

30 mm Push Button Specifications

Bulletin Numbers 800T and 800H

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Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Industrial Automation Wiring and Grounding Guidelines, publication <u>1770-4.1</u>	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, <u>http://www.ab.com</u>	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at http://www.rockwellautomation.com/literature/. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.





800T/H 30 mm Push Buttons

Specifications *

		Electrical Ratings				
Contact ratings		Refer to the co	Refer to the contact ratings tables on page 10-4.			
Dielectric strength		2200V for one minute, 1300V for one minute (Logic Reed)				
		Mechanical Ratings				
Vibration		102000 Hz, 1.52 r 10 G r	nm displacement (peak-to-peak) max./ nax. (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	e 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. ‡			
	(Non-illuminated)		1,000,000 min.			
Selector switches	(Illuminated, key-operated)		200,000 min.			
Potentiometers			25,000 min.			
All other devices			200,000 min.			
Contact operation		Shallow, mini, and low-voltag Logic Reed and sealed so	e contact blocks: Slow, double make and break witch contact blocks: Single break magnetic			
Wire gauge/Terminal screw torque		#1814 AWG	(#1810 Max Duty) / 68 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.				
Spring return selector switch	es	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 312 in•oz: stopping torque 12 in•lb (minimum)				
	Standard		1 lb			
	Logic Reed		1 lb max.			
	Sealed switch	3 lb max	at 0.205 in. plunger travel			
Contact blocks	Stackable sealed switch		1 lb max.			
	MaxDuty		1.4 lb max.			
	PenTUFF		1.4 lb max.			
	Self Monitoring		1.6 lb			
		Environment				
	Operating	-40.	.+131 °F (-40+55 °C)			
Temperature range	Storage	-40.	.+185 °F (-40+85 °C)			
Note: Operating temperatures the absence of moisture Rockwell Automation sal distributor for use in low	below freezing are based on and liquids. Consult your local es office or Allen-Bradley er temperature applications.					
Humidity		5095% RH from 77140 °F Met	(2560 °C) per Procedure IV of MIL-STD-810C, hod 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.	Utilization Category		Rated Operational Currents		
Volts U _e	IEC	NEMA	Volts U _e	Make	Break
AC 600	AC-15	A600	120600 72120 2472	7200VA 60 A 60 A	720VA 720VA 10 A
DC 600	DC-13	Q600	28600 2428★	69 2.5	VA 5 A

★ For applications below 17V/5 mA, PenTUFF or Logic Reed contacts are recommended.

Electrical design life cycles: 1,000,000 (at max. rated load)

Explosion-Protected Contact Ratings

Max. Opertnl.	Utilization Category		Rated Operational Currents		
Volts U _e	IEC	NEMA	Volts U _e	Make	Break
AC 600	AC-15	A600	120600 72120 2472	7200VA 60 A 60 A	720VA 720VA 10 A
DC 600	DC-13	Q600	28600 2428	69 2.5	VA 5 A

Maximum thermal continuous current Ith = 10 A Minimum low energy switching load: 17V DC, 5 mA

Electrical design life cycles: 1,000,000 (24V DC, 25 mA)

Vibration: 5 g, 0.7 mm peak-to-peak displacement, sine sweep 10...2000 Hz / IEC 60068-2-6

Shock: 15 g (800H-TFRX_ trigger action E-stops), 50 g (all other devices) / IEC 60068-2-27

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.	Utilization Category		Rated Operational Currents		
Volts U _e	IEC	NEMA	Volts U _e	Make	Break
AC 600	AC-15	B600	120600 0120	3600VA 30 A	360VA 3 A
DC 300	DC-13	P300	24300 024	138 5.0	BVA D A

Stackable Sealed Switch Contact Ratings

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

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

Max. Opertnl.	Utilization Category		Rated Operational Currents		
Volts U _e	IEC	NEMA	Volts U _e	Make	Break
AC 300	AC-15	C300	120300 0120	1800VA 15 A	180VA 1.5 A
DC 150	DC-13	Q150	24150 024	69 2.5	VA 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. Electrical design life cycles: 200,000 (at max. rated load)

PenTUFF™ (Low Voltage) Contact Ratings

Minimum DC: 5V, 1 mA

Maximum thermal continuous current $I_{\rm th}$ 2.5 A AC/1.0 A DC. Bulletin 800T units with 800T-XAV contacts have ratings as follows:

Max. Opertnl.	Utilization Category		Rated Operational Currents		
Volts U _e	IEC	NEMA	Volts U _e	Make	Break
AC 300	AC-15	C300	120300 0120	1800VA 15 A	180VA 1.5 A
DC 150	DC-13	R150	24150 024	28 1.0	VA) A

Snap Action Contact Ratings

Max. Opertnl.	Contact Bating	Rated Operational Currents			
Volts U _e	Designation	Volts U _e	Make	Break	
AC 300	A300	120300 2472	7200VA 720V 60 A 10 A		
DC 250		230250 115125	0.2 0.4	2 A 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.	nl. Contact Rating Designation	Rated Operational Currents		
Volts U _e		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

Materials Used in 800H Type 4X Operators

Thermoplas	stic	Poly	/ester
(Fiberalass	Rei	nfor	ced)

- Bushings
- Mounting Rings
- Sockets

Transparent Amorphous Nylon

· Pilot light lens cap

Illuminated button caps

Mineral Filled Nylon

• Trim washer

Standards Compliance

UL 508 CCC

Certifications

Thrust washer

UL Listed (File No. E14840, E10314 Guide No. NKCR, NOIV, NISD)

Thermoplastic Polyester • Non-illuminated button caps

Nitrile (Synthetic Rubber)

· Gaskets and internal seals

Glass Filled Crystalline Nylon

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)