

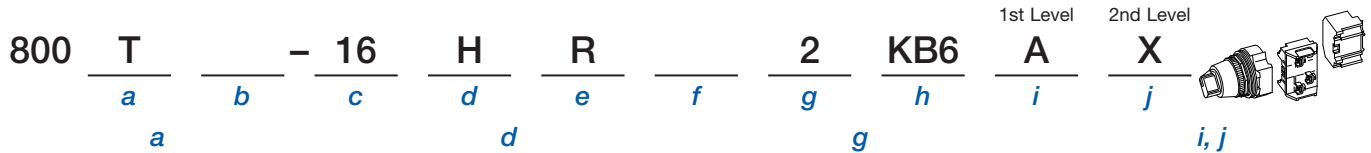
2-Position Knob/Lever Type Selector Switch Devices, Illuminated



Standard Knob Operator  
Cat. No. 800T-16HR2KB6AX



Knob Lever Operator  
Cat. No. 800H-16HRR17KB6AX



**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**

Power Module Type and Voltage	
Full Voltage — Incandescent	
Code	Description
12	12V AC/DC
24	24V AC/DC
48	48V AC/DC

Universal — LED	
Code	Description
2	12...130V AC/DC

Transformer	
Code	Description
16	120V AC 50/60 Hz
26	240V AC 50/60 Hz

For other voltages, please consult your local Rockwell Automation sales office or Allen-Bradley distributor.

**d**

No. of Positions		
Bul. 800T Type 4/13	Description	Bul. 800H Type 4/4X/13
Code		Code
H	2-position	HR

**e**

Knob Color	
Code	Color
A	Amber
B	Blue
C	Clear
G	Green
R	Red
W	White
X	No knob

**f**

Illumination Options	
Code	Description
Blank	Incandescent
H	LED

**Table 1. Selector Switch Cam Targets**

Cam Description (2-Position)		
Target		Contact Block Code▲
O	X	D, H, V, R, 5
X	O	E, U, W, S, 6

X = Closed/O = Open

**g**

Operator Function and Knob Type	
Standard Knob or No Knob	
Code	Operator Function
2	Maintained
4	Spring return from left
5	Spring return from right

Knob Lever	
Code	Operator Function
17	Maintained
18	Spring return from left
19	Spring return from right

**h**

Cam Options	
2-Position	
Code	Operator Function
KB6	Maintained cam
KL8	Spring return cam

**Table 2. Contact Block Code Reduction Rules**

Contact Block Substitution	
Combination	Code
Standard	
D + E	A
D + D	M
E + E	N

**i, j**

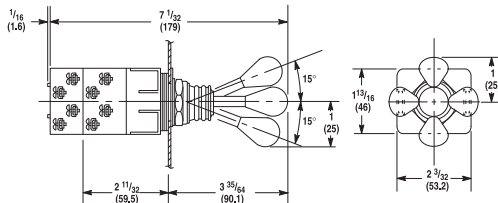
Contact Blocks▲	
Code	Description
Blank (both pos.)	No contacts
Standard	
D	1 N.O.
E	1 N.C.
A	1 N.O. - 1 N.C.
X	No contacts in this position
PenTUFF (Low Voltage)	
H	1 N.O.
U	1 N.C.
F	1 N.O. - 1 N.C.
Class 1, Div. 2	
Logic Reed	
V	1 N.O.
W	1 N.C.
T	1 N.O. - 1 N.C.
Sealed Switch	
R	1 N.O.
S	1 N.C.
P	1 N.O. - 1 N.C.
Stackable Sealed Switch	
5	1 N.O.
6	1 N.C.
7	1 N.O. - 1 N.C.

▲ Contact blocks used on white side only.

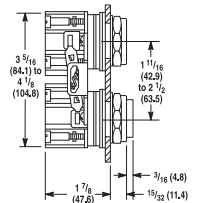
◆ Target tables are reversed for spring return from left operators.

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

Push Buttons and Switches (Bul. 800T Only)

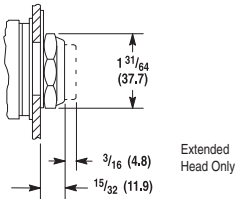


2-3-4 Way Switch  
 Shipping Wt. with 2 Contact Blocks 6 oz (0.17 kg)  
 Shipping Wt. with 4 Contact Blocks 8-1/2 oz (0.24 kg)

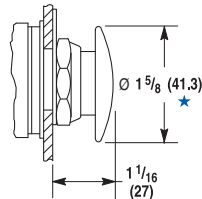


Mechanically Interlocked  
 Maintained Contact Push Button  
 Shipping Wt. 1 lb (0.45 kg)

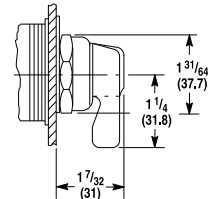
Push Buttons and Pilot Lights



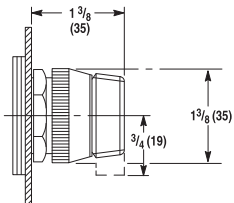
Flush and Extended  
 Head Push Button  
 Shipping Wt. 5-1/2 oz (0.15 kg)



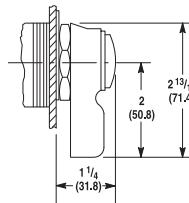
Mushroom Head Push Button  
 Shipping Wt. 7-1/2 oz (0.21 kg)



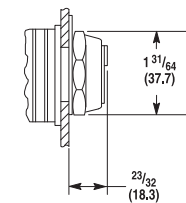
Non-Illuminated Knob Lever and  
 Standard Knob Selector Switch  
 Shipping Wt. 6 oz (0.17 kg)



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



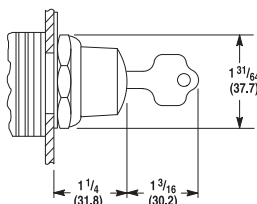
Wing Lever Selector Switch  
 Shipping Wt. 8 oz (0.22 kg)



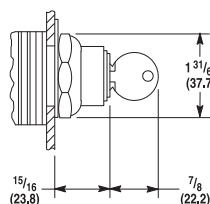
Coin Slot Selector Switch  
 Shipping Wt. 6 oz (0.17 kg)

★ Except jumbo which is 2-1/4 (57.2).

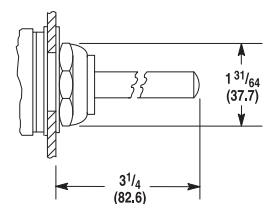
Operator Extension in Front of Panel (Bul. 800T Only)



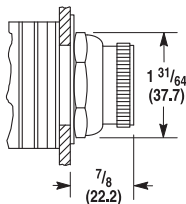
Key Operated Selector Switch  
 Shipping Wt. 12 oz (0.34 kg)



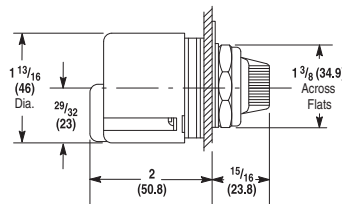
Push Button with Cylinder Lock  
 Shipping Wt. 12 oz (0.34 kg)



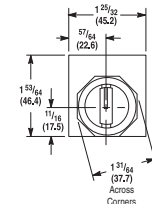
Wobble Stick  
 Shipping Wt. 9 oz (0.25 kg)



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

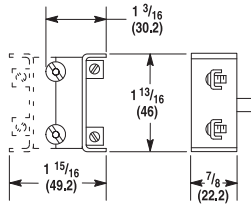


Type J Potentiometer Unit  
 Shipping Wt. 4 oz (0.11 kg)

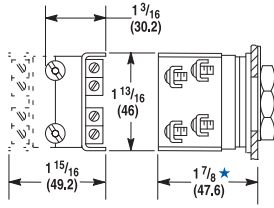


Dimensions in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

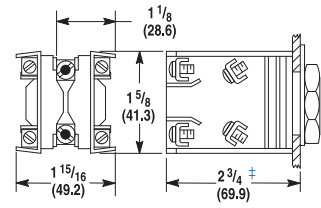
**Blocks (Bul. 800T Only)**



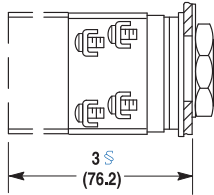
**Mini Contact Block**  
7/8 (22.2) Deep



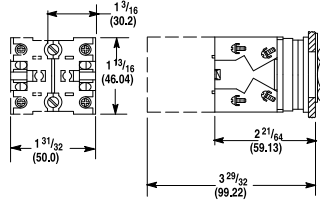
**Shallow, PenTUFF,  
and Logic Reed Contact Blocks**  
1-1/8 (28.6) Deep



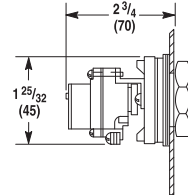
**Sealed Switch Block**  
2 (50.8) Deep



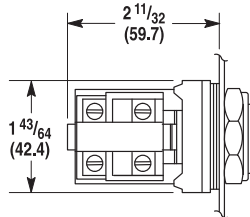
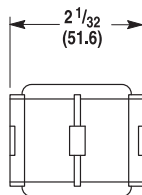
**Tandem Mounting**  
(2 shallow contact  
blocks stacked)



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



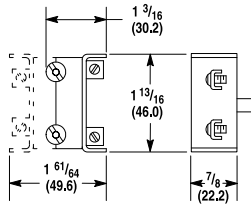
**Time Delay Contact Block**  
(For Push Buttons Only)



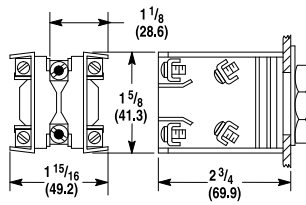
**Snap Action Contact Block (For Push Button Only)**

- ★ 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).

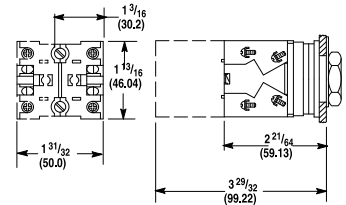
**Blocks (Bul. 800H Only)**



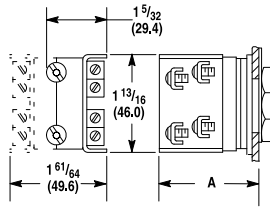
**Mini Contact Block**



**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)