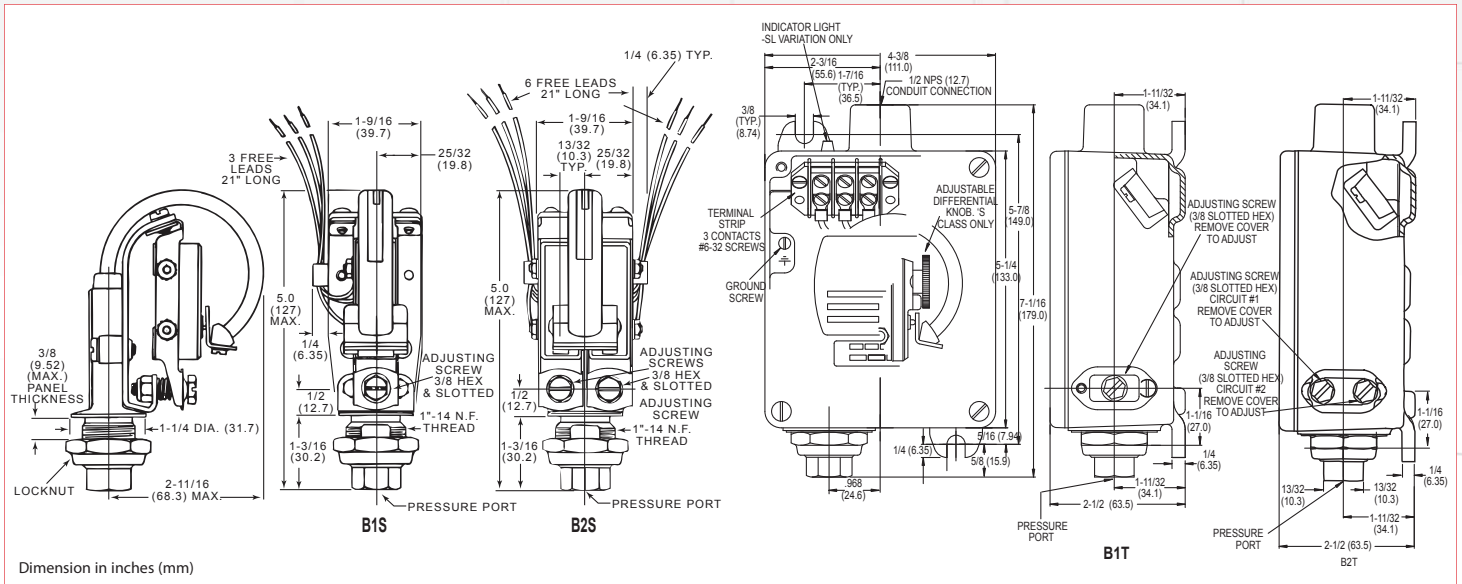
Wiring Code

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

Wiring Diagram



Technical Drawing



Product Configurator

Example	H	B1T	-AA	180	SS				
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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 Switch**
- 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**
- CS⁴ 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 Range

	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