

Small, High-Precision Switches
Ideal for Gang Mounting

- Requires less operating force than conventional limit switches for improved precision
- Highly accurate repeatability to 0.01 mm (0.0004 inches)
- Prewired types with molded terminals available on special request
- Long service life, economical
- UL/CSA and CE approvals



Ordering Information

■ STANDARD SWITCHES

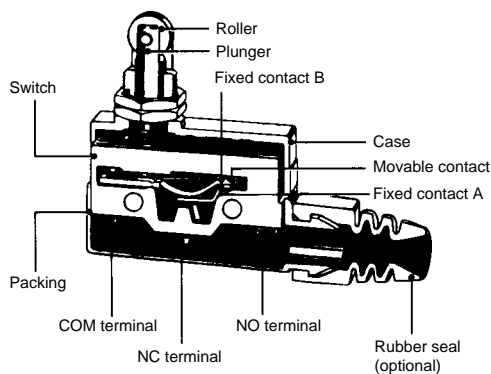
| Actuator type | Part number | Actuator type | Part number |
|----------------------------------|-------------|---|-------------|
| Pin plunger | ZC-D55 | Short hinge lever | ZC-W55 |
| Panel mount plunger | ZC-Q55 | Hinge lever | ZC-W155 |
| Panel mount roller plunger | ZC-Q2255 | Short hinge roller lever | ZC-W255 |
| Panel mount cross roller plunger | ZC-Q2155 | Hinge roller lever | ZC-W2155 |
| Sealed roller plunger | ZC-N2255 | One-way action short hinge roller lever | ZC-W355 |
| Sealed cross roller plunger | ZC-N2155 | One-way action hinge roller lever | ZC-W3155 |

Note: All models include a rubber seal.

■ ACCESSORIES

| Description | Part number |
|-------------|-------------|
| Rubber seal | SC-R40 |

Construction



Specifications

■ RATINGS

Maximum Carrying Currents

| Rated voltage | Non-inductive load (amps) | | | | Inductive load (amps) | | | | Inrush current (amps) | |
|---------------|---------------------------|------|-----------|------|-----------------------|------|------------|------|-----------------------|---------|
| | Resistive load | | Lamp load | | Inductive load | | Motor load | | | |
| | NC | NO | NC | NO | NC | NO | NC | NO | NC | NO |
| 125 VAC | 10 | 10 | 3 | 1.5 | 10 | 10 | 5 | 2.5 | 30 max. | 15 max. |
| 250 VAC | 10 | 10 | 2.5 | 1.25 | 10 | 10 | 3 | 1.5 | | |
| 480 VAC | 3 | 3 | 1.5 | 0.75 | 2.5 | 2.5 | 1.5 | 0.75 | | |
| 8 VDC | 10 | 10 | 3 | 1.5 | 6 | 6 | 5 | 2.5 | | |
| 14 VDC | 10 | 10 | 3 | 1.5 | 6 | 6 | 5 | 2.5 | | |
| 30 VDC | 6 | 6 | 3 | 1.5 | 5 | 5 | 5 | 2.5 | | |
| 125 VDC | 0.5 | 0.5 | 0.4 | 0.4 | 0.05 | 0.05 | 0.05 | 0.05 | | |
| 250 VDC | 0.25 | 0.25 | 0.2 | 0.2 | 0.03 | 0.03 | 0.03 | 0.03 | | |

Note:

1. Inductive load has a power factor of 0.4 (AC) and a time constant of 7 msec (DC).
2. Lamp load has an inrush current of 10 times the steady-state current while motor load has an inrush current of 6 times the steady-state current.

■ CHARACTERISTICS

| | | |
|-------------------------------|-------------------------------|---|
| Enclosure rating | UL | — |
| | NEMA | Types 1, 2, 3, 4, 5, and 13 (-N models); Types 1, 2, 3 and 4 all others |
| | IEC 144 | IP67 (-N models); IP60 all others |
| Mechanical life | 10,000,000 operations minimum | |
| Ambient operating temperature | -10° to 80°C (14° to 176°F) | |
| Vibration | Malfunction durability | 10 to 55 Hz, 1.5 mm (0.06 in) double amplitude |
| Shock | Malfunction durability | 30 G for plunger types, 20 G for lever types |
| | Mechanical durability | 100 G |

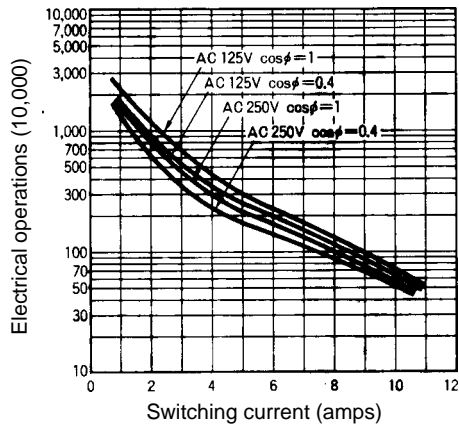
■ OPERATING CHARACTERISTICS

Legend: OF = Operating Force (max.); RF = Reset Force (min.); OT = Overtravel (min.); PT = Pretravel;
MD = Movement Differential (max.); OP = Operating Position

| Part number | Description | OF | RF | OT | PT | MD | OP |
|-------------|-----------------------------------|----------------------|---------------------|----------------------|----------------------|----------------------|---------------------------------|
| ZC-D55 | Pin plunger | 1200 g (42.3 oz.) | 500 g (17.6 oz.) | 2.4 mm (0.094 in) | 1.5 mm (0.059 in) | 0.2 mm (0.008 in) | 32.4 ±0.8 mm (1.29 ±0.03 in) |
| ZC-Q55 | Panel mount pin plunger | 1200 g (42.3 oz.) | 500 g (17.6 oz.) | 3 mm (0.118 in) | 1.5 mm (0.059 in) | 0.2 mm (0.008 in) | 38.2 ±0.8 mm (1.50 ±0.03 in) |
| ZC-Q2255 | Panel mount roller plunger | 1200 g (42.3 oz.) | 500 g (17.6 oz.) | 3 mm (0.118 in) | 1.5 mm (0.059 in) | 0.2 mm (0.008 in) | 47.4 ±0.8 mm (1.87 ±0.03 in) |
| ZC-Q2155 | Panel mount cross roller plunger | 1200 g (42.3 oz.) | 500 g (17.6 oz.) | 3 mm (0.118 in) | 1.5 mm (0.059 in) | 0.2 mm (0.008 in) | 47.4 ±0.8 mm (1.87 ±0.03 in) |
| ZC-N2255 | Sealed roller plunger | 700 g (24.7 oz.) | 170 g (6.0 oz.) | 2.5 mm (0.098 in) | 1.5 mm (0.059 in) | 0.2 mm (0.008 in) | 47.7 ±0.8 mm (1.87 ±0.03 in) |
| ZC-N2155 | Sealed cross roller plunger | 700 g (24.7 oz.) | 170 g (6.0 oz.) | 2.5 mm (0.098 in) | 1.5 mm (0.059 in) | 0.2 mm (0.008 in) | 47.4 ±0.8 mm (1.87 ±0.03 in) |
| ZC-W55 | Short hinge lever | 400 g (14.1 oz.) | 80 g (2.8 oz.) | 6 mm (0.236 in) | 5 mm (0.197 in) | 1 mm (0.039 in) | 29.5 ±1.2 mm (1.12 ±0.05 in) |
| ZC-W155 | Hinge lever | 280 g (9.9 oz.) | 60 g (2.1 oz.) | 8.4 mm (0.331 in) | 7 mm (0.276 in) | 1.4 mm (0.055 in) | 29.5 ±1.2 mm (1.12 ±0.05 in) |
| ZC-W255 | Short hinge roller lever | 400 g (14.1 oz.) | 80 g (2.8 oz.) | 6 mm (0.236 in) | 5 mm (0.197 in) | 1 mm (0.039 in) | 43 ±1.2 mm (29.5 ±0.05 in) |
| ZC-W2155 | Hinge roller lever | 280 g (9.9 oz.) | 60 g (2.1 oz.) | 8.4 mm (0.331 in) | 7 mm (0.276 in) | 1.4 mm (0.055 in) | 43 ±1.2 mm (1.69 ±0.05 in) |
| ZC-W355 | One-way action short hinge lever | 400 g (14.1 oz.) | 80 g (2.8 oz.) | 6 mm (0.236 in) | 5 mm (0.197 in) | 1 mm (0.039 in) | 53 ±1.2 mm (2.1 ±0.05 in) |
| ZC-W3155 | One-way action hinge roller lever | 280 g (9.9 oz.) | 60 g (2.1 oz.) | 8.4 mm (0.331 in) | 7 mm (0.276 in) | 1.4 mm (0.055 in) | 53 ±1.2 mm (2.1 ±0.05 in) |

Engineering Data

■ ELECTRICAL SERVICE LIFE



■ CONTACT RATINGS

10 A at 125 and 250 VAC
 0.5 A at 125 VDC, 0.25 A at 250 VDC
 NEMA A300C

■ CONTACT RESISTANCE

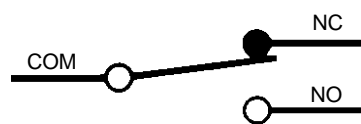
15 mΩ max. (initial)

■ ELECTRICAL APPROVALS

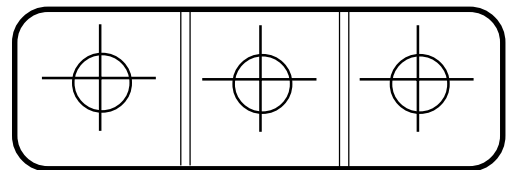
UL Recognized, File No. E76675

Operation

■ CONTACT FORM



■ TERMINAL AND WIRE DESIGNATIONS



Standard
Prewired

COM
Black

NO
White

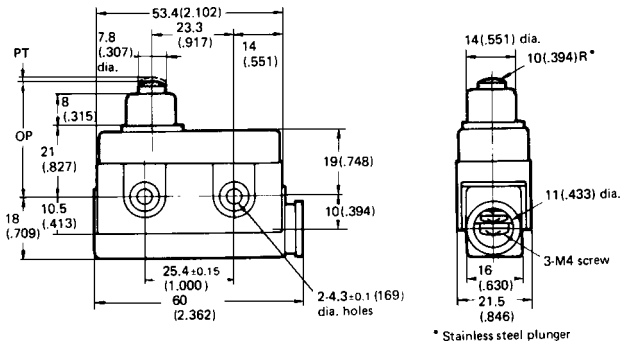
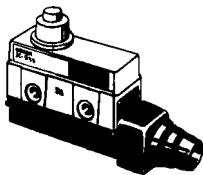
NC
Red

Dimensions

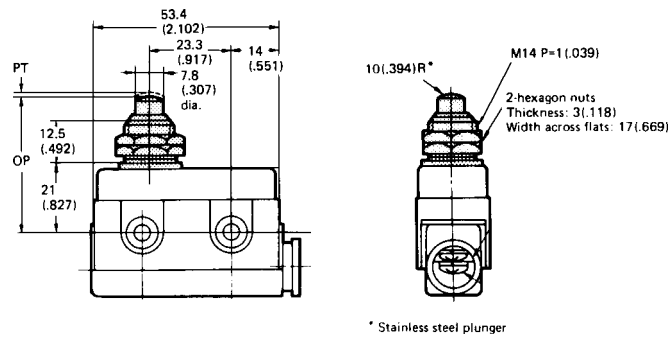
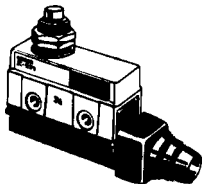
Unit: mm (inch)

■ LIMIT SWITCHES

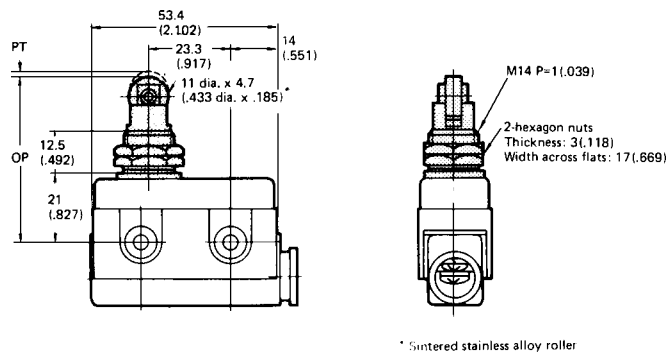
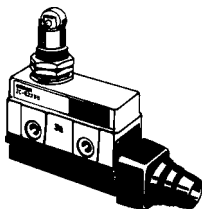
ZC-D55 Pin Plunger Switch



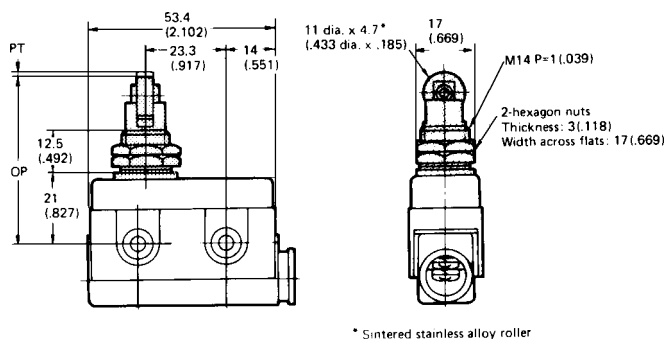
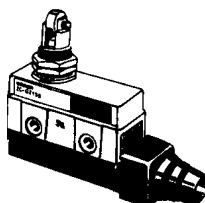
ZC-Q55 Panel Mount Plunger Switch



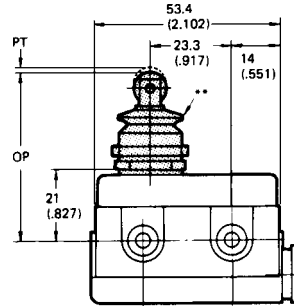
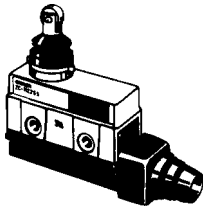
ZC-Q2255 Panel Mount Roller Plunger Switch



ZC-Q2155 Panel Mount Cross Roller Plunger Switch



ZC-N2255 Sealed Roller Plunger Switch

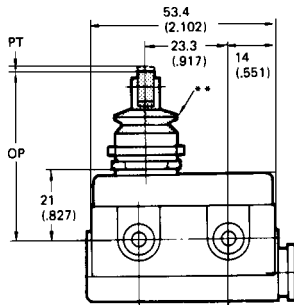
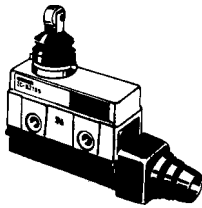


9.5 dia. x 4.7
(.374 dia. x .185)*

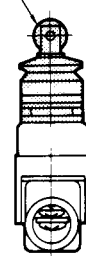


* Sintered stainless alloy roller
** Rubber boot (N.B.R)

ZC-N2155 Sealed Cross Roller Plunger Switch

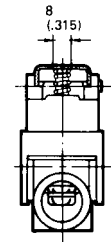
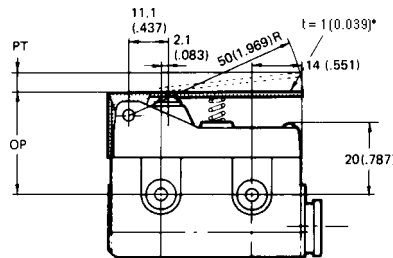
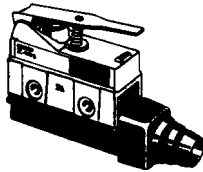


9.5 dia. x 4.7
(.374 dia. x .185)*



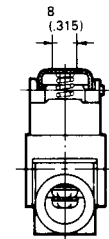
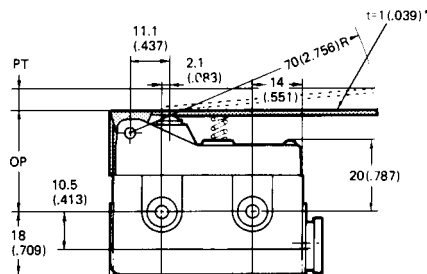
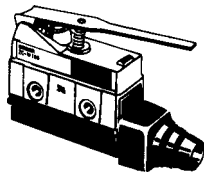
* Sintered stainless alloy roller
** Rubber boot (N.B.R)

ZC-W55 Short Hinge Lever Switch



* Stainless steel lever

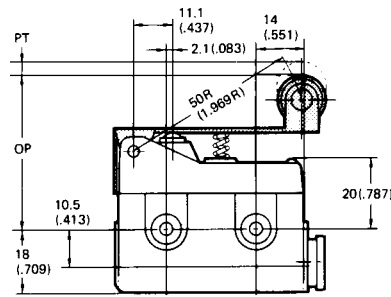
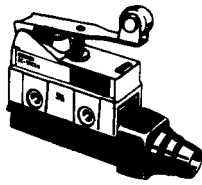
ZC-W155 Hinge Lever Switch



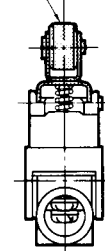
* Stainless steel lever

Unit: mm (inch)

ZC-W255 Short Hinge Roller Lever Switch

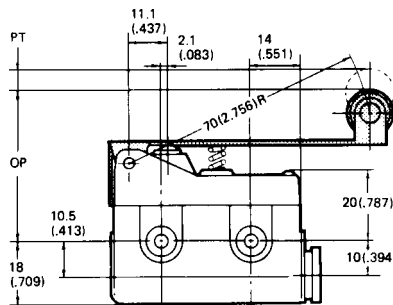
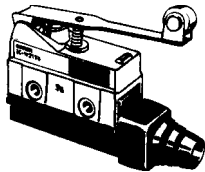


12.7 dia. x 7.5
(.500 dia. x .295)

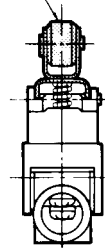


* Stainless steel roller
(Resin roller type is also available. Contact OMRON for detail.)

ZC-W2155 Hinge Roller Lever Switch

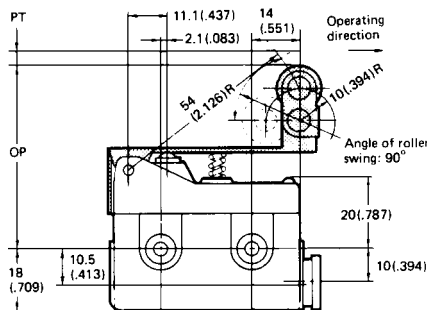
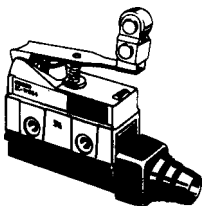


12.7 dia. x 7.5
(.500 dia. x .295)*

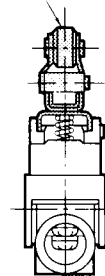


* Stainless steel roller
(Resin roller type is also available. Contact OMRON for detail.)

ZC-W355 One-Way Action Short Hinge Roller Lever Switch

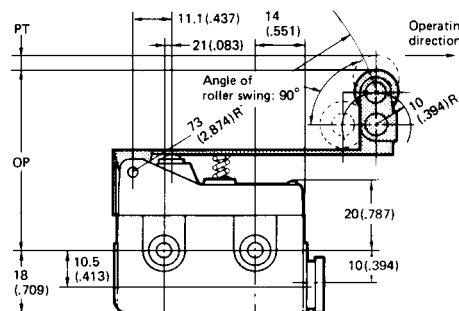
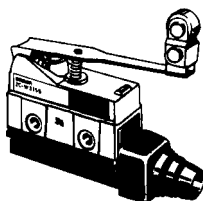


12.7 dia. x 7.5
(.500 dia. x .295)*

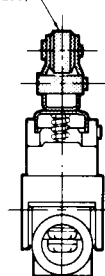


* Stainless steel roller
(Resin roller type is also available. Contact OMRON for detail.)

ZC-W3155 One-Way Action Hinge Roller Lever Switch



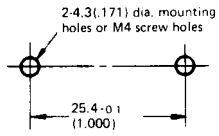
12.7 dia. x 7.5
(.500 dia. x .295)*



* Stainless steel roller
(Resin roller type is also available. Contact OMRON for detail.)

Installation

■ MOUNTING HOLES



NOTE: DIMENSIONS ARE SHOWN IN MILLIMETERS. To convert millimeters to inches divide by 25.4.



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