

3-Position Selector Switch Devices, Non-Illuminated



Standard Knob Operator
Cat. No. 800T-J2A

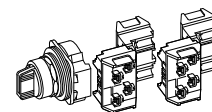


Knob Lever Operator
Cat. No. 800T-J17A



Standard Knob Operator
Cat. No. 800H-JR2A

800 T - J 2 C
a b c d e f



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

Knob Insert Colors		
800T Type 4/13	Description	800H Type 4/4X/13
Code		Code
J	White	JR
JX	Packet of colored inserts★	JRX
Metal Wing Lever Colors‡		
Code	Color	Code
JA	Red	—
JG	Grey	—

d

Knob/Lever Type Operators	
Standard Knob	
Code	Operator Function
2	Maintained
4	Spring return from left
5	Spring return from right
91	Spring return from both
Knob Lever‡	
Code	Operator Function
17	Maintained
18	Spring return from left
19	Spring return from right
20	Spring return from both
Metal Wing Lever‡	
Code	Operator Function
11	Maintained
15	Spring return from left
16	Spring return from right
141	Spring return from both
Coin Slot‡	
Code	Operator Function
10	Spring return from both

e

Cam Option\$Δ	
Code	Description
Blank	KB7 cam (std.)
KA1	KA1 cam
KA7	KA7 cam

e (cont'd)

Cam Option\$Δ	
Code	Description
KC1	KC1 cam
KC7	KC7 cam
KD7	KD7 cam
KE7♣	KE7 cam
KQ1	KQ1 cam
KQ7	KQ7 cam
KR1♣	KR1 cam
KR7♣	KR7 cam
KT1♣	KT1 cam
KT7♣	KT7 cam
KU7♣	KU7 cam

f

Contact Blocks	
Code	Description
Blank	No contacts on operator
Standard	
A	1 N.O. - 1 N.C. 1-800T-XA on white side
B	2 N.O. - 2 N.C. 2-800T-XAs — 1 on white side/1 on black side
PenTUFF (Low Voltage)	
AV	1 N.O. - 1 N.C. 1-800T-XAV on white side
BV	2 N.O. - 2 N.C. 2-800T-XAVs — 1 on white side/1 on black side

f (cont'd)

Contact BlocksΔ	
Code	Description
Blank	No contacts
Class 1, Div. 2	
Logic Reed	
AR	1 N.O. - 1 N.C. 1-800T-XAR on white side
BR	2 N.O. - 2 N.C. 2-800T-XARs — 1 on white side/1 on black side
Sealed Switch	
AP	1 N.O. - 1 N.C. 1-800T-XAP on white side
BP	2 N.O. - 2 N.C. 2-800T-XAPs — 1 on white side/1 on black side
Stackable Sealed Switch	
AY	1 N.O. - 1 N.C. 1-800T-XAY on white side
BY	2 N.O. - 2 N.C. 2-800T-XAYs — 1 on white side/1 on black side

★ One insert of each color (blue, green, orange, red, and yellow).
‡ Only available on Bul. 800T, Type 4/13 operators.
\$ If an overlapping cam is required, consult your local distributor.
♣ Not available with wing levers.
Δ See Table 1 for cam selections and associated targets.

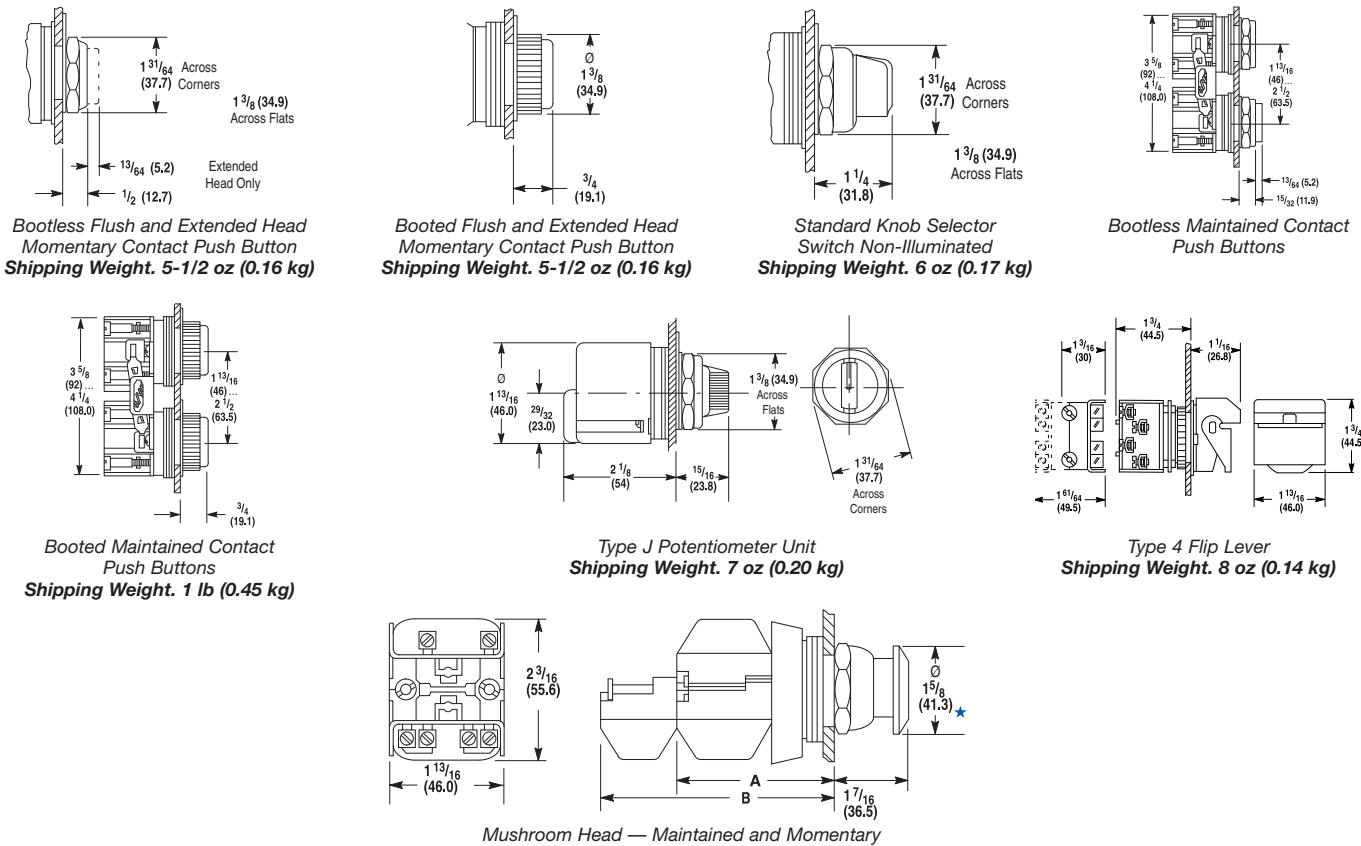
Table 1. Cam and Contact Block Functionality Table

Contact Block Suffix Code	Contact Block Side	Circuits	Cam Codes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
			KB7 (Std.)	KA1	KA7	KC1	KC7	KD7	KE7	KQ1	KQ7	KR1	KR7	KT1	KT7	KU7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
A B H C	White	A	X	O	O	X	O	O	O	X	O	O	X	X	O	O	O	O	X	X	O	O	X	X	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O	O	X	O

Note: X = Closed/O = Open

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

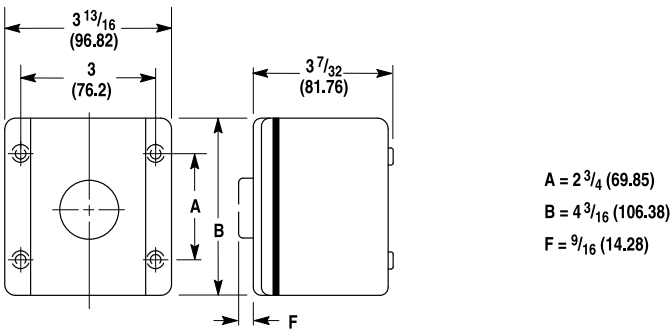
Push Buttons and Switches (Bul. 800H Only)



Non-Illuminated Mushroom and Push-Pull Push Buttons				
Cat. No. Suffix	Description	Dimensions		Shipping Weights
D4	One Shallow Block	A	2-1/32 (51.6)	5 oz (0.14 kg)
A1, A5 and A7	Two Shallow blocks	A	2-1/32 (51.6)	6 oz (0.17 kg)
B6	Two Shallow Blocks and Two Mini Blocks	B	2-7/8 (73.0)	8 oz (0.22 kg)

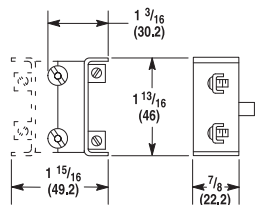
★ Jumbo versions are 2-1/4 (57.2).

Break-Glass Station

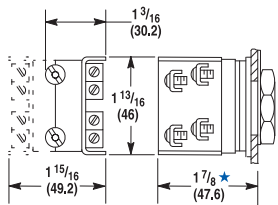


Dimensions in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

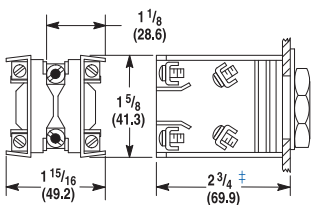
Blocks (Bul. 800T Only)



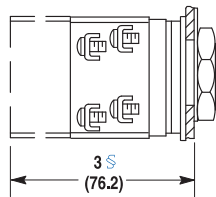
Mini Contact Block
7/8 (22.2) Deep



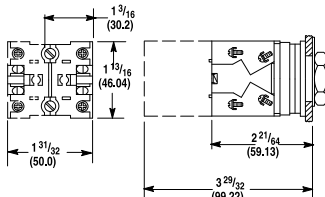
Shallow, PenTUFF,
and Logic Reed Contact Blocks
1-1/8 (28.6) Deep



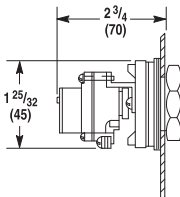
Sealed Switch Block
2 (50.8) Deep



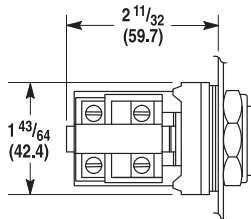
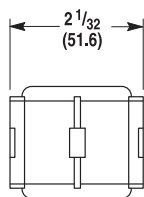
Tandem Mounting
(2 shallow contact
blocks stacked)



Stackable Sealed Switch Block
1.58 (40.1) Deep



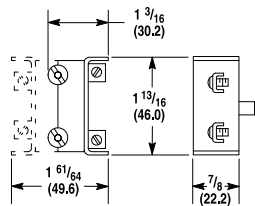
Time Delay Contact Block
(For Push Buttons Only)



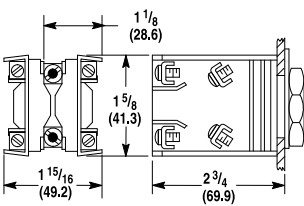
Snap Action Contact Block (For Push Button Only)

★ 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).

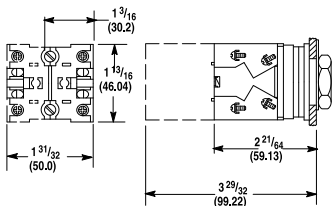
Blocks (Bul. 800H Only)



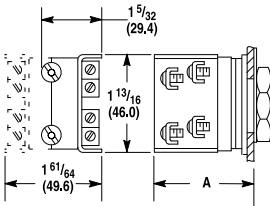
Mini Contact Block



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)
Note: 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. Operntl. Volts U_e	Utilization Category		Rated Operational Currents		
	IEC	NEMA	Volts U_e	Make	Break
AC 600	AC-15	A600	120...600 72...120 24...72	7200VA 60 A 60 A	720VA 720VA 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. Operntl. Volts U_e	Utilization Category		Rated Operational Currents		
	IEC	NEMA	Volts U_e	Make	Break
AC 600	AC-15	B600	120...600 0...120	3600VA 30 A	360VA 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. Operntl. Volts U_e	Utilization Category		Rated Operational Currents		
	IEC	NEMA	Volts U_e	Make	Break
AC 300	AC-15	C300	120...300 0...120	1800VA 15 A	180VA 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. Operntl. Volts U_e	Utilization Category		Rated Operational Currents		
	IEC	NEMA	Volts U_e	Make	Break
AC 300	AC-15	C300	120...300 0...120	1800VA 15 A	180VA 1.5 A
DC 150	DC-13	R150	24...150 0...24	28VA 1.0 A	

Snap Action Contact Ratings

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