OMRON

General-purpose Basic Switch

Z

Best-selling Basic Switch Boasting High Precision and Wide Variety

- A large switching capacity of 15 A with high repeat accuracy.
- Wide margins of operating conditions with a wide operating speed range.
- A wide range of variations in contact form for your selection: basic, split contact, maintained contact, and adjustable contact gap types.
- A series of standard models for minute loads is available.
- A series of molded terminal-type models incorporating safety terminal protection cover is available.
- Including models that meet the quality requirements of the RCJ under license number RCJ-17-4.

Ordering Information

■ Configuration

Basic Models

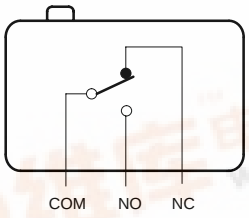
General-purpose

A variety of actuators is available for a wide range of application.

The contact mechanism of models for minute loads is a crossbar type with gold-alloy contacts, which ensures highly reliable operations for minute loads.

Contact Gap:
H: 0.25 mm (high-sensitivity, microvoltage current load)
G: 0.5 mm (standard)]
E: 1.8 mm (high-capacity)

Contact Form



Note: The Z-15GM is a reversible model and the NO and NC positions are reversed.

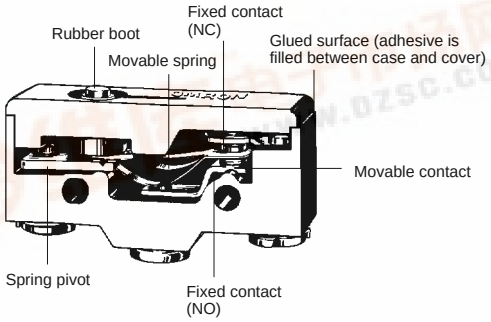
Drip-proof Models

There is no difference in basic configuration and switching mechanism between drip-proof models and standard models, and a variety of actuators can be used with drip-proof models. Drip-proof models use weather-resistive chloroprene rubber.

Without Terminal Cover

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 JIS C0920 drip-proof II.

The electric insulation of the molded terminals is ensured because the terminal part is fixed with epoxy resin. The actuator and terminals are both sealed and thus resist water, oil, or dust. The lead wires can be stretched in either direction. Refer to page 43 for details.



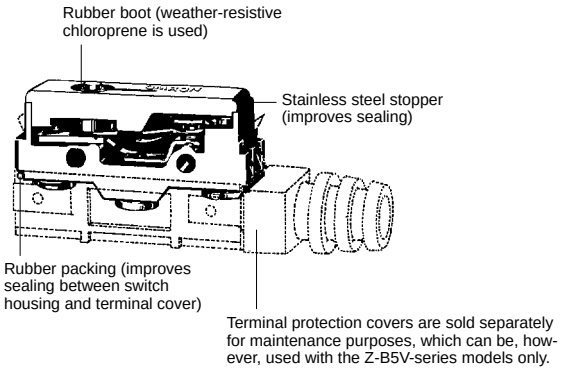
With Terminal Cover

The high sealing capability (drip-proof) and the terminal protection allows switching operations under poor environment with water and dust, like limit switches. Furthermore, these switches are inexpensive.

The easy-to-remove terminal protection cover allows the easy maintenance of the wires.

By changing the terminal protection cover position, the cable can be stretched in the left or right direction.

The width of this model is the same as that of the conventional Z model. Therefore this model can be mounted under the same conditions.



Cable Sealing Rubber

Two- or three-conductor VCT (with a nominal cross section of 0.75 or 1.25 mm^2 can be used.

Split Contact Models

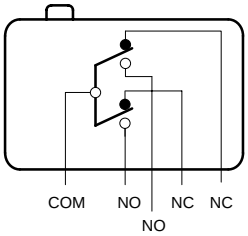
This type is identical in construction to the general-purpose basic switch except that it has two pairs of simultaneous acting contacts by splitting moving contacts.

Since the moving contacts are connected to a common terminal, either parallel or series connection is possible.

Highly reliable minute load switching is ensured if the model is used as a twin-contact switch.

Current capacity: 10 A

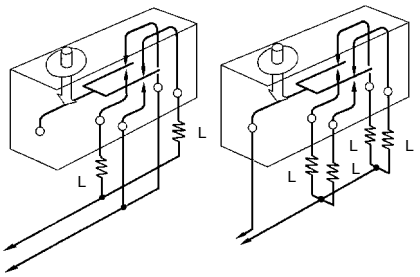
Contact Form



Note: The Z-10FM is a reversible model and the NO and NC positions are reversed.

Connection Example

Series Connection **Parallel Connection**

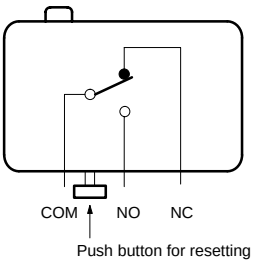


Maintained Contact Models

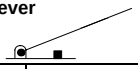
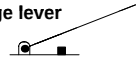
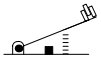
The maintained contact type has a reset button at the bottom of the switch case, in addition to the push button (plunger) located on the opposite side of the reset button. Use these buttons alternately.

Since the switch has greater pretravel than overtravel, it is suitable for use in reversible control circuits, manual reset circuits, safety limit circuits, and other circuits which are not preferable for automatic resetting.

Contact Form



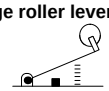
■ Ordering Information

Actuator			Basic model (general-purpose)				Split contact
			Standard	High-sensitivity	High-capacity	Microload	
			G (0.5 mm)	H (0.25 mm)	E (1.8 mm)	H (0.25 mm)	F (1.0 mm)
Pin plunger 		Solder terminal	Z-15G	Z-15H	Z-15E	Z-01H	---
		Screw terminal	Z-15G-B	Z-15H-B	Z-15E-B	Z-01H-B	Z-10FY-B
Slim spring plunger 		Solder terminal	Z-15GS	Z-15HS	---	Z-01HS	---
		Screw terminal	Z-15GS-B	Z-15HS-B		Z-01HS-B	Z-10FSY-B
Short spring plunger		Solder terminal	Z-15GD	Z-15HD	---	Z-01HD	---
		Screw terminal	Z-15GD-B	Z-15HD-B		Z-01HD-B	Z-10FDY-B
Panel mount plunger 	Low OP	Solder terminal	Z-15GQ3	---	---	---	---
		Screw terminal	Z-15GQ3-B				
	Medium OP	Solder terminal	Z-15GQ	Z-15HQ	Z-15EQ	Z-01HQ	---
		Screw terminal	Z-15GQ-B	Z-15HQ-B	Z-15EQ-B	Z-01HQ-B	Z-10FQY-B
	High OP	Solder terminal	Z-15GQ8	---	---	---	---
		Screw terminal	Z-15GQ8-B				
Panel mount roller plunger 		Solder terminal	Z-15GQ22	Z-15HQ22	Z-15EQ22	---	---
		Screw terminal	Z-15GQ22-B	Z-15HQ22-B	Z-15EQ22-B		Z-10FQ22Y-B
Panel mount cross roller plunger 		Solder terminal	Z-15GQ21	Z-15HQ21	---	---	---
		Screw terminal	Z-15GQ21-B	Z-15HQ21-B			
Leaf spring 		Solder terminal	Z-15GL	---	---	---	---
		Screw terminal	Z-15GL-B				
Roller leaf spring 		Solder terminal	Z-15GL2	Z-15HL2	---	---	---
		Screw terminal	Z-15GL2-B	Z-15HL2-B			
Short hinge lever 		Solder terminal	Z-15GW21	---	---	---	---
		Screw terminal	Z-15GW21-B				
Hinge lever 	Low OF	Solder terminal	Z-15GW	Z-15HW	---	---	---
		Screw terminal	Z-15GW-B	Z-15HW-B			Z-10FWY-B
	Medium OF	Solder terminal	Z-15GW3	---	---	---	---
		Screw terminal	Z-15GW3-B				
	High OF	Solder terminal	Z-15GW32		---	---	---
		Screw terminal	Z-15GW32-B				
Low-force hinge lever 		Solder terminal	Z-15GW4	Z-15HW4	---	---	---
		Screw terminal	Z-15GW4-B	Z-15HW4-B			
Low-force wire hinge lever 	Low OF	Solder terminal	---	Z-15HW78	---	---	---
		Screw terminal		Z-15HW78-B			
	High OF	Solder terminal	---	Z-15HW52	---	---	---
		Screw terminal		Z-15HW52-B			
Short hinge roller lever 		Solder terminal	Z-15GW22	Z-15HW22	Z-15EW22	Z-01HW22	---
		Screw terminal	Z-15GW22-B	Z-15HW22-B	Z-15EW22-B	Z-01HW22-B	Z-10FW22Y-B
Short hinge cross roller lever 		Solder terminal	Z-15GW49	---	---	---	---
		Screw terminal	Z-15GW49-B				
HInge roller lever 	Parallel	Solder terminal	Z-15GW2	Z-15HW2	---	---	---
		Screw terminal	Z-15GW2-B	Z-15HW2-B			Z-10FW2Y-B
	Large roller	Solder terminal	Z-15GW25	---	---	---	---
		Screw terminal	Z-15GW25-B				
Hinge cross roller lever 		Solder terminal	Z-15GW54	---	---	---	---
		Screw terminal	Z-15GW54-B				
Unidirectional short hinge roller lever 		Solder terminal	Z-15GW2277	---	---	---	---
		Screw terminal	Z-15GW2277-B				
Reverse hinge lever (see note 2) 		Solder terminal	Z-15GM	---	---	---	---
		Screw terminal	Z-15GM-B				

Actuator		Basic model (general-purpose)				Split contact
		Standard	High-sensitivity	High-capacity	Microload	
		G (0.5 mm)	H (0.25 mm)	E (1.8 mm)	H (0.25 mm)	F (1.0 mm)
Reverse short hinge roller lever (see note 2) 	Solder terminal	Z-15GM22	---	---	---	---
	Screw terminal	Z-15GM22-B				Z-10FM22Y-B
Reverse hinge roller lever (see note 2) 	Solder terminal	Z-15GM2	---	---	---	---
	Screw terminal	Z-15GM2-B				

Note: 1. A super high-sensitivity model with a 0.2 mm contact gap, Z-15H2(-B), is also available.

2. The pin plungers of reverse-type models are continuously pressed by the actuator levers with compression coil springs and the pin plungers are freed by operating the levers. Reverse-type models are highly vibration- and shock-resistive because the pin plungers are normally pressed.

Actuator			Basic model (drip-proof)			
			Standard		Microload	High-sensitivity
			G (0.5 mm)		H (0.25 mm)	H (0.25 mm)
			Without drip-proof terminal protection cover	With drip-proof terminal protection cover	Without drip-proof terminal protection cover	Without drip-proof terminal protection cover
Pin plunger 		Solder terminal	Z-15G55	---	Z-01H55	---
		Screw terminal	Z-15G55-B	Z-15GA55-B5V	Z-01H55–B	
Short spring plunger 		Solder terminal	Z-15GD55	---	Z-01HD55	---
		Screw terminal	Z-15GD55-B		Z-01HD55-B	
Spring plunger	Medium OP	Solder terminal	Z-15GK55	---	---	---
		Screw terminal	Z-15GK55-B			
	High OP	Solder terminal	Z-15GK355	---	---	---
		Screw terminal	Z-15GK355-B	Z-15GK3A55-B5V		
Panel mount plunger 	Medium OP	Solder terminal	Z-15GQ55	---	---	---
		Screw terminal	Z-15GQ55-B	Z-15GQA55-B5V		
Panel mount roller plunger 		Solder terminal	Z-15GQ2255	---	---	---
		Screw terminal	Z-15GQ2255-B	Z-15GQ22A55-B5V		
Panel mount cross roller plunger 		Solder terminal	Z-15GQ2155	---	---	---
		Screw terminal	Z-15GQ2155-B	Z-15GQ21A55-B5V		
Leaf spring 		Solder terminal	Z-15GL55	---	---	---
		Screw terminal	Z-15GL55-B			
Roller leaf spring 		Solder terminal	Z-15GL255	---	---	---
		Screw terminal	Z-15GL255-B			
Short hinge lever 		Solder terminal	Z-15GW2155	---	---	---
		Screw terminal	Z-15GW2155-B			
Hinge lever 	Medium OF	Solder terminal	Z-15GW4455	---	---	---
		Screw terminal	Z-15GW4455-B	Z-15GW44A55-B5V		
	High OF	Solder terminal	Z-15GW55	---	---	---
		Screw terminal	Z-15GW55-B	Z-15GWA55-B5V		
Short hinge roller lever 		Solder terminal	Z-15GW2255	---	Z-01HW2255	---
		Screw terminal	Z-15GW2255-B	Z-15GW22A55-B5V	Z-01HW2255-B	
Hinge roller lever 	Parallel	Solder terminal	Z-15GW255	---	---	---
		Screw terminal	Z-15GW255-B	Z-15GW2A55-B5V		
Unidirectional short hinge roller lever 		Solder terminal	Z-15GW227755	---	---	---
		Screw terminal	Z-15GW227755-B	Z-15GW2277A55-B5V		
Reverse hinge lever (see note) 		Solder terminal	Z-15GM55	---	---	---
		Screw terminal	Z-15GM55-B			

Actuator		Basic model (drip-proof)			
		Standard		Microload	High-sensitivity
		G (0.5 mm)		H (0.25 mm)	H (0.25 mm)
		Without drip-proof terminal protection cover	With drip-proof terminal protection cover	Without drip-proof terminal protection cover	Without drip-proof terminal protection cover
Reverse short hinge roller lever (see note) 	Solder terminal	Z-15GM2255	---	---	---
	Screw terminal	Z-15GM2255-B			
Reverse hinge roller lever (see note) 	Solder terminal	Z-15GM255	---	---	---
	Screw terminal	Z-15GM255-B			
Flexible rod (coil spring) 	Solder terminal	Z-15GNJ55	---	---	Z-15HNJS55
	Screw terminal	Z-15GNJ55-B			Z-15HNJS55-B

Note: The pin plungers of reverse-type models are continuously pressed by the actuator levers with compression coil springs and the pin plungers are freed by operating the levers. Reverse-type models are highly vibration- and shock-resistive because the pin plungers are normally pressed.

Actuator	Maintained contact model
Pin plunger	Z-15ER
Slim spring plunger 	Z-15ESR
Hinge lever 	Z-15EWR

■ Model Number Legend

Z-□□□□-□

1 2 3 4 5

1. Rated Current

01: 0.1 A (for microload)
15: 15 A

2. Contact Gap

H: 0.25 mm (high-sensitivity)
G: 0.5 mm (standard)
E: 1.8 mm (high-capacity)

3. Actuator

None: Pin plunger
S: Slim spring plunger
D: Short spring plunger
K: Spring plunger (medium OP)
K3: Spring plunger (high OP)
Q3: Panel mount plunger (low OP)
Q: Panel mount plunger (medium OP)
Q8: Panel mount plunger (high OP)
Q22: Panel mount roller plunger
Q21: Panel mount cross roller plunger
L: Leaf spring
L2: Roller leaf spring
W21: Short hinge lever
W: Hinge lever (low OF)
W3: Hinge lever (medium OF)
W32: Hinge lever (high OF) (see note 1)
W4: Low-force hinge lever (see note 1)
W78: Low-force wire hinge lever (low OF) (see note 2)
W52: Low-force wire hinge lever (high OF) (see note 2)
W22: Short hinge roller lever
W2: Hinge roller lever (parallel)
W25: Hinge roller lever (large roller)
W2277: Unidirectional short hinge roller lever
M: Reverse hinge lever (see note 1)
M22: Reverse short hinge roller lever (see note 1)
M2: Reverse hinge roller lever (see note 1)
NJ: Flexible rod (low OF)
NJS: Flexible rod (high OF)

Note: 1. Applicable to the Z-15F only. Refer to *"Ordering Information"* for the other models.
2. Applicable to the Z-15H only.

4. Enclosure ratings

None: General-purpose
55: Drip-proof
A55: Drip-proof (including the terminals)

5. Terminals

None: Solder terminal
B: Screw terminal (with cup washer)
B3: Screw terminal (with toothed washer)
B5V: Screw terminal with terminal cover (for Z-15G□A55 only)

Specifications

■ Ratings

Basic (Except Microload and Flexible Rod Models)/Maintained Contact Models

Model	Rated voltage	Non-inductive load				Inductive laod			
		Resistive load		Lamp load		Inductive load		Motor load	
		NC	NO	NC	NO	NC	NO	NC	NO
G, H, E	125 VAC	15 (10) A (see note)		3 A	1.5 A	15 (10) (see note)		5 A	2.5 A
	250 VAC	15 (10) A (see note)		2.5 A	1.25 A	15 (10) (see note)		3 A	1.5 A
	500 VAC	10 A		1.5 A	0.75 A	6 A		1.5 A	0.75 A
G	8 VDC	15 A		3 A	1.5 A	15 A		5 A	2.5 A
	14 VDC	15 A		3 A	1.5 A	10 A		5 A	2.5 A
	30 VDC	6 A		3 A	1.5 A	5 A		5 A	2.5 A
	125 VDC	0.5 A		0.5 A	0.5 A	0.05 A		0.05 A	0.05 A
	250 VDC	0.25 A		0.25 A	0.25 A	0.03 A		0.03 A	0.03 A
H	8 VDC	15 A		3 A	1.5 A	15 A		5 A	2.5 A
	14 VDC	15 A		3 A	1.5 A	10 A		5 A	2.5 A
	30 VDC	2 A		2 A	1.4 A	1 A		1 A	1 A
	125 VDC	0.4 A		0.4 A	0.4 A	0.03 A		0.03 A	0.03 A
	250 VDC	0.2 A		0.2 A	0.2 A	0.02 A		0.02 A	0.02 A
E	8 VDC	15 A		3 A	1.5 A	15 A		5 A	2.5 A
	14 VDC	15 A		3 A	1.5 A	15 A		5 A	2.5 A
	30 VDC	15 A		3 A	1.5 A	10 A		5 A	2.5 A
	125 VDC	0.75 A		0.75 A	0.75 A	0.4 A		0.4 A	0.4 A
	250 VDC	0.3 A		0.3 A	0.3 A	0.2 A		0.2 A	0.2 A

Note: Figures in parentheses are for the Z-15H2-series, Z-15HW52, and Z15HW78(-B) models, the AC ratings of these models are 125 and 250 V only.

Basic (Microload) Models

Rated voltage	Resistive load	
	NC	NO
125 VAC	0.1 A	
8 VDC	0.1 A	
14 VDC	0.1 A	
30 VDC	0.1 A	

Basic (Flexible Rod) Models

Rated voltage	Non-inductive load				Inductive laod			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	15 A		2 A	1 A	7 A		2.5 A	2 A
250 VAC	15 A		1 A	0.5 A	5 A		1.5 A	1 A
8 VDC	15 A		2 A	1 A	7 A		3 A	1.5 A
14 VDC	15 A		2 A	1 A	7 A		3 A	1.5 A
30 VDC	2 A		2 A	1 A	1 A		1 A	0.5 A
125 VDC	0.4 A		0.4 A	0.4 A	0.03 A		0.03 A	0.03 A
250 VDC	0.2 A		0.2 A	0.2 A	0.02 A		0.02 A	0.02 A

Split Contact Models

Model	Rated voltage	Non-inductive load				Inductive laod			
		Resistive load		Lamp load		Inductive load		Motor load	
		NC	NO	NC	NO	NC	NO	NC	NO
Series connection	125 VAC	10 A		4 A	2 A	6 A		5 A	2.5 A
	250 VAC	10 A		2.5 A	1.5 A	6 A		3 A	1.5 A
	30 VDC	10 A		4 A	2 A	6 A		6 A	3 A
	125 VDC	1 A		1 A	1 A	0.1 A		0.1 A	0.1 A
	250 VDC	0.6 A		0.6 A	0.6 A	0.05 A		0.05 A	0.05 A
Parallel connection	125 VDC	6 A		3 A	1.5 A	4 A		4 A	2 A
	250 VDC	6 A		2.5 A	1.25 A	4 A		2 A	1 A
	30 VDC	6 A		4 A	2 A	4 A		6 A	3 A
	125 VDC	0.6 A		0.6 A	0.6 A	0.1 A		0.1 A	0.1 A
	250 VDC	0.3 A		0.3 A	0.3 A	0.05 A		0.05 A	0.05 A

Note: 1. The above current ratings are the values of the steady-state current.
2. Inductive load has a power factor of 0.4 min. (AC) and a time constant of 7 ms max. (DC).
3. Lamp load has an inrush current of 10 times the steady-state current.
4. Motor load has an inrush current of 6 times the steady-state current.
5. The normally closed and normally open ratings of reverse hinge lever models are opposite to each other.
6. The AC ratings of molded terminals are 125 and 250 V only.

■ Characteristics

Item	Basic (except microload and flexible rod)/ maintained contact	Basic (microload)	Basic (flexible rod: coil spring, steel wire)	Split contact
Operating speed (see note)	0.01 mm to 1 m/s (at pin plunger)		1 mm to 1 m/s	0.1 mm to 1 m/s (at pin plunger)
Operating frequency	Mechanical: 240 operations/min Electrical: 20 operations/min		Mechanical: 120 operations/min Electrical: 20 operations/min	Mechanical: 240 operations/min Electrical: 20 operations/min
Insulation resistance	100 MΩ min. (at 500 VDC)			
Contact resistance	15 mΩ max. (initial value)	50 mΩ max. (initial value)	15 mΩ max. (initial value)	25 mΩ max. (initial value)
Dielectric strength	Between contacts of same polarity Contact gap G: 1,000 VAC, 50/60 Hz for 1 min Contact gap H: 600 VAC, 50/60 Hz for 1 min contact gap E: 1,500 VAC, 50/60 Hz for 1 min Between current-carrying metal parts and ground, and between each terminal and non-current-carrying metal parts 2,000 VAC, 50/60 Hz for 1 min		Between contacts of same polarity Contact gap G: 1,000 VAC, 50/60 Hz for 1 min Contact gap H: 600 VAC, 50/60 Hz for 1 min Between current-carrying metal parts and ground, and between each terminal and non-current-carrying metal parts 2,000 VAC, 50/60 Hz for 1 min	Between contacts of same polarity Contact gap F: 1,500 VAC, 50/60 Hz for 1 min Between current-carrying metal parts and ground, and between each terminal and non-current-carrying metal parts 2,000 VAC, 50/60 Hz for 1 min
Inrush current	NO: 15 A max. NC: 30 A max.	NO: 0.1 A max. NC: 0.1 A max.	NO: 10 A max. NC: 20 A max.	NO: 20 A max. NC: 40 A max.
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude		Malfunction: 10 to 20 Hz, 1.5-mm double amplitude	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 1,000 m/s^2 min. (approx. 100G min.) Malfunction: 300 m/s^2 min. (approx. 30G min.) (Z-15G pin plunger)		Destruction: 1,000 m/s^2 min. (approx. 100G min.) Malfunction: 50 m/s^2 min. (approx. 5G min.)	Destruction: 1,000 m/s^2 min. (approx. 100G min.) Malfunction: 300 m/s^2 min. (approx. 30G min.) (Z-10FY-B)

Item	Basic (except microload and flexible rod)/ maintained contact	Basic (microload)	Basic (flexible rod: coil spring, steel wire)	Split contact
Life expectancy	Mechanical: Contact gap G, H, H2: 20,000,000 operations min. (at pin plunger) Contact gap E: 300,000 operations Electrical: Contact gap G, H, H2: 500,000 operations min. (at pin plunger) Contact gap E: 100,000 operations		Mechanical: 1,000,000 operations min. (at pin plunger) Electrical: 100,000 operations min.	Mechanical: 500,000 operations min. (at pin plunger) Electrical: 100,00 operations min.
Ambient temperature	Operating: General-purpose: –25°C to 80°C (with no icing) Drip-proof: –15°C to 80°C (with no icing)			
Ambient humidity	Operating: General-purpose: 35% to 85% Drip-proof: 35% to 95%			
Contact	Specification: Rivet Materials: Sliver alloy		Specification: Single crossbar Materials: Gold alloy	Specification: Rivet Materials: Silver alloy
Weight	Approx. 22 to 58 g		Approx. 42 to 48 g	Approx. 34 to 61 g

■ Operating Characteristics

Basic (General-purpose)/Split Contact Models

Model	Pin plunger					
	Z-15G-B	**Z-15H-B**	**Z-15H2-B (highly sensitive models)**	**Z-15E-B**	**Z-01H-B**	**Z-10FY-B**
OF	2.45 to 3.43 N (250 to 350 gf)	1.96 to 2.75 N (200 to 280 gf)	1.96 to 2.50 N (200 to 255 gf)	6.12 to 7.84 N (625 to 800 gf)	2.45 N (250 gf)max.	4.46 to 7.25 N (455 to 740 gf)
RF min.	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)	0.78 N (80 gf)	1.12 N (114 gf)
PT max.	0.4 mm	0.3 mm	0.3 mm	0.8 mm	0.5 mm	0.8 mm
OT min.	0.13 mm	0.13 mm	0.1 mm	0.13 mm	0.13 mm	0.13 mm
MD max.	0.05 mm	0.025 mm	0.005 to 0.008 mm	0.13 mm	0.04 mm	0.1 mm
OP	15.9±0.4 mm					

Model	Slim spring plunger				
	Z-15GS-B	**Z-15HS-B**	**Z-15ES-B**	**Z-01HS-B**	**Z-10FSY-B**
OF	2.45 to 3.43 N (250 to 350 gf)	1.96 to 2.80 N (200 to 285 gf)	6.12 to 7.84 N (625 to 800 gf)	2.45 N (250 gf) max.	4.46 to 7.25 N (455 to 740 gf)
RF min.	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)	0.78 N (80 gf)	1.12 N (114 gf)
PT max.	0.4 mm	0.3 mm	0.8 mm	0.5 mm	0.8 mm
OT min.	1.6 mm	1.6 mm	1.6 mm	1.6 mm	1.6 mm
MD max.	0.05 mm	0.025 mm	0.13 mm	0.05 mm	0.1 mm
OP	28.2±0.5 mm				

Model	Short spring plunger				
	Z-15GD-B	**Z-15HD-B**	**Z-15ED-B**	**Z-01HD-B**	**Z-10FDY-B**
OF	2.45 to 3.43 N (250 to 350 gf)	1.96 to 2.79 N (200 to 285 gf)	6.12 to 7.85 N (625 to 800 gf)	2.45 N (250 gf) max.	4.46 to 7.25 N (455 to 740 gf)
RF min.	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)	0.78 N (80 gf)	1.12 N (114 gf)
PT max.	0.4 mm	0.3 mm	0.8 mm	0.5 mm	0.8 mm
OT min.	1.6 mm	1.6 mm	1.6 mm	1.6 mm	1.6 mm
MD max.	0.05 mm	0.025 mm	0.13 mm	0.05 mm	0.1 mm
OP	21.5±0.5 mm				

Model	Panel mount plunger						
	Z-15GQ-B (see note 1)	Z-15HQ-B (see note 1)	Z-15EQ-B (see note 1)	Z-01HQ-B (see note 1)	Z-10FQY-B (see note 1)	Z-15GQ3-B (see note 2)	Z-15GQ8-B (see notes 3 and 4)
OF	2.45 to 3.43 N (250 to 350 gf)	1.96 to 2.79 N (200 to 285 gf)	6.12 to 7.85 N (625 to 800 gf)	2.45 N (250 gf max.)	4.46 to 7.25 N (455 to 740 gf)	2.45 to 3.43 N (250 to 350 gf)	2.45 to 3.43 N (250 to 350 gf)
RF min.	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)	0.78 N (80 gf)	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)
PT max.	0.4 mm	0.3 mm	0.8 mm	0.5 mm	0.8 mm	4.2 mm	0.5 mm
OT min.	5.5 mm	5.5 mm	5.5 mm	5.5 mm	5.5 mm	2.5 mm	5.5 mm
MD max.	0.05 mm	0.025 mm	0.13 mm	0.05 mm	0.1 mm	2.2 mm	0.05 mm
OP	21.8±0.8 mm					18.8±0.8 mm	32.5±1 mm

Note: 1. Do not use the M12 mounting screw and the case mounting hole at the same time, or excessive pulling force will be imposed on the switch and the case and cover may be damaged.

2. The pretravel of the Z-15GQ3-B can be larger than that of the Z-15GQ. Do not use the M12 mounting screw and the case mounting hole at the same time, or the case may be damaged.

3. The operating position of the Z15GQ8-B can be adjusted by attaching a screw to the pin plunger. Do not use the M12 mounting screw and the case mounting hole at the same time, or the case may be damaged.

4. The M3 hole with a depth of 10 mm is a through hole. Take precautions so that no water or screw lock agent penetrates into the hole.

Model	Panel mount roller plunger				Panel mount cross roller plunger		
	Z-15GQ22-B	Z-15HQ22-B	Z-15EQ22-B	Z-10FQ22Y-B	Z-15GQ21-B	Z-15HQ21-B	Z-15EQ21-B
OF	2.45 to 3.43 N (250 to 350 gf)	1.96 to 2.79 N (200 to 285 gf)	6.12 to 7.85 N (625 to 800 gf)	4.46 to 7.25 N (455 to 740 gf)	2.45 to 3.43 N (250 to 350 gf)	1.96 to 2.79 N (200 to 285 gf)	6.12 to 7.85 N (625 to 800 gf)
RF min.	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)
PT max.	0.4 mm	0.3 mm	0.5 mm	1 mm	0.4 mm	0.3 mm	0.5 mm
OT min.	3.58 mm	3.58 mm	3.58 mm	3.55 mm	3.58 mm	3.58 mm	3.58 mm
MD max.	0.05 mm	0.025 mm	0.13 mm	0.1 mm	0.05 mm	0.025 mm	0.13 mm
OP	33.4±1.2 mm						

Note: Do not use the M12 mounting screw and the case mounting hole at the same time, or the case may be damaged.

Model	Leaf spring	Roller leaf spring		Short hinge lever
	Z-15GL-B	Z-15GL2-B	Z-15HL2-B	Z-15GW21-B
OF max.	1.38 N (141 gf)	1.38 N (141 gf)	1.11 N (113 gf)	1.57 N (160 gf)
RF min.	0.14 N (14 gf)	0.14 N (14 gf)	0.14 N (14 gf)	0.27 N (28 gf)
OT min.	1.6 mm (see note)	1.6 mm (see note)	1.6 mm (see note)	2 mm
MD max.	1.3 mm	1.3 mm	0.8 mm	1 mm
FP max.	20.6 mm	31.8 mm		24.8 mm
OP	17.4±0.8 mm	28.6±0.8 mm		19±0.8 mm

Note: When operating, be sure not to exceed 1.6 mm.

Model	Hinge lever				
	Z-15GW3-B	Z-15GW-B	Z-15HW-B	Z-15GW32-B	Z-10FWY-B
OF	0.78 N (80 gf) max.	0.69 N (70 gf) max.	0.66 N (67 gf) max.	1.47 to 1.96 N (150 to 200 gf)	0.88 N (90 gf) max.
RF min.	0.15 N (15.5 gf)	0.14 N (14 gf)	0.14 N (14 gf)	0.92 N (94 gf)	0.14 N (14 gf)
OT min.	4.8 mm	5.6 mm	5.6 mm	5.6 mm	5.6 mm
MD max.	1.12 mm	1.27 mm	0.63 mm	1.27 mm	2.4 mm
FP max.	28.8 mm	28.2 mm	28.4 mm	28.2 mm	29.8 mm
OP	19±0.8 mm				

Model	Low-force hinge lever		Low-force wire hinge lever (see note)	
	Z-15GW4-B	Z-15HW24-B	Z-15HW52-B	Z-15HW78-B
OF max.	0.27 N (28 gf)	0.06 N (6 gf)	0.06 N (6 gf)	0.04 N (4 gf)
RF min.	0.034 N (3.5 gf)	0.005 N (0.5 gf)	0.005 N (0.5 gf)	0.003 N (0.3 gf)
PT max.	10 mm	19.8 mm	8.3 mm	10 mm
OT min.	5.6 mm	10 mm	5.6 mm	6 mm
MD max.	1.27 mm	2 mm	0.65 mm	3 mm
OP	19±0.8 mm	19.8±1.6 mm	19±1 mm	20±1 mm

Note: The AC rating is 10 A at 125 or 250 V.

Model	Short hinge roller lever				
	Z-15GW22-B	Z-15HW22-B	Z-15EW22-B	Z-01HW22-B	Z-10FW22Y-B
OF max.	1.57 N (160 gf)	1.47 N (150 gf)	1.94 N (198 gf)	1.57 N (160 gf)	2.45 N (250 gf)
RF min.	0.41 N (42 gf)	0.41 N (42 gf)	0.41 N (42 gf)	0.27 N (28 gf)	0.34 N (35 gf)
OT min.	2.4 mm	2.4 mm	2.4 mm	2.4 mm	2.4 mm
MD max.	0.5 mm	0.45 mm	1.3 mm	0.5 mm	1 mm
FP max.	32.5 mm		35.1 mm	32.5 mm	34.8 mm
OP	30.2±0.4 mm				

Model	Short hinge cross roller lever	Hinge roller lever			
	Z-15GW49-B	Z-15GW2-B	Z-15HW2-B	Z-10FW2Y-B	Z-15GW25-B
OF max.	1.67 N (170 gf)	0.98 N (100 gf)	0.84 N (86 gf)	1.27 N (130 gf)	0.98 N (100 gf)
RF min.	0.41 N (42 gf)	0.22 N (22 gf)	0.22 N (22 gf)	0.22 N (22 gf)	0.21 N (21 gf)
OT min.	2.4 mm	4 mm	4 mm	4 mm	4 mm
MD max.	0.51 mm	1.02 mm	0.6 mm	2 mm	1.6 mm
FP max.	33.3 mm	36.5 mm		37.4 mm	47.5 mm
OP	31±0.4 mm	30.2±0.8 mm			41.2±0.8 mm

Model	Hinge cross roller lever	Unidirectional short hinge roller lever	Reverse hinge lever
	Z-15GW54-B	Z-15GW2277-B	Z-15GM-B
OF max.	0.98 N (100 gf)	1.67 N (170 gf)	1.67 N (170 gf)
RF min.	0.22 N (22 gf)	0.41 N (42 gf)	0.27 N (28 gf)
OT min.	4 mm	2.4 mm	5.6 mm
MD max.	1 mm	0.51 mm	0.89 mm
FP max.	37.3 mm	43.6 mm	23.8 mm
OP	31±0.8 mm	41.3±0.8 mm	19±0.8 mm

Model	Reverse short hinge roller lever		Reverse hinge roller lever
	Z-15GM22-B	Z-10FM22Y-B	Z-15GM2-B
OF max.	5.28 N (538 gf)	6.37 N (650 gf)	2.35 N (240 gf)
RF min.	1.67 N (170 gf)	1.67 N (170 gf)	0.55 N (56 gf)
OT min.	2 mm	2 mm	4 mm
MD max.	0.28 mm	0.56 mm	0.64 mm
FP max.	31.8 mm	33 mm	35 mm
OP	29.4±0.4 mm	29.4±0.4 mm	30.2±0.8 mm

Basic (Drip-proof) Models

Model	Pin plunger		Slim spring plunger		Short spring plunger	
	Z-15G55-B Z-15GA55-B5V	Z-01H55-B	Z-15GD55-B	Z-01HD55-B	Z-15GK55-B	Z-15GK355-B Z-15GK3A55-B5V
OF	2.45 to 4.22 N (250 to 430 gf)	3.43 N (350 gf) max.	5.30 N (540 gf) max.	3.63 N (370 gf) max.	5.30 N (540 gf) max.	5.30 N (540 gf) max.
RF min.	1.12 N (114 gf)	0.78 N (80 gf)	1.12 N (114 gf)	0.78 N (80 gf)	1.12 N (114 gf)	1.12 N (114 gf)
PT max.	2.2 mm	2.2 mm	1.8 mm	1.9 mm	2.3 mm	2.4 mm
OT min.	0.13 mm	0.13 mm	1.6 mm	1.6 mm	1.6 mm	3.5 mm
MD max.	0.06 mm	0.06 mm	0.06 mm	0.06 mm	0.06 mm	0.06 mm
OP	15.9±0.4 mm		21.5±0.5 mm		28.2±0.5 mm	37.8±1.2 mm

Model	Panel mount plunger	Panel mount roller plunger	Panel mount corss roller plunger
	Z-15GQ55-B, Z-15GQA55-B5V	Z-15GQ2255-B, Z-15GQ22A55-B5V	Z-15GQ2155-B, Z-15GQ21A55-B5V
OF max.	5.30 N (540 gf)	5.30 N (540 gf)	5.30 N (540 gf)
RF min.	1.12 N (114 gf)	1.12 N (114 gf)	1.12 N (114 gf)
PT max.	1.8 mm	1.8 mm	1.8 mm
OT min.	5.5 mm	3.58 mm	3.58 mm
MD max.	0.06 mm	0.06 mm	0.06 mm
OP	21.8±0.8 mm	33.4±1.2 mm	

Note: Do not use the M12 mounting screw and the case mounting hole at the same time, or the case may be damaged.

Model	Leaf spring	Roller leaf spring	Short hinge lever	Long hinge lever
	Z-15GL55-B	Z-15GL255-B	Z-15GW2155-B	Z-15GW4455-B Z-15GW44A55-B5V
OF max.	1.96 N (200 gf)	1.96 N (200 gf)	1.86 N (190 gf)	0.88 N (90 gf)
RF min.	0.14 N (14 gf)	0.14 N (14 gf)	0.27 N (28 gf)	0.14 N (14 gf)
OT min.	1.6 mm (see note)	1.6 mm (see note)	2 mm	5.6 mm
MD max.	1.3 mm	1.3 mm	1 mm	3.5 mm
FP max.	20.6 mm	31.8 mm	25 mm	33 mm
OP	17.5±0.8 mm	28.6±0.8 mm	19±0.8 mm	19±1.2 mm

Note: When operating, be sure not to exceed 1.6 mm.

Model	Hinge lever	Short hinge roller lever		Hinge roller lever
	Z-15GW55-B Z-15GWA55-B5V	Z-15GW2255-B Z-15GW22A55-B5V	Z-01HW2255-B	Z-15GW255-B Z-15GW2A55-B5V
OF max.	0.98 N (100 gf)	1.96 N (200 gf)	1.96 N (200 gf)	1.27 N (130 gf)
RF min.	0.14 N (14 gf)	0.27 N (42 gf)	0.27 N (28 gf)	0.21 N (21 gf)
OT min.	5.6 mm	2.4 mm	2.4 mm	4 mm
MD max.	2 mm	0.8 mm	0.8 mm	1.6 mm
FP max.	28.2 mm	32.9 mm		36.5 mm
OP	19±0.8 mm	30.2±0.4 mm		30.2±0.8 mm

Model	Unidirectional short hinge roller lever	Reverse hinge lever	Reverse short hinge roller lever	Reverse hinge roller lever
	Z-15GW227755-B Z-15GW2277A55-B5V	Z-15GM55-B	Z-15GM2255-B	Z-15GM255-B
OF max.	1.77 N (180 gf)	1.96 N (200 gf)	5.69 N (580 gf)	2.65 N (270 gf)
RF min.	0.49 N (50 gf)	0.27 N (28 gf)	1.67 N (170 gf)	0.55 N (56 gf)
OT min.	2.4 mm	5.6 mm	2 mm	4 mm
MD max.	0.8 mm	0.89 mm	0.28 mm	0.64 mm
FP max.	43.6 mm	23.8 mm	31.8 mm	35 mm
OP	41.3±0.8 mm	19±0.8 mm	29.4±0.4 mm	30.2±0.8 mm

Model	Flexible rod (coil spring)	Flexible rod (steel wire)
	Z-15GNJ55-B	Z-15HNJS55-B
OF max.	0.49 N (50 gf)	0.15 N (15 gf)
PT max.	(20 mm)	(25 mm)

Maintained Contact Models

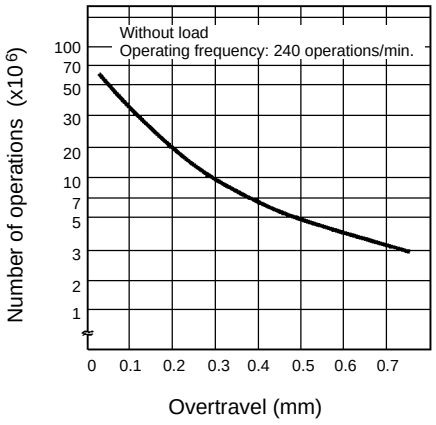
Model		Pin plunger	Slim spring plunger
		Z-15ER	Z-15ESR
Push button	OF	1.96 to 2.50 N (200 to 255 gf)	2.65 N (270 gf) max.
	PT max.	0.4 mm	0.4 mm
	OT min.	0.13 mm	1.6 mm
	OP	15.9±0.4 mm	28.2±0.5 mm
Reset button	OF	0.55 to 2.79 N (56 to 285 gf)	2.79 N (285 gf) max.
	OT min.	0.4 mm	0.4 mm

Model		Hinge lever
		Z-15EWR
Lever	OF max.	0.54 N (55 gf)
	OT min.	5.6 mm
	OP	19±0.8 mm
	FP max.	28.2 mm
Reset button	OF max.	2.94 N (300 gf)
	OT min.	0.4 mm

Engineering Data

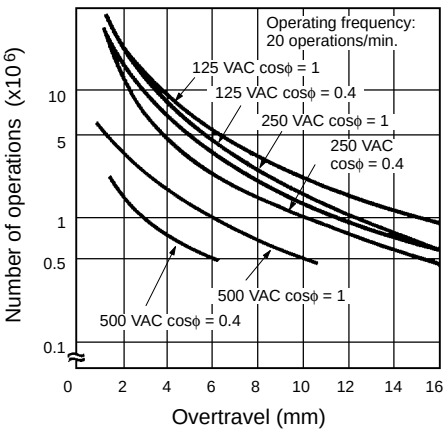
Mechanical Life Expectancy

Z-15G



Electrical Life Expectancy

Z-15G



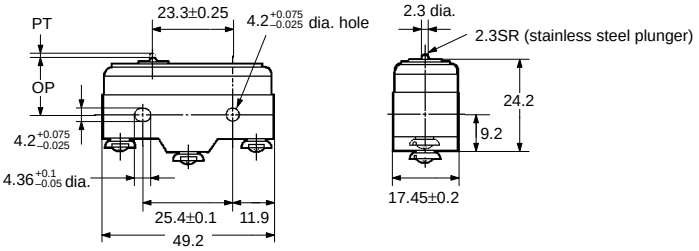
Dimensions

Note: 1. All units are in millimeters unless otherwise indicated.
2. Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.

■ Basic (General-purpose)/Split Contact Models

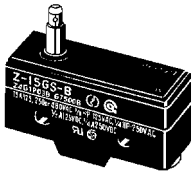
Pin Plunger

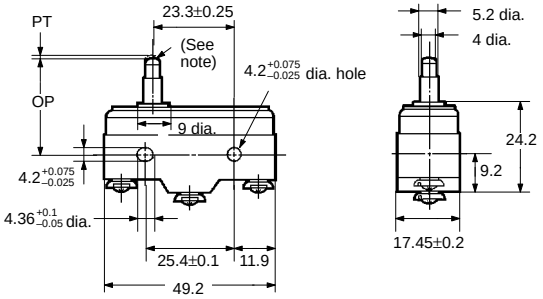
Z-15G-B, Z-15E-B
Z-15H-B, Z-01H-B
Z-15H2-B, Z-10FY-B



Slim Spring Plunger

Z-15GS-B, Z-01HS
Z-15HS-B, Z-10FSY-B
Z-15ES-B

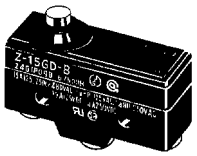


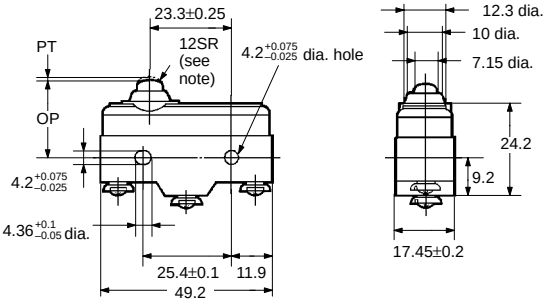


Note: Stainless steep plunger (flat, 1R chamfered)

Short Spring Plunger

Z-15GD-B, Z-01HDS
Z-15HD-B, Z-10FDY-B
Z-15ED-B

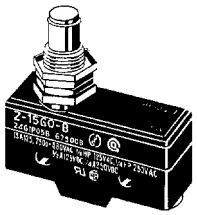


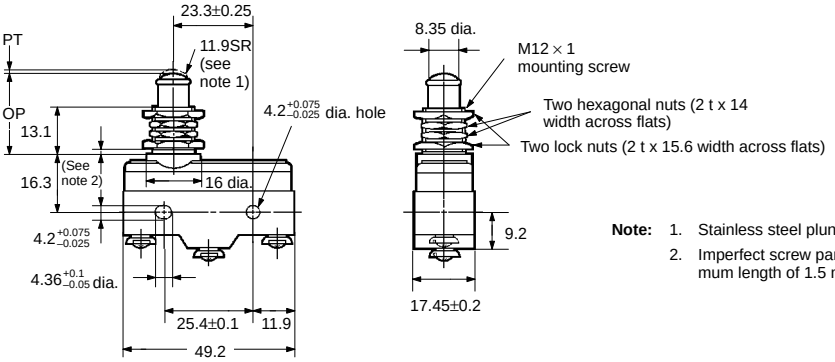


Note: Plated iron plunger

Panel Mount Plunger

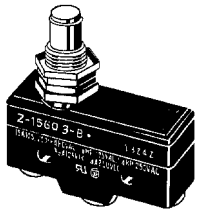
Z-15GQ-B, Z-01HQ-B
Z-15HQ-B, Z-10FQY-B
Z-15EQ-B

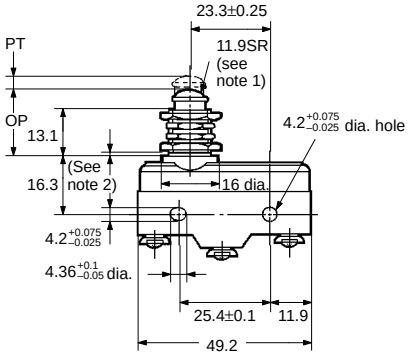


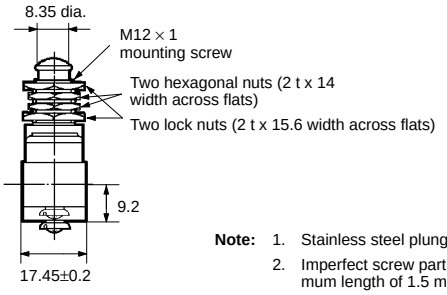


Note: 1. Stainless steel plunger
2. Imperfect screw part with a maximum length of 1.5 mm.

Z-15GQ3-B

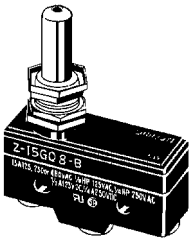


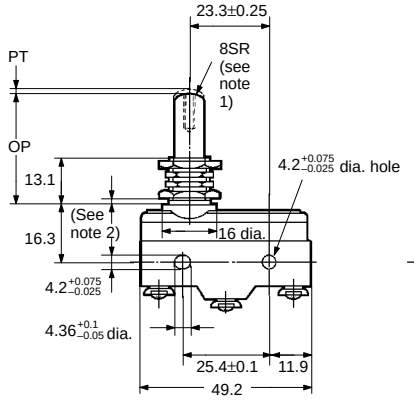


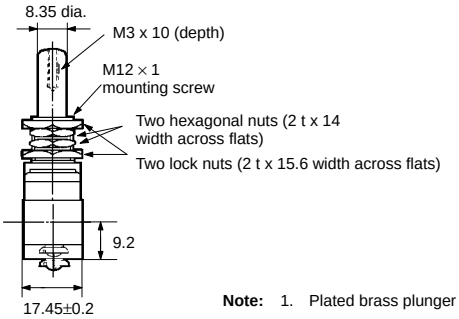


Note: 1. Stainless steel plunger
2. Imperfect screw part with a maximum length of 1.5 mm.

Z-15GQ8-B



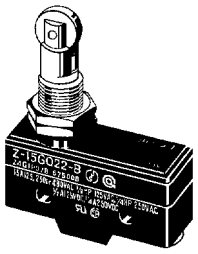


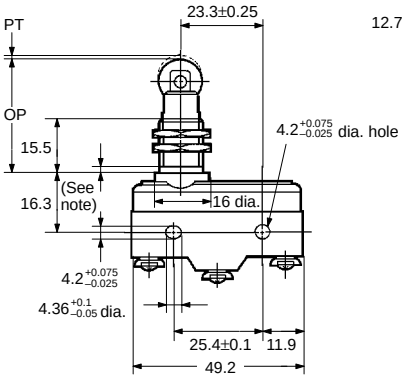


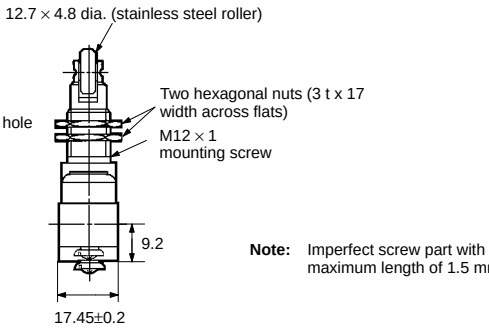
Note: 1. Plated brass plunger
2. Imperfect screw part with a maximum length of 1.5 mm.

Panel Mount Roller Plunger

Z-15GQ22-B, Z-15EQ22-B Z-15HQ22-B, Z-10FQ22Y-B



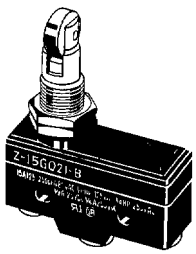


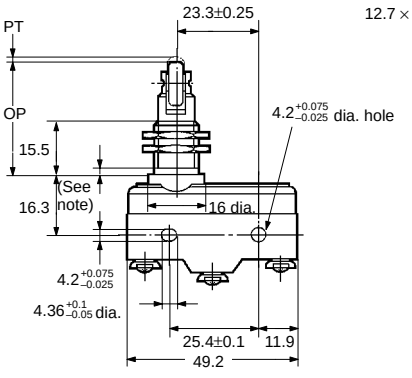


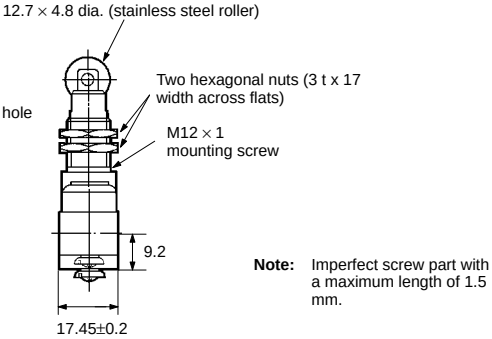
Note: Imperfect screw part with a maximum length of 1.5 mm.

Panel Mount Cross Roller Plunger

Z-15GQ21-B, Z-15HQ21-B, Z-15EQ21-B



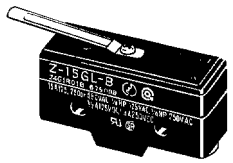


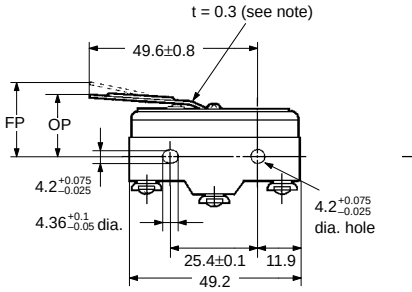


Note: Imperfect screw part with a maximum length of 1.5 mm.

Leaf Spring

Z-15GL-B

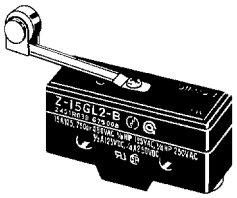


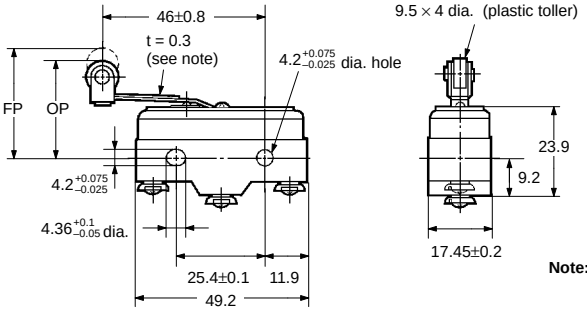


Note: Stainless spring steel lever

Roller Leaf Spring

Z-15GL2-B
z-15HL2-B

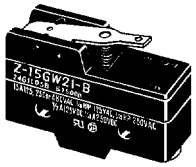


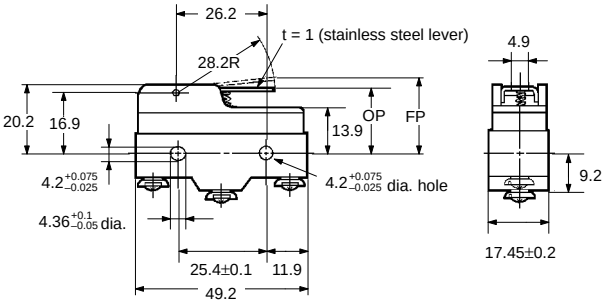


Note: Stainless spring steel lever

Short Hinge Lever

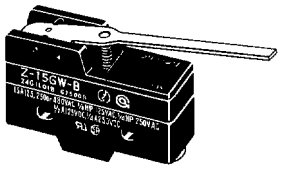
Z-15GW21-B

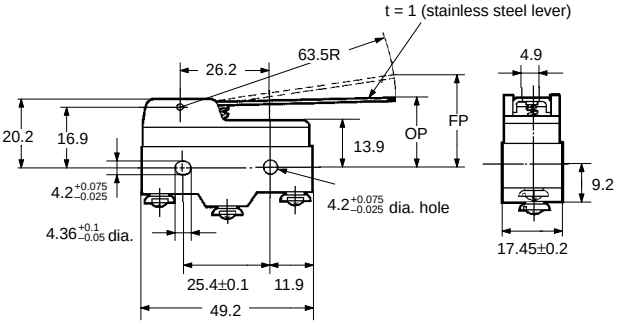




Hinge Lever

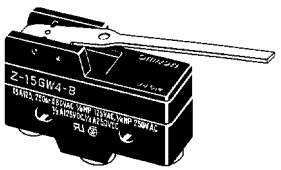
Z-15GW3-B, Z-15GW32-B
Z-15GW-B, Z-10FWY-B
Z-15HW-B

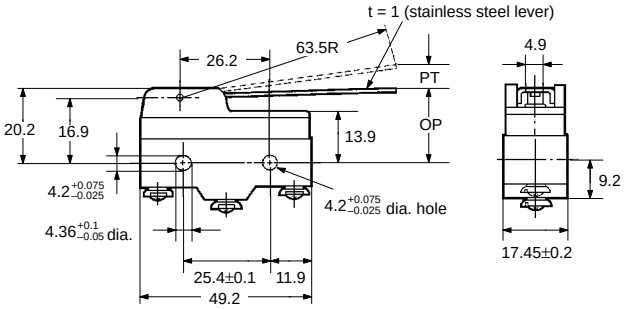




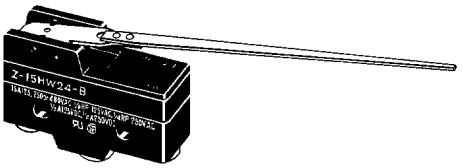
Low-force Hinge Lever

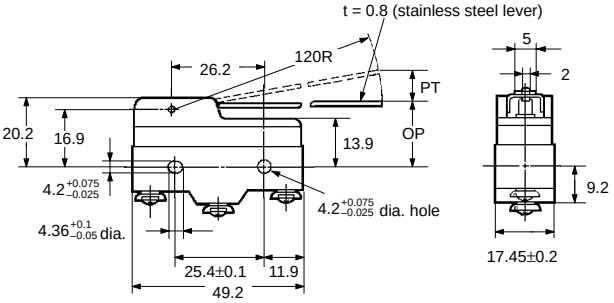
Z-15GW4-B





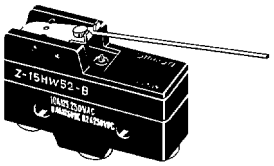
Z-15HW24-B

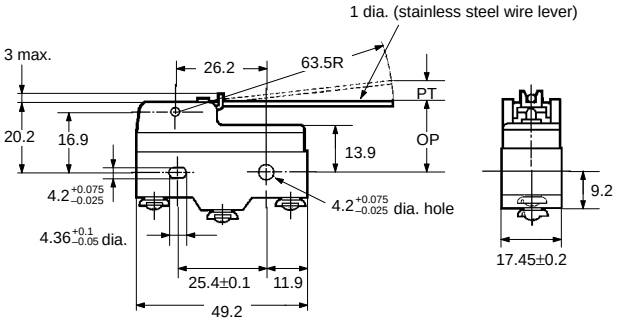




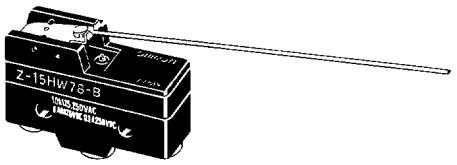
Low-force Wire Hinge Lever

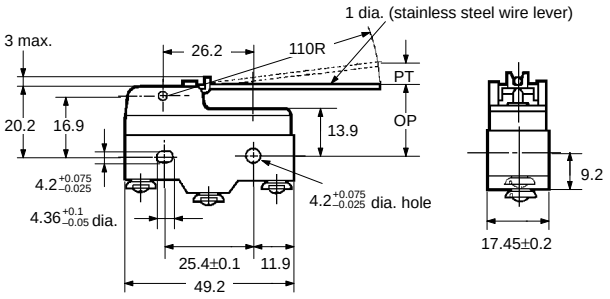
Z-15HW52-B





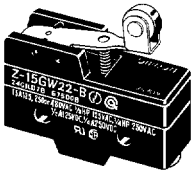
Z-15HW78-B

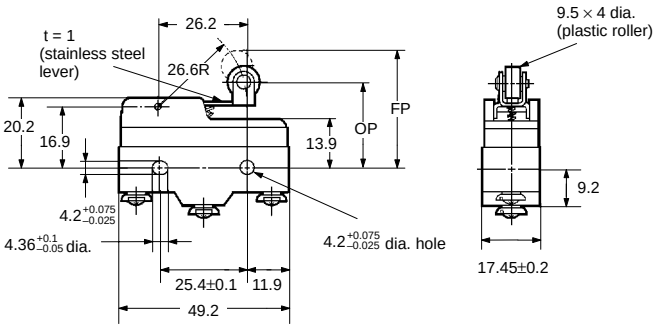




Short Hinge Roller Lever

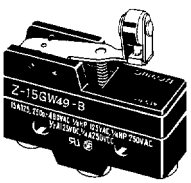
Z-15GW22-B, Z-01HW22-B
Z-15HW22-B, Z-10FW22Y-B
Z-15EW22-B

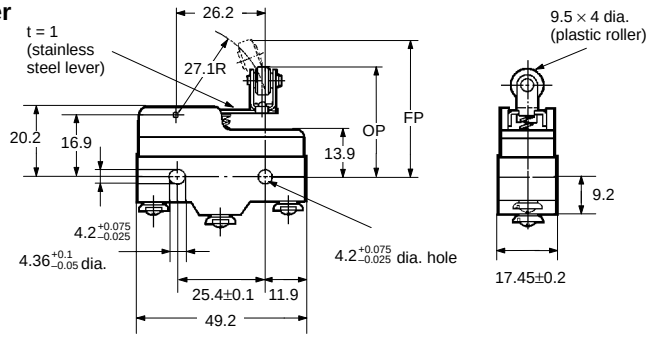




Short Hinge Cross Roller Lever

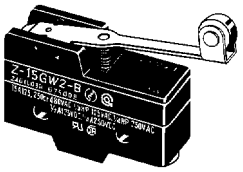
Z-15GW49-B

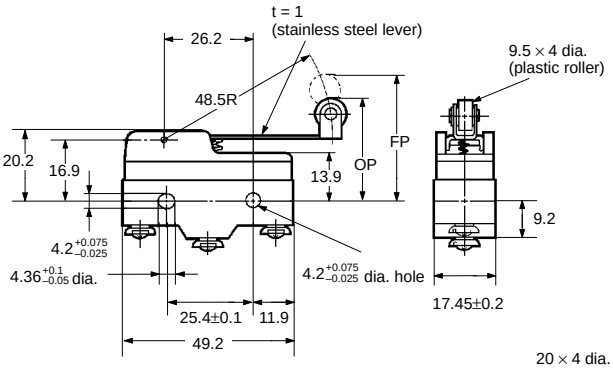




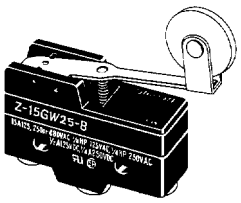
Hinge Roller Lever

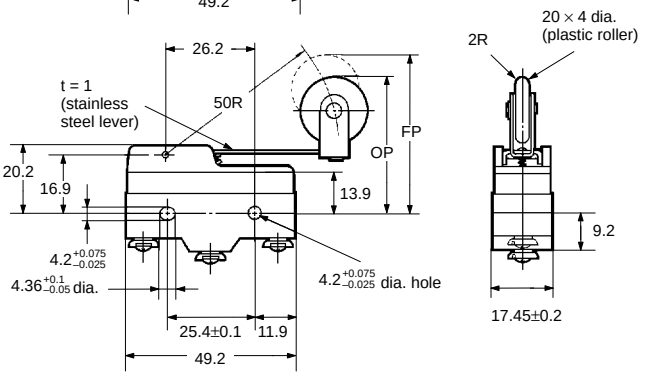
Z-15GW2-B, Z-10FW2Y-B
Z-15HW2-B





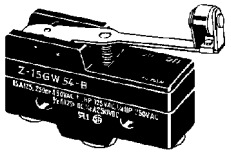
Z-15GW25-B

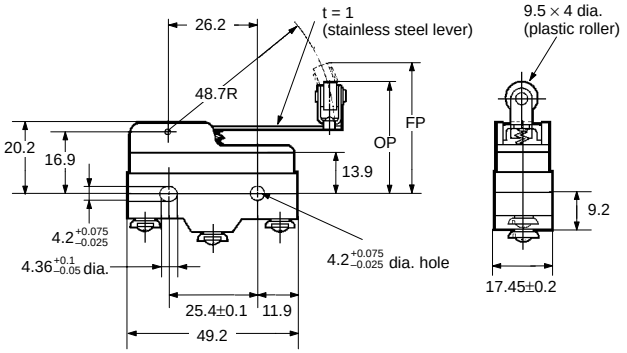




Hinge Cross Roller Lever

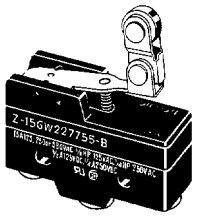
Z-15GW54-B

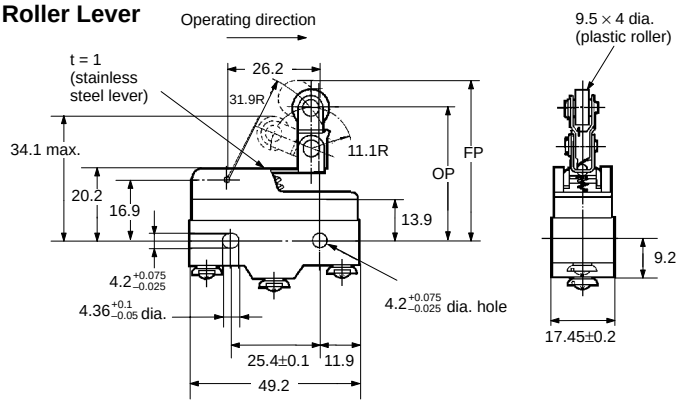




Unidirectional Short Hinge Roller Lever

Z-15GW2277-B

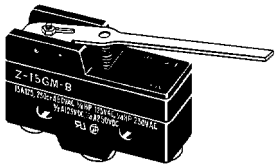


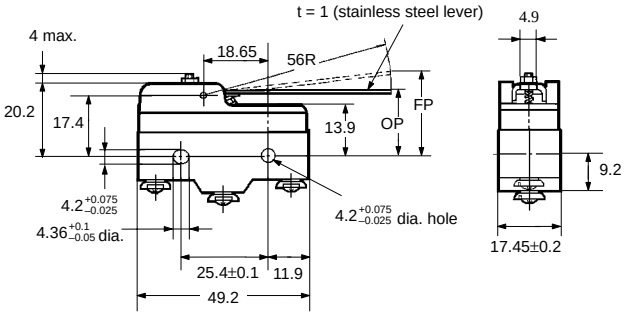


Reverse Hinge Lever

Note: The pin plungers of reverse-type models are continuously pressed by the actuator levers with compression coil springs and the pin plungers are freed by operating the levers. Reverse-type models are highly vibration- and shock-resistive because the pin plungers are normally pressed.

Z-15GM-B

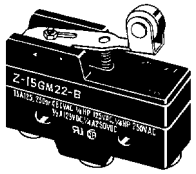


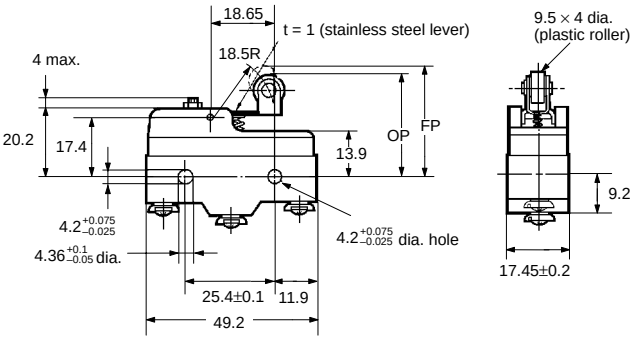


Reverse Short Hinge Roller Lever

Note: The pin plungers of reverse-type models are continuously pressed by the actuator levers with compression coil springs and the pin plungers are freed by operating the levers. Reverse-type models are highly vibration- and shock-resistive because the pin plungers are normally pressed.

Z-15GM22-B,
Z-10FM22Y-B

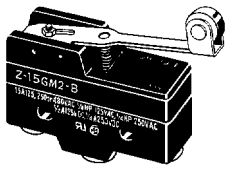


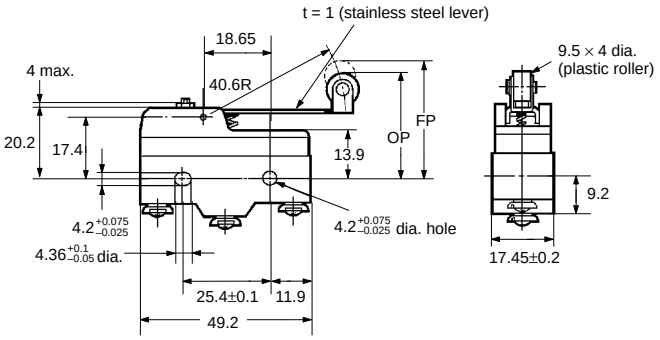


Reverse Hinge Roller Lever

Note: The pin plungers of reverse-type models are continuously pressed by the actuator levers with compression coil springs and the pin plungers are freed by operating the levers. Reverse-type models are highly vibration- and shock-resistive because the pin plungers are normally pressed.

Z-15GM2-B

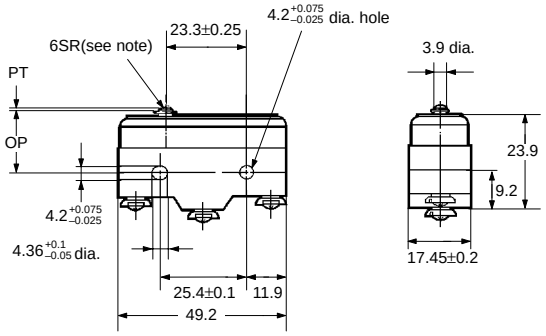




■ Basic (Drip-proof) Models

Pin Plunger

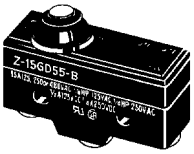
Z-15G55-B,
Z-15GA55-B5V (With Terminal Protection Cover),
Z-01H55-B

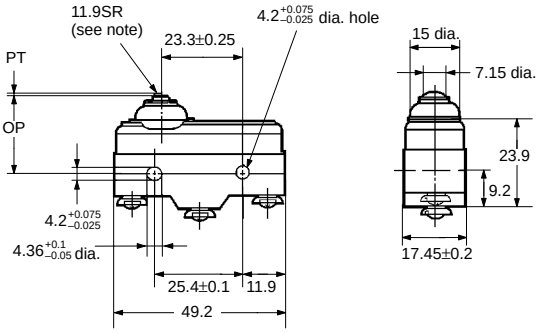


Note: Stainless steel plunger

Short Spring Plunger

Z-15GD55-B,
Z-01HD55-B

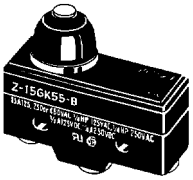


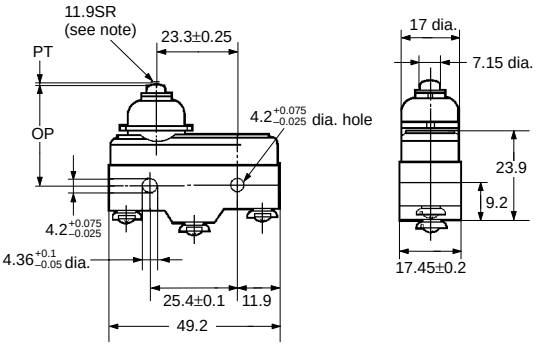


Note: Stainless steel plunger

Short Spring Plunger

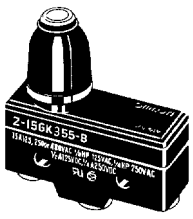
Z-15GK55-B

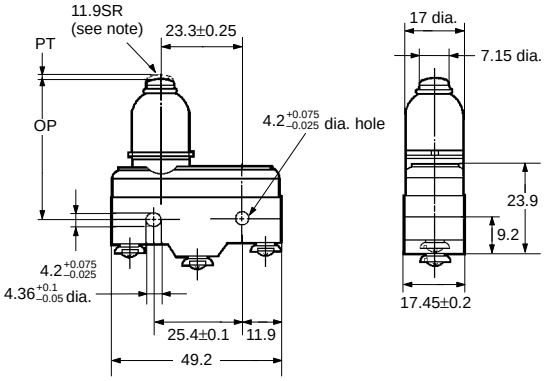




Note: Stainless steel plunger

Z-15GK355-B,
Z-15GK3A55-B5V (With Terminal Protection Cover)

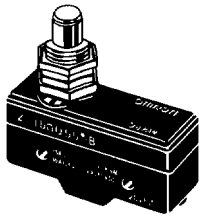


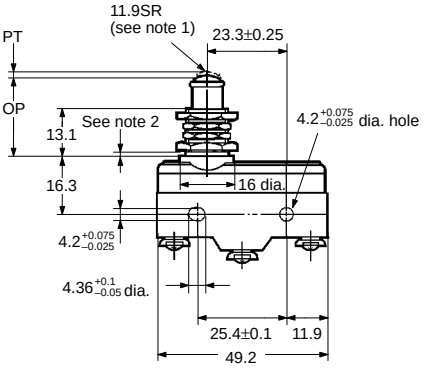


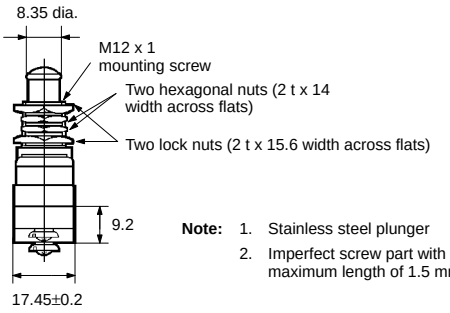
Note: Stainless steel plunger

Panel Mount Plunger

Z-15GQ55-B,
Z-15GQA55-B5V (With Terminal Protection Cover)



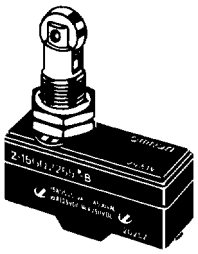


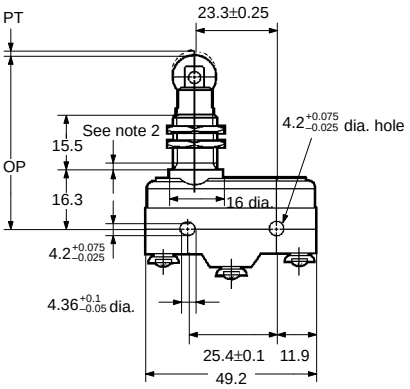


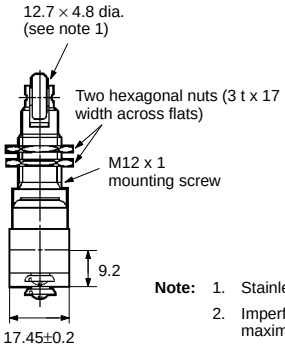
Note: 1. Stainless steel plunger
2. Imperfect screw part with a maximum length of 1.5 mm.

Panel Mount Roller Plunger

Z-15GQ2255-B,
Z-15GQ22A55-B5V (With Terminal Protection Cover)



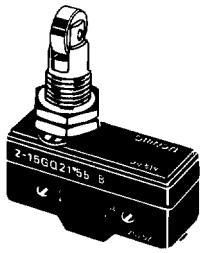


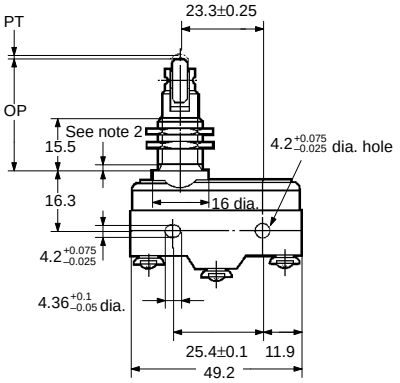


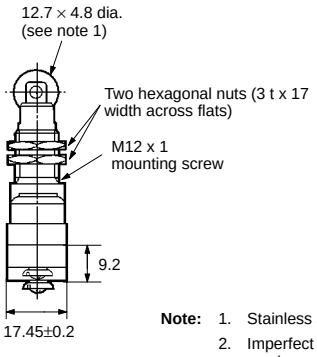
Note: 1. Stainless steel plunger
2. Imperfect screw part with a maximum length of 1.5 mm.

Panel Mount Cross Roller Plunger

Z-15GQ2155-B,
Z-15GQ21A55-B5V (With Terminal Protection Cover)



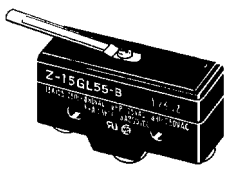


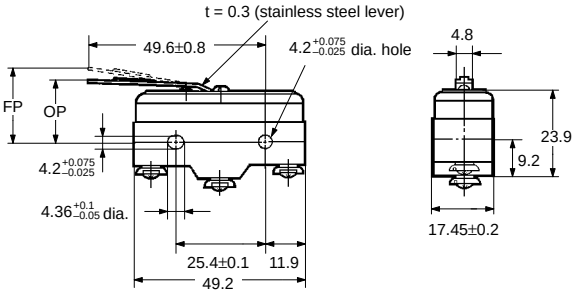


Note: 1. Stainless steel plunger
2. Imperfect screw part with a maximum length of 1.5 mm.

Leaf Spring

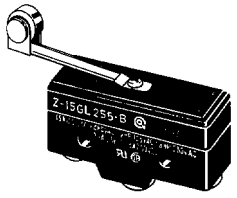
Z-15GL55-B

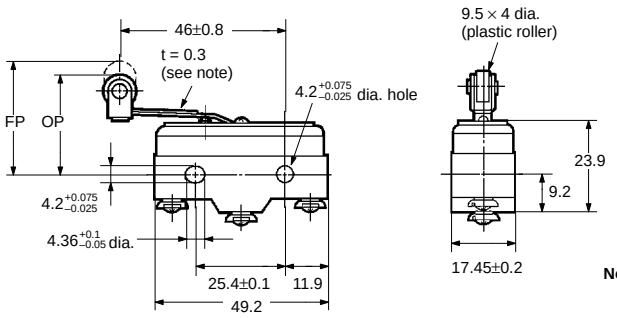




Roller Leaf Spring

Z-15GL255-B

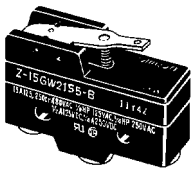


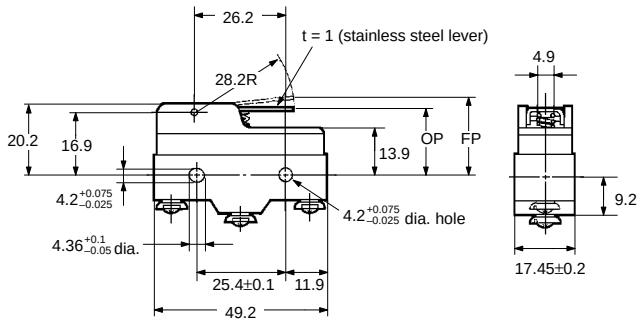


Note: Stainless steel lever

Short Hinge Lever

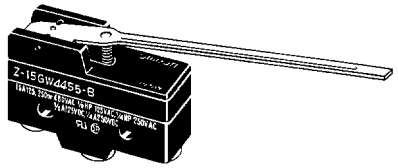
Z-15GW2155-B

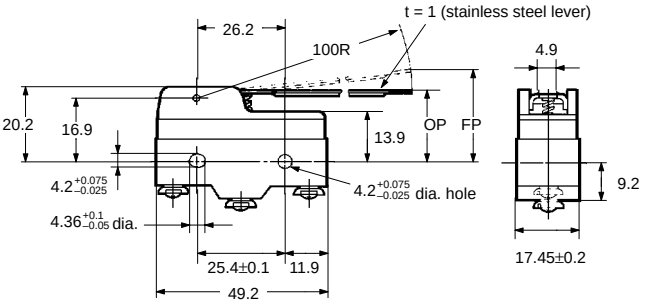




Long Hinge Lever

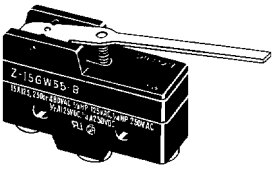
Z-15GW4455-B
Z-15GW44A55-B5V (With Terminal Protection Cover)

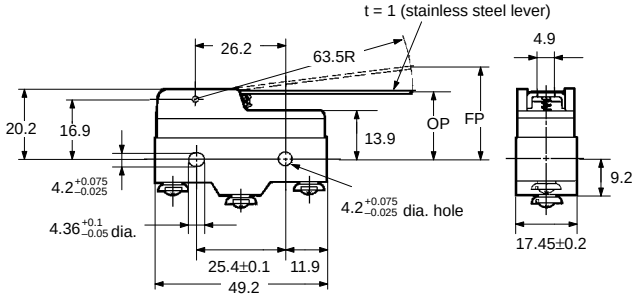




Hinge Lever

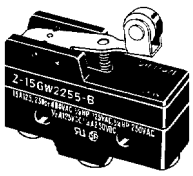
Z-15GW55-B
Z-15GWA55-B5V (With Terminal Protection Cover)

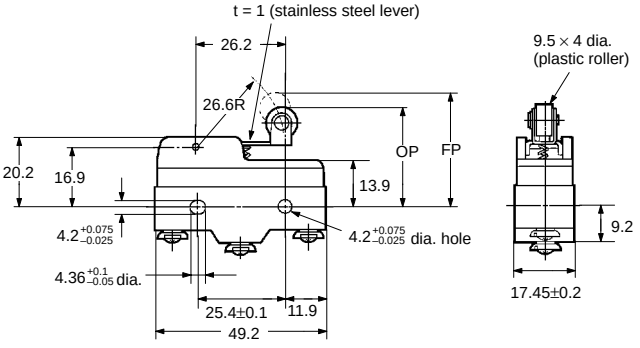




Short Hinge Roller Lever

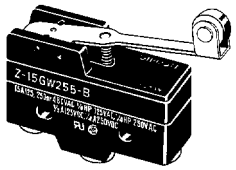
Z-15GW2255-B,
Z-15GW22A55-B5V (With Terminal Protection Cover),
Z-01HW2255-B

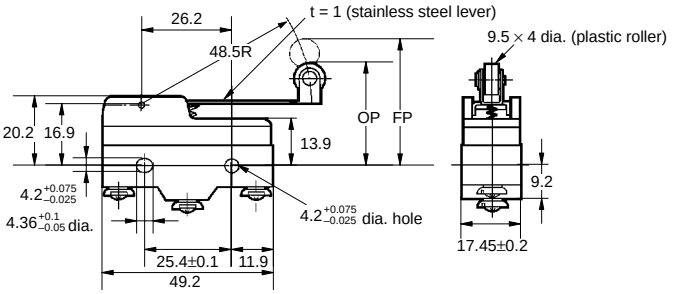




Roller Hinge Lever

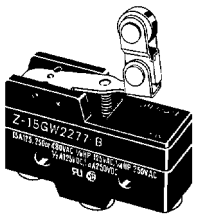
Z-15GW255-B,
Z-15GW2A55-B5V
(With Terminal Protection Cover)

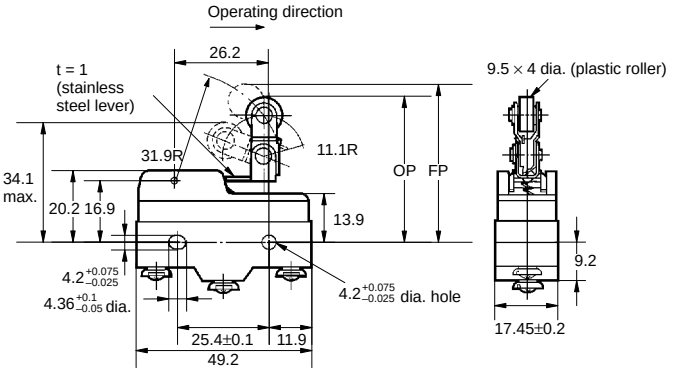




Unidirectional Short Hinge Roller Lever

Z-15GW227755-B,
Z-15GW2277A55-B5V
(With Terminal Protection Cover)

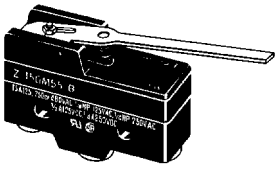


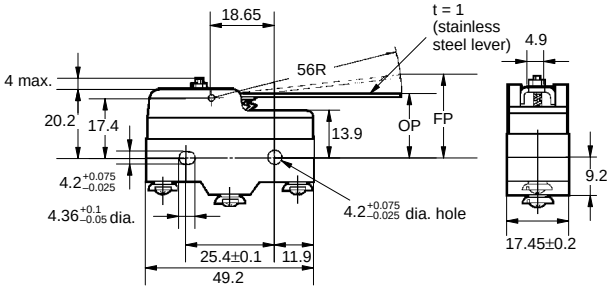


Reverse Hinge Lever

Note: The pin plungers of reverse-type models are continuously pressed by the actuator levers with compression coil springs and the pin plungers are freed by operating the levers. Reverse-type models are highly vibration- and shock-resistive because the pin plungers are normally pressed.

Z-15GM55-B

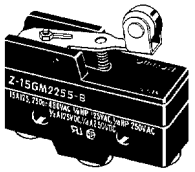


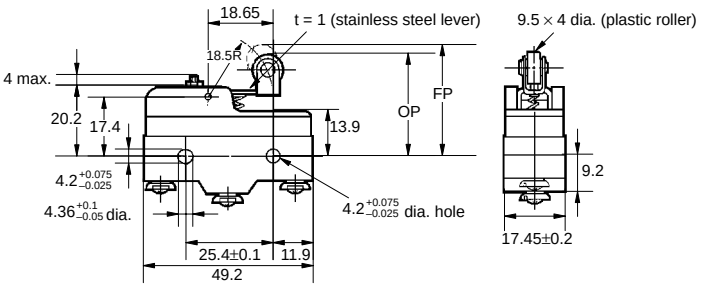


Reverse Short Hinge Roller Lever

Note: The pin plungers of reverse-type models are continuously pressed by the actuator levers with compression coil springs and the pin plungers are freed by operating the levers. Reverse-type models are highly vibration- and shock-resistive because the pin plungers are normally pressed.

Z-15GM2255-B

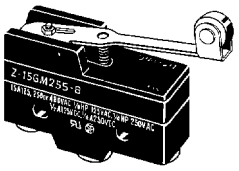


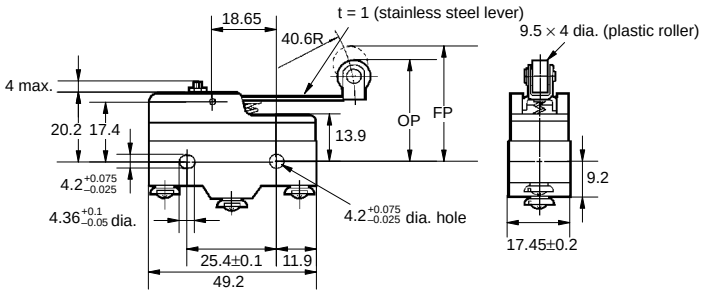


Reverse Hinge Roller Lever

Note: The pin plungers of reverse-type models are continuously pressed by the actuator levers with compression coil springs and the pin plungers are freed by operating the levers. Reverse-type models are highly vibration- and shock-resistive because the pin plungers are normally pressed.

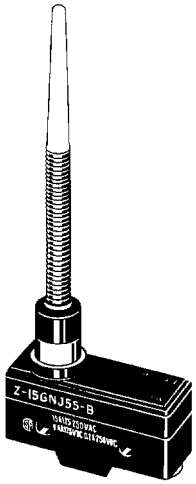
Z-15GM255-B

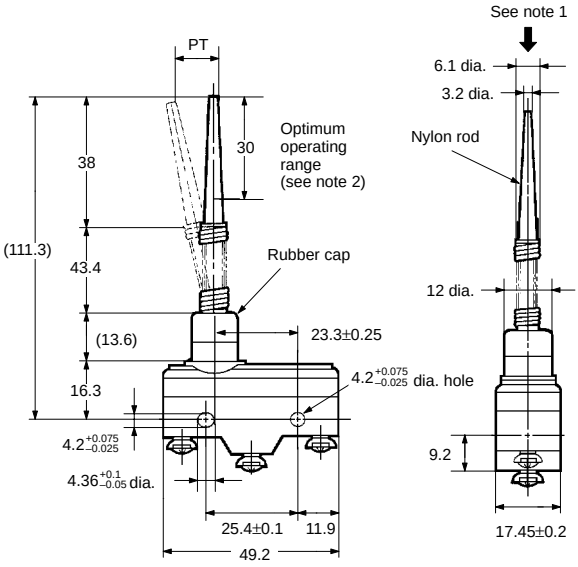




Flexible Rod (Coil Spring)

Z-15GNJ55-B



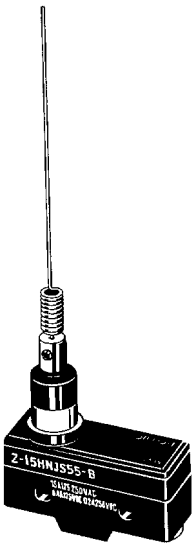


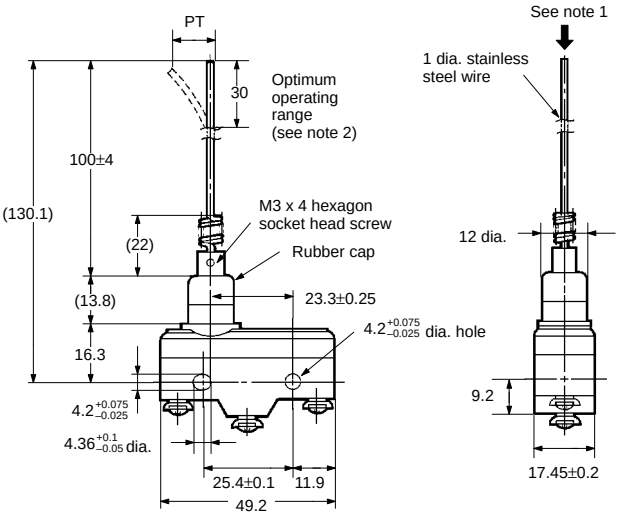
Note: 1. The coil spring may be operated from any direction except axial direction (↓).

2. Be sure to use the dog or cam within 30 mm form the top end of the stainless wire. (Avoid use within 80 mm from the mounting hole.)

Flexible Rod (Steel Wire)

Z-15HNJS55-B





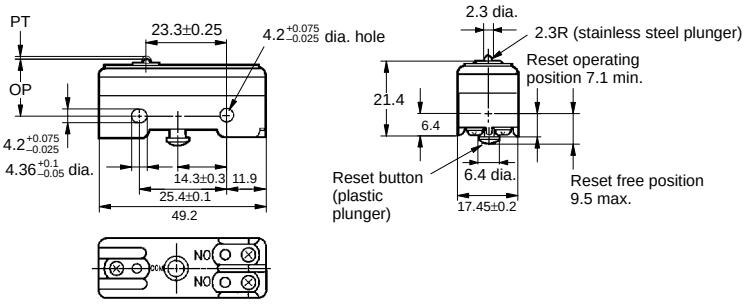
Note: 1. The coil spring may be operated from any direction except axial direction (↓).

2. Be sure to use the dog or cam within 30 mm form the top end of the stainless wire. (Avoid use within 100 mm from the mounting hole.)

■ Maintained Contact Models

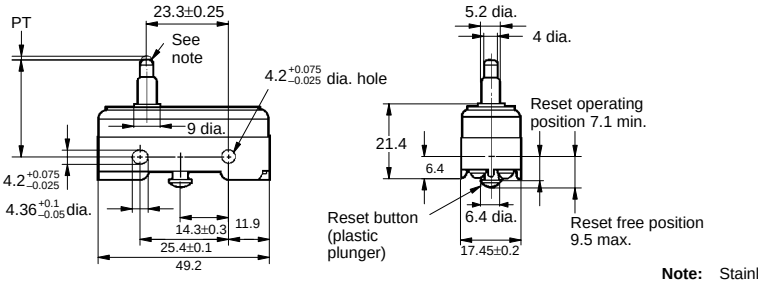
Pin Plunger

Z-15ER



Slim Spring Plunger

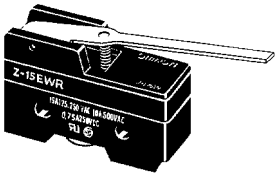
Z-15ESR

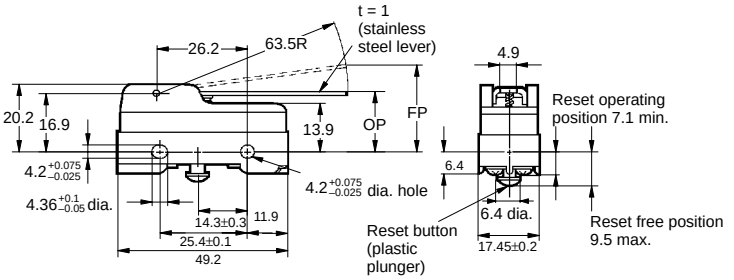


Note: Stainless steel plunger (flat, 1R chamfered)

Hinge Lever

Z-15EWR

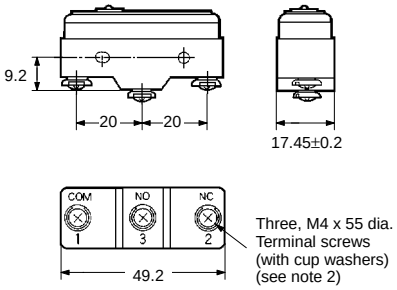




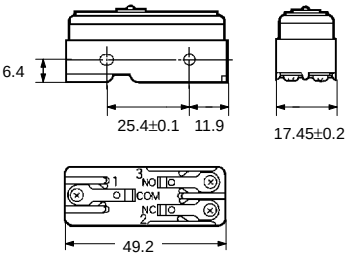
■ Kind of Terminals

Basic (General-purpose) Models

Screw Terminals (-B)

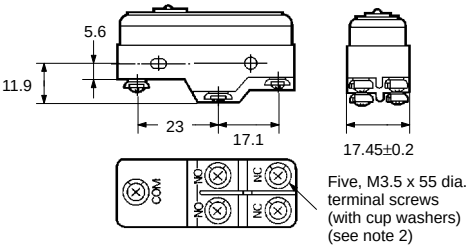


Solder Terminal (-A)
(see note 1)



Split Contact Models

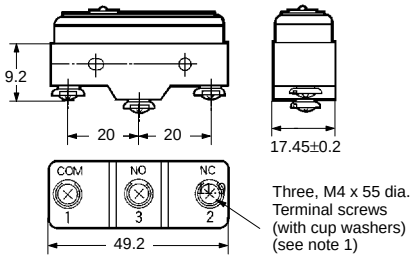
Screw Terminals (Y-B)



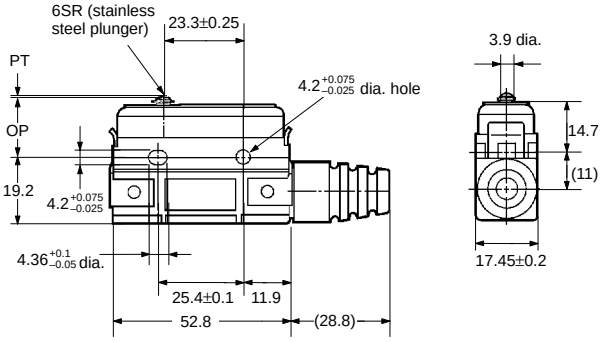
Note:
1. The suffix “-A” is not used.
2. Add the suffix “-B” for models with toothed washers.
3. With reverse action models (Z-15GM and Z-10FM), the positions of NO and NC terminals are reversed.

Basic (Drip-proof) Models

Without Drip-proof Terminal Protection Cover

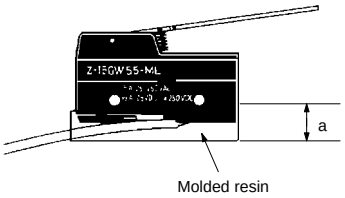


With Drip-proof Terminal Protection Cover



Note: 1. Add the suffix “-B” for models with toothed washers.
2. With reverse action model (Z-15GM), the positions of NO and NC terminals are reversed.

■ Molded Terminal



a: VSF cord: 12 mm
VCT cord: 19 mm

Ordering Information

Z-□55-M□□□ □M

1 2 3 4 5

1. Drip-proof Type

2. Lead Outlets
None: VSF
19: VCT

3. Directions of Lead Outlets
Refer to the following diagrams.

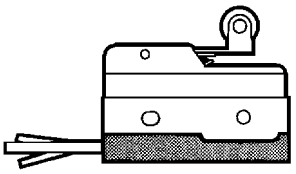
4. Contacts
None: SPDT
2: SPST-NC
3: SPST-NO

5. Length of Lead Outlets
0.5: 0.5 m
1: 1 m
2: 2 m
3: 3 m

Directions of Lead Outlets

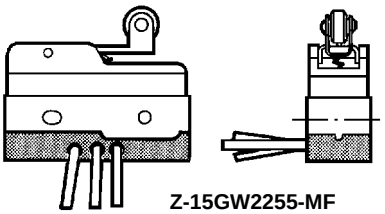
The following models are Z15GW2255-type models with molded terminals with VSFs.

L: Left-hand



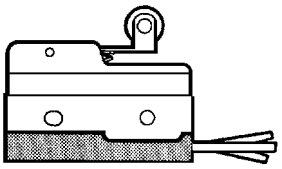
Z-15GW2255-ML

F: Forward



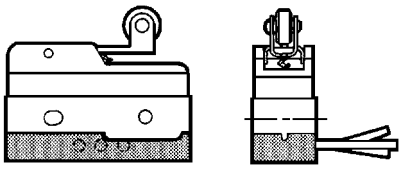
Z-15GW2255-MF

R: Right-hand



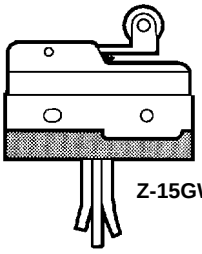
Z-15GW2255-MR

H: Rearward



Z-15GW2255-MH

D: Underside



Z-15GW2255-MD

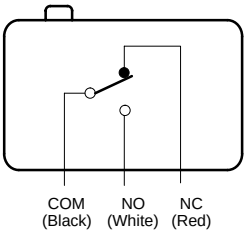
Lead Wire Specifications

Lead wire	Nominal cross-sectional area (mm^2)	Finished outer diameter (mm)	Connection to terminal	Length (m)
VSF (single-core, vinyl cord)	1.25	Approx. 3.1 dia.	Black: COM White: NO Red: NC	0.5, 1, 2, 3
VCT (vinyl-insulated cable)		Two-core: approx. 9.6 dia. Three-core: approx. 10.5 dia.		

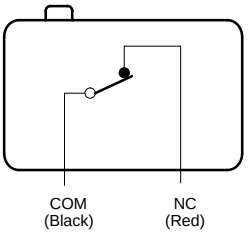
Note: No models with molded terminals are approved by UL, CSA, or SEV.

Contact Form

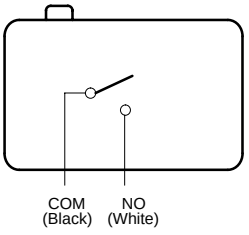
SPDT



SPST-NC



SPST-NO



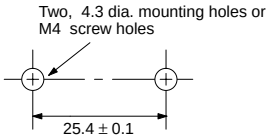
Note: 1. Colors in parentheses are the colors of the lead wire insulation covers of the models.
2. With reverse-action model (Z-15GM), the position of NO and NC terminals are reversed.

Precautions

Mounting

Use M4 mounting screws with plain washers or spring washers to mount the switch. Tighten the screws at a torque of 1.18 to 1.47 N • m (12 to 15 kgf • cm).

Mounting Dimensions



Solder the lead to the terminal by applying a soldering iron rated at 60 W max. quickly (within 5 seconds). 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.

Refer to the following for appropriate tightening torque for each type.
Split contact models (excluding the Z-10FY-B): 0.78 to 1.18 N • m (8 to 12 kgf • cm)
Z-10FY-B split contact model: 0.49 to 0.78 N • m (5 to 8 kgf • cm)

Panel Mount Switch (Z-15□Q□, Z-01□Q□)

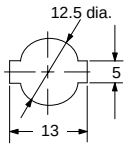
When mounting a panel mount switch to a panel, tighten the hexagon nut of the actuator at a torque of 50 kg • cm (4.9 N) or less.

When mounting a panel mount 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.

When side-mounting a panel-mounting switch with a pin plunger, remove the hexagonal nut from the actuator.

Panel Mounting Plunger Model

Panel Mounting Roller Plunger Model



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 exciting 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.

Microload Switch

Do not use a basic switch with standard contacts to switch minute loads, or the loads may not be switched properly due to improper contact. Instead, use a basic switch with contacts appropriate for minute loads. The following is the optimum switching range of the Z-01H, which is suitable for switching minute loads.

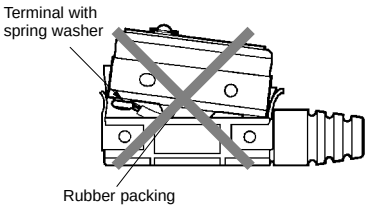
Recommended load range of the Z-01H: 1 to 100 mA at 5 to 30 VDC

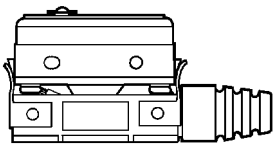
The above range may vary with the environmental conditions for the Z-01H. Contact your OMRON representative for details.

Wiring

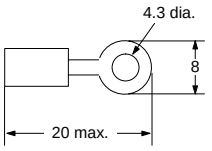
Models with Drip-proof Terminal Cover (Z-□-B5V)

To attach the protective cover to the case, hold the cover in almost parallel to the case and then push it to the case. If the cover is pushed diagonally, the rubber packing may slip off, degrading the sealability of the switch.





Use solder terminals having the following dimensions to connect leads to the terminals. Tighten the screws of terminals at a torque of 8 to 12 kg • cm (0.78 to 1.18 N • m).

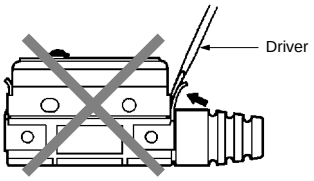


A cable 8.5 to 10.5 mm in diameter can be used as the sealing rubber of the lead outlet of the switch. A two-core or three-core VCT cable having a cross-sectional area of 1.25 mm^2 is especially suitable for this.

Use M4 small screws with spring washer to fix the terminals.

Others

Do not apply an excessive force to the mounting bracket with a screwdriver or a similar object when attaching or detaching the protective cover; otherwise, the cover will be deformed.



This terminal protection cover cannot be used with models whose model number does not have the prefix “-B5V”.

Drip-proof Switch (Z-□55)

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

The rubber boots are made from weather-resistive chloroprene rubber.

Do not use basic switches in places with radical changes in temperature.

Maintained Contact Switch (Z-15E□R)

Apply a force to the reset button from right angles to the bottom plate of the switch. Use an appropriate actuator when the reset button is operated by a cam or dog.

Split Contact Switch (Z-10F□Y)

The applicable current varies depending on how the contacts are used. If the switch is connected in series, the switch can endure a current 1.5 to 2 times higher than the current that can be applied in parallel connection.

Flexible Rod Switch (Z-15□NJ□55, Drip-proof)

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.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. B01-E1-10