

## Basic Switch

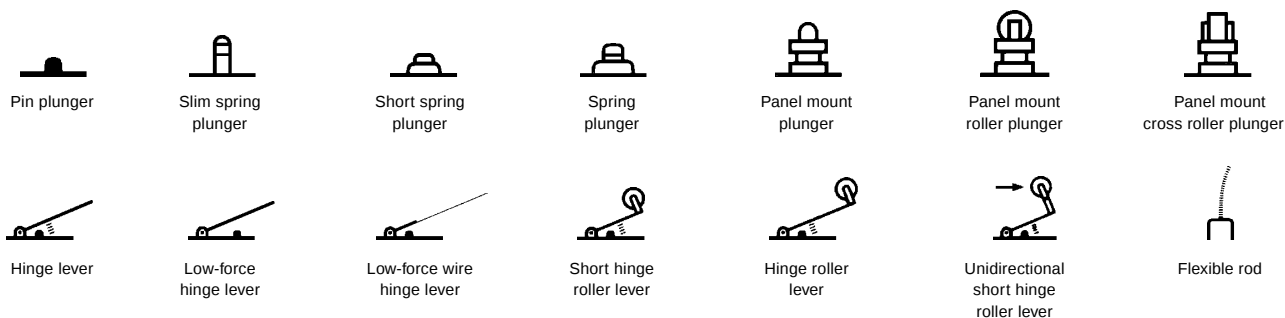
# Z

### General Purpose Basic Switch

- High precision basic switch in a variety of styles
- Wide margins of operating conditions increase the operating speed range
- Available in general purpose and drip-proof types



### Ordering Information



#### GENERAL PURPOSE TYPE

##### Standard

| Actuator                                | Operating Characteristics | Rated Current | Part Number       |                     |
|-----------------------------------------|---------------------------|---------------|-------------------|---------------------|
|                                         |                           |               | Solder Terminal   | Screw Terminal      |
| Pin plunger                             |                           | 15 A          | <b>Z-15G</b>      | <b>Z-15G-B</b>      |
| Slim spring plunger                     |                           | 15 A          | <b>Z-15GS</b>     | <b>Z-15GS-B</b>     |
| Short spring plunger                    | Low OP                    | 15 A          | <b>Z-15GD</b>     | <b>Z-15GD-B</b>     |
| Panel mount plunger                     | Middle OP                 | 15 A          | <b>Z-15GQ</b>     | <b>Z-15GQ-B</b>     |
| Panel mount roller plunger              |                           | 15 A          | <b>Z-15GQ22</b>   | <b>Z-15GQ22-B</b>   |
| Panel mount cross roller plunger        |                           | 15 A          | <b>Z-15GQ21</b>   | <b>Z-15GQ21-B</b>   |
| Hinge lever                             | Low OF                    | 15 A          | <b>Z-15GW</b>     | <b>Z-15GW-B</b>     |
| Low-force hinge lever                   |                           | 15 A          | <b>Z-15GW4</b>    | <b>Z-15GW4-B</b>    |
| Short hinge roller lever                |                           | 15 A          | <b>Z-15GW22</b>   | <b>Z-15GW22-B</b>   |
| Hinge roller lever                      | Parallel                  | 15 A          | <b>Z-15GW2</b>    | <b>Z-15GW2-B</b>    |
| Unidirectional short hinge roller lever | Low OF                    | 15 A          | <b>Z-15GW2277</b> | <b>Z-15GW2277-B</b> |

## GENERAL PURPOSE TYPE

### High-sensitivity

| Actuator                    | Operating Characteristics | Rated Current | Part Number     |                   |
|-----------------------------|---------------------------|---------------|-----------------|-------------------|
|                             |                           |               | Solder Terminal | Screw Terminal    |
| Pin plunger                 |                           | 15 A          | —               | <b>Z-15H-B</b>    |
| Low-force hinge lever       |                           | 15 A          | —               | <b>Z-15HW24-B</b> |
| Low-force, wire hinge lever | Low OF                    | 15 A          | <b>Z-15HW78</b> | <b>Z-15HW78-B</b> |
| Short hinge roller lever    |                           | 15 A          | —               | <b>Z-15HW22-B</b> |

## DRIP-PROOF TYPE

### Standard

| Actuator                         | Operating Characteristics | Rated Current | Contact Gap | Part Number       |                     |
|----------------------------------|---------------------------|---------------|-------------|-------------------|---------------------|
|                                  |                           |               |             | Solder Terminal   | Screw Terminal      |
| Slim spring plunger              |                           | 15 A          | 0.5 mm      | <b>Z-15GS55</b>   | <b>Z-15GS55-B</b>   |
| Short spring plunger             |                           | 15 A          | 0.5 mm      | <b>Z-15GD55</b>   | <b>Z-15GD55-B</b>   |
| Spring plunger                   | Middle OP                 | 15 A          | 0.5 mm      | <b>Z-15GK55</b>   | <b>Z-15GK55-B</b>   |
|                                  | High OP                   | 15 A          | 0.5 mm      | <b>Z-15GK355</b>  | <b>Z-15GK355-B</b>  |
| Panel mount plunger              | Middle OP                 | 15 A          | 0.5 mm      | <b>Z-15GQ55</b>   | <b>Z-15GQ55-B</b>   |
| Panel mount roller plunger       |                           | 15 A          | 0.5 mm      | —                 | <b>Z-15GQ2255-B</b> |
| Panel mount cross roller plunger |                           | 15 A          | 0.5 mm      | —                 | <b>Z-15GQ2155-B</b> |
| Hinge lever                      | Low OF                    | 15 A          | 0.5 mm      | <b>Z-15GW55</b>   | <b>Z-15GW55-B</b>   |
| Short hinge roller lever         |                           | 15 A          | 0.5 mm      | <b>Z-15GW2255</b> | <b>Z-15GW2255-B</b> |
| Hinge roller lever               | Parallel                  | 15 A          | 0.5 mm      | <b>Z-15GW255</b>  | <b>Z-15GW255-B</b>  |
| Flexible rod                     | High OF                   | 15 A          | 0.5 mm      | <b>Z-15GNJ55</b>  | <b>Z-15GNJ55-B</b>  |

## DRIP-PROOF TYPE

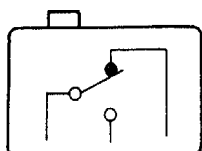
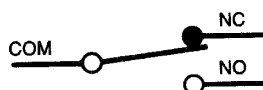
### High-sensitivity

| Actuator            | Operating Characteristics | Rated Current | Contact Gap | Part Number     |                     |
|---------------------|---------------------------|---------------|-------------|-----------------|---------------------|
|                     |                           |               |             | Solder Terminal | Screw Terminal      |
| Panel mount plunger | Middle OP                 | 15 A          | 0.25 mm     | —               | <b>Z-15HQ55-B</b>   |
| Flexible rod        | High OF                   | 15 A          | 0.25 mm     | —               | <b>Z-15HNJS55-B</b> |

Note: For smaller mounting hole types, please consult OMRON.

## ■ BASIC CONTACT FORM

| Type            | Contact gap                   | Features                                                                                                                                                                                                                                  |
|-----------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General purpose | H: 0.25 mm (high sensitivity) | Pin plunger and lever types available.<br>Drip-proof and flexible rod types are also available.                                                                                                                                           |
|                 | G: 0.5 mm (standard)          |                                                                                                                                                                                                                                           |
| Drip-proof      | H: 0.25 mm (high sensitivity) | The pin plunger is sealed from the other switch mechanisms by a resilient rubber, and the case and cover are sealed by adhesive so that the switch is resistant to humidity, oil and dust. The degree of protection conforms to IEC IP63. |
|                 | G: 0.5 mm (standard)          |                                                                                                                                                                                                                                           |



Basic Contact form

## Specifications

### Standard type (except flexible rod types)

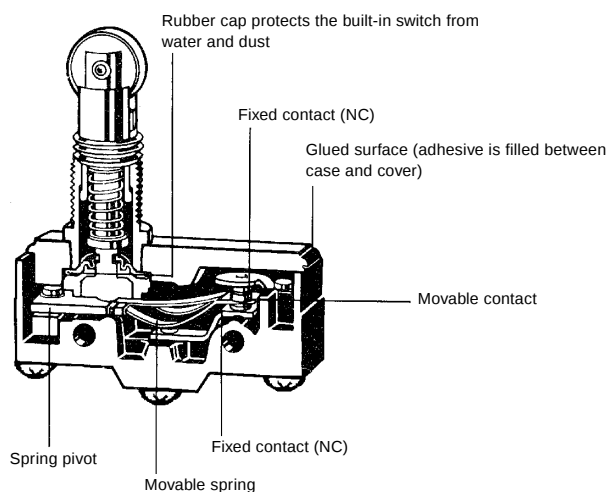
| Contact gap | Rated voltage | Non-inductive load (A) |    |           |      | Inductive load (A) |    |            |      | Inrush current (A) |         |
|-------------|---------------|------------------------|----|-----------|------|--------------------|----|------------|------|--------------------|---------|
|             |               | Resistive load         |    | Lamp load |      | Inductive load     |    | Motor load |      |                    |         |
|             |               | NC                     | NO | NC        | NO   | NC                 | NO | NC         | NO   | NC                 | NO      |
| G,H         | 125 VAC       | 15 (10)                | —  | 3         | 1.5  | 15 (10)            | —  | 5          | 2.5  | 30 max.            | 15 max. |
|             | 250 VAC       | 15 (10)                | —  | 2.5       | 1.25 | 15 (10)            | —  | 3          | 1.5  |                    |         |
|             | 500 VAC       | 10                     | —  | 1.5       | 0.75 | 6                  | —  | 1.5        | 0.75 |                    |         |
| G           | 8 VDC         | 15                     | —  | 3         | 1.5  | 15                 | —  | 5          | 2.5  |                    |         |
|             | 14 VDC        | 15                     | —  | 3         | 1.5  | 10                 | —  | 5          | 2.5  |                    |         |
|             | 30 VDC        | 6                      | —  | 3         | 1.5  | 5                  | —  | 5          | 2.5  |                    |         |
|             | 125 VDC       | 0.5                    | —  | 0.5       | 0.5  | 0.05               | —  | 0.05       | 0.05 |                    |         |
|             | 250 VDC       | 0.25                   | —  | 0.25      | 0.25 | 0.03               | —  | 0.03       | 0.03 |                    |         |
| H           | 8 VDC         | 15                     | —  | 3         | 1.5  | 15                 | —  | 5          | 2.5  |                    |         |
|             | 14 VDC        | 15                     | —  | 3         | 1.5  | 10                 | —  | 5          | 2.5  |                    |         |
|             | 30 VDC        | 2                      | —  | 2         | 1.4  | 1                  | —  | 1          | 1    |                    |         |
|             | 125 VDC       | 0.4                    | —  | 0.4       | 0.4  | 0.03               | —  | 0.03       | 0.03 |                    |         |
|             | 250 VDC       | 0.2                    | —  | 0.2       | 0.2  | 0.02               | —  | 0.02       | 0.02 |                    |         |

### Standard flexible rod types

| Rated voltage | Non-inductive load (A) |    |           |     | Inductive load (A) |    |            |      | Inrush current (A) |         |
|---------------|------------------------|----|-----------|-----|--------------------|----|------------|------|--------------------|---------|
|               | Resistive load         |    | Lamp load |     | Inductive load     |    | Motor load |      |                    |         |
|               | NC                     | NO | NC        | NO  | NC                 | NO | NC         | NO   | NC                 | NO      |
| 125 VAC       | 15                     | —  | 2         | 1   | 7                  | —  | 2.5        | 2    | 30 max.            | 15 max. |
| 250 VAC       | 15                     | —  | 1         | 0.5 | 5                  | —  | 1.5        | 1    |                    |         |
| 8 VDC         | 15                     | —  | 2         | 1   | 7                  | —  | 3          | 1.5  |                    |         |
| 14 VDC        | 15                     | —  | 2         | 1   | 7                  | —  | 3          | 1.5  |                    |         |
| 30 VDC        | 2                      | —  | 2         | 1   | 1                  | —  | 1          | 0.5  |                    |         |
| 125 VDC       | 0.4                    | —  | 0.4       | 0.4 | 0.03               | —  | 0.03       | 0.03 |                    |         |
| 250 VDC       | 0.2                    | —  | 0.2       | 0.2 | 0.02               | —  | 0.02       | 0.02 |                    |         |

## ■ CONSTRUCTION

### Drip-proof type



## Characteristics

|                           |                       | Standard<br>(except flexible rod types)                                                                                                         | Standard flexible rod types<br>(coil spring and steel wire type) |
|---------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Operating speed           |                       | 0.01 mm to 1 m/second (see note 2)                                                                                                              | 1 mm to 1 m/second                                               |
| Operating frequency       | Mechanical            | 240 operations/min.                                                                                                                             | 120 operations/min.                                              |
|                           | Electrical            | 20 operations/min.                                                                                                                              | 20 operations/min.                                               |
| Insulation resistance     |                       | 100 MΩ min. (at 500 VDC)                                                                                                                        |                                                                  |
| Contact resistance        |                       | 50 mΩ max. (initial)                                                                                                                            | 15 mΩ max. (initial)                                             |
| Dielectric strength (VAC) | G contact gap model   | 1,000 VAC, 50/60 Hz for 1 minute between terminals of same polarity                                                                             |                                                                  |
|                           | H contact gap model   | 600 VAC, 50/60 Hz for 1 minute                                                                                                                  |                                                                  |
|                           |                       | 2,000 VAC, 50/60 Hz for 1 minute between current carrying metal parts and ground and between each terminal and non-current carrying metal parts |                                                                  |
| Vibration                 | Malfunction           | 10 to 55 Hz, 1.5 mm double amplitude (see note 4)                                                                                               | 10 to 20 Hz, 1.5 mm double amplitude                             |
| Shock                     | Mechanical durability | 1,000 m/s <sup>2</sup> min. (approx. 100 g)                                                                                                     |                                                                  |
|                           | Malfunction           | 300 m/s <sup>2</sup> min. (approx. 30 g) (see note 3)                                                                                           | 50 m/s <sup>2</sup> min. (approx. 5 g)                           |
| Ambient temperature       | Standard types        | -25° to 80°C (with no icing)                                                                                                                    |                                                                  |
|                           | Drip-proof types      | -15° to 80°C (with no icing)                                                                                                                    |                                                                  |
| Humidity                  | Standard types        | 35% to 85% RH                                                                                                                                   |                                                                  |
|                           | Drip-proof types      | 35% to 95% RH                                                                                                                                   |                                                                  |
| Service life              | Mechanical            | G, H contact gap models<br>20,000,000 operations min. (see note 4)                                                                              | 1,000,000 operations min.                                        |
|                           | Electrical            | G, H contact gap models<br>500,000 operations min. (see note 2)                                                                                 | 100,000 operations min.                                          |
| Weight                    |                       | Approx. 22 to 58 g                                                                                                                              | Approx. 42 to 48 g                                               |

- Note: 1. Data shown are of initial value.  
 2. Apply to the pin plunger models or the pin plunger of the lever models.  
 3. Apply to Z-15G.  
 4. Apply to the pin plunger models.

### ■ ACCESSORIES (order separately)

#### Operating Characteristics (when used with Z-15)

| Characteristics | ZAA-1<br>w/Z-15G-B | ZAA-2<br>w/Z-15G-B |
|-----------------|--------------------|--------------------|
| OF max.         | 500 g              | 500 g              |
| RF min.         | 170 g              | 170 g              |
| PT max.         | —                  | —                  |
| OT min.         | 12.7 mm            | 12.7 mm            |
| MD max.         | 2.2 mm             | 2.2 mm             |
| FP max.         | 34.5 mm            | 46.1 mm            |
| OP              | 28.9±1.6 mm        | 40.4±1.6 mm        |

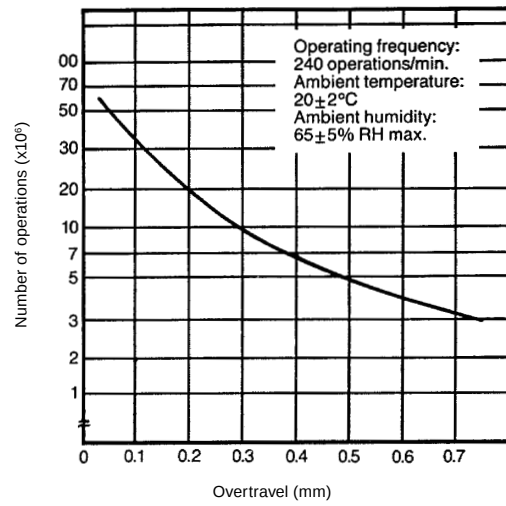
#### Terminal enclosures - Standard models

| Material           | Mounting method | For solder terminal | For screw terminal | Remarks                                     |
|--------------------|-----------------|---------------------|--------------------|---------------------------------------------|
| Phenolic resin     | Side mounting   | AP-A                | AP-B               | —                                           |
| Metal              | Side mounting   | AP1-A               | AP1-B              | Use in conjunction with AP-A and AP-B       |
| Polyvinyl chloride | Side mounting   | AP-Z                | AP-Z               | Excels in safety and dust-proofing property |

## ■ CHARACTERISTIC DATA

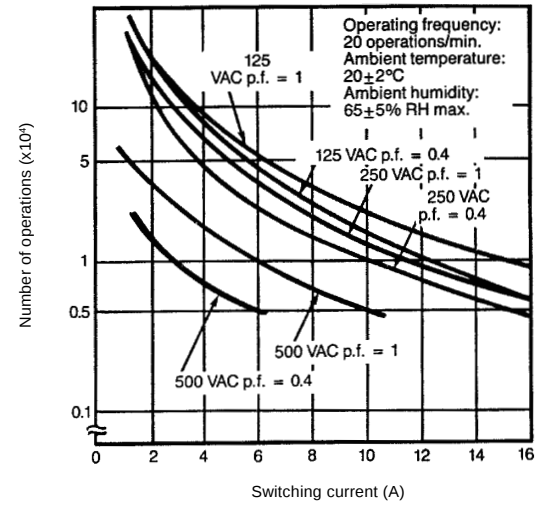
### Mechanical service life

Z-15G



### Electrical service life

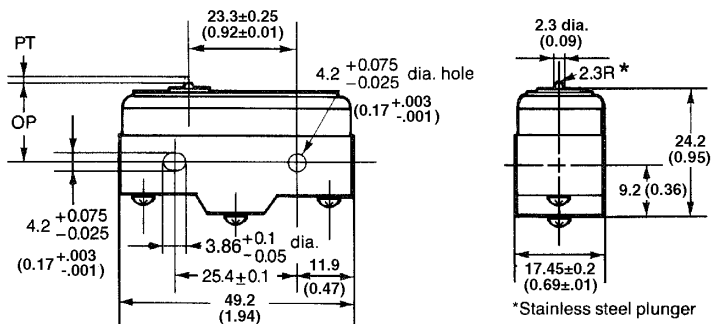
Z-15G



# Dimensions

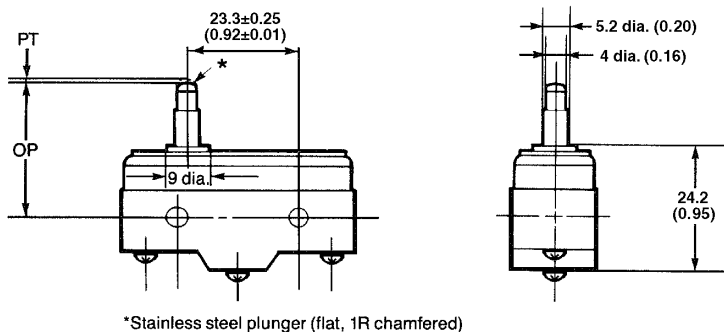
Unit: mm (inch)

## Z-15G-B, Z-15H-B



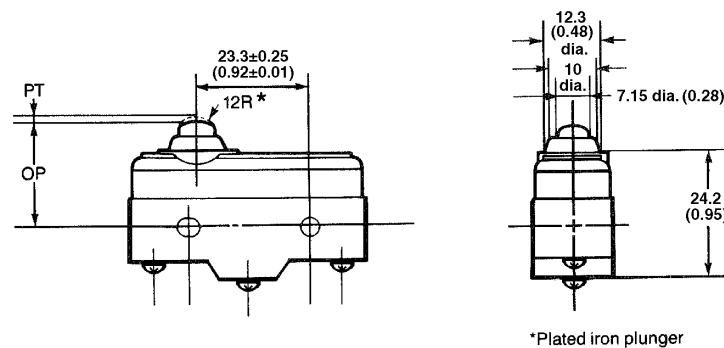
| Operating characteristics | Z-15G-B                     | Z-15H-B                     |
|---------------------------|-----------------------------|-----------------------------|
| OF                        | 250 to 350 g                | 200 to 280 g                |
| RF min.                   | 114 g                       | 114 g                       |
| PT max.                   | .4 mm (0.02)                | .3 mm (0.01)                |
| OT min.                   | .13 mm (0.01)               | .13 mm (0.01)               |
| MD max.                   | .05 mm (0.002)              | .025 mm (0.001)             |
| OP                        | 15.9 ± 0.4 mm (0.63 ± 0.02) | 15.9 ± 0.4 mm (0.63 ± 0.02) |

## Z-15GS-B



| Operating characteristics | Z-15GS-B                   |
|---------------------------|----------------------------|
| OF                        | 250 to 350 g               |
| RF min.                   | 114 g                      |
| PT max.                   | 0.4 mm (0.02)              |
| OT min.                   | 1.6 mm (0.06)              |
| MD max.                   | 0.05 mm (0.002)            |
| OP                        | 28.2 ± 0.5 mm (1.1 ± 0.02) |

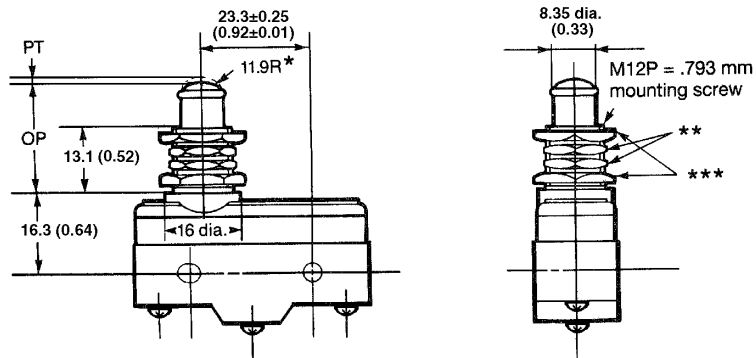
## Z-15GD-B



| Operating characteristics | Z-15GD-B                    |
|---------------------------|-----------------------------|
| OF                        | 250 to 350 g                |
| RF min.                   | 114 g                       |
| PT max.                   | 0.4 mm (0.02)               |
| OT min.                   | 1.6 mm (0.06)               |
| MD max.                   | 0.05 mm (0.002)             |
| OP                        | 21.5 ± 0.5 mm (0.85 ± 0.02) |

- Note: 1. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.  
2. For smaller diameter mounting holes, please consult OMRON.  
3. All drawings show the switches with screw terminals. For solder terminals, remove the "-B" from the end of the part number.

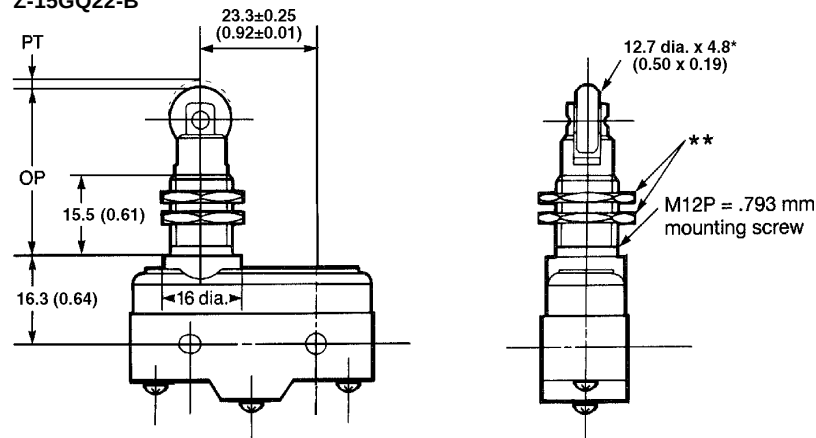
## Z-15GQ-B



- \*Stainless steel plunger  
 \*\*Two hexagonal nuts (2 t x 14 width across flats)  
 \*\*\*Two lock nuts (2 t x 15.6 width across flats)

| Operating characteristics | Z-15GQ-B                       |
|---------------------------|--------------------------------|
| OF                        | 250 to 350 g                   |
| RF min.                   | 114 g                          |
| PT max.                   | 0.4 mm (0.02)                  |
| OT min.                   | 5.5 mm (0.22)                  |
| MD max.                   | 0.05 mm (0.002)                |
| OP                        | 21.8 ± 0.8 mm<br>(0.86 ± 0.03) |

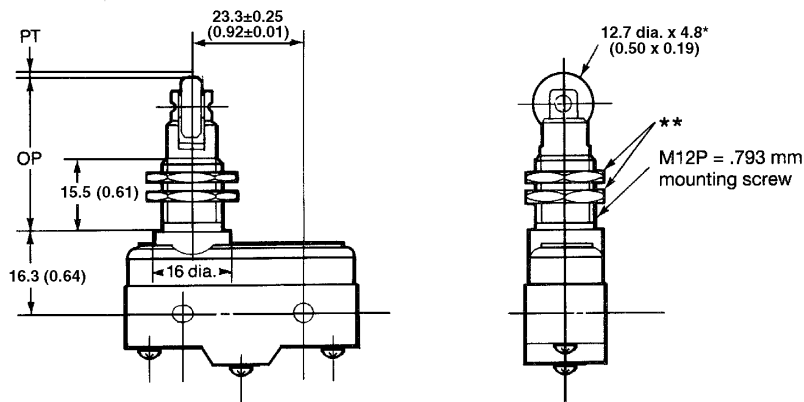
## Z-15GQ22-B



- \*Stainless steel roller  
 \*\*Two hexagonal nuts  
 (3 t x 17 width across flats)

| Operating characteristics | Z-15GQ22-B                     |
|---------------------------|--------------------------------|
| OF                        | 250 to 350 g                   |
| RF min.                   | 114 g                          |
| PT max.                   | 0.4 mm (0.02)                  |
| OT min.                   | 3.58 mm (0.14)                 |
| MD max.                   | 0.05 mm (0.002)                |
| OP                        | 33.4 ± 1.2 mm<br>(1.31 ± 0.05) |

## Z-15GQ21-B



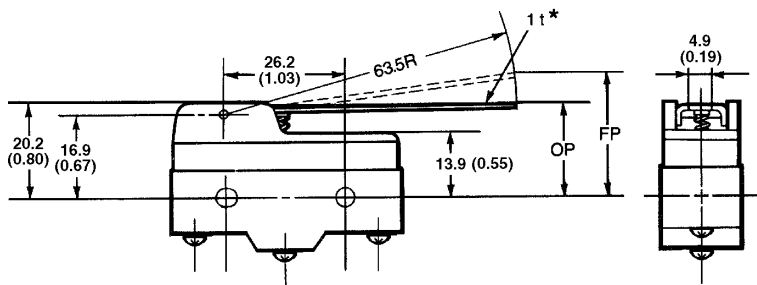
- \*Stainless steel roller  
 \*\*Two hexagonal nuts  
 (3 t x 17 width across flats)

| Operating characteristics | Z-15GQ21-B                     |
|---------------------------|--------------------------------|
| OF                        | 250 to 350 g                   |
| RF min.                   | 114 g                          |
| PT max.                   | 0.4 mm (0.02)                  |
| OT min.                   | 3.58 mm (0.14)                 |
| MD max.                   | 0.05 mm (0.002)                |
| OP                        | 33.4 ± 1.2 mm<br>(1.31 ± 0.05) |

- Note: 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.  
 2. For smaller diameter mounting holes, please consult OMRON.  
 3. All drawings show the switches with screw terminals. For solder terminals, remove the "-B" from the end of the part number.

Unit: mm (inch)

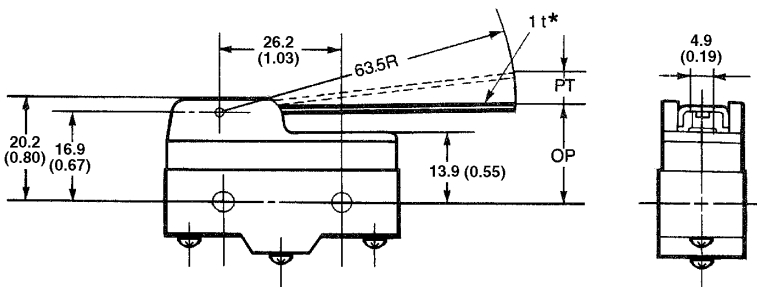
**Z-15GW-B**



\*Stainless steel lever

| Operating characteristics | Z-15GW-B                     |
|---------------------------|------------------------------|
| OF max.                   | 70 g                         |
| RF min.                   | 14 g                         |
| OT min.                   | 5.6 mm (0.22)                |
| MD max.                   | 1.27 mm (0.05)               |
| FP max.                   | 28.2 mm (1.11)               |
| OP                        | 19 ± 0.8 mm<br>(0.75 ± 0.03) |

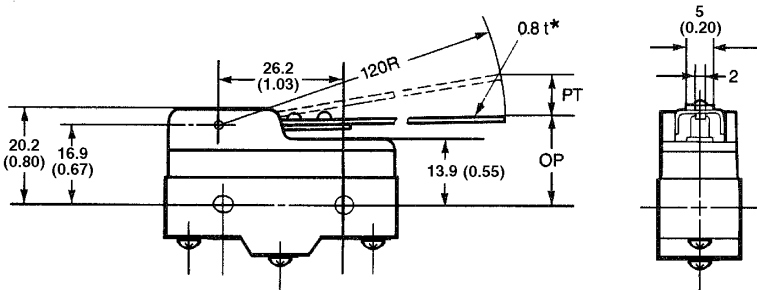
**Z-15GW4-B**



\*Stainless steel lever

| Operating characteristics | Z-15GW4-B                    |
|---------------------------|------------------------------|
| OF max.                   | 28 g                         |
| RF min.                   | 3.5 g                        |
| PT max.                   | 10 mm (0.39)                 |
| OT min.                   | 5.6 mm (0.22)                |
| MD max.                   | 1.27 mm (0.05)               |
| OP                        | 19 ± 0.8 mm<br>(0.75 ± 0.03) |

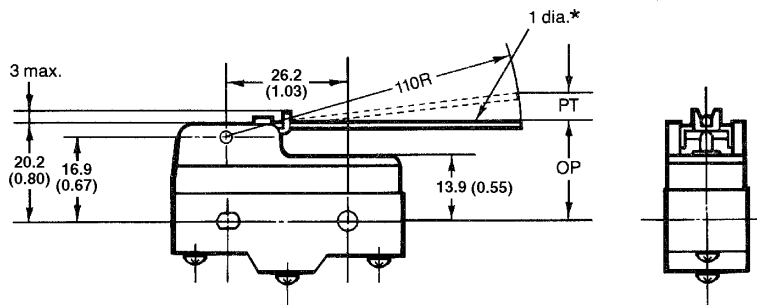
**Z-15HW24-B**



\*Stainless steel lever

| Operating characteristics | Z-15HW24-B                     |
|---------------------------|--------------------------------|
| OF max.                   | 6 g                            |
| RF min.                   | 0.5 g                          |
| PT max.                   | 19.8 mm (0.78)                 |
| OT min.                   | 10 mm (0.39)                   |
| MD max.                   | 2 mm (0.08)                    |
| OP                        | 19.8 ± 1.6 mm<br>(0.75 ± 0.03) |

**Z-15HW78-B**

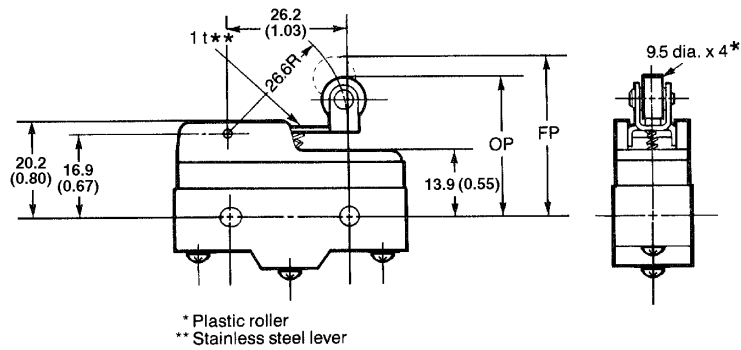


\*Stainless steel wire lever

| Operating characteristics | Z-15HW78-B                 |
|---------------------------|----------------------------|
| OF max.                   | 4 g                        |
| RF min.                   | 0.3 g                      |
| PT max.                   | 10 mm (0.39)               |
| OT min.                   | 6 mm (0.24)                |
| MD max.                   | 3 mm (0.12)                |
| OP                        | 20 ± 1 mm<br>(0.79 ± 0.04) |

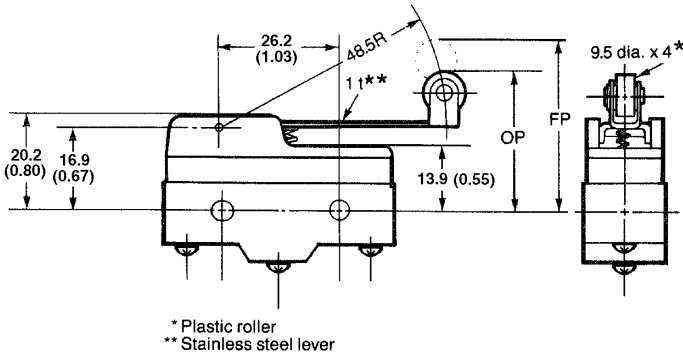
Note: 1. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.  
 2. For smaller diameter mounting holes, please consult OMRON.  
 3. All drawings show the switches with screw terminals. For solder terminals, remove the "-B" from the end of the part number.

## Z-15GW22-B, Z-15HW22-B



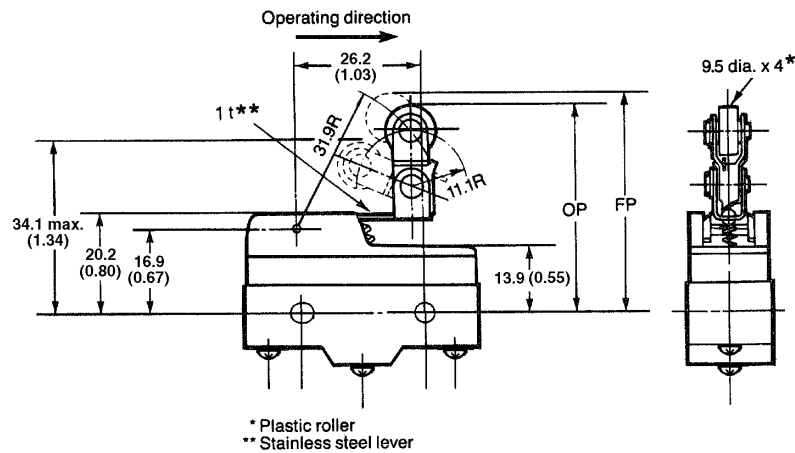
| Operating characteristics | Z-15GW22-B                  | Z-15HW22-B                  |
|---------------------------|-----------------------------|-----------------------------|
| OF max.                   | 160 g                       | 150 g                       |
| RF min.                   | 42 g                        | 42 g                        |
| OT min.                   | 2.4 mm (0.09)               | 2.4 mm (0.09)               |
| MD max.                   | 0.5 mm (0.02)               | 0.45 mm (0.02)              |
| FP max.                   | 32.5 mm (1.28)              | 32.5 mm (1.28)              |
| OP                        | 30.2 ± 0.4 mm (1.19 ± 0.02) | 30.2 ± 0.4 mm (1.19 ± 0.02) |

## Z-15GW2-B



| Operating characteristics | Z-15GW2-B                   |
|---------------------------|-----------------------------|
| OF max.                   | 100 g                       |
| RF min.                   | 22 g                        |
| OT min.                   | 4 mm (0.16)                 |
| MD max.                   | 1.02 mm (0.04)              |
| FP max.                   | 36.5 mm (1.44)              |
| OP                        | 30.2 ± 0.8 mm (1.19 ± 0.03) |

## Z-15GW2277-B



| Operating characteristics | Z-15GW2277-B                |
|---------------------------|-----------------------------|
| OF max.                   | 170 g                       |
| RF min.                   | 42 g                        |
| OT min.                   | 2.4 mm (0.09)               |
| MD max.                   | 0.51 mm (0.02)              |
| FP max.                   | 43.6 mm (1.72)              |
| OP                        | 41.3 ± 0.8 mm (1.63 ± 0.03) |

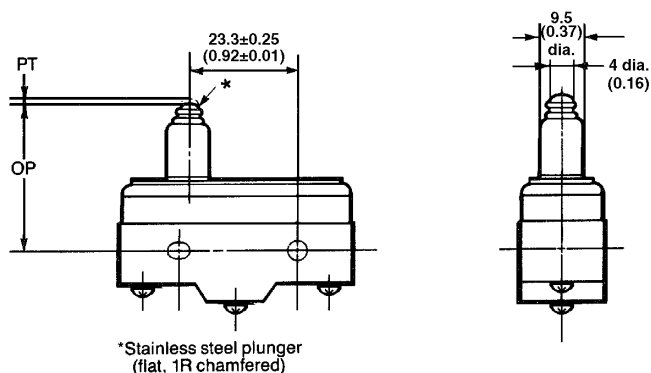
Note: 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

2. For smaller diameter mounting holes, please consult OMRON.

3. All drawings show the switches with screw terminals. For solder terminals, remove the "-B" from the end of the part number.

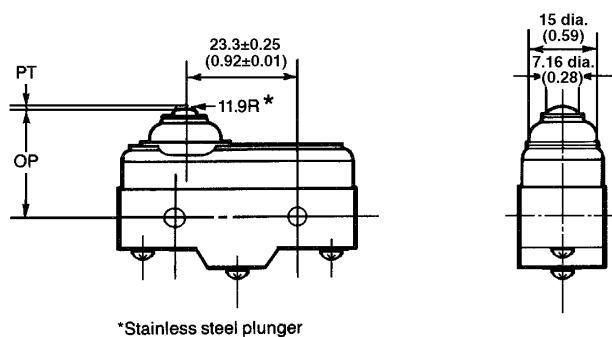
Unit: mm (inch)

### Z-15GS55-B



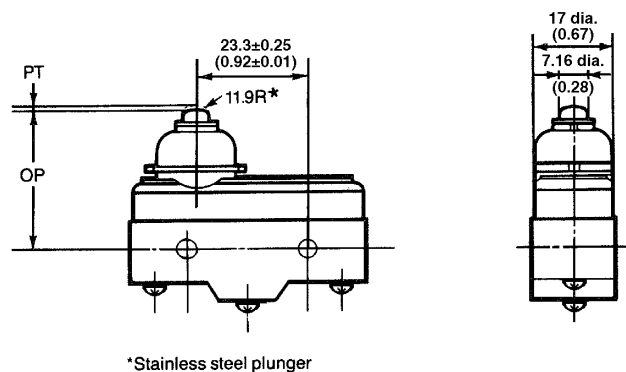
| Operating characteristics | Z-15GS55-B                  |
|---------------------------|-----------------------------|
| OF max.                   | 540 g                       |
| RF min.                   | 114 g                       |
| PT max.                   | 1.9 mm (0.07)               |
| OT min.                   | 1.6 mm (0.06)               |
| MD max.                   | 0.06 mm (0.002)             |
| OP                        | 28.2 ± 0.5 mm (1.11 ± 0.02) |

### Z-15GD55-B



| Operating characteristics | Z-15GD55-B                 |
|---------------------------|----------------------------|
| OF max.                   | 540 g                      |
| RF min.                   | 114 g                      |
| PT max.                   | 1.8 mm (0.07)              |
| OT min.                   | 1.6 mm (0.06)              |
| MD max.                   | 0.06 mm (0.002)            |
| OP                        | 21.5 ± 0.5 mm (.85 ± 0.02) |

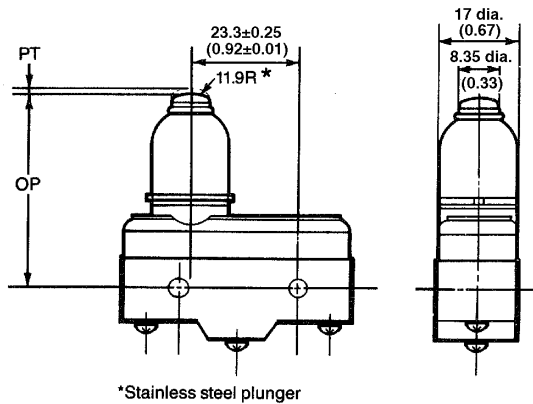
### Z-15GK55-B



| Operating characteristics | Z-15GK55-B                  |
|---------------------------|-----------------------------|
| OF max.                   | 540 g                       |
| RF min.                   | 114 g                       |
| PT max.                   | 2.3 mm (0.09)               |
| OT min.                   | 1.6 mm (0.06)               |
| MD max.                   | 0.06 mm (0.002)             |
| OP                        | 28.2 ± 0.5 mm (1.11 ± 0.02) |

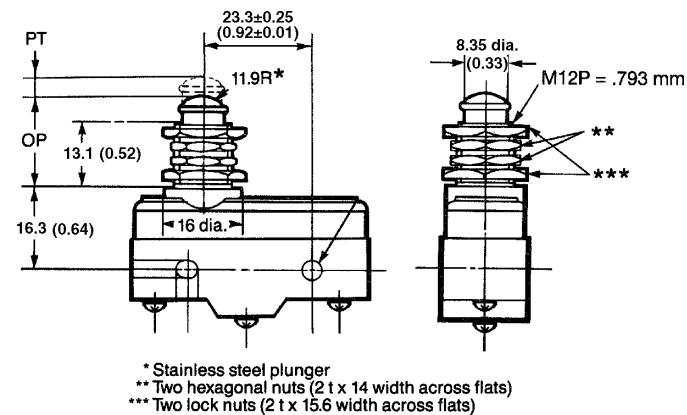
- Note: 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.  
 2. For smaller diameter mounting holes, please consult OMRON.  
 3. All drawings show the switches with screw terminals. For solder terminals, remove the "-B" from the end of the part number.

## Z-15GK355-B



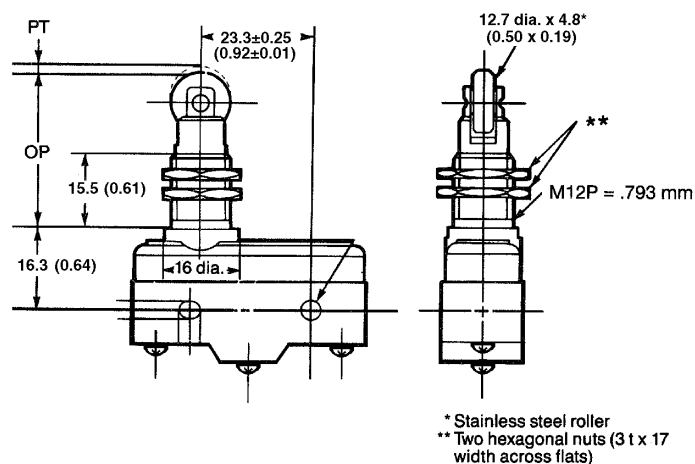
| Operating characteristics | Z-15GK355-B                              |
|---------------------------|------------------------------------------|
| OF max.                   | 540 g                                    |
| RF min.                   | 114 g                                    |
| PT max.                   | 2.4 mm (0.09)                            |
| OT min.                   | 3.5 mm (0.14)                            |
| MD max.                   | 0.06 mm (0.002)                          |
| OP                        | $37.8 \pm 1.2$ mm<br>( $1.49 \pm 0.05$ ) |

## Z-15GQ55-B, Z-15HQ55-B



| Operating characteristics | Z-15GQ55-B                               | Z-15HQ55-B                               |
|---------------------------|------------------------------------------|------------------------------------------|
| OF max.                   | 540 g                                    | 400 g                                    |
| RF min.                   | 114 g                                    | 114 g                                    |
| PT min.                   | 1.8 mm (0.07)                            | 1.7 mm (0.07)                            |
| OT min.                   | 5.5 mm (0.22)                            | 5.5 mm (0.22)                            |
| MD max.                   | 0.06 mm (0.002)                          | 0.04 mm (0.002)                          |
| OP                        | $21.8 \pm 0.8$ mm<br>( $0.86 \pm 0.03$ ) | $21.8 \pm 0.8$ mm<br>( $0.86 \pm 0.03$ ) |

## Z-15GQ2255-B

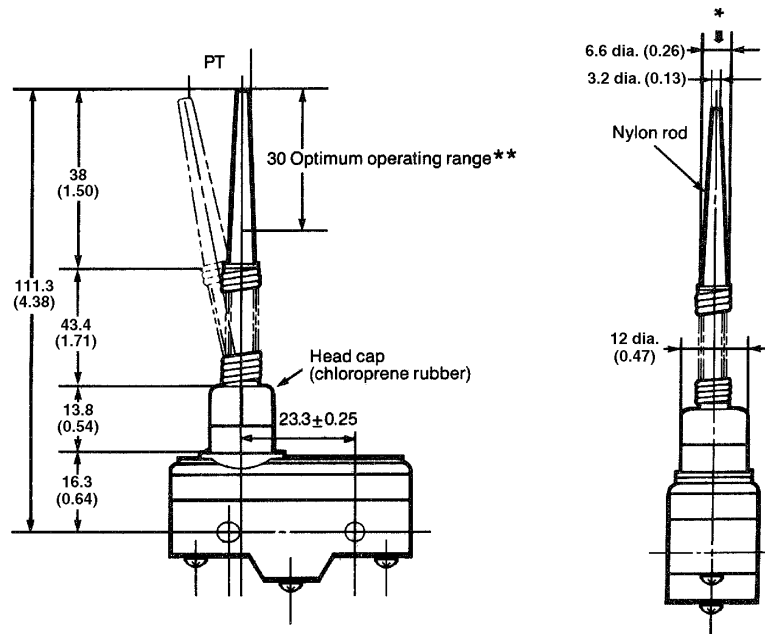


| Operating characteristics | Z-15GQ2255-B                             |
|---------------------------|------------------------------------------|
| OF max.                   | 540 g                                    |
| RF min.                   | 114 g                                    |
| PT max.                   | 1.8 mm (0.07)                            |
| OT min.                   | 3.58 mm (0.14)                           |
| MD max.                   | 0.06 mm (0.002)                          |
| OP                        | $33.4 \pm 1.2$ mm<br>( $1.31 \pm 0.05$ ) |

- Note: 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.  
 2. For smaller diameter mounting holes, please consult OMRON.  
 3. All drawings show the switches with screw terminals. For solder terminals, remove the "-B" from the end of the part number.



## Z-15GNJ55-B

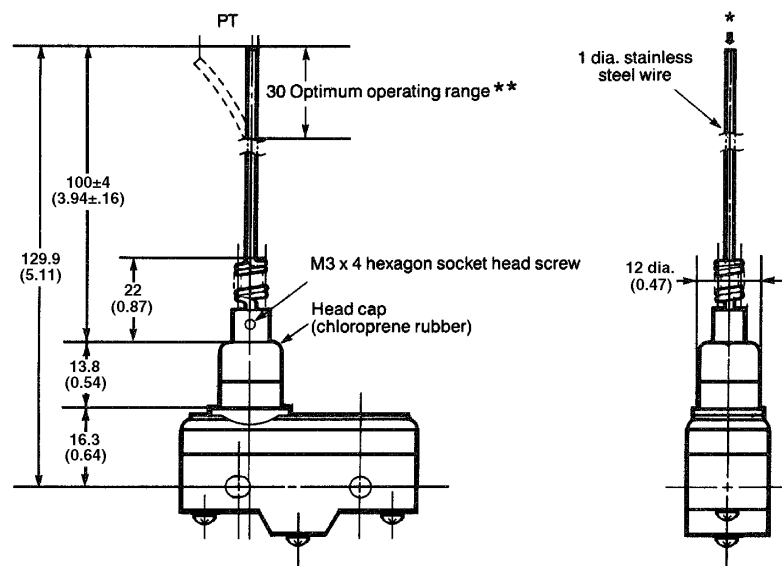


- \* The coil spring may be operated from any direction except axial direction (↕).
- \*\* Be sure to use the cam within 30 mm from the top end of the stainless wire. (Avoid use within 80 mm from the mounting hole.)

| Operating characteristics | Z-15GNJ55-B   |
|---------------------------|---------------|
| OF max.                   | 50 g          |
| PT max.                   | 20 mm* (0.79) |

\* Reference value

## Z-15HNJS55-B



- \* The coil spring may be operated from any direction except axial direction (↕).
- \*\* Be sure to use the cam within 30 mm from the top end of the stainless wire. (Avoid use within 100 mm from the mounting hole.)

| Operating characteristics | Z-15HNJS55-B  |
|---------------------------|---------------|
| OF max.                   | 15 g          |
| PT max.                   | 25 mm* (0.98) |

\* Reference value

Note: 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

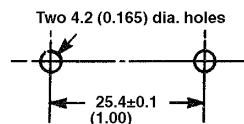
2. For smaller diameter mounting holes, please consult OMRON.

3. All drawings show the switches with screw terminals. For solder terminals, remove the "-B" from the end of the part number.

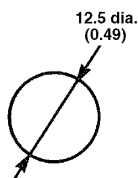
Unit: mm (inch)

## ■ MOUNTING HOLES

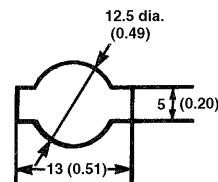
### Side mounting



### Panel mounting plunger type

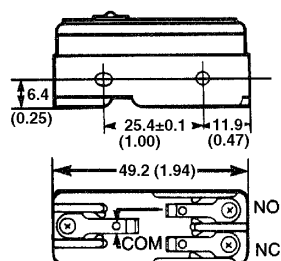


### Roller plunger type

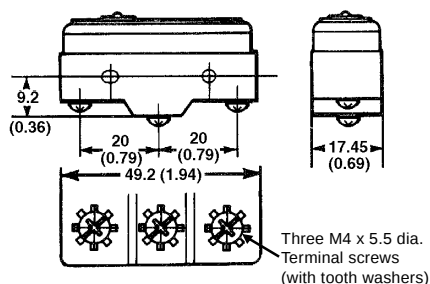


## ■ TERMINALS

### Solder terminal (blank)



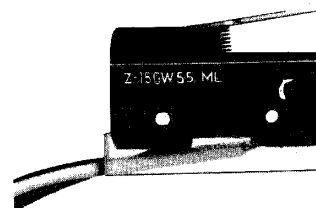
### Screw terminal (B)



## ■ MOLDED TERMINAL TYPE ORDERING INFORMATION

The solder terminal type can be supplied with molded terminals with a choice of five different lead outlet directions. When placing your order for the molded terminal type, add the following code to the model number.

-M□□  
 — Lead outlet directions (L, R, D, F, H)  
 — Mold thickness (No symbol)...a = 12 mm with VSF  
 19...a = 19 mm with VCT

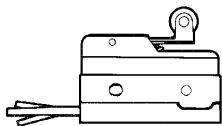


- Note: 1. Standard leads are single-core vinyl cords (VSF) with a nominal cross sectional area of 1.25 mm<sup>2</sup>.  
 2. Standard vinyl cord lengths are 1 m, 3 m, and 5 m.  
 3. Mold thickness will be 19 mm when using VCT cords.  
 4. Standard unit has three lead outlets in the same direction.  
 5. Connect the black lead to the COM terminal, white lead to the NO terminal, and red lead to the NC terminal, respectively.

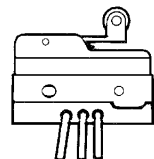
## ■ DIRECTIONS OF LEAD OUTLETS

The following diagrams show the molded terminal version of sealed type Z-15GW2255, with a mold thickness of 12 mm.

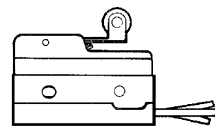
### Z-15GW2255-ML (left-hand)



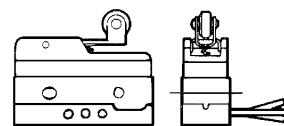
### Z-15GW2255-MF (forward)



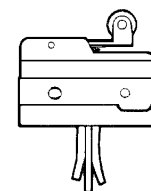
### Z-15GW2255-MR (right-hand)



### Z-15GW2255-MH (rearward)



### Z-15GW2255-MD (underside)



Note: Respective directions of lead outlets are determined with the plunger viewed on your left.

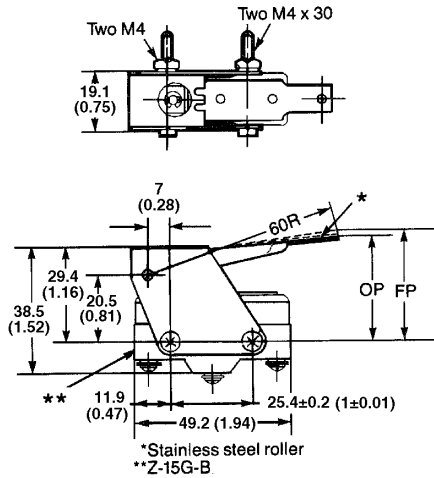
## ■ LEAD WIRE SPECIFICATIONS

| Type                          | Nominal cross-sectional area (mm <sup>2</sup> ) | Finished outer diameter (mm) | Connection to terminal | Length (m)                 |
|-------------------------------|-------------------------------------------------|------------------------------|------------------------|----------------------------|
| VSF (single-core, vinyl cord) | 1.25                                            | Approx. 3.1                  | Black-COM              | 0.5, 1, 2, 3, 5 (standard) |
| VCT (vinyl-insulated cable)   |                                                 | Approx. 9.6 (2-core)         | White-NO               |                            |
|                               |                                                 | Approx. 10.5 (3-core)        | Red-NC                 |                            |

## ■ ACCESSORIES, order separately

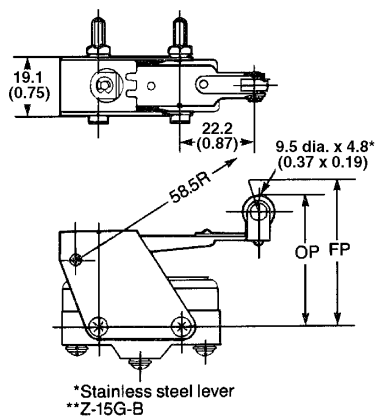
### Hinge lever

#### ZAA-1



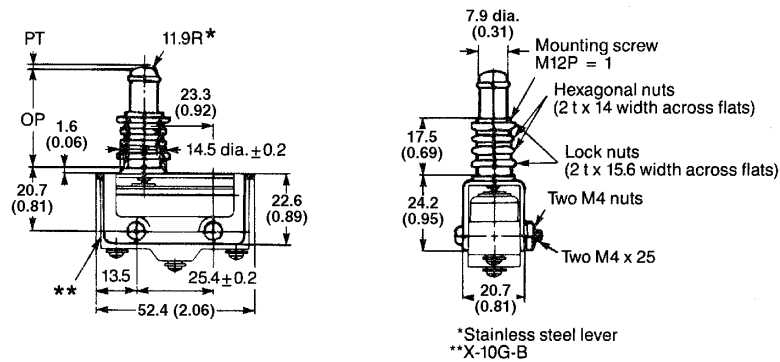
### Hinge roller lever

#### ZAA-2



### Panel mount plunger

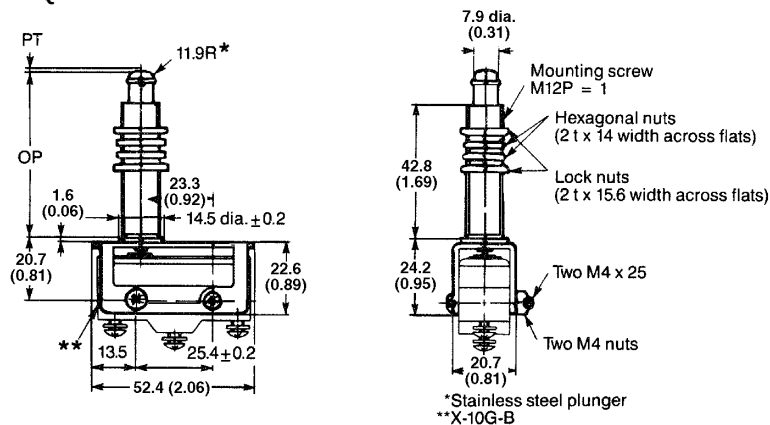
#### ZAQ-3



| Operating characteristics | ZAQ-3 with Z-15G           |
|---------------------------|----------------------------|
| OF max.                   | 550 g                      |
| RF min.                   | 144 g                      |
| RT max.                   | 1 mm (0.04 in)             |
| OT min.                   | 4.5 mm (0.18 in)           |
| MD max.                   | 0.2 mm (0.01 in)           |
| OP                        | 27.8±1.5 mm (1.09±0.06 in) |

### Panel mount plunger

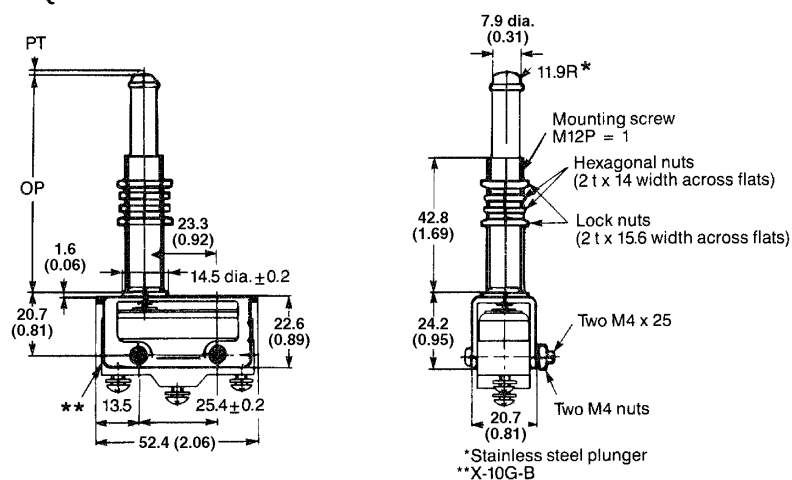
#### ZAQ-2



| Operating characteristics | ZAQ-2 with Z-15G           |
|---------------------------|----------------------------|
| OF max.                   | 550 g                      |
| RF min.                   | 144 g                      |
| RT max.                   | 1 mm (0.04 in)             |
| OT min.                   | 4.5 mm (0.18 in)           |
| MD max.                   | 0.2 mm (0.01 in)           |
| OP                        | 53.2±1.5 mm (2.09±0.06 in) |

Note: Unless otherwise specified, a tolerance of  $\pm 0.8$  mm applies to all dimensions.

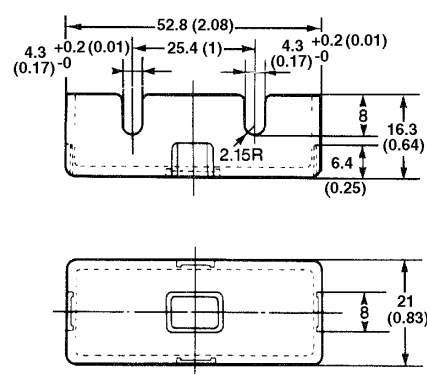
**Panel mount plunger**  
**ZAQ-1**



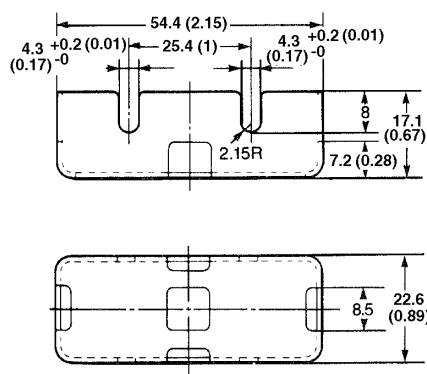
| Operating characteristics | ZAQ-1 with Z-15G           |
|---------------------------|----------------------------|
| OF max.                   | 550 g                      |
| RF min.                   | 144 g                      |
| RT max.                   | 1 mm (0.04 in)             |
| OT min.                   | 20.4 mm (0.80 in)          |
| MD max.                   | 0.2 mm (0.01 in)           |
| OP                        | 69.1±1.5 mm (2.72±0.06 in) |

Note: Unless otherwise specified, a tolerance of  $\pm 0.8$  mm applies to all dimensions.

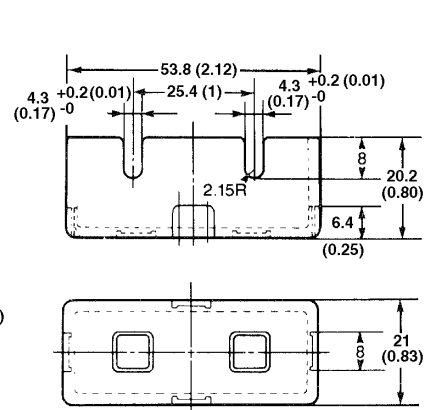
**AP-A (for solder terminal)**



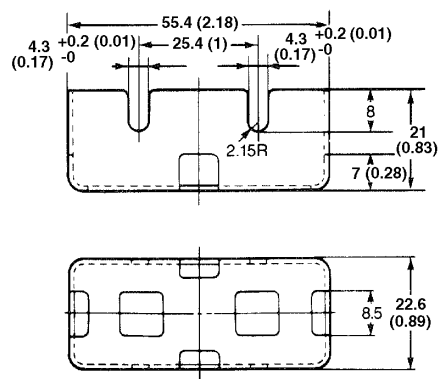
**AP1-A (for solder terminal)**



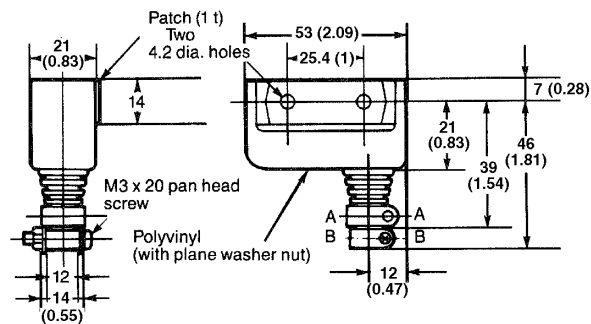
**AP-B (for screw terminal)**



**AP1-B**



**AP-Z**



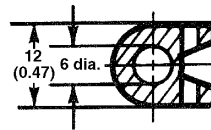
Note: Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

## ■ CABLE OUTLET DIMENSIONS

A-A section



B-B section



Note: The cable outlet is provided with two stepped openings (6 dia. and 8 dia.) to permit the use of either opening according to the finished OD of the cable to be connected.

## ■ APPROVALS

UL (File No. E41515)/CSA (File No. LR21642)/SEV (File No. S20/163)

| Type        | Rating                                                                                    |
|-------------|-------------------------------------------------------------------------------------------|
| Z-15 Series | 15 A 125, 250 or 480 VAC<br>1/2 A 125 VDC, 1/4 A 250 VDC<br>1/8 HP 125 VAC, 1/4 A 250 VAC |

Note: The rated values approved by each of the safety standards (e.g. UL/CSA) may be different from the performance characteristics individually defined in this catalog.

## Precautions

### ■ MOUNTING

Use M4 mounting screws with plain washers or spring washers to mount the switch. Tighten the screws at a torque of 12 to 15 kg-cm.

Solder the lead to the terminal by applying a soldering iron rated at 60 W max. quickly (within 5 seconds). Note that applying a soldering iron for too long a time or using one that is rated at more than 60 W may degrade the switch characteristics.

#### Panel mount type (Z-15□Q)

When mounting a panel mount type switch (the one having a suffix “-Q” in its model number) to a panel, tighten the hexagon nut of the actuator at a torque of 50 kg-cm or less.

When mounting a panel mount type switch on its side, remove the hexagon nut from the actuator and carefully adjust the dog angle and operating speed because too large a dog angle or too high an operating speed may damage the switch. Especially be careful not to apply an impulsive force to the actuator when operating it. By the same token, too high an operating speed and too long an overtravel may damage a panel mount switch with a roller pin plunger.

Do not use mounting holes of the switch body when mounting on panel with M12 mounting nut.

### ■ OPERATION

#### High sensitivity switch (Z-15H)

When using the switch in a DC circuit, be sure to provide an arc suppressor as well because the small contact gap of the switch may result in contact troubles.

In an application where a high repeat accuracy is required, limit the current that flows through the switch to within 0.1 A. Also, use a relay to control a high-capacity load if the switch is connected to such a load. (In this case, the current of the relay coil is the load of the switch.)

Do not apply a force of 2 kg or higher to the pin plunger.

Exercise care that the environment conditions such as temperature and humidity do not change abruptly.

#### Drip-proof type (Z-□55)

The switch is not perfectly oil-tight; so, do not dip it in oil or water.

Depending on the environments, the materials of the rubber boots must be selected. Oil-tight, cold-resistive, and heat-resistive rubbers are available from OMRON.

#### Flexible rod type (Z-15□NJ□55) (drip-proof type)

When the rod is fully swung, the switch may operate when the lever returns, causing chattering. Use a circuit that compensates for chattering wherever possible.

Do not switch the rod to the fullest extent when the switch is to break a power circuit because such a practice may cause metal deposition to occur between the mating contacts of the switch.



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