# 802B Compact, Precision and Small Precision

*Compact*

*Precision*

*Small Precision*

## Description

Bulletin 802B consists of different body styles: compact, precision and small precision. Each style has been designed to withstand the rugged environments that industrial applications demand. Each style utilizes industry standard mounting dimensions and operating characteristics. The 802B family of limit switches can be mounted in areas that traditional NEMA limit switches can not, due to their size and mounting options.

The 802B compact limit switch uses a die-cast housing with a 3m prewired cable. This limit switch is available with 13 unique head configurations. Each head style can be ordered as a standard model, LED indicator model, or as a low current model. The compact limit switch maintains NEMA 6 and IP67 enclosure ratings by utilizing a triple seal construction.

The 802B precision limit switch uses a die-cast housing with 1/2 NPT conduit entry. This limit switch is available with 5 unique head configurations. Each different head is available as standard or with a rubber boot for additional sealing. Two different mounting styles are available. Side mount or flange rubber boot for additional sealing. Two different mounting styles are available: side mount or flange mount.

The 802B small precision limit switch is similar to the 802B Precision limit switch with some additional features. This switch offers an enclosure rating of

NEMA 6 and IP67 which is achieved by a rubber cable gland sealing the control cable entry. This limit switch offers 12 different head configurations, including some that are unique to this product offering.

## 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 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 ❶ | Approx. 10,000,000 operations ❶ | Approx. 10,000,000 operations ❷ |
| **Electrical Life** | Approx. 200,000 operations (3 A 250 V AC, resistive load) ❶ | Approx. 500,000 operations (15 A 250 V AC, resistive load) ❶ | Approx. 500,000 operations (10 A 250 V AC, resistive load) ❷ |
| **Operating Speed** | | | |
| **Top Push** | 0.1 mm…0.5 m per second | 0.01 mm…0.5 m per second | 0.05 mm…0.5 m per second |
| **Side Rotary** | 1 mm…1 m per second | — | — |
| **Lever Type** | — | 0.02 mm…0.5 m per second | — |
| **Operating Frequency** | | | |
| **Mechanical** | 120 operations/minute | 120 operations/minute | 120 operations/minute |
| **Electrical** | 30 operations/minute | 20 operations/minute | 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 |
| **Short Circuit Protection** | 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 | SPDT Form C | SPDT Form C |

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

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

## Features

- Rugged die-cast housing
- Industry standard dimensions
- Compact size
- Multiple mounting options
- Wide range of operating voltage and current ratings

## Style

## Specifications

### Compact

| Rated Voltage | Non-Inductive Resistive Load | Inductive Load | | | Inrush Current | |
|---|---|---|---|---|---|---|
| | | Inductive | Motor Load N/O | Motor Load N/C | N/O | N/C |
| **Standard Models** | | | | | | |
| 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 | | |
| **AC LED Models** | | | | | | |
| 125V AC | 5 A | 3 A | 1.3 A | 2.5 A | | |
| 125V DC | 0.4 A | 0.4 A | 0.05 A | 0.05 A | | |
| **DC LED Models** | | | | | | |
| 30V DC | 4 A | 3 A | 3 A | 3 A | | |
| **Low Current Models** | | | | | | |
| 125V AC | 0.1 A | — | | | | |
| 8V DC | 0.1 A | | | | | |
| 14V DC | 0.1 A | | | | | |
| 30V DC | 0.1 A | | | | | |

**UL/CSA Approved Ratings**

| NEMA Rating Designation | Rated Voltage | A Make | A Break | Continuous Current | Volt | Amps |
|---|---|---|---|---|---|---|
| B300 | 120V AC | 30 | 3 | 5 | 3,600 | 360 |
| | 240V AC | 15 | 1.5 | | | |
| **AC LED Versions** | | | | | | |
| B150 | 120V AC | 30 | 3 | 5 | 3,600 | 360 |

**Leakage Current for LED Models**

| | 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 | Motor Load N/C | N/O | N/C | Rated Voltage | Current | Horsepower |
| 125V AC | 15 A | 15 A | 2.5 A | 5 A | 15 A max | 30 A max | 120V AC | 15 A | 1/8 HP 1/4 HP |
| 250V AC | 15 A | 2.5 A | 1.5 A | 3 A | | | 250V AC | 15 A | |
| 480V AC | 10A | 1.5 A | 0.75 A | 1.5 A | | | 480V AC | 15 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 | |

### Small Precision

| Rated Voltage | Non-Inductive Resistive Load | Inductive Load | | | Inrush Current | | UL/CSA Approved Ratings | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inductive | Motor Load N/O | Motor Load N/C | N/O | N/C | NEMA Rating Designation | Rated Voltage | A Make | A Break | Continuous Current | Volt | Amps |
| 125V AC | 10A | 10 A | 2.5 A | 5 A | 15 A max | 30 A max | A300 | 120V AC | 60 | 6 | 10 | 7,200 | 720 |
| 250V AC | 10A | 10 A | 1.5 A | 3 A | | | | 240V AC | 30 | 3 | | | |
| 8V DC | 10A | 6 A | 2.5 A | 5 A | | | | | | | | | |
| 14V DC | 10A | 6 A | 2.5 A | 5 A | | | | | | | | | |
| 30V DC | 6A | 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 | | | | | | | | | | |

*Rotary Arm*

*Center Rotary Arm*

*Wobble Stick*

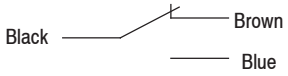
## Product Selection

| Head Type | Torque to Operate | Travel to Operate | Reference Value | | Output Type | Cat. No. | |
|---|---|---|---|---|---|---|---|
| | | | Max Travel | Travel to Reset | | Pre-leaded | Quick-Disconnect❶ |
| Rotary Arm | 0.216 N•m (2 lb•in.) | 25° | 70° | 3° | Standard | **802B-CSAAXSXC3** | 802B-CSAAXSXD4 |
| | | | | | | | 802B-CSAAXSXR4 |
| | | | | | AC LED | 802B-CSAAXSLC3 | 802B-CSAAXSLR4 |
| | | | | | DC LED | 802B-CSDAXSLC3 | 802B-CSDAXSLD4 |
| | | | | | Low Voltage/Current | 802B-CSDAXSXC3 | — |
| Center Rotary Arm | 0.216 N•m (2 lb•in.) | 10 ±3° | 65° | 4° | Standard | 802B-CSAA2XSXC3 | — |
| | | | | | AC LED | 802B-CSAA2XSLC3 | — |
| | | | | | DC LED | 802B-CSDA2XSLC3 | — |
| | | | | | Low Voltage/Current | 802B-CSDA2XSXC3 | — |
| Wobble Stick | 0.118 N•m (1.04 lb•in.) | 15° | 18° (Nominal Value) | 11° (Nominal Value) | Standard | **802B-CSACXSXC3** | 802B-CSACXSXD4 |
| | | | | | | | 802B-CSACXSXR4 |
| | | | | | AC LED | 802B-CSACXSLC3 | — |
| | | | | | DC LED | 802B-CSDCXSLC3 | — |
| | | | | | Low Voltage/Current | 802B-CSDCXSXC3 | — |

## Wiring

**Pre-leaded Models**

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

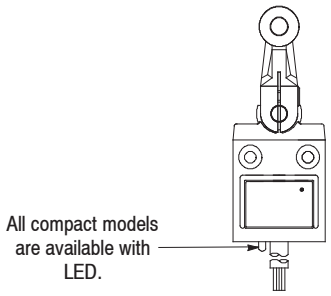



**Quick-Disconnect Models**

| 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. | Male Receptacle | Pin 4 = N/C | Male Receptacle |





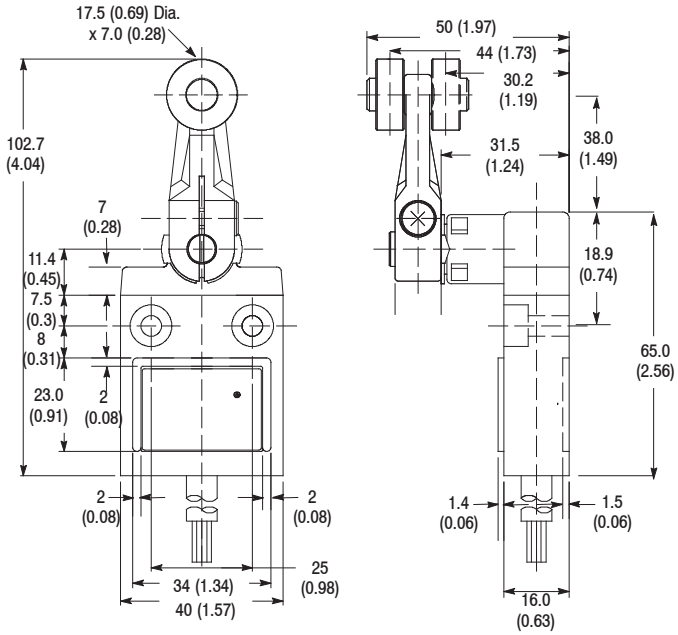



❶ For quick-disconnect versions the last two digits indicate connector type:
802B-xxxxxxxD4 Indicates a 4-pin DC micro style connector
802B-xxxxxxxR4 Indicates a 4-pin AC micro style connector

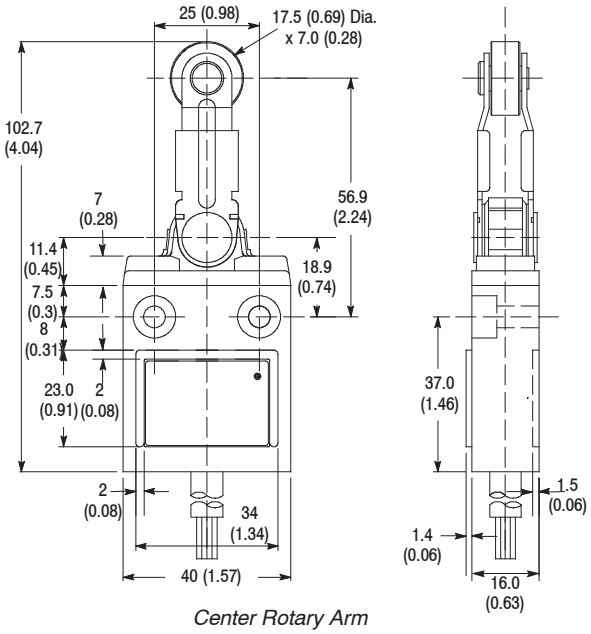
QD is on a 6 inch pigtail.

An appropriate female connector with cable is available in Connection Systems.
4-pin micro DC = (889D-F4AC-2) on page 8-16
4-pin micro DC = (889R-F4AEA-2) on page 8-28

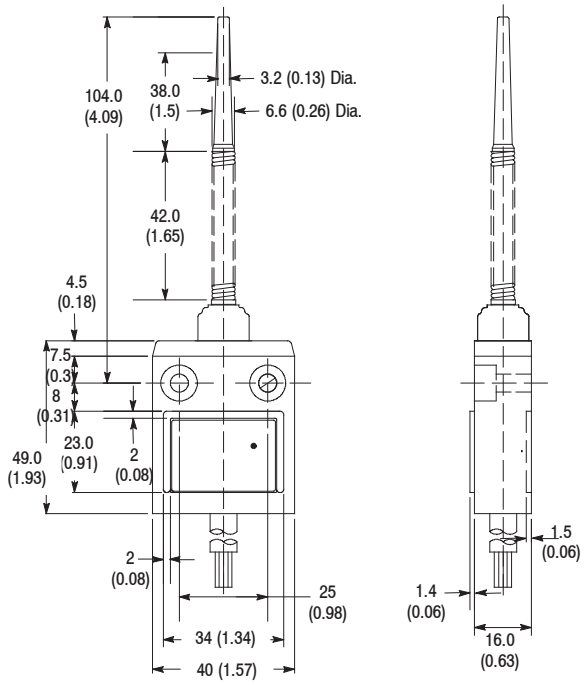
## Approximate Dimensions [mm (in.)]




*Rotary Arm*




*Center Rotary Arm*




*Wobble Stick*

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