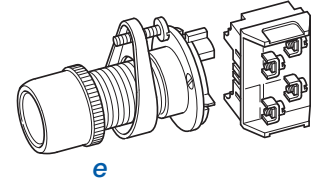


# Hazardous Location Push Buttons

## Product Selection

### Momentary Contact Push Button Units, Non-Illuminated

800      H   -   AP        1              A    
           a            b            c            d            e



**a**

Barrel Type	
Code	Description
H	Standard barrel length
HL	Long barrel

**b**

Operator Type	
Code	Description
AP	Flush head
BP	Extended head
DP	Mushroom head
DPX	Mushroom head less color cap

**c**

Color Cap	
Code	Description
Blank	Used only when ordering operator type DPX (Table b)
1	Green
2	Black
3	Orange
4	Grey
6	Red
7	Blue
9	Yellow

**d**

Special Mushroom Head	
Code	Description
Blank	No special head
J	Jumbo mushroom head — plastic
L	Jumbo mushroom head — metal

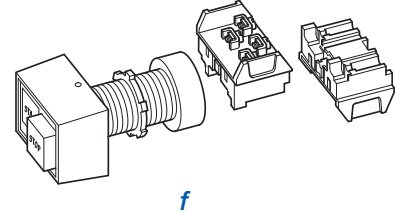
**Note:** Special mushroom head options only apply to mushroom head operator type DP (Table b).

**e**

Contact Block(s)*	
Standard	
Code	Description
Blank	No contacts
D1	1 N.O.
D2	1 N.C.
D5	1 N.O. (Mini)
D6	1 N.C. (Mini)
A2	2 N.O.
A4	2 N.C.
A	1 N.O. - 1 N.C.
B	2 N.O. - 2 N.C.
H	3 N.O. - 3 N.C.
C	4 N.O. - 4 N.C.
PenTUFF (Low Voltage)	
Code	Description
D1V	1 N.O.
D2V	1 N.C.
AV	1 N.O. - 1 N.C.
BV	2 N.O. - 2 N.C.
HV	3 N.O. - 3 N.C.
CV	4 N.O. - 4 N.C.

### Dual Push Button Units

800      H   -   DP        H        16        AAXX        64    
           a            b            c            d            e            f



**a**

Barrel Type	
Code	Description
H	Standard barrel
HL	Long barrel

**b**

Operator Type	
Code	Description
DP	Dual push button

**d**

Color of Button	
Code	Description
16	Left green flush/right red extended
22	Left black flush/right black flush

**e**

Contact Block(s)*		
Code	Contact Arrangement	
	Left button for horizontal Top button for vertical	Right button for horizontal Bottom button for vertical
AAXX	1 N.O. - 1 N.C.	1 N.O. - 1 N.C.
AAAA	2 N.O. - 2 N.C.	2 N.O. - 2 N.C.

**f**

Marking		
Code	Description	
	Left button for horizontal Top button for vertical	Right button for horizontal Bottom button for vertical
Blank	No mark specified	No mark specified
64	START	STOP
50	ON	OFF
51	FORWARD	REVERSE
57	OPEN	CLOSE
66	UP	DOWN
99*	Marking specified	Marking specified

**c**

Mounting	
Code	Description
H	Horizontal
B	Vertical

\* For sealed switch and Logic Reed contact blocks, see page 10-175.  
 \* To order with special marking, specify marking; seven characters maximum per button, single line only.

**Specifications\***

Electrical Ratings	
Contact Ratings	Refer to the contact ratings tables below.
Dielectric Strength	2200V for one minute, 1300V for one minute (Logic Reed)
Electrical Design Life Cycles	1 000 000 at max. rated load, 200 000 at max. rated load (Logic Reed)
Mechanical Ratings	
Vibration	10...2000 Hz 1.52 mm displacement (peak-to-peak) Max./10 G Max. (except Logic Reed)
Shock	1/2 cycle sine wave for 11 ms ≥ 25 G (contact fragility) and no damage at 100 G
Degree of Protection	Type 7 & 9 Explosion Proof (Type 3 and Type 4 ratings available with accessories)
Mechanical Design Life Cycles	
Push Buttons	250 000 minimum
Potentiometers	100 000 minimum
All other devices	200 000 minimum
Contact Operation	Shallow and mini contact blocks: slow double make and break Logic Reed & sealed switch contact blocks: snap-action
Wire Gauge/Terminal Screw Torque	# 18...12 AWG/6...8 lb•in
Typical Operating Forces	
Operators without contact blocks:	Flush, extended, standard mushroom, jumbo mushroom: 2.9 lb max. Jumbo and extended aluminum mushroom head: 3.95 lb maximum Maintained selector switch: 4.0 in•lb maximum
Spring Return Selector Switches:	5 in•lb to stop, 0.2 in•lb to return
Illuminated Push Buttons and Push-to-Test Pilot Lights	5.6 lb maximum
2-Position Push-Pull	9 lb maximum push or pull
3-Position Push-Pull	12 lb maximum push to in position or pull to center position (15 lb maximum pull to out position)
Contact Blocks:	
800T-XA	1 lb
Logic Reed	1 lb maximum
Sealed Switch	3 lb maximum at 0.205 in. plunger travel
Stackable Sealed Switch	1 lb maximum
Environment	
Temperature Range	Operating                    -4...+13 °F (-20...+55 °C) Storage                        -40...+185 °F (-40...+85 °C)
<b>Note:</b> Operating temperatures below freezing are based on the absence of freezing moisture and liquids.	
Humidity	50% at +104 °F (+40 °C)

\* Performance Data — See page Important-3.

\* External thread major diameter: 1.034 in. max., 1.024 in. min. Internal thread minor diameter: 0.958 in. min., 0.970 in. max.

**Standard Contact Ratings**

Maximum thermal continuous current  $I_{th}$  10 A AC/2.5 A DC.  
 Bulletin 800H Type 7 & 9 units with 800T-XA contacts have ratings as follows:

Max. Oprtnl. Volts $U_e$	Utilization Category		Rated Operational Currents		
	IEC	NEMA	Volts $U_e$	Make	Break
AC 600	AC-15	A600	120...600	7200VA	720VA
			72...120	60 A	720VA
			24...28*	60 A	10 A
DC 600	DC-13	Q600	28...600	69VA	
			24...28*	2.5 A	

\* For applications below 24V and 24 mA, PenTUFF™, Logic Reed or stackable sealed switch contacts are recommended.

**Sealed Switch Contact Ratings**

Maximum continuous current  $I_{th}$  5 A.

Max. Oprtnl. Volts $U_e$	Utilization Category		Rated Operational Currents		
	IEC	NEMA	Volts $U_e$	Make	Break
AC 600	AC-15	B600	120...600	3600VA	360VA
			0...120	30 A	3 A
DC 300	DC-13	P300	24...300	138VA	
			0...24	5.0 A	

**Stackable Sealed Switch Contact Ratings**

Maximum continuous current  $I_{th}$  3 A. Bulletin 800T units have control circuit ratings with sealed switch contact blocks as follows:

Max. Oprtnl. Volts $U_e$	Utilization Category		Rated Operational Currents		
	IEC	NEMA	Volts $U_e$	Make	Break
AC 300	AC-15	C300	120...300	1800VA	180VA
			0...120	15 A	1.5 A
DC 150	DC-13	Q150	24...150	69VA	
			0...24	2.5 A	

**Logic Reed Contact Ratings**

Maximum: 150V AC, 0.15 A, 8 VA and 30V DC, 0.06 A, 1.8 VA.

Should only be used with resistive loads.

**PenTUFF™ (Low Voltage) Contact Ratings**

Minimum DC: 5V, 1 mA

Maximum thermal continuous current  $I_{th}$  2.5 A AC/1.0 A DC.

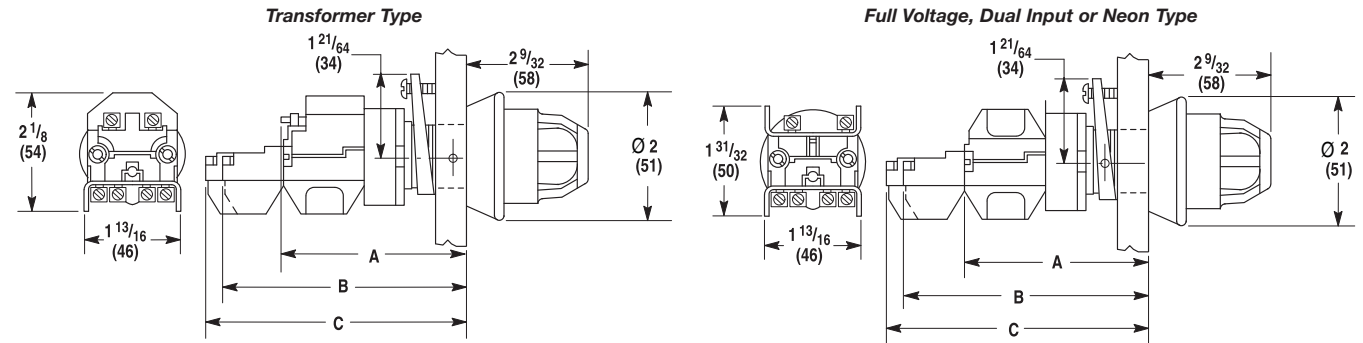
Bulletin 800H units with 800T-XAV contacts have ratings as follows:

Max. Oprtnl. Volts $U_e$	Utilization Category		Rated Operational Currents		
	IEC	NEMA	Volts $U_e$	Make	Break
AC 300	AC-15	C300	120...300	1800VA	180VA
			0...120	15 A	1.5 A
DC 150	DC-13	R150	24...150	28VA	
			0...24	1.0 A	

**Approximate Dimensions and Shipping Weights, Continued**

Dimensions in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

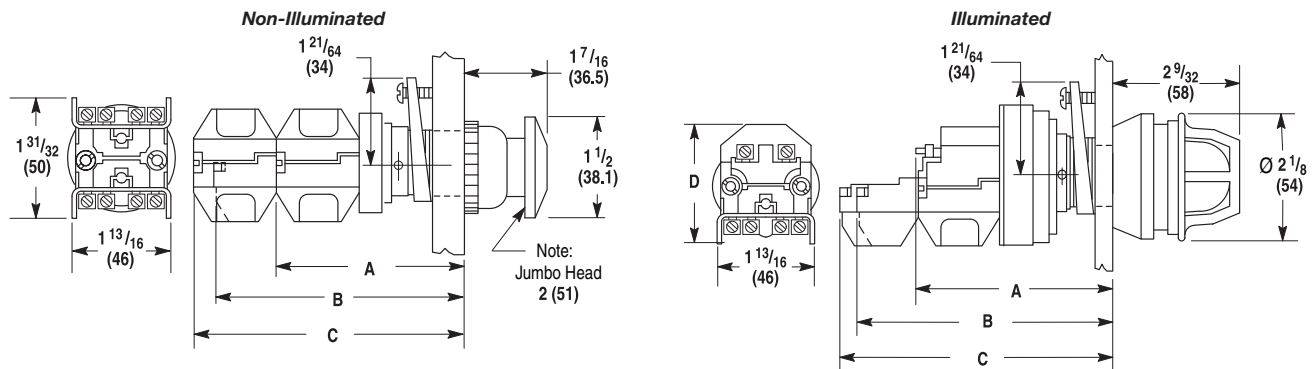
**Illuminated Push Buttons or Push-to-Test Pilot Lights**



**Illuminated Push Buttons, Push-to-Test Pilot Lights**

Description	Style	A *	B	C	Ship. Wt. [oz (kg)]
Transformer Type	Standard Barrel	3-5/32 (80.2)	3-29/32 (99)	4-1/8 (105)	14 (0.40)
	Long Barrel	5-1/16 (128.6)	5-13/16 (147.6)	6-1/16 (154)	16-3/16 (0.45)
Full Voltage Dual Input or Neon Type	Standard Barrel	3-1/32 (77)	3-29/32 (99)	4-1/8 (105)	11-5/8 (0.33)
	Long Barrel	4-15/16 (125.4)	5-13/16 (147.6)	6-1/16 (154)	13-7/16 (0.38)

**Push-Pull Units**



**Push-Pull Units**

Description	Style	A *	B	C	D	Ship. Wt. [oz (kg)]
Illuminated Transformer Type	Standard Barrel	3-9/16 (90.5)	4-9/16 (115.9)	4-5/8 (117.5)	2-1/8 (54)	15-1/2 (0.44)
	Long Barrel	4-21/32 (118.3)	5-13/32 (137)	5-21/32 (143.7)	2-1/8 (54)	17-7/16 (0.49)
Illuminated Full Voltage Type	Standard Barrel	3-7/16 (87.3)	4-9/16 (115.9)	4-5/8 (117.5)	1-31/32 (50)	12-13/16 (0.33)
	Long Barrel	4-17/32 (115.1)	5-13/32 (137)	5-21/32 (143.7)	1-31/32 (50)	14-3/4 (0.41)
Non-Illuminated Push-Pull Units	Standard Barrel	3-1/2 (88.9)	4-3/8 (111.1)	4-5/8 (117.5)	—	11-1/8 (0.32)
	Long Barrel	4-17/32 (115.1)	5-13/32 (137)	5-21/32 (143.7)	—	12-5/16 (0.34)

\* When using sealed switch contact block add 7/8 in. (22.2 mm) to the listed dimension.