

Momentary Contact Push Button Devices, Non-Illuminated



Flush Head Unit  
Cat. No. 800T-A1A



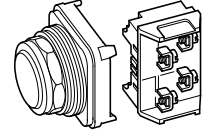
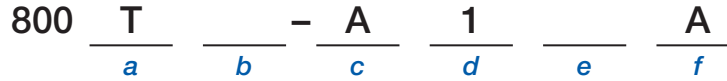
Extended Head Unit  
Cat. No. 800T-B6A



Booted Unit  
Cat. No. 800H-R2A



Bootless Flush Head Unit  
Cat. No. 800H-AR1A



*a*

Protection Rating	
Code	Description
T	Metal, Type 4/13
H	Plastic, Type 4/4X/13

*b*

Finger-Safe Guards	
Code	Description
Blank	No guards
C	Guards on terminals

*c*

Operator Type		
800T Type 4/13	Description	800H Type 4/4X/13
Code		Code
A	Flush head	AR
B	Extended head	BR
D	Mushroom head	DR
DX	Mushroom head less color cap	DRX
—	Bootless guarded head	GR
—	Booted head	R★

*d*

Color Cap	
Code	Description
Blank	Used only when ordering Operator Type DX/DRX
1	Green
2	Black
3	Orange‡

*d (cont'd)*

Color Cap	
Code	Description
4	Grey‡
5	White‡
6	Red
7	Blue
9	Yellow

*e*

Special Mushroom Head	
Code	Description
J★	Jumbo mushroom head — plastic
L★	Jumbo mushroom head — metal

**Note:** Special mushroom head options only apply to mushroom head operator type code D/DR (Table c).

*f*

Contact Block(s)	
Code	Description
Blank	No contacts
Standard	
D1	1 N.O.
D2	1 N.C.
D3	1 N.O.E.M.
D4	1 N.C.L.B.
D5	1 N.O. (Mini)
D6	1 N.C. (Mini)
A1	1 N.C.L.B. - 1 N.O.
A2	2 N.O.§
A4	2 N.C.
A7	1 N.C.L.B. - 1 N.C.
A	1 N.O. - 1 N.C.
B	2 N.O. - 2 N.C.

*f (cont'd)*

Contact Block(s)	
Code	Description
PenTUFF (Low Voltage)	
D1V	1 N.O.
D2V	1 N.C.
D3V	1 N.O.E.M.
D4V	1 N.C.L.B.
AV	1 N.O. - 1 N.C.
BV	2 N.O. - 2 N.C.
Time Delay	
T	1 N.O. Depress close, delayed opening
S	1 N.C. Depress open, delayed closure
Snap Action	
M	1 N.O. - 1 N.C.
N	2 N.O. - 2 N.C.
Class 1, Div. 2	
Logic Reed	
D1R	1 N.O.
D2R	1 N.C.
A2R	2 N.O.§
A4R	2 N.C.
AR	1 N.O. - 1 N.C.
BR	2 N.O. - 2 N.C.

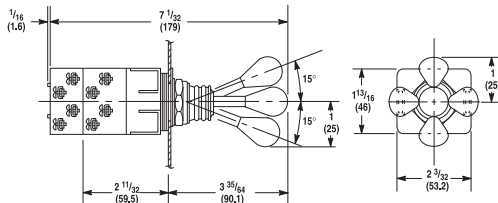
*f (cont'd)*

Contact Block(s)	
Code	Description
Class 1, Div. 2	
Sealed Switch	
D1P	1 N.O.
D2P	1 N.C.
AP	1 N.O. - 1 N.C.
BP	2 N.O. - 2 N.C.
Stackable Sealed Switch	
D1Y	1 N.O.
D2Y	1 N.C.
A2Y	2 N.O.
A4Y	2 N.C.
AY	1 N.O. - 1 N.C.
BY	2 N.O. - 2 N.C.
Time Delay Contacts	
Series C field installable kits can only be used with Series T or later operators. Adjustable range of 0.5 to 15 s + 25%. Maximum continuous current I <sub>th</sub> 5 A.	
Snap Action Contacts	
Snap-action contacts feature a quick make, quick break snap-action mechanism that is only available on factory assembled units. Maximum continuous current I <sub>th</sub> 10 A.	

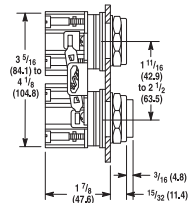
- ★ Underlying operators are extended head. Boot material is chlorosulfonated polyethylene.
- ‡ Not available for booted operators.
- § A2 and A2R contact blocks cannot be stacked upon, but can stack on other contact blocks.
- ★ Jumbo mushroom heads not available in white color.

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

Push Buttons and Switches (Bul. 800T Only)

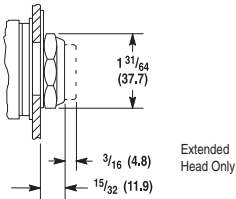


2-3-4 Way Switch  
Shipping Wt. with 2 Contact Blocks 6 oz (0.17 kg)  
Shipping Wt. with 4 Contact Blocks 8-1/2 oz (0.24 kg)

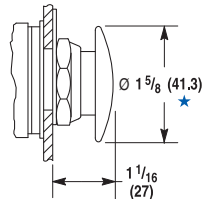


Mechanically Interlocked  
Maintained Contact Push Button  
Shipping Wt. 1 lb (0.45 kg)

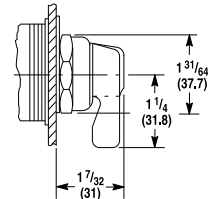
Push Buttons and Pilot Lights



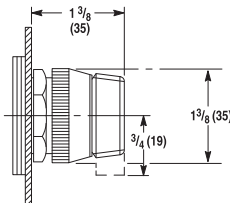
Flush and Extended  
Head Push Button  
Shipping Wt. 5-1/2 oz (0.15 kg)



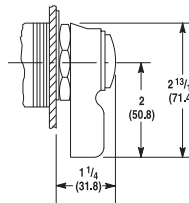
Mushroom Head Push Button  
Shipping Wt. 7-1/2 oz (0.21 kg)



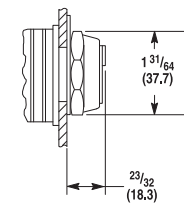
Non-Illuminated Knob Lever and  
Standard Knob Selector Switch  
Shipping Wt. 6 oz (0.17 kg)



Illuminated Knob Lever and  
Standard Knob Selector Switch  
Shipping Wt. 6 oz (0.17 kg)



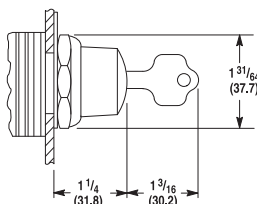
Wing Lever Selector Switch  
Shipping Wt. 8 oz (0.22 kg)



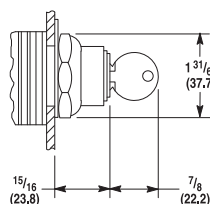
Coin Slot Selector Switch  
Shipping Wt. 6 oz (0.17 kg)

★ Except jumbo which is 2-1/4 (57.2).

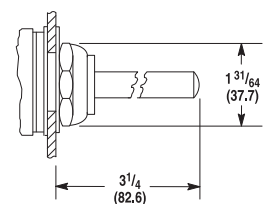
Operator Extension in Front of Panel (Bul. 800T Only)



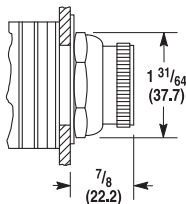
Key Operated Selector Switch  
Shipping Wt. 12 oz (0.34 kg)



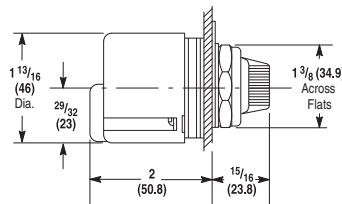
Push Button with Cylinder Lock  
Shipping Wt. 12 oz (0.34 kg)



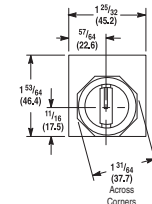
Wobble Stick  
Shipping Wt. 9 oz (0.25 kg)



Selector Push Button  
Shipping Wt. 6 oz (0.17 kg)

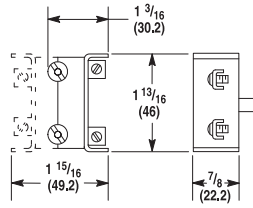


Type J Potentiometer Unit  
Shipping Wt. 4 oz (0.11 kg)

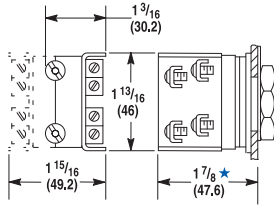


Dimensions in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

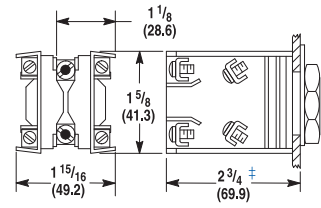
**Blocks (Bul. 800T Only)**



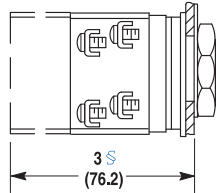
**Mini Contact Block**  
7/8 (22.2) Deep



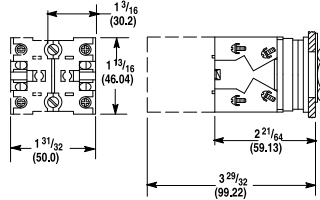
**Shallow, PenTUFF,  
and Logic Reed Contact Blocks**  
1-1/8 (28.6) Deep



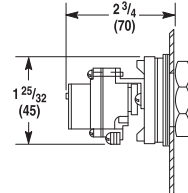
**Sealed Switch Block**  
2 (50.8) Deep



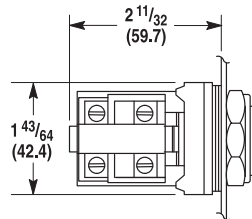
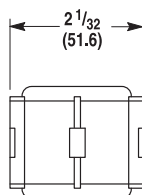
**Tandem Mounting**  
(2 shallow contact  
blocks stacked)



**Stackable Sealed Switch Block**  
1.58 (40.1) Deep



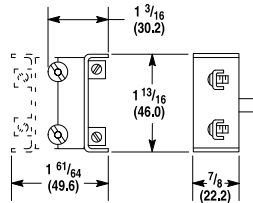
**Time Delay Contact Block**  
(For Push Buttons Only)



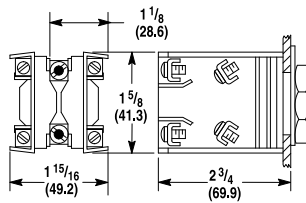
**Snap Action Contact Block (For Push Button Only)**

- ★ Dimension shown is for push buttons. Selector switch dimension is 2-1/32 in. (51.6 mm).
- ‡ Dimension shown is for push buttons. Selector switch dimension is 2-27/32 in. (72.2 mm).
- § Dimension shown is for push buttons. Selector switch dimension is 3-5/32 in. (80.2 mm).

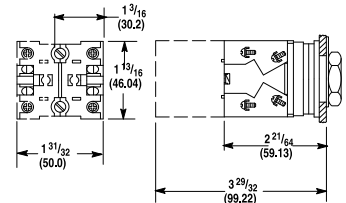
**Blocks (Bul. 800H Only)**



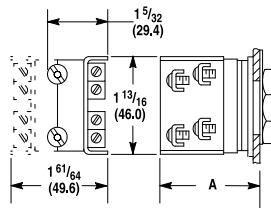
**Mini Contact Block**



**Sealed Switch Block**  
2 (50.8) Deep



**Stackable Sealed Switch Block**  
1.58 (40.1) Deep



**Shallow, PenTUFF and Logic  
Reed Contact Blocks**

Dim.	Momentary Push Button	Maintained Push Button	Selector Switch
A	2 (50.8)	2 (50.8)	1-29/32 (48.4)

Operator Extension Behind Panel — When mounted with thrust washer, trim washer, or notched legend plate and correct number of rubber washers.

Specifications★

Electrical Ratings		
Contact ratings	Refer to the contact ratings tables on page 10-4.	
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 1/4/12/13 (800T); Type 1/4/4X/12/13 (800H); EN/IEC 60529 IP66/65	
Mechanical design life cycles		
Push buttons	(Momentary, non-illuminated, flush and extended head)	10,000,000 min.
	(Momentary, illuminated)	250,000 min.
	(Push-pull/twist-to-release)	250,000 min. ‡
Selector switches	(Non-illuminated)	1,000,000 min.
	(Illuminated, key-operated)	200,000 min.
Potentiometers	25,000 min.	
All other devices	200,000 min.	
Contact operation	Shallow, mini, and low-voltage contact blocks: Slow, double make and break Logic Reed and sealed switch contact blocks: Single break magnetic	
Wire gauge/Terminal screw torque	#18...14 AWG (#18...10 Max Duty) / 6...8 lb•in	
Typical operating forces		
Operators without contact blocks	Flush, extended button, standard mushroom, jumbo plastic mushroom: 2 lbs max. Jumbo and extended aluminum mushroom head: 3.95 lbs max. Maintained selector switch: 3.6 in•lb max.	
Spring return selector switches	3.6 in•lb to stop, 0.2 in•lb to return	
Illuminated push buttons and push-to-test pilot lights	5 lb max.	
2-position push-pull	8.0 lb max. push or pull	
3-position push-pull	8 lb max. push to in position or pull to center position (15 lb max. pull to out position)	
Twist-to-release or push-pull	9 lbs max. push or pull 30 in•oz max. twist, 6 in•oz minimum return	
Potentiometer	Rotational torque 3...12 in•oz; stopping torque 12 in•lb (minimum)	
Contact blocks	Standard	1 lb
	Logic Reed	1 lb max.
	Sealed switch	3 lb max. at 0.205 in. plunger travel
	Stackable sealed switch	1 lb max.
	MaxDuty	1.4 lb max.
	PenTUFF	1.4 lb max.
	Self Monitoring	1.6 lb
Environment		
Temperature range	Operating	-40...+131 °F (-40...+55 °C)
	Storage	-40...+185 °F (-40...+85 °C)
<b>Note:</b> Operating temperatures below freezing are based on the absence of moisture and liquids. Consult your local Rockwell Automation sales office or Allen-Bradley distributor for use in lower temperature applications.		
Humidity	50...95% RH from 77...140 °F (25...60 °C) per Procedure IV of MIL-STD-810C, Method 507.1 cycling test	

★ **Performance Data** — Performance data given in this publication is provided only as a guide for the user in determining suitability and do not constitute a performance warranty of any kind. Such data may represent the results of accelerated testing at elevated stress levels, and the user is responsible for correlating the data to actual application requirements. ALL WARRANTIES AS TO ACTUAL PERFORMANCE, WHETHER EXPRESS OR IMPLIED, ARE EXPRESSLY DISCLAIMED.

‡ Illuminated Trigger Action E-stops are rated for 150,000 min. mechanical operations when using Cat. No. 800TC-XD4S Self-Monitoring Contact Blocks (SMCBs).

**Standard Contact Ratings**

Minimum: 24V, 24 mA

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

Max. Opertnl. 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...72	60 A	10 A
DC 600	DC-13	Q600	28...600 24...28★	69VA 2.5 A	

★ For applications below 24V/24 mA, PenTUFF or Logic Reed contacts are recommended.

**Sealed Switch Contact Ratings**

Minimum: 5V, 1 mA

Maximum continuous current  $I_{th}$  5 A. Bulletin 800T units have control circuit ratings with sealed switch contact blocks as follows:

Max. Opertnl. 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 0...24	138VA 5.0 A	

**Stackable Sealed Switch Contact Ratings**

Minimum: 5V, 10 mA (digital); 24V, 1 mA (analog)

Maximum continuous current  $I_{th}$  2.5 A. Bulletin 800T units have control circuit ratings with sealed switch contact blocks as follows:

Max. Opertnl. 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 0...24	69VA 2.5 A	

**Logic Reed Contact Ratings**

Minimum — DC: 5V, 1 mA

Maximum — DC: 30V, 0.06 A, AC: 150V, 0.15 A

Should only be used with resistive loads.

**Materials Used in 800H Type 4X Operators**

**Thermoplastic Polyester (Fiberglass Reinforced)**

- Bushings
- Mounting Rings
- Sockets

**Thermoplastic Polyester**

- Non-illuminated button caps

**Transparent Amorphous Nylon**

- Pilot light lens cap
- Illuminated button caps

**Glass Filled Crystalline Nylon**

- Thrust washer

**Mineral Filled Nylon**

- Trim washer

**Nitrile (Synthetic Rubber)**

- Gaskets and internal seals

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

Max. Opertnl. 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 0...24	28VA 1.0 A	

**Snap Action Contact Ratings**

Max. Opertnl. Volts $U_e$	Contact Rating Designation	Rated Operational Currents		
		Volts $U_e$	Make	Break
AC 300	A300	120...300	7200VA	720VA
		24...72	60 A	10 A
DC 250	—	230...250	0.2 A	
		115...125	0.4 A	

**MaxDuty Contact Rating**

Maximum thermal continuous current  $I_{th}$  24 A.

Pilot Duty — 120V AC, 12 A; 24V DC, 10 A

Motor Ratings — 120V AC, 1.5 Hp; 240V AC, 3 Hp; 24V DC, 10 A FLA/60 A LRA

**Time Delay Contacts**

Max. Opertnl. Volts $U_e$	Contact Rating Designation	Rated Operational Currents		
		Volts $U_e$	Make	Break
AC 120	B150	120	3600VA	360VA

**Note:** This device is not rated for DC applications.

Adjustment range: 0.5...15 s ± 25%  $I_{th}$  = 5 A

**Standards Compliance**

UL 508

CCC

**Certifications**

UL Listed

(File No. E14840, E10314)

Guide No. NKCR, NOIV, NISD)

CSA Certified

(File No. LR1234, LR11924)

CSA C22.2, No. 14

CE Marked (EN/IEC 60947-5-1,

EN/IEC 60947-5-5,

EN ISO 13850)