

# Limit Switches

Bulletin Numbers 801, 802DN, 802G, 802K, 802M, 802MC, 802T, 802X, 802XR, 802B, 440P

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# Limit Switches

## 801

### General Purpose



801-ASA11



801-ASC17



801-CMC21



801-FSC148



801-ASC1411

#### Contact Arrangements & Ratings

| Light Duty   |  |             |                         |             |  |             |              |             |         |
|--|--|-------------|-------------------------|-------------|--|-------------|--------------|-------------|---------|
| <p>A</p>   | <p>B</p>   |             |                         |             |  |             |              |             |         |
| AC <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>3 A, 120V</td></tr> <tr><td>1.5 A, 240V</td></tr> <tr><td>0.75 A, 480V</td></tr> <tr><td>0.6 A, 600V</td></tr> </table> | 3 A, 120V  | 1.5 A, 240V | 0.75 A, 480V            | 0.6 A, 600V | DC <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>1.1 A, 115V</td></tr> <tr><td>0.55 A, 230V</td></tr> <tr><td>0.2 A, 550V</td></tr> </table> | 1.1 A, 115V | 0.55 A, 230V | 0.2 A, 550V |         |
| 3 A, 120V  |  |             |                         |             |  |             |              |             |         |
| 1.5 A, 240V  |  |             |                         |             |  |             |              |             |         |
| 0.75 A, 480V   |  |             |                         |             |  |             |              |             |         |
| 0.6 A, 600V  |  |             |                         |             |  |             |              |             |         |
| 1.1 A, 115V  |  |             |                         |             |  |             |              |             |         |
| 0.55 A, 230V   |  |             |                         |             |  |             |              |             |         |
| 0.2 A, 550V  |  |             |                         |             |  |             |              |             |         |
| Light Duty   |  |             |                         |             |  |             |              |             |         |
| <p>C</p>   | <p>H</p>   |             |                         |             |  |             |              |             |         |
| <p>N</p>   | <p>O</p>   |             |                         |             |  |             |              |             |         |
| <p>D</p>   | <table border="1"> <thead> <tr> <th>Lever Pos.</th> <th>Contact Pos.<br/>1 2</th> </tr> </thead> <tbody> <tr><td>Off</td><td>C O</td></tr> <tr><td>A</td><td>O O</td></tr> <tr><td>B</td><td>O C</td></tr> </tbody> </table>                 | Lever Pos.  | Contact Pos.<br>1 2     | Off         | C O  | A           | O O          | B           | O C     |
| Lever Pos.   | Contact Pos.<br>1 2  |             |                         |             |  |             |              |             |         |
| Off  | C O  |             |                         |             |  |             |              |             |         |
| A  | O O  |             |                         |             |  |             |              |             |         |
| B  | O C  |             |                         |             |  |             |              |             |         |
| <p>F</p>   | <table border="1"> <thead> <tr> <th>Lever Pos.</th> <th>Contact Pos.<br/>1 2</th> </tr> </thead> <tbody> <tr><td>R</td><td>C O</td></tr> <tr><td>Off</td><td>O O</td></tr> <tr><td>L</td><td>O C</td></tr> </tbody> </table>                 | Lever Pos.  | Contact Pos.<br>1 2     | R           | C O  | Off         | O O          | L           | O C     |
| Lever Pos.   | Contact Pos.<br>1 2  |             |                         |             |  |             |              |             |         |
| R  | C O  |             |                         |             |  |             |              |             |         |
| Off  | O O  |             |                         |             |  |             |              |             |         |
| L  | O C  |             |                         |             |  |             |              |             |         |
| <p>G</p>   | <table border="1"> <thead> <tr> <th>Lever Pos.</th> <th>Contact Pos.<br/>1 2</th> </tr> </thead> <tbody> <tr><td>R</td><td>C O</td></tr> <tr><td>Off</td><td>C C</td></tr> <tr><td>L</td><td>O C</td></tr> </tbody> </table>                 | Lever Pos.  | Contact Pos.<br>1 2     | R           | C O  | Off         | C C          | L           | O C     |
| Lever Pos.   | Contact Pos.<br>1 2  |             |                         |             |  |             |              |             |         |
| R  | C O  |             |                         |             |  |             |              |             |         |
| Off  | C C  |             |                         |             |  |             |              |             |         |
| L  | O C  |             |                         |             |  |             |              |             |         |
| <p>K</p>   | <table border="1"> <thead> <tr> <th>Lever Pos.</th> <th>Contact Pos.<br/>1 2 3 4</th> </tr> </thead> <tbody> <tr><td>R</td><td>C O O C</td></tr> <tr><td>Off</td><td>C O C O</td></tr> <tr><td>L</td><td>O C C O</td></tr> </tbody> </table> | Lever Pos.  | Contact Pos.<br>1 2 3 4 | R           | C O O C  | Off         | C O C O      | L           | O C C O |
| Lever Pos.   | Contact Pos.<br>1 2 3 4  |             |                         |             |  |             |              |             |         |
| R  | C O O C  |             |                         |             |  |             |              |             |         |
| Off  | C O C O  |             |                         |             |  |             |              |             |         |
| L  | O C C O  |             |                         |             |  |             |              |             |         |
| AC <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>6A, 120V</td></tr> <tr><td>3A, 240V</td></tr> <tr><td>1.5A, 480V</td></tr> <tr><td>1.2A, 600V</td></tr> </table>        | 6A, 120V   | 3A, 240V    | 1.5A, 480V              | 1.2A, 600V  | DC <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>2.2A, 115V</td></tr> <tr><td>1.1A, 230V</td></tr> <tr><td>0.4A, 550V</td></tr> </table>     | 2.2A, 115V  | 1.1A, 230V   | 0.4A, 550V  |         |
| 6A, 120V   |  |             |                         |             |  |             |              |             |         |
| 3A, 240V   |  |             |                         |             |  |             |              |             |         |
| 1.5A, 480V   |  |             |                         |             |  |             |              |             |         |
| 1.2A, 600V   |  |             |                         |             |  |             |              |             |         |
| 2.2A, 115V   |  |             |                         |             |  |             |              |             |         |
| 1.1A, 230V   |  |             |                         |             |  |             |              |             |         |
| 0.4A, 550V   |  |             |                         |             |  |             |              |             |         |
| Standard Duty  |  |             |                         |             |  |             |              |             |         |

#### Ambient Temperature Range

0...+40 °C (+32...+104 °F) minimum temperature based on the absence of freezing moisture or water.

Approximate Dimensions [mm (in.)]

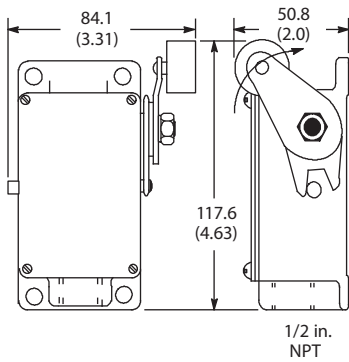


Figure 1, 18

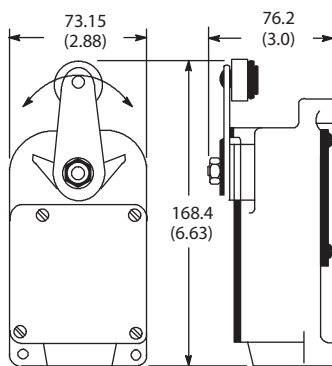


Figure 2, 3, 20

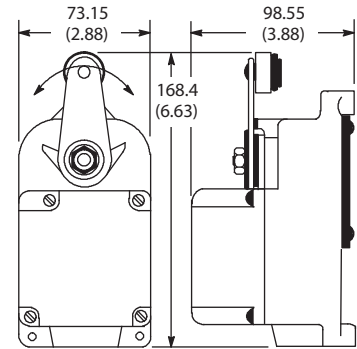


Figure 4

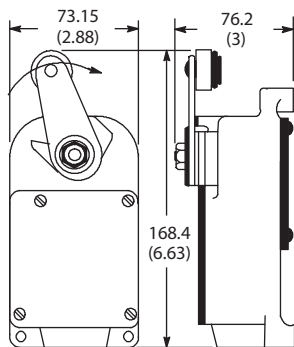


Figure 5, 6, 19

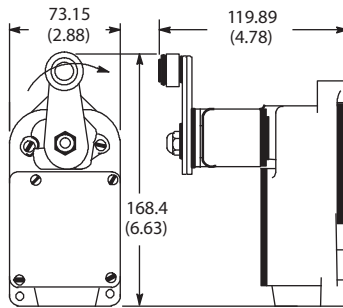


Figure 7, 8

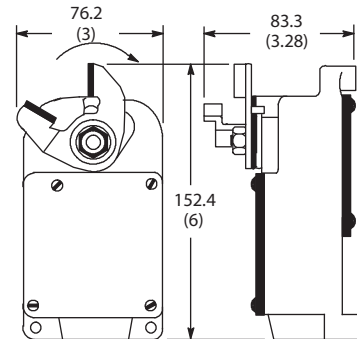


Figure 9

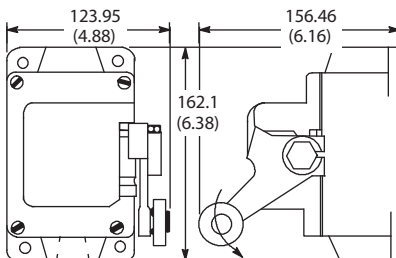


Figure 10, 11

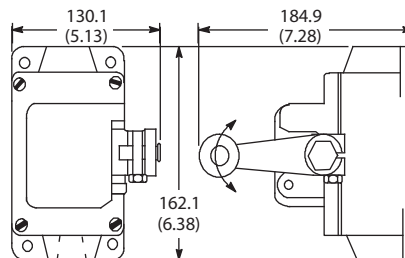


Figure 12

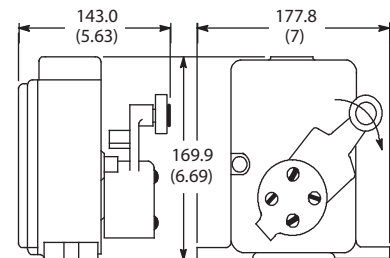


Figure 13

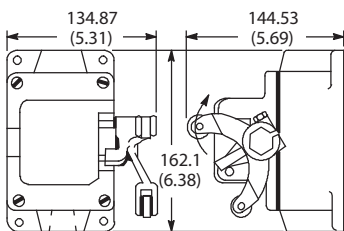


Figure 14

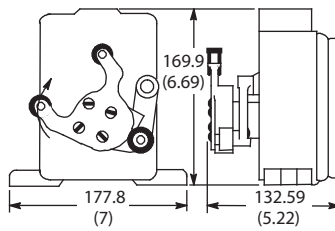


Figure 15

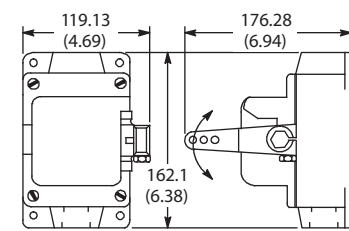
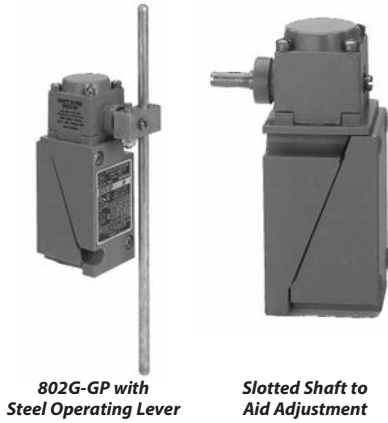


Figure 16

Limit Switches  
**802G**  
 Gravity Return



802G-GP with Steel Operating Lever

Slotted Shaft to Aid Adjustment

Specifications

| Certifications  |                 | UL Listed, CSA Certified, and CE Marked for applicable directives |       |                             |      |       |
|---|-----------------|---|-------|-----------------------------|------|-------|
| <b>Environmental</b>  |                 |   |       |                             |      |       |
| Enclosure Type Rating   |                 | NEMA 1  |       |                             |      |       |
| Ambient Temperature [C (F)]‡  |                 | 0...110° (32...230°)  |       |                             |      |       |
| <b>AC Contact Rating (Maximum per Pole, 50 or 60 Hz, Same Polarity)</b> |                 |   |       |                             |      |       |
| NEMA Rating Designation   | Max. AC Voltage | A   |       | Continuous Carrying Current | VA   |       |
|   |                 | Make  | Break |                             | Make | Break |
| B600  | 120             | 30  | 3.00  | 5 A                         | 3600 | 360   |
|   | 240             | 15  | 1.50  |                             |      |       |
|   | 480             | 7.5   | 0.75  |                             |      |       |
|   | 600             | 6   | 0.60  |                             |      |       |
| <b>DC Contact Rating (Maximum per Pole, Same Polarity)</b>              |                 |   |       |                             |      |       |
| <b>Voltage Range</b>  |                 |   |       | <b>Current Range</b>        |      |       |
| 115...125   |                 |   |       | 0.4 A                       |      |       |
| 230...250   |                 |   |       | 0.2 A                       |      |       |
| 550...600   |                 |   |       | 0.1 A                       |      |       |

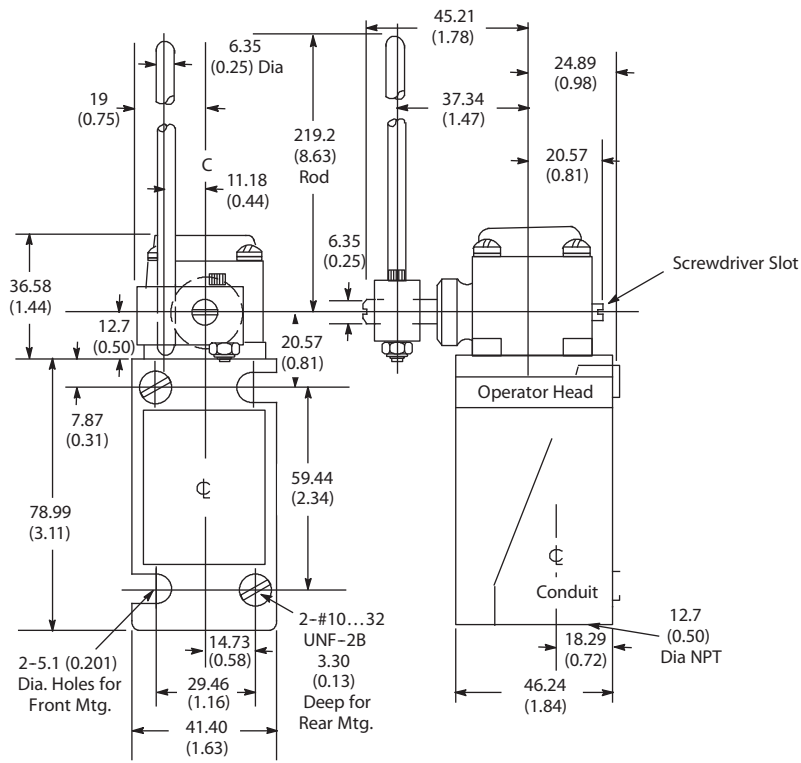
Modification for Neon Indicating Light

The Bulletin 802G gravity return limit switch can be supplied with a neon indicating light. To order, add the letter **N** for 120V AC 50/60 Hz or **N5** for 240V AC 50/60 Hz. Example: Cat. No. 802G-GP, becomes Cat. No. 802G-GPN.

The indicating light is to be internally connected by the user to two isolated terminals in the base assembly allowing complete flexibility in the connection of the light. Switches with an indicating light have a contact rating of NEMA B300.



Approximate Dimensions [mm (in.)]



**802G-GP with 802G-W10 Lever**  
 Approximate Shipping Wt. 1.5 lb (680g)



Specifications

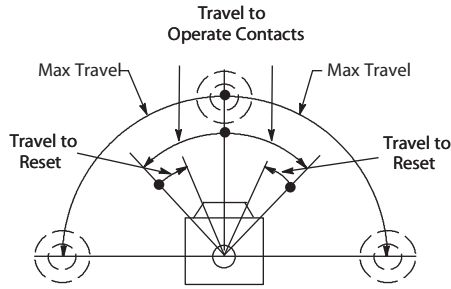
| Certifications   |              | UL Listed, CSA Certified, and CE Marked for application directives                          |       |                                 |                                 |       |
|--|--------------|---|-------|---------------------------------|---------------------------------|-------|
| <b>Environmental</b>   |              |   |       |                                 |                                 |       |
| Enclosure Type Rating  |              | NEMA 1, 4, 6P, 13, and IP67   |       |                                 |                                 |       |
| Pollution Degree   |              | 3   |       |                                 |                                 |       |
| Ambient Temperature [C (F)]  |              | 0...80° (32...176°) minimum temperature based on the absence of freezing moisture or water. |       |                                 |                                 |       |
| <b>AC Contact Rating (Maximum per Pole, 50 or 60 Hz, 2 Circuits Same Polarity)</b> |              |   |       |                                 |                                 |       |
| NEMA Rating Designation  | Max. Voltage | A   |       | Continuous Carrying Current [A] | VA                              |       |
|  |              | Make  | Break |                                 | Make                            | Break |
| A600<br>AC-15  | 120          | 60  | 6.00  | 10                              | 7200                            | 720   |
|  | 240          | 30  | 3.00  |                                 |                                 |       |
|  | 480          | 15  | 1.50  |                                 |                                 |       |
|  | 600          | 12  | 1.20  |                                 |                                 |       |
| <b>AC Contact Rating (Maximum per Pole, 50 or 60 Hz, 4 Circuits Same Polarity)</b> |              |   |       |                                 |                                 |       |
| NEMA Rating Designation  | Max. Voltage | A   |       | Continuous Carrying Current [A] | VA                              |       |
|  |              | Make  | Break |                                 | Make                            | Break |
| B300   | 120          | 30  | 3.00  | 5                               | 3600                            | 360   |
|  | 240          | 15  | 1.50  |                                 |                                 |       |
| <b>DC Contact Rating (Maximum per Pole, 2 Circuits Same Polarity)</b>              |              |   |       |                                 |                                 |       |
| Nominal Voltage  |              | A   |       |                                 | Continuous Carrying Current [A] |       |
| 24   |              | 1.1   |       |                                 | 5                               |       |

# Limit Switches

## 802M Lever Type • Spring Return

### Pre-wired—Factory Sealed Switches

#### Range of Operation



Complete Switch Without Lever



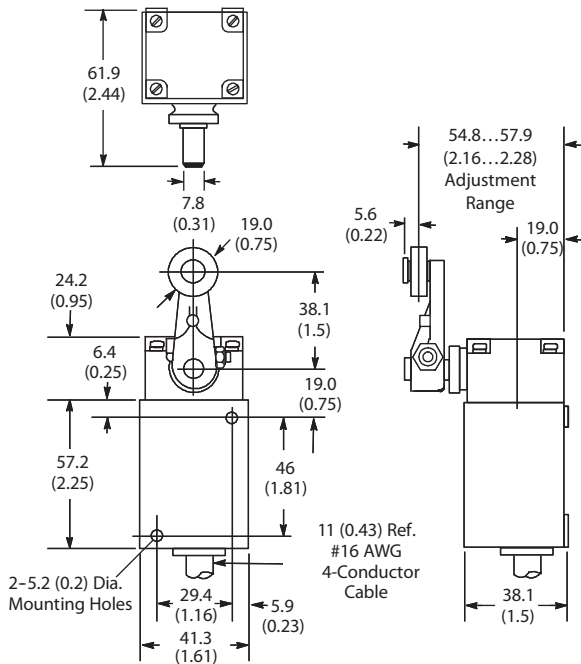
Operator Head Only



Switch Body Only

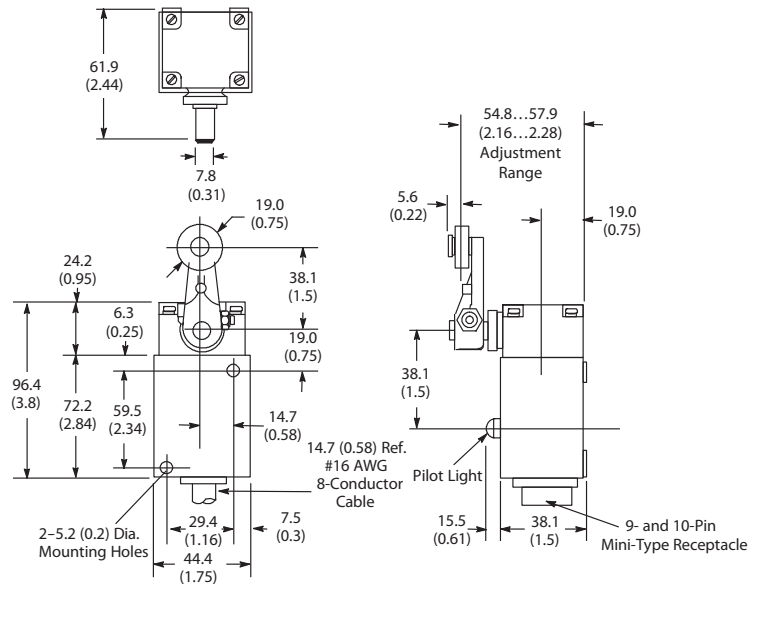
#### Approximate Dimensions [mm (in.)]

##### 2-Circuit with Cat. No. 802M-W1 Lever



Approximate Shipping Wt.  
0.53 kg (1lb 3 oz)

##### 4-Circuit with Cat. No. 802M-W1 Lever



Approximate Shipping Wt.  
0.9 kg (2 lb)

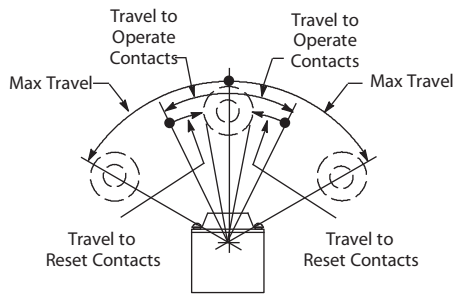
**Note:** Mounting foot adaptor as shown on [54971] is for use with 2-circuit 802M type switches only.

# Limit Switches

## 802M Lever Type Neutral Position • Spring Return

### Pre-wired—Factory Sealed Switches

#### Range of Operation



Complete Switch Without Lever



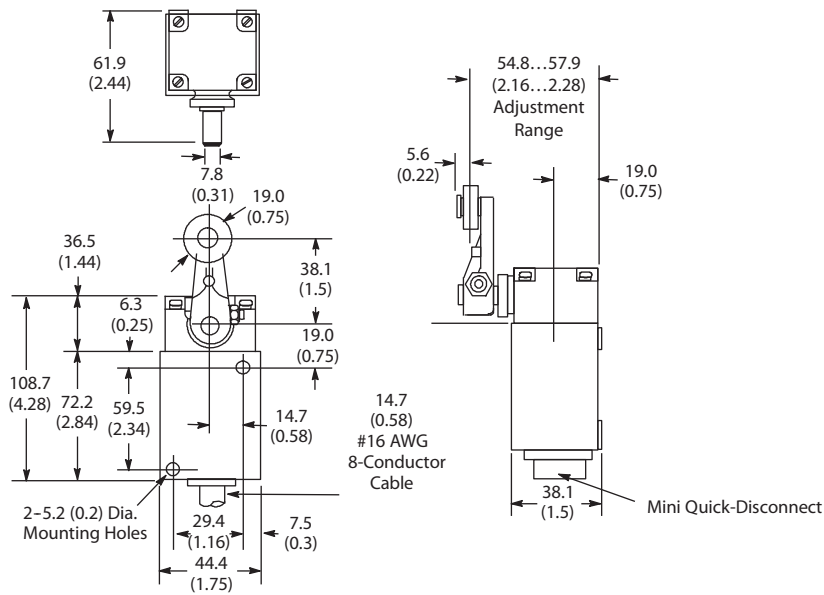
Operator Head Only



Switch Body Only

#### Approximate Dimensions [mm (in.)]

##### 4-Circuit with Cat. No. 802M-W1 Lever

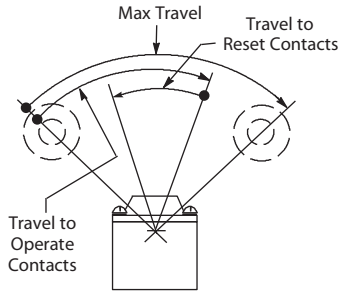


Approximate Shipping Wt.  
0.9 kg (2 lb)

**Note:** Mounting foot adaptor as shown on [54971] is for use with 2-circuit 802M type switches only.

Limit Switches  
**802M Lever Type • Maintained Contact**  
 Pre-wired—Factory Sealed Switches

Range of Operation



Complete Switch Without Lever



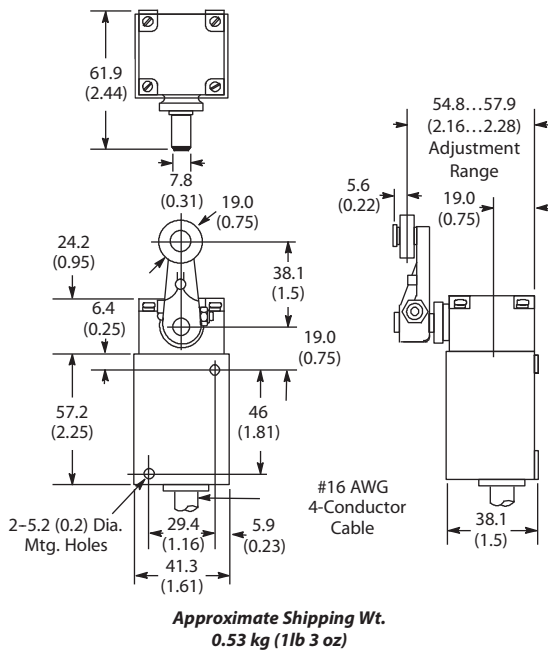
Operator Head Only



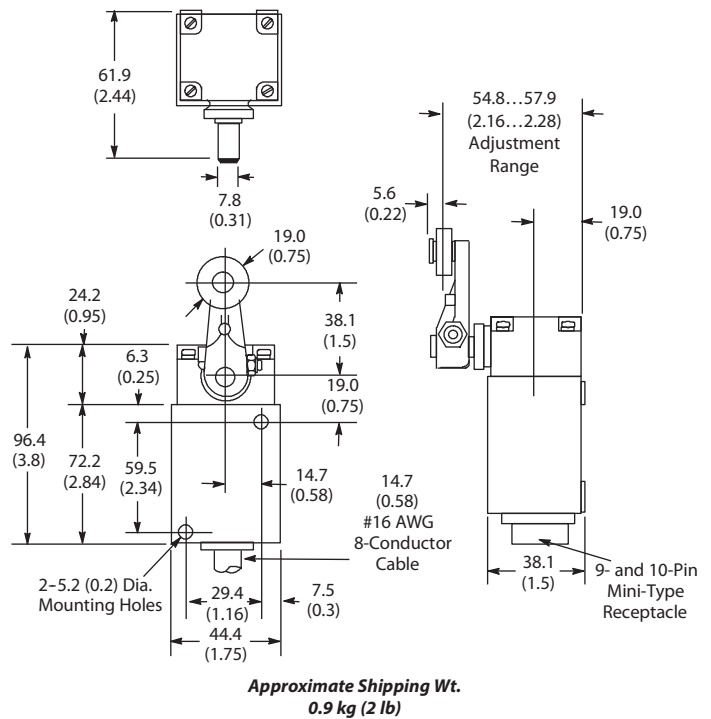
Switch Body Only

Approximate Dimensions [mm (in.)]

2-Circuit with Cat. No. 802M-W1 Lever



4-Circuit with Cat. No. 802M-W1 Lever

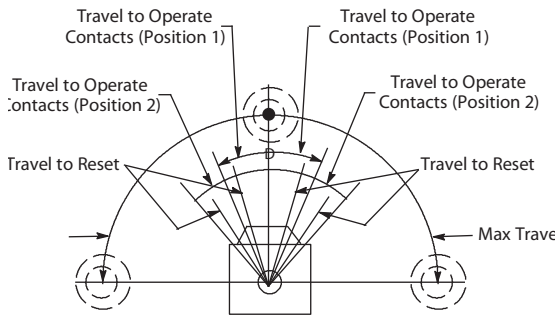


# Limit Switches

## 802M Lever Type Sequential • Spring Return

### Pre-wired—Factory Sealed Switches

#### Range of Operation



Complete Switch Without Lever



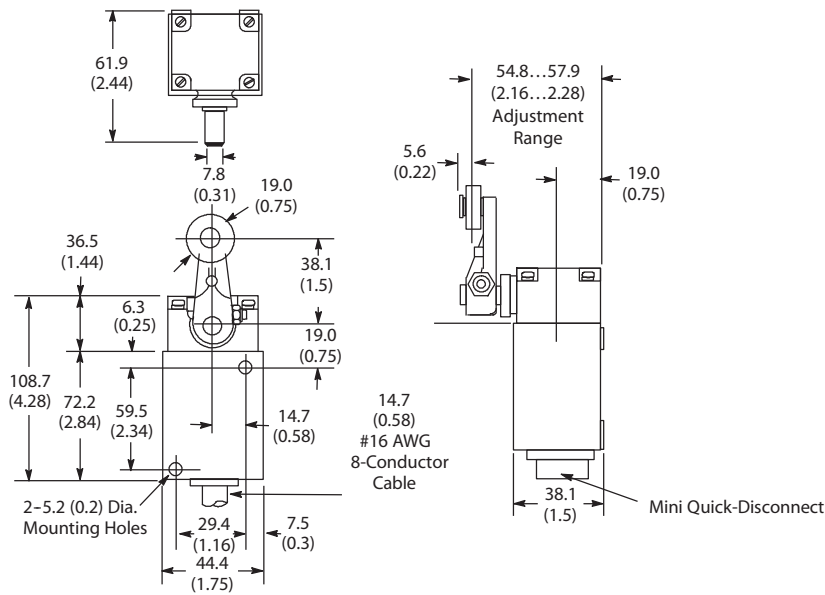
Operator Head Only



Switch Body Only

#### Approximate Dimensions [mm (in.)]

##### 4-Circuit with Cat. No. 802M-W1 Lever



Approximate Shipping Wt.  
0.9 kg (2 lb)

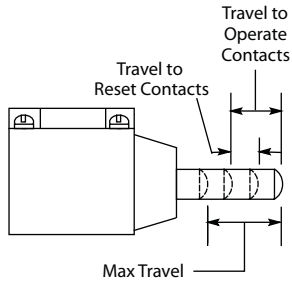
**Note:** Mounting foot adaptor as shown on [54971] is for use with 2-circuit 802M type switches only.

# Limit Switches

## 802M Push Type • Spring Return

### Pre-wired—Factory Sealed Switches

#### Range of Operation



Switch Body Only



Adjustable Top Push Rod Switch and Head



Adjustable Side Push Rod Switch and Head



Top Push Rod Head



Side Push Rod Head



Top Push Roller Head



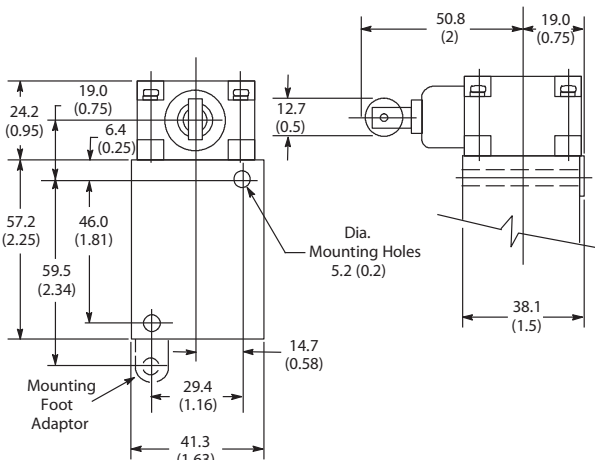
Side Push Vertical Roller Head



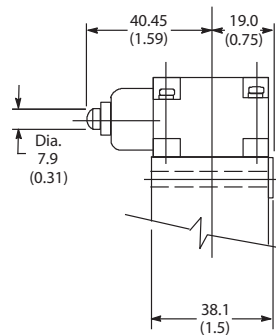
Side Push Horizontal Roller Head

#### Approximate Dimensions [mm (in.)]

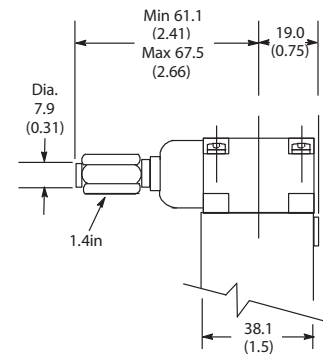
##### Side Push Types



Cat. No. 802M-KX Roller Head  
Shipping Wt. 0.53 kg (1 lb 3 oz)

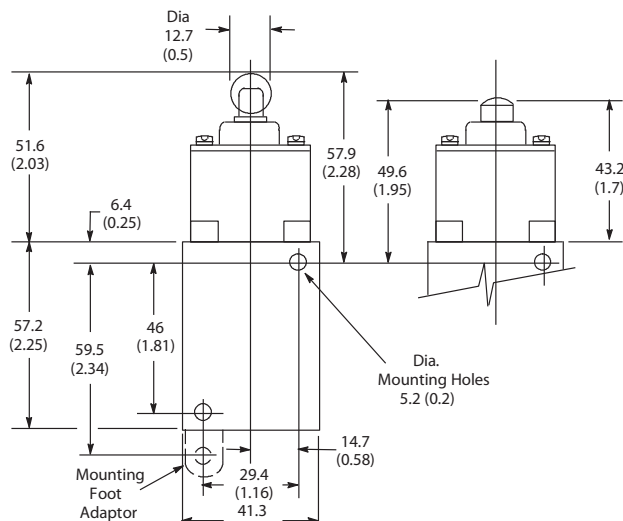


Cat. No. 802M-CX Rod Head  
Shipping Wt. 0.53 kg (1 lb 3 oz)

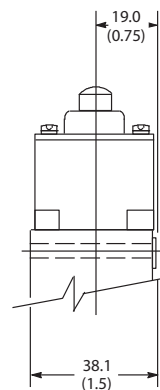


Cat. No. 802M-CAFX Adjustable Head  
Shipping Wt. 0.53 kg (1 lb 3 oz)

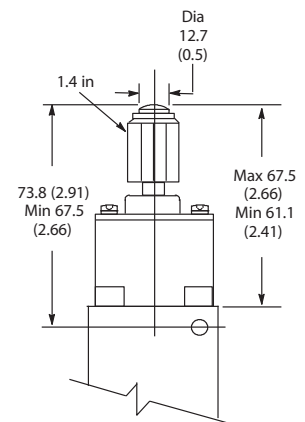
##### Top Push Types



Cat. No. 802M-DX Roller Head  
Shipping Wt. 0.53 kg (1 lb 3 oz)



Cat. No. 802M-BX Rod Head  
Shipping Wt. 0.53 kg (1 lb 3 oz)



Cat. No. 802M-BAX Adjustable Head  
Shipping Wt. 0.53 kg (1 lb 3 oz)

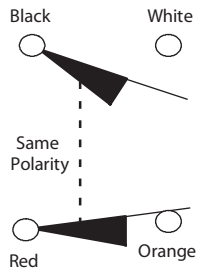
# Limit Switches

## 802M Wiring Diagrams for 2-Circuit Models

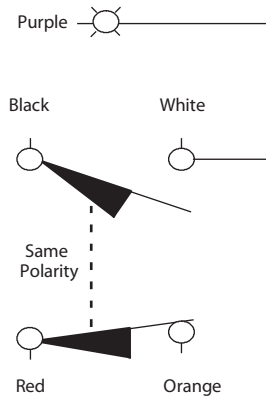
### Pre-wired—Factory Sealed Switches

#### Two-Circuit Cable Models

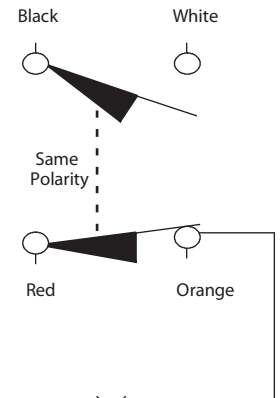
(See Applicable Codes & Laws)



#### Two-Circuit Cable Models with One Indicating Light

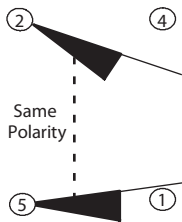


Light Wired to N.O. (White) Wire

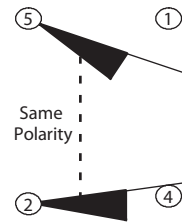


Light Wired to N.C. (Orange) Wire

#### Two-Circuit 5-Pin Mini-Type Receptacle

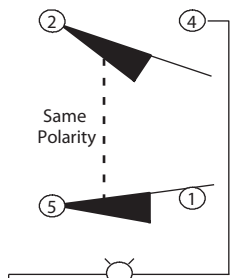


J1 Wiring

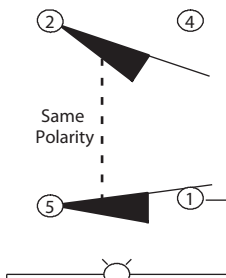


J9 Wiring

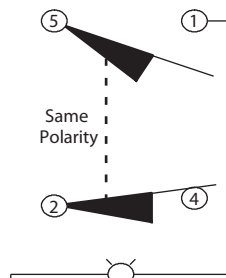
#### Two-Circuit Five-Pin Mini-Type Receptacle with One Indicating Light



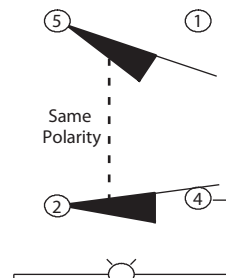
J1 Wiring  
Light Wired to N.O.



J1 Wiring  
Light Wired to N.C.



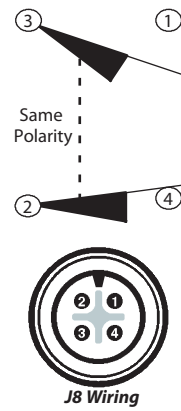
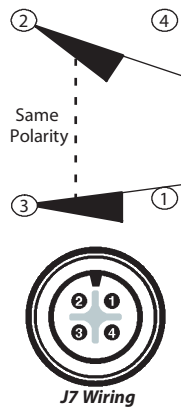
J9 Wiring  
Light Wired to N.O.



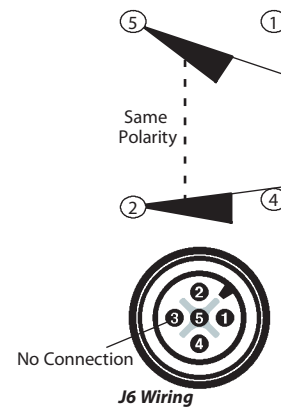
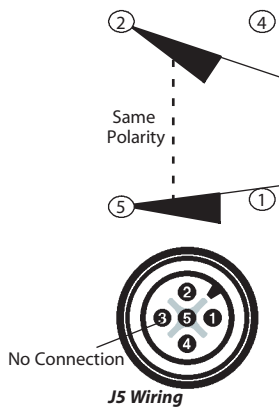
J9 Wiring  
Light Wired to N.C.



Two-Circuit Four-Pin Micro-Type Receptacle (DC only)



Two-Circuit Five-Pin Micro-Type Receptacle (DC only)



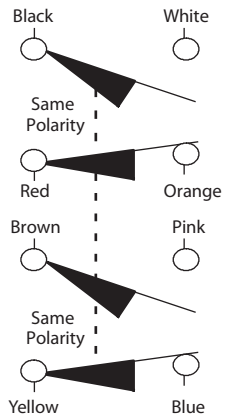
# Limit Switches

## 802M Wiring Diagrams for 4-Circuit Models

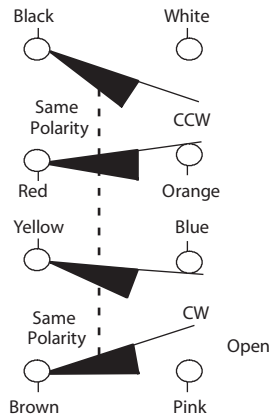
### Pre-wired—Factory Sealed Switches

#### Cable Models

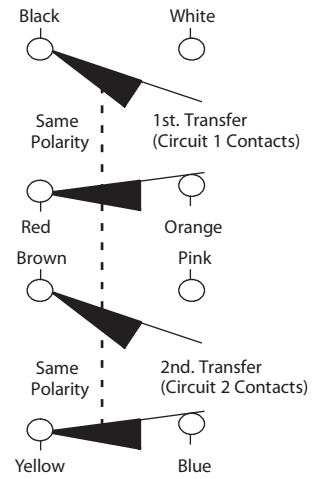
(See Applicable Codes & Laws)



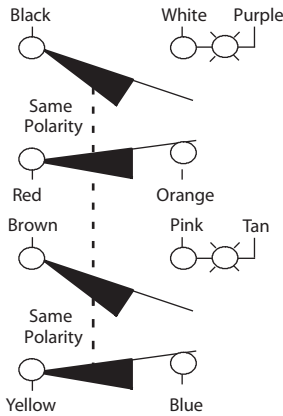
#### Neutral Position with Cable



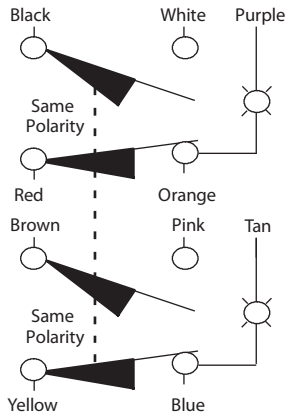
#### Sequential with Cable



#### Cable Models with Two Indicating Lights

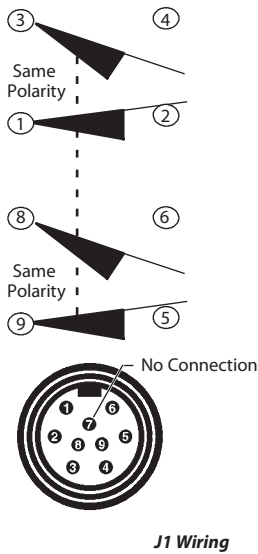


**Light Wired to N.O. (White) Wire, and N.O. (Pink) Wire**

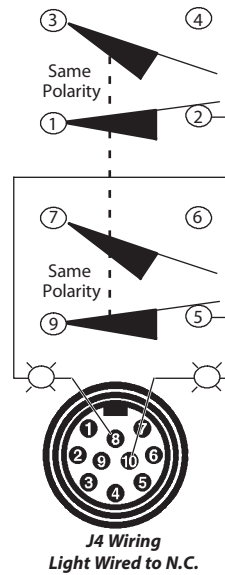
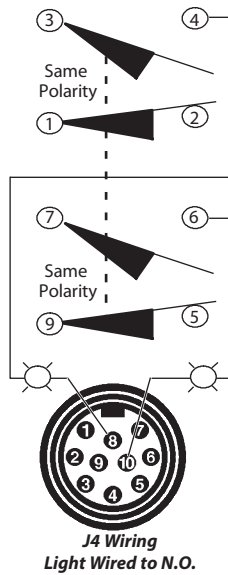


**Light Wired to N.C. (Orange) Wire, and N.C. (Blue) Wire**

#### Nine-Pin Mini-Type Receptacle



#### Ten-Pin Mini-Type Receptacle with Two Indicating Lights



### 24V DC Switches

All two-circuit Bul. 802M limit switches are available with silver-nickel contacts rated for 24V DC applications. To order a switch rated for 24V DC use, insert the letter **Z** before the cable or connector designation. Example: Cat. No. 802M-AZY5 is a 24V DC version of the 802M-AY5. The use of the 24V DC micro connector option or 24V DC indicating light option require the switch be rated for 24V DC operation. Silver-nickel contacts are not available with four-circuit models.

### Extended Cable Lengths

The factory installed type STO cable is normally supplied in 1.52 m (5 ft) lengths. Extended cable lengths are available in multiples of four feet. To order, replace the suffix **Y5** in the cat. no. with the appropriate suffix from the table below. Example: To order a lever type two-circuit spring return switch with 1.83 m (8 ft) of STO cable the cat. no. would be 802M-AY8. Cable lengths up to 96 feet are available as a special order.

### Additional Cable Lengths

| Modifications        | Cat. No. Suffix |
|----------------------|-----------------|
| 1.83 m (8 ft) Cable  | Y8              |
| 3.66 m (12 ft) Cable | Y12             |
| 4.78 m (16 ft) Cable | Y16             |

### Five-Pin Mini-Type Receptacle <sup>▲</sup> (Two-Circuit Models Only)



**802M with Mini-Type Receptacle  
 2-Circuit**

To order a Bulletin 802M pre-wired limit switch with a 5-pin mini connector in place of the 1.52 m (5 ft) of STO <sup>‡</sup> cable, replace the **Y5** in the cat. no. with the suffix **J1** or **J9** depending on the wiring configuration required. Maximum voltage rating for this receptacle is 250V AC.

An appropriate female connector with cable (Cat. No. 889N-F5AFC-6F) is available.

### Nine-Pin Mini-Type Receptacle <sup>▲</sup> (Four-Circuit Models without Indicator Lights Only)



**802M with Mini-Type Receptacle  
 4-Circuit**

To order a Bulletin 802M pre-wired limit switch with a 9-pin mini connector in place of the 1.52 m (5 ft) of STO <sup>‡</sup> cable, replace the **Y5** in the cat. no. with the suffix **J1**. Maximum voltage rating for this receptacle is 250V AC.

An appropriate female connector with cable (Cat. No. 889N-F9AF-2) is available .

### Ten-Pin Mini-Type Receptacle <sup>▲</sup> (Four-Circuit Models with Two Indicating Lights Only)

To order a Bulletin 802M pre-wired limit switch with a 10-pin mini connector and two indicating lights, replace the **Y5** in the cat. no. with the suffix **J4**. Maximum voltage rating for this receptacle is 250V AC. Also, specify the indicating lights per the table on [T-11640459].

Example: Cat. No. 802M-ATY5 with mini-connector and (2) 120V AC indicating lights wired to one side of each N.O. contact would be Cat. No. 802M-ATJ4L1F.

An appropriate female connector with cable (Cat. No. 889N-F10AF-2) is available on [T-12064388].

### Four-Pin Micro-Type Receptacle (Two-Circuit 24V DC Models Only)



**802M with Micro-Type Receptacle  
 2-Circuit**

To order a Bulletin 802M pre-wired limit switch with a 4-pin micro connector in place of the 1.52 m (5 ft) of STO <sup>‡</sup> cable, replace the **Y5** in the cat. no. with the suffix **J7** or **J8** depending upon the wiring configuration required. This option requires that the switch is rated 24V DC.

An appropriate female connector with cable (Cat. No. 889D-F4AC-2) is available.

### Five-Pin Micro-Type Receptacle (Two-Circuit 24V DC Models Only)

To order a Bulletin 802M pre-wired limit switch with a 5-pin micro connector in place of the 1.52 m (5 ft) of STO <sup>‡</sup> cable, replace the **Y5** in the cat. no. with the suffix **J5** or **J6** depending upon the wiring configuration required. This option requires that the switch is rated 24V DC.

An appropriate female connector with cable (Cat. No. 889D-F5AC-2) is available.

<sup>▲</sup> A 5-pin, 9-pin, or 10-pin plug-in receptacle is supplied to facilitate retrofitting existing installations. The normal ground wire pin is not required and is not connected inside the switch.  
<sup>‡</sup> STO is a common identification of this cable. The more complete identification of the cable used on the Bulletin 802M is STOOW which incorporates an oil resistant jacket and conductor insulation, for indoor and outdoor use.

# Limit Switches

## 802M Modifications

### Pre-wired—Factory Sealed Switches

#### Indicating Lights

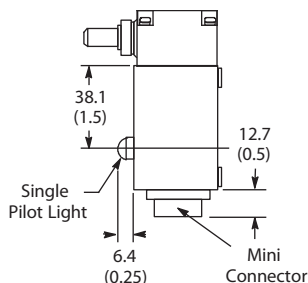


**802M with Indicating Light  
2-Circuit**

**Two-Circuit**—Bulletin 802M pre-wired limit switches can be supplied with an indicating light which is wired to one side of either the N.O. or N.C. contact. The second lead of the light is available as a fifth conductor for wiring flexibility. See page 12 for wiring diagrams.

To order, add the appropriate suffix listed in the table to the right to the cat. no. Example: Cat. No. 802M-AY5 with a 120V AC LED indicating light wired to one side of the N.O. contact would be Cat. No. 802M-AY5L1F.

Example: Cat. No. 802M-AY5 with mini-connector and 120V AC indicating light wired to one side of the N.O. contact would be Cat. No. 802M-AJ1L1F.

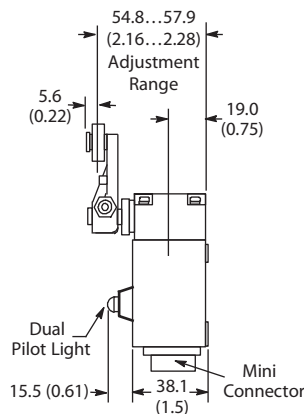


**802M with Indicating Light  
4-Circuit**

**Four-Circuit**—Bulletin 802M pre-wired limit switches can be supplied with 2 indicating lights wired to one side of each N.O. or N.C. contact of the 4-circuit contact block. Second leads from each light are available as ninth and tenth conductors for wiring flexibility. See [T-11640062] for wiring diagram.

To order, add the appropriate suffix listed in the table to the right to the cat. no.

Example: Cat. No. 802M-ATY5 with 120V AC LED indicating lights wired to one side of each N.C. contact would be Cat. No. 802M-ATY5L1C.



| LED Indicating Lights  |              |                 |
|------------------------|--------------|-----------------|
| Voltage                | Wired to §   | Cat. No. Suffix |
| 24V DC *               | N.O. Contact | LF              |
|                        | N.C. Contact | LC              |
| 120V AC<br>50...60 Hz  | N.O. Contact | L1F             |
|                        | N.C. Contact | L1C             |
| Neon Indicating Lights |              |                 |
| Voltage                | Wired to §   | Cat. No. Suffix |
| 120V AC<br>50...60 Hz  | N.O. Contact | NF              |
|                        | N.C. Contact | NC              |
| 240V AC<br>50...60 Hz  | N.O. Contact | N5F             |
|                        | N.C. Contact | N5C             |

#### Fitting for Liquid-Tight Flexible Metal Conduit

Bul. 802M 2-circuit switches can be obtained provided with a fitting for liquid-tight flexible metal conduit (flexible metal conduit not provided) and a pigtail for wiring. Add the following suffix to the cat. no. (underscore indicate pigtail length):

- GS\_** straight-out fitting
- GF\_** front oriented 90° elbow fitting
- GL\_** left oriented 90° elbow fitting
- GB\_** back oriented 90° elbow fitting
- GR\_** right oriented 90° elbow fitting.

Example: GS5 = 5 foot long pigtail. Additional cable length over 1.5 m (5 ft) is available in multiples of 1.2 m (4 ft).

§ See Wiring Diagrams on page 14.  
\* Requires the switch be rated for 24V DC operation. (Not available with four-circuit models.)

Corrosion-resistant Pre-wired—Factory Sealed Switches



Specifications

|                |  |
|----------------|--|
| Certifications | UL Listed, CSA Certified, and CE Marked for application directives |
|----------------|--|

|                              |   |
|------------------------------|---|
| <b>Environmental</b>         |   |
| Enclosure Type Rating        | NEMA 1, 4X, 6P, 13; IP69K and IP66/67 (IEC 529) |
| Pollution Degree             | 3   |
| Ambient Temperature [C (F)]‡ | 0...80° (32...176°)                             |

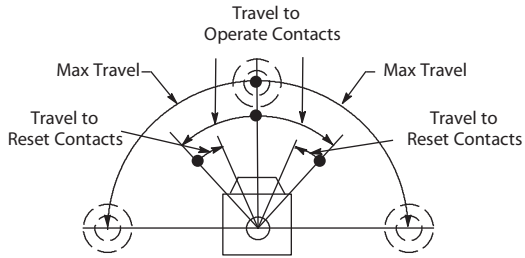
| <b>AC Contact Rating (Maximum per Pole, 50 or 60 Hz, 2 Circuits Same Polarity)</b> |              |      |       |                                 |      |       |
|--|--------------|------|-------|---------------------------------|------|-------|
| NEMA Rating Designation  | Max. Voltage | A    |       | Continuous Carrying Current [A] | VA   |       |
|  |              | Make | Break |                                 | Make | Break |
| A600<br>AC-15  | 120          | 60   | 6.00  | 10                              | 7200 | 720   |
|  | 240          | 30   | 3.00  |                                 |      |       |
|  | 480          | 15   | 1.50  |                                 |      |       |
|  | 600          | 12   | 1.20  |                                 |      |       |

| <b>DC Contact Rating (Maximum per Pole, 2 Circuits Same Polarity)</b> |     |                                 |
|---|-----|---------------------------------|
| Nominal Voltage   | A   | Continuous Carrying Current [A] |
| 24  | 1.1 | 5                               |

‡ Minimum temperature is based on the absence of freezing moisture or water.

Limit Switches  
**802MC Lever Type • Spring Return**  
 Corrosion-resistant Pre-wired—Factory Sealed Switches

Range of Operation



Complete Switch without Lever

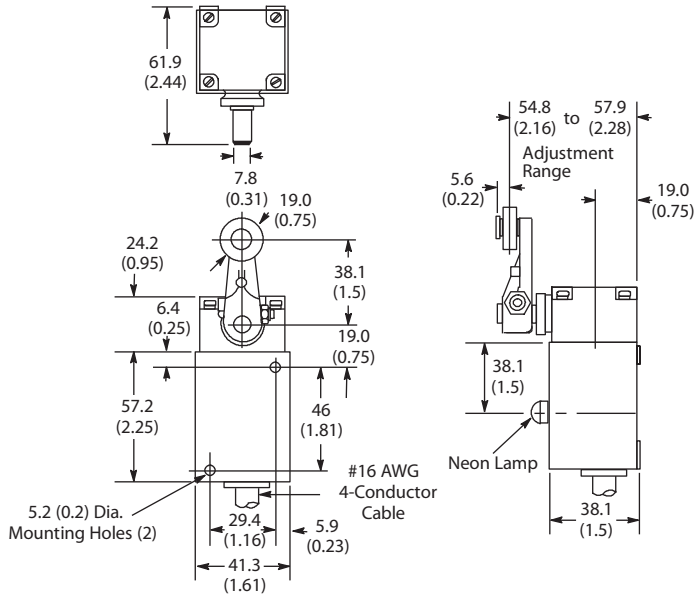


Operator Head Only



Base Only

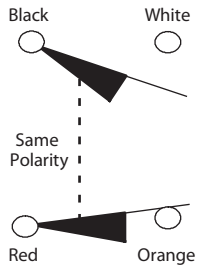
Approximate Dimensions [mm (in.)]



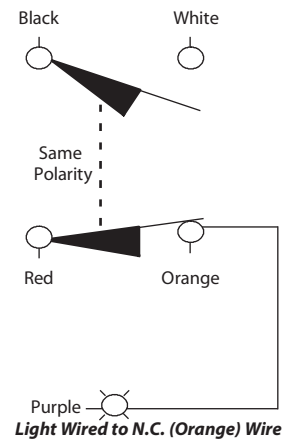
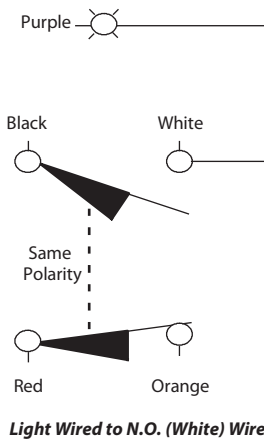
Approximate Shipping Wt.  
 0.9 kg (2 lb)

Cable Models

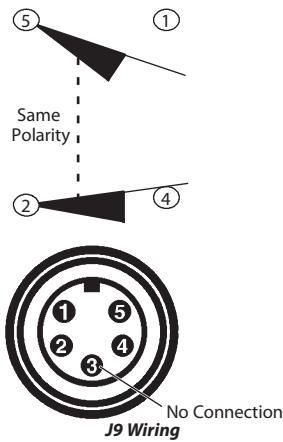
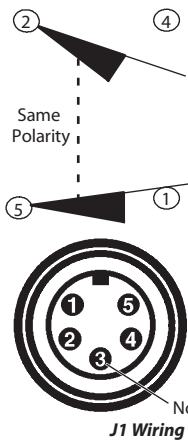
(See Applicable Codes & Laws)



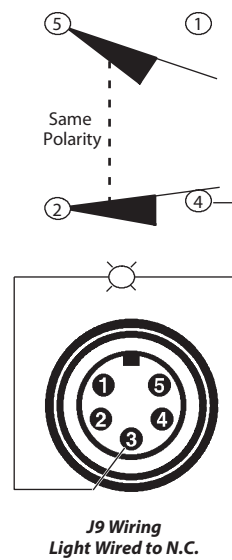
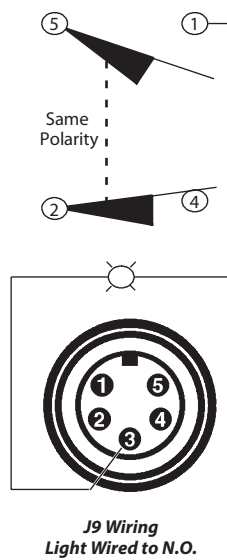
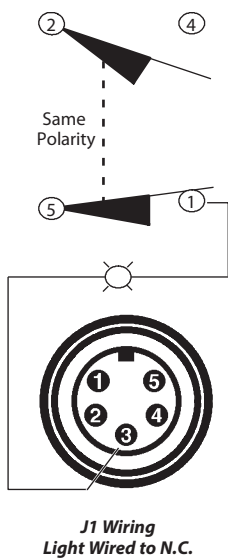
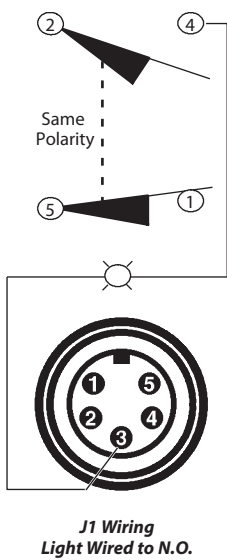
Cable Models with Indicating Light



Five-Pin Mini-Type Receptacle



Five-Pin Mini-Type Receptacle with Indicating Light



# Limit Switches

## 802MC Modifications

### Corrosion-resistant Pre-wired—Factory Sealed Switches

#### Indicating Light



Neon Indicating Light

Bulletin 802MC pre-wired limit switches can be supplied with an indicating light wired to one side of either the N.O. or N.C. contact. The second lead of the light is available as a fifth conductor for wiring flexibility.

To order, add the appropriate suffix listed in the table below to the cat. no. Example: Cat. No. 802MC-AY5 with a 120V AC LED indicating light wired across the N.O. contact would be Cat. No. 802MC-AY5L1F.

| LED Indicating Lights  |              |                 |
|------------------------|--------------|-----------------|
| Voltage                | Wired to     | Cat. No. Suffix |
| 24V DC                 | N.O. Contact | LF              |
|                        | N.C. Contact | LC              |
| 120V AC<br>50...60 Hz  | N.O. Contact | L1F             |
|                        | N.C. Contact | L1C             |
| Neon Indicating Lights |              |                 |
| Voltage                | Wired to     | Cat. No. Suffix |
| 120V AC<br>50...60 Hz  | N.O. Contact | NF              |
|                        | N.C. Contact | NC              |
| 240V AC<br>50...60 Hz  | N.O. Contact | N5F             |
|                        | N.C. Contact | N5C             |

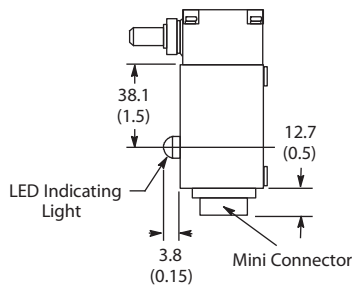
#### Five-Pin Mini-Type Receptacle ‡ (Two-Circuit Contact Block)



5-Pin Mini-Type Receptacle

To order a Bulletin 802MC pre-wired limit switch with a 5-pin mini connector in place of the 1.52 m (5 ft) of STO  $\Delta$  cable, replace the **Y5** in the cat. no. with the suffix **J1** or **J9** depending upon the wiring configuration required. Maximum voltage rating for this receptacle is 250V AC.

An appropriate female connector with cable (Cat. No. 889N-F5AFC-6F) is available on [T-12061297].



#### Extended Cable Lengths

The factory installed pre-wired, type STO cable is normally supplied in 1.52 m (5 ft) lengths. Extended cable lengths are available in multiples of 4 feet. To order, replace the suffix **Y5** in the cat. no. with the appropriate suffix from the table below. Example: To order a lever type spring return switch with 1.83 m (8 ft) of STO cable the cat. no. would be Cat. No. 802MC-AY8. Cable lengths up to 96 feet are available as a special order.

#### Additional Cable Lengths

| Modification         | Cat. No. Suffix |
|----------------------|-----------------|
| 1.83 m (8 ft) cable  | LF              |
| 3.66 m (12 ft) cable | Y12             |
| 4.78 m (16 ft) cable | Y16             |

#### Two-Circuit 24V DC Switches

All 2-circuit Bul. 802MC limit switches are available with silver-nickel contacts and rated for 24V DC applications. To order a switch rated for 24V DC use, insert the letter **Z** before the cable or connection designation. Example: Cat. No. 802MC-AZY5 is a 24V DC version of Cat. No. 802MC-AY5. The use of the 24V DC pilot light option requires the switch be rated for 24V DC operation.

‡ A 5-pin mini-type receptacle is supplied to facilitate retrofitting existing installations. The normal ground wire pin is not required and is not connected inside the switch.

$\Delta$  STO is a common identification of this cable. The more complete identification of the cable used on the Bulletin 802M is ST00W which incorporates an oil resistant jacket and conductor insulation, for indoor and outdoor use.





Sealed Contact Switch



802R-AF (cover removed) with  
 802T-W1 Lever



802R-AF without Lever

Specifications

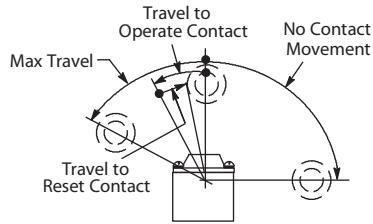
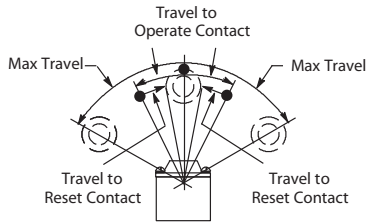
| Certifications   |                        | UL Listed and CSA Certified   |                 |                                 |      |       |
|--|------------------------|---|-----------------|---------------------------------|------|-------|
| <b>Environmental</b>   |                        |   |                 |                                 |      |       |
| Enclosure Type Rating  |                        | NEMA 13   |                 |                                 |      |       |
| Ambient Temperature [C (F)]  |                        | -29...+121 ° (-20...+250 °) Exception: Wobble stick & cat whisker devices are rated -18...+54 ° (0...130 °) |                 |                                 |      |       |
| <b>AC Contact Rating (Maximum per Pole, 50 or 60 Hz, 2 Circuits Same Polarity)</b> |                        |   |                 |                                 |      |       |
| NEMA Rating Designation  | Max. Voltage           | A   |                 | Continuous Carrying Current [A] | VA   |       |
|  |                        | Make  | Break           |                                 | Make | Break |
| B600   | 120                    | 30  | 3.00            | 5                               | 3600 | 360   |
|  | 240                    | 15  | 1.50            |                                 |      |       |
|  | 480                    | 7.5   | 0.75            |                                 |      |       |
|  | 600                    | 6   | 0.60            |                                 |      |       |
| <b>DC Contact Rating (Maximum per Pole, Same Polarity)</b>                         |                        |   |                 |                                 |      |       |
| NEMA Rating Designation  | Voltage Range          |   | Current Rating  |                                 |      |       |
| P300   | 115...125<br>230...250 |   | 1.1 A<br>0.55 A |                                 |      |       |

# Limit Switches

## 802R Lever Type • Spring Return

### Sealed Contact Switches

#### Range of Operation

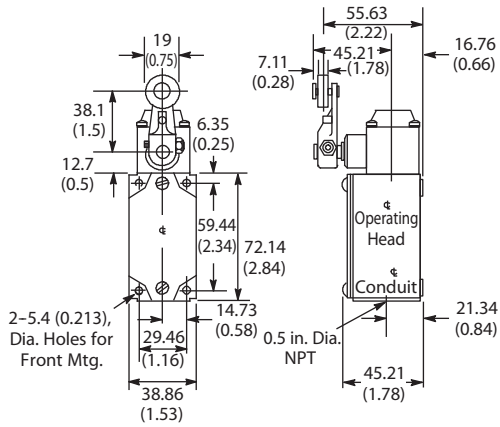


802R-AF without Lever



802R-ALFW5

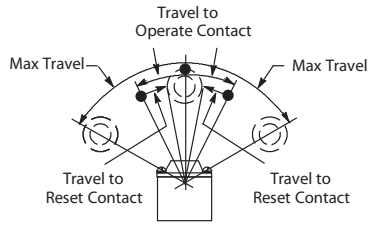
#### Approximate Dimensions [mm (in.)]



Standard Switch with 802T-W1 Lever  
Shipping Wt. 0.35 kg (12.5 oz)

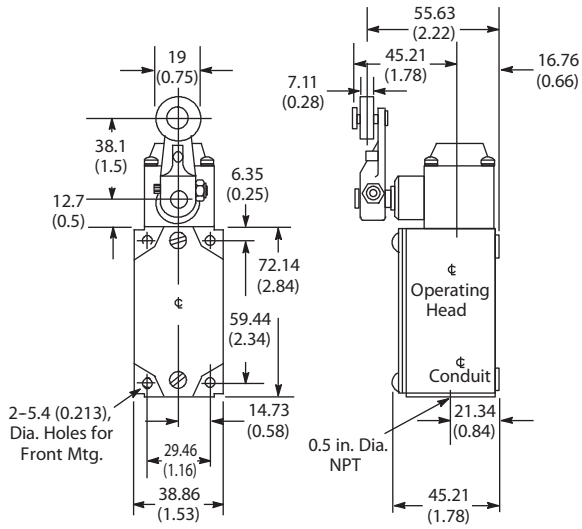
**Note:** Details regarding wiring Allen-Bradley limit switches to Allen-Bradley PLCs can be found in publications 802T-4.0, -4.1, -4.2, and -4.3.

Range of Operation



**Switch without Lever**

Approximate Dimensions [mm (in.)]



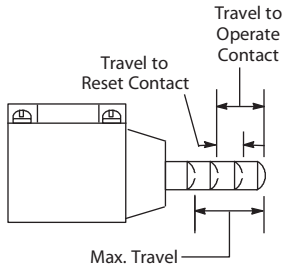
**Standard Switch with 802T-W1 Lever**  
 Shipping Wt. 0.35 kg (12.5 oz)

# Limit Switches

## 802R Push Type • Spring Return

### Sealed Contact Switches

#### Range of Operation



**Top Push Rod**



**Adjustable Top Push Rod**



**Side Push Rod**

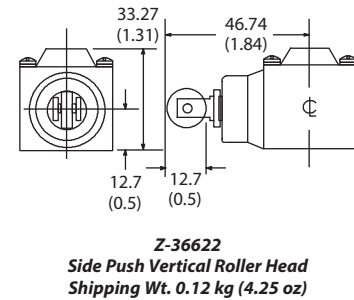
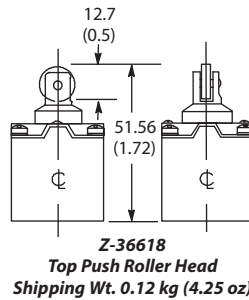
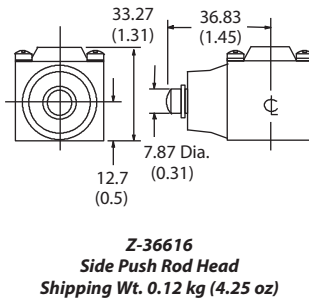
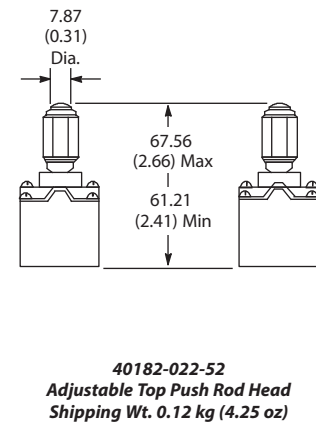
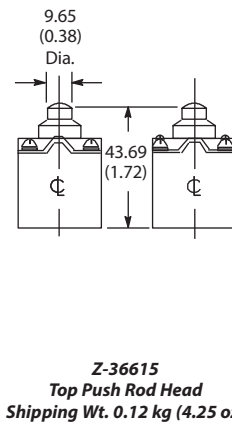
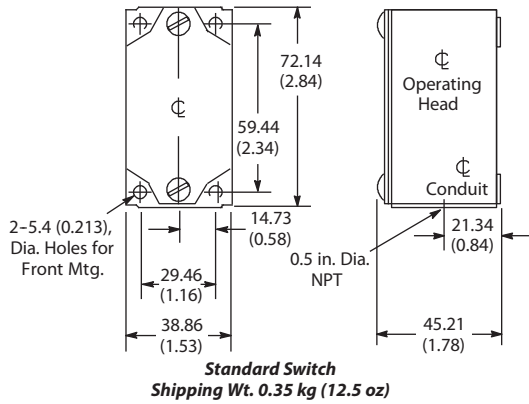


**Top Push Roller**



**Side Push Roller**

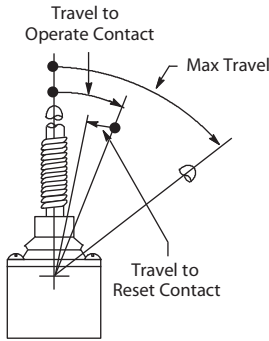
#### Approximate Dimensions [mm (in.)]



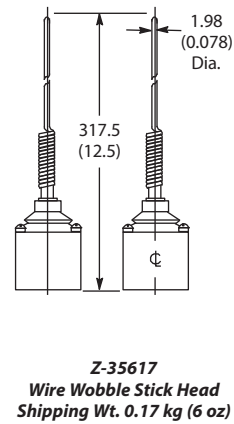
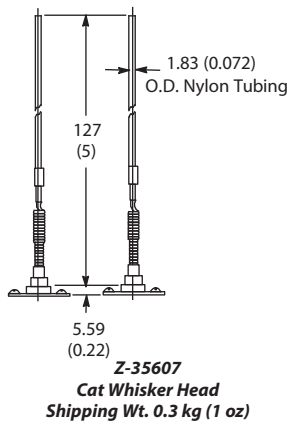
# Limit Switches

## 802R Wobble Stick and Cat Whisker • Spring Return Sealed Contact Switches

### Range of Operation†



### Approximate Dimensions [mm (in.)]



### Modification for Transparent Cover

Switches can be furnished with a gasketed, transparent plastic cover. This modification enables the electrician to inspect terminal wiring without removing the switch cover. To order, add the letter **Z** to the cat. no. of the standard switch. Example: Cat. No. 802R-DF becomes Cat. No. 802R-DFZ.

### Conduit Seal (Cat. No. 802T-N3)

A synthetic rubber conduit seal is available to protect the conduit opening against the ingress of oil into the wiring compartment. Each wire hole in the seal has a thin inner wall which is pierced when a wire is passed through. Thus, any unused opening remains sealed.

### Special Conduit Lock Nut (Cat. No. 802T-X4)

This option, a "Tru-Seal" lock nut with threaded PTFE insert, is a valuable accessory for any Bulletin 802R which is connected by means of conduit.

### NPT to Metric Thread Adaptor

Brass 1/2-inch NPT thread to M20 thread adaptor. Used with metric cable glands where conduit entry switch has American NPT tapered threads. Compatible with all 1/2-inch NPT conduit entry limit switches, this adaptor is valuable accessory for any bulletin requiring conduit entry conversion to be compatible with metric thread.

| Description   | Cat. No. |
|---|----------|
| <b>Conduit Adapter</b><br>1/2-inch NPT to M20 metric thread | 802T-X5  |



Specifications

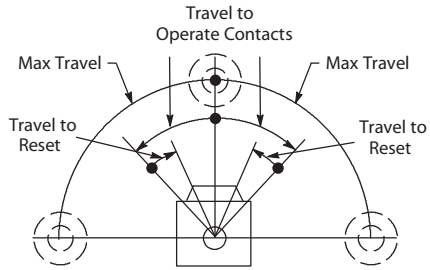
| Certifications   |                 | UL Listed, CSA Certified, and CE Marked for applicable directives   |       |                                   |      |       |
|--|-----------------|---|-------|-----------------------------------|------|-------|
| <b>Environmental</b>   |                 |   |       |                                   |      |       |
| Enclosure Type Rating  |                 | NEMA 4, 13, 6P★, and IP67   |       |                                   |      |       |
| Pollution Degree   |                 | 3   |       |                                   |      |       |
| Ambient Temperature<br>[C (F)]‡  |                 | -18...+110° (0...+230°)<br>Exception: Wobble stick and cat whisker devices are rated from<br>-18...+54° (0...+130°) |       |                                   |      |       |
| <b>AC Contact Rating (Maximum per Pole, 50 or 60 Hz, 2 Circuits Same Polarity)</b> |                 |   |       |                                   |      |       |
| NEMA<br>Rating<br>Designation  | Max.<br>Voltage | A   |       | Continuous<br>Carrying<br>Current | VA   |       |
|  |                 | Make  | Break |                                   | Make | Break |
| A600<br>AC-15  | 120             | 60  | 6.00  | 10                                | 7200 | 720   |
|  | 240             | 30  | 3.00  |                                   |      |       |
|  | 480             | 15  | 1.50  |                                   |      |       |
|  | 600             | 12  | 1.20  |                                   |      |       |
| B600§<br>AC-15   | 120             | 30  | 3.00  | 5                                 | 3600 | 360   |
|  | 240             | 15  | 1.50  |                                   |      |       |
|  | 480             | 7.5   | 0.75  |                                   |      |       |
|  | 600             | 6   | 0.60  |                                   |      |       |
| <b>AC Contact Rating (Maximum per Pole, 50 or 60 Hz, 4 Circuits Same Polarity)</b> |                 |   |       |                                   |      |       |
| NEMA<br>Rating<br>Designation  | Max.<br>Voltage | A   |       | Continuous<br>Carrying<br>Current | VA   |       |
|  |                 | Make  | Break |                                   | Make | Break |
| A300   | 120             | 60  | 6.00  | 10                                | 7200 | 720   |
|  | 240             | 30  | 3.00  |                                   |      |       |
| <b>DC Contact Rating (Maximum per Pole)</b>  |                 |   |       |                                   |      |       |
| Circuits   |                 | Voltage Range   |       | Current Range                     |      |       |
| 2  |                 | 115...125   |       | 0.4 A                             |      |       |
|  |                 | 230...250   |       | 0.2 A                             |      |       |
|  |                 | 550...600   |       | 0.1 A                             |      |       |
| 4  |                 | 115...125   |       | 0.4 A                             |      |       |
|  |                 | 230...250   |       | 0.2 A                             |      |       |

# Limit Switches

## 802T Lever Type • Spring Return

### Plug-in Style Oiltight Switches

#### Range of Operation



Lever Operation with Standard Levers

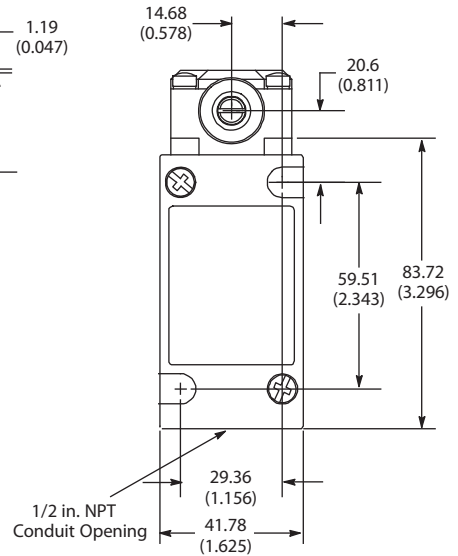
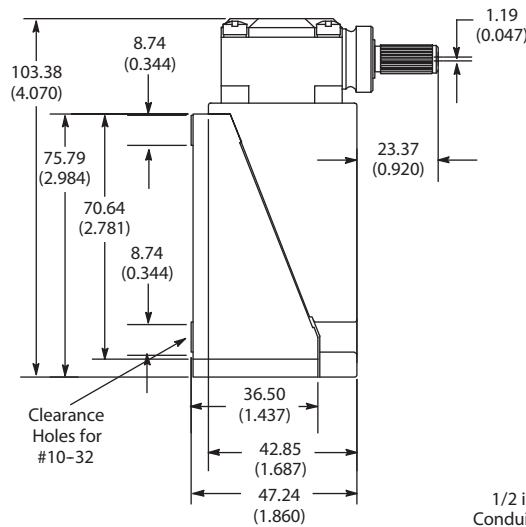
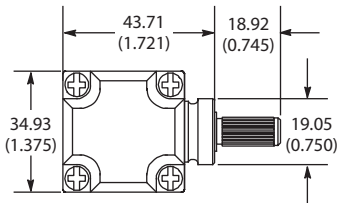


Switch without Lever

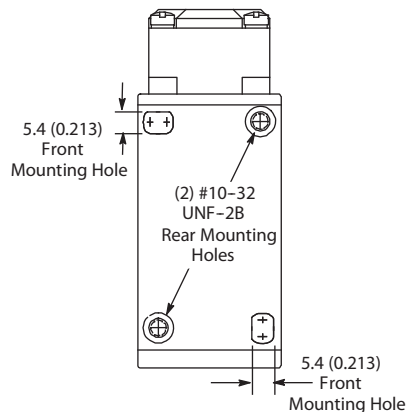
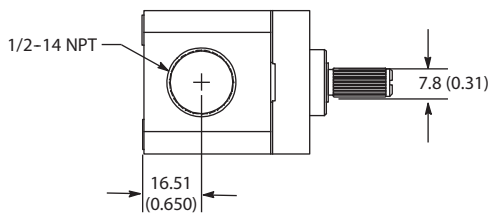


Switch without Lever and Base

#### Approximate Dimensions [mm (in.)]



Plug-in Switch  
Shipping Wt. 0.571 kg (1.25 lb)

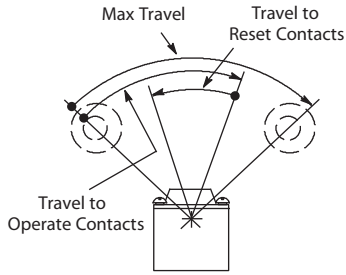


# Limit Switches

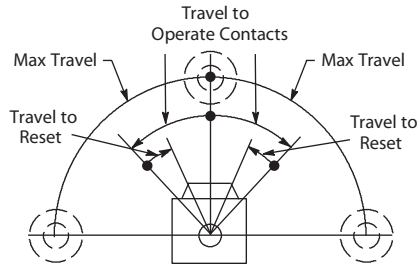
## 802T Lever Type • Maintained Contact and Neutral Position

### Plug-in Style Oiltight Switches

#### Range of Operation



Maintained Contact Models



Natural Position Models

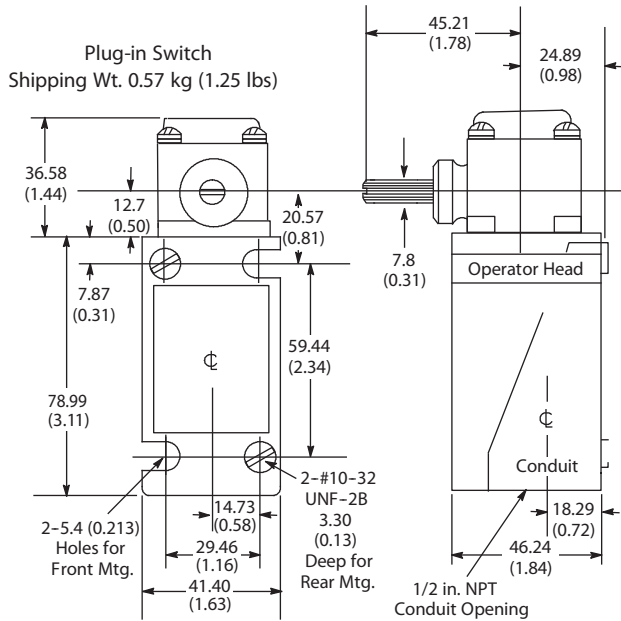


Switch without Lever



Switch without Lever and Base

#### Approximate Dimensions [mm (in.)]



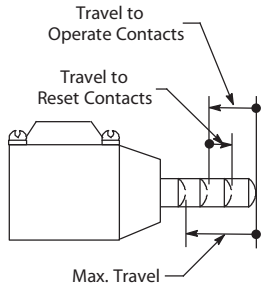


# Limit Switches

## 802T Push Type • Spring Return

### Plug-in Style Oiltight Switches

#### Range of Operation



**Top Push Rod**



**Adjustable Top Push Rod**



**Side Push Rod**

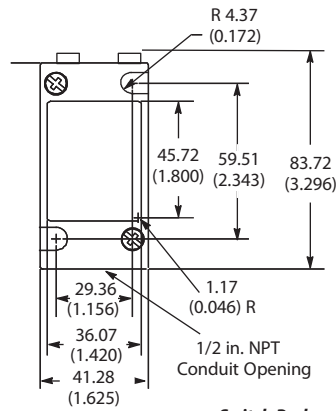
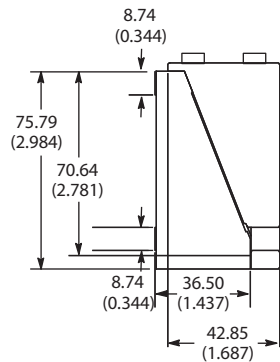


**Top Push Roller**

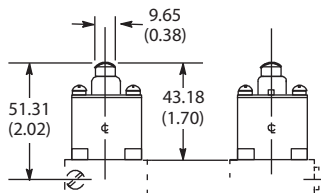
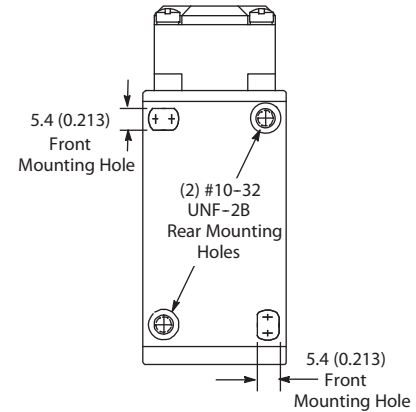


**Side Push Horizontal Roller**

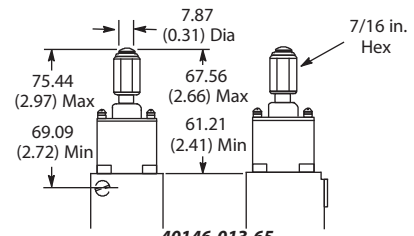
#### Approximate Dimensions [mm (in.)]



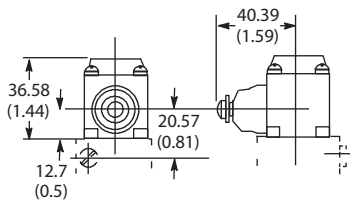
**Switch Body**



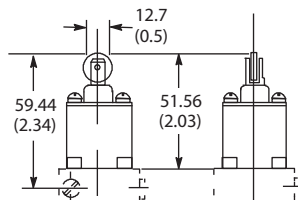
**40146-013-59**  
**Top Push Rod Head**  
**Shipping Wt. 0.142 kg (5 oz)**



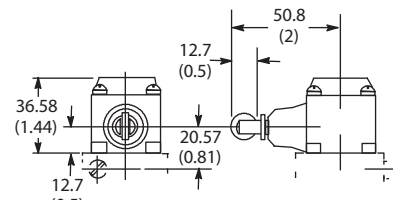
**40146-013-65**  
**Adjustable Top Push Rod Head**  
**Shipping Wt. 0.142 kg (5 oz)**



**40146-017-63**  
**Side Push Rod Head**  
**Shipping Wt. 0.142 kg (5 oz)**



**40146-013-60**  
**Top Push Roller Head**  
**Shipping Wt. 0.142 kg (5 oz)**



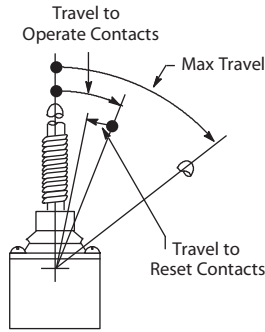
**40146-017-64**  
**Side Push Roller Head**  
**Shipping Wt. 0.142 kg (5 oz)**

# Limit Switches

## 802T Wobble Stick and Cat Whisker • Spring Return

### Plug-in Style Oiltight Switches

#### Range of Operation†



**Wobble Stick  
Nylon Extension**



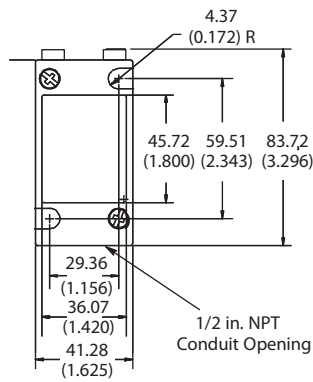
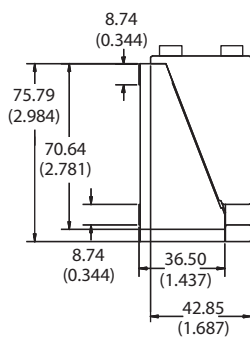
**Wobble Stick  
Wire Extension**



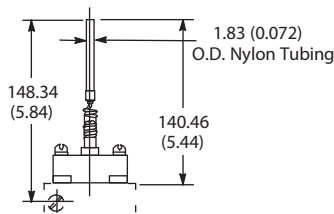
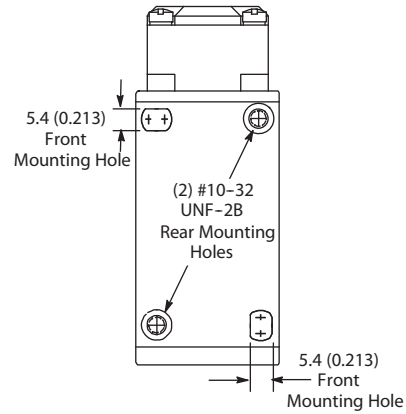
**Wobble Stick  
Wire Extension**

† These switches should be mounted in such a way that the wobble stick or cat whisker will not be deflected beyond the "Maximum Travel" position, as this could cause undesirable repetition of contact action on rebound.

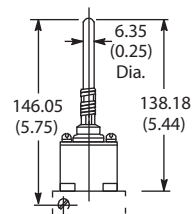
#### Approximate Dimensions [mm (in.)]



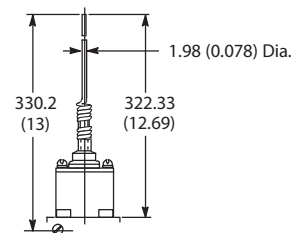
**Switch Body**



**40146-126-53  
Cat Whisker Head  
Shipping Wt. 0.09 kg (3 oz)**



**40146-113-53  
Nylon Wobble Stick Head  
Shipping Wt. 0.2 kg (7 oz)**



**40146-113-59  
Wire Wobble Stick Head  
Shipping Wt. 0.17 kg (6 oz)**

# Limit Switches

## 802T Low Energy Lever Type • Spring Return Plug-in Style Oiltight Switches

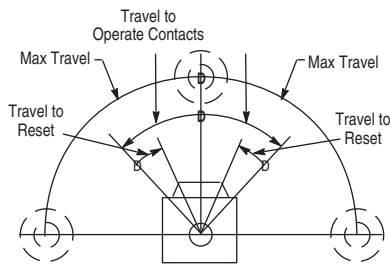


### Specifications

|                              |  |
|------------------------------|--|
| Certifications               | CE Marked for all applicable directives, UL Listed, and CSA Certified                    |
| <b>Environmental</b>         |  |
| Enclosure Type Rating        | NEMA 4, 13, and 6P*  |
| Ambient Temperature [C (F)]§ | -18...110° (0...230°)<br>-18...54° (0...130°)<br>-40...110° (-40...230°) low temp. model |
| Input Voltage                | 5...28V DC   |
| Contact Rating               | 0.40V A load per pole max.<br>0.025V A load per pole min.                                |

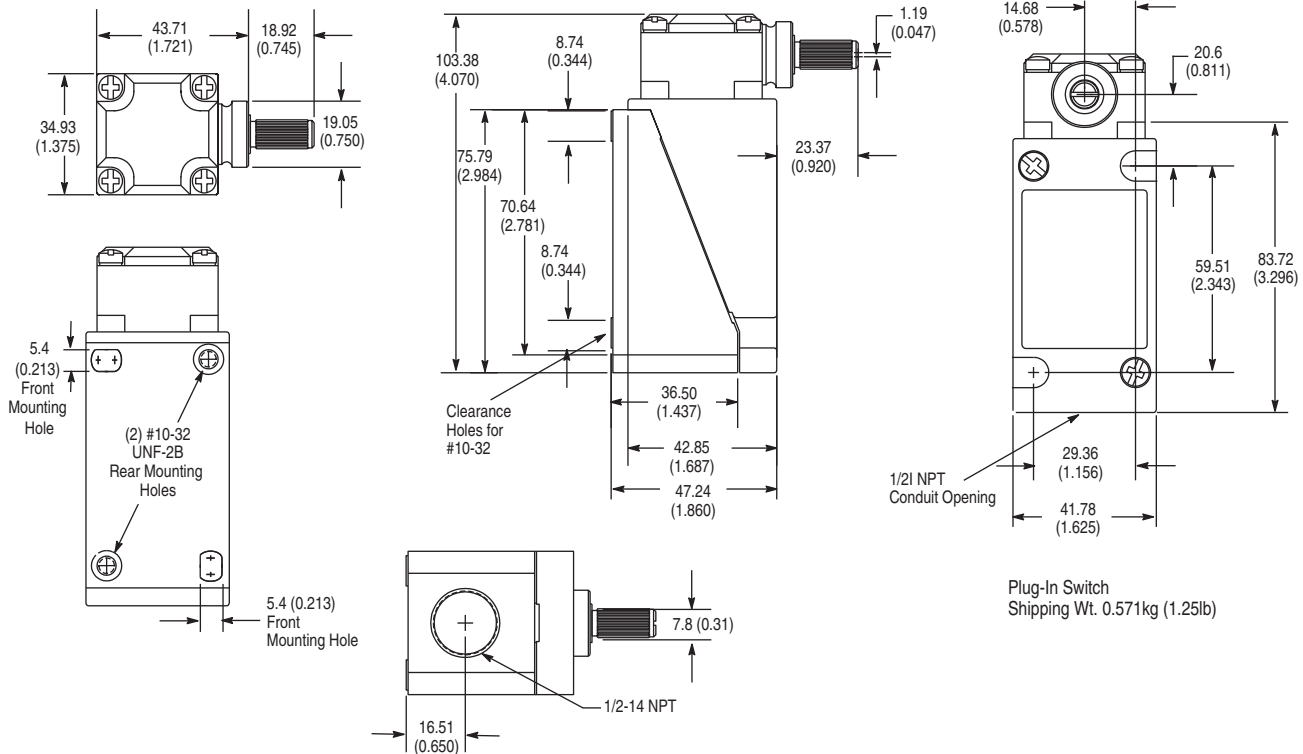
§ Temperature range below 0°C (+32°F) is based on the absence of freezing moisture or water.  
\* 6P only applies to lever type, except for low torque.

### Range of Operation



Switch without Lever

### Approximate Dimensions [mm (in.)]

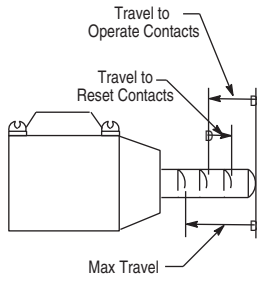


# Limit Switches

## 802T Low Energy Push Type • Spring Return

### Plug-in Style Oiltight Switches

#### Range of Operation



Side Push Rod

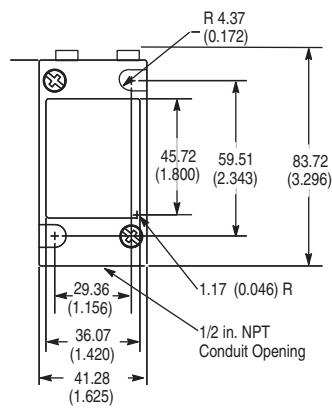
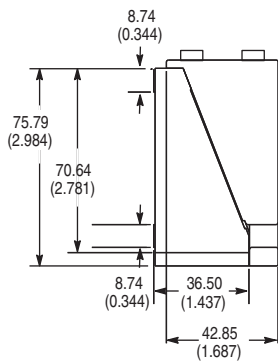


Top Push Roller

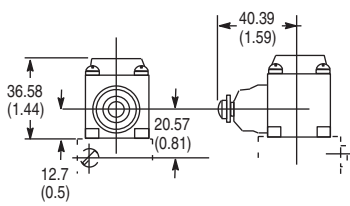
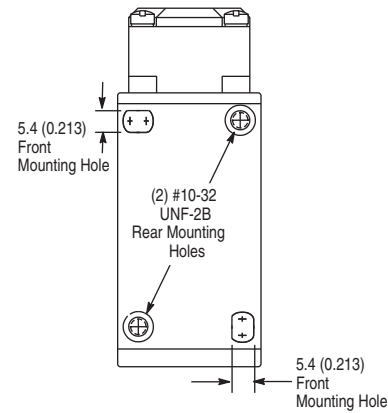


Side Push Horizontal Roller

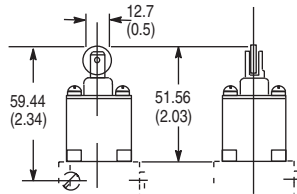
#### Approximate Dimensions [mm (in.)]



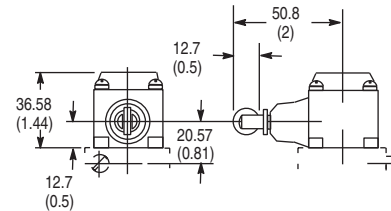
Switch Body



40146-017-63  
Side Push Rod Head  
Shipping Wt. 0.142kg (5oz)



40146-013-60  
Top Push Roller Head  
Shipping Wt. 0.142kg (5oz)



40146-017-64  
Side Push Roller Head  
Shipping Wt. 0.142kg (5oz)



**Manifold Mount**

**Indicating Light**

### Manifold Mount

All two-circuit plug-in limit switches can be supplied with a special terminal base which permits mounting the switch manifold style on a machine base, panel, or raceway. As shown above, this base is supplied with a wiring hole and gasket on the back.

To order a manifold mount switch, add the letter **U** to the listed cat. no. Example: Cat. No. 802T-AP becomes Cat. No. 802T-APU.

### Indicating Light

Bulletin 802T two-circuit plug-in limit switches (except for the cat whisker, wobble stick, and manifold mount devices) can be supplied with an indicating light. To order add the letter **N** for 120V AC, 50/60 Hz or **N5** for 240V AC 50/60 Hz. Example: Cat. No. 802T-AP becomes Cat. No. 802T-APN.

The indicating light is internally connected to two isolated terminals in the base assembly allowing the user to wire the light to either the N.O. or the N.C. contact. Switches with an indicating light have a contact rating of NEMA A300.

Where an indicator light and a pre-wired 5-pin mini connector are used, the light is pre-wired to the N.C. contact with J1 wiring and to the N.O. contact with J9 wiring. Indicating lights are not available on 4-circuit 802T switches.

### Fluorinated Elastomer Seals

To order limit switches with all fluorinated elastomer seals, add the letter **V** to the end of the listed cat. no. **Not available** on manifold mount, low operating torque, low temperature, or limit switches with an indicating light.

To order lever type limit switches with the fluorinated elastomer shaft seal only, add **V1** to the end of the listed cat. no.

### Base Assembly

The limit switch base, including the terminal block, is available as a separate unit per the following table.

|                                      | Cat. No. |
|--------------------------------------|----------|
| 2-Circuit Base                       | 802T-X7  |
| 2-Circuit Base with Indicating Light | 802T-X7N |
| 2-Circuit Manifold Mount Base        | 802T-X7U |
| 4-Circuit Base                       | 802T-X8  |

### NPT to Metric Thread Adaptor

Brass 1/2-inch NPT thread to M20 thread adaptor. Used with metric cable glands where conduit entry switch has American NPT tapered threads. Compatible with all 1/2-inch NPT conduit entry limit switches, this adaptor is valuable accessory for any bulletin requiring conduit entry conversion to be compatible with metric thread.

| Description   | Cat. No. |
|---|----------|
| <b>Conduit Adapter</b><br>1/2-inch NPT to M20 metric thread | 802T-X5  |

### Low Temperature Operation

Plug-in limit switches are designed to operate in an ambient temperature range of -18...+110 °C (0...+230 °F), -18...+54 °C (0...+130 °F) for wobble stick and cat whisker. Special limit switches modified for low temperature operation at -40...+110 °C (-40...+230 °F) are available.

Temperature ranges below 0 °C (+32 °F) are based on absence of freezing moisture or water. To order, add the letter **E** to cat. no. Not available on wobble stick, cat whisker or pre-wired cable switches; standard on low torque and maintained devices.

### Pre-Wired Cable

To order factory installed pre-wired type **"STOOW"** cable for 2-circuit (5-conductor) and 4-circuit (9-conductor) switches, add the suffix **Y** plus the number of feet required. Example: Cat. No. 802T-AP becomes Cat. No. 802T-APY5 (for a limit switch with 1.5 m (5 ft) of cable).

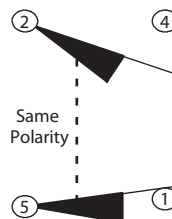
The standard cable length is 1.5 m (5 ft). Extended cable lengths are available only in multiples of 1.22 m (4 ft) up to 29.26 m (96 ft) for special orders.

### Mini-Type Receptacles

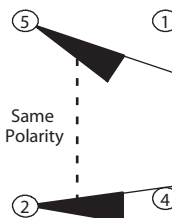
To order a Bulletin 802T pre-wired limit switch with a five-pin (2 circuit) or nine pin (4 circuit) mini connector, add the suffix **J1** or **J9** depending on desired wiring (J9 wiring not available for 4-circuit models).

### 5-Pin Mini-Type Receptacle

#### "J1" Wiring



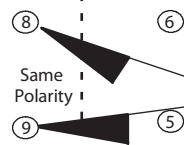
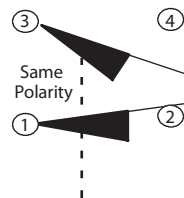
#### "J9" Wiring



An appropriate female connector with cable (Cat. No. 889N-F5AFC-6F) is available on [T-12061297].

### 9-Pin Mini-Type Receptacle

#### "J1" Wiring ("J9" wiring not available for 4 circuit)



An appropriate female connector with cable (Cat. No. 889N-F9AF-2) is available on [T-12064388].

# Limit Switches

## 802T

### NonPlug-in Style Oiltight Switches



#### Specifications

|                |   |
|----------------|---|
| Certifications | UL Listed, CSA Certified, and CE Marked for all applicable directives ★ |
|----------------|---|

#### Environmental

|                       |               |
|-----------------------|---------------|
| Enclosure Type Rating | NEMA 13, IP54 |
|-----------------------|---------------|

|                              |   |
|------------------------------|---|
| Ambient Temperature [C (F)]‡ | Nonplug-in limit switches are designed to operate in an ambient temperature range of -18...+54 ° (0...+130 °) |
|------------------------------|---|

|                  |   |
|------------------|---|
| Pollution Degree | 3 |
|------------------|---|

| NEMA Rating Designation | Max. Voltage | A    |       | Continuous Carrying Current | VA   |       |
|-------------------------|--------------|------|-------|-----------------------------|------|-------|
|                         |              | Make | Break |                             | Make | Break |
| A600<br>AC-15           | 120          | 60   | 6.00  | 10                          | 7200 | 720   |
|                         | 240          | 30   | 3.00  |                             |      |       |
|                         | 480          | 15   | 1.50  |                             |      |       |
|                         | 600          | 12   | 1.20  |                             |      |       |

#### DC Contact Rating (Max. per Pole, Same Polarity)

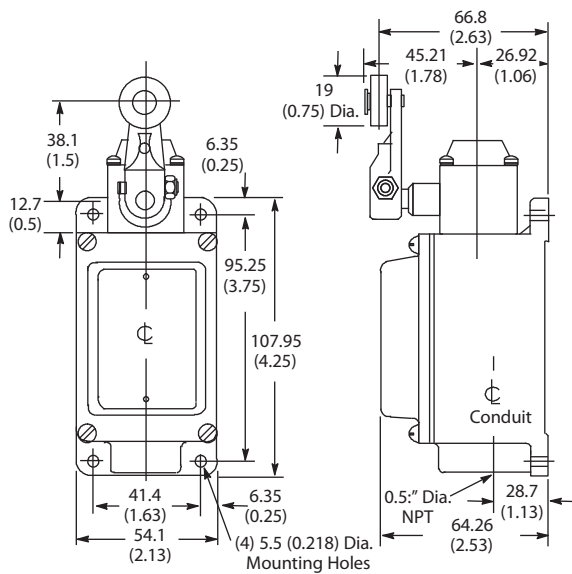
| Voltage Rating | Current Rating |
|----------------|----------------|
| 115...125      | 0.4 A          |
| 230...250      | 0.2 A          |
| 550...600      | 0.1 A          |

★ Temperature range below 0 °C (32 °F) is based on the absence of freezing moisture or water. See page xxxx for Extended Temperature Option.



**802T-R1TD with 802T-W1 Lever**

**Approximate Dimensions [mm (in.)]**



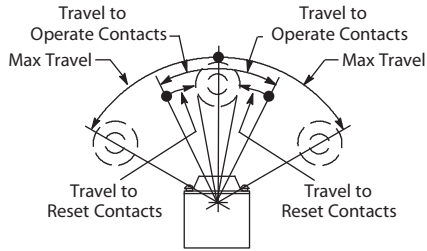
**Time Delay Switch with Cat. No. 802T-W1 Lever**  
**Shipping Wt. 0.90 kg (2 lb)**

# Limit Switches

## 802T 2-Circuit Lever Type • Spring Return

### NonPlug-in Style Oiltight Switches

#### Range of Operation



Lever Operation with Standard Levers

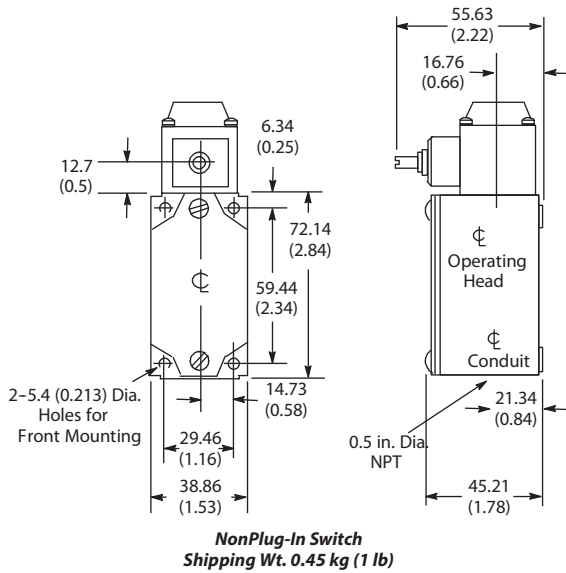


802T-A



802T-ALW5

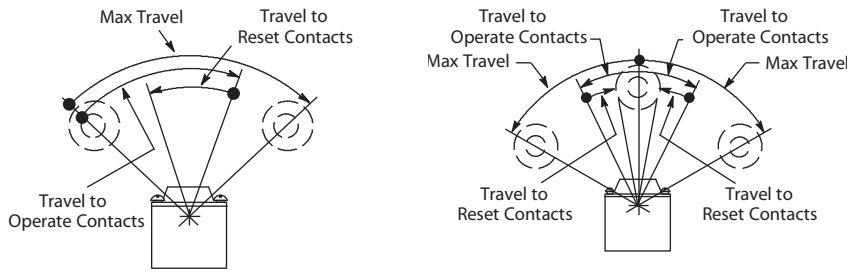
#### Approximate Dimensions [mm (in.)]





# 802T 2-Circuit Lever Type • Maintained Contact and Neutral Position NonPlug-in Style Oiltight Switches

## Range of Operation



**Maintained Contact Models**

**Natural Position Models**

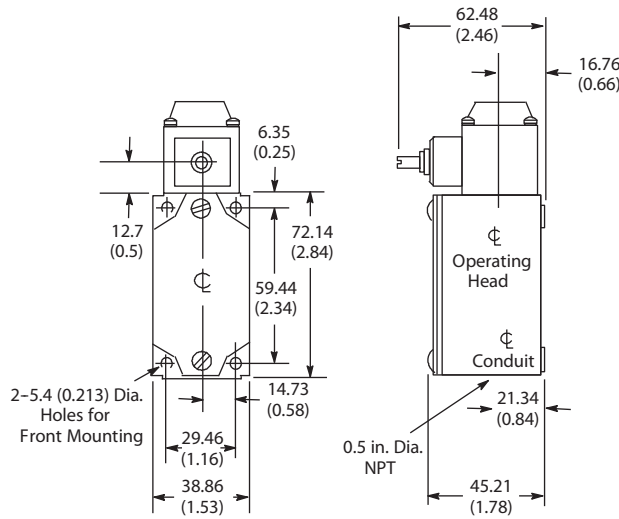


**802T-AM**

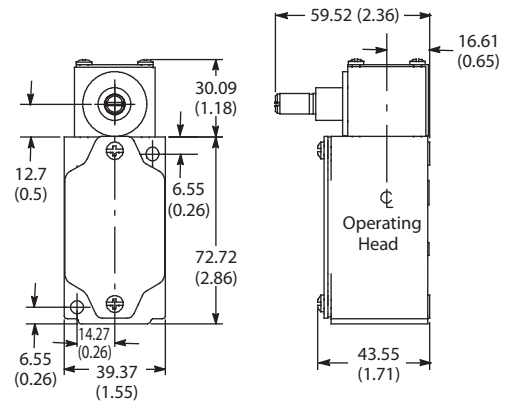


**802T-NP**

## Approximate Dimensions [mm (in.)]



**Cat. No. 802T-AM**  
**Shipping Wt. 0.45 kg (1 lb)**



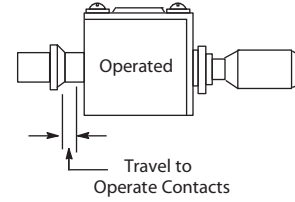
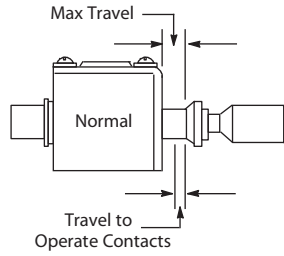
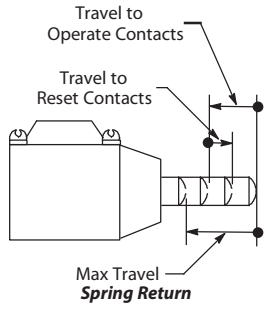
**Cat. No. 802T-NP**  
**Shipping Wt. 0.45 kg (1 lb)**

# Limit Switches

## 802T 2-Circuit Push Type • Spring Return & Maintained Contact

### NonPlug-in Style Oiltight Switches

#### Range of Operation



**Maintained**



**Top Push Rod**



**Adjustable Top Push Rod**



**Side Push Rod**



**Top Push Roller**

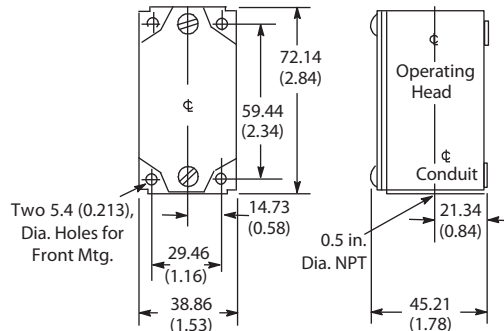


**Side Push Roller**

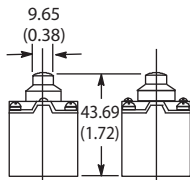


**Side Push Rod Maintained**

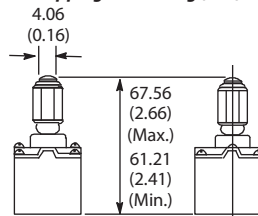
#### Approximate Dimensions [mm (in.)]



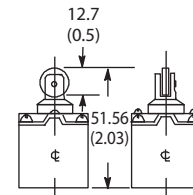
**NonPlug-in Switch  
Shipping Wt. 0.45 kg (1 lb)**



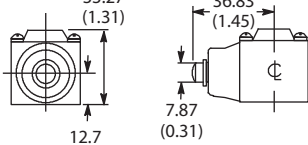
**802-B Top Push Rod Head  
Shipping Wt. 0.128 kg (4.5 oz)**



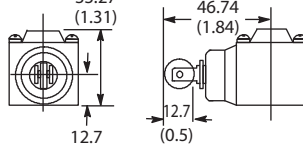
**802-BA Adjustable Top Push Rod Head  
Shipping Wt. 0.128 kg (4.5 oz)**



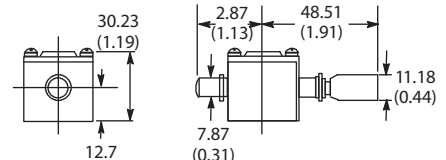
**802-D Top Push Roller Head  
Shipping Wt. 0.128 kg (4.5 oz)**



**802-C Side Push Rod Head  
Shipping Wt. 0.128 kg (4.5 oz)**



**802-K Side Push Roller Head  
Shipping Wt. 0.128 kg (4.5 oz)**



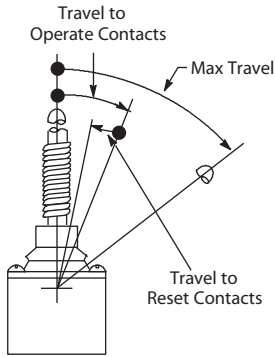
**802-CM Maintained Side Push Rod Head  
Shipping Wt. 4.5 oz (0.128 kg)**

# Limit Switches

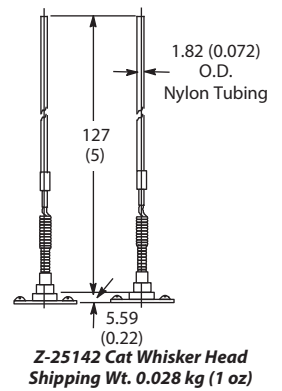
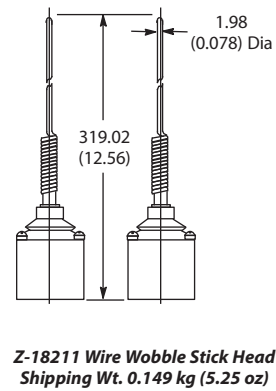
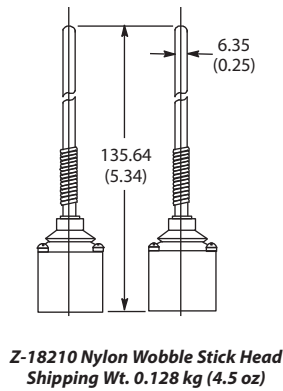
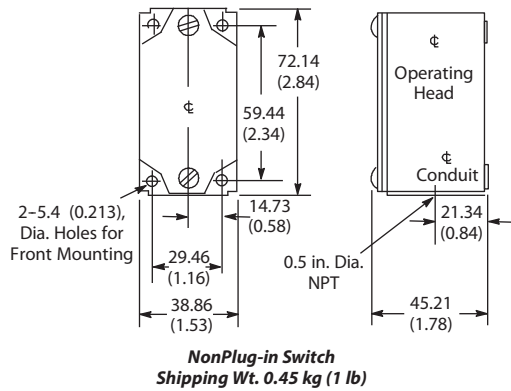
## 802T 2-Circuit Wobble Stick & Cat Whisker • Spring Return

### NonPlug-in Style Oiltight Switches

#### Range of Operation



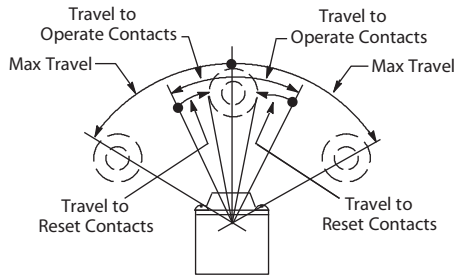
#### Approximate Dimensions [mm (in.)]



## Limit Switches

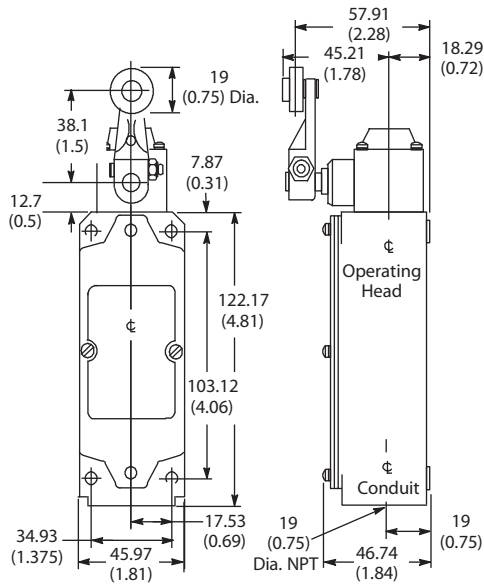
# 802T Vertical 4-Circuit Lever Type • Spring Return and Maintained Contact NonPlug-in Style Oiltight Switches

### Range of Operation



**Switch without Lever**

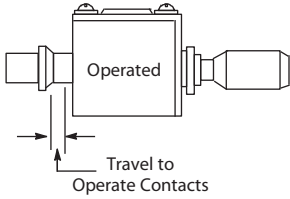
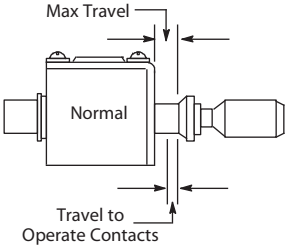
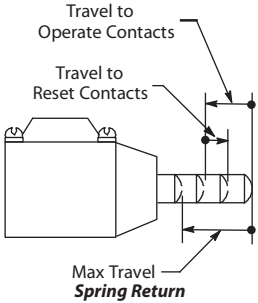
### Approximate Dimensions [mm (in.)]



**4-Circuit NonPlug-in Switch with 802T-W1 Lever  
Shipping Wt. 0.57 kg (1.25 lb)**

# 802T Vertical 4-Circuit Lever Type • Spring Return and Maintained Contact NonPlug-in Style Oiltight Switches

### Range of Operation



### Maintained



**Top Rod**



**Adjustable Top Push Rod**



**Side Rod**



**Top Roller**



**Side Roller**



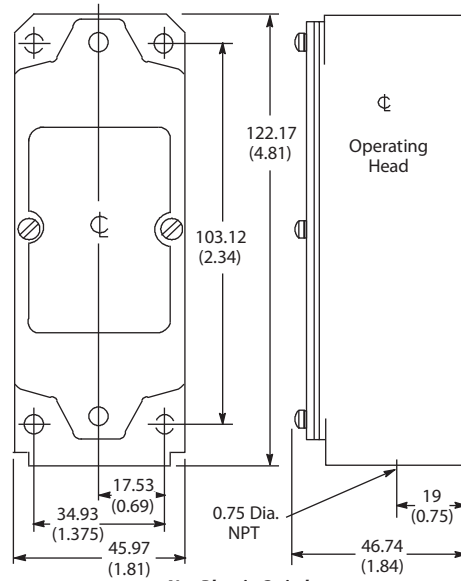
**Side Rod**

# Limit Switches

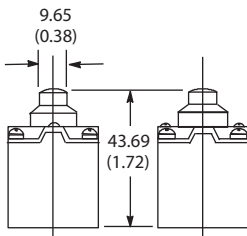
## 802T Vertical 4-Circuit Lever Type • Spring Return and Maintained Contact

### NonPlug-in Style Oiltight Switches

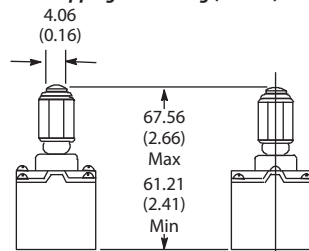
Approximate Dimensions [mm (in.)]



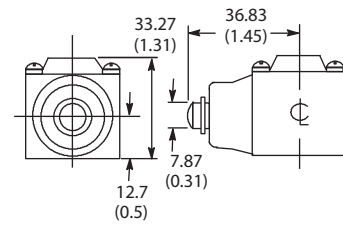
**NonPlug-in Switch**  
Shipping Wt. 0.57 kg (1.25 lb)



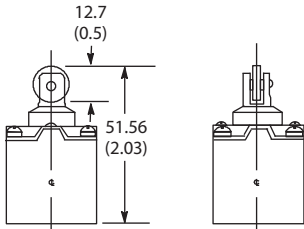
**Cat. No. 802T-BT**  
Top Push Rod Head  
Shipping Wt. 0.128 kg (4.5 oz)



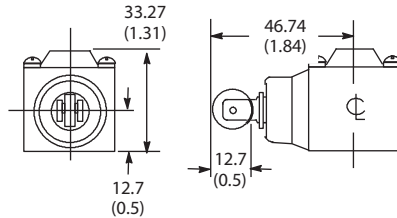
**Adjustable Top Push Rod Head for Cat. No. 802T-BAT**  
Shipping Wt. 0.128 kg (4.5 oz)‡



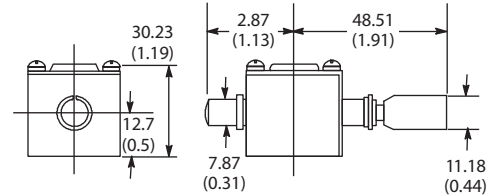
**Cat. No. 802T-CT**  
Side Push Rod Head  
Shipping Wt. 0.128 kg (4.5 oz)



**Cat. No. 802T-DT**  
Top Push Roller Head  
Shipping Wt. 0.128 kg (4.5 oz)



**Cat. Nos. 802T-KT & 802T-K1T**  
Side Push Roller Head  
Shipping Wt. 0.128 kg (4.5 oz)

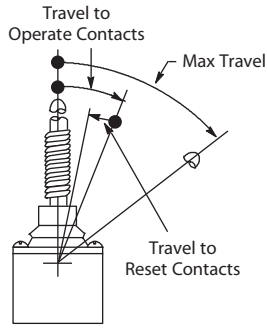


**Cat. No. 802T-CMT**  
Maintained Side Push Rod Head  
Shipping Wt. 0.128 kg (4.5 oz)

‡ Not sold separately.

Limit Switches  
**802T Vertical 4-Circuit Wobble Stick & Cat Whisker • Spring Return**  
 NonPlug-in Style Oiltight Switches

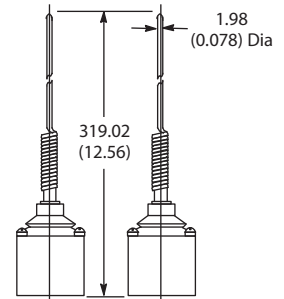
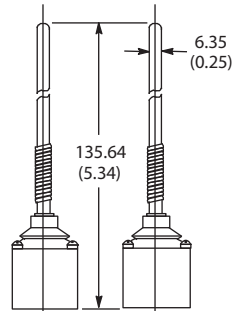
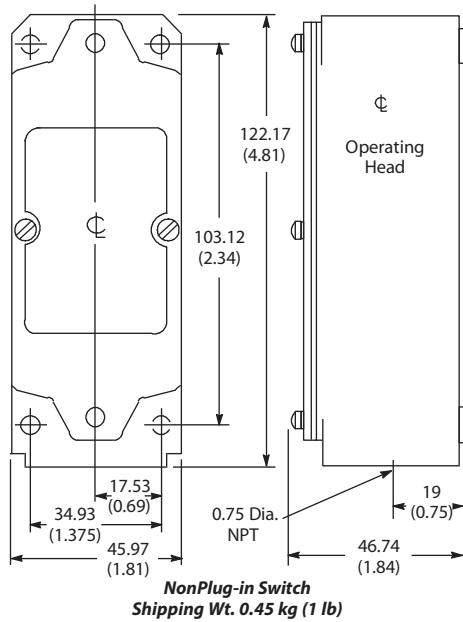
Range of Operation



*Travels Are Measured at Rigid Section of Stick or Whisker*



Approximate Dimensions [mm (in.)]

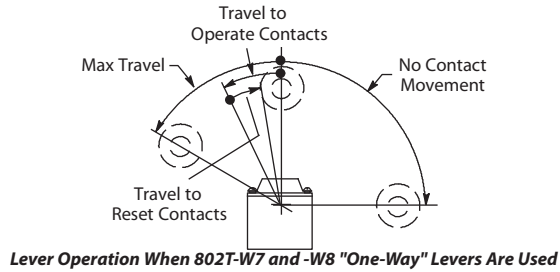
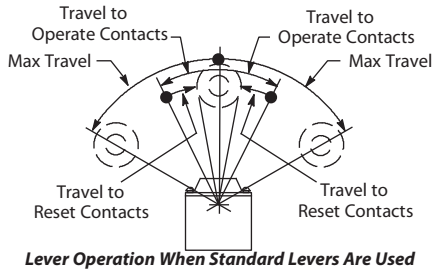


# Limit Switches

## 802T Horizontal 4-Circuit Lever Type • Spring Return

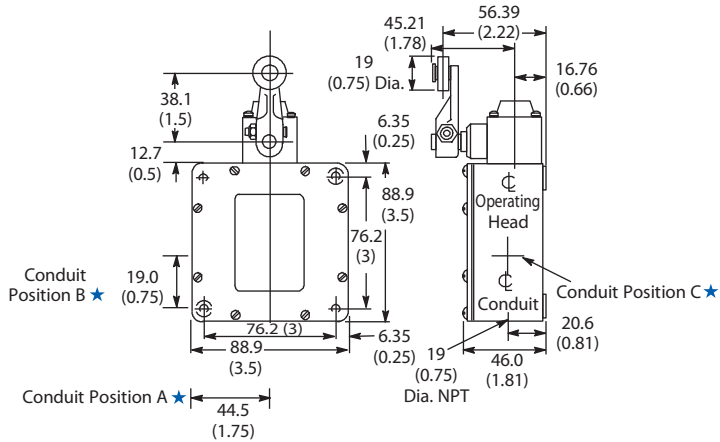
### NonPlug-in Style Oiltight Switches

#### Range of Operation



**Switch without Lever**

#### Approximate Dimensions [mm (in.)]

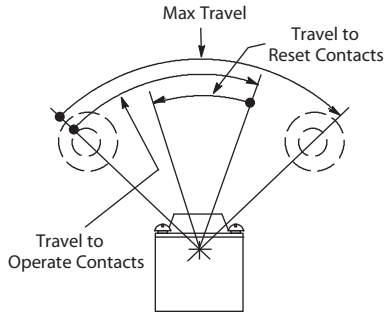


★ Conduit positions for modifications: S1, S2, S3



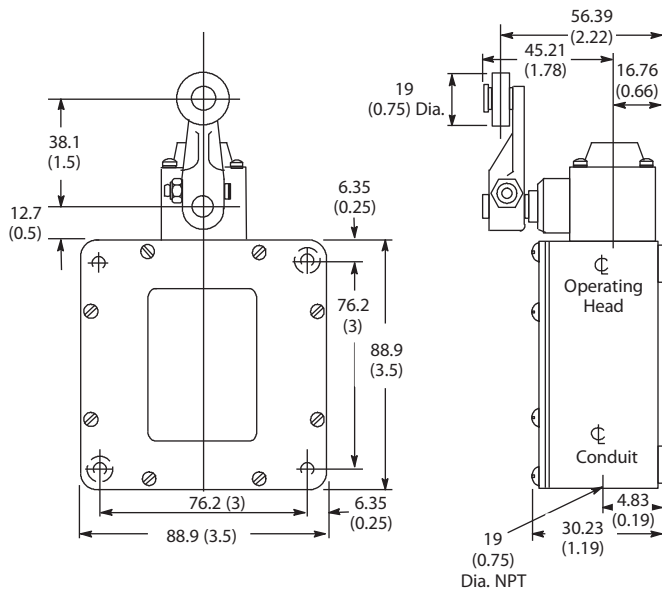
Limit Switches  
**802T Horizontal 4-Circuit Lever Type • Maintained Contact**  
 NonPlug-in Style Oiltight Switches

Range of Operation



**Switch without Lever**

Approximate Dimensions [mm (in.)]



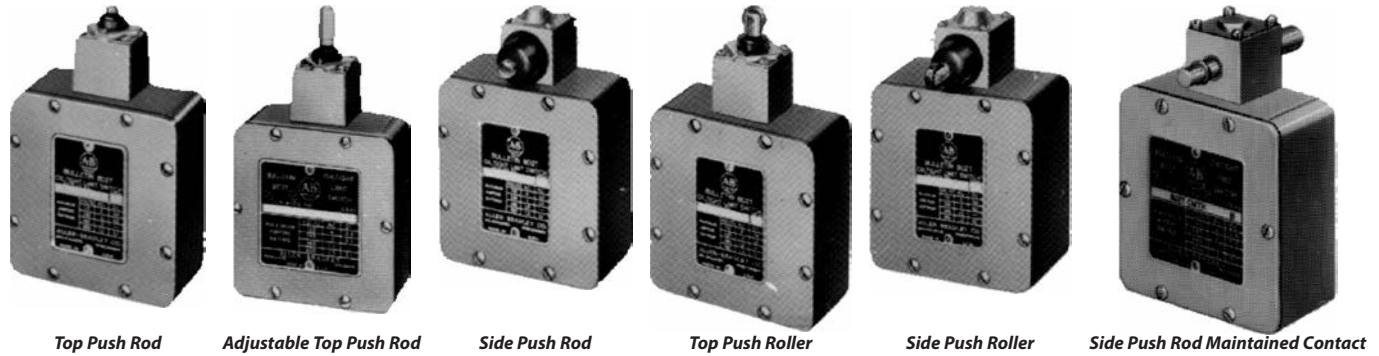
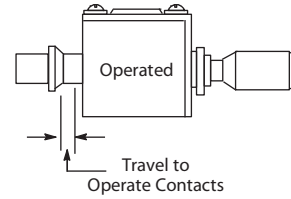
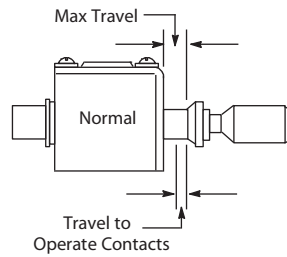
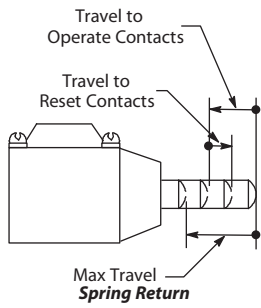
**2-Pole Horizontal Switch with 802T-W1 Lever**  
*Shipping Wt. 0.91 kg (2 lb)*

# Limit Switches

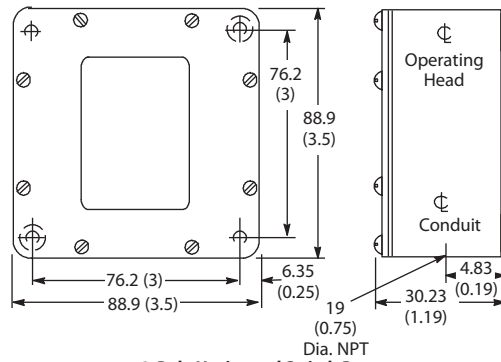
## 802T Horizontal 4-Circuit Push Type • Spring Return & Maintained Contact

### NonPlug-in Style Oiltight Switches

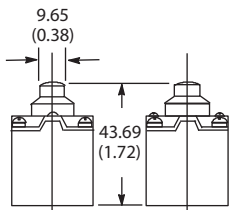
#### Range of Operation



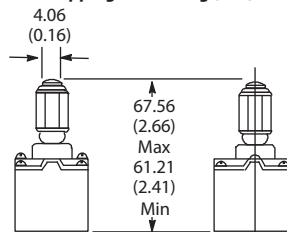
#### Approximate Dimensions [mm (in.)]



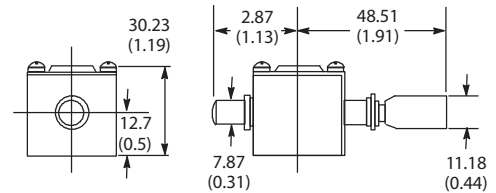
**2-Pole Horizontal Switch Base**  
Shipping Wt. 0.91 kg (2 lb)



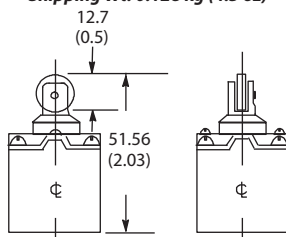
**Z-19243**  
Top Push Rod Head  
Shipping Wt. 0.128 kg (4.5 oz)



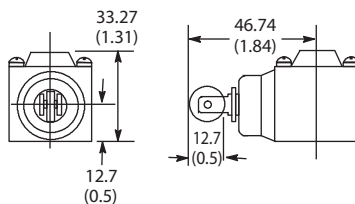
**Adjustable Top Push Rod Head for 802T-KTH**  
Shipping Wt. 0.128 kg (4.5 oz)‡



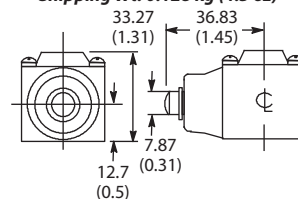
**Z-21165**  
Side Push Rod Head  
Shipping Wt. 0.128 kg (4.5 oz)



**Z-19241**  
Top Push Roller Head  
Shipping Wt. 0.128 kg (4.5 oz)



**Z-21166**  
Side Push Roller Head  
Shipping Wt. 0.128 kg (4.5 oz)



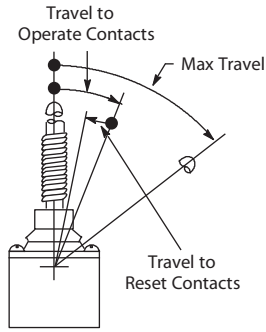
**Z-21168**  
Maintained Side Push Rod Head  
Shipping Wt. 0.128 kg (4.5 oz)

‡ Not sold separately.

Limit Switches

# 802T Horizontal 4-Circuit Wobble Stick & Cat Whisker • Spring Return NonPlug-in Style Oiltight Switches

## Range of Operation



**Travels Are Measured at Rigid Section of Stick**

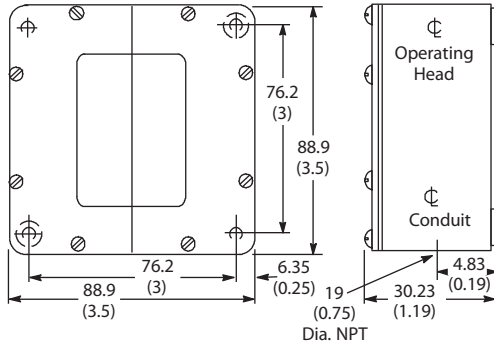


**Wobble Stick**

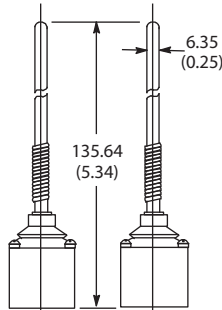


**Cat Whisker**

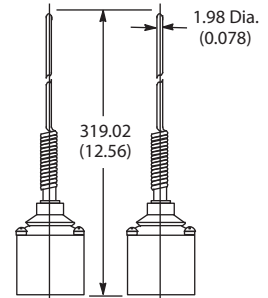
## Approximate Dimensions [mm (in.)]



**2-Pole Horizontal Switch  
Shipping Wt. 0.91 kg (2 lb)**

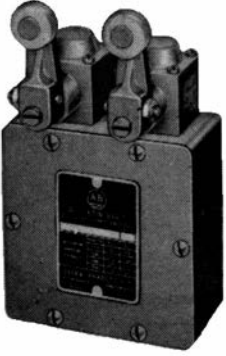


**Z-29195 Nylon Wobble Stick Head  
Shipping Wt. 0.128 kg (4.5 oz)**



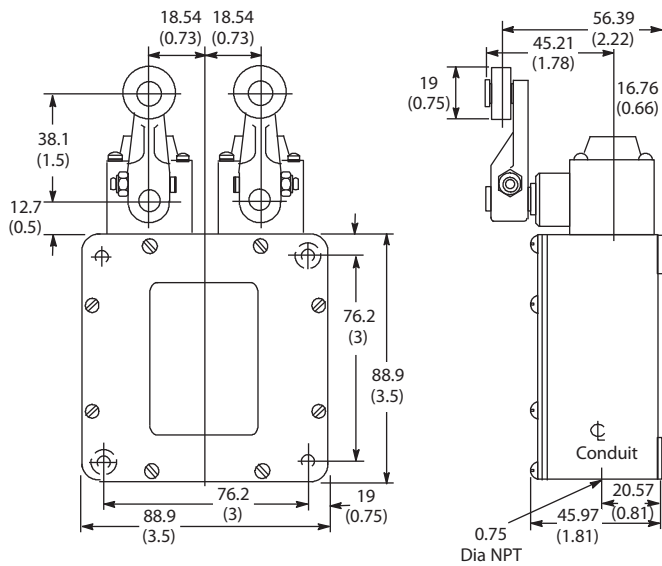
**Z-32109 Wire Wobble Stick Head  
Shipping Wt. 0.149 kg (5.25 oz)**

Limit Switches  
**802T Dual Switch Lever/Push Types • Spring Return**  
 NonPlug-in Style Oiltight Switches



**Dual Switch with 802T-W1 Levers**

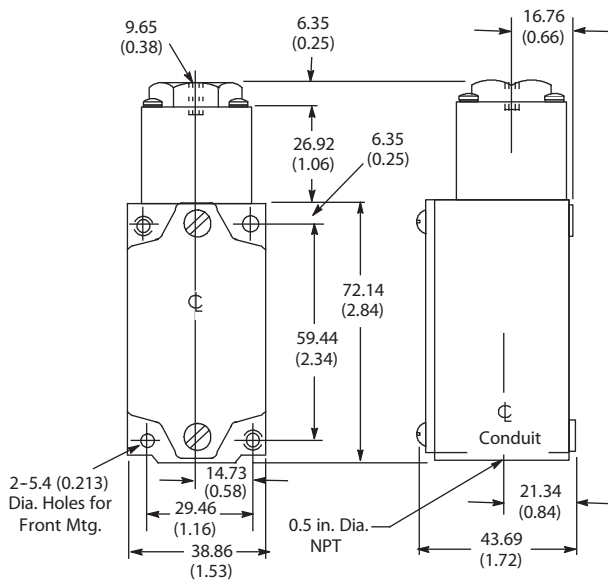
Approximate Dimensions [mm (in.)]



**Dual Switch with 802T-W1 Levers**  
**Shipping Wt. 0.91 kg (2 lbs)**

Limit Switches  
**802T Air-Operated • Spring Return**  
 NonPlug-in Style Oiltight Switches

Approximate Dimensions [mm (in.)]



**Air-Operated Switch**  
**Shipping Wt. 0.34 kg (12 oz)**

# Limit Switches

## 802T Position Safety Switches

### Direct Opening Action



#### Specifications

| Safety Ratings  |   |       |        |       |       |
|---|---|-------|--------|-------|-------|
| Standards   | EN 954-1, ISO 13849-1, IEC/EN 60204-1, NFPA 79, EN 1088, ISO 14119, IEC/ EN 60947-5-1, ANSI B11.19, AS 4024.1 |       |        |       |       |
| Safety Classification   | Cat. 1 Device per EN 954-1 Dual channel limit switch suitable for Cat. 3 or 4 systems                         |       |        |       |       |
| Functional Safety Data ★<br>Note: For up-to-date information, visit <a href="http://www.ab.com/Safety/">http://www.ab.com/Safety/</a> |   |       |        |       |       |
| Certifications  | CE Marked for all applicable directives, cULus Listed, and TÜV for 2- and 4-circuit models                    |       |        |       |       |
| Outputs   |   |       |        |       |       |
| Safety Contacts ‡   | 1 N.C. snap acting or 2 N.C. snap acting  |       |        |       |       |
| Auxiliary Contacts  | 1 N.O. snap acting or 2 N.O. snap acting  |       |        |       |       |
| Thermal Current $I_{th}$  | 10 A  |       |        |       |       |
| Rated Insulation Voltage  | 300V AC or 600V AC  |       |        |       |       |
| Switching Current @ Voltage, Min.   | —   |       |        |       |       |
| Utilization Category  |   |       |        |       |       |
| A600/AC-15  | (Ue)  | 600V  | 500V   | 240V  | 120V  |
|   | (Ie)  | 1.2 A | 1.4 A  | 3.0 A | 6.0 A |
| N600/DC-13  | (Ue)  | 600V  | 500V   | 250V  | 125V  |
|   | (Ie)  | 0.4 A | 0.55 A | 1.1 A | 2.2 A |
| Operating Characteristics   |   |       |        |       |       |
| Actuation Speed, Max.   | 200 ft/min varies with applied loading and actuation method ★   |       |        |       |       |
| Actuation Speed, Min.   | 200 ft/min varies with applied loading and actuation method ★   |       |        |       |       |
| Actuation Frequency, Max.   | 8000 operations per hour  |       |        |       |       |
| Mechanical Life   | 20 million cycles   |       |        |       |       |
| Environmental   |   |       |        |       |       |
| Enclosure Type Rating   | NEMA 4, 6P, 12, 13 and IP65/67  |       |        |       |       |
| Operating Temperature [C (F)]   | -18...+110° (0...+230°)   |       |        |       |       |
| Pollution Degree  | 3   |       |        |       |       |
| Physical Characteristics  |   |       |        |       |       |
| Housing Material  | Die-cast alloy  |       |        |       |       |
| Actuator Material   | Various metals or plastics  |       |        |       |       |
| Mounting  | 2 #10 equal length fasteners  |       |        |       |       |
| Vibration   | Contact fragility (10...2000 Hz @ 0.06 inch peak-to-peak)   |       |        |       |       |
| Shock   | Contact fragility (25 Gn 3 pulses per axis)   |       |        |       |       |
| Conduit Entry   | 1/2 inch NPT or M20   |       |        |       |       |
| Color   | Grey  |       |        |       |       |

★ Usable for ISO 13849-1:2006 and IEC 62061. Data other than B10d is based on:

- Usage rate of 1op/10 mins., 24 hrs/day, 360 days/year, representing 51840 operations per year
- Mission time/Proof test interval of 38 years

‡ The safety contacts are described as normally closed (N.C.) i.e., with the guard closed, actuator in place (where relevant) and the machine able to be started.

#### AC Contact Rating (Maximum per Pole, 50 or 60Hz, 2 Circuits)

| NEMA Rating Designation | Max Voltage | A    |       | Continuous Carrying Current | VA   |       |
|-------------------------|-------------|------|-------|-----------------------------|------|-------|
|                         |             | Make | Break |                             | Make | Break |
| A600<br>AC-15           | 120         | 60   | 6.00  | 10                          | 7200 | 720   |
|                         | 240         | 30   | 3.00  |                             |      |       |
|                         | 480         | 15   | 1.50  |                             |      |       |
|                         | 600         | 12   | 1.20  |                             |      |       |

**AC Contact Rating (Maximum per Pole, 50 or 60Hz, 4 Circuits)**

| NEMA Rating Designation | Max Voltage | A    |       | Continuous Carrying Current | VA   |       |
|-------------------------|-------------|------|-------|-----------------------------|------|-------|
|                         |             | Make | Break |                             | Make | Break |
| A300<br>AC-15           | 120         | 60   | 6.00  | 10                          | 7200 | 720   |
|                         | 240         | 30   | 3.00  |                             |      |       |

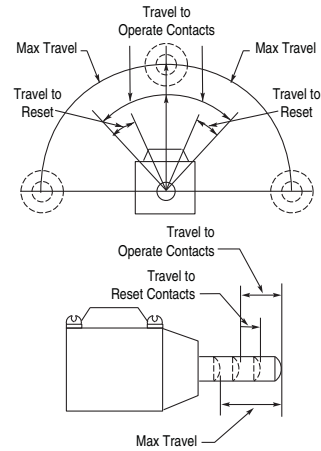
**DC Contact Rating (Maximum per Pole)**

| NEMA Rating Designation | Max Voltage | A    |       | Continuous Carrying Current | VA   |       |
|-------------------------|-------------|------|-------|-----------------------------|------|-------|
|                         |             | Make | Break |                             | Make | Break |
| Q300<br>DC 13           | 250         | 0.27 | 0.27  | 2.5                         | 69   | 69    |
|                         | 125         | 0.55 | 0.55  |                             |      |       |

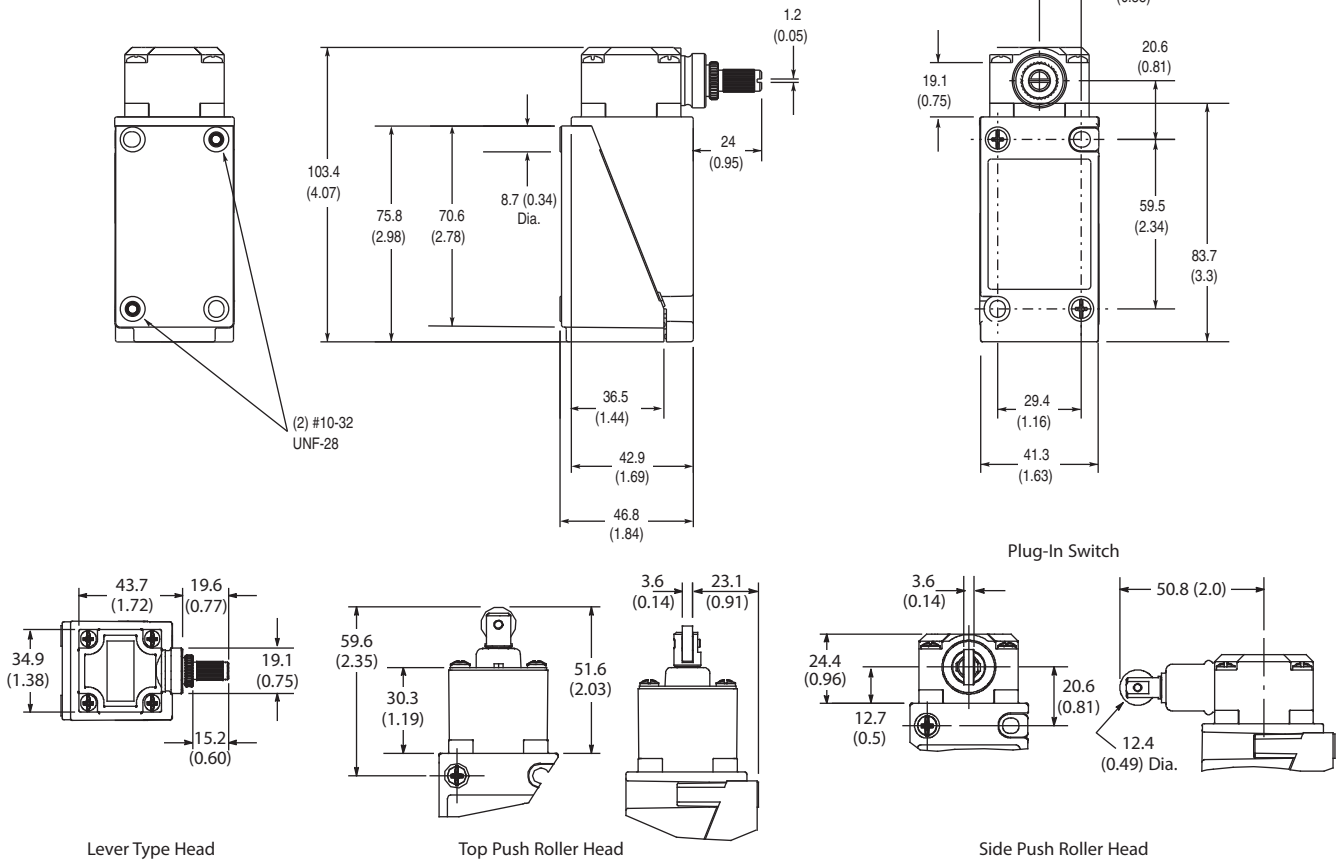
**Low Voltage DC**

24V DC @ 1.1 Amps resistive load

**Range of Operation**



**Approximate Dimensions [mm (in.)]**



# Limit Switches

## 802X

### Watertight or Hazardous Location Switches



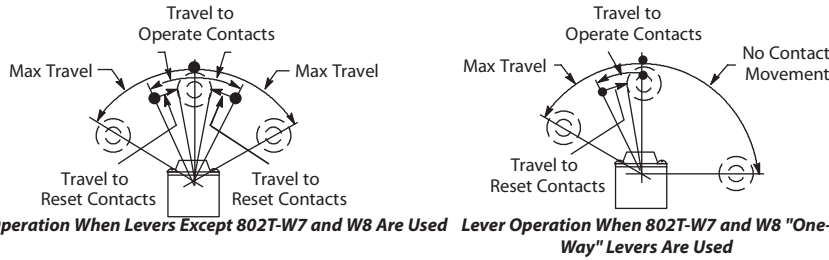
#### Specifications

| Certifications  |              | UL Listed and CSA Certified  |       |                                 |      |       |
|---|--------------|--|-------|---------------------------------|------|-------|
| <b>Environmental</b>  |              |  |       |                                 |      |       |
| Enclosure Type Rating   |              | NEMA 7 and 9/Class I, Groups B, C and D or Class II, Groups E, F and G or Class III;<br>NEMA 4/nonhazardous locations  |       |                                 |      |       |
| Ambient Temperature [C (F)] ★   |              | Push type with spring return and all lever types except neutral position: -46...+121 ° (-50...+250 °)<br>Wobble stick and cat whisker devices: -29...+54 ° (-20...+130 °)<br>Side push maintained: -46...+121 ° (-50...+250 °)<br>Neutral position: -18...+121 ° (0...250 °) |       |                                 |      |       |
| <b>AC Contact Rating (Maximum per Pole, 50 or 60 Hz, Same Polarity)</b> |              |  |       |                                 |      |       |
| NEMA Rating Designation   | Max. Voltage | A  |       | Continuous Carrying Current [A] | VA   |       |
|   |              | Make   | Break |                                 | Make | Break |
| A600  | 120          | 60   | 6.00  | 10                              | 7200 | 720   |
|   | 240          | 30   | 3.00  |                                 |      |       |
|   | 480          | 15   | 1.50  |                                 |      |       |
|   | 600          | 12   | 1.20  |                                 |      |       |
| <b>DC Contact Rating (Maximum per Pole)</b>                             |              |  |       |                                 |      |       |
| NEMA Rating Designation   | Max Voltage  | A  |       | Continuous Carrying Current [A] | VA   |       |
|   |              | Make   | Break |                                 | Make | Break |
| P150  | 125          | 1.1  |       | 5                               | 138  |       |

★ Temperature ranges below 0 °C (32 °F) are based on the absence of freezing moisture or water.

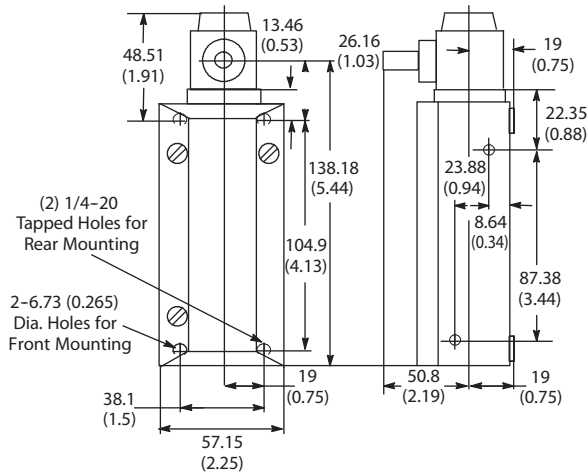


Range of Operation



Switch Without Lever

Approximate Dimensions [mm (in.)]



Mounting Hole Dimensions

- 2— 0.265 Dia. through hole with 0.500 Dia. x 0.25 in. deep C' Bore for front mounting.
- 2— 1/4-20 x 0.56 in. deep Tapped holes for rear mounting.
- 2— 1/4-20 x 0.5 in. deep Tapped holes for side mounting.

**Approximate Shipping Wt.**  
**0.9 kg (2 lb)**

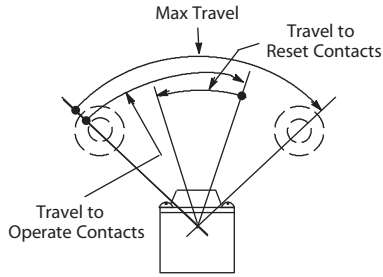
**Note:** For operating head and lever assembly dimensions not shown, see [h-11596203]. Conduit pipe opening 1/2 in. NPT.

# Limit Switches

## 802X Lever Type • Maintained Contact

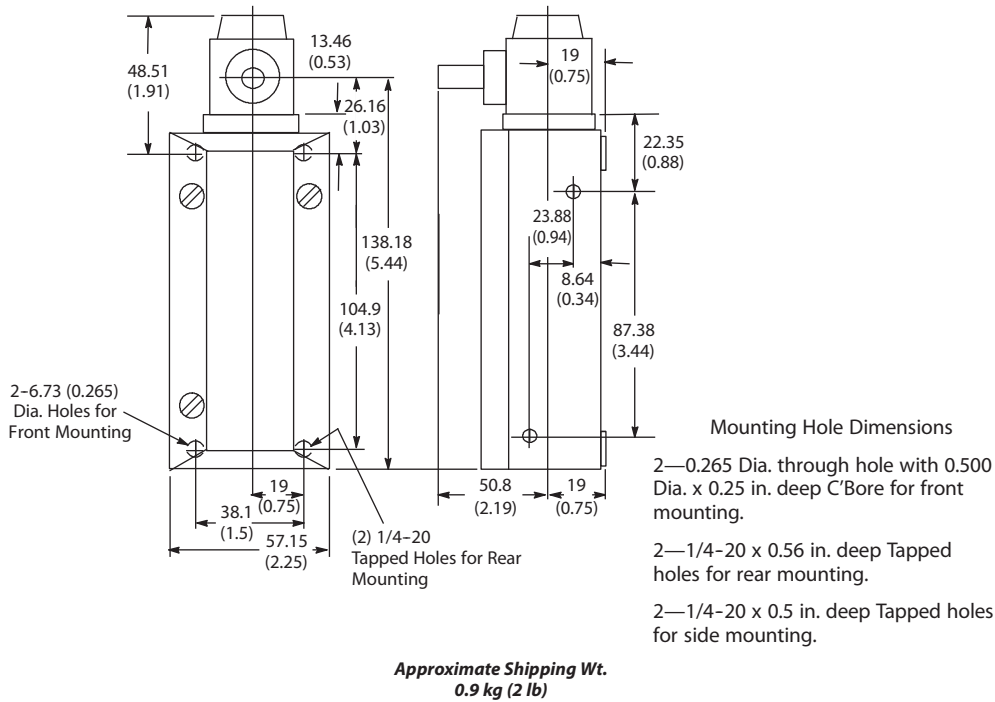
### Watertight or Hazardous Location Switches

#### Range of Operation



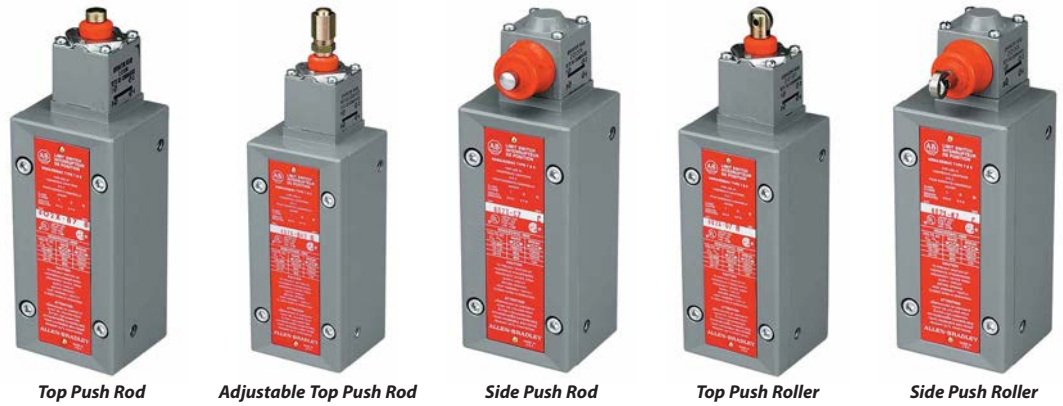
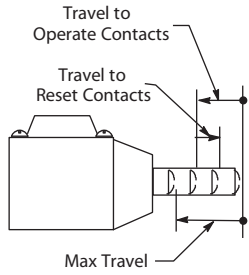
Switch Without Lever

#### Approximate Dimensions [mm (in.)]

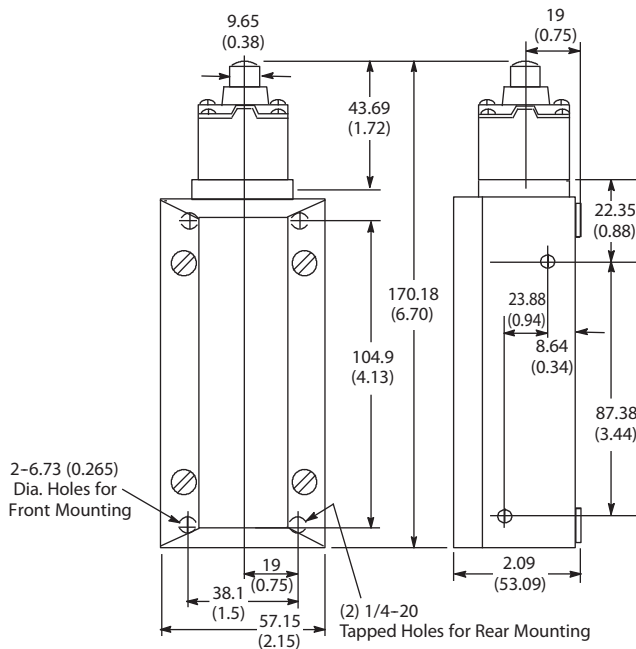


**Note:** For operating head and lever assembly dimensions not shown, see [h-11596203]. Conduit pipe opening 1/2 in. NPT.

Range of Operation



Approximate Dimensions [mm (in.)]



**Mounting Hole Dimensions**  
 2—0.265 Dia. through hole with 0.500 Dia. x 0.25in deep C'Bore for front mounting.  
 2—1/4-20 x 0.56in deep Tapped holes for rear mounting.  
 2—1/4-20 x 0.5in deep Tapped holes for side mounting.

**Approximate Shipping Wt.**  
**0.9 kg (2 lb)**

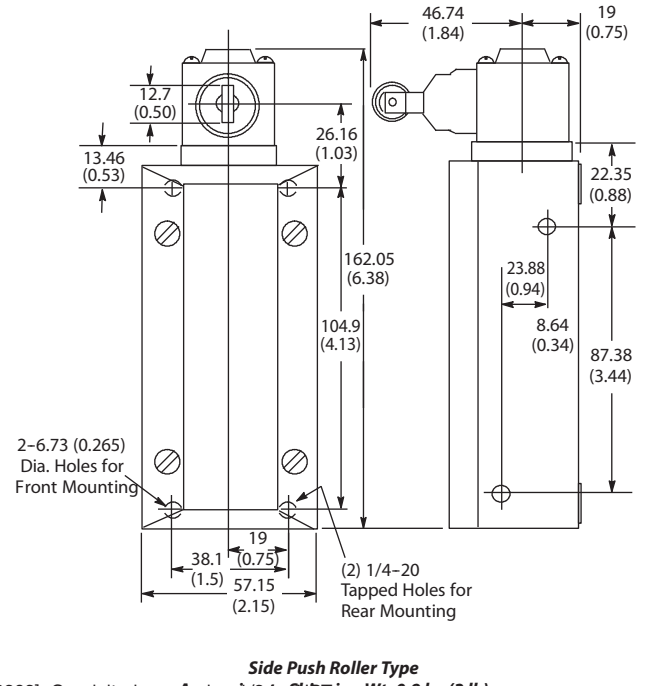
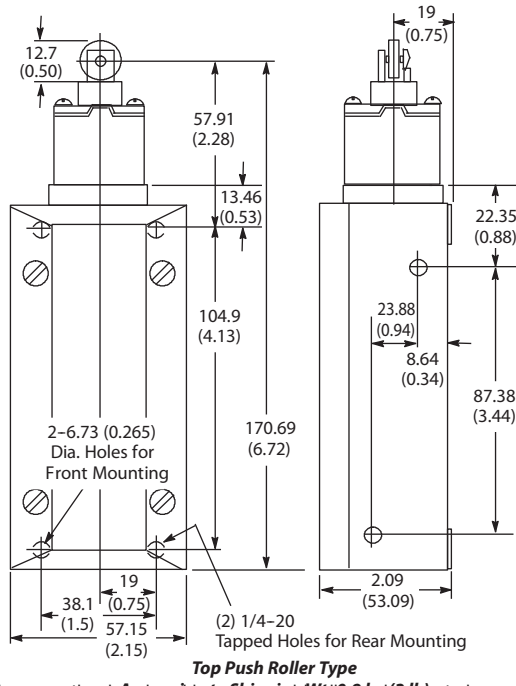
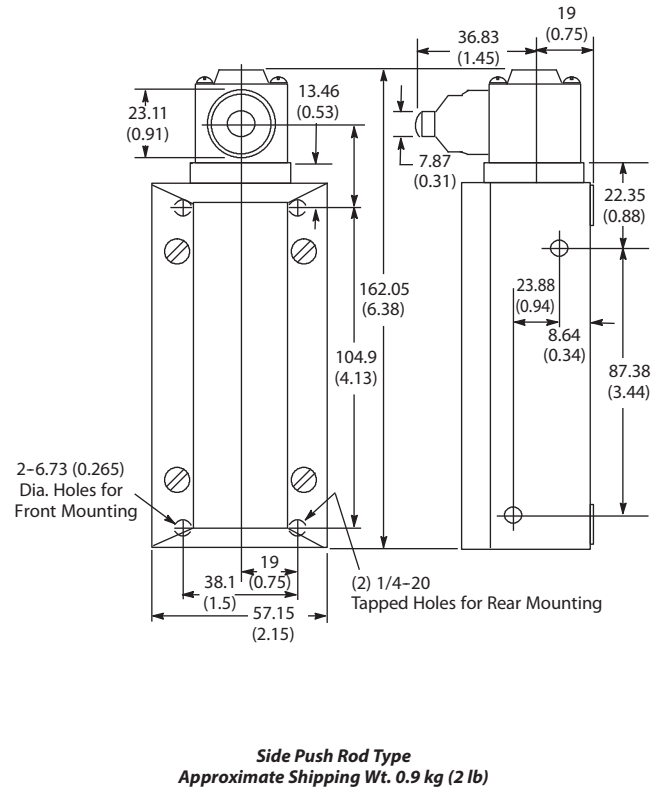
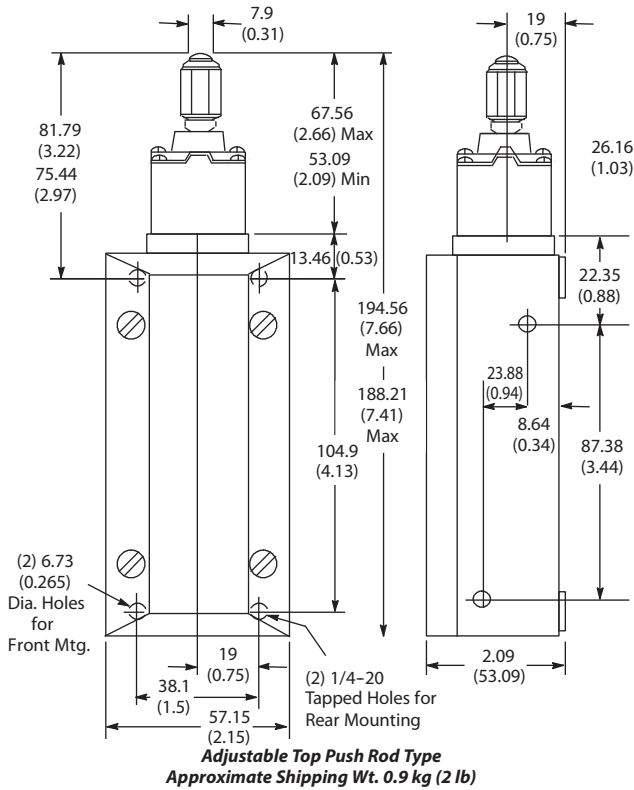
**Note:** For operating head and lever assembly dimensions not shown, see [h-11596203]. Conduit pipe opening 1/2 in. NPT.

# Limit Switches

## 802X Push Type • Spring Return

### Watertight or Hazardous Location Switches

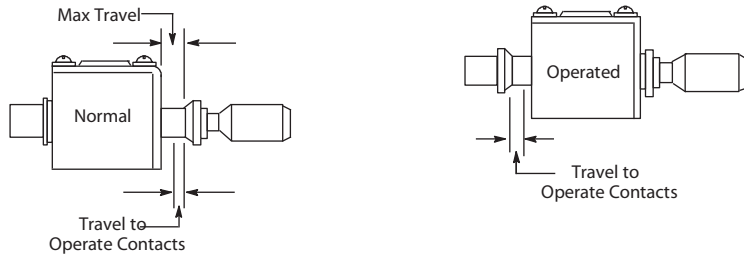
Approximate Dimensions [mm (in.)]



**Note:** For operating head dimensions, see [h-11596203]. Conduit pipe or cable dimensions not shown.

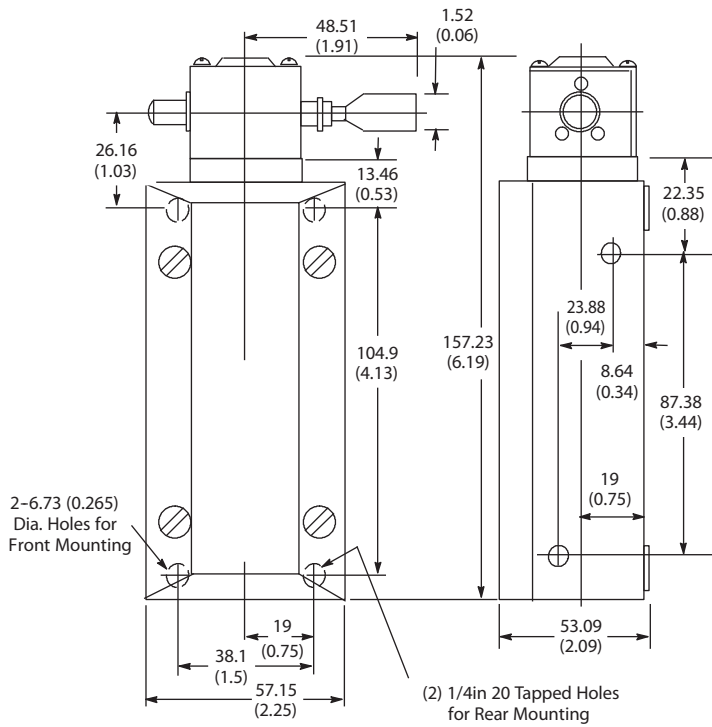
**Mounting Hole Dimensions**  
 2—0.265 dia. through hole with 0.500 dia. x 0.25 in. deep C' Bore for front mounting.  
 2—1/4-20 x 0.56 in. deep tapped holes for rear mounting.  
 2—1/4-20 x 0.5 in. deep tapped holes for side mounting.

Range of Operation



Side Push Rod

Approximate Dimensions [mm (in.)]



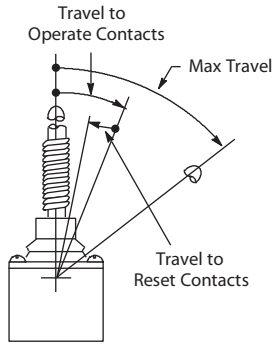
**Note:** For operating head and lever assembly dimensions not shown, see [h-11596203]. Conduit pipe opening 1/2 in. NPT.

# Limit Switches

## 802X Push Type • Wobble Stick & Cat Whisker • Spring Return

### Watertight or Hazardous Location Switches

#### Range of Operation



Travels are measured at rigid section of stick or whisker.

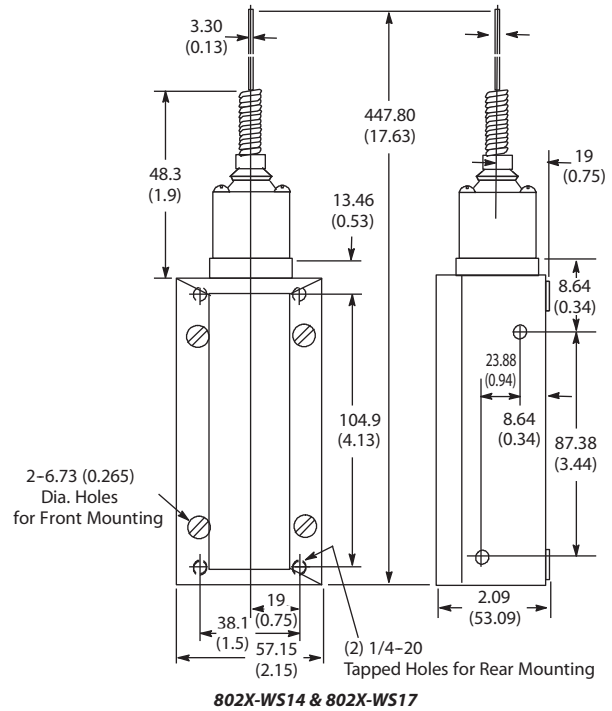
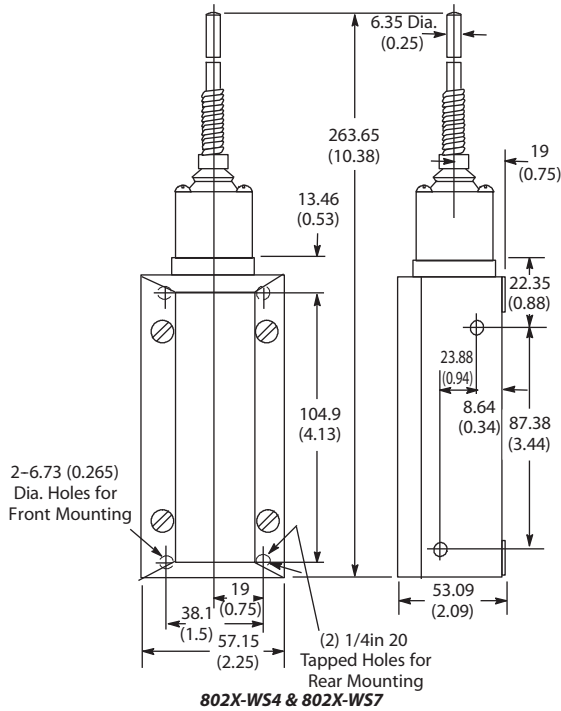


Wobble Stick



Cat Whisker

#### Approximate Dimensions [mm (in.)]



**Note:** For operating head and lever assembly dimensions not shown, see [h-11596203]. Conduit pipe opening 1/2 in. NPT.



## Specifications

| Certifications  |                        | UL Listed and CSA Certified  |                 |                                 |      |       |
|---|------------------------|--|-----------------|---------------------------------|------|-------|
| <b>Environmental</b>  |                        |  |                 |                                 |      |       |
| Enclosure Type Rating   |                        | NEMA 7 and 9/Class I, Groups B, C, and D or Class II, Groups E, F, and G   |                 |                                 |      |       |
| Ambient Temperature [C (F)] *   |                        | -29...+121 ° (-20...+250 °) except devices with wobble stick operators. Wobble stick models are rated from -18...+54 ° (0...130 °) |                 |                                 |      |       |
| <b>AC Contact Rating (Maximum per Pole, 50 or 60 Hz, Same Polarity)</b> |                        |  |                 |                                 |      |       |
| NEMA Rating Designation   | Max. Voltage           | A  |                 | Continuous Carrying Current [A] | VA   |       |
|   |                        | Make   | Break           |                                 | Make | Break |
| B600  | 120                    | 30   | 3.00            | 5                               | 3600 | 360   |
|   | 240                    | 15   | 1.50            |                                 |      |       |
|   | 480                    | 7.5  | 0.75            |                                 |      |       |
|   | 600                    | 6  | 0.60            |                                 |      |       |
| <b>DC Contact Rating (Maximum per Pole)</b>                             |                        |  |                 |                                 |      |       |
| NEMA Rating Designation   | Voltage Range          |  | Current Rating  |                                 |      |       |
| P300  | 115...125<br>230...250 |  | 1.1 A<br>0.55 A |                                 |      |       |

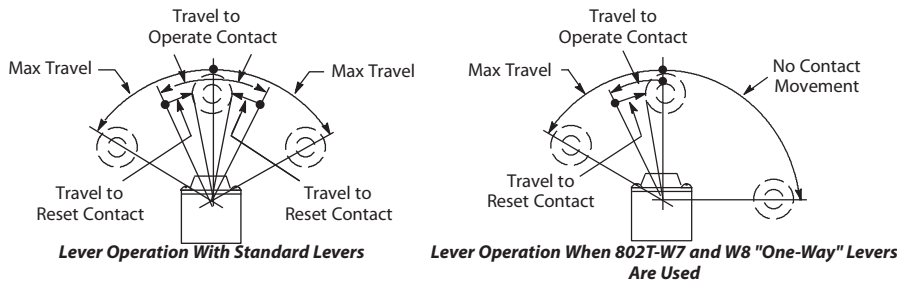
\* Temperature ranges below 0 °C (32 °F) are based on the absence of freezing moisture or water.

# Limit Switches

## 802XR Lever Type • Spring Return

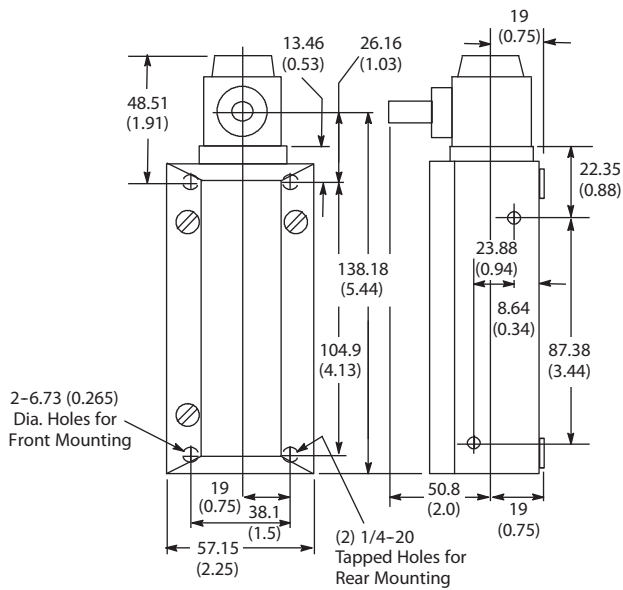
### Sealed Contact Hazardous Location Switches

#### Range of Operation



Switch Without Lever

#### Approximate Dimensions [mm (in.)]



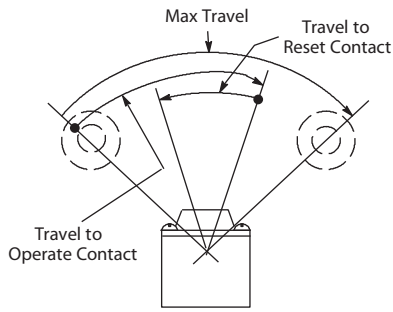
- Mounting Hole Dimensions**
- 2—0.265 Dia. through hole with 0.500 Dia. C'Bore 0.25 in. deep for front mounting.
  - 2—1/4-20 Tapped holes 0.56 in. deep for rear mounting.
  - 2—1/4-20 Tapped holes 0.5 in. deep for side mounting.

**Approximate Shipping Wt.**  
0.9 kg (2 lb)

**Note:** For operating head and lever assembly dimensions not shown, see [h-11596203]. Conduit pipe opening 1/2 in. NPT.

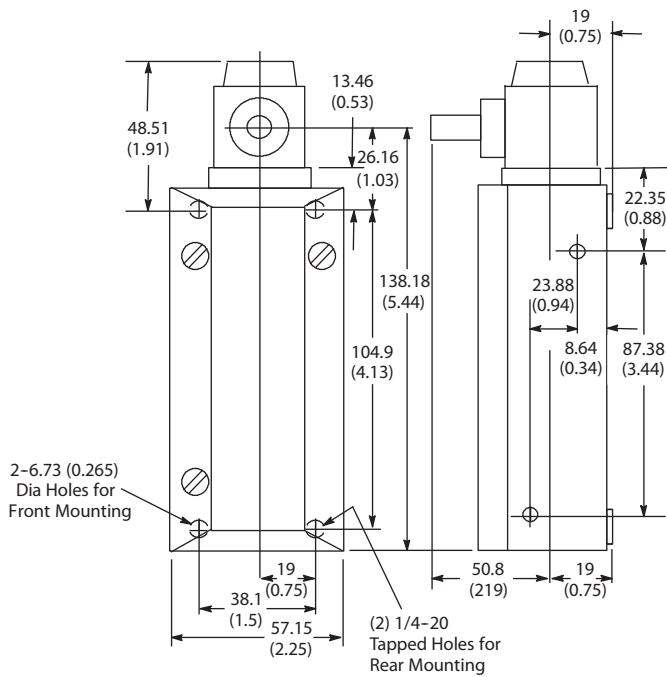


Range of Operation



Switch Without Lever

Approximate Dimensions [mm (in.)]



**Approximate Shipping Wt.**  
**0.9 kg (2 lb)**

Mounting Hole Dimensions

2—0.265 Dia. through hole with 0.500 Dia. C'Bore 0.25 in. deep for front mounting.

2—1/4-20 Tapped holes 0.56 in. deep for rear mounting.

2—1/4-20 Tapped holes 0.5 in. deep for side mounting.

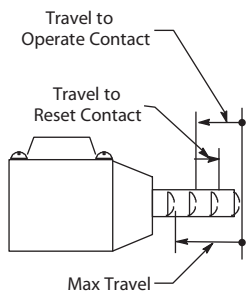
**Note:** For operating head and lever assembly dimensions not shown, see [h-11596203]. Conduit pipe opening 1/2 in. NPT.

# Limit Switches

## 802XR Push Type • Spring Return

### Sealed Contact Hazardous Location Switches

#### Range of Operation



Top Push Rod



Adjustable Top Push Rod



Side Push Rod

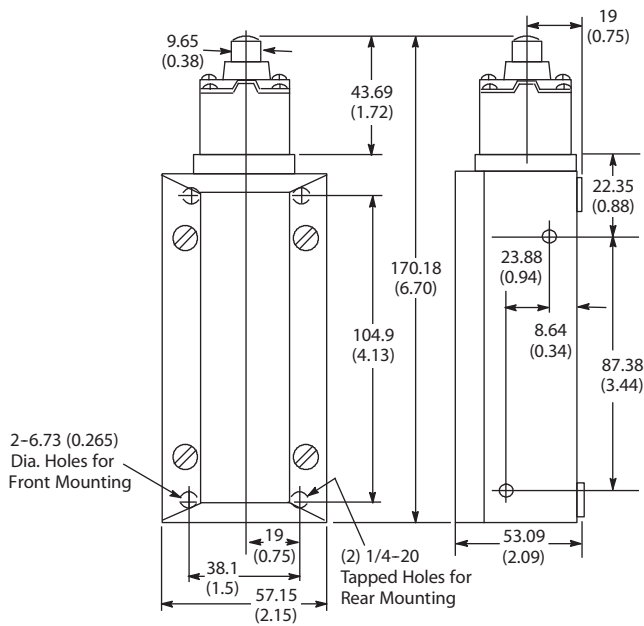


Top Push Roller



Side Push Roller

#### Approximate Dimensions [mm (in.)]



#### Mounting Hole Dimensions

2—0.265 Dia. through hole with 0.500 Dia. C'Bore 0.25 in. deep for front mounting.

2—1/4-20 Tapped holes 0.56 in. deep for rear mounting.

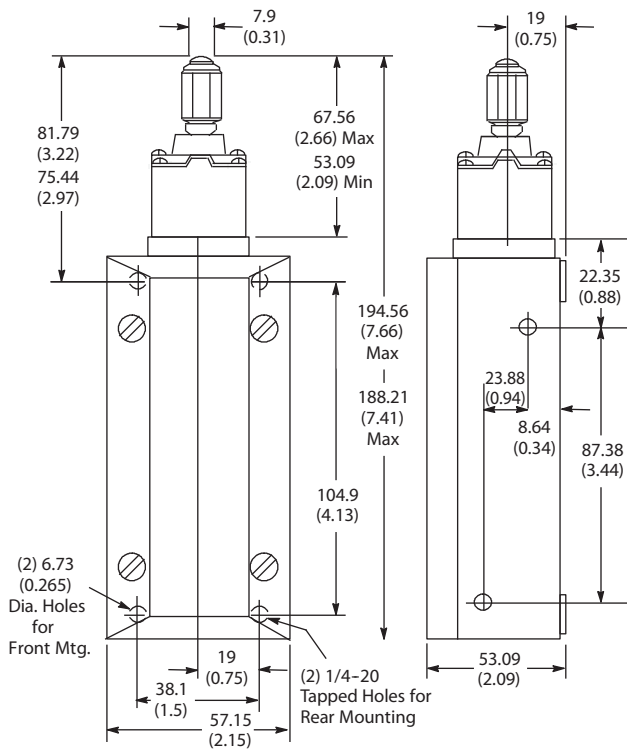
2—1/4-20 Tapped holes 0.5 in. deep for side mounting.

**Approximate Shipping Wt.**  
0.9 kg (2 lb)

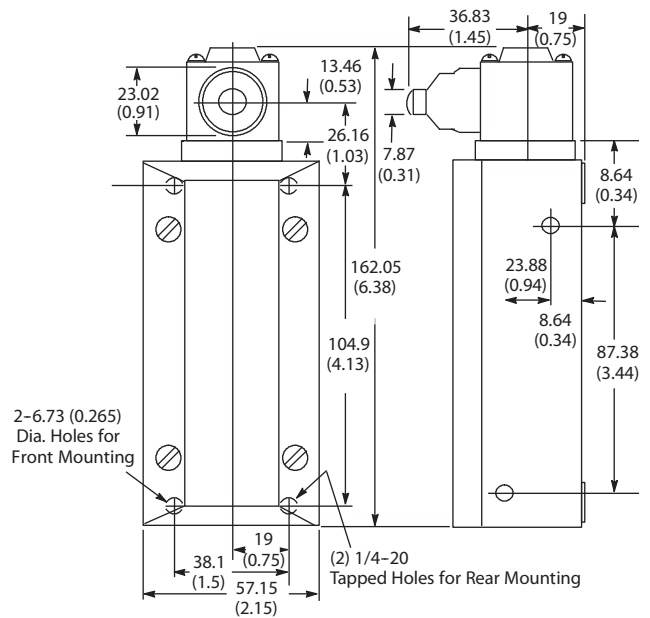
**Note:** For operating head and lever assembly dimensions not shown, see [h-11596203]. Conduit pipe opening 1/2 in. NPT.

Limit Switches  
**802XR Push Type • Spring Return**  
 Sealed Contact Hazardous Location Switches

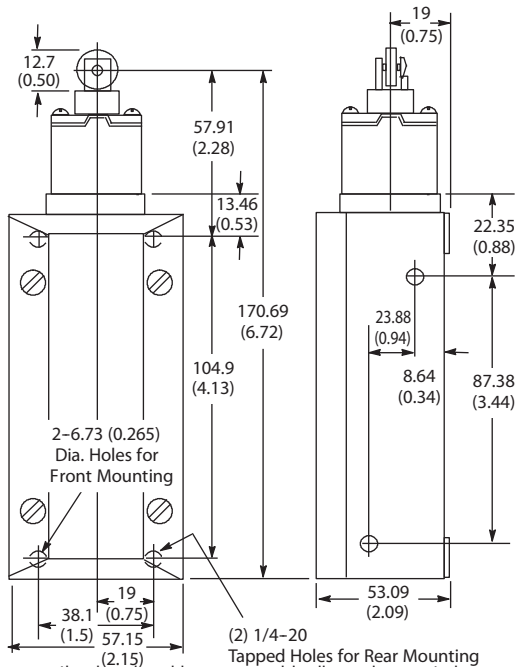
Approximate Dimensions [mm (in.)]



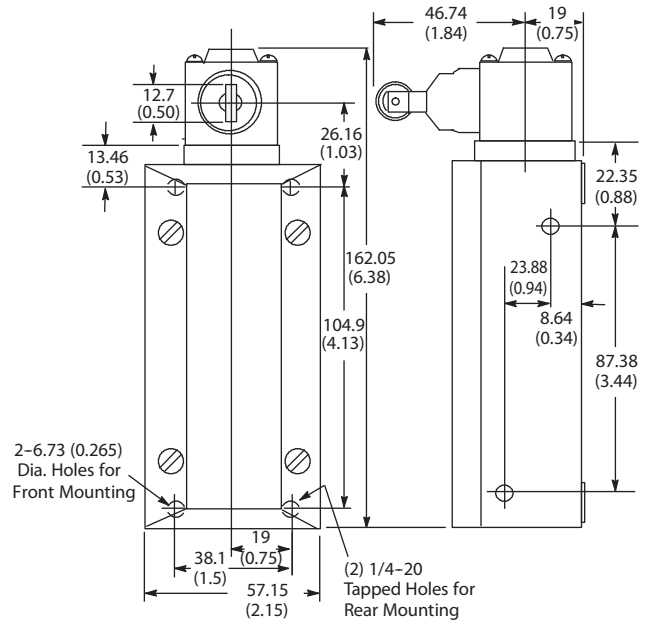
**Bulletin 802XR Adjustable Top Push Rod Type**  
 Approximate Shipping Wt. 0.9 kg (2 lb)



**Bulletin 802XR Side Push Rod Type**  
 Approximate Shipping Wt. 0.9 kg (2 lb)



**Bulletin 802XR Top Push Roller Type**  
 Approximate Shipping Wt. 0.9 kg (2 lb)



**Bulletin 802XR Side Push Roller Type**  
 Approximate Shipping Wt. 0.9 kg (2 lb)

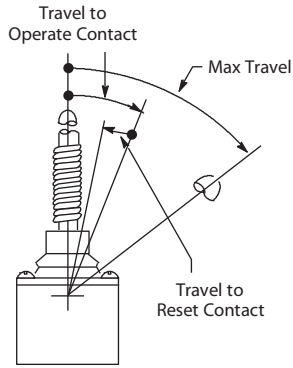
**Note:** For operating head and lever assembly dimensions not shown, see page xxxxx. Conduit pipe opening 1/2 in. NPT.

# Limit Switches

## 802XR Cat Whisker • Spring Return

### Sealed Contact Hazardous Location Switches

#### Range of Operation

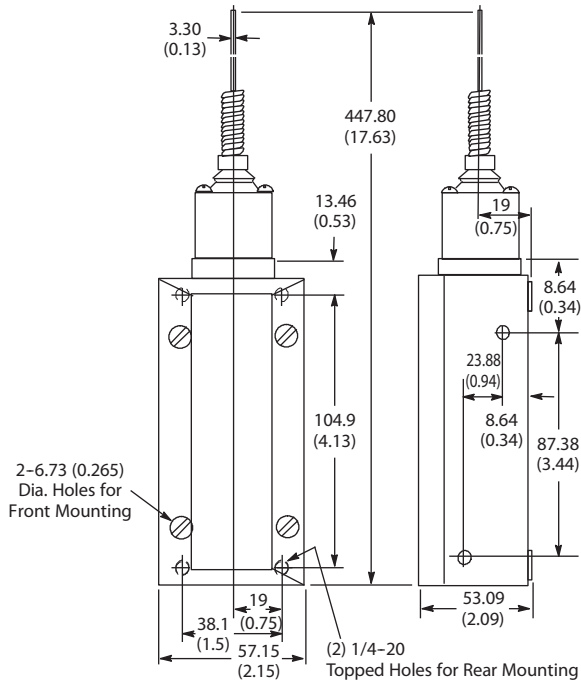


**Travels Are Measured at Rigid Section of Operator**



**Switch Without Lever**

#### Approximate Dimensions [mm (in.)]



#### Mounting Hole Dimensions

2—0.265 Dia. through hole with 0.500 Dia. C'Bore 0.25 in. deep for front mounting.

2—1/4-20 Tapped holes 0.56 in. deep for rear mounting.

2—1/4-20 Tapped holes 0.5 in. deep for side mounting.

**Approximate Shipping Wt.**  
**0.9 kg (2 lb)**

**Note:** For operating head and lever assembly dimensions not shown, see [h-11596203]. Conduit pipe opening 1/2 in. NPT.

# Limit Switches

## 802B Compact, Precision, and Small Precision



**Compact**



**Precision**



**Small Precision**

### Specifications

|                               | Compact   | Precision  | Small Precision   |
|-------------------------------|---|--|---|
| Certifications                | UL Listed, CSA Certified and CE Marked for all applicable directives      | UL Listed, CSA Certified and CE Marked for all applicable directives           | UL Recognized, CSA Certified, and CE Marked for all applicable directives |
| Enclosure Type Rating         | NEMA 1, 3, 4, 6, 12, 13, and IP67   | NonBooted: NEMA 1 and IP60<br>Booted: NEMA 1, 3, 4, and IP65                   | NEMA 1, 3, 4, 6, 13 and IP67  |
| Mechanical Life               | Approx. 10,000,000 operations ★   | Approx. 10,000,000 operations ★  | Approx. 10,000,000 operations ‡   |
| Electrical Life               | Approx. 200,000 operations (3 A 250V AC, resistive load) ★                | Approx. 500,000 operations (15 A 250V AC, resistive load) ★                    | Approx. 500,000 operations (10 A 250V AC, resistive load) ‡               |
| Operating Speed               | Top Push: 0.1 mm...0.5 m per second<br>Side Rotary: 1 mm...1 m per second | Top Push: 0.01 mm...0.5 m per second<br>Lever Type: 0.02 mm...0.5 m per second | Top Push: 0.05 mm...0.5 m per second                                      |
| Operating Frequency           | Mechanical: 120 operations/minute;<br>Electrical: 30 operations/minute    | Mechanical: 120 operations/minute;<br>Electrical: 20 operations/minute         | Mechanical: 120 operations/minute;<br>Electrical: 20 operations/minute    |
| Operating Temperature [C (F)] | -10...+70 ° (14...158 °) with no icing                                    | -10...+80 ° (14...176 °) with no icing   | -10...80° (14...176°) with no icing                                       |
| Protection Type               | Quick blow fuse suitable for rated current is recommended                 | Quick blow fuse suitable for rated current is recommended                      | Quick blow fuse suitable for rated current is recommended                 |
| Contact Type                  | SPDT Form C - Top Push Panel Mount  | SPDT Form C - Top Push Booted  | SPDT Form C   |

★ Life expectancy has been calculated at an operating temperature of 5...35 °C (41...95 °F) and an operating humidity of 40...70%.

‡ Life expectancy has been calculated at an operating temperature of 20 °C (68 °F) and an operating humidity of 65%.

### Small Precision

| Rated Voltage | Non-Inductive Resistive Load | Inductive Load |            |      | Inrush Current |          | UL/CSA Approved Ratings |               |    |   |                    |      |     |  |
|---------------|------------------------------|----------------|------------|------|----------------|----------|-------------------------|---------------|----|---|--------------------|------|-----|--|
|               |                              | Inductive      | Motor Load |      |                |          | NEMA Rating Designation | Rated Voltage | A  |   | Continuous Current | VA   | VA  |  |
|               |                              |                | N.O.       | N.C. | Make           | Break    |                         |               |    |   |                    |      |     |  |
| 125V AC       | 10 A                         | 10 A           | 2.5 A      | 5 A  | 15 A max       | 30 A max | A300                    | 120V AC       | 60 | 6 | 10                 | 7200 | 720 |  |
| 250V AC       | 10 A                         | 10 A           | 1.5 A      | 3 A  |                |          |                         | 240V AC       | 30 | 3 |                    |      |     |  |
| 8V DC         | 10 A                         | 6 A            | 2.5 A      | 5 A  |                |          |                         |               |    |   |                    |      |     |  |
| 14V DC        | 10 A                         | 6 A            | 2.5 A      | 5 A  |                |          |                         |               |    |   |                    |      |     |  |
| 30V DC        | 6 A                          | 5 A            | 2.5 A      | 5 A  |                |          |                         |               |    |   |                    |      |     |  |
| 125V DC       | 0.5 A                        | 0.05 A         | 0.05 A     |      |                |          |                         |               |    |   |                    |      |     |  |
| 250V DC       | 0.25 A                       | 0.03 A         | 0.03 A     |      |                |          |                         |               |    |   |                    |      |     |  |

# Limit Switches

## 802B Compact and Precision

### Specifications

#### Compact

| Rated Voltage                         | Non-Inductive Resistive Load | Inductive Load  |            |                    | Inrush Current |          |
|---------------------------------------|------------------------------|-----------------|------------|--------------------|----------------|----------|
|                                       |                              | Inductive       | Motor Load |                    | N.O.           | N.C.     |
|                                       |                              |                 | N.O.       | N.C.               |                |          |
| <b>Standard Models</b>                |                              |                 |            |                    |                |          |
| 125V AC                               | 5 A                          | 3 A             | 1.3 A      | 2.5 A              | 10 A max       | 20 A max |
| 250V AC                               | 5 A                          | 2 A             | 0.8 A      | 1.5 A              |                |          |
| 8V DC                                 | 5 A                          | 5 A             | 3 A        | 3 A                |                |          |
| 14V DC                                | 5 A                          | 4 A             | 3 A        | 3 A                |                |          |
| 30V DC                                | 4 A                          | 3 A             | 3 A        | 3 A                |                |          |
| 125V DC                               | 0.4 A                        | 0.4 A           | 0.05 A     | 0.05 A             |                |          |
| 250V DC                               | 0.2 A                        | 0.2 A           | 0.03 A     | 0.03 A             |                |          |
| <b>AC LED Models</b>                  |                              |                 |            |                    |                |          |
| 125V AC                               | 5 A                          | 3 A             | 1.3 A      | 2.5 A              | 10 A max       | 20 A max |
| 125V DC                               | 0.4 A                        | 0.4 A           | 0.05 A     | 0.05 A             |                |          |
| <b>DC LED Models</b>                  |                              |                 |            |                    |                |          |
| 30V DC                                | 4 A                          | 3 A             | 3 A        | 3 A                | 10 A max       | 20 A max |
| <b>Low Current Models</b>             |                              |                 |            |                    |                |          |
| 125V AC                               | 0.1 A                        | —               | —          | —                  | 10 A max       | 20 A max |
| 8V DC                                 | 0.1 A                        |                 |            |                    |                |          |
| 14V DC                                | 0.1 A                        |                 |            |                    |                |          |
| 30V DC                                | 0.1 A                        |                 |            |                    |                |          |
| <b>UL/CSA Approved Ratings</b>        |                              |                 |            |                    |                |          |
| NEMA Rating Designation               | Rated Voltage                | A               |            | Continuous Current | VA             | VA       |
|                                       |                              | Make            | Break      |                    |                |          |
| B300                                  | 120V AC                      | 30              | 3.0        | 5                  | 3600           | 360      |
|                                       | 240V AC                      | 15              | 1.5        |                    |                |          |
| <b>AC LED Versions</b>                |                              |                 |            |                    |                |          |
| B150                                  | 120V AC                      | 30              | 3          | 5                  | 3600           | 360      |
| <b>Leakage Current for LED Models</b> |                              |                 |            |                    |                |          |
|                                       | Voltage                      | Leakage Current |            | Resistance         |                |          |
| AC LED                                | 125                          | 1.7 mA          |            | 68 kΩ              |                |          |
| DC LED                                | 30                           |                 |            | 15 kΩ              |                |          |

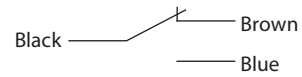
#### Precision

| Rated Voltage | Non-Inductive Resistive Load | Inductive Load |            |       | Inrush Current |          | UL/CSA Approved Ratings |         |                  |
|---------------|------------------------------|----------------|------------|-------|----------------|----------|-------------------------|---------|------------------|
|               |                              | Inductive      | Motor Load |       | N.O.           | N.C.     | Rated Voltage           | Current | Hp               |
|               |                              |                | N.O.       | N.C.  |                |          |                         |         |                  |
| 125V AC       | 15 A                         | 15 A           | 2.5 A      | 5 A   | 15 A max       | 30 A max | 120V AC                 | 15 A    | 1/8 Hp<br>1/4 Hp |
| 250V AC       | 15 A                         | 2.5 A          | 1.5 A      | 3 A   |                |          |                         |         |                  |
| 480V AC       | 10 A                         | 1.5 A          | 0.75 A     | 1.5 A |                |          |                         |         |                  |
| 125V DC       | 0.5 A                        | 0.5 A          | 0.05 A     |       |                |          | 125V DC                 | 0.5 A   |                  |
| 250V DC       | 0.25 A                       | 0.25 A         | 0.03 A     |       |                |          | 250V DC                 | 0.25 A  | —                |

Wiring Diagrams

Pre-leaded Models

| COM   | NO   | NC    | Ground       |
|-------|------|-------|--------------|
| Black | Blue | Brown | Green/Yellow |

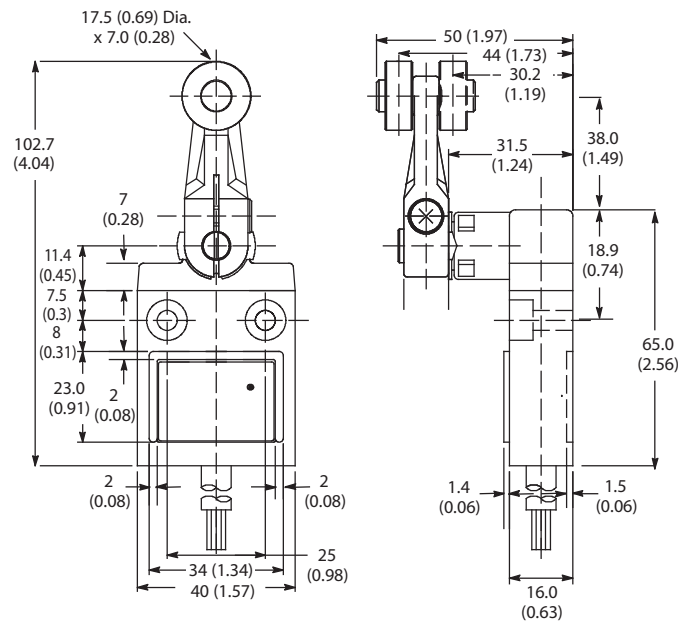


Quick-Disconnect Models

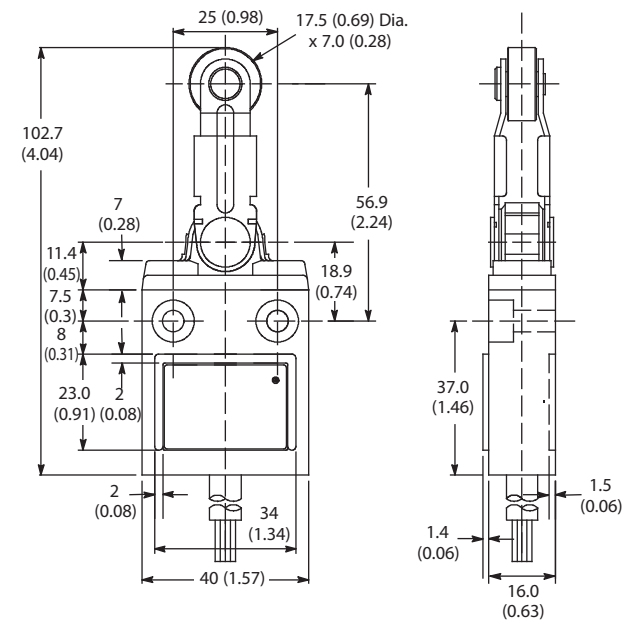
| AC QD Pin-Out: | DC QD Pin-Out: |
|----------------|----------------|
| Pin 1 = Common | Pin 1 = N.O.   |
| Pin 2 = N.O.   | Pin 2 = Common |
| Pin 3 = N.C.   | Pin 3 = Grnd.  |
| Pin 4 = Grnd.  | Pin 4 = N.C.   |



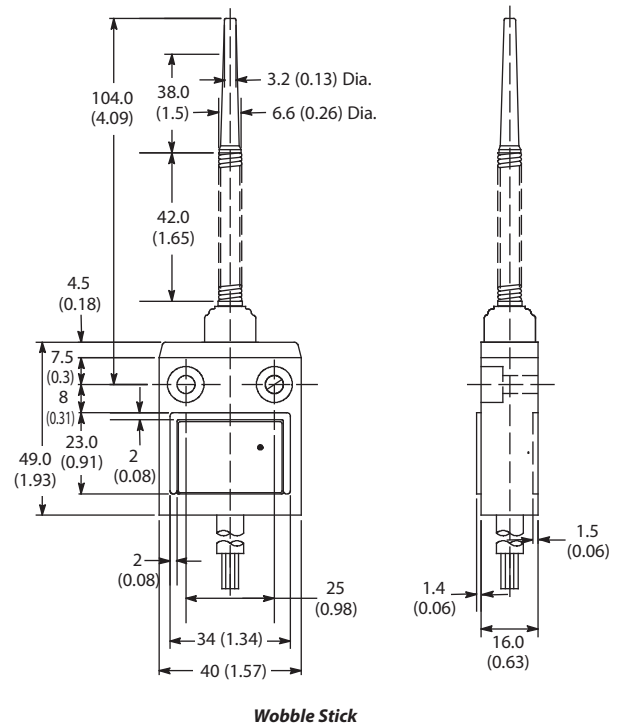
Approximate Dimensions [mm (in.)]



**Rotary Arm**

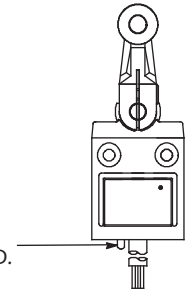


**Center Rotary Arm**



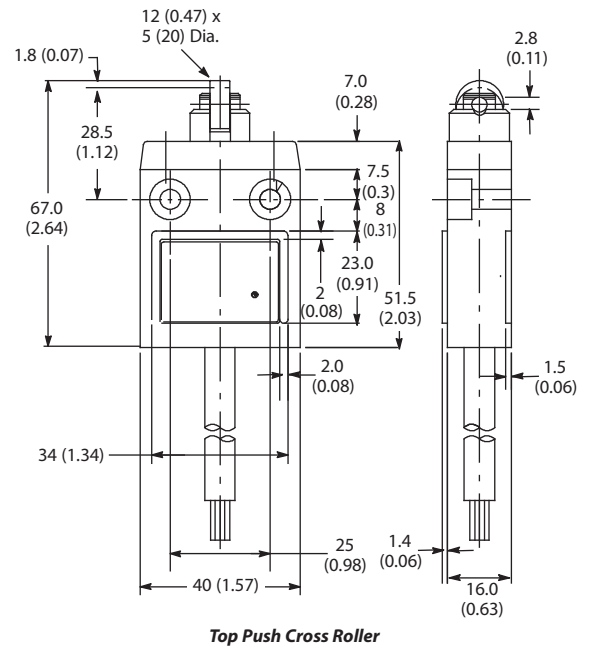
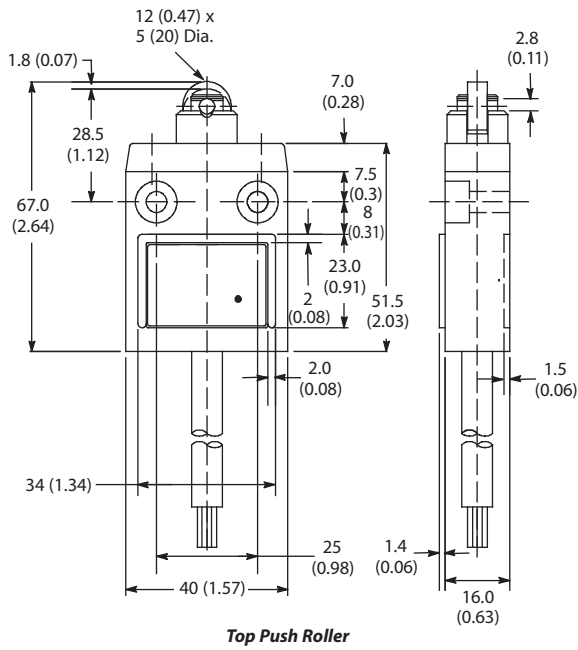
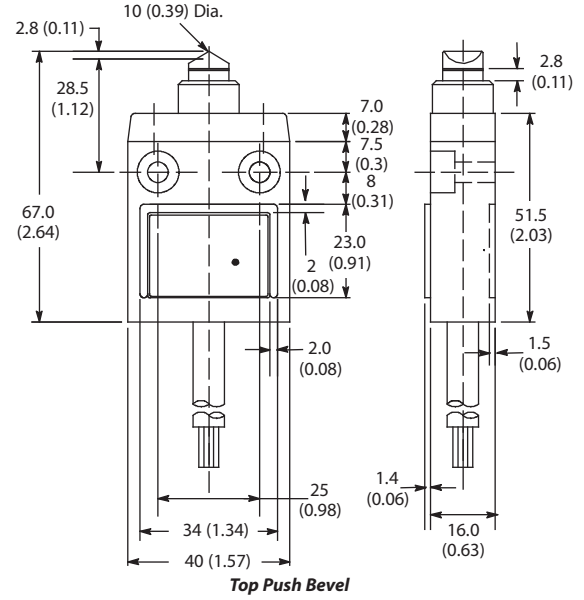
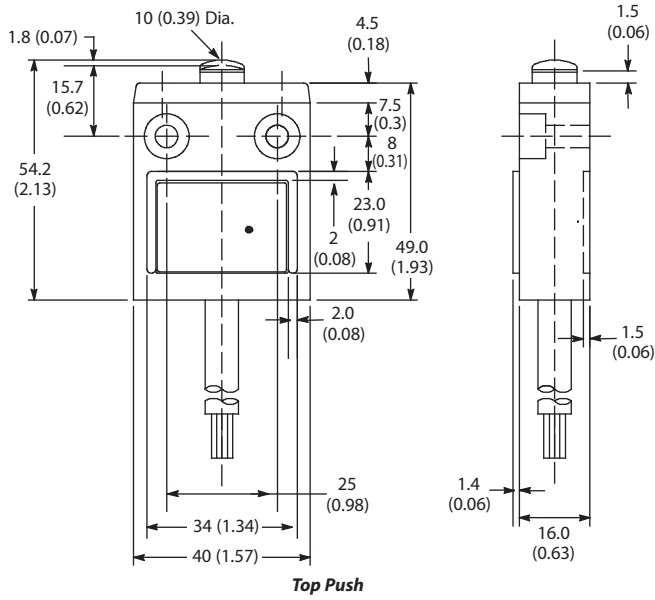
**Wobble Stick**

Counter Bore Diameter = 102 mm  
 Mounting Hole Diameter = 5.1 mm  
 Counter Bore Depth = 5.8 mm  
 Mounting Hole Depth = 10.1 mm  
 Cable Diameter = 8.5 mm



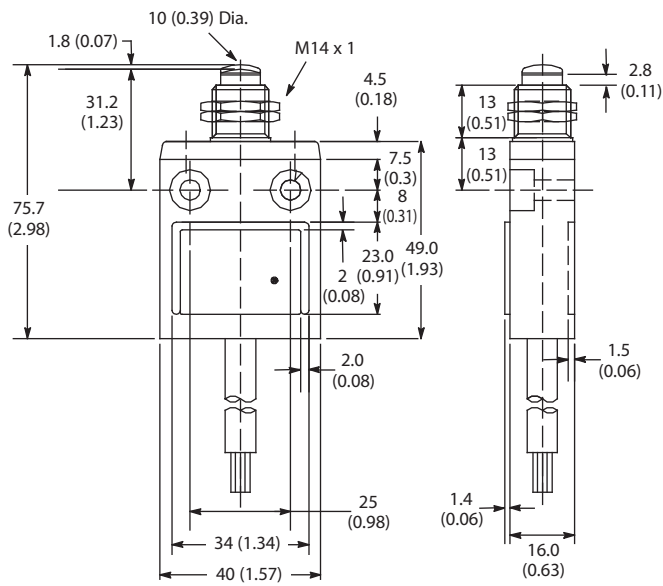
Limit Switches  
**802B Compact**  
 Small Metal Body

Approximate Dimensions [mm (in.)]

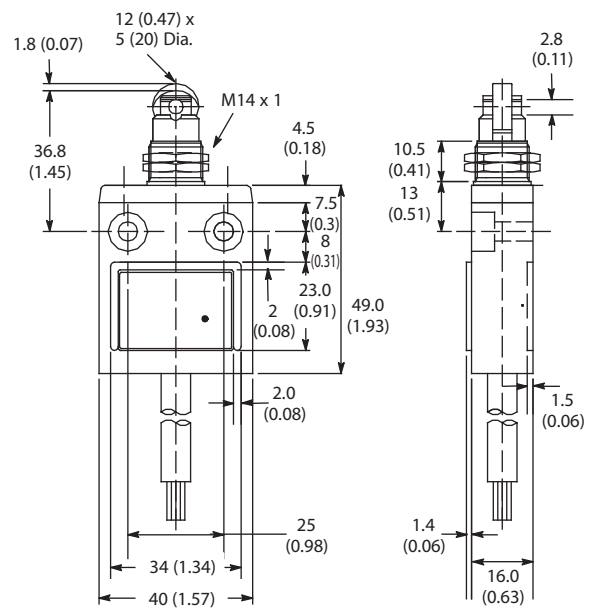




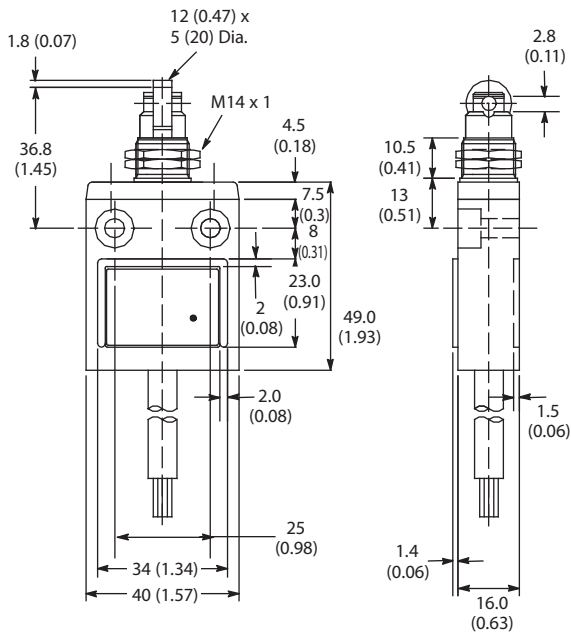
Approximate Dimensions [mm (in.)]



**Top Push Panel Mount**



**Top Push Roller Panel Mount**



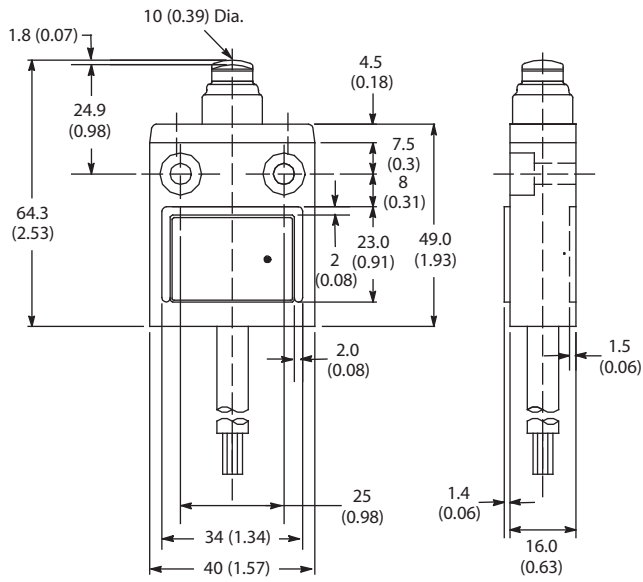
**Top Push Cross Roller Panel Mount**

# Limit Switches

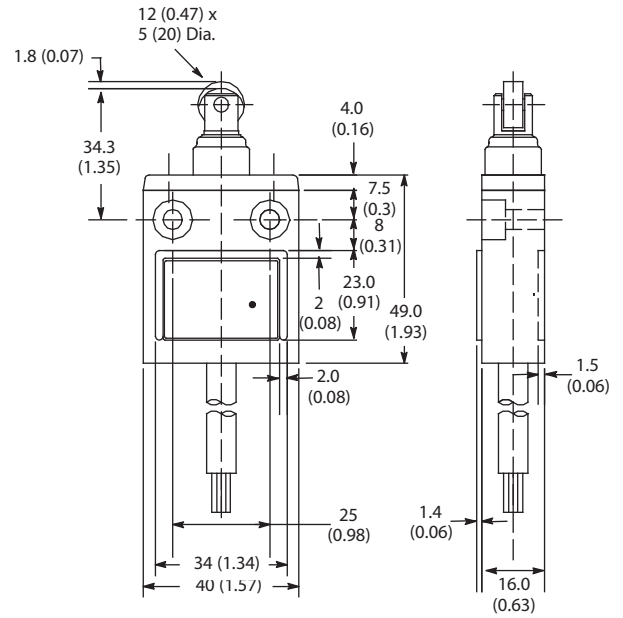
## 802B Compact

### Small Metal Body

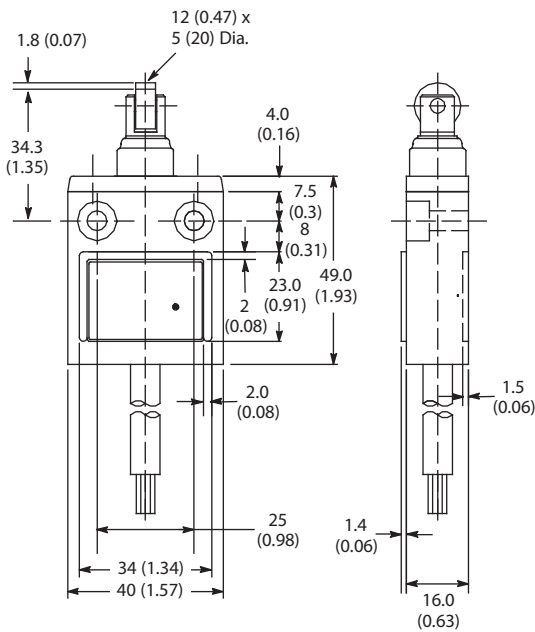
#### Approximate Dimensions [mm (in.)]



**Top Push Booted Head**



**Top Push Roller Booted Head**



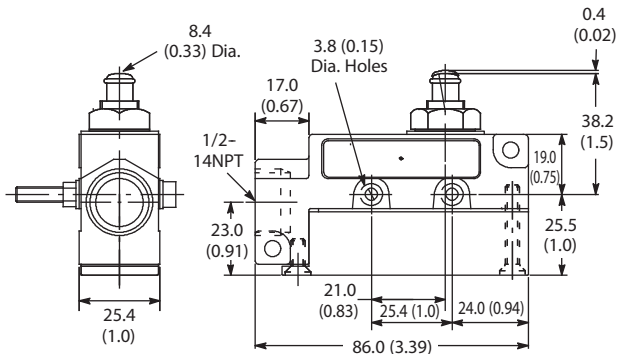
**Top Push Cross Roller Booted Head**

Wiring Diagrams

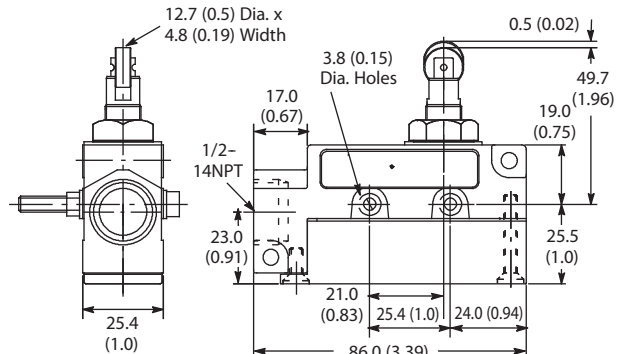
|          |          |          |  |
|----------|----------|----------|--|
| <b>1</b> | <b>3</b> | <b>2</b> |  |
| Com      | N.O.     | N.C.     |  |

Approximate Dimensions [mm (in.)]

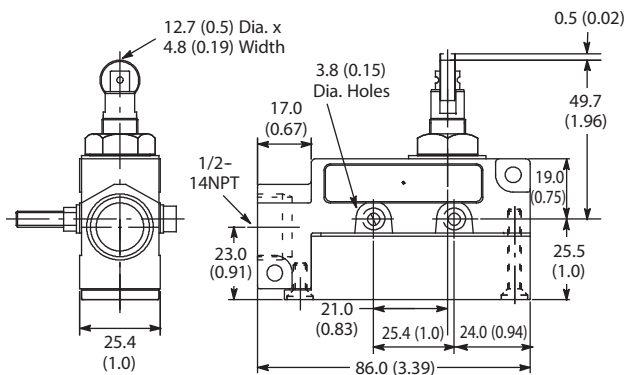
Side Mount Limit Switches



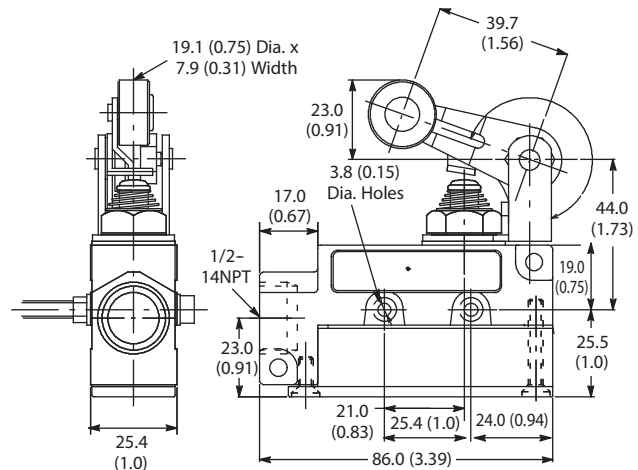
Cat. No. 802B-PSABXSX



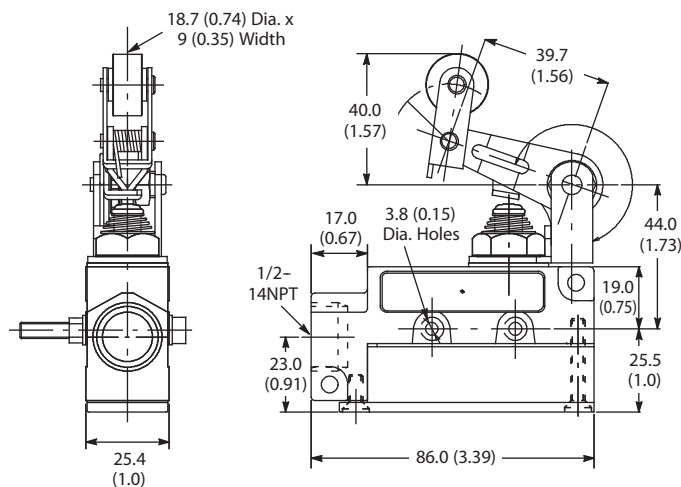
Cat. No. 802B-PSADXSX



Cat. No. 802B-PSD1XSX



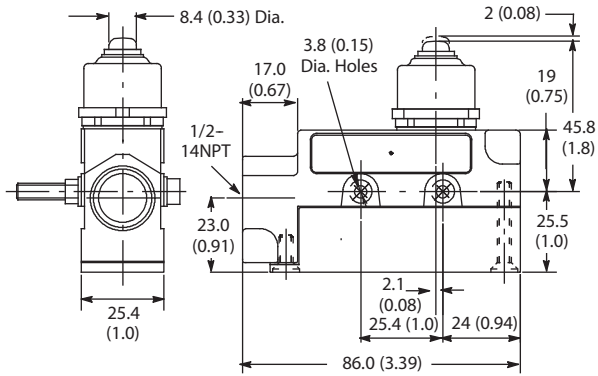
Cat. No. 802B-PSARXSX



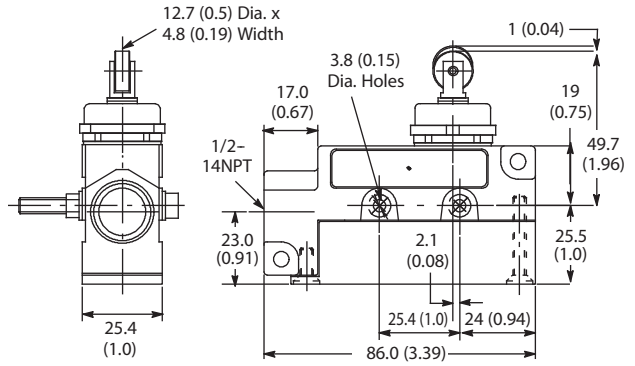
Cat. No. 802B-PSAR2XSX

Limit Switches  
**802B Precision**  
 Small Metal Body

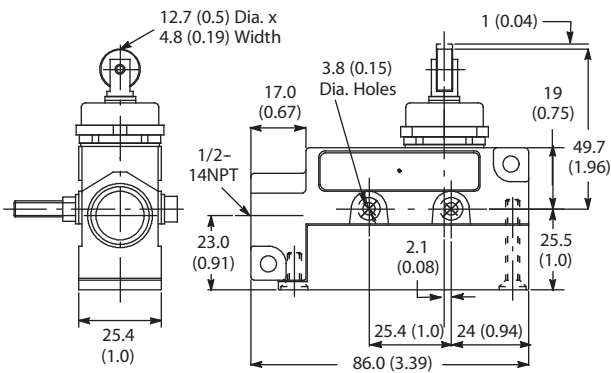
Approximate Dimensions [mm (in.)]



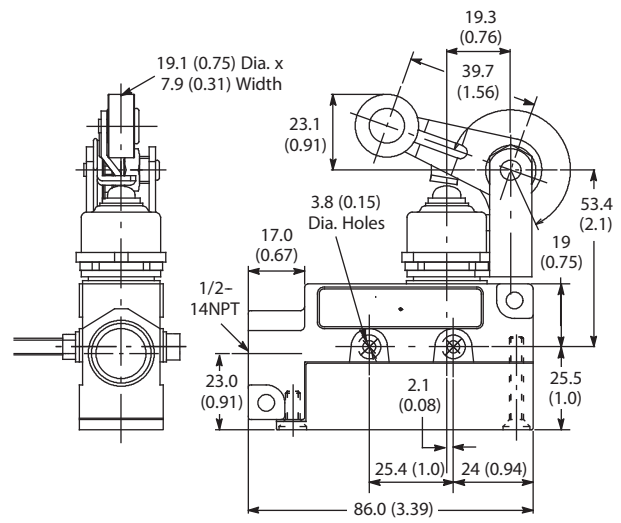
Cat. No. 802B-PSABBSX



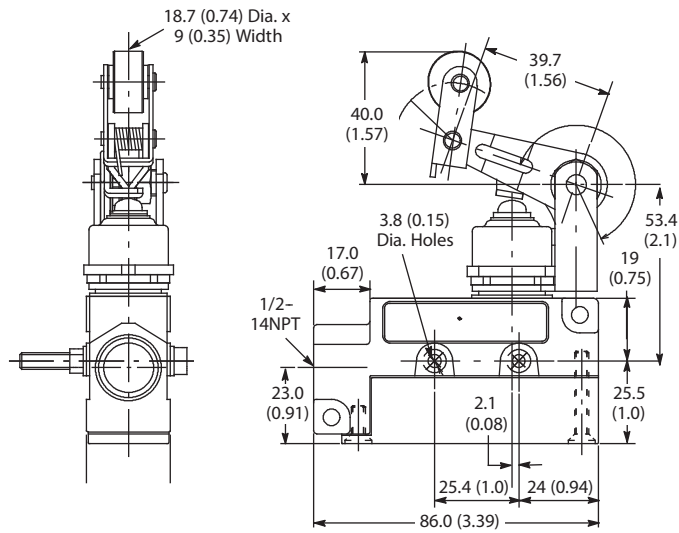
Cat. No. 802B-PSADBSX



Cat. No. 802B-PSAD1BSX

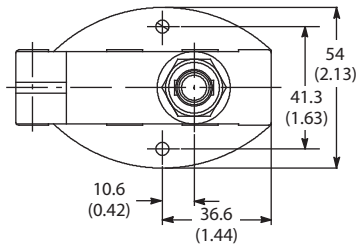


Cat. No. 802B-PSARBSX

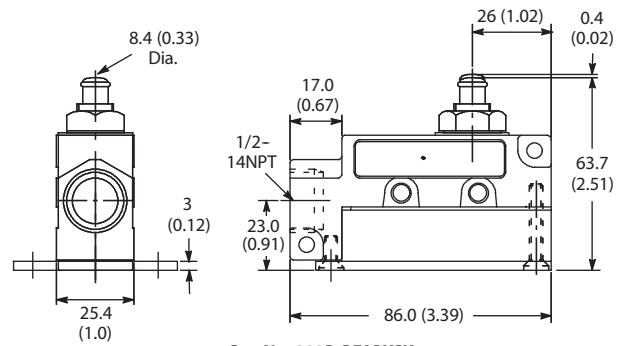


Cat. No. 802B-PSAR2BSX

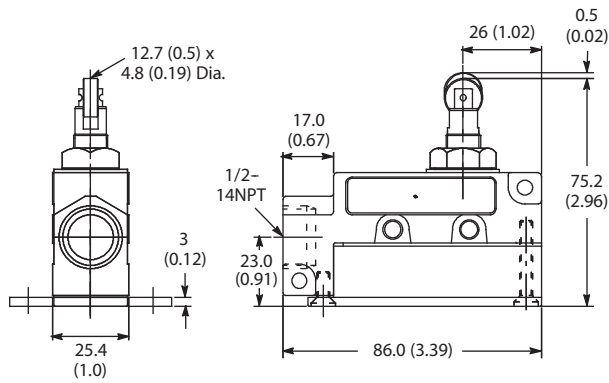
Approximate Dimensions [mm (in.)]



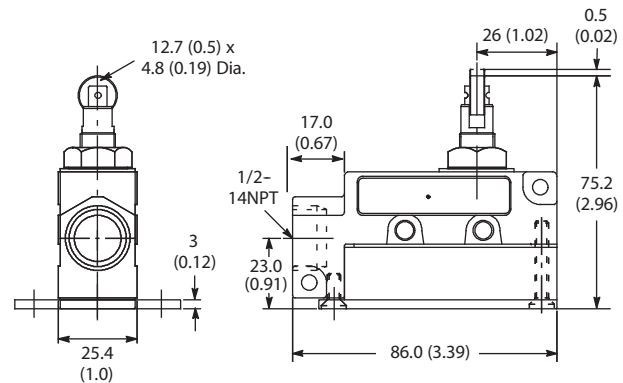
Top View



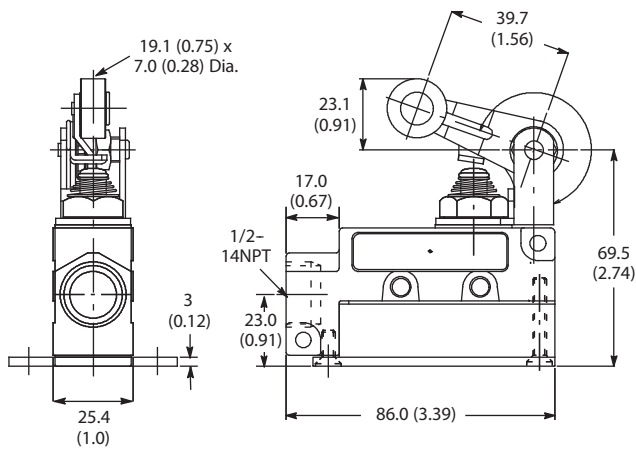
Cat. No. 802B-PFABXSX



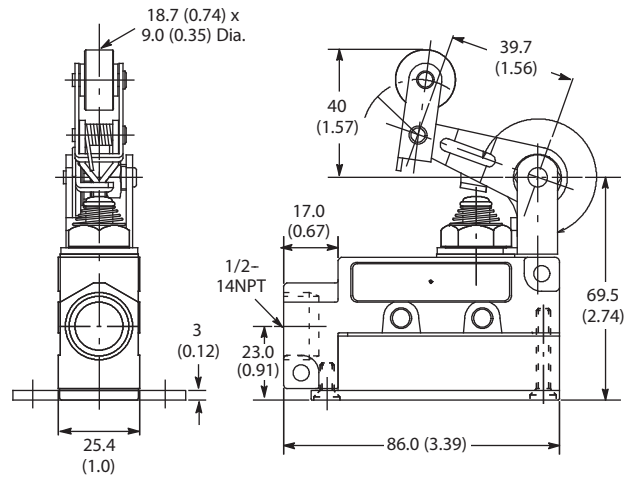
Cat. No. 802B-PFADXSX



Cat. No. 802B-PFAD1XSX



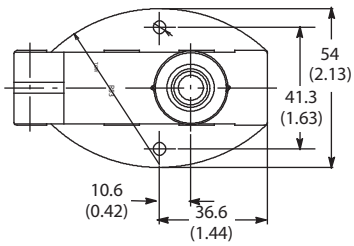
Cat. No. 802B-PFARXSX



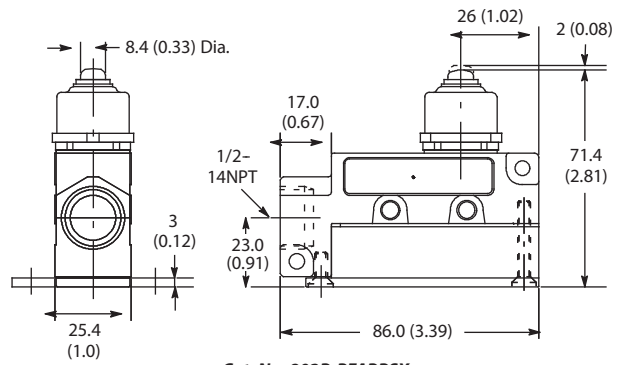
Cat. No. 802B-PFAR2XSX

Limit Switches  
**802B Precision**  
 Small Metal Body

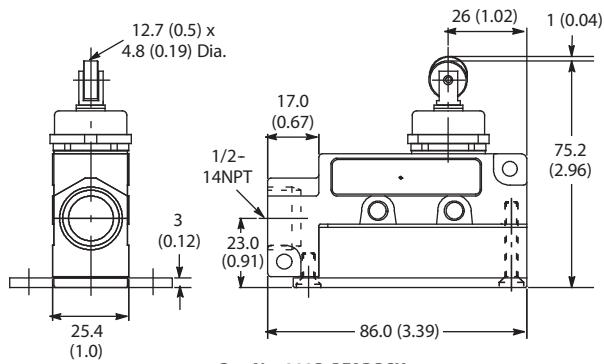
Approximate Dimensions [mm (in.)]



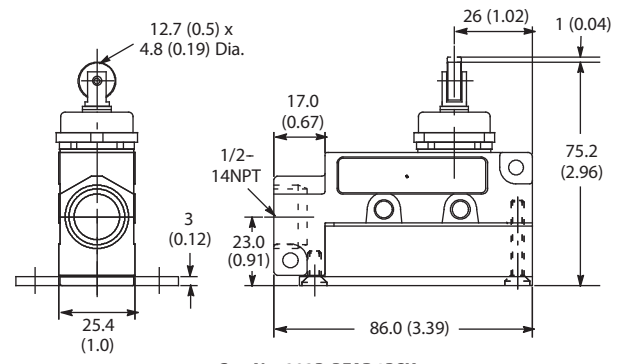
Top View



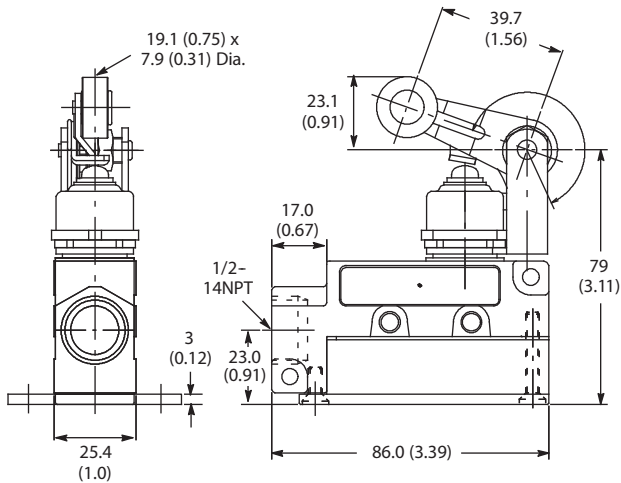
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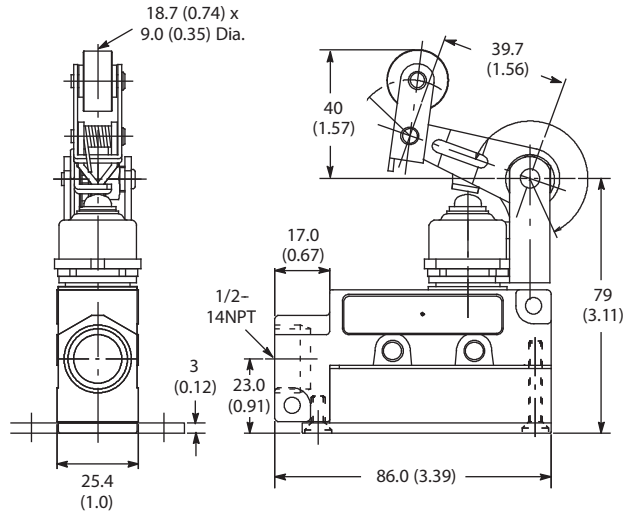
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Cat. No. 802B-PFAD1BSX



Cat. No. 802B-PFARBSX

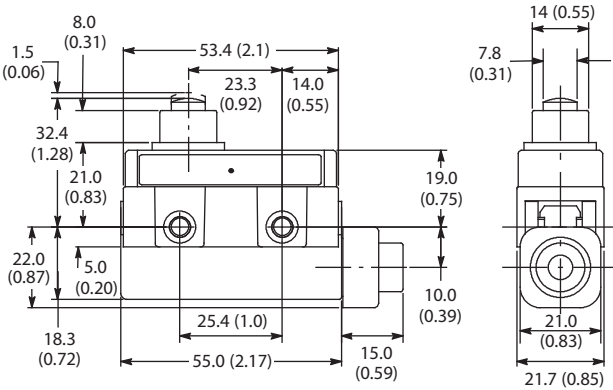


Cat. No. 802B-PFAR2BSX

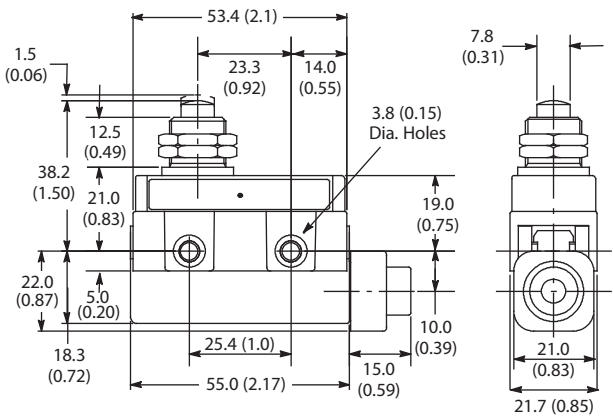
Wiring Diagrams

|          |          |          |  |
|----------|----------|----------|--|
| <b>1</b> | <b>3</b> | <b>2</b> |  |
| Com      | N.O.     | N.C.     |  |

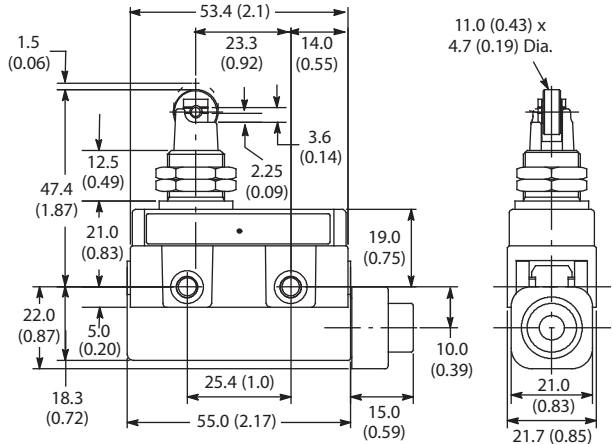
Approximate Dimensions [mm (in.)]



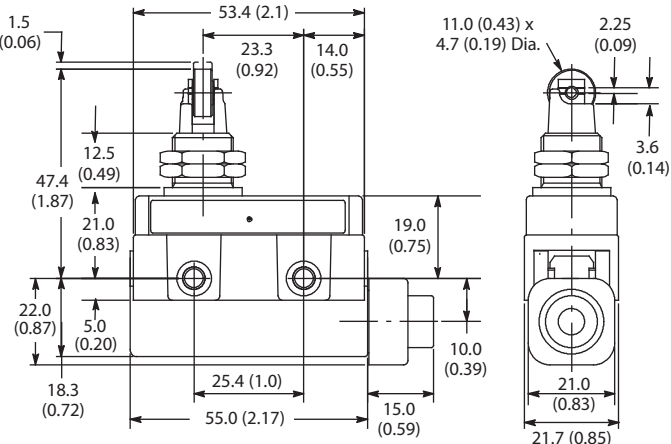
Cat. No. 802B-SSABXSX



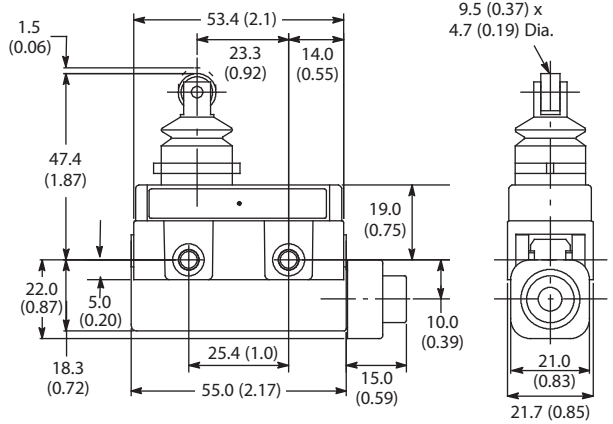
Cat. No. 802B-SPABXSX



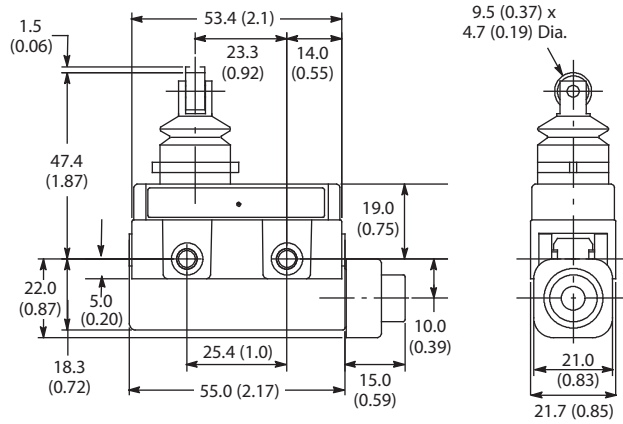
Cat. No. 802B-SPADXSX



Cat. No. 802B-SPAD1XSX



Cat. No. 802B-SSADBSX



Cat. No. 802B-SSAD1BSX





# Limit Switches

## 440P IEC Style Safety Limit Switches

### 22 mm Compact Metal Position Switches



#### Specifications

| <b>Safety Ratings</b>                      |  |         |       |                                 |              |       |
|--|--|---------|-------|---------------------------------|--------------|-------|
| Standards                                  | EN 954-1, ISO 13849-1, IEC/EN 60204-1, NFPA 79, EN 1088, ISO 14119, IEC/EN 60947-5-1, ANSI B11.19, AS 4024.1 |         |       |                                 |              |       |
| Safety Classification                      | Cat.1 Device per EN 954-1 Dual channel limit switch suitable for Cat. 3 or 4 systems when ganged together    |         |       |                                 |              |       |
| Certifications                             | cULus Listed, TÜV and CE Marked for all applicable directives  |         |       |                                 |              |       |
| <b>Outputs</b>                             |  |         |       |                                 |              |       |
| Safety Contacts ★                          | 1 N.C. snap-acting, 2 N.C. slow-acting   |         |       |                                 |              |       |
| Auxiliary Contacts                         | 1 N.O. snap-acting   |         |       |                                 |              |       |
| Thermal Current $I_{th}$                   | 10 A   |         |       |                                 |              |       |
| Rated Insulation Voltage                   | 300V AC  |         |       |                                 |              |       |
| <b>Contact Rating</b>                      |  |         |       |                                 |              |       |
| <b>Maximum AC Contact Rating Per Pole‡</b> |  |         |       |                                 |              |       |
| NEMA Rating Designation                    | Max. Voltage   | Amperes |       | Continuous Carrying Current [A] | Volt Amperes |       |
|  |  | Make    | Break |                                 | Make         | Break |
| AC15/B300                                  | 120  | 30      | 3.0   | 5                               | 3600         | 360   |
|  | 240  | 15      | 1.5   |                                 |              |       |
| <b>Maximum DC Contact Rating Per Pole‡</b> |  |         |       |                                 |              |       |
| DC13/Q300                                  | 240  | 0.27    | 0.27  | 2.5                             | 69           | 69    |
| <b>Operating Characteristics</b>           |  |         |       |                                 |              |       |
| Actuation Speed, Max.                      | 250 mm/s   |         |       |                                 |              |       |
| Actuation Speed, Min.                      | 100 mm/min.  |         |       |                                 |              |       |
| Actuation Frequency, Max.                  | 6000 ops/hr  |         |       |                                 |              |       |
| Mechanical Life                            | 1 x 10 <sup>7</sup> operations with no electrical load   |         |       |                                 |              |       |
| <b>Environmental</b>                       |  |         |       |                                 |              |       |
| Enclosure Type Rating                      | Type 1, IP65, IP66, IP67, and IP69K (preleaded versions)   |         |       |                                 |              |       |
| Operating Temperature [C (F)]              | 2...70 ° (35.6...158 °)  |         |       |                                 |              |       |
| Pollution Degree                           | 3  |         |       |                                 |              |       |
| <b>Physical Characteristics</b>            |  |         |       |                                 |              |       |
| Housing Material                           | Die-cast alloy   |         |       |                                 |              |       |
| Actuator Material                          | Various polymers and metals  |         |       |                                 |              |       |
| Mounting                                   | 2 x M4, any position   |         |       |                                 |              |       |
| Vibration                                  | IEC 68-2-6 (10...55 Hz, 0.35 mm amplitude)   |         |       |                                 |              |       |
| Shock                                      | IEC 68-2-7 (30 Gn 3 pulses per axis)   |         |       |                                 |              |       |
| Color                                      | Red body/black head  |         |       |                                 |              |       |

★ The safety contacts are described as normally closed (N.C.) i.e., with the guard closed, actuator in place (where relevant) and the machine able to be started.

‡ Maximum for:

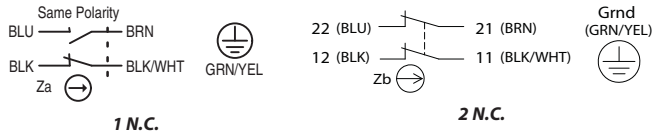
| <b>4-pin Male Micro M12 Connectors (D4 suffix)</b> |          |
|--|----------|
| AC   | DC       |
| 30V, 3 A   | 30V, 3 A |
| <b>5-pin Male Micro M12 Connectors (D5 suffix)</b> |          |
| AC   | DC       |
| 60V, 3 A   | 60V, 3 A |

# Limit Switches

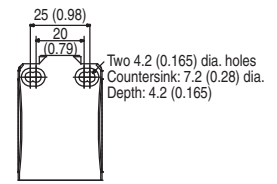
## 440P IEC Style Limit Switches

### 22 mm Compact Metal Position Switches

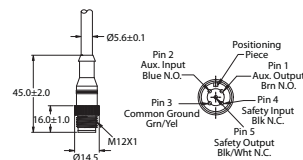
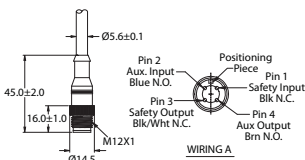
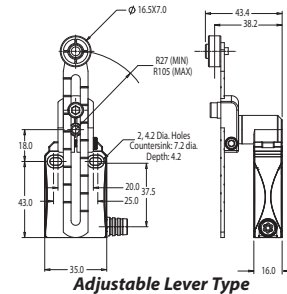
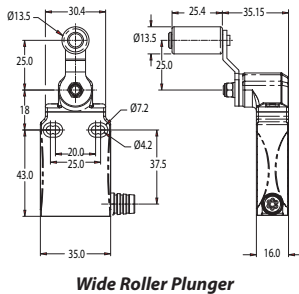
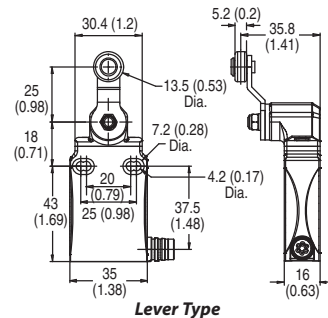
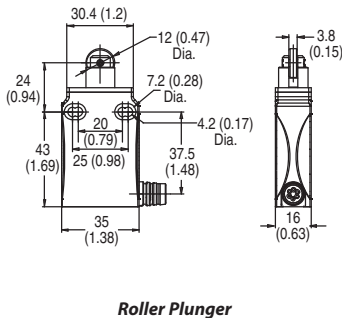
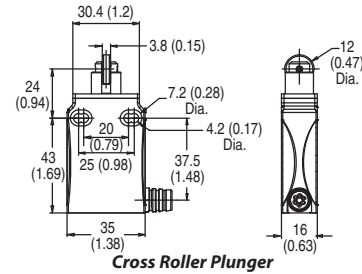
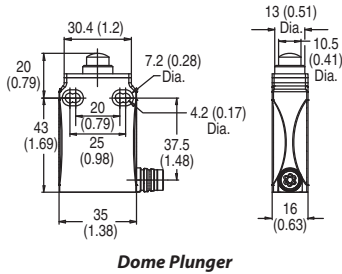
#### Typical Wiring Diagrams



#### Counter Sinkhole



#### Approximate Dimensions [mm (in.)]



**Note:** Only non-panel mount pre-leaded side out models shown. Body dimensions for panel mount models as well as pre-leaded bottom out and 4-pin/5-pin panel connector mounted on a 6 in. pigtail models are identical. For other dimension drawings, refer to Installation and Operating Instructions.

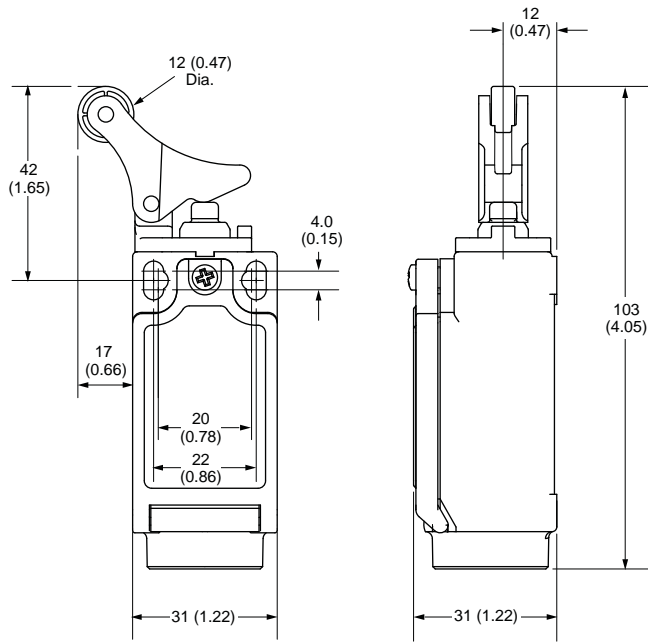
- Side cable style shows strain relief only. Units include a 2 m integral cable.
- Bottom cable style units have same dimensions as side cable style.
- Panel mount clearance hole = 13 mm (0.51 in.)

# Limit Switches

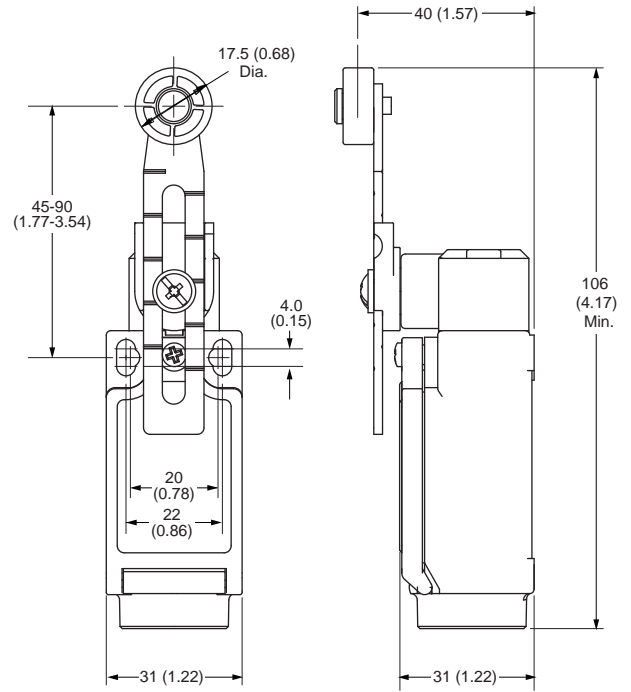
## 440P IEC Style Safety Limit Switches

### 22 mm Compact Metal Position Switches

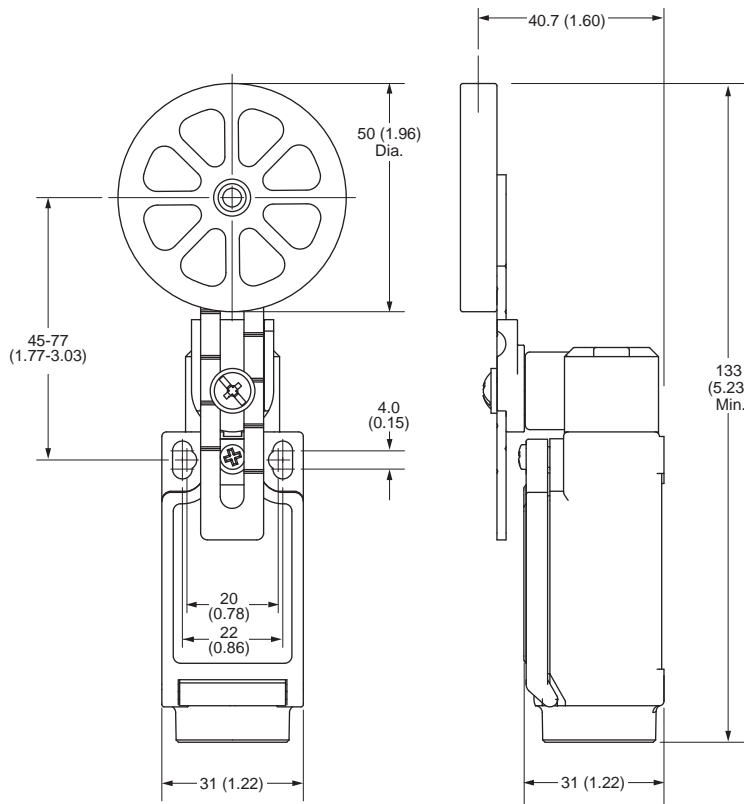
Approximate Dimensions [mm (in.)]



Offset Hinge



Adjustable Lever



Rubber Roller

# Limit Switches

## 440P IEC Style Limit Switches

### 22 mm Plastic Position Switches



#### Specifications

##### Safety Ratings

|                       |  |
|-----------------------|--|
| Standards             | EN 954-1, ISO 13849-1, IEC/EN 60204-1, NFPA 79, EN 1088, ISO 14119, IEC/EN 60947-5-1, ANSI B11.19, AS 4024.1                   |
| Safety Classification | Cat. 1 Device per EN 954-1 Dual channel limit switch suitable for Cat. 3 or 4 systems and used with a safety monitoring device |
| Certifications        | cULus Listed, TÜV, CCC, and CE Marked for all applicable directives  |

##### Outputs

|   |  |
|---|--|
| Safety Contacts ‡                         | 1 N.C. snap acting, 2 N.C. or 3 N.C. slow acting |
| Auxiliary Contacts                        | 1 N.O. (except 3 N.C. versions)                  |
| Thermal Current <sub>I<sub>th</sub></sub> | 10 A   |
| Rated Insulation Voltage                  | 600V AC  |
| Switching Current @ Voltage, Min.         | 25 mA @ 5V DC                                    |

##### Utilization Category

##### Contact Specification ✦

|            | (Ue) | 600V  | 500V   | 240V  | 120V  |
|------------|------|-------|--------|-------|-------|
| A600/AC-15 | (Ie) | 1.2 A | 1.4 A  | 3.0 A | 6.0 A |
| N600/DC-13 | (Ue) | 600V  | 500V   | 250V  | 125V  |
|            | (Ie) | 0.4 A | 0.55 A | 1.1 A | 2.2 A |

##### Operating Characteristics

|                           |  |
|---------------------------|--|
| Actuation Speed, Max.     | 250 mm/s   |
| Actuation Speed, Min.     | 100 mm/min   |
| Actuation Frequency, Max. | 6000 operation per hour                                |
| Mechanical Life           | 1 x 10 <sup>7</sup> operations with no electrical load |

##### Environmental

|                               |                            |
|-------------------------------|----------------------------|
| Enclosure Type Rating         | IP66                       |
| Operating Temperature [C (F)] | -25...+65 ° (-13...+149 °) |
| Pollution Degree              | 3                          |

##### Physical Characteristics

|                   |   |
|-------------------|---|
| Housing Material  | UL Approved glass-filled polybutylene terephthalate |
| Actuator Material | Various polymers and metals                         |
| Mounting          | 2 x M4, Any position                                |
| Vibration         | IEC 68-2-6 (10...55 Hz, 0.35 mm amplitude)          |
| Shock             | IEC 68-2-7 (30 Gn 3 pulses per axis)                |
| Conduit Entry     | M20 or 1/2 inch NPT                                 |
| Color             | Red   |

- ★ Usable for ISO 13849-1:2006 and IEC 62061. Data other than B10d is based on:  
 - Usage rate of 1op/10 mins., 24 hrs/day, 360 days/year, representing 51840 operations per year  
 - Mission time/Proof test interval of 38 years

- ‡ The safety contacts are described as normally closed (N.C.) i.e., with the guard closed, actuator in place (where relevant) and the machine able to be started.

- ✦ Maximum for:

##### Two-Circuit D4 4-Pin Micro Connector

| AC          | DC          |
|-------------|-------------|
| 250V, 2.5 A | 250V, 2.5 A |

##### Three-Circuit R6 6-Pin Micro Connector

| AC       | DC       |
|----------|----------|
| 30V, 2 A | 30V, 2 A |

Wiring Diagrams

**Two-Circuit Type D4 4-Pin Micro Connector**

|  |   | 1 N.C. + 1 N.O. |         |
|--|---|-----------------|---------|
|  |   | Terminal        | Contact |
|  | 1 | 11              | N.C.    |
|  | 3 | 12              |         |
|  | 2 | 23              | N.O.    |
|  | 4 | 24              |         |

**Connector Ratings**

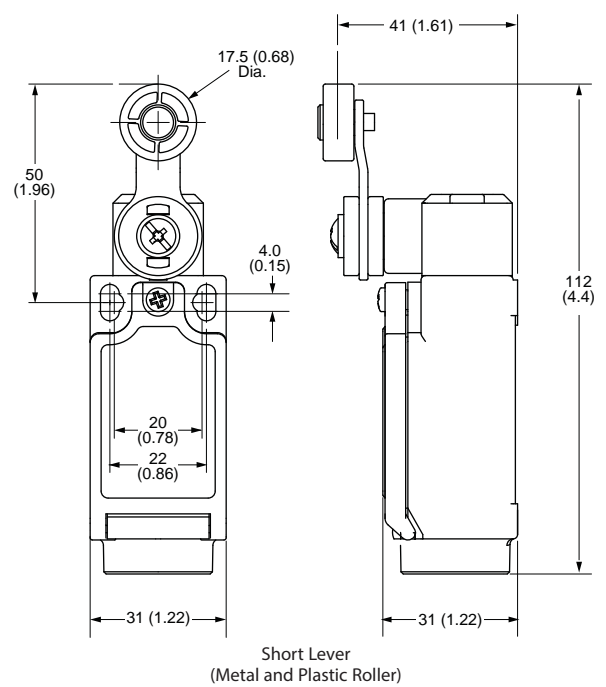
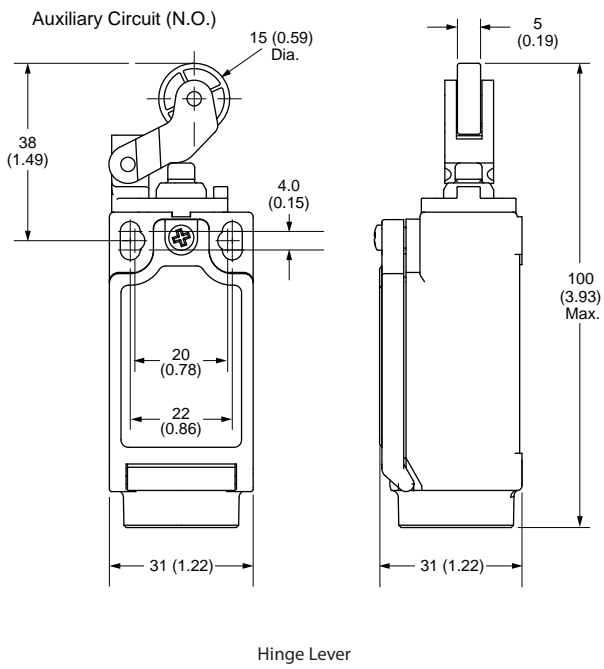
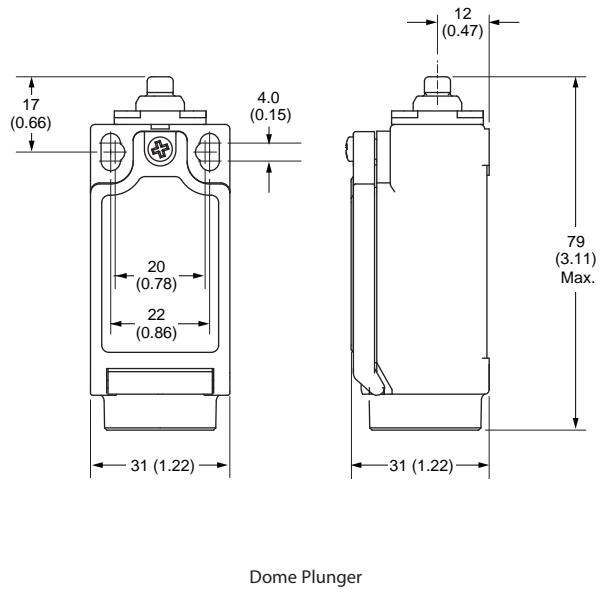
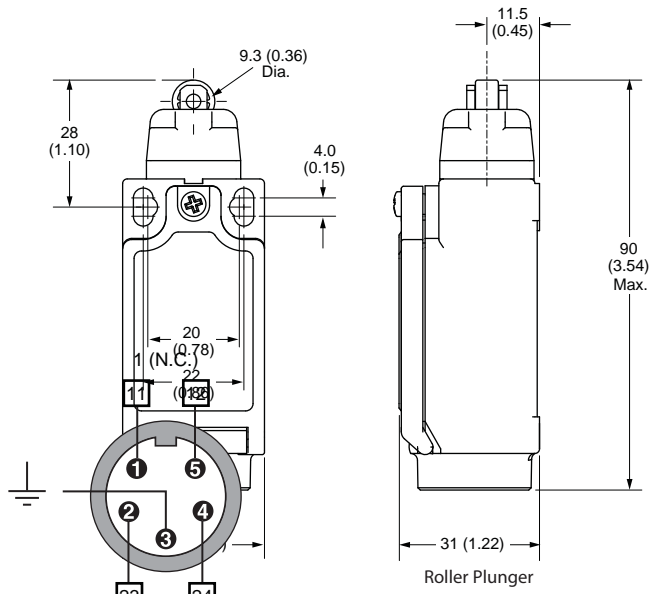
|                   | Max. Ratings |             | Applicable Standards |
|-------------------|--------------|-------------|----------------------|
|                   | AC           | DC          |                      |
| 4-Pin Micro (M12) | 250V, 2.5 A  | 250V, 2.5 A | IEC 61076-2-101:2003 |
| 6-Pin Micro (M12) | 30V, 2 A     | 30V, 2 A    |                      |

**Three-Circuit Type R6 6-Pin Micro Connector**

|  |   | 3 N.C.   |         | 2 N.C. + 1 N.O. |         |
|--|---|----------|---------|-----------------|---------|
|  |   | Terminal | Contact | Terminal        | Contact |
|  | 1 | 11       | N.C.    | 11              | N.C.    |
|  | 5 | 12       |         | 12              |         |
|  | 2 | 21       | N.C.    | 21              | N.C.    |
|  | 6 | 22       |         | 22              |         |
|  | 3 | 33       | N.O.    | 31              | N.C.    |
|  | 4 | 34       |         | 32              |         |

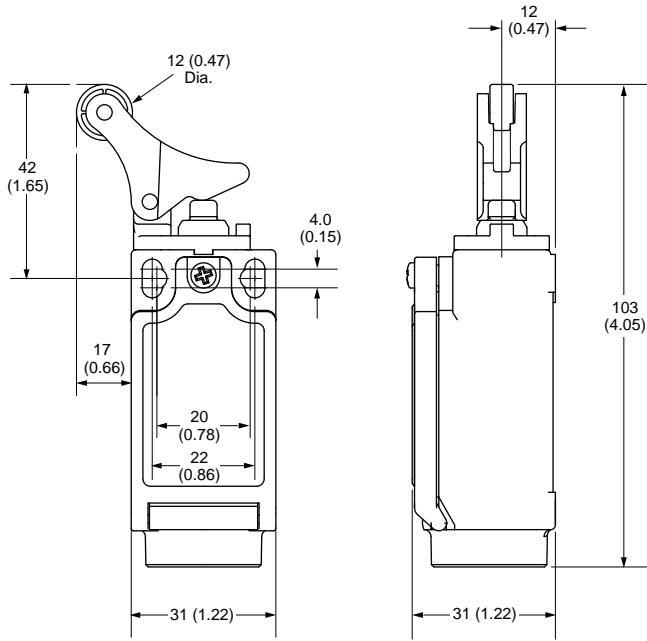
Limit Switches  
**440P IEC Style Limit Switches**  
 22 mm Plastic Position Switches

Approximate Dimensions [mm (in.)]

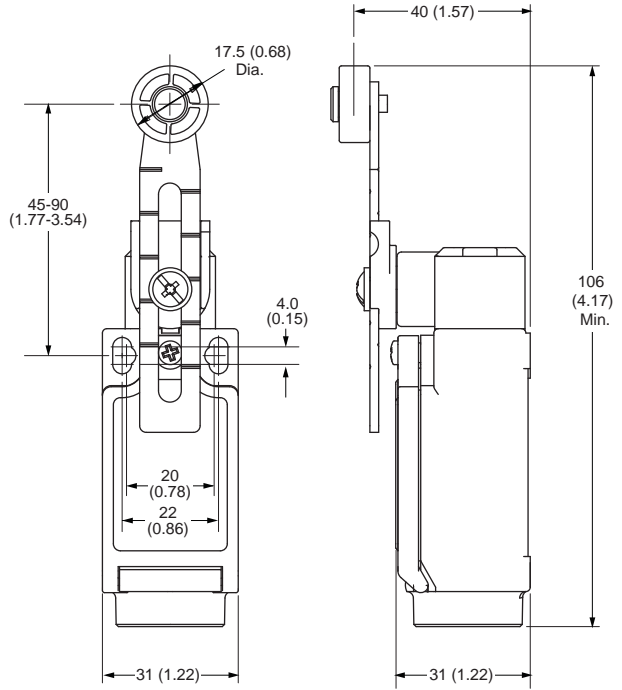


Limit Switches  
**440P IEC Style Safety Limit Switches**  
 22 mm Plastic Position Switches

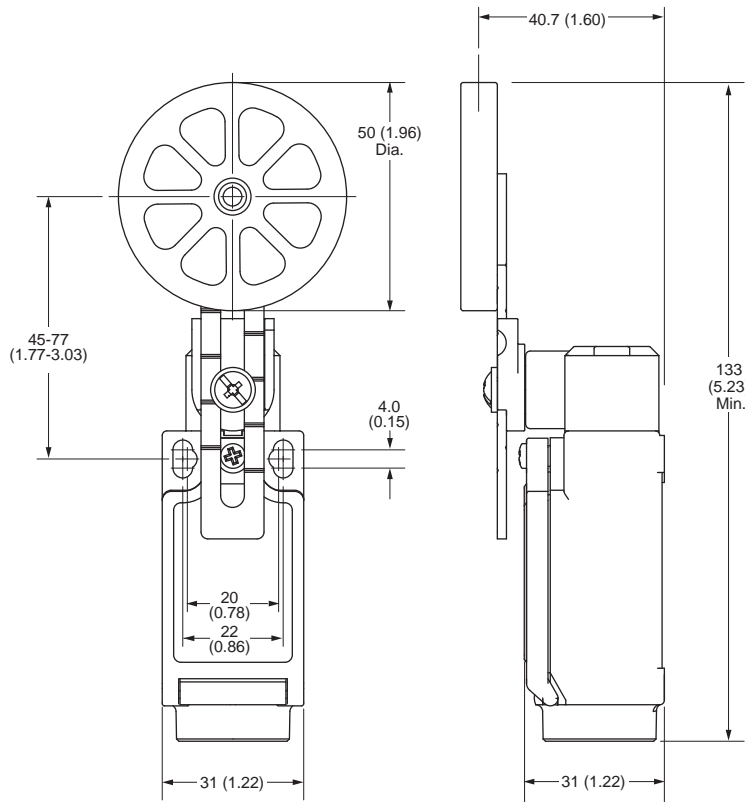
Approximate Dimensions [mm (in.)]



Offset Hinge



Adjustable Lever



Rubber Roller

# Limit Switches

## 440P IEC Style Limit Switches

### 30 mm Metal Position Switches



#### Specifications

| <b>Safety Ratings</b>             |   |                               |        |       |       |
|-----------------------------------|---|-------------------------------|--------|-------|-------|
| Standards                         | EN954-1, ISO13849-1, IEC/EN60204-1, NFPA79, EN1088, ISO14119, IEC/ EN60947-5-1, ANSI B11.19, AS4024.1                         |                               |        |       |       |
| Safety Classification             | Cat. 1 Device per EN954-1 Dual-channel limit switch suitable for Cat. 3 or 4 systems and used with a safety monitoring device |                               |        |       |       |
| Certifications                    | cULus Listed, TÜV, CE, and CCC Marked for all applicable directives   |                               |        |       |       |
| <b>Outputs</b>                    |   |                               |        |       |       |
| Safety Contacts ‡                 | 1 N.C. snap acting, 2 N.C., 3 N.C. or 4 N.C. slow acting  |                               |        |       |       |
| Auxiliary Contacts                | 1 N.O. (with 2 N.C.)  |                               |        |       |       |
| Thermal Current ( $I_{th}$ )      | 8 A   |                               |        |       |       |
| Rated Insulation Voltage          | 600V AC   |                               |        |       |       |
| Switching Current @ Voltage, Min. | 25 mA @ 5V DC   |                               |        |       |       |
| <b>Utilization Category</b>       |   | <b>Contact Specification§</b> |        |       |       |
| A600/AC-15                        | (Ue)  | 600V                          | 500V   | 240V  | 120V  |
|                                   | (Ie)  | 1.2 A                         | 1.4 A  | 3.0 A | 6.0 A |
| N600/DC-13                        | (Ue)  | 600V                          | 500V   | 250V  | 125V  |
|                                   | (Ie)  | 0.4 A                         | 0.55 A | 1.1 A | 2.2 A |
| <b>Operating Characteristics</b>  |   |                               |        |       |       |
| Actuation Speed, Max.             | 250 mm/s  |                               |        |       |       |
| Actuation Speed, Min.             | 100 mm/min  |                               |        |       |       |
| Actuation Frequency, Max.         | 6000 operations per hour  |                               |        |       |       |
| Mechanical Life                   | 1 x 10 <sup>7</sup> operations with no electrical load  |                               |        |       |       |
| <b>Environmental</b>              |   |                               |        |       |       |
| Enclosure Type Rating             | IP66  |                               |        |       |       |
| Operating Temperature [C (F)]     | -25...+65 ° (-13...+176 °)  |                               |        |       |       |
| Pollution Degree                  | 3   |                               |        |       |       |
| <b>Physical Characteristics</b>   |   |                               |        |       |       |
| Housing Material                  | Die-cast alloy  |                               |        |       |       |
| Actuator Material                 | Various polymers and metals   |                               |        |       |       |
| Mounting                          | 2 x M5, any position  |                               |        |       |       |
| Vibration                         | IEC 68-2-6 (10...55 Hz, 0.35 amplitude)   |                               |        |       |       |
| Shock                             | IEC 68-2-7 (30 Gn 3 pulses per axis)  |                               |        |       |       |
| Conduit Entry                     | M20 or 1/2 inch NPT   |                               |        |       |       |
| Color                             | Red   |                               |        |       |       |

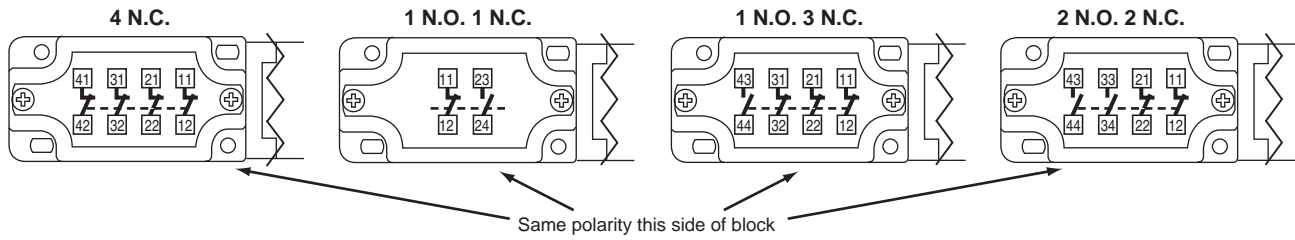
‡ The safety contacts are described as normally closed (N.C.) i.e., with the guard closed, actuator in place (where relevant) and the machine able to be started.

§ Maximum for:

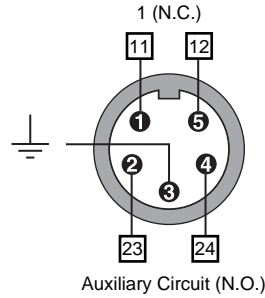
| <b>Two-Circuit N5 5-Pin Mini Connector</b>  |             |
|---|-------------|
| AC  | DC          |
| 300V, 2.5 A                                 | 300V, 2.5 A |
| <b>Four-Circuit M9 12-Pin M23 Connector</b> |             |
| AC  | DC          |
| 60V, 2.5 A                                  | 60V, 2.5 A  |



Typical Wiring Diagrams



N5 Connector 2 Circuit 5-Pin Mini Connector



Connector Ratings

|                  | Max. Ratings |             | Applicable Standards |
|------------------|--------------|-------------|----------------------|
|                  | AC           | DC          |                      |
| 5-Pin Mini (M12) | 300V, 2.5 A  | 300V, 2.5 A | IEC 61076-2-101:2003 |
| 12-Pin (M23)     | 60V, 2.5 A   | 60V, 2.5 A  |                      |

M9 12-Pin M23 Connector

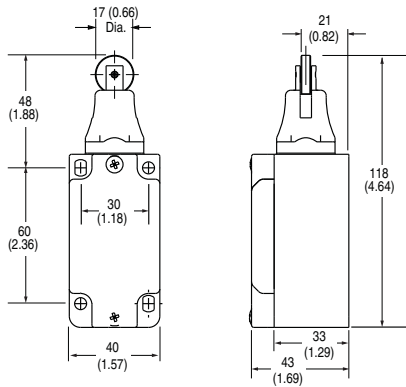
| Connector Pinout | 4 N.C.   |         | 3 N.C. 1 N.O. |         | 3 N.C.   |         |  |
|------------------|----------|---------|---------------|---------|----------|---------|--|
|                  | Terminal | Contact | Terminal      | Contact | Terminal | Contact |  |
|                  | 1        | 11      | 11            | N.C.    | 11       | N.C.    |  |
|                  | 3        | 12      | 12            | N.C.    | 12       | N.C.    |  |
|                  | 4        | 21      | 21            | N.C.    | 21       | N.C.    |  |
|                  | 6        | 22      | 22            | N.C.    | 22       | N.C.    |  |
|                  | 7        | 31      | 31            | N.C.    | 33       | N.O.    |  |
|                  | 8        | 32      | 32            | N.C.    | 34       | N.O.    |  |
|                  | 9        | 41      | 43            | N.O.    | 43       | N.O.    |  |
|                  | 10       | 42      | 44            |         | 44       |         |  |
|                  | 12       | Ground  |               |         |          |         |  |

# Limit Switches

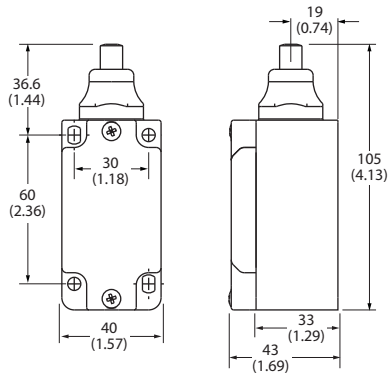
## 440P IEC Style Limit Switches

### 30 mm Metal Position Switches

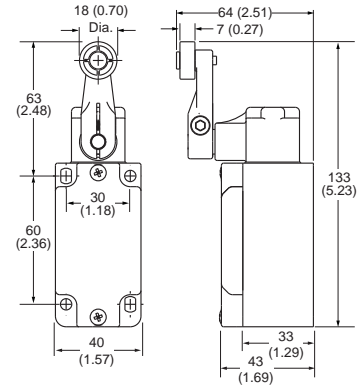
Approximate Dimensions [mm (in.)]



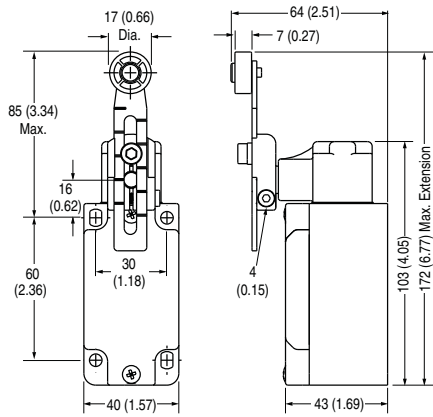
**Roller Plunger**



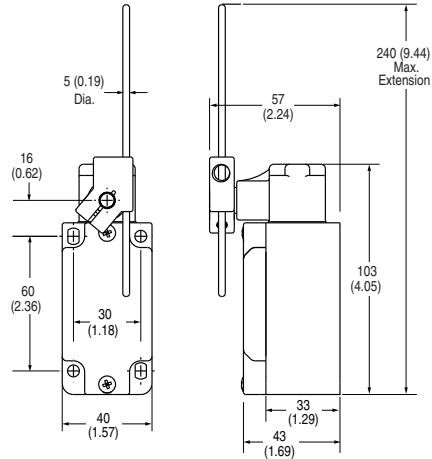
**Dome Plunger**



**Short Lever  
(Metal & Plastic Roller)**



**Adjustable Lever**



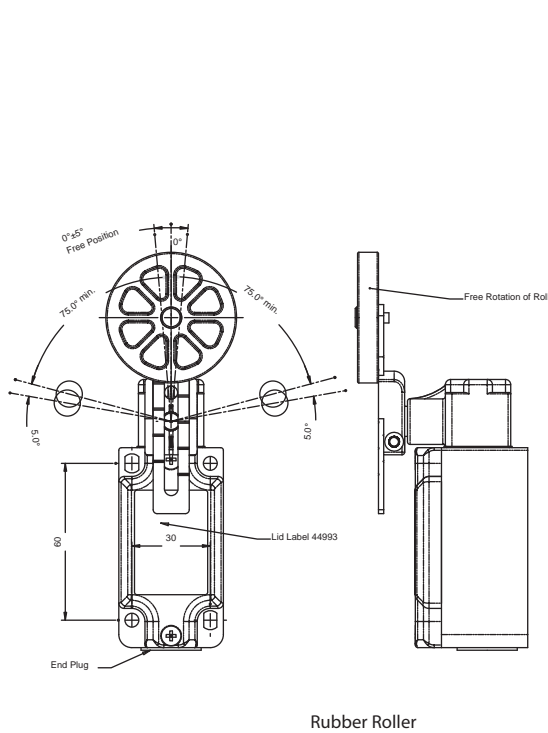
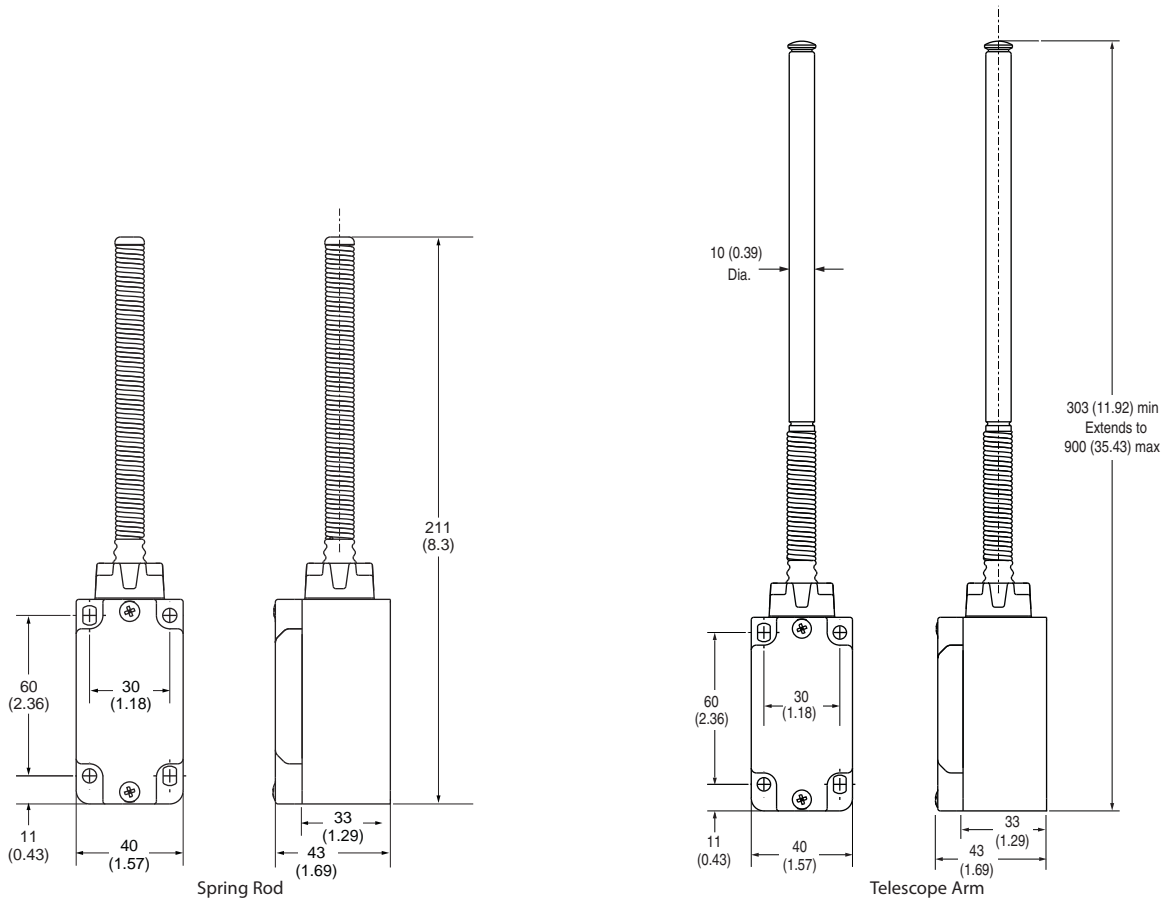
**Rod Lever**

# Limit Switches

## 440P IEC Style Safety Limit Switches

### 30 mm Metal Position Switches

Approximate Dimensions [mm (in.)]



# Limit Switches

## 440P IEC Style Limit Switches

### 15 mm Plastic Position Switches



Imp 1



Imp 2

#### Specifications

##### Safety Ratings

|  |  |
|--|--|
| Standards  | EN 954-1, ISO 13849-1, IEC/EN 60204-1, NFPA 79, EN 1088, ISO 14119, IEC/ EN 60947-5-1, ANSI B11.19, AS 4024.1  |
| Safety Classification  | Cat. 1 Device per EN954-1 Dual channel limit switch suitable for Cat. 3 or 4 systems   |
| Functional Safety Data ★<br>Note: For up-to-date information, visit <a href="http://www.ab.com/Safety/">http://www.ab.com/Safety/...</a> | B10d = > 2 x 10 <sup>6</sup> operations at min. load<br>PFH <sub>D</sub> = > 3 x 10 <sup>-7</sup><br>MTTFd = > 385 years<br>Dual channel interlock may be suitable for Performance levels Plc or Pld (according to ISO 13849-1:2006) and for use in SIL2 or SIL3 systems (according to IEC 62061) depending on application characteristics |
| Certifications   | CE Marked for all applicable directives and CSA NRTL/C   |

##### Outputs

|                                   |                       |
|-----------------------------------|-----------------------|
| Safety Contacts ‡                 | 1 N.C. positive break |
| Auxiliary Contacts                | 1 N.O.                |
| Thermal Current <sub>Ith</sub>    | 10 A (Ith)            |
| Rated Insulation Voltage          | (Ui) 500V             |
| Switching Current @ Voltage, Min. | 25 mA @ 5V DC         |

##### Utilization Category

|       |      |       |      |      |
|-------|------|-------|------|------|
| AC-15 | (Ue) | 500V  | 250V | 100V |
|       | (Ie) | 1 A   | 2 A  | 5 A  |
| DC    | (Ue) | 250V  | 24V  |      |
|       | (Ie) | 0.5 A | 2 A  |      |

##### Operating Characteristics

|                           |                       |
|---------------------------|-----------------------|
| Actuation Speed, Max.     | 160 mm (6.29 in.)/s   |
| Actuation Speed, Min.     | 100 mm (3.93 in.)/min |
| Actuator Travel, Max.     | 5 mm (0.20 in.)       |
| Actuation Frequency, Max. | 2 cycles/s            |
| Mechanical Life           | 10,000,000 operations |
| Electrical Life           | 1,000,000 operations  |
| Mechanical Life           | 10,000,000 operations |

##### Environmental

|                               |                            |
|-------------------------------|----------------------------|
| Enclosure Type Rating         | IP30                       |
| Operating Temperature [C (F)] | -25...+80 ° (-13...+176 °) |
| Pollution Degree              | 3                          |

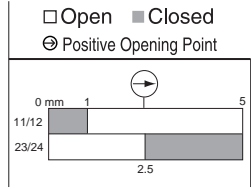
##### Physical Characteristics

|                   |                              |
|-------------------|------------------------------|
| Housing Material  | UL Approved glass-filled PBT |
| Actuator Material | Stainless steel              |
| Mounting          | 2 x M4 front or 2 x M3 top   |
| Vibration         | 10...55 Hz                   |
| Shock             | 11 ms @ 30 g                 |
| Conduit Entry     | 3x break-outs                |
| Color             | Red                          |

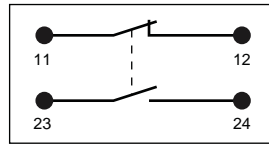
- ★ Usable for ISO 13849-1:2006 and IEC 62061. Data other than B10d is based on:
- Usage rate of 1op/10 mins., 24 hrs/day, 360 days/year, representing 51840 operations per year
  - Mission time/Proof test interval of 38 years

- ‡ The safety contacts are described as normally closed (N.C.) i.e., with the guard closed, actuator in place (where relevant) and the machine able to be started.

**Contact Action**

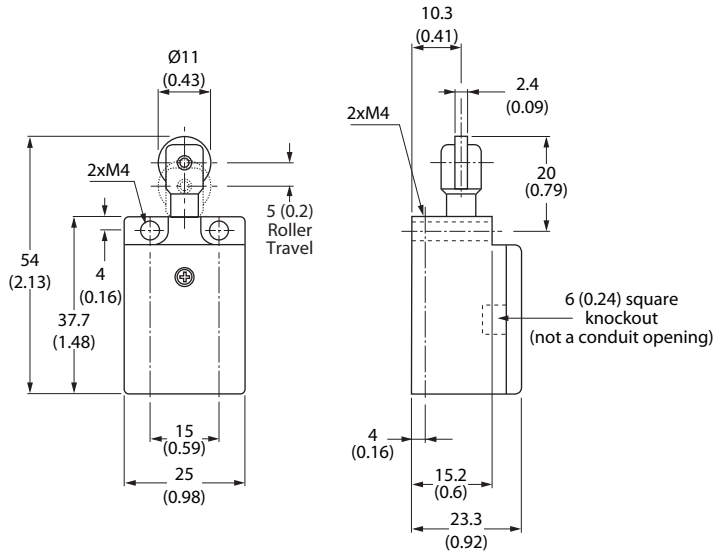


**Wiring Diagrams**



**1 N.O. & 1 N.C.**

**Approximate Dimensions [mm (in.)]**



# Limit Switches

## 802K IEC Style Limit Switches

### 30 mm Metal General Purpose Switches

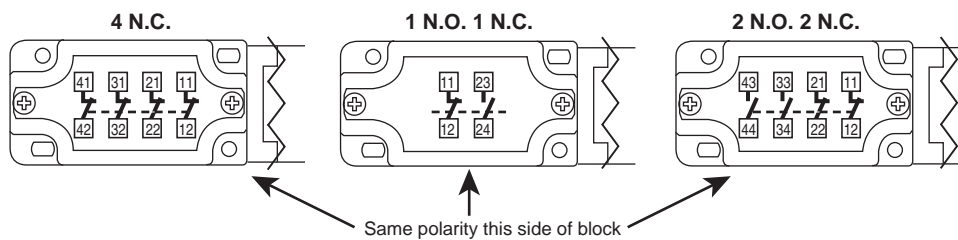


#### Specifications

|                                  |  |                              |        |       |       |
|----------------------------------|--|------------------------------|--------|-------|-------|
| Standards                        | IEC/EN60204-1, NFPA79, AS4024.1                        |                              |        |       |       |
| Certifications                   | cULus and CE Marked for all applicable directives      |                              |        |       |       |
| <b>Outputs</b>                   |  |                              |        |       |       |
| Contacts                         | 1 N.C. snap acting, 2 N.C. or 4 N.C. slow acting       |                              |        |       |       |
| Auxiliary Contacts               | 1 N.O. (with 1 N.C.) or 2 N.O. (with 2 N.C.)           |                              |        |       |       |
| Thermal Current ( $I_{th}$ )     | 8 A  |                              |        |       |       |
| Rated Insulation Voltage         | 600V AC  |                              |        |       |       |
| <b>Utilization Category</b>      |  | <b>Contact Specification</b> |        |       |       |
| A600/AC-15                       | (Ue)   | 600V                         | 500V   | 240V  | 120V  |
|                                  | (Ie)   | 1.2 A                        | 1.4 A  | 3.0 A | 6.0 A |
| N600/DC-13                       | (Ue)   | 600V                         | 500V   | 250V  | 125V  |
|                                  | (Ie)   | 0.4 A                        | 0.55 A | 1.1 A | 2.2 A |
| <b>Operating Characteristics</b> |  |                              |        |       |       |
| Actuation Speed, Max.            | 250 mm/s   |                              |        |       |       |
| Actuation Speed, Min.            | 100 mm/min   |                              |        |       |       |
| Actuation Frequency, Max.        | 6000 operations per hour                               |                              |        |       |       |
| Mechanical Life                  | 1 x 10 <sup>7</sup> operations with no electrical load |                              |        |       |       |
| <b>Environmental</b>             |  |                              |        |       |       |
| Enclosure Type Rating            | IP66   |                              |        |       |       |
| Operating Temperature [C (F)]    | -25...+65 ° (-13...+149 °)                             |                              |        |       |       |
| Pollution Degree ★               | 3  |                              |        |       |       |
| <b>Physical Characteristics</b>  |  |                              |        |       |       |
| Housing Material                 | Die-cast alloy   |                              |        |       |       |
| Actuator Material                | Various polymers and metals                            |                              |        |       |       |
| Mounting                         | 2 x M5, any position                                   |                              |        |       |       |
| Vibration                        | IEC 68-2-6 (10...55 Hz, 0.35 amplitude)                |                              |        |       |       |
| Shock                            | IEC 68-2-7 (30 Gn 3 pulses per axis)                   |                              |        |       |       |
| Conduit Entry                    | M20 or 1/2 inch NPT                                    |                              |        |       |       |
| Color                            | Black  |                              |        |       |       |

★ Conductive pollution occurs, or dry, nonconductive pollution occurs which becomes conductive due to condensation.

#### Typical Wiring Diagrams

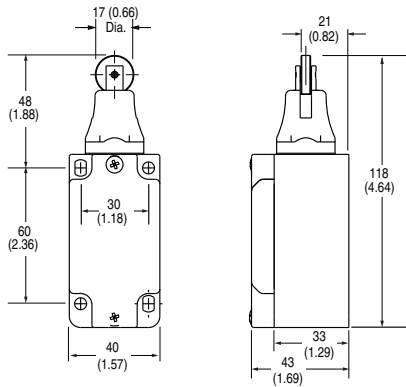


# Limit Switches

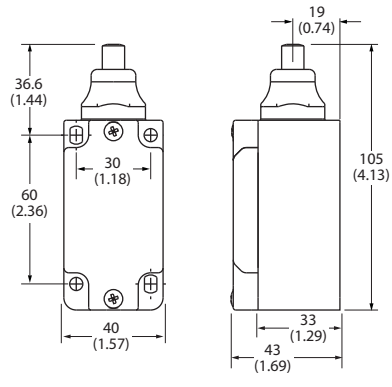
## 440P IEC Style Safety Limit Switches

### 30 mm Metal General Purpose Switches

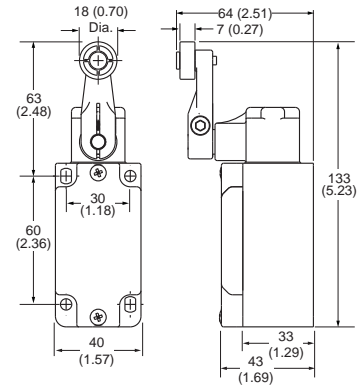
#### Approximate Dimensions [mm (in.)]



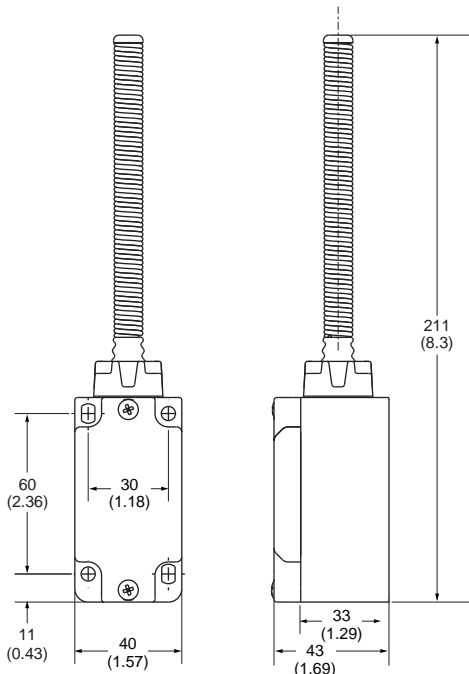
**Roller Plunger**



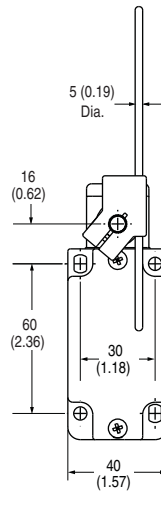
**Dome Plunger**



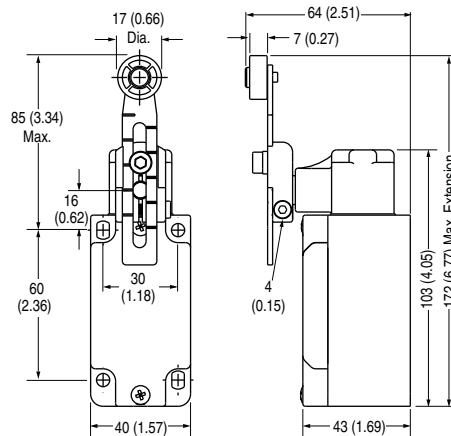
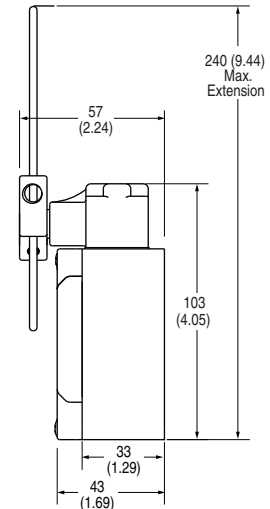
**Short Lever  
(Metal & Plastic Roller)**



**Spring Rod**



**Rod Lever**



**Adjustable Lever**

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<http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>

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