

3-Position Push-Pull Devices, Illuminated

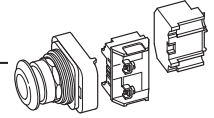


Illuminated 3-Position Push-Pull
Cat. No. 800T-FXMP16RA7



Illuminated 3-Position Push-Pull
Cat. No. 800H-FRXMP16A7

800 T - FX M PH 16 R A1
a b c d e f g h



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

Head Type		
800T Type 4/13	Description	800H Type 4/4X/13
Code		Code
FX	Mushroom head	FRX
FXJ	Jumbo mushroom	FRXJ

d

Operator Function			
Code	Operator Position		
	Out	Ctr.	In
M	Mom.	Main.	Main.
N	Mom.	Main.	Mom.

Mom. – Momentary, Main. – Maintained.

e

Illumination Options	
Transformer	
Code	Description
P	Incandescent
PH	LED
Full Voltage	
Q	Incandescent
QH	Universal LED
Dual Input	
D	Diode type [♣]
DT	Transformer — relay type
DTH	Transformer — relay LED

f

Voltage [♣]	
Transformer	
Code	Description
16	120V AC 50/60 Hz
26	240V AC 50/60 Hz
Full Voltage	
24	24V AC/DC
10	120V AC/DC
20	240V AC/DC
Universal LED	
2	12...130V AC/DC
Dual Input	
16	120V AC
24	24V AC/DC [#]

g

Color Cap	
Code	Color
X	No cap (not valid with head Type J)
A	Amber
B	Blue
C	Clear
G	Green
R	Red
W	White

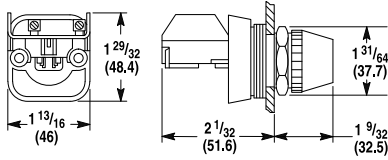
h

Target			
Contact			
N.O.	O	O	X
N.C.	X	O	O
N.C.L.B.	X	X	O
Contact Blocks			
Code	Description		
Blank	No contacts on operator		
Standard			
A	1 N.O. - 1 N.C.		
A1	1 N.O. - 1 N.C.L.B.		
A7	1 N.C. - 1 N.C.L.B.		
PenTUFF (Low Voltage)			
AV	1 N.O. - 1 N.C.		
Class 1, Div. 2			
Logic Reed			
AR	1 N.O. - 1 N.C.		
Sealed Switch			
AP	1 N.O. - 1 N.C.		
Stackable Sealed Switch			
AY	1 N.O. - 1 N.C.		

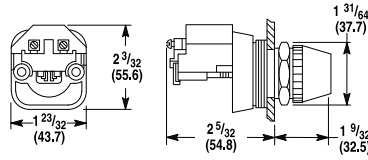
[♣] See page 18 (Table f) for additional voltage code options.
[♠] Diode type dual input provides circuit isolation via opposing diodes. Not recommended for use with solid-state outputs and neon indicators.
[#] Dual input diode only.

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

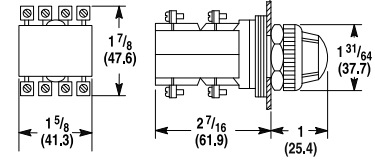
Pilot Light and Illuminated Devices (Bul. 800T Only)



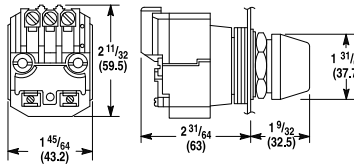
Full Voltage, Neon and Dual Input Pilot Light
Shipping Wt. 5 oz (0.14 kg)



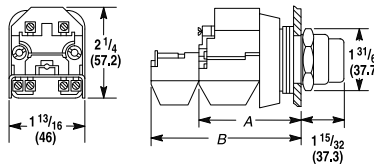
Transformer Type Pilot Light
Shipping Wt. 8 oz (0.22 kg)



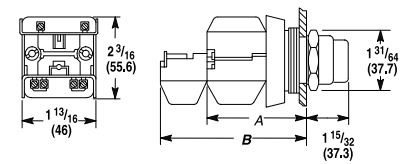
Cluster Pilot Light
Shipping Wt. 12 oz (0.34 kg)



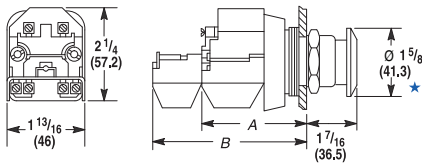
Dual Input Transformer Type Pilot Light



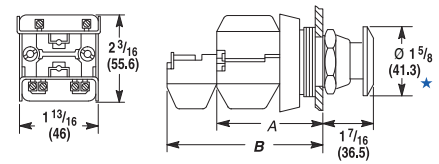
Transformer Type (Push-to-Test Pilot Light and Illuminated Push Button)



Full Voltage, Neon and Dual Input Type (Push-to-Test Pilot Light and Illuminated Push Button)



Push-Pull and Twist or Pull Release Units (Transformer Type Illuminated)



Push-Pull and Twist or Pull Release Units (Full Voltage, Neon and Dual Input Illuminated and All Non-Illuminated)

★ Jumbo mushroom versions are 2-1/4 in. (57.2 mm) diameter.

Push-to-Test Pilot Lights Illuminated Push Buttons and Illuminated Push-Pull Buttons							Non-Illuminated Push-Pull Buttons					
Cat. No. Suffix†	Description	Transformer Type		Full Voltage or Neon Type		Cat. No. Suffix	Description	Transformer Type				
		Dim.	Ship. Wt.	Dim.	Ship. Wt.			Dim.	Ship. Wt.			
D4	Transformer or Terminal Module and One Shallow Contact Block	A	2-5/32 (54.8)§	9 oz. (0.25 kg)	A	2-1/32 (51.6)	7 oz. (0.25 kg)	D4	One Shallow Contact Block	A	2-1/32 (51.6)	5 oz. (0.14 kg)
A1 and A7	Transformer or Terminal Module and One Shallow Block and One Mini Contact Block	B	2-7/8 (73)	10 oz. (0.28 kg)	B	2-7/8 (73)	8 oz. (0.22 kg)	A4 A5 A7	Two Shallow Contact Blocks	A	2-1/32 (51.6)	6 oz. (0.17 kg)
AP D1P D2P	Transformer or Terminal Module and One Sealed Switch Contact Block	A	3-1/32 (77)	10 oz. (0.28 kg)	A	2-29/32 (73.8)	8 oz. (0.22 kg)	B6	Two Shallow Blocks and Two Mini Contact Blocks	B	2-7/8 (73)	8 oz. (0.22 kg)

† Applies to illuminated push-pull push buttons only.

§ Dual input type pilot light dimension is 2-13/32 in. (61.1 mm).

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).