

Bulletin 800T/H

30.5 mm Push Buttons

Pilot Lights

Pilot Light Devices*



Transformer Type Pilot Light
Cat. No. 800T-P16R



Push-to-Test Pilot Light
Cat. No. 800T-PT16R

Type	Lamp Type	Volts	Color	Type 4/13		Type 4/4X/13	
				Pilot Light	Push-to-Test*	Pilot Light	Push-to-Test*
				Cat. No.	Cat. No.	Cat. No.	Cat. No.
Operator Only*				800T-S00	800T-SB00XX	800H-SR00	800H-SRB00XX
Full Voltage†	Incandescent	24V AC/DC	Red	800T-Q24R	800T-QT24R	800H-QR24R	800H-QRT24R
			Green	800T-Q24G	800T-QT24G	800H-QR24G	800H-QRT24G
			Amber	800T-Q24A	800T-QT24A	800H-QR24A	800H-QRT24A
	No Lamp	0...250V AC/DC	No Lens	800T-QN25	800T-QTN25	—	—
Universal†	LED	12...130 V AC/DC	Red	800T-QH2R	800T-QTH2R	800H-QRH2R	800H-QRTH2R
			Green	800T-QH2G	800T-QTH2G	800H-QRH2G	800H-QRTH2G
			Amber	800T-QH2A	800T-QTH2A	800H-QRH2A	800H-QRTH2A
Transformer†	Incandescent	120V AC, 50/60 Hz	Red	800T-P16R	800T-PT16R	800H-PR16R	800H-PRT16R
			Green	800T-P16G	800T-PT16G	800H-PR16G	800H-PRT16G
			Amber	800T-P16A	800T-PT16A	800H-PR16A	800H-PRT16A
	LED		Red	800T-PH16R	800T-PTH16R	800H-PRH16R	800H-PRTH16R
			Green	800T-PH16G	800T-PTH16G	800H-PRH16G	800H-PRTH16G
			Amber	800T-PH16A	800T-PTH16A	800H-PRH16A	800H-PRTH16A
	No Lamp		No Lens	800T-PN16	800T-PTN16	—	—

* Includes one standard Cat. No. 800T-XA (1 N.O. - 1 N.C.) contact block. For typical pilot light wiring diagrams, see page 10-65.

† Operator only supplied without power module, lamp, lens cap, or contact blocks.

‡ All pilot lights except push-to-test without sealed contacts and dual input transformer relay, are rated for Class 1, Division 2 applications.

800 T - P T 16 G AR
a b c d e f g h (Push-to-Test)

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

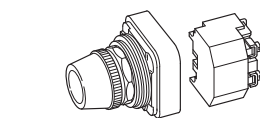
Finger-Safe Guards	
Code	Description
Blank	No guards
C	Guards on terminals

Power Module Type		
800T Type 4/13	Description	800H Type 4/4X/13
Code		Code
P	Transformer (or dual input)	PR
Q	Full voltage/ Universal	QR

Lamp Test Options	
Code	Description
Blank	No test option
T	Push-to-test
D	Dual input — diode*
DT	Dual input — transformer relay
Note: Push-to-test supplied with factory jumpered contact block.	

Illumination Options	
Code	Description
Blank	Incandescent
H	LED*

Voltage	
Transformer	
Code	Description
16	120V AC 50/60 Hz
26	240V AC 50/60 Hz
46	480V AC 50/60 Hz
56	600V AC 50/60 Hz
Full Voltage — Incandescent	
12	12V AC/DC
24	24V AC/DC
48	48V 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 (Dual input diode only)



Lens Color		
Code	Color	Glass Code
Blank	No lens	Blank
A	Amber	D
B	Blue	E
C	Clear	F
G	Green	H
R	Red	J
W	White	K

Contact Blocks (Push-to-test units only)	
Code	Description
Standard	
Blank	1 N.O. - 1 N.C.
PenTUFF (Low Voltage)	
AV	1 N.O. - 1 N.C.
Class 1, Div. 2/Zone 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.

* LED illumination option is not available with diode type dual input.

* Diode type dual input provides circuit isolation via opposing diodes. Not recommended for use with solid-state outputs.

* Glass lens available on 800T pilot lights only. Not available on push-to-test units.

10





Bulletin 800T/800H 30.5 mm Push Buttons

- 30.5 mm mounting hole
- Type 4/13 watertight/oiltight (Bul. 800T)
- Type 4/4X/13 corrosion-resistant/watertight/oiltight (Bul. 800H)
- Heavy industrial stations and operators

Description

The Allen-Bradley Bulletin 800T and 800H 30.5 mm push button product lines are in a class by themselves. They are designed and constructed to perform in the most demanding industrial environments. In terms of sealing and switching performance, you will not find a more dependable push button offering. Allen-Bradley delivers more styles and options of operator types and contact blocks, offering flexibility to meet the most demanding specifications in the world's toughest industrial environments.

Design innovation is key to the performance advantage provided in the Bulletin 800T and 800H offerings. New in this catalog are the **Trigger Action E-Stop** operators, the new standard bearer in a tamper-resistant design. Also new is the **Universal LED Illumination** option that accepts a wide 12...130V AC/DC voltage input. This is compatible with all illuminated operator types, allows retrofitting in existing installations, and incorporates super bright LED technology.

Table of Contents

See below.

Standards Compliance

UL 508

CCC

Certifications

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

CSA Certified
(File No. LR1234, LR11924)

CSA C22.2, No. 14

EN/IEC: 60947-5-1

TABLE OF CONTENTS

Description	Page
Specifications	10-3
Assembled Stations	10-5
DeviceNet Stations	10-6
Trigger Action E-Stops	10-7
Push Buttons, Momentary	
Non-Illuminated	10-9
Illuminated	10-10
Non-Illuminated — with Two-Color Molded Legend Cap	10-11
Selector Switches, Non-Illuminated	
2-Position	10-12
3-Position	10-14
4-Position	10-16
Selector Switches, Illuminated	
2-Position	10-18
3-Position	10-19
Pilot Light Devices	10-20
Emergency Stop Operators	
Push-Pull, Non-Illuminated	
2-Position	10-21
3-Position	10-22
Push-Pull, Illuminated	
2-Position	10-23
3-Position	10-24

Description	Page
Specialty Operators	
Potentiometer	10-25
Mechanically Interlocked Push Button	10-25
Cluster Pilot Light	10-26
18 mm Small Pilot Light	10-27
1-, 2-, 3-, 4-Way Toggle Switch	10-28
Selector Push Button	10-29
Cylinder Lock Push Button	10-30
Padlocking Mushroom Head	10-30
Wobble Stick	10-30
Flip Lever Operator	10-31
Break-Glass Push Button Station	10-32
Custom-Built Stations	10-33
Enclosures	10-33
Accessories	
Contact Blocks	10-35
Power Modules and Universal LED Module	10-36
Replacement Color Caps	10-37
Selector Switch Knobs	10-38
Protective Boots	10-39
Push Buttons & Miscellaneous	10-40
Locking Attachments	10-42
Guards	10-44
Replacement Lamps	10-45
Replacement Keys	10-46
Legend Plates	10-47
Approximate Dimensions & Shipping Weights	10-53
Typical Pilot Light Wiring Diagram	10-65

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)	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 — See Important- 3.

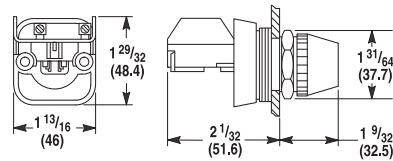
Bulletin 800T/H

30.5 mm Push Buttons

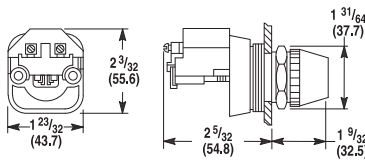
Approximate Dimensions

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

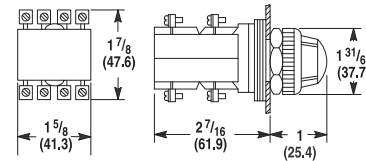
Pilot Light and Illuminated Devices (Bul. 800T Only)



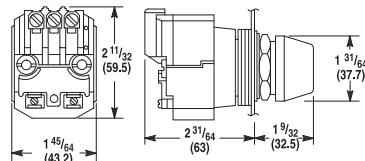
Full Voltage, Neon and Dual Input Pilot Light
Shipping Wt. 5 oz (0.14 kg)



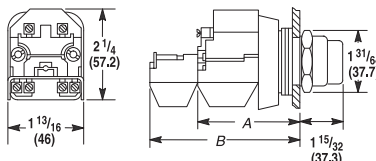
Transformer Type Pilot Light
Shipping Wt. 8 oz (0.22 kg)



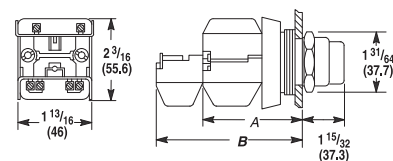
Cluster Pilot Light
Shipping Wt. 12 oz (0.34 kg)



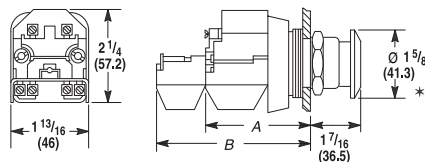
Dual Input Transformer Type Pilot Light



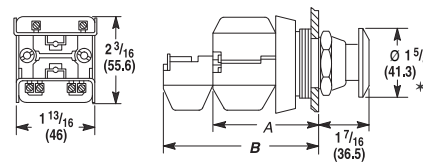
Transformer Type
(Push-to-Test Pilot Light and Illuminated Push Button)



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.

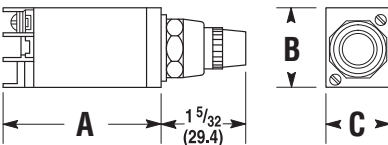
Push-to-Test Pilot Lights						Non-Illuminated Push-Pull Buttons					
Illuminated Push Buttons and Illuminated Push-Pull Buttons											
Cat. No. Suffix*	Description	Transformer Type		Full Voltage or Neon Type		Cat. No. Suffix	Description	Transformer Type			
		Dim.	Ship. Wt.	Dim.	Ship. Wt.			Dim.	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.

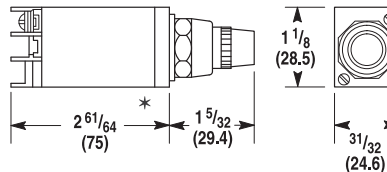
† Dual input type pilot light dimension is 2-13/32 in. (61.1 mm).

10

18 mm Small Pilot Lights



Small Pilot Light Including Push-To-Test
Shipping Weight 3 oz (0.08 kg)



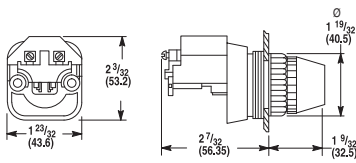
Small Pilot Light Dual Input (Diode)
Shipping Weight 3 oz (0.08 kg)

Device	A	B	C
800T-PS, -PSD, -PST, -QS, -QST, and -RST	2-1/4 (57.2)	1-1/16 (27)	27/32 (21.4)
800T-PSDT	2-61/64 (75)	1-15/64 (31.4)	31/32 (24.6)

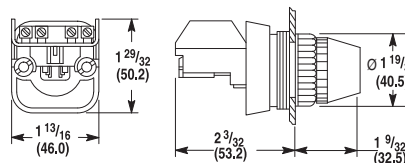
* Transfer dual input pilot light dimension is 2-31/32 in. (75.4 mm).

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

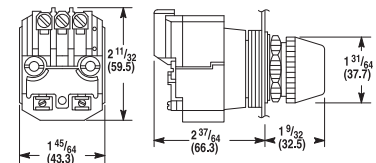
Push-to-Test Pilot Light and Illuminated Devices (Bul. 800H Only)



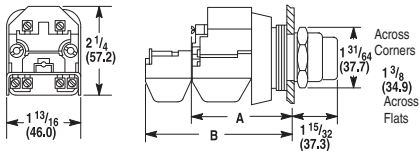
*Transformer Type Pilot Light
 (Incandescent and LED)
 Shipping Weight. 12 oz (0.34 kg)*



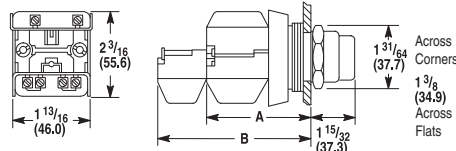
*Full Voltage and Dual Input Diode Type
 Pilot Light (Incandescent, Neon, LED)
 Shipping Weight. 5 oz (0.14 kg)*



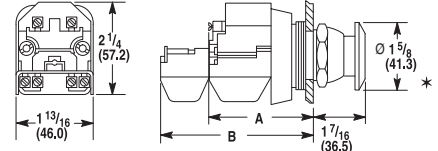
*Dual Input Transformer Type Pilot Light
 Shipping Weight. 14 oz (0.40 kg)*



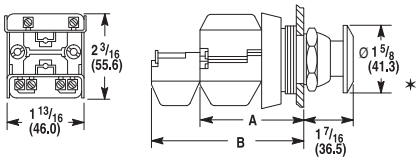
*Push-to-Test Pilot Light and Illuminated
 Push Button
 (Transformer Type: Incandescent, LED)*



*Push-to-Test Pilot Light and
 Illuminated Push Button
 (Full Voltage: Incandescent, LED, Neon;
 and Dual Input Type)*



*Momentary Mushroom, Push-Pull and Twist or
 Pull Release Units
 (Transformer Type: Incandescent, LED; Illuminated)*



*Momentary Mushroom, Push-Pull and
 Twist or Pull Release Units
 (Full Voltage: Incandescent, LED, Neon;
 and Dual Input Illuminated)*

**Push-to-Test Pilot Lights
 Illuminated Push Buttons, Illuminated Push-Pull and Twist or Pull Release Push Buttons**

Cat. No. Suffix*	Description	Transformer Type			Full Voltage or Neon Type		
		Dimension	Dimension	Shipping Weight	Dimension	Dimension	Shipping Weight
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. (0.20kg)
A1 and A7	Transformer or Terminal Module, 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)
AP	Transformer or Terminal Module and One Sealed Switch Contact Block	B	2-29/32 (73.8)	10 oz. (0.28 kg)	B	2-29/32 (73.8)	8 oz. (0.22 kg)

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

‡ Applies to illuminated push-pull push buttons only.

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

§ Dual input type pilot light dimension is 2-9/32 in. (57.9 mm).