

# Hazardous Location Push Button Specifications

Bulletin Numbers 800G, 800H, and 800R

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## Summary of Changes

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| Updated cable glands in <a href="#">Table 13</a>                                       | 37   |
| Updated Complete Assembled Stations (Bul. 800G) cat. no. explanation tables            | 42   |
| Updated Configurable Ganged Assembled Stations (Bul. 800G) cat. no. explanation tables | 43   |
| Updated Plastic (Base mount only) cat. no. explanation tables                          | 48   |



## Additional Resources

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

| Resource   | Description   |
|--|---|
| Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>  | Provides general guidelines for installing a Rockwell Automation industrial system. |
| Product Certifications website,<br><a href="http://www.rockwellautomation.com/global/certification/overview.page">http://www.rockwellautomation.com/global/certification/overview.page</a> | 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.

# Product Description (Bul. 800H)

## Application

When properly mounted in a Type 7 & 9 enclosure, Bulletin 800H Type 7 & 9 operators are designed to meet the requirements of the National Electrical Code for Class I, Divisions 1 & 2, Groups B, C & D Hazardous Gas; Class II, Divisions 1 & 2, Groups E, F and G Hazardous Dust; and, Class III Hazardous Fiber Locations. In addition, the single-gang shallow base, Cat. No. 800H-IHZX7, meets Class I, Group B requirements. This Type 7 & 9 equipment is listed by Underwriters Laboratories, Inc.

### Per National Electrical Code:

**Zone 1:** In Class I, Zone 1 locations, all wiring methods permitted for Class I, Division 1 locations and Class I, Zone 0 or Zone 1 locations, including requirements for sealing, shall be permitted.

**Zone 2:** In Class I, Zone 2 locations, all wiring methods permitted for Class I, Division 2, Class I, Division 1 or Division 2, and Class I, Zone 0 or Zone 1 locations, including requirements for sealing, shall be permitted.

## Operator Construction

The Allen-Bradley line of hazardous location devices features copper-free (less than 0.4 of 1% copper content) die cast aluminum bushings and mounting rings, Type #316 stainless steel operating shafts and an O-ring seal for added corrosion resistance. These components mount into a threaded hole (3/4 in.-14 NPSM) in a suitable enclosure.

Bulletin 800H Type 7 & 9 components are available in two basic formats: standard barrel (Bulletin 800H) and long barrel (Bulletin 800HL). Standard barrel devices are suitable for mounting in panel thickness up to 1 in. thick. Long barrel devices are suitable for mounting in panel thickness greater than 1 in. and no thicker than 2-1/2 in. Both style operators offer a unique locking bracket, which provides an anti-turn feature to prevent the operator from coming loose. The mounting rings in front of the panel are knurled to provide a second way to tighten each unit into the panel.

## Outdoor Use

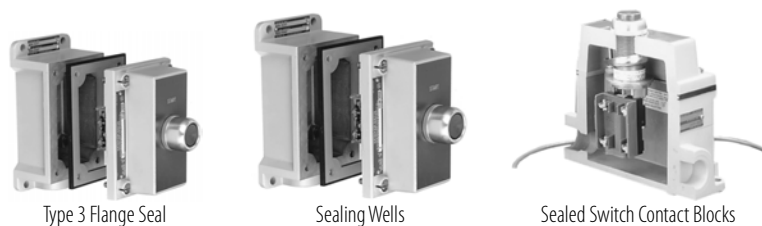
Bulletin 800H Type 7 & 9 stations and enclosures are not configured for outdoor use as standard. A Type 3 rating is available, while maintaining Type 7 & 9 integrity of the enclosure, by the addition of a Type 3 sealing flange and an approved drain. The sealing flange that is shown in [Figure 1](#) can be purchased as an option or as an accessory. A Type 4 rating can be achieved by using sealing nuts to seal the push button operators along with the sealing flange. Sealing nuts are available as accessories (see our [website](#).)

## Elimination of Conduit Seal Off Requirement

Bulletin 800H Type 7 & 9 units can be installed with various sealing options. By using a flanged sealing well, these stations can be installed without a conduit seal off in most applications (subject to applicable codes and laws). The sealing wells that are shown in [Figure 1](#) can be purchased as an option or as an accessory. Sealing wells have an integral Type 3 flange seal for outdoor applications.

Sealed switch contact blocks are another way to help eliminate the need for conduit seal fittings in most applications (subject to applicable codes and laws). Sealed switch contact blocks can be purchased as an option on assembled stations by changing the Bulletin No. from 800H to 800R. Sealed switch contact blocks can be ordered as an accessory (see our [website](#)). A push button station with a sealed switch contact block is shown in [Figure 1](#).

**Figure 1 - Sealing Options**



Notes:

# Specifications (Bul. 800H)



**ATTENTION:** Performance data that is given in this publication is provided only as a guide for you to determine suitability and does not constitute a performance warranty of any kind. Such data may represent the results of accelerated testing at elevated stress levels, and you are responsible for correlating the data to actual application requirements. ALL WARRANTIES AS TO ACTUAL PERFORMANCE, WHETHER EXPRESS OR IMPLIED, ARE EXPRESSLY DISCLAIMED.

**Table 1 - Electrical Ratings**

|                                     |   |
|-------------------------------------|---|
| <b>Contact Ratings</b>              | See the contact ratings on <a href="#">page 6</a> .                   |
| <b>Dielectric Strength</b>          | 2200V for 1 minute, 1300V for 1 minute (Logic Reed)                   |
| <b>Electrical Design Lifecycles</b> | 1 000 000 at max. rated load, 200 000 at max. rated load (Logic Reed) |

**Table 2 - Mechanical Ratings**

|   |  |
|---|--|
| <b>Vibration</b>  | 10...2000 Hz 1.52 mm displacement (peak-to-peak) max/10 G max (except Logic Reed)  |
| <b>Shock</b>  | 1/2 cycle sine-wave for 11 ms $\geq$ 25 G (contact fragility) and no damage at 100 G   |
| <b>Degree of Protection</b>                                   | Type 7 & 9 Explosion Proof (Type 3 and Type 4 ratings available with accessories)  |
| <b>Mechanical Design Lifecycles</b>                           |  |
| <b>Push Buttons</b>   | 250 000 min  |
| <b>Potentiometers</b>   | 100 000 min  |
| <b>All other devices</b>                                      | 200 000 min  |
| <b>Contact Operation</b>                                      | Shallow and mini contact blocks: slow double make and break<br>Logic Reed and sealed switch contact blocks: snap-action  |
| <b>Wire Gauge/Terminal Screw Torque</b>                       | # 18...12 AWG/6...8 lb•in  |
| <b>Typical Operating Forces</b>                               |  |
| <b>Operators without contact blocks:</b>                      | <i>Flush, extended, standard mushroom, jumbo mushroom:</i> 2.9 lb max<br><i>Jumbo and extended aluminum mushroom head:</i> 3.95 lb max<br><i>Maintained selector switch:</i> 4.0 in•lb max |
| <b>Spring-return Selector Switches</b>                        | 5 in•lb to stop, 0.2 in•lb to return   |
| <b>Illuminated Push Buttons and Push-to-test Pilot Lights</b> | 5.6 lb max   |
| <b>2-Position Push-Pull</b>                                   | 9 lb max push or pull  |
| <b>3-Position Push-Pull</b>                                   | 12 lb max push to in position or pull to center position<br>(15 lb max pull to out position)   |
| <b>Contact Blocks</b>   | <i>800T-XA:</i> 1 lb<br><i>Logic Reed:</i> 1 lb max<br><i>Sealed Switch:</i> 3 lb max at 0.205 in. plunger travel<br><i>Stackable Sealed Switch:</i> 1 lb max                              |

**Table 3 - Environmental**

|                                       |           |                              |
|---------------------------------------|-----------|------------------------------|
| <b>Temperature Range</b> <sup>❶</sup> | Operating | -20...+55 °C (-4...+13 °F)   |
|                                       | Storage   | -40...+85 °C (-40...+185 °F) |
| <b>Humidity</b>                       |           | 50% at 40 °C (104 °F)        |

<sup>❶</sup> Operating temperatures below freezing are based on the absence of freezing moisture and liquids.

## Standard Contact Ratings

Maximum thermal continuous current  $I_{th}$  10 A AC/2.5 A DC. Bulletin 800H Type 7 & 9 units with Cat. No. 800T-XA contacts have ratings as follows:

**Table 4 - Standard Contact Ratings**

| Max. Operational 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...28 ①                  | 60 A   | 10 A  |
| DC 600                       | DC-13                | Q600 | 28...600                   | 69VA   |       |
|                              |                      |      | 24...28 ①                  | 2.5 A  |       |

① For applications below 24V and 24 mA, PenTUFF™, Logic Reed, or stackable sealed switch contacts are recommended.

## Sealed Switch Contact Ratings

Maximum continuous current  $I_{th}$  5 A.

**Table 5 - Sealed Switch Contact Ratings**

| Max. Operational 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                   | 138VA  |       |
|                              |                      |      | 0...28                     | 5.0 A  |       |

## Stackable Sealed Switch Contact Ratings

Maximum continuous current  $I_{th}$  3 A. Bulletin 800T units have control circuit ratings with sealed switch contact blocks as follows:

**Table 6 - Stackable Sealed Switch Contact Ratings**

| Max. Operational 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                   | 69VA   |       |
|                              |                      |      | 0...24                     | 2.5 A  |       |

## Logic Reed Contact Ratings

Maximum: 150V AC, 0.15 A, 8VA and 30V DC, 0.06 A, 1.8VA.

Should only be used with resistive loads.

## 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 800H units with Cat. No. 800T-XAV contacts have ratings as follows:

**Table 7 - PenTUFF (Low Voltage) Contact Ratings**

| Max. Operational<br>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                   | 28VA   |       |
|                                 |                      |      | 0...24                     | 1.0 A  |       |

## Standards Compliance

UL508, UL698, UL1203, UL1604,  
CSA C22.2 No. 14, CSA C22.2 No. 25, CSA C22.2 No. 30

## Certifications

### Enclosures:

UL Listed (File No. E71673 Guide No. NNNY)  
CSA (File No. LR11924)

### Devices:

UL Listed (File No. E10314 Guide No. NOIV)  
CSA (File No. LR11924)

Notes:



# Momentary Contact Push Buttons Units (Bul. 800H)

## Non-Illuminated



Flush Head Unit  
Cat. No. 800H-AP1A



Extended Head Unit  
Cat. No. 800H-BP6B



Mushroom Head Unit  
Cat. No. 800H-DP6A

800      H    –    AP      1                      A

*a*                      *b*                      *c*                      *d*                      *e*

*a*

| Barrel Type |                 |
|-------------|-----------------|
| Code        | Description     |
| H           | Standard barrel |
| HL          | Long barrel     |

*b*

| Operator Type |                                |
|---------------|--------------------------------|
| Code          | Description                    |
| AP            | Flush head                     |
| BP            | Extended head                  |
| DP            | Mushroom head                  |
| DPX           | Mushroom head (less color cap) |

*c*

| Color Cap |   |
|-----------|---|
| Code      | Description   |
| Blank     | Used only when operator type Code <b>DPX</b> (Table b) is ordered |
| 1         | Green   |
| 2         | Black   |
| 3         | Orange  |
| 4         | Gray  |
| 6         | Red   |
| 7         | Blue  |
| 9         | Yellow  |

*d*

| Special Mushroom Head ❶ |                               |
|-------------------------|-------------------------------|
| Code                    | Description                   |
| Blank                   | No special head               |
| J                       | Jumbo mushroom head — plastic |
| L                       | Jumbo mushroom head — metal   |

❶ Special mushroom head options only apply to mushroom head operator type code **DP** (Table b).

*e*

| Contact Blocks ❷       |                 |
|------------------------|-----------------|
| Standard               |                 |
| Code                   | Description     |
| Blank                  | No contacts     |
| D1                     | 1 N.O.          |
| D2                     | 1 N.C.          |
| D5                     | 1 N.O. (Mini)   |
| D6                     | 1 N.C. (Mini)   |
| A2                     | 2 N.O.          |
| A4                     | 2 N.C.          |
| A                      | 1 N.O. - 1 N.C. |
| B                      | 2 N.O. - 2 N.C. |
| H                      | 3 N.O. - 3 N.C. |
| C                      | 4 N.O. - 4 N.C. |
| PenTUFF™ (Low Voltage) |                 |
| Code                   | Description     |
| D1V                    | 1 N.O.          |
| D2V                    | 1 N.C.          |
| AV                     | 1 N.O. - 1 N.C. |
| BV                     | 2 N.O. - 2 N.C. |
| HV                     | 3 N.O. - 3 N.C. |
| CV                     | 4 N.O. - 4 N.C. |

❷ For sealed switch and Logic Reed contact blocks, consult your local Rockwell Automation sales office or Allen-Bradley distributor.





Notes:

# Push Pull Units (Bul. 800H)

## Non-illuminated 2-position

800      H      –      FPX           1           A1  
           *a*      *b*      *c*      *d*      *e*



2-Position Push-Pull  
Cat. No. 800H-FPX6A5

*a*

| Barrel Type |                 |
|-------------|-----------------|
| Code        | Description     |
| H           | Standard barrel |
| HL          | Long barrel     |

*b*

| Operator Type |                |
|---------------|----------------|
| Code          | Description    |
| FPX           | Push-pull unit |



*c*

| Head Type |                       |
|-----------|-----------------------|
| Code      | Description           |
| Blank     | Mushroom head         |
| J         | Jumbo mushroom head ❶ |

*d*

| Color Cap |               |
|-----------|---------------|
| Code      | Description   |
| Blank     | No cap        |
| 1         | Green         |
| 2         | Black         |
| 4         | Gray (silver) |
| 6         | Red           |
| 7         | Blue          |
| 9         | Yellow (gold) |

*e*

| Contact Blocks                |   |   |                       |
|-------------------------------|---|---|-----------------------|
| Code                          | Operator Position   |   | Description           |
|                               |  |  |                       |
|                               | Out   | In  |                       |
| <b>Standard</b>               |   |   |                       |
| Blank                         | —   | —   | No contacts           |
| A1                            | 0<br>X  | X<br>0  | 1 N.O. - 1 N.C.L.B. ❶ |
| A5                            | X<br>X  | 0<br>0  | 2 N.C.L.B. ❶          |
| D1                            | 0   | X   | 1 N.O.                |
| D4                            | X   | 0   | 1 N.C.L.B. ❶          |
| <b>PenTUFF™ (Low Voltage)</b> |   |   |                       |
| D1V                           | 0   | X   | 1 N.O.                |
| AV                            | 0<br>X  | X<br>0  | 1 N.O. - 1 N.C.       |

**Note:** X = Closed/0 = Open

- ❶ Normally closed late break contact. When button is pushed from the OUT to the IN position, the mechanical detent action of the operator occurs before electrical contacts change state. When the button is pulled from the IN to the OUT position, the electrical contacts change state before the mechanical detent occurs.

### 3-position

800       H   –   FPX                    M         1         A7    
           *a*            *b*                    *c*                    *d*                    *e*                    *f*



3-Position Push-Pull  
 Cat. No. 800H-FPX M6A7

*a*

| Barrel Type |                 |
|-------------|-----------------|
| Code        | Description     |
| H           | Standard barrel |
| HL          | Long barrel     |

*b*

| Operator Type |                |
|---------------|----------------|
| Code          | Description    |
| FPX           | Push-pull unit |

*c*

| Head Type |                       |
|-----------|-----------------------|
| Code      | Description           |
| Blank     | Mushroom head         |
| J         | Jumbo mushroom head ❶ |

❶ Not valid with color cap option code **Blank** (Table e)

*d*

| Operator Function |                   |            |            |
|-------------------|-------------------|------------|------------|
| Code              | Operator Position |            |            |
|                   |                   |            |            |
|                   | Out               | Center     | In         |
| M                 | Momentary         | Maintained | Maintained |
| N                 | Momentary         | Maintained | Momentary  |

*e*

| Color Cap |               |
|-----------|---------------|
| Code      | Description   |
| Blank     | No cap        |
| 1         | Green         |
| 2         | Black         |
| 4         | Gray (silver) |
| 6         | Red           |
| 7         | Blue          |
| 9         | Yellow (gold) |

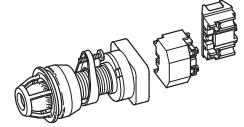
*f*

| Contact Blocks        |                   |        |        |                        |
|-----------------------|-------------------|--------|--------|------------------------|
| Standard              |                   |        |        |                        |
| Code                  | Operator Position |        |        | Description            |
|                       |                   |        |        |                        |
|                       | Out               | Center | In     |                        |
| Blank                 | —                 | —      | —      | No contacts            |
| A                     | 0<br>X            | 0<br>0 | X<br>0 | 1 N.O. - 1 N.C.        |
| A1                    | 0<br>X            | 0<br>X | X<br>0 | 1 N.O. -<br>1 N.C.L.B. |
| A7                    | X<br>X            | 0<br>X | 0<br>0 | 1 N.C. -<br>1 N.C.L.B. |
| B6                    | X<br>X            | 0<br>X | 0<br>0 | 2 N.C. -<br>2 N.C.L.B. |
| PentUFF (Low Voltage) |                   |        |        |                        |
| AV                    | 0<br>X            | 0<br>0 | X<br>0 | 1 N.O. - 1 N.C.        |

Note: X = Closed/0 = Open

# Illuminated

## 2- and 3-position



**800**     **H** – **FPX**     **PH**     **16**     **M**     **A1**  
*a*     *b*     *c*     *d*     *e*     *f*     *g*

**a**

| Barrel Type |                 |
|-------------|-----------------|
| Code        | Description     |
| H           | Standard barrel |
| HL          | Long barrel     |




**b**

| Operator Type |                |
|---------------|----------------|
| Code          | Description    |
| FPX           | Push-pull unit |

**c**






| Operator Function |             |
|-------------------|-------------|
| 2-Position        |             |
| Code              | Description |
| Blank             | Push-pull   |

**3-Position**

| Code | Operator Position   |  |  |
|------|---|--|--|
|      |  Out |  Center |  In |
| M    | Mom.  | Main.  | Main.  |
| N    | Mom.  | Main.  | Mom.   |

Note Mom. = Momentary  
Main. = Maintained

**Table 1 - Target Selection**

| g Code       | 2-Position  |  | Contact Description  | 3-Position  |  |  | g Code    |
|--------------|---|--|----------------------|---|--|--|-----------|
|              |  Out |  In |                      |  Out |  Center |  In |           |
| A, AV, R     | 0<br>X  | X<br>0   | N.O.<br>N.C.         | 0<br>X  | 0<br>0   | X<br>0   | A, AV, AR |
| A1           | 0<br>X  | X<br>0   | N.O.<br>N.C.L.B.     | 0<br>X  | 0<br>X   | X<br>0   | A1        |
| A2           | 0<br>X  | 0<br>X   | N.O.<br>N.O.         | —<br>—  | —<br>—   | —<br>—   | —         |
| A5           | X<br>0  | X<br>0   | N.C.L.B.<br>N.C.L.B. | —<br>—  | —<br>—   | —<br>—   | —         |
| —            | —<br>—  | —<br>—   | N.C.<br>N.C.L.B.     | X<br>X  | 0<br>X   | 0<br>0   | A7        |
| D1, D1V, D1R | 0   | X  | N.O.                 | —   | —  | —  | —         |
| D4           | X   | 0  | N.C.L.B.             | —   | —  | —  | —         |

**d**

| Illumination Options |                                    |
|----------------------|------------------------------------|
| Code                 | Description                        |
| Transformer          |                                    |
| P                    | Incandescent                       |
| PH                   | LED                                |
| Full Voltage         |                                    |
| Q                    | Incandescent                       |
| QH                   | Universal LED                      |
| Dual Input           |                                    |
| D                    | Dual input — diode ❶               |
| DT                   | Dual input — transformer relay     |
| DTH                  | Dual input transformer — relay LED |

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

**e**

| Voltage                     |                  |
|-----------------------------|------------------|
| Code                        | Description      |
| Transformer                 |                  |
| 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 |                  |
| 24                          | 24V AC/DC        |
| 10                          | 120V AC/DC       |
| 20                          | 240V AC/DC       |
| Universal — LED             |                  |
| 2                           | 12...130V AC/DC  |
| Universal — LED             |                  |
| 16                          | 120V AC          |
| 24                          | 24V AC/DC ❷      |

❷ Dual input diode only.

**f**

| Color Cap |                          |
|-----------|--------------------------|
| Code      | Description              |
| Blank     | No lens with no contacts |
| X         | No lens with contacts    |
| M         | Multi-color ❸            |

❸ Multi-color insert packet includes amber, blue, green, red, and white.

**g**

| Contact Blocks |                       |
|----------------|-----------------------|
| Code           | Description           |
| Standard       |                       |
| Blank          | No contacts           |
| D1             | 1 N.O.                |
| D4             | 1 N.C.L.B. ❹          |
| A              | 1 N.O. - 1 N.C.       |
| A1             | 1 N.O. - 1 N.C.L.B. ❹ |
| A2             | 2 N.O.                |
| A5             | 2 N.C.L.B.            |
| A7             | 1 N.C. - 1 N.C.L.B. ❹ |

**PenTUFF Low Voltage**

|     |                 |
|-----|-----------------|
| D1V | 1 N.O.          |
| D2V | 1 N.C.          |
| AV  | 1 N.O. - 1 N.C. |

**Logic Reed**

|     |                 |
|-----|-----------------|
| D1R | 1 N.O.          |
| D2R | 1 N.C.          |
| AR  | 1 N.O. - 1 N.C. |
| A2R | 2 N.O.          |
| A4R | 2 N.C.          |

❹ Normally closed late break contact. When button is pushed from the OUT to the IN position, the mechanical detent action of the operator occurs before electrical contacts change state. When the button is pulled from the IN to the OUT position, the electrical contacts change state before the mechanical detent occurs.

Notes:



# Selector Switch Units (Bul. 800H)

## Non-illuminated

### 2-position



Standard Knob Operator  
Cat. No. 800H-HP2KB6AXXX



Knob Lever Operator  
Cat. No. 800H-HP17KB6AXXX



Metal Wing Lever Operator  
Cat. No. 800H-HP11KB6AXXX

800 H – HP A 2 KB6 AXXX (Knob/Wing Lever)  
*a* *b* *c* *d* *e* *f*

800 H – HP 31 KB6 AXXX (Cylinder Lock)  
*a* *b* *c*<sub>1</sub> *d*<sub>1</sub> *e* *f*

*a*

| Barrel Type |                 |
|-------------|-----------------|
| Code        | Description     |
| H           | Standard barrel |
| HL          | Long barrel     |

*b*

| Number of Positions |             |
|---------------------|-------------|
| Code                | Description |
| HP                  | 2-position  |

*c*

| Knob Insert Colors ❶ |                             |
|----------------------|-----------------------------|
| Code                 | Description                 |
| Blank                | White                       |
| X                    | Packet of colored inserts ❷ |

#### Metal Wing Lever Colors

|       |      |
|-------|------|
| A     | Red  |
| Blank | Gray |

❶ Each standard and knob lever operator is factory-assembled with a white insert. Other colors are available, factory-assembled, if ordered in quantities of 10 or more.

❷ One insert of each color (blue, green, orange, red, and yellow).

*c*<sub>1</sub>

| Key Removal Position     |                       |
|--------------------------|-----------------------|
| Code                     | Description           |
| Maintained               |                       |
| 31                       | Key removal — left    |
| 32                       | Key removal — right   |
| 33                       | Key removal — both    |
| Spring Return from Left  |                       |
| 42                       | Key removal — right ❸ |
| Spring Return from Right |                       |
| 48                       | Key removal — left    |

❸ Target tables are reversed.

*d*

| Operator Type and Function |                           |
|----------------------------|---------------------------|
| Code                       | Description               |
| Standard Knob              |                           |
| 2                          | Maintained                |
| 4                          | Spring return from left ❸ |
| 5                          | Spring return from right  |
| Knob Lever                 |                           |
| 17                         | Maintained                |
| 18                         | Spring return from left ❸ |
| 19                         | Spring return from right  |
| Metal Wing Lever           |                           |
| 11                         | Maintained                |
| 15                         | Spring return from left ❸ |
| 16                         | Spring return from right  |

❸ Target tables are reversed.

*d*<sub>1</sub>

| Optional Keys |                  |      |                  |
|---------------|------------------|------|------------------|
| Code          | D Series Key No. | Code | T Series Key No. |
| Blank         | D018 (std. key)  | 15   | T112             |
| 03            | D020             | 16   | T115             |
| 04            | D025             | 17   | T324             |
| 05            | D335             | 18   | T382             |
| 06            | D429             | 19   | T404             |
| 07            | D461             | 20   | T171             |
| 08            | D111             | 21   | T484             |
| 09            | D587             | 22   | T547             |
| 10            | D682             | 23   | T569             |
| 11            | D713             | 24   | T692             |
| 12            | D900             | 25   | T752             |
| 13            | D992             | 26   | T178             |
| 14            | D118             | —    | —                |

*e*

| Cam Option |                                 |
|------------|---------------------------------|
| Code       | Description                     |
| KB6        | Cam for maintained operators    |
| KL8        | Cam for spring return operators |

*f*

| Contact Blocks |                       |                  |                  |
|----------------|-----------------------|------------------|------------------|
| Code           | Contact Configuration | 2-position       |                  |
|                |                       |                  |                  |
| Standard       |                       |                  |                  |
| Blank          | No contacts           | —                | —                |
| DXXX           | 1 N.O.                | 0                | X                |
| EXXX           | 1 N.C.                | X                | 0                |
| MXXX           | 2 N.O.                | 0<br>0           | X<br>X           |
| NXXX           | 2 N.C.                | X<br>X           | 0<br>0           |
| AXXX           | 1 N.O. - 1 N.C.       | 0<br>X           | X<br>0           |
| AAXX           | 2 N.O. - 2 N.C.       | 0<br>X<br>0<br>X | X<br>0<br>X<br>0 |

| PenTUFF™ (Low Voltage) |                 |                  |                  |
|------------------------|-----------------|------------------|------------------|
| Code                   | Description     |                  |                  |
| HXXX                   | 1 N.O.          | 0                | X                |
| UXXX                   | 1 N.C.          | X                | 0                |
| FXXX                   | 1 N.O. - 1 N.C. | 0<br>X           | X<br>0           |
| FFXX                   | 2 N.O. - 2 N.C. | 0<br>X<br>0<br>X | X<br>0<br>X<br>0 |

Note: X = Closed/0 = Open





Notes:

# Pilot Light Devices (Bul. 800H)



Transformer Type Pilot Light  
Cat. No. 800H-PP16M



Push-to-test Pilot Light  
Cat. No. 800H-PPT16M



Pigtail Pilot Light  
Cat. No. 800H-LP24M

800      H    –    PP      T      16      M  
          a        b            c            d            e            f

a

| Barrel Type |                 |
|-------------|-----------------|
| Code        | Description     |
| H           | Standard barrel |
| HL          | Long barrel     |

b

| Power Module Type |  |
|-------------------|--|
| Code              | Description                                      |
| PP                | Transformer (or dual input)                      |
| QP                | Full voltage/Universal                           |
| LP                | Pigtail — full voltage ❶                         |
| LPK               | Pigtail — full voltage ❶ (for dual push buttons) |

❶ Lamp test option is not available with pigtail.

c

| Lamp Test Options |                                  |
|-------------------|----------------------------------|
| Code              | Description                      |
| Blank             | No test option                   |
| T                 | Push-to-test                     |
| D                 | Dual input — diode ❷             |
| DT                | Dual input — transformer relay ❷ |

❷ Only available with power module type code PP (Table b).

d

| Illumination Option |              |
|---------------------|--------------|
| Code                | Description  |
| Blank               | Incandescent |
| H                   | LED ❸        |

❸ LED illumination option is not available with diode-type dual-input lamp test options.

e

| Voltage                     |                   |
|-----------------------------|-------------------|
| Code                        | Description       |
| Transformer                 |                   |
| 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 |                   |
| 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 ❹       |
| Pigtail                     |                   |
| 24                          | 24V AC/DC         |
| 10                          | 120V AC/DC        |
| 20                          | 240V AC/DC        |

❹ Dual input diode only.

f

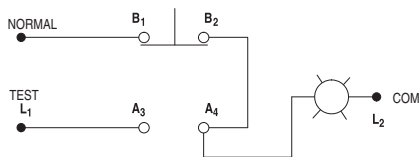
| Lens Color |                          |
|------------|--------------------------|
| Code       | Description              |
| Blank      | No lens with no contacts |
| M          | Multi-color ❺            |

❺ Multi-color insert packet includes amber, blue, green, red, and white.

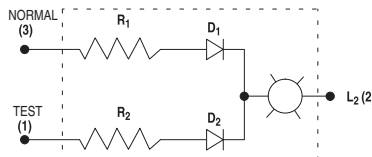
## Typical Pilot Light Wiring Diagrams

See applicable codes and laws.

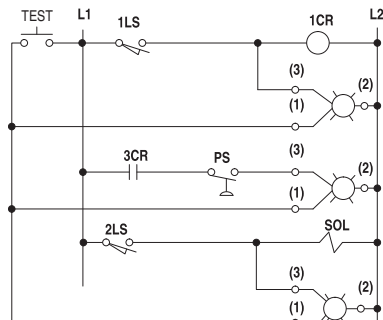
### Push-to-test Pilot Light Device



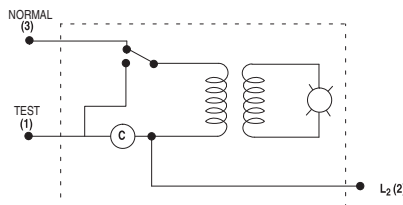
### Dual Input Diode Pilot Device



### Dual Input Pilot Light Typical Application



### Dual Input Pilot Light Transformer Type Device



Notes:



Notes:

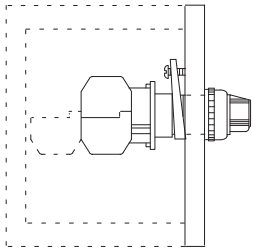


# Station Design Guidelines (Bul. 800H)

(Also see Applicable Codes and Standards)

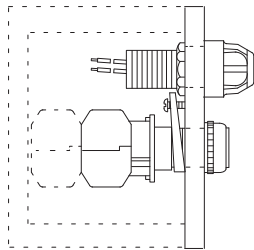
1. Push-to-test pilot lights, illuminated push buttons, push-to-pull units, 4-position selector switches, and all operators with two contact blocks that are fastened along side one another or with a power module and contact block along side one another must be installed in a single-hole cover. Illuminated operators that use the Universal LED module must also be installed in a single-hole cover.
2. Dual push button units can only be installed in a single-hole cover or the specially designed two-hole cover (catalog number 800H-NP33), which can accommodate the dual push button and the special pigtail pilot light (catalog number 800H-LPK10R).
3. When two components are installed in one cover, contact blocks are restricted to one side of the operator. Contact blocks of each operator must face each other.
4. One level of contact blocks is maximum in a shallow base or deep base when used with a sealing well. Contact blocks, except sealed switch type, can be mounted two deep in other bases.
5. If sealed switch contact blocks or a sealing well are used, a deep enclosure is required.
6. Push buttons/pilot lights:
  - a. START push buttons should be green or black flush, installed to the left or above STOP push buttons.
  - b. EMERGENCY STOP push buttons should be a red mushroom.
  - c. STOP push buttons should be red extended, installed to the right or below START push button.
  - d. STOP push buttons should be installed in the last position (bottom or right) of each unit when required.
  - e. Pilot lights should be installed in the first position (top or left side) of each unit when required.

## Design Guideline #1



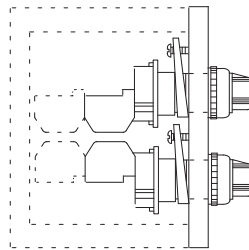
Push-to-test pilot lights, illuminated push buttons, push-pull units, 4-position selector switches, all operators with two contact blocks that are fastened along side one another or with a power module and contact block along side one another must be installed in a single-hole cover. Illuminated operators that use the Universal LED module must also be installed in a single-hole cover.

## Design Guideline #2



Dual push button units can only be installed in a single-hole cover or the specially designed two-hole cover (catalog number 800H-NP33), which can accommodate the dual push button and the special pigtail pilot light (catalog number 800H-LPK10R).

## Design Guideline #3



When two components are installed in one cover, contact blocks are restricted to one side of the operator. Contact blocks of each operator must face each other.

## Design Guideline #4

One level of contact blocks is maximum in a shallow base or deep base when used with a sealing well. Contact blocks, except sealed switch type, can be mounted two deep in other bases.

# Bases for Multi-gang Stations

Example:

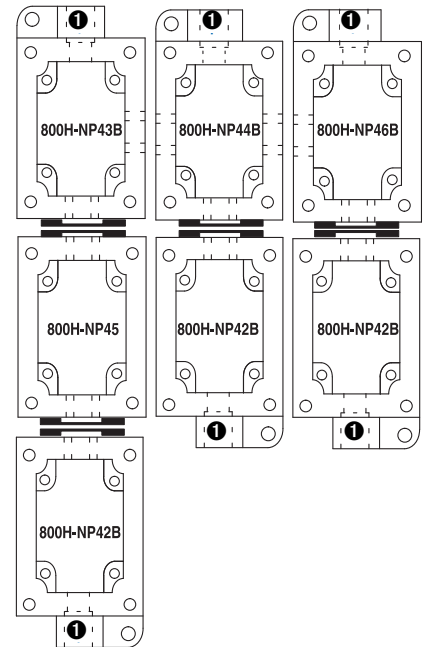
7-gang base with 1-in. through-feed conduit consists of:

- 3-catalog number 800H-NP42B
- 1-catalog number 800H-NP43B
- 1-catalog number 800H-NP44B
- 1-catalog number 800H-NP45
- 1-catalog number 800H-NP46B
- 6-catalog number 800H-NP7

Plus up to four 1-in. plugs (catalog number 800H-NP11) to close unused conduit openings.



**WARNING:** Do not assemble more than eight enclosure gangs together, to avoid exceeding the internal volume for which the flame path of these enclosures is designed.

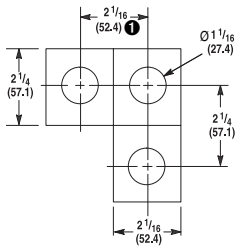


① 1-in. conduit through-feed (all gangs).

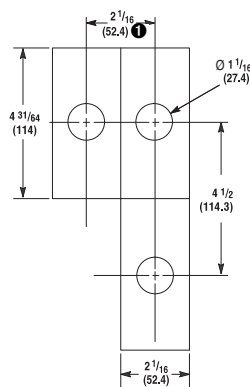
# Approximate Dimensions & Shipping Weights (Bul. 800H)

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

**Standard Legend Plate**  
(used with two-hole cover)



**Jumbo Legend Plate**  
(used with one-hole cover)

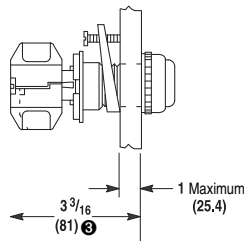


**Note:** Mounting hole requirements for components — 3/4 in. - 14 NPSM. ②

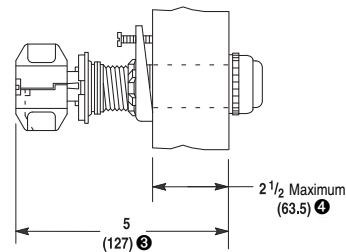
- ① Sketch illustrates the minimum distance between center lines when mounting Bulletin 800H units with legend plates either side by side or one above the other in non Allen-Bradley enclosures. Minimum spacing without legend plate: When units are mounted so that the contact block terminals face each other, the 2-1/4 in. (57.2 mm) dimension must be used to get proper electrical clearance. When control units are mounted so that the contact block terminals do not face each other, the 1-27/32 in. (46.8 mm) dimension can be used.
- ② External thread major diameter: 1.034 in. max., 1.024 in. min.  
Internal thread minor diameter: 0.958 in. min., 0.970 in. max.

## Panel Thickness Requirements

**Standard Barrel**  
[devices fit panels up to 1 in. (25.4 mm)]



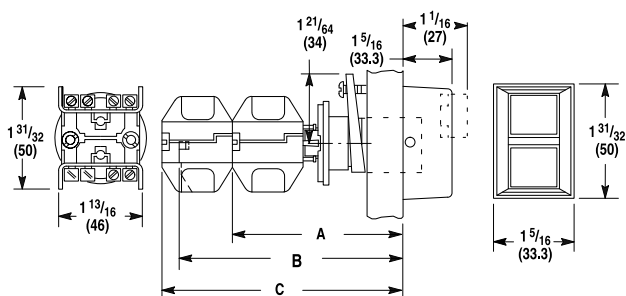
**Long Barrel**  
[devices fit panels up to 2-1/2 in. (63.5 mm)]



- ③ This dimension for push buttons only.
- ④ When mounting in a panel thicker than 2-1/8 in. (54 mm) a locking bracket is not required.

## Push Buttons

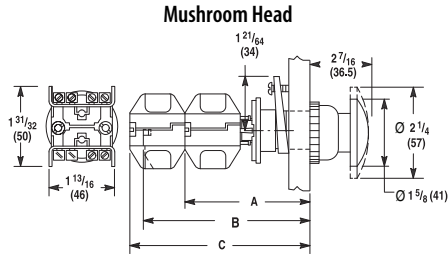
### Dual Head



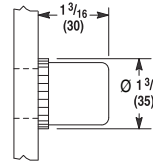
| Dim.            | A                  | B                  | C                  | Ship. Wt.<br>[oz (kg)] |
|-----------------|--------------------|--------------------|--------------------|------------------------|
| Standard Barrel | 3-5/16<br>(84.1)   | 4-3/16<br>(106.4)  | 4-7/16<br>(112.7)  | 10-3/8<br>(0.30)       |
| Long Barrel     | 4-19/32<br>(116.7) | 5-15/32<br>(138.9) | 5-23/32<br>(145.2) | 13<br>(0.37)           |

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

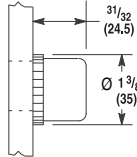
## Push Buttons



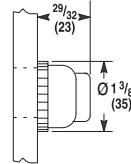
Push Button with Extra Long Guard



Flush Head



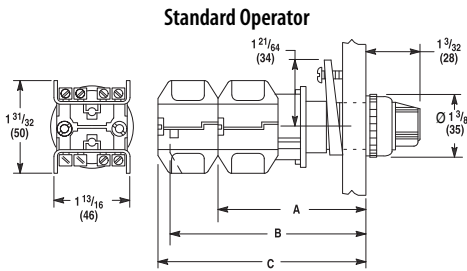
Extended Head



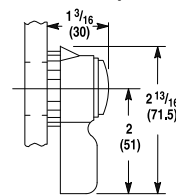
| Type                               | Standard Barrel |             |             |                     | Long Barrel |               |               |                     |
|------------------------------------|-----------------|-------------|-------------|---------------------|-------------|---------------|---------------|---------------------|
|                                    | A ❶             | B           | C           | Ship. Wt. [oz (kg)] | A ❷         | B             | C             | Ship. Wt. [oz (kg)] |
| Mushroom, Flush, and Extended Head | 3-3/16 (81)     | 4-1/8 (105) | 4-3/8 (111) | 9-7/8 (0.28)        | 5 (127)     | 5-7/8 (149.2) | 6-1/8 (155.6) | 13-5/16 (0.38)      |
| Extra Long Guard                   | 3-3/16 (81)     | 4-1/8 (105) | 4-3/8 (111) | 10-7/8 (0.31)       | 5 (127)     | 5-7/8 (149.2) | 6-1/8 (155.6) | 14-5/16 (0.40)      |

- ❶ When using sealed switch contact block, this dimension is 4-1/16 in. (103 mm).
- ❷ When using sealed switch contact block, this dimension is 5-7/8 in. (149.2 mm).

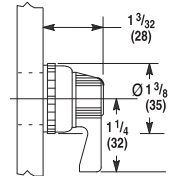
## Selector Switches



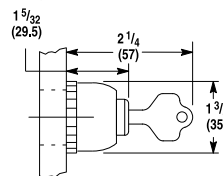
Knob Lever Operator



Wing Lever Operator



Cylinder Lock Operator

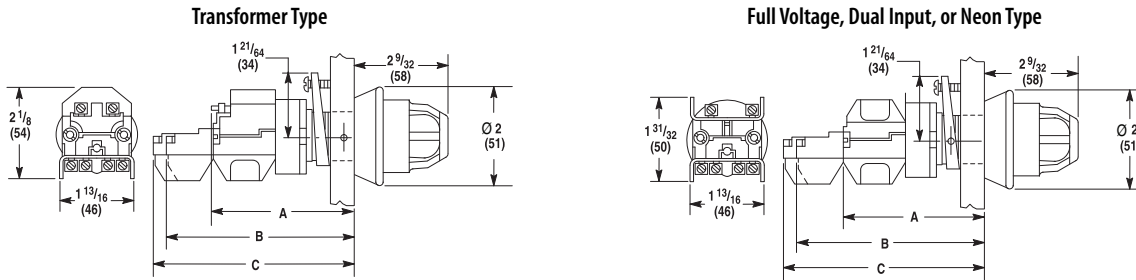


| Type                    | Standard Barrel |             |             |                     | Long Barrel |               |               |                     |
|-------------------------|-----------------|-------------|-------------|---------------------|-------------|---------------|---------------|---------------------|
|                         | A ❸             | B           | C           | Ship. Wt. [oz (kg)] | A ❹         | B             | C             | Ship. Wt. [oz (kg)] |
| Standard and Knob Lever | 3-3/16 (81)     | 4-1/8 (105) | 4-3/8 (111) | 9-1/2 (0.27)        | 5 (127)     | 5-7/8 (149.2) | 6-1/8 (155.6) | 14-3/8 (0.41)       |
| Wing Lever              | 3-3/16 (81)     | 4-1/8 (105) | 4-3/8 (111) | 10-1/2 (0.30)       | 5 (127)     | 5-7/8 (149.2) | 6-1/8 (155.6) | 15 (0.42)           |
| Cylinder Lock           | 3-3/16 (81)     | 4-1/8 (105) | 4-3/8 (111) | 11-1/4 (0.32)       | 5 (127)     | 5-7/8 (149.2) | 6-1/8 (155.6) | 16 (0.45)           |

- ❸ When using sealed switch contact block, this dimension is 4-1/16 in. (103 mm).
- ❹ When using sealed switch contact block, this dimension is 5-7/8 in. (149.2 mm).

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

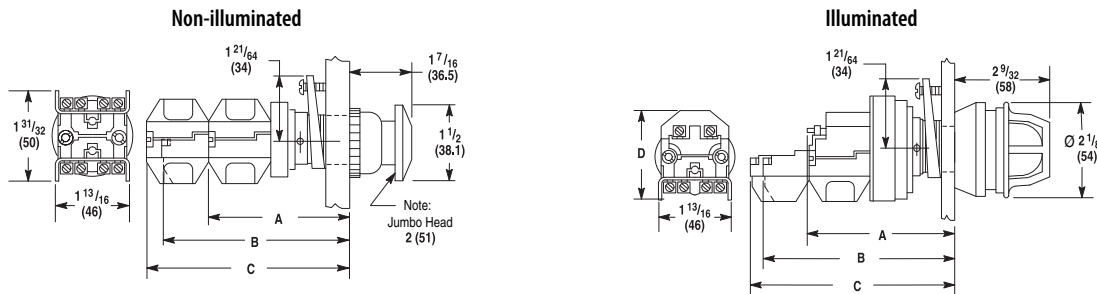
## Illuminated Push Buttons or Push-to-test Pilot Lights



| Description                            | Style           | A ①             | B               | C            | Ship. Wt. [oz (kg)] |
|--|-----------------|-----------------|-----------------|--------------|---------------------|
| Transformer Type                       | Standard Barrel | 3-5/32 (80.2)   | 3-29/32 (99)    | 4-1/8 (105)  | 14 (0.40)           |
|  | Long Barrel     | 5-1/16 (128.6)  | 5-13/16 (147.6) | 6-1/16 (154) | 16-3/16 (0.45)      |
| Full Voltage, Dual Input, or Neon Type | Standard Barrel | 3-1/32 (77)     | 3-29/32 (99)    | 4-1/8 (105)  | 11-5/8 (0.33)       |
|  | Long Barrel     | 4-15/16 (125.4) | 5-13/16 (147.6) | 6-1/16 (154) | 13-7/16 (0.38)      |

① When using sealed switch contact block, add 7/8 in. (22.2 mm) to the listed dimension.

## Push-Pull Units

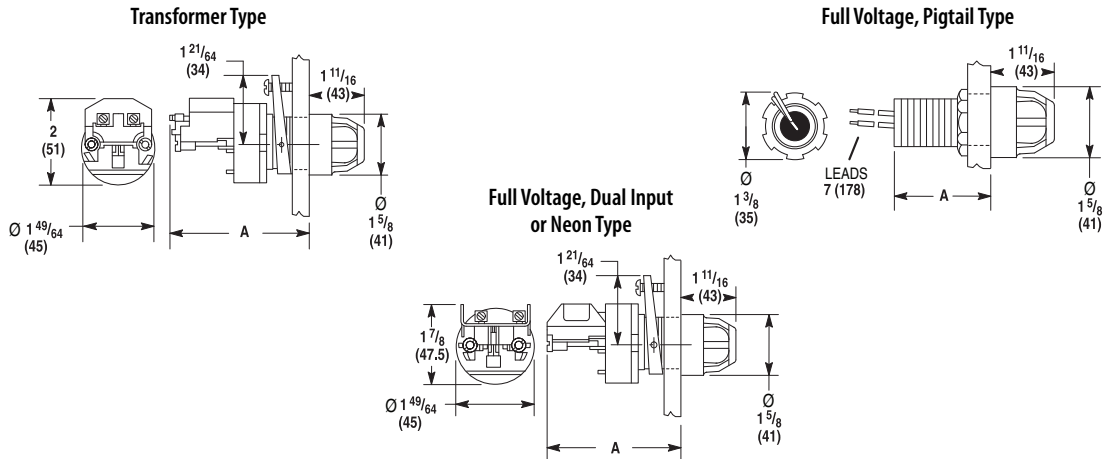


| Description                     | Style           | A ②             | B              | C               | D            | Ship. Wt. [oz (kg)] |
|---------------------------------|-----------------|-----------------|----------------|-----------------|--------------|---------------------|
| Illuminated Transformer Type    | Standard Barrel | 3-9/16 (90.5)   | 4-9/16 (115.9) | 4-5/8 (117.5)   | 2-1/8 (54)   | 15-1/2 (0.44)       |
|                                 | Long Barrel     | 4-21/32 (118.3) | 5-13/32 (137)  | 5-21/32 (143.7) | 2-1/8 (54)   | 17-7/16 (0.49)      |
| Illuminated Full Voltage Type   | Standard Barrel | 3-7/16 (87.3)   | 4-9/16 (115.9) | 4-5/8 (117.5)   | 1-31/32 (50) | 12-13/16 (0.33)     |
|                                 | Long Barrel     | 4-17/32 (115.1) | 5-13/32 (137)  | 5-21/32 (143.7) | 1-31/32 (50) | 14-3/4 (0.41)       |
| Non-illuminated Push-Pull Units | Standard Barrel | 3-1/2 (88.9)    | 4-3/8 (111.1)  | 4-5/8 (117.5)   | —            | 11-1/8 (0.32)       |
|                                 | Long Barrel     | 4-17/32 (115.1) | 5-13/32 (137)  | 5-21/32 (143.7) | —            | 12-5/16 (0.34)      |

② When using sealed switch contact block, add 7/8 in. (22.2 mm) to the listed dimension.

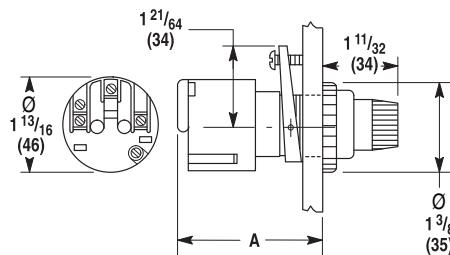
Dimensions in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

## Pilot Lights



| Description  | Style           | A              | Ship. Wt. [oz (kg)] |
|--|-----------------|----------------|---------------------|
| Transformer type and dual-input transformer-type pilot lights          | Standard Barrel | 3-5/32 (80)    | 8-9/16 (0.24)       |
|  | Long Barrel     | 4-9/16 (115.9) | 30-1/4 (0.85)       |
| Full voltage, neon, or dual-input diode and resistor-type pilot lights | Standard Barrel | 3-1/32 (77)    | 5-13/16 (0.17)      |
|  | Long Barrel     | 4-7/16 (112.7) | 27-1/2 (0.77)       |
| Full-voltage pigtail-type pilot lights                                 | Standard Barrel | 2-3/16 (55.5)  | 5-5/8 (0.16)        |
|  | Long Barrel     | 3-43/64 (94)   | 8-5/16 (0.24)       |

## Potentiometer Units

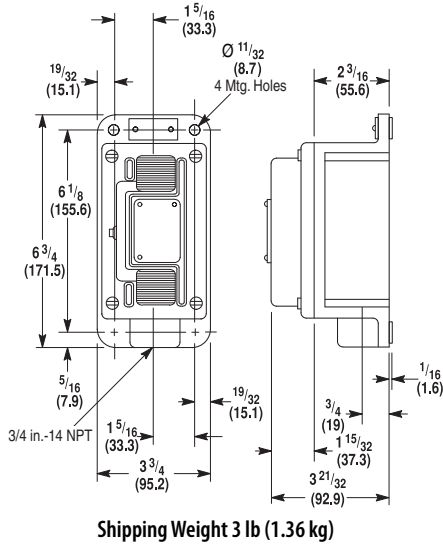


| Style           | A             | Ship. Wt. [oz (kg)] |
|-----------------|---------------|---------------------|
| Standard Barrel | 3-1/8 (79.5)  | 5-3/8 (0.16)        |
| Long Barrel     | 4-1/2 (114.3) | 8 (0.23)            |

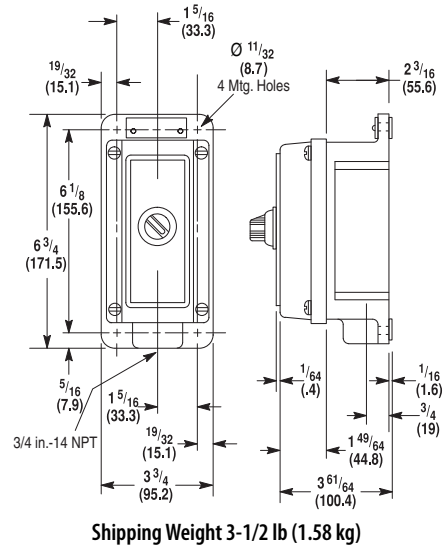
Dimensions in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

## Shallow Base Stations

**Figure 1**  
Shallow Base Station Lever Type

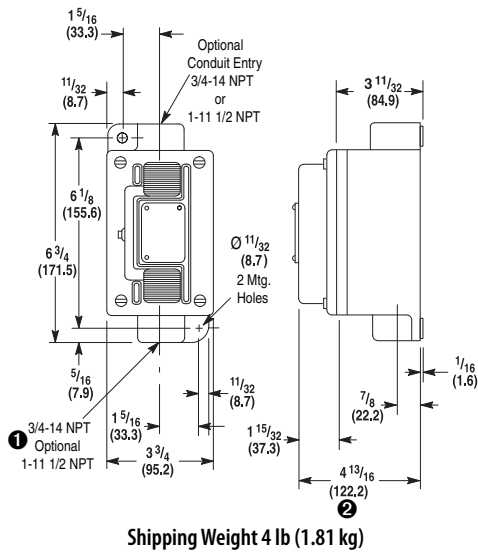


**Figure 2**  
Shallow Base Station Component Type  
1-Gang (one or two devices)

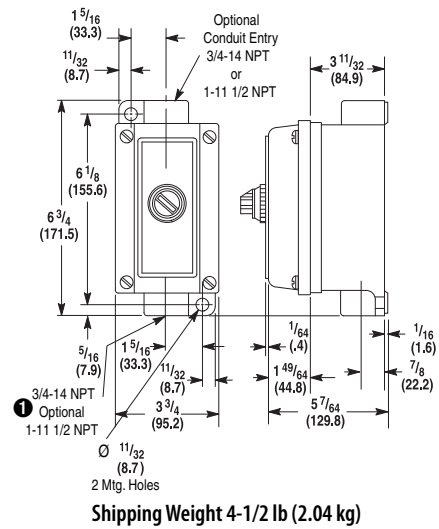


## Deep Base Stations

**Figure 3**  
Deep Base Station Lever Type  
1-Gang



**Figure 4**  
Deep Base Station Component Lever Type  
1-Gang (one or two devices)

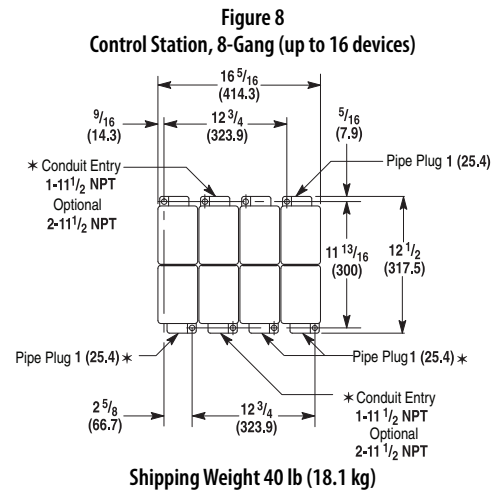
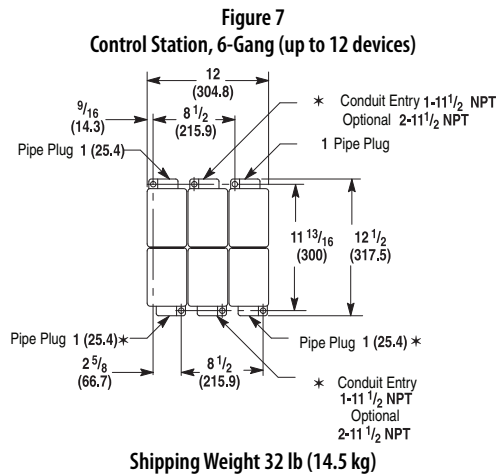
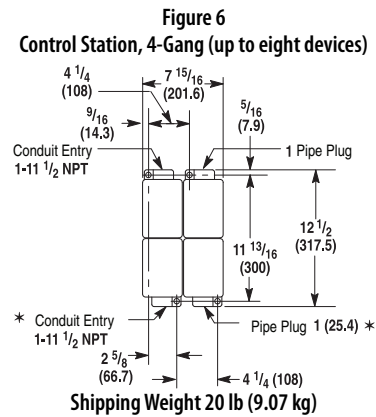
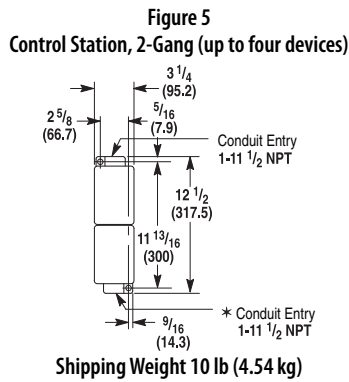
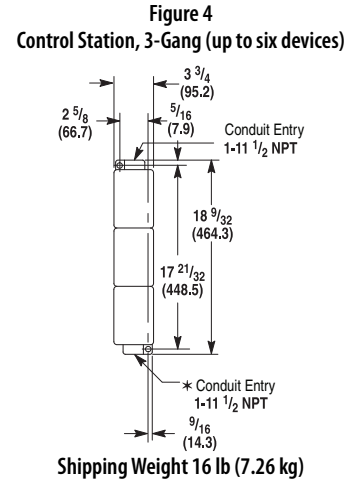
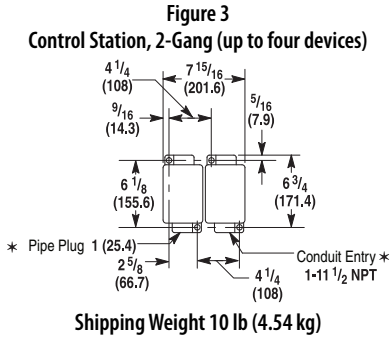


- ❶ When using a flange seal, an approved drain fitting must be provided (refer to National Electrical Code).
- ❷ When used, add the following to the max. depth: flange seal adds 3/16 in. (4.8 mm); sealing well with integral flange seal adds 1/2 in. (12.7 mm).

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

## Factory-Assembled Stations

For depth dimensions, refer to Figure 3 or 4 on [page 31](#).





# Specifications (Bul. 800R)



**ATTENTION:** Performance data that is given in this publication is provided only as a guide for you to determine suitability and does not constitute a performance warranty of any kind. Such data may represent the results of accelerated testing at elevated stress levels, and you are responsible for correlating the data to actual application requirements. ALL WARRANTIES AS TO ACTUAL PERFORMANCE, WHETHER EXPRESS OR IMPLIED, ARE EXPRESSLY DISCLAIMED.

**Table 8 - Electrical Ratings**

|                                     |   |
|-------------------------------------|---|
| <b>Contact Ratings</b>              | See the contact ratings on <a href="#">page 34</a>                          |
| <b>Dielectric Strength</b>          | 2200V for 1 minute, 1300V for 1 minute (Logic Reed)                         |
| <b>Electrical Design Lifecycles</b> | 1 000 000 at maximum rated load, 200 000 at maximum rated load (Logic Reed) |

**Table 9 - Mechanical Ratings**

|   |   |
|---|---|
| <b>Vibration</b>  | 10...2000 Hz 1.52 mm displacement (peak-to-peak) max/10 G max (except Logic Reed)                                 |
| <b>Shock</b>  | 1/2 cycle sine-wave for 11 ms $\geq$ 25 G (contact fragility) and no damage at 100 G                              |
| <b>Degree of Protection</b>   | Type 4/4X/13, 4/13; Watertight/Corrosion-Resistant IEC 529 IP66/65  |
| <b>Mechanical Design Lifecycles</b>   |   |
| <b>Push Buttons</b><br>(Momentary, Non-Illuminated)<br>(Momentary, Illuminated)<br>(Push-Pull/Twist-to-Release) | 1 000 000 min<br>250 000 min<br>250 000 min   |
| <b>Selector Switches</b><br>(Non-Illuminated)<br>(Illuminated)  | 1 000 000 min<br>200 000 min  |
| <b>All other devices</b>  | 200 000 min   |
| <b>Contact Operation</b>  | Logic Reed and sealed switch contact blocks: single break magnetic  |
| <b>Typical Operating Forces</b>   |   |
| <b>Operators without contact blocks:</b>  | Flush, extended, standard mushroom, jumbo plastic mushroom: 2 lb max<br>Maintained selector switch: 3.6 in•lb max |
| <b>Spring-return Selector Switches</b>  | 3.6 in•lb to stop<br>0.2 in•lb to return  |
| <b>Illuminated Push Buttons and Push-to-test Pilot Lights</b>   | 5 lb max  |
| <b>3-Position Push-Pull</b>   | 8 lb max push to in position or pull to center position<br>(15 lb max pull to out position)                       |
| <b>Push-Pull and Push-Pull/Twist</b>  | 9 lb max push or pull<br>30 in•oz max twist, 6 in•oz minimum return   |
| <b>Contact Blocks</b><br>Logic Reed<br>Sealed Switch<br>Stackable Sealed Switch                                 | 1 lb max<br>3 lb max at 0.205 in. plunger travel<br>1 lb max  |

**Table 10 - Environmental**

|                          |                       |                              |
|--------------------------|-----------------------|------------------------------|
| <b>Temperature Range</b> | Operating             | -40...+55 °C (-40...+131 °F) |
|                          | Storage               | -40...+85 °C (-40...+185 °F) |
| <b>Humidity</b>          | 50% at 40 °C (104 °F) |                              |

Operating temperatures below freezing are based on the absence of freezing moisture and liquids. Consult your local Rockwell Automation sales office or Allen-Bradley distributor for use in lower temperature applications.

## Control Stations

Bulletin 800R control stations are designed for Division 2 hazardous locations. They consist of Bulletin 800H (Type 4/4X/13) or Bulletin 800T (Type 4/13) operators with sealed contact blocks. Bulletin 800R units are available as factory assembled stations or as components for field assembly.

## Hazardous Locations

Since the contacts are enclosed in a hermetically sealed chamber, the contact block is suitable for use in Class I, Division 2 Groups A, B, C, and D hazardous locations and is listed by Underwriters Laboratories for this class of service. Complete stations as shown on our [website](#) can be used for Class I, Division 2 applications. The individual components that are shown in the Bulletin 800T and 800H sections are also suitable for Class I, Division 2 locations providing they are suitably mounted by the customer in an enclosure as required for the application and by applicable codes and laws.

**Note:** Allen-Bradley Logic Reed contact blocks are also listed by Underwriters Laboratories for the Division 2 hazardous locations that are listed above.



**WARNING:** The complete stations and individual components that are listed on our [website](#) are not suitable for use in Class I Division 1 hazardous locations. For Class I and II Division 1 hazardous locations, order Bulletin 800H Type 7 & 9 stations and units.

## Sealed Switch Contact Ratings

Maximum continuous current  $I_{th}$  5 A. Bulletin 800T and 800H units have control circuit ratings with sealed switch contact blocks as follows:

**Table 11 - Sealed Switch Contact Ratings**

| Max. Operational 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   | 3VA   |
| DC 300                       | DC-13                | P300 | 24...300                   | 138VA  |       |
|                              |                      |      | 0...24                     | 5 A    |       |

## Stackable Sealed Switch Contact Ratings

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

**Table 12 - Sealed Switch Contact Ratings**

| Max. Operational 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   | 1.5A  |
| DC 150                       | DC-13                | Q150 | 24...150                   | 69VA   |       |
|                              |                      |      | 0...24                     | 2.5 A  |       |

## Logic Reed Contact Ratings

Maximum DC: 30V, 0.06 A max AC: 150V, 0.15 A

Should only be used with resistive loads.

## Standards Compliance

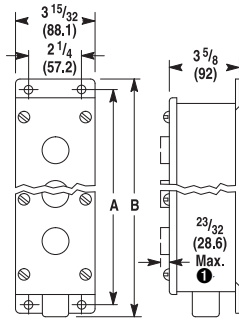
- ISA 12.12.01
- CSA C22.2, No. 213

## Certifications

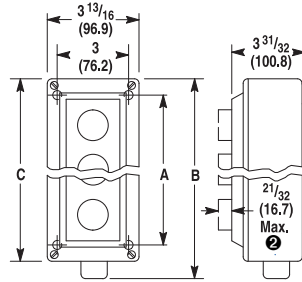
- UL Listed (File No. E10314, Guide No. NOIV)
- CSA Certified (File No. LR11924)

# Approximate Dimensions & Shipping Weights (Bul. 800R)

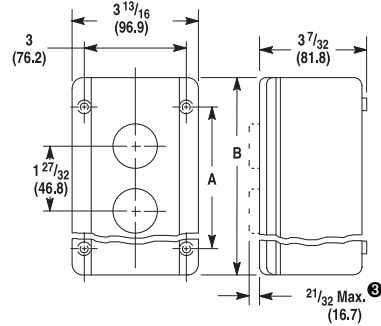
Dimensions in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.



**Type 4/4X/13  
Stainless Steel  
Watertight/Oiltight/  
Corrosion-Resistant Enclosure**



**Type 4/4X/13  
Rosite Glass Polyester  
Watertight/Oiltight/  
Corrosion-Resistant Enclosure**

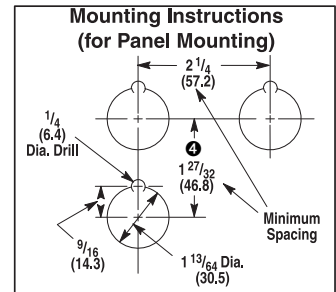


**Type 4/13  
Cast Aluminum Enclosure  
Watertight/Oiltight**

- ❶ Selector switch is 1-5/32 (29.4) max; pilot light is 1-7/32 (31).
- ❷ Selector switch is 1-3/32 (27.8) max; pilot light is 1-5/32 (29.4) max.
- ❸ Selector switch is 1-7/32 (30.9) max; pilot light is 1-9/32 (32.5).

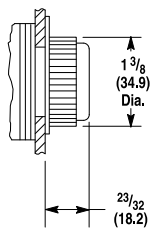
| Dimension                           | Number of Units      |              |               |                |                |                        |
|-------------------------------------|----------------------|--------------|---------------|----------------|----------------|------------------------|
|                                     | 1                    | 2            | 3             | 4              | 5              | 6                      |
| <b>Stainless Steel Type 4/4X/13</b> |                      |              |               |                |                |                        |
| A                                   | 5-5/32 (135)         | 7 (178)      | 8-27/32 (225) | 10-11/16 (271) | 12-17/32 (318) | 14-3/8 (360)           |
| B                                   | 6-13/32 (163)        | 8-1/4 (210)  | 10-1/8 (257)  | 11-31/32 (304) | 14-1/32 (359)  | 15-7/8 (403)           |
| Pip Tap Size                        | 3/4                  |              |               |                |                | 1                      |
| <b>Glass Polyester Type 4/4X/13</b> |                      |              |               |                |                |                        |
| A                                   | 4-1/2 (114)          | 4-1/2 (114)  | 6-1/4 (159)   | 8 (203)        | 12-1/8 (308)   | 12-1/8 (308)           |
| B                                   | 7-1/32 (181)         | 7-1/32 (181) | 8-23/32 (221) | 10-21/32 (271) | 14-7/8 (378)   | 14-7/8 (378)           |
| C                                   | 5-7/8 (149)          | 5-7/8 (149)  | 7-9/16 (192)  | 9-1/2 (241)    | 13-1/2 (343)   | 13-1/2 (343)           |
| Pipe Tap Size                       | 3/4                  |              |               |                |                | 1                      |
| <b>Cast Aluminum Type 4/13</b>      |                      |              |               |                |                |                        |
| A                                   | 2-3/4 (69.8)         | 4-1/2 (114)  | 6-1/4 (159)   | 8 (203)        | —              | 12-1/8 (308)           |
| B                                   | 4-3/16 (106)         | 5-7/8 (149)  | 7-9/16 (192)  | 9-1/2 (241)    | —              | 13-1/2 (343)           |
| Conduit Opening                     | 3/4 in.<br>14 N.P.T. |              |               |                |                | 1 in.<br>11-1/2 N.P.T. |

## Mounting Instructions for Panel Mounting

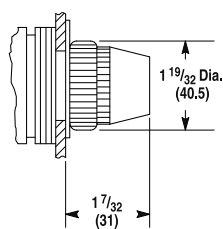


- ❹ Min vertical spacing dimension for jumbo legend plate is 2-15/32 (62.7).

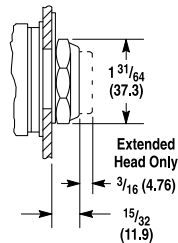
## Operator Extension in Front of Panel



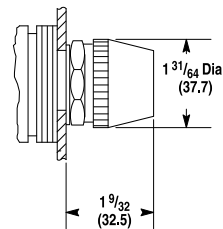
**Type 4/4X/13  
Booted Flush and Extended  
Head Push Button**



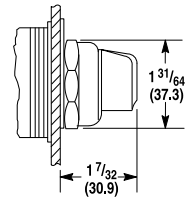
**Type 4/4X/13  
Pilot Light**



**Type 4/13 and Type 4/4X/13  
Bootless Flush and Extended  
Head Push Button**



**Type 4/13  
Pilot Light**



**Type 4/13 and Type 4/4X/13  
Standard Knob Selector  
Switches**


# Specifications (Bul. 800G)



**ATTENTION:** Performance data that is given in this publication is provided only as a guide for you to determine suitability and does not constitute a performance warranty of any kind. Such data may represent the results of accelerated testing at elevated stress levels, and you are responsible for correlating the data to actual application requirements. ALL WARRANTIES AS TO ACTUAL PERFORMANCE, WHETHER EXPRESS OR IMPLIED, ARE EXPRESSLY DISCLAIMED.

## Standard Assembled Stations

**Table 13 - Mechanical Ratings**

|                                      |   |
|--------------------------------------|---|
| <b>Protection Type</b>               |  II 2G Ex edm IIC T6<br>AEx edm IIC T6<br>Ex edm IIC T6  |
| <b>Certification</b>                 | PTB 01 ATEX 1036 UL E10314 CE0044   |
| <b>Rated Insulation Voltage, Max</b> | 690V AC   |
| <b>Rated Current</b>                 | Dependent on components used  |
| <b>Degree of Protection</b>          | IP66, Type 4X: -20...60 °C (-4...140 °F)<br>IP54: -55...60 °C (-67...140 °F)  |
| <b>Enclosure Material</b>            |   |
| <b>Enclosure</b>                     | Thermoplastic   |
| <b>Seals</b>                         | EPDM  |
| <b>Cable Glands</b>                  |   |
| <b>Standard</b>                      | 1/2 in. NPT conduit   |
| <b>Custom</b>                        | <ul style="list-style-type: none"> <li>• Metal M20x1.5 for cable Ø8.5...14.5 mm (inner sheath); 12...20 mm (outer sheath); 0.8...1.3mm (armor)</li> <li>• Metal M25 for cable Ø12...20 mm (inner sheath); 16...26 mm (outer sheath); 1.0...1.6 mm (armor)</li> <li>• 3/4 in. NPT conduit</li> </ul> |
| <b>Wire/Cable Size</b>               | 2.5 mm <sup>2</sup> (12 AWG) stranded max   |
| <b>PE Conductor Terminals</b>        | 4 x 2.5 mm <sup>2</sup> (12 AWG) stranded max   |
| <b>Storage Temperature</b>           | -55...+70 °C (-67...+158 °F)  |
| <b>Operational Temperature Range</b> | -55...+60 °C (-67...+140 °F)  |

## Assembled Stations

Bulletin 800G control stations are designed for Class I, Zone 1 and 2 and Class 1/Division 2 hazardous location applications. They consist of Bulletin 800G front-of-panel components with back-of-panel components: contact blocks or power modules. Bulletin 800G units are available as factory assembled stations or as components for component replacement. A third party must inspect and certify field assembled stations that are used in a Class I, Zone 1 or Zone 2 application.

## Components

Since the back-of-panel components are enclosed in a flame-proof enclosure, they are suitable for use in **Class I, Zone 1 and Zone 2 Groups IIA, IIB, and IIC and Class I/Division 2, Groups A, B, C, and D hazardous locations and is listed by Underwriters Laboratories and certified by PTB for this class of service.** The components have “d” and “e” protection methods except for the cable termination. Cable termination has only “d” protection method, which is restricted by the cable and not the contacts.



**WARNING:** The assembled stations and individual components that are listed on our [website](#) are not suitable for the use in Zone 0, Class I/Division 1 and Class II/Division 1 and Division 2 applications. For Class I and II/Division 1 hazardous locations, order Bulletin 800H Type 7 & 9 stations and units. For Class II/ Division 2 hazardous locations, order Bulletin 800R stations.

# B<sub>10D</sub>/MTTF<sub>D</sub>/Lambda<sub>D</sub> Specifications

**Table 14 - Non-Illuminated Components**

| Description                                   | Cat. No.   | B <sub>10D</sub> Value [cycles] ① |
|---|------------|-----------------------------------|
| <b>Front of Panel</b>                         |            |                                   |
| Push Button (Non-illuminated – Flush)         | 800G-F_    | 5,800,000                         |
| Momentary Mushroom Push Button                | 800G-M2    |                                   |
| Double Push Button (Non-illuminated – Flush)  | 800G-U2FX  |                                   |
|   | 800G-V2FX  |                                   |
| Key Release Mushroom Push Button              | 800G-MKE   | 12,000                            |
| Key Release Push Button                       | 800G-K_    |                                   |
| 2-Position Selector Switch (Knob)             | 800G-S_2_  |                                   |
| 3-Position Selector Switch (Knob)             | 800G-S_3_  |                                   |
| 2-Position Key Selector Switch (Key Operated) | 800G-KS_2_ |                                   |
| 3 Position Key Selector Switch (Key Operated) | 800G-KS_3_ |                                   |
| Push-Pull Mushroom Push Button                | 800G-MPE   | 140,000                           |
| <b>Back of Panel</b>                          |            |                                   |
| Base Mount Contact Block (Screw Termination)  | 800G-XB_   | 1,200,000                         |
| Latch Mount Contact Block (Screw Termination) | 800G-XLS_  |                                   |
| Latch Mount Contact Block (Cable Termination) | 800G-XLC3_ |                                   |

① The B<sub>10D</sub> value [cycles] states the number of switching cycles up to which 10% of the elements failed dangerously. The determination was done via a statistical evaluation of field data.

**Table 15 - Illuminated Components**

| Description   | Cat. No.     | MTTF <sub>D</sub> (Years) ② | Lambda <sub>D</sub> (Dangerous Failures/Year) ② |
|---|--------------|-----------------------------|---|
| <b>Illuminated Push Button</b>                                  |              |                             |   |
| Push Button (Illuminated – Flush)                               | 800G-LF*     | 3.92E+02 Years              | 2.91E-07  |
| Used with one of the following:                                 |              |                             |   |
| Base Mount Power Module with Contact Block (Screw Termination)  | 800G-DB*X*   |                             |   |
| Latch Mount Power Module with Contact Block (Screw Termination) | 800G-DLS*X*  |                             |   |
| Latch Mount Power Module with Contact Block (Cable Termination) | 800G-DLC3*X* |                             |   |
| <b>Pilot Light</b>  |              |                             |   |
| Pilot Light   | 800G-P*      | 9.34E+03 Years              | 1.22E-08  |
| Used with one of the following:                                 |              |                             |   |
| Base Mount Power Module (Screw Termination)                     | 800G-DB*     |                             |   |
| Latch Mount Power Module (Screw Termination)                    | 800G-DLS*    |                             |   |
| Latch Mount Power Module (Cable Termination)                    | 800G-DLC3*   |                             |   |

② The operating hours of all delivered products or comparable product clusters are determined and divided by the number of reports of failures for that product. The result is the MTTF<sub>D</sub> or Lambda<sub>D</sub> rating we can offer for the products our customers received.



# Back-of-Panel Components

## Contact Block

Table 16 - Electrical Ratings

|   | Screw Termination                              |       |       | Cable Termination                              |       |       |
|---|--|-------|-------|--|-------|-------|
| Rated Insulation Voltage                                    | 690V   |       |       | 400V (Limited by the cable, not the contacts)  |       |       |
| Rated Voltage   | 250V (per ATEX certificates)                   |       | 24V   | 250V (per ATEX certificates)                   |       | 24V   |
| Rated Operating Currents                                    | 16 A   | 10 A  | 1 A   | 16 A   | 10 A  | 1 A   |
| Utilization Category  | AC-12  | AC-15 | DC-13 | AC-12  | AC-15 | DC-13 |
| Thermal Continuous Current                                  | 16 A at 40 °C (104 °F), 11 A at 60 °C (140 °F) |       |       | 16 A at 40 °C (104 °F), 11 A at 60 °C (140 °F) |       |       |
| Contact Rating per UL 508                                   | A600   |       | P600  | A600   |       | P600  |
| Max. Rated Voltage per UL Contact Rating                    | 600V   |       | 600V  | 600V   |       | 600V  |
| Max. "Make" Current at Rated Voltage per UL Contact Rating  | 12 A   |       | 0.2 A | 12 A   |       | 0.2 A |
| Max. "Break" Current at Rated Voltage per UL Contact Rating | 1.2 A  |       | 0.2 A | 1.2 A  |       | 0.2 A |
| Thermal Continuous Test Current per UL Contact Rating       | 10 A   |       | 5 A   | 10 A   |       | 5 A   |
| Short Circuit Protection                                    | 10 A Slow Blow, Type DT, gl                    |       |       | 10 A Slow Blow, Type DT, gl                    |       |       |

Table 17 - Mechanical Ratings



|                                 | Screw Termination  | Cable Termination  |
|---------------------------------|--|--|
| Protection Type                 |  II 2G Ex de IIC<br>Class I, Zone 1 AEx de IIC<br>Class I, Zone 1 Ex de IIC |  II 2G Ex d IIC T6<br>Class I, Zone 1 AEx d IIC T6<br>Class I, Zone 1 Ex d IIC T6 |
| Certification                   | PTB 01 ATEX 1040U UL E10314  | PTB 01 ATEX 1039X UL E10314  |
| Contact Options                 | 1 N.O. - 1 N.C.<br>2 N.O.<br>2 N.C.  | 1 N.O. - 1 N.C.<br>2 N.O.<br>2 N.C.  |
| Contact Material                | AgSnO <sub>2</sub>   | AgSnO <sub>2</sub>   |
| Housing Material                | Thermoplastic  | Thermoplastic  |
| Physical Shock Resistance       | DIN IEC 68 part 2-27, 30 g 18 ms   | DIN IEC 68 part 2-27, 30 g 18 ms   |
| Design Life                     | 1 000 000 cycle mechanical life  | 1 000 000 cycle mechanical life  |
| Operating Force (Maximum)       | 22.2 N (5 lb) to open N.C.<br>15.6 N (3.5 lb) to close N.O.<br>28.9 N (6.5 lb) full travel   | 22.2 N (5 lb) to open N.C.<br>15.6 N (3.5 lb) to close N.O.<br>28.9 N (6.5 lb) full travel   |
| Temperature (Storage/Transport) | -55...70 °C (-67...158 °F)   | -55...70 °C (-67...158 °F)   |
| Operational Temperature Range   | -55...60 °C (-67...140 °F)   | -55...60 °C (-67...140 °F)   |
| Wire/Cable Size                 | 2.5 mm <sup>2</sup> (12 AWG) stranded max.   | 3 m (9.8 ft) long cable<br>4 x 1.5 mm <sup>2</sup><br>(9.1 mm/0.36 in. OD)   |
| Degree of Protection            | IP20, with operators and enclosure IP66  | With operators IP67  |
| Mounting                        | <i>Base Mount:</i> Secures to rail integral to enclosure base<br><i>Panel Mount:</i> Secures to operator with integral latch                                   | <i>Panel Mount:</i> Secures to operator with integral latch  |

## Power Module

**Table 18 - Electrical Ratings**

|                          | Screw Termination                           | Cable Termination                            |
|--------------------------|---|--|
| Rated Insulation Voltage | 300V  | 300V   |
| Power Consumption        | ≤1 W  | ≤1 W   |
| Lamp                     | Multi-LED (Red, Yellow, Green, White, Blue) | Multi-LED (Red, Yellow, Green, White, Blue)  |
| Rated Voltage            | 12...60V DC<br>12...250V AC                 | 24...60V DC<br>24...60V AC and 110...250V AC |

**Table 19 - Mechanical Ratings**

|                                 | Screw Termination  | Cable Termination  |
|---------------------------------|--|--|
| Protection Type                 |  II 2G Ex de IIC<br>Class I, Zone 1 AEx de IIC<br>Class I, Zone 1 Ex de IIC |  II 2G Ex d IIC T6<br>Class I, Zone 1 AEx d IIC T6<br>Class I, Zone 1 Ex d IIC T6 |
| Certification                   | PTB 01 ATEX 1037U UL E10314  | PTB 01 ATEX 1038X UL E10314  |
| Housing Material                | Thermoplastic  | Thermoplastic  |
| Physical Shock Resistance       | DIN IEC 68 part 2-27, 30 g, 18 ms  | DIN IEC 68 part 2-27, 30 g, 18 ms  |
| Design Life                     | 100 000 hours  | 100 000 hours  |
| Temperature (Storage/Transport) | -55...70 °C (-67...158 °F)   | -55...70 °C (-67...158 °F)   |
| Operational Temperature Range   | -55...60 °C (-67...140 °F)   | -55...60 °C (-67...140 °F)   |
| Wire/Cable Size                 | 2.5 mm <sup>2</sup> (12 AWG) stranded max.   | 3 m (9.8 ft) long cable<br>4 x 1.5 mm <sup>2</sup><br>(9.1 mm/0.36 in. OD)   |
| Degree of Protection            | IP20, with operators and enclosure IP66  | With operators IP67  |
| Mounting                        | <i>Base Mount:</i> Secures to rail integral to enclosure base<br><i>Panel Mount:</i> Secures to operator with integral latch                                 | <i>Panel Mount:</i> Secures to operator with integral latch  |

## Power Module/Contact Block Combination



**Table 20 - Electrical Ratings**

|                            | Screw Termination                           |        | Cable Termination                           |        |
|----------------------------|---|--------|---|--------|
| Rated Insulation Voltage   | 300V  |        | 300V  |        |
| Power Consumption          | ≤1 W  |        | ≤1 W  |        |
| Lamp                       | Multi-LED (red, yellow, green, white, blue) |        | Multi-LED (red, yellow, green, white, blue) |        |
| Rated Voltage              | 24...48V DC<br>24...250V AC                 |        | 24...48V DC<br>24...250V AC                 |        |
| Contact Rating per UL 508  | A600  | P600   | A600  | P600   |
| Thermal Continuous Current | 1 A   | 0.25 A | 1 A   | 0.25 A |
| Max. Rated Voltage         | 600V  | 600V   | 600V  | 600V   |




## Power Module/Contact Block Combination, Cont'd.

**Table 21 - Mechanical Ratings**

|                                 | Screw Termination   | Cable Termination   |
|---------------------------------|---|---|
| Protection Type                 |  II 2G EEx de IIC<br>Class I, Zone 1 AEx de IIC<br>Class I, Zone 1 Ex de IIC |  II 2G EEx d IIC T6<br>Class I, Zone 1 AEx d IIC T6<br>Class I, Zone 1 Ex d IIC T6 |
| Certification                   | PTB 01 ATEX 1037U UL E10314   | PTB 01 ATEX 1038X UL E10314   |
| Housing Material                | Thermoplastic   | Thermoplastic   |
| Physical Shock Resistance       | DIN IEC 68 part 2-27, 30 g, 18 ms   | DIN IEC 68 part 2-27, 30 g, 18 ms   |
| Design Life                     | 100 000 hours   | 100 000 hours   |
| Temperature (Storage/Transport) | -55...+70 °C (-67...+158 °F)  | -30...+70 °C (-22...+158 °F)  |
| Operational Temperature Range   | -55...+60 °C (-67...+140 °F)  | -30...+60 °C (-22...+140 °F)  |
| Wire/Cable Size                 | 2.5 mm <sup>2</sup> (12 AWG) stranded max.  | 3 m (9.8 ft) long cable<br>4 x 1.5 mm <sup>2</sup><br>(9.1 mm/0.36 in. OD)  |
| Degree of Protection            | IP20, with operators and enclosure IP66   | With operators IP67   |
| Mounting                        | <i>Base Mount:</i> Secures to rail integral to enclosure base<br><i>Panel Mount:</i> Secures to operator with integral latch                                  | <i>Panel Mount:</i> Secures to operator with integral latch   |

## Front-of-Panel Operators

**Table 22 - Mechanical Ratings**

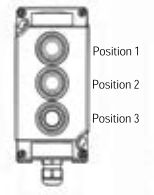
| Device  | Operational Temperature         | Operating Force <sup>①</sup>                     | Mechanical Design Life | Impact Resistance | Materials                                  | Ingress Protection  | Ex Protection Type   |
|---|---------------------------------|--|------------------------|-------------------|--|---|--|
| Push Button                                   | -55...+70 °C<br>(-67...+158 °F) | 6.7 N (1.5 lb)                                   | 1,000,000 cycles       | 7 N•m             | Thermoplastic<br>Housing<br><br>EPDM Seals | IP66:<br>-20...+70 °C<br>(-4...+158 °F)<br><br>IP54:<br>-55...-20 °C<br>(-67...-4 °F)<br><br>Type 4X:<br>-20...+70 °C<br>(-4...+158 °F) |  II 2G EEx e II<br>PTB 01 ATEX 1035U<br>UL E10314 |
| Selector Switch                               | -55...+70 °C<br>(-67...+158 °F) | —  |                        |                   |  |   |  |
| Key Release Push Button                       | -55...+70 °C<br>(-67...+158 °F) | 15.6 N (3.5 lb)                                  |                        |                   |  |   |  |
| Key Release Mushroom                          | -55...+70 °C<br>(-67...+158 °F) | 15.6 N (3.5 lb)                                  |                        |                   |  |   |  |
| Mushroom                                      | -55...+70 °C<br>(-67...+158 °F) | 6.7 N (1.5 lb)                                   |                        |                   |  |   |  |
| E-stop  | -55...+70 °C<br>(-67...+158 °F) | 44.5 N Push/89 N Pull<br>(10 lb Push/20 lb Pull) | 6000 cycles            |                   |  |   |  |
| Pilot Light (Red, Yellow, White, Green, Blue) | -55...+70 °C<br>(-67...+158 °F) | —  | N/A                    | 4 N•m             |  |   |  |
| Hole Plug                                     | -55...+70 °C<br>(-67...+158 °F) | —  | N/A                    | 7 N•m             |  |   |  |
| Illuminated Push Button                       | -55...+70 °C<br>(-67...+158 °F) | 6.7 N (1.5 lb)                                   | 1 x 10 <sup>6</sup>    | 7 N•m             |  |   |  |
| Key Selector Switch                           | -55...+70 °C<br>(-67...+158 °F) | —  | 1,000,000 cycles       | 7 N•m             |  |   |  |

<sup>①</sup> Excludes contact block.

# Complete Assembled Stations (Bul. 800G)

800G –  $\frac{2}{a}$   $\frac{F}{b}$   $\frac{3}{c}$   $\frac{M}{d}$   $\frac{F}{b}$   $\frac{4}{c}$   $\frac{N}{d}$   $\frac{b}{b}$   $\frac{c}{c}$   $\frac{d}{d}$   $\frac{3}{e}$

Size      Position 1      Position 2      Position 3      Conduit Entry



*a*

| Enclosure Size |             |
|----------------|-------------|
| Code           | Description |
| 1              | 1-hole      |
| 2              | 2-hole      |
| 3              | 3-hole      |

*b*

| Operator/Meter |                                     |
|----------------|-------------------------------------|
| Code           | Description                         |
| B              | Key release mushroom push button ❶  |
| D              | Momentary mushroom push button ❷    |
| E              | Push-pull mushroom push button ❶    |
| F              | Non-illuminated flush push button ❸ |
| H              | 2-position selector switch ❷        |
| J              | 3-position selector switch ❷        |
| K              | Key release push button             |
| L              | Illuminated push button — flush ❹   |
| N              | Hole plug ❷                         |
| P              | Pilot light ❹                       |

- ❶ Only available in red.
- ❷ Only available in black.
- ❸ Only available in white, black, green, red, or yellow.
- ❹ Only available in white, green, red, yellow, and blue.
- ❺ Only available for 3-position selector switch.
- ❻ For use with illuminated push button only.
- ❼ For through-feed enclosure, selected conduit entry is applied for both bottom and top entry.

*c*

| Push Button Color/Text |                                     |
|------------------------|-------------------------------------|
| Code                   | Description                         |
| 1                      | White                               |
| 2                      | Black                               |
| 3                      | Green                               |
| 4                      | Red                                 |
| 5                      | Yellow                              |
| 6                      | Blue                                |
| A                      | START (green background/white text) |
| B                      | STOP (red background/white text)    |
| G                      | I (green background/white text)     |
| H                      | O (red background/white text)       |
| J                      | ON (green background/white text)    |
| K                      | OFF (red background/white text)     |

#### Key Release

|   |   |
|---|---|
| 1 | Lockable in initial position, key removal in initial position     |
| 2 | Lockable in both positions, key removal in both positions         |
| 3 | Lockable in depressed position, key removal in depressed position |

#### Selector Switch

|   |                                     |
|---|-------------------------------------|
| M | Maintained in all positions         |
| B | Spring return from both positions ❺ |
| L | Spring return from left ❺           |
| R | Spring return from right ❺          |

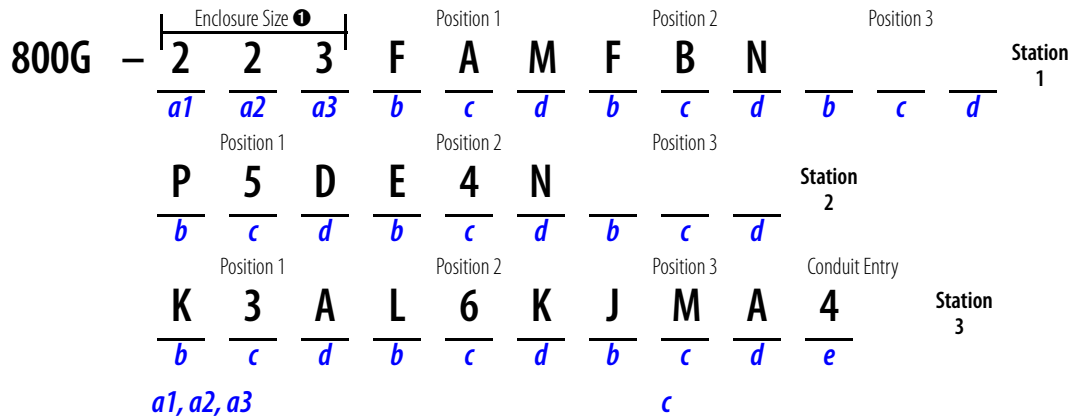
*d*

| Contact Block/Lamp Module |  |
|---------------------------|--|
| Code                      | Description  |
| A                         | 1 N.O. - 1 N.C. base mount   |
| M                         | 2 N.O. base mount  |
| N                         | 2 N.C. base mount  |
| D                         | Lamp module base mount (same color as requested lens color in Table c) |
| X                         | N/A (hole plug)  |
| K                         | 1 N.O. with lamp module ❻  |
| L                         | 1 N.C. with lamp module ❻  |

*e*

| Conduit Entry         |                         |
|-----------------------|-------------------------|
| Code                  | Description             |
| <b>Bottom Entry</b>   |                         |
| Blank                 | M20X1.5 threaded hole   |
| 1                     | 1/2 in. NPT conduit hub |
| 2                     | 3/4 in. NPT conduit hub |
| 5                     | M20 blind plug          |
| 6                     | M25 blind plug          |
| 8                     | 1 M20 metal cable gland |
| 9                     | 1 M25 metal cable gland |
| 0                     | 2 M20 metal cable gland |
| <b>Top Entry</b>      |                         |
| A                     | M20X1.5 threaded hole   |
| B                     | 1/2 in. NPT conduit hub |
| C                     | 3/4 in. NPT conduit hub |
| F                     | M20 blind plug          |
| G                     | M25 blind plug          |
| J                     | 1 M20 metal cable gland |
| K                     | 1 M25 metal cable gland |
| L                     | 2 M20 metal cable gland |
| <b>Through Feed ❼</b> |                         |
| M                     | M20X1.5 threaded hole   |
| N                     | 1/2 in. NPT conduit hub |
| P                     | 3/4 in. NPT conduit hub |
| T                     | M20 blind plug          |
| U                     | M25 blind plug          |
| W                     | 1 M20 metal cable gland |
| X                     | 1 M25 metal cable gland |
| Y                     | 2 M20 metal cable gland |

# Configurable Ganged Assembled Stations (Bul. 800G)



Note: Up to 31 characters after “800G–”

① a1 is the enclosure size for station 1, a2 for station 2, and a3 for station 3. If there are two enclosures that are ganged together, leave a3 blank. If there are three enclosures that are ganged together, complete a3 with the appropriate value.

| Enclosure Size |             |
|----------------|-------------|
| Code           | Description |
| 1              | 1-hole      |
| 2              | 2-hole      |
| 3              | 3-hole      |

| Operator/Meter |                                     |
|----------------|-------------------------------------|
| Code           | Description                         |
| B              | Key release mushroom push button ②  |
| D              | Momentary mushroom push button ③    |
| E              | Push-pull mushroom push button ②    |
| F              | Non-illuminated flush push button ④ |
| H              | 2-position selector switch ③        |
| J              | 3-position selector switch ③        |
| K              | Key release push button             |
| L              | Illuminated push button — flush ⑤   |
| N              | Hole plug ⑥                         |
| P              | Pilot light ⑥                       |

- ② Only available in red.
- ③ Only available in black.
- ④ Only available in white, black, green, red, or yellow.
- ⑤ Only available in white, green, red, yellow, and blue.
- ⑦ Only available for 3-position selector switch.
- ⑧ For use with illuminated push button only.
- ⑨ For through-feed enclosure, selected conduit entry is applied for both bottom and top entry.

| Push Button Color/Text |                                     |
|------------------------|-------------------------------------|
| Code                   | Description                         |
| 1                      | White                               |
| 2                      | Black                               |
| 3                      | Green                               |
| 4                      | Red                                 |
| 5                      | Yellow                              |
| 6                      | Blue                                |
| A                      | START (green background/white text) |
| B                      | STOP (red background/white text)    |
| G                      | I (green background/white text)     |
| H                      | O (red background/white text)       |
| J                      | ON (green background/white text)    |
| K                      | OFF (red background/white text)     |

| Key Release |   |
|-------------|---|
| 1           | Lockable in initial position, key removal in initial position     |
| 2           | Lockable in both positions, key removal in both positions         |
| 3           | Lockable in depressed position, key removal in depressed position |

| Selector Switch |                                     |
|-----------------|-------------------------------------|
| M               | Maintained in all positions         |
| B               | Spring return from both positions ⑦ |
| L               | Spring return from left ⑦           |
| R               | Spring return from right ⑦          |

| Contact Block/Lamp Module |  |
|---------------------------|--|
| Code                      | Description  |
| A                         | 1 N.O. - 1 N.C. base mount   |
| M                         | 2 N.O. base mount  |
| N                         | 2 N.C. base mount  |
| D                         | Lamp module base mount (same color as requested lens color in Table c) |
| X                         | N/A (hole plug)  |
| K                         | 1 N.O. with lamp module ⑧  |
| L                         | 1 N.C. with lamp module ⑧  |

| Conduit Entry       |                         |
|---------------------|-------------------------|
| Code                | Description             |
| <b>Bottom Entry</b> |                         |
| Blank               | M20X1.5 threaded hole   |
| 1                   | 1/2 in. NPT conduit hub |
| 2                   | 3/4 in. NPT conduit hub |
| 5                   | M20 blind plug          |
| 6                   | M25 blind plug          |
| 8                   | 1 M20 metal cable gland |
| 9                   | 1 M25 metal cable gland |
| 0                   | 2 M20 metal cable gland |

| Top Entry |                         |
|-----------|-------------------------|
| A         | M20X1.5 threaded hole   |
| B         | 1/2 in. NPT conduit hub |
| C         | 3/4 in. NPT conduit hub |
| F         | M20 blind plug          |
| G         | M25 blind plug          |
| J         | 1 M20 metal cable gland |
| K         | 1 M25 metal cable gland |
| L         | 2 M20 metal cable gland |

| Through Feed ⑨ |                         |
|----------------|-------------------------|
| M              | M20X1.5 threaded hole   |
| N              | 1/2 in. NPT conduit hub |
| P              | 3/4 in. NPT conduit hub |
| T              | M20 blind plug          |
| U              | M25 blind plug          |
| W              | 1 M20 metal cable gland |
| X              | 1 M25 metal cable gland |
| Y              | 2 M20 metal cable gland |

# Push Button Units (Bul. 800G)

## Non-Illuminated — Flush

800G     $\frac{F}{a}$  —  $\frac{3}{b}$



Cat. No. 800G-F3

*a*

| Operator Construction |                |
|-----------------------|----------------|
| Code                  | Description    |
| F                     | Flush operator |

*b*

| Color |             |
|-------|-------------|
| Code  | Description |
| 1     | White       |
| 2     | Black       |
| 3     | Green       |
| 4     | Red         |
| 5     | Yellow      |

## Double Push Button, Non-Illuminated — Flush

800G —  $\frac{U}{a}$     2FX



Cat. No. 800G-U2FX

*a*

| Base |   |
|------|---|
| Code | Description   |
| U    | Curved base for use with Bul. 800G enclosures       |
| V    | Flat base for use with customer provided enclosures |

## Illuminated — Flush

800G     $\frac{LF}{a}$  —  $\frac{3}{b}$



Cat. No. 800G-LF3

*a*

| Operator Construction |                            |
|-----------------------|----------------------------|
| Code                  | Description                |
| LF                    | Illuminated flush operator |

*b*

| Color |             |
|-------|-------------|
| Code  | Description |
| 1     | White       |
| 3     | Green       |
| 4     | Red         |
| 5     | Yellow      |
| 6     | Blue        |

# Mushroom — Non-Illuminated and Key Release

800G      $\frac{M}{a} - \frac{2}{b}$



*a*

| Operator Style |               |
|----------------|---------------|
| Code           | Description   |
| M              | Momentary     |
| MP             | Push-pull ❶   |
| MK             | Key release ❶ |

*b*

| Color or Feature |   |
|------------------|---|
| Code             | Description                                       |
| 2                | Black with black bezel                            |
| E                | Red E-stop with yellow bezel and printing on head |

❶ Only available in E-stop, code **E** from Table b.

## Key Release

800G      $\frac{K}{a} - \frac{14}{b}$



*a*

| Operator Style |                         |
|----------------|-------------------------|
| Code           | Description             |
| K              | Key release push button |

*b*

| Locking Position |   |
|------------------|---|
| Code             | Description   |
| 14               | Lockable in initial position; key removal in initial position     |
| 16               | Lockable in both positions; key removal in both positions         |
| 24               | Lockable in depressed position; key removal in depressed position |

# Selector Switch Units (Bul. 800G)

## Knob and Key Operated





Knob Selector Switch  
Cat. No. 800G-SM3






Key Operated Switch  
Cat. No. 800G-KSM33H

### 2-Position Target Table

| Contact Type |  |  |
|--------------|---|---|
| N.O.         | 0   | X   |
| N.C.         | X   | 0   |

### 3-Position Target Table

| Contact Type | Pos. on Latch or Base |  |  |  |
|--------------|-----------------------|---|---|---|
| N.O.         | Top                   | 0   | 0   | X   |
|              | Bottom                | X   | 0   | 0   |
| N.C.         | Top                   | X   | X   | 0   |
|              | Bottom                | 0   | X   | X   |

800G – S      M3  
          a            b            c            d

*a*

| Operator Style |              |
|----------------|--------------|
| Code           | Description  |
| S              | Knob         |
| KS             | Key operated |

*b*

| No. of Positions/Functions |   |
|----------------------------|---|
| Code                       | Description                                       |
| M2                         | 2-position maintained                             |
| B3                         | 3-position spring return left and right to center |
| L3                         | 3-position spring return left to center           |
| M3                         | 3-position maintained                             |
| R2                         | 2-position spring return right to left ❶          |
| R3                         | 3-position spring return right to center          |

❶ Only available with key selector (code **KS** from Table a).

❷ Only available with knob selector (code **S** from Table a).

*c*

| Key Removal |                            |
|-------------|----------------------------|
| Code        | Description                |
| Blank       | For knob selector switches |
| 1           | Left ❶                     |
| 2           | Right ❶                    |
| 3           | All ❶                      |
| 4           | Center ❶                   |
| 5           | Left/center ❶              |
| 6           | Left/right ❶               |
| 7           | Right/center ❶             |

*d*

| Knob Position |   |
|---------------|---|
| Code          | Description   |
| Blank         | For latch mount or base mount in horizontal Bulletin 800G enclosure ❷ |
| H             | For base mount in vertical Bulletin 800G enclosure                    |

# Pilot Lights (Bul. 800G)



Cat. No. 800G-P3

800G –  $\frac{P}{a}$   $\frac{3}{b}$

*a*

| Operator Style |             |
|----------------|-------------|
| Code           | Description |
| P              | Pilot light |

*b*

| Lens Color |             |
|------------|-------------|
| Code       | Description |
| 1          | White       |
| 3          | Green       |
| 4          | Red         |
| 5          | Yellow      |
| 6          | Blue        |

# Enclosures (Bul. 800G)

## Plastic (Base mount only)



Cat. No. 800G-1P

800G –  $\frac{3}{a}$   $\frac{P}{b}$   $\frac{T}{c}$   $\frac{1}{d}$

*a*

| Enclosure Size |             |
|----------------|-------------|
| Code           | Description |
| 1              | 1-hole      |
| 2              | 2-hole      |
| 3              | 3-hole      |

*b*

| Enclosure Style |             |
|-----------------|-------------|
| Code            | Description |
| P               | Plastic     |

*c*

| Conduit Entry |              |
|---------------|--------------|
| Code          | Description  |
| Blank         | Bottom feed  |
| T             | Top feed     |
| F             | Through feed |
| X             | No holes     |

*d*

| Conduit Style |                            |
|---------------|----------------------------|
| Code          | Description                |
| Blank         | M20 x 1.5 threaded hole    |
| 1             | 1/2 in. NPT conduit hub    |
| 2             | 3/4 in. NPT conduit hub    |
| 5             | M20 blind plug             |
| 6             | M25 blind plug             |
| 8             | M20 metal cable gland      |
| 9             | M25 metal cable gland      |
| 0             | Two M20 metal cable glands |



# Back-of-Panel Components (Bul. 800G)

## Latch and Base Mount Contact Block



Base Mount  
Cat. No. 800G-XBA



Latch Mount Screw Termination  
Cat. No. 800G-XLSA

800G –  $\frac{XLS}{a}$      $\frac{A}{b}$

*a*

| Contact Block/Latch Type |  |
|--------------------------|--|
| Code                     | Description                                      |
| XB                       | Base mount                                       |
| XLS                      | Latch mount with screw termination               |
| XLC3                     | Latch mount with 3 m (9.84 ft) cable termination |

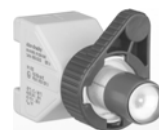
*b*

| Contact Configuration |                 |
|-----------------------|-----------------|
| Code                  | Description     |
| A                     | 1 N.O. - 1 N.C. |
| M                     | 2 N.O.          |
| N                     | 2 N.C.          |

## Latch and Base Mount Power Module ①



Base Mount  
Cat. No. 800G-DBG



Latch Mount Screw Termination  
Cat. No. 800G-DLSG

800G –  $\frac{DB}{a}$      $\frac{G}{b}$

*a*

| Power Module/Latch Type |  |
|-------------------------|--|
| Code                    | Description                                      |
| DB                      | Base mount                                       |
| DLS                     | Latch mount with screw termination               |
| DLC3                    | Latch mount with 3 m (9.84 ft) cable termination |

*b*

| Color |             |
|-------|-------------|
| Code  | Description |
| W     | White       |
| G     | Green       |
| R     | Red         |
| Y     | Yellow      |
| B     | Blue        |

① Bulletin 800G LED modules can only be powered from dry contact circuits (with no leakage current in the OFF state).

## Power Module with Contact Block ②



Base Mount  
Cat. No. 800G-DBGXK

800G –  $\frac{DB}{a}$      $\frac{G}{b}$      $\frac{XK}{c}$

*a*

| Power Module/Latch Type |  |
|-------------------------|--|
| Code                    | Description                                      |
| DB                      | DB Base  |
| DLS                     | Latch mount with screw termination               |
| DLC3                    | Latch mount with 3 m (9.84 ft) cable termination |

*b*

| Color |             |
|-------|-------------|
| Code  | Description |
| W     | White       |
| G     | Green       |
| R     | Red         |
| Y     | Yellow      |
| B     | Blue        |

*c*

| Contact Configuration |             |
|-----------------------|-------------|
| Code                  | Description |
| XK                    | 1 N.O.      |
| XL                    | 1 N.C.      |

② Bulletin 800G LED modules can only be powered from dry contact circuits (with no leakage current in the OFF state).

# Legend Plates

800G – 11    S    E    166    K  
                   *a*            *b*            *c*            *d*            *e*

*a*

| Type |                        |
|------|------------------------|
| Code | Description            |
| 11   | Legend plate and frame |
| 17   | Legend plate only      |

*c*

| Language |                  |
|----------|------------------|
| Code     | Description      |
| E        | English          |
| F        | French           |
| G        | German           |
| T        | Italian          |
| S        | Spanish          |
| U        | Universal symbol |

*d*

| Legend Identification           |  |
|---------------------------------|--|
| See our <a href="#">website</a> |  |

*b*

| Insert Color |  |
|--------------|--|
| Code         | Description                              |
| S            | Silver background with black legend text |

*e*

| Type |                 |
|------|-----------------|
| Code | Description     |
| K    | 0.080 size font |



Legend Frame  
Cat. No. 800G-110

Adhesive Back Legend Plate  
Cat. No. 800G-17SE100

## Special Engraving

Besides the standard text and symbols that are listed on our [website](#), special legend plates are readily available. To order:

- Select font code from table below.
- Specify desired text (reference table below for restriction on characters and number of lines).

| Type of Legend | Size      | Font Size | Font Code | Approximate Size | Max. Characters/Line | Max. Number of Lines | Example               | Example (Legend Plate with Frame) |
|----------------|-----------|-----------|-----------|------------------|----------------------|----------------------|-----------------------|-----------------------------------|
| Legend Plate   | 30 x 4 mm | Small     | K         | SAMPLE           | 19                   | 1                    | 800G-17SE100K STARTER | 800G-11SE100K STARTER             |

800G – AEL    S    LINE 1 , LINE 2 , LINE 3  
                   *a*            *b*            *c*            *d*            *e*

*a*

| Insert Color |  |
|--------------|--|
| Code         | Description  |
| AEL          | Enclosure identification label with silver background and black text |

*b*

| Font Size |                |
|-----------|----------------|
| Code      | Description    |
| S         | 0.10 size font |
| L         | 0.14 size font |

*c, d, e*

| Customized Text  |  |
|--|--|
| Example of customer specified text that is based on max. characters per line and max. number of lines. When separated by a comma, the following text is engraved on the next line. |  |

Adhesive Back Legend Plate  
Cat. No. 800G-17SE100

## Special Engraving

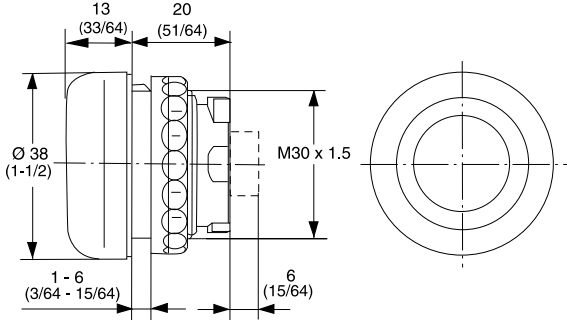
To order:

- Select desired font code table below (notes the max. characters and max. no. of lines).
- Specify desired text (reference table below for restriction on characters and number of lines).

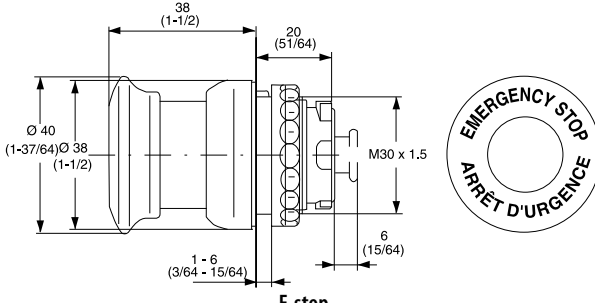
| Type of Legend     | Size       | Font Size | Font Code | Approximate Size | Max. Characters/Line | Max. Number of Lines | Example                    |
|--------------------|------------|-----------|-----------|------------------|----------------------|----------------------|----------------------------|
| Enclosure ID Label | 50 x 15 mm | Standard  | S         | SAMPLE           | 25                   | 3                    | 800G-AELS MACHINE 1, L-R27 |
|                    |            | Large     | L         | SAMPLE           | 19                   | 2                    | 800G-AELL MACH 1           |

# Approximate Dimensions (Bul. 800G)

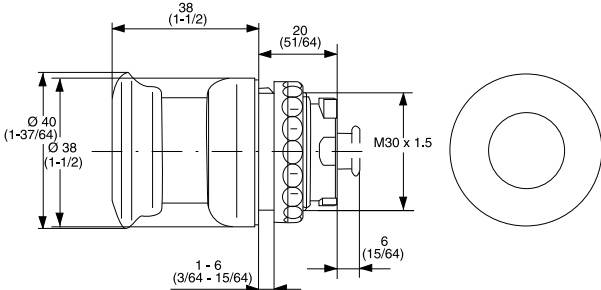
Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.



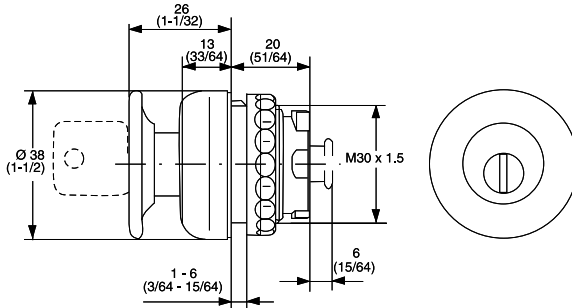
Push Buttons



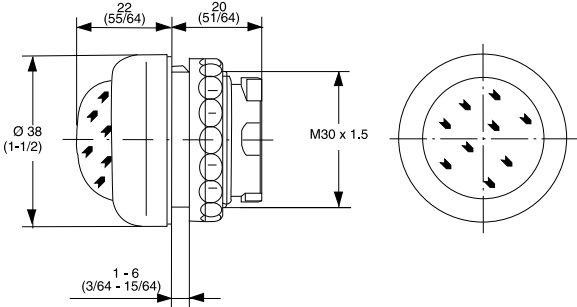
E-stop



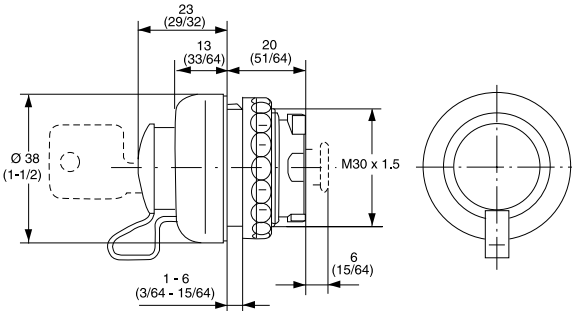
Mushroom



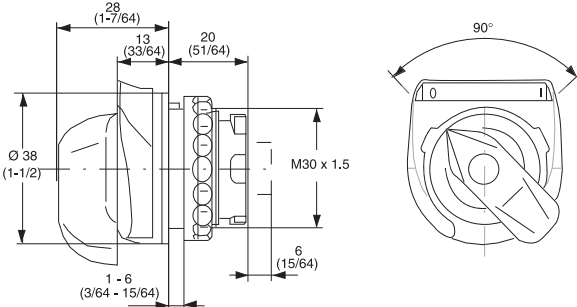
Key Release Mushroom



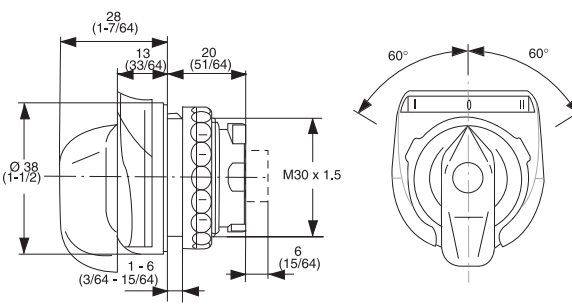
Pilot Light



Key Release



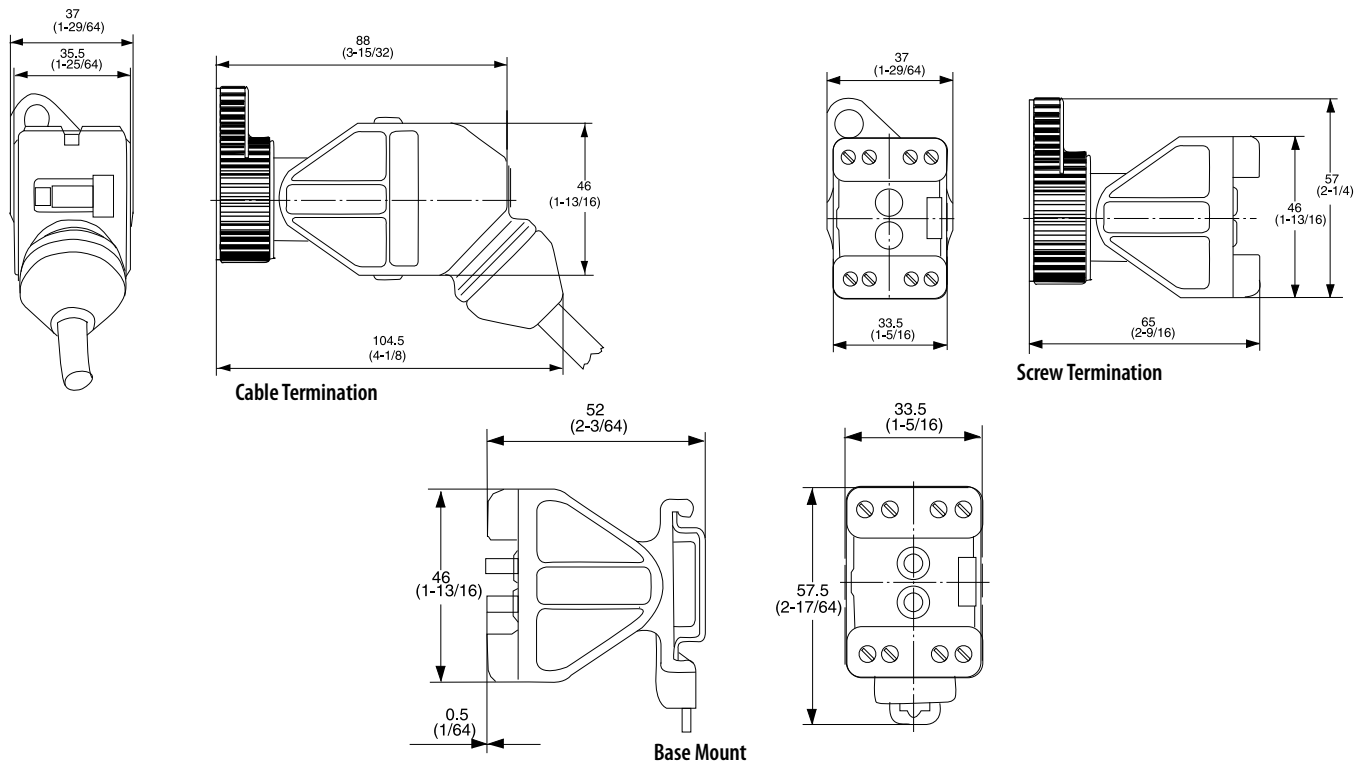
2-Position Selector Switch



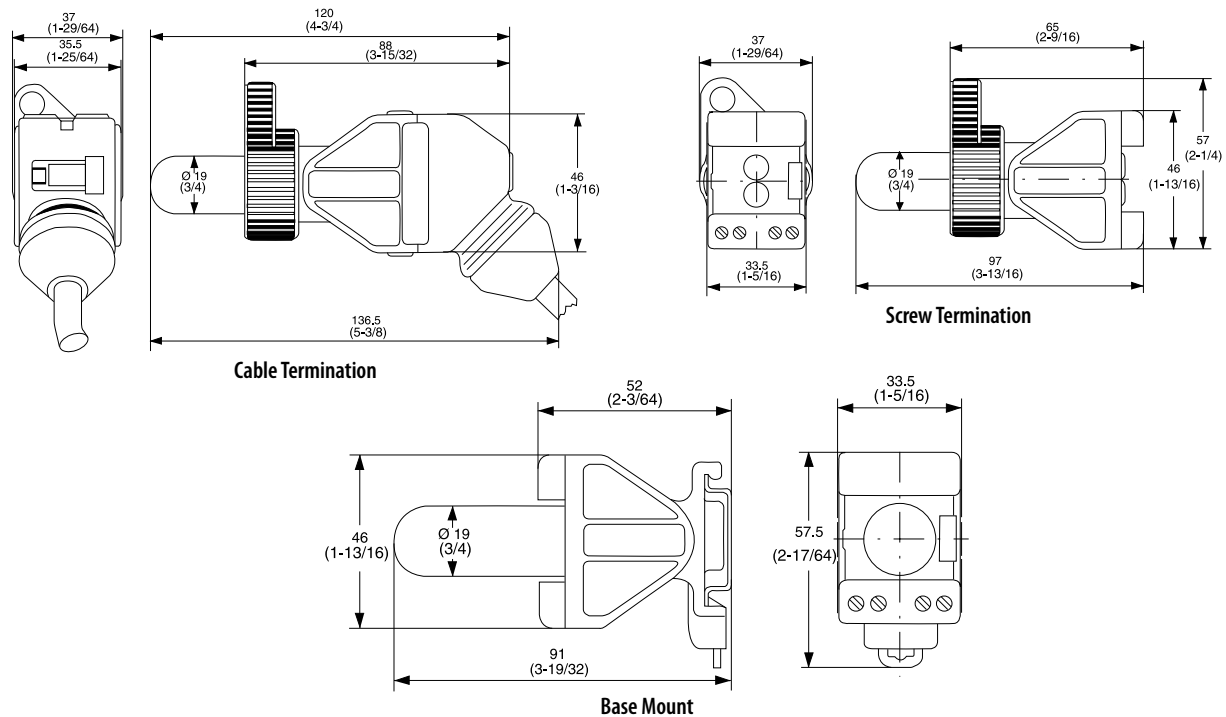
3-Position Selector Switch

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

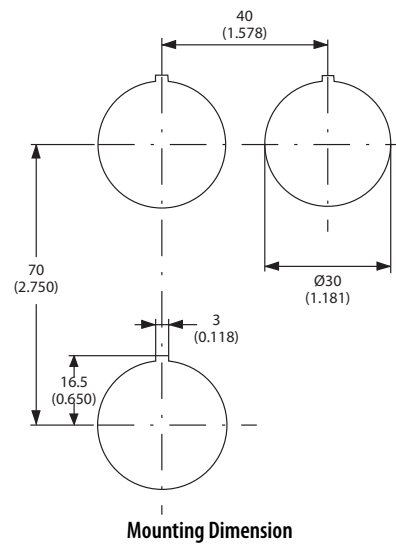
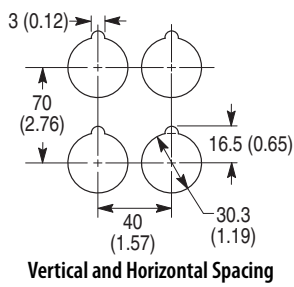
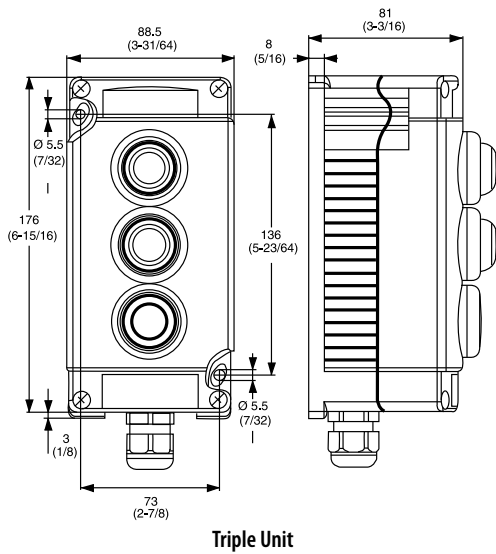
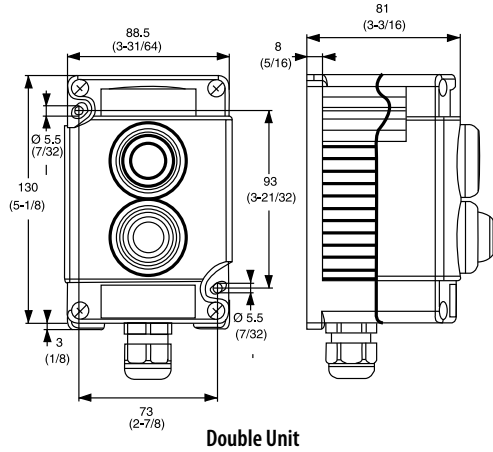
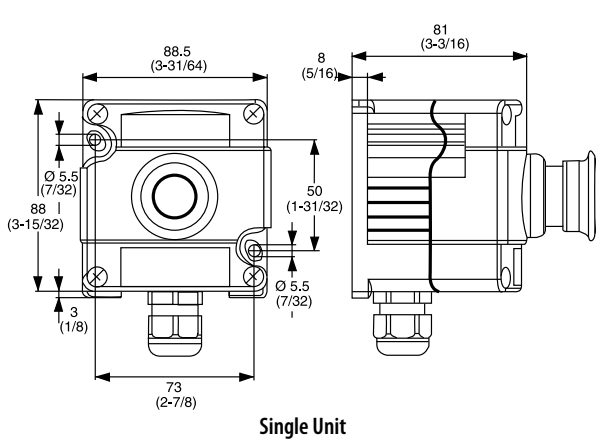
# Contact Block



# Power Module



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



Notes:



## Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products.

At <http://www.rockwellautomation.com/support> you can find technical and application notes, sample code, and links to software service packs. You can also visit our Support Center at <https://rockwellautomation.custhelp.com/> for software updates, support chats and forums, technical information, FAQs, and to sign up for product notification updates.

In addition, we offer multiple support programs for installation, configuration, and troubleshooting. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://www.rockwellautomation.com/services/online-phone>.

## Installation Assistance

If you experience a problem within the first 24 hours of installation, review the information that is contained in this manual. You can contact Customer Support for initial help in getting your product up and running.

|                                 |  |
|---------------------------------|--|
| United States or Canada         | 1.440.646.3434   |
| Outside United States or Canada | Use the <a href="#">Worldwide Locator</a> at <a href="http://www.rockwellautomation.com/rockwellautomation/support/overview.page">http://www.rockwellautomation.com/rockwellautomation/support/overview.page</a> , or contact your local Rockwell Automation representative. |

## New Product Satisfaction Return

Rockwell Automation tests all of its products to help ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

|                       |   |
|-----------------------|---|
| United States         | Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process. |
| Outside United States | Please contact your local Rockwell Automation representative for the return procedure.  |

## Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication [RA-DU002](#), available at <http://www.rockwellautomation.com/literature/>.

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

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