勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

Direct Current Switch with Built-in Magnetic Blowout

- Incorporates a small permanent magnet in the contact mechanism to deflect the arc to effectively extinguish it.
- Same shape and mounting procedures as the Z Basic Switches.

⚠ Be sure to read *Safety Precautions* on page 9 and *Safety Precautions for All Basic Switches.*



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Model Number Structure

Model Number Legend

X-10G□-□
(1) (2) (3) (4)

(1) Ratings

10 : 10 A (125 VDC)

(2) Contact Gap

G : 0.9 mm

(3) Actuator

None : Pin plunger
D : Short spring plunger
S : Slim spring plunger
Q : Panel mount plunger
Q21 : Panel mount cross roller plunger
Q22 : Panel mount roller plunger
L : Leaf spring
W : Hinge lever
W2 : Hinge roller lever
W21 : Short hinge lever
W22 : Short hinge roller lever
W4 : Low-force hinge lever
M : Reverse hinge lever
M2 : Reverse hinge roller lever
M22 : Reverse short hinge roller lever

(4) Terminals

None : Solder terminal
B : Screw terminal (with toothed washer)

Ordering Information

Actuator \ Terminal	Solder terminal Model	Screw terminal Model
Pin plunger	X-10G	X-10G-B
Slim spring plunger	X-10GS	X-10GS-B
Short spring plunger	X-10GD	X-10GD-B
Panel mount plunger	X-10GQ	X-10GQ-B
Panel mount roller plunger	X-10GQ22	X-10GQ22-B
Panel mount cross roller plunger	X-10GQ21	X-10GQ21-B
Leaf spring	X-10GL	X-10GL-B
Short hinge lever	X-10GW21	X-10GW21-B
Hinge lever	X-10GW	X-10GW-B
Low-force hinge lever	X-10GW4	X-10GW4-B
Short hinge roller lever	X-10GW22	X-10GW22-B
Hinge roller lever	X-10GW2	X-10GW2-B
Reverse hinge lever	X-10GM	X-10GM-B
Reverse short hinge roller lever *	X-10GM22	X-10GM22-B
Reverse hinge roller lever *	X-10GM2	X-10GM2-B

* The plungers of reverse-type models are continuously pressed by the compression coil springs and the plungers are freed by operating the levers.

Specifications

Ratings

Rated voltage	Non-inductive load (A)				Inductive load (A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
8 VDC	10		3	1.5	10	10	5	2.5
14 VDC	10		3	1.5	10	10	5	2.5
30 VDC	10		3	1.5	10	10	5	2.5
125 VDC	10		3	1.5	7.5	6	5	2.5
250 VDC	3		1.5	0.75	2	1.5	2	1.5

Note: 1. The above values are for 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 above electrical ratings also apply to the AC voltage.
6. With the reverse-type models (X-10GM□), the normally closed circuits and normally open circuits are reversed.
7. The ratings values apply under the following test conditions:
(1) Ambient temperature: 20±2°C
(2) Ambient humidity: 65±5%RH
(3) Operating frequency: 20 operations/min

Certified Standard Ratings

Ask your OMRON representative for information on certified models.

UL/CSA

Rated voltage Model	X-10G
125 VDC	10 A
250 VDC	3 A

EN (CE) (Conform to EN61058-1)

Rated voltage Model	X-10
125 VDC	10 A

Characteristics

Operating speed		0.1 mm to 1 m/s *1
Operating frequency	Mechanical	240 operations/min
	Electrical	20 operations/min
Insulation resistance		100 MΩ min. (at 500 VDC)
Contact resistance		15 mΩ max. (initial value)
Dielectric strength		1,500 VAC, 50/60 Hz for 1 min between terminals of the same polarity, between current-carrying metal parts and the ground, and between each terminal and non-current-carrying metal parts
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude *2
Shock resistance	Destruction	1,000 m/s² max.
	Malfunction	300 m/s² max. *1 *2
Durability	Mechanical	1,000,000 operations min.
	Electrical	100,000 operations min.
Degree of protection		IP00
Degree of protection against electric shock		Class I
Proof tracking index (PTI)		175
Ambient operating temperature		–25°C to 80°C (with no icing)
Ambient operating humidity		35% to 85%RH
Weight		Approx. 27 to 63 g

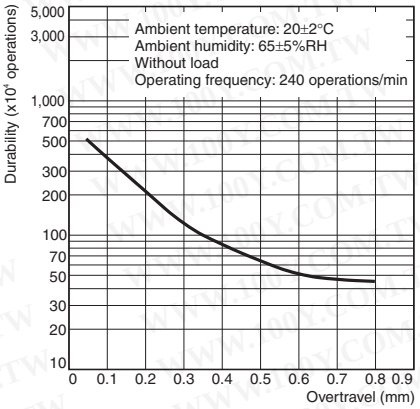
*1. The values are for the pin plunger models. (Contact your OMRON representative for other models.)
*2. Malfunction: 1 ms max.

Contact Specification

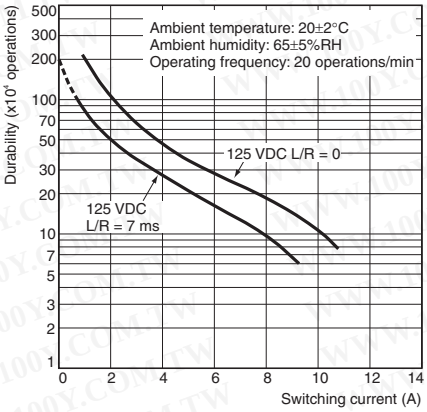
Contacts	Material	Silver
	Gap (standard value)	0.9 mm
Inrush current	NC	30 A max.
	NO	15 A max.

Engineering Data

Mechanical Durability (X-10G)

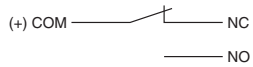


Electrical Durability (X-10G)



Structure

Contact Form (SPDT)



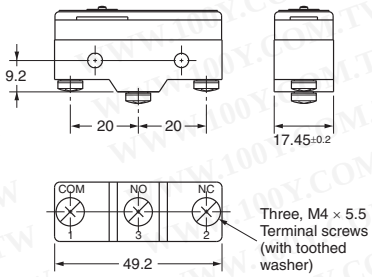
Note: With the reverse-type models (X-10GM□), the NC and NO terminal arrangements are reversed.

Dimensions

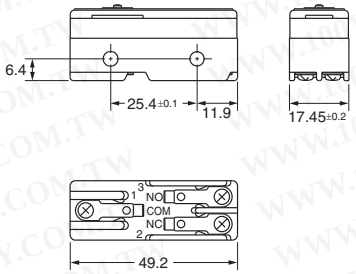
(Unit: mm)

Terminals

Screw Terminals (-B)



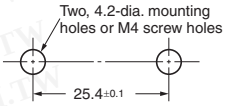
Solder Terminal (-A) ("-A" is not included in the model numbers.)



Note: 1. Tighten the terminal screws to a torque of 0.78 to 1.18 N·m.
2. Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.
3. In case of DC voltage, set the COM to the positive terminal.

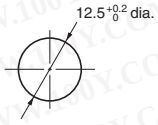
Mounting

Use M4 mounting screws with plane washers or spring washers to securely mount the Switch. Tighten the screws to a torque of 1.18 to 1.47 N·m.

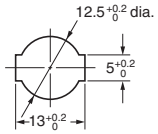


The Switch can be panel mounted, provided that the hexagonal nut of the actuator is tightened to a torque of 2.94 to 4.9 N·m.

Panel Mount Plunger



Panel Mount Roller Plunger

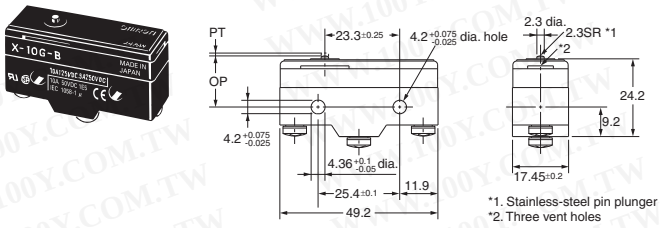


Dimensions and Operating Characteristics

The models, illustrations, and graphics are for screw-terminal models. (The dimensions for models that are omitted here are the same as for pin-plunger models.)

Pin Plunger

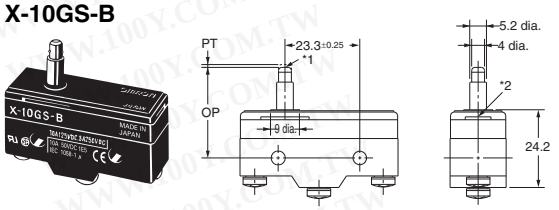
X-10G-B



*1. Stainless-steel pin plunger
*2. Three vent holes

Slim Spring Plunger

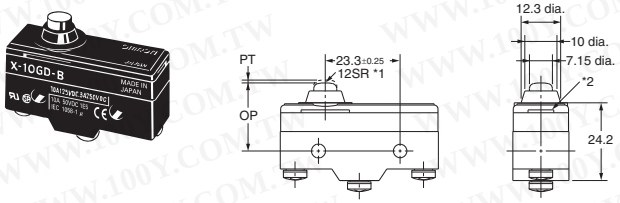
X-10GS-B



*1. Stainless-steel pin plunger (flat, 1R chamfering)
*2. Three vent holes

Short Spring Plunger

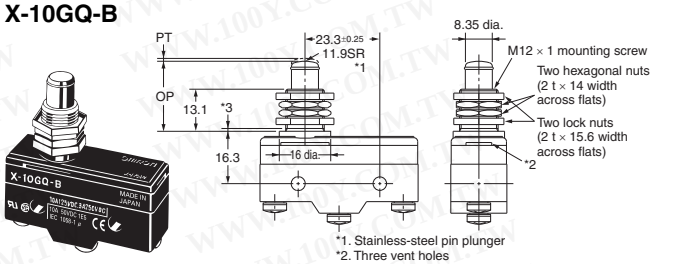
X-10GD-B



*1. Plated iron plunger
*2. Three vent holes

Panel Mount Plunger

X-10GQ-B

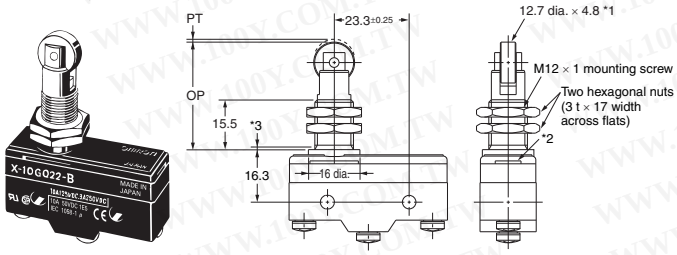


*1. Stainless-steel pin plunger
*2. Three vent holes
*3. Incomplete screw part with a maximum length of 1.5 mm

Note: Do not use both the M12 mounting screw and the mounting holes in the case at the same time. Doing so will cause stress to be applied to the Switch, possibly damaging the case or cover.

Panel Mount Roller Plunger

X-10GQ22-B

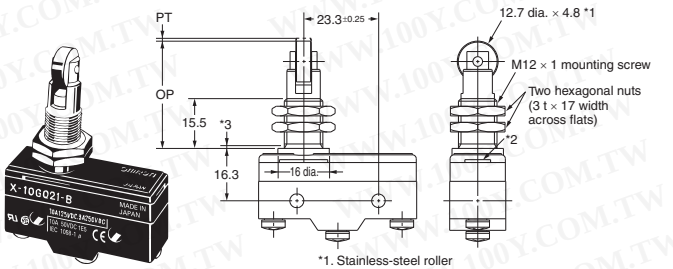


*1. Stainless-steel roller
*2. Three vent holes
*3. Incomplete screw part with a maximum length of 1.5 mm.

Note: Do not use both the M12 mounting screw and the mounting holes in the case at the same time. Doing so will cause stress to be applied to the Switch, possibly damaging the case or cover.

Panel Mount Cross Roller Plunger

X-10GQ21-B

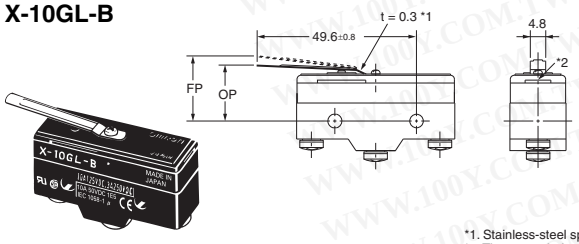


*1. Stainless-steel roller
*2. Three vent holes
*3. Incomplete screw part with a maximum length of 1.5 mm.

Note: Do not use both the M12 mounting screw and the mounting holes in the case at the same time. Doing so will cause stress to be applied to the Switch, possibly damaging the case or cover.

Leaf Spring

X-10GL-B



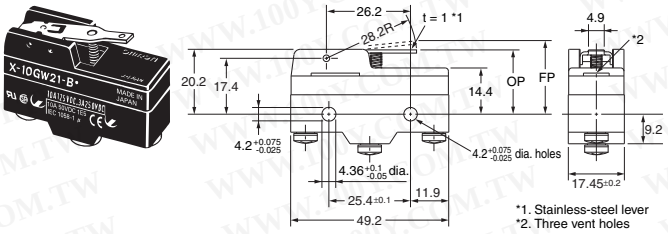
*1. Stainless-steel spring lever
*2. Three vent holes

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

Operating Characteristics		Model	X-10G-B	X-10GS-B	X-10GD-B	X-10GQ-B	X-10GQ22-B	X-10GQ21-B	X-10GL-B
Operating force	OF	max.	5.00 N	5.00 N	5.00 N	5.00 N	5.00 N	5.00 N	1.96 N
Release force	RF	min.	1.12 N	1.12 N	1.12 N	1.12 N	1.12 N	1.12 N	0.14 N
Pretravel	PT	max.	0.9 mm	0.9 mm	0.9 mm	0.9 mm	0.9 mm	0.9 mm	–
Overtravel	OT	min.	0.13 mm	1.6 mm	1.6 mm	5.5 mm	3.6 mm	3.6 mm	1.6 mm *
Movement Differential	MD	max.	0.18 mm	0.18 mm	0.18 mm	0.18 mm	0.18 mm	0.18 mm	2.3 mm
Free Position	FP	max.	–	–	–	–	–	–	22.1 mm
Operating Position	OP		15.9±0.4 mm	28.2±0.5 mm	21.2±0.5 mm	21.8±0.8 mm	33.4±1.2 mm	33.4±1.2 mm	17.4±0.8 mm

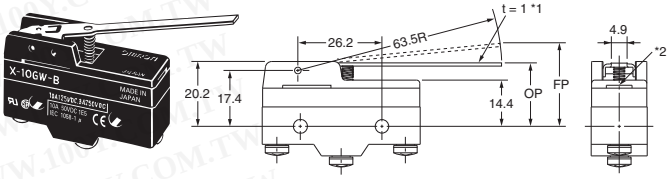
* Be sure to use the switch at the rated OT value of 1.6 mm.

Short Hinge Lever
X-10GW21-B



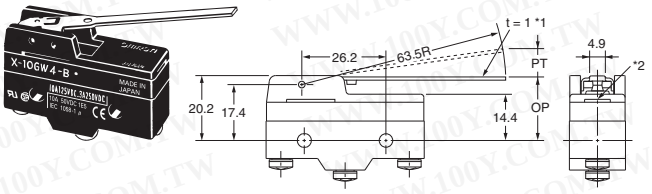
*1. Stainless-steel lever
*2. Three vent holes

Hinge Lever
X-10GW-B



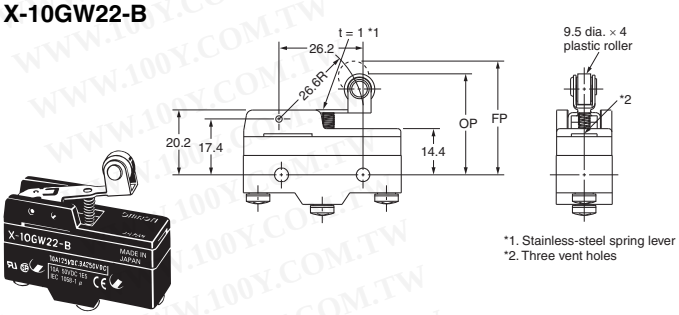
*1. Stainless-steel lever
*2. Three vent holes

Low-force Hinge Lever
X-10GW4-B



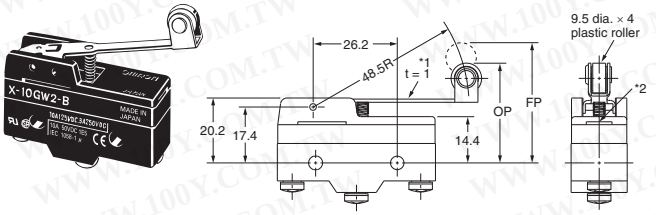
*1. Stainless-steel lever
*2. Three vent holes

Short Hinge Roller Lever
X-10GW22-B



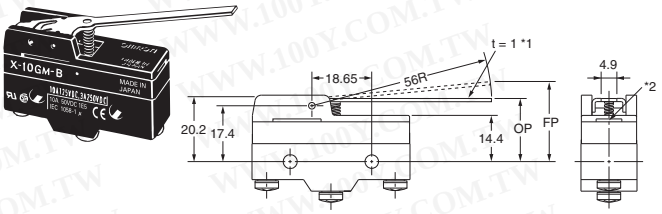
*1. Stainless-steel spring lever
*2. Three vent holes

Hinge Roller Lever
X-10GW2-B



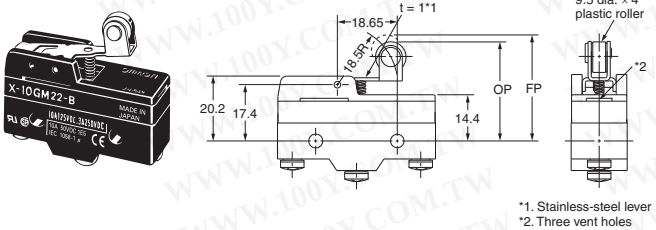
*1. Stainless-steel lever
*2. Three vent holes

Reverse Hinge Lever
X-10GM-B



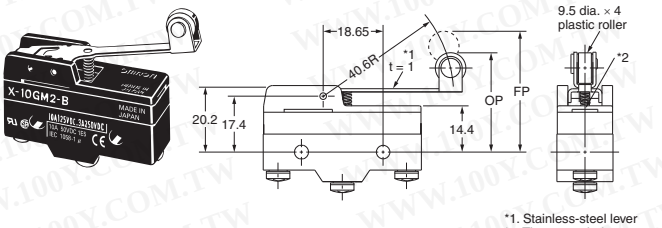
*1. Stainless-steel lever
*2. Three vent holes

Reverse Short Hinge Lever
X-10GM22-B



*1. Stainless-steel lever
*2. Three vent holes

Reverse Hinge Roller Lever
X-10GM2-B



*1. Stainless-steel lever
*2. Three vent holes

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

Model / Operating Characteristics		X-10GW21-B	X-10GW-B	X-10GW4-B	X-10GW22-B	X-10GW2-B	X-10GM-B	X-10GM22-B	X-10GM2-B
OF	max.	2.45 N	1.08 N	0.25 N	2.16 N	1.42 N	2.16 N	6.86 N	3.14 N
RF	min.	0.31 N	0.14 N	0.05 N	0.34 N	0.21 N	0.25 N	1.52 N	0.49 N
PT	max.	–	–	14.3 mm	–	–	–	–	–
OT	min.	2.1 mm	4.8 mm	4.8 mm	2.4 mm	4 mm	5.5 mm	2 mm	4 mm
MD	max.	1.7 mm	3.9 mm	3.9 mm	1.7 mm	3 mm	2.1 mm	0.75 mm	1.5 mm
FP	max.	25.5 mm	34.6 mm	–	37.1 mm	40.5 mm	26.8 mm	36.1 mm	37.4 mm
OP		20.7±0.8 mm	21.1±0.8 mm	21.1±0.8 mm	32.2±0.8 mm	32.2±0.8 mm	21.1±0.8 mm	32.2±0.8 mm	32.2±0.8 mm

Accessories (Order separately)

A Terminal Protective Cover, Actuators, and a Separator are available.

Terminal Covers (Sold Separately)

The Terminal Covers can be attached to Z, A, X, and DZ Switches.
The Terminal Cover is secured with mounting screws and protects the casing and terminal wires from dust, vibration, or fingers, thus preventing terminal short-circuiting, ground faults, wire disconnection or improper connection, and electric shock accidents.
Terminal Covers made of phenol resin have five or six thin wall sections. These sections can be torn open for providing holes for lead cables at desired points.
A terminal cover can't be used in the case of using an actuator sold separately.

Operation Information

Material	Application: Mounting direction	Soldering terminal use: Model	Screw terminal use: Model	Remarks
Phenol resin	Side mounting	AP-A	AP-B	---
Metal press mold	Side mounting	AP1-A	AP1-B	Used for AP-A and AP-B
Vinyl chloride	Side mounting	AP-Z		---

Note: Use a Terminal Cover for screw terminals fir DZ-series Switches with soldering terminals.

Separator (Sold Separately)

Use a Separator when it is difficult to provide a sufficient insulation distance or when using the Switch near metal parts or copper wires.

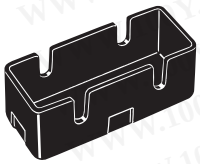
Operation Information

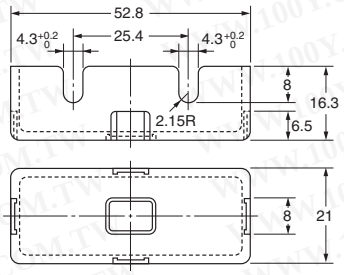
Model
SEPARATOR FOR Z

Dimensions (Unit: mm)

Terminal Covers

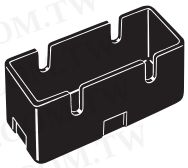
AP-A
Soldering Terminal Use
(Phenol Resin)

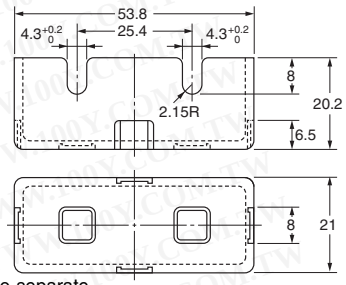




Note: The Cover has five thin, easy-to-separate portions for easy lead wire connections.

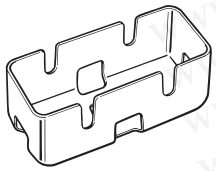
AP-B
Screw Terminal Use
(Phenol Resin)

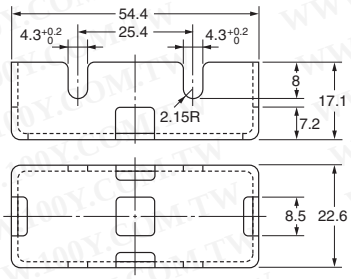




Note: The Cover has six thin, easy-to-separate portions for easy lead wire connections.

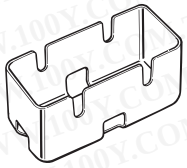
AP1-A
Soldering Terminal Use
(Metal Press Mold)

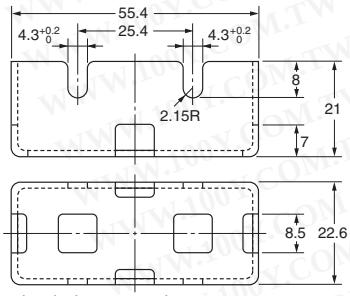




Note: The Cover has five holes for easy lead wire connections.

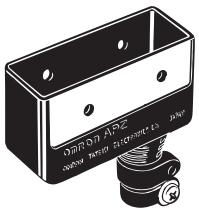
AP1-B
Screw Terminal Use
(Metal Press Mold)

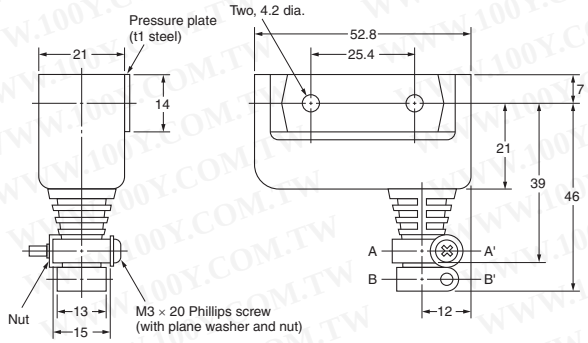




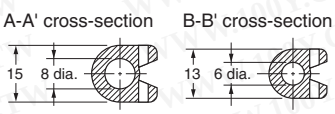
Note: The Cover has six holes for easy lead wire connections.

AP-Z
Soldering or Screw Terminal Use
(Vinyl Chloride)





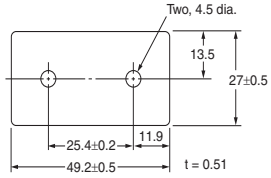
Cable Pull-out Dimension



Note: A 6-dia. or 8-dia. cable can be used by cutting the cable pull-out hole to the size of the cable to be used.

Note: Each dimension has a tolerance of ±0.4 mm unless otherwise specified. (±0.8 mm for the AP-Z)

Separator



Note: 1. Each dimension has a tolerance of ±0.4 mm unless otherwise specified.
2. The material is EAVTC (Epoxide Alkyd Varnished Tetron Cloth) and its heat-resisting temperature is 130°C.

Actuators (Sold Separately)

A Switch can be actuated by a cam or an appropriate object, in which case, use one of the following Actuators according to the application.

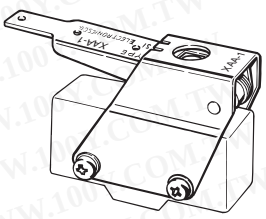
Ordering Information

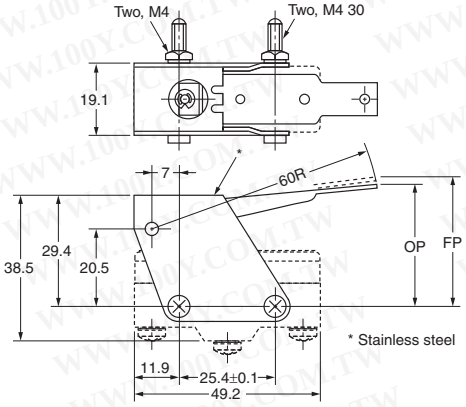
Actuator	Application	Common to Z and X models
Hinge lever		XAA-1
Hinge roller lever		ZAA-2
Panel mount plunger	Short	ZAQ-3
	Medium	ZAQ-2
	Long	ZAQ-1
Panel mount roller plunger		ZAQ-22

Dimensions (Unit: mm) and Operating Characteristics

Note: These Actuators are not provided with Switches.

Hinge Lever
XAA-1

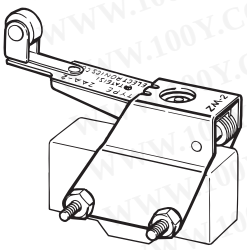


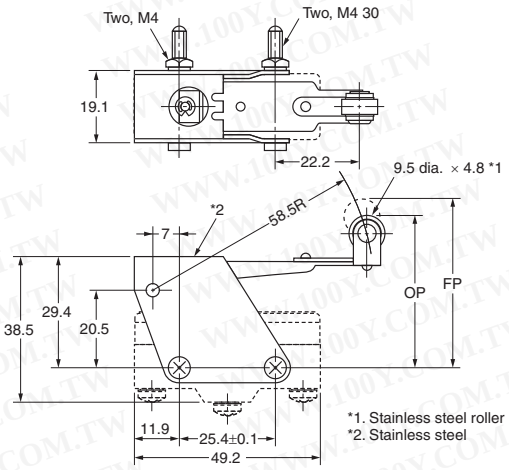


Operating characteristics \ Model		Z-15G-B	X-10G-B
Operating force	OF max.	4.90 N	4.90 N
Release force	RF min.	1.67 N	1.67 N
Overtravel	OT min.	12.7 mm	12.7 mm
Movement Differential	MD max.	2.2 mm	3.3 mm
Free Position	FP max.	32.9±1.6 mm	
Operating Position	OP	28.9±1.6 mm	

Note: This Actuator can be used with the Z-15G(-B) and X-10G(-B). When mounting the Switch, set the overtravel to between 32% and 100%, taking into consideration the operating body and the distance between the Actuator and the dog.

Hinge Roller Lever
ZAA-2

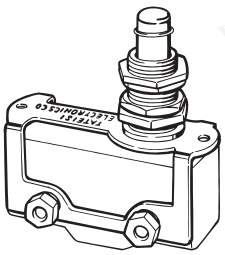


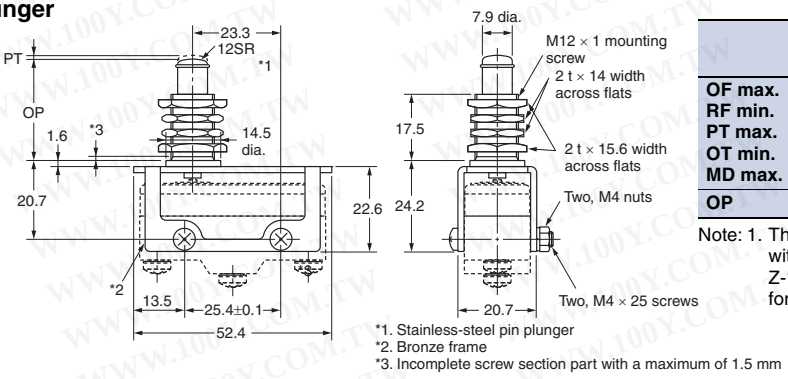


	Z-15G-B	X-10G-B
OF max.	4.90 N	4.90 N
RF min.	1.67 N	1.67 N
OT min.	12.7 mm	12.7 mm
MD max.	2.2 mm	3.3 mm
FP max.	44.5±1.6 mm	
OP	40.4±1.6 mm	

Note: This Actuator can be used with the Z-15G(-B) and ZX-10G(-B). When mounting the Switch, set the overtravel to between 32% and 100%, taking into consideration the operating body and the distance between the Actuator and the dog.

Short Panel Mount Plunger
ZAQ-3





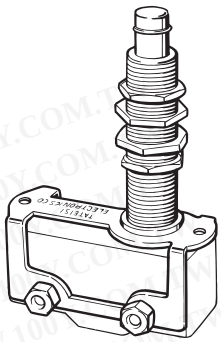
	ZAQ-3	
	Z-15E-B	X-10G-B
OF max.	8.34 N	5.39 N
RF min.	1.12 N	1.12 N
PT max.	0.8 mm	1 mm
OT min.	4.8 mm	4.5 mm
MD max.	0.15 mm	0.2 mm
OP	27.8±1.5 mm	

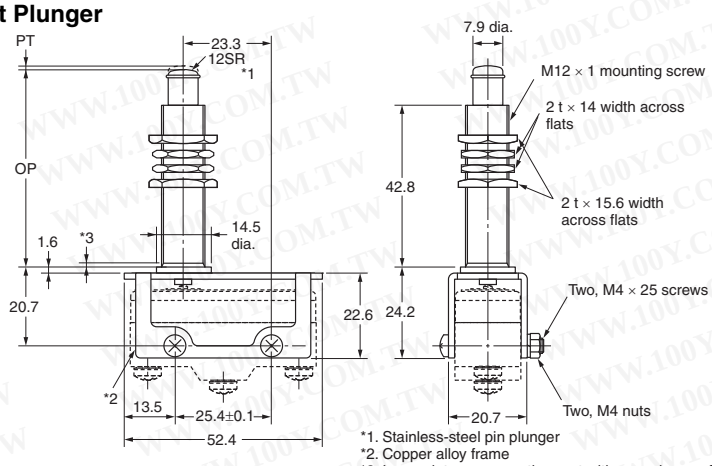
Note: 1. This Actuator (pin plunger) can be used with Standard Pin Plungers (Z-15G(-B), Z-15E(-B), X-10G(-B), DZ-10G-1A(-1B)) for the Z, X, and DZ models.

Note: Each dimension has a tolerance of ±0.4 mm unless otherwise specified.

Medium Panel Mount Plunger

ZAQ-2





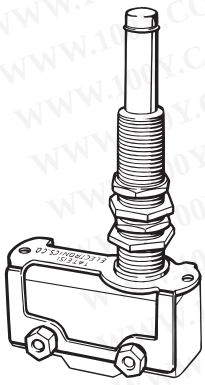
*1. Stainless-steel pin plunger
*2. Copper alloy frame
*3. Incomplete screw section part with a maximum of 1.5 mm

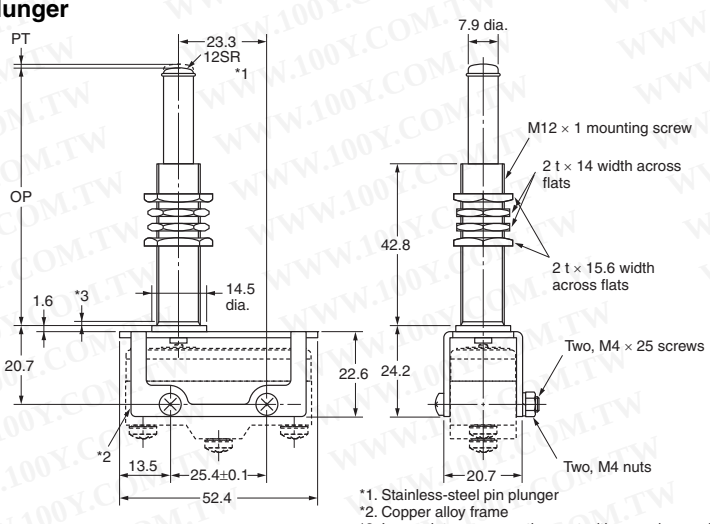
	ZAQ-2	
	Z-15E-B	X-10G-B
OF max.	8.34 N	5.39 N
RF min.	1.12 N	1.12 N
PT max.	0.8 mm	1 mm
OT min.	4.8 mm	4.5 mm
MD max.	0.15 mm	0.2 mm
OP	53.2±1.5 mm	

Note: This Actuator (pin plunger) can be used with Standard Pin Plungers (Z-15G(-B), Z-15E(-B), X-10G(-B), DZ-10G-1A(-1B)) for the Z, X, and DZ models.

Long Panel Mount Plunger

ZAQ-1





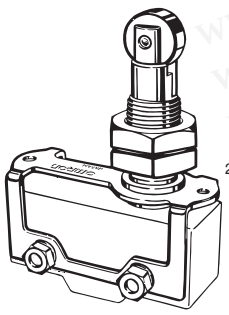
*1. Stainless-steel pin plunger
*2. Copper alloy frame
*3. Incomplete screw section part with a maximum of 1.5 mm

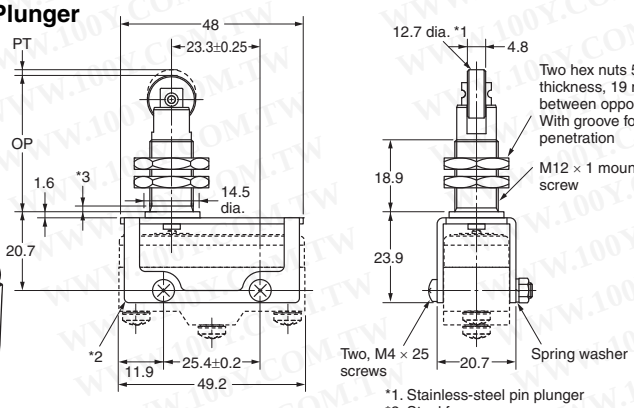
	ZAQ-1	
	Z-15E-B	X-10G-B
OF max.	8.34 N	5.39 N
RF min.	1.12 N	1.12 N
PT max.	0.8 mm	1 mm
OT min.	20.6 mm	20.4 mm
MD max.	0.15 mm	0.2 mm
OP	69.1±1.5 mm	

Note: This Actuator (pin plunger) can be used with Standard Pin Plungers (Z-15G(-B), Z-15E(-B), X-10G(-B), DZ-10G-1A(-1B)) for the Z, X, and DZ models.

Panel Mount Roller Plunger

ZAQ-22





*1. Stainless-steel pin plunger
*2. Steel frame
*3. Incomplete screw section part with a maximum of 1.5 mm

	ZAQ-22	
	Z-15E-B	DZ-10G-1B
OF max.	8.34 N	11.1 N
RF min.	1.12 N	1.12 N
PT max.	2 mm	2 mm
OT min.	3.58 mm	1 mm
MD max.	0.15 mm	0.46 mm
OP	37±0.8 mm	35.4±1.2 mm

Note: This Actuator (roller plunger) can be used with standard pin plungers (Z-15G(-B), Z-15E(-B), and DZ-10G-1A(-1B)). It cannot be used with X models.

Note: Each dimension has a tolerance of ±0.4 mm unless otherwise specified.

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