

Snap Action Switch










A

General Purpose Snap Action Switch

- High-capacity switch capable of handling 20 A loads with large inrush currents
- Direct switches such loads as motors, halogen lamps, and solenoids
- Same shape as OMRON snap action switch Model Z except pin plunger position, yet endures inrush currents as large as 75 A



Ordering Information

Actuator	Model	Model	
		Solder terminal	Screw terminal
Pin plunger		A-20G	A-20G-B
Short spring plunger		A-20GD	A-20GD-B
Panel mount plunger		A-20GQ	A-20GQ-B
Panel mount roller plunger		A-20GQ22	A-20GQ22-B
Panel mount cross roller plunger		A-20GQ21	A-20GQ21-B
Short hinge lever		A-20GV21	A-20GV21-B
Hinge lever		A-20GV	A-20GV-B
Short hinge roller lever		A-20GV22	A-20GV22-B
Hinge roller lever		A-20GV2	A-20GV2-B

Note: Models conforming to UL and CSA are so marked. However, those conforming to SEV are not marked. The mark "SEV" can be inscribed on request (in this case, however, neither "UL" nor "CSA" can be inscribed.)

Specifications

■ Characteristics

Operating speed		0.01 mm to 1 m/second (.0004 to .39 in./second) at pin plunger
Operating frequency	Mechanical	240 operations per minute
	Electrical	20 operations per minute (under rated load)
Contact resistance		5 mΩ max. (initial)
Insulation resistance		100 MΩ min. (at 500 VDC)
Dielectric strength		1,000 VAC, 50/60 Hz for 1 minute between non-continuous terminals 2,000 VAC, 50/60 Hz for 1 minute between each terminal and between noncurrent carrying part and ground
Vibration	Malfunction durability	10 to 55 Hz, 1.5 mm double amplitude
Shock	Mechanical durability	1,000 m/s ² min. (approx. 100 g min.)
	Malfunction durability	300 m/s ² min. (approx. 30 g min.)
Ambient temperature	Operating	-25° to 80° C (non-condensing)
Humidity		35% to 85% RH
Service life	Mechanical	1,000,000 operations min. (at rated OT value)
	Electrical	500,000 operations min. (under rated load)
Weight		Approx. 23 to 58 g

Note: Data shown are of initial value.

■ Operating Characteristics

Characteristic ^s	Part number								
	A-20G-B	A-20GD-B	A-20GQ-B	A-20GQ22-B	A-20GQ21-B	A-20GV21-B	A-20GV-B	A-20GV22-B	A-20GV2-B
OF	400 to 625 g			630 g		160 g	70 g	160 g	90 g
RF min.	285 g			280 g		42 g	14 g	42 g	14 g
PT max.	1.3 mm (0.05 in)					6.5 mm (0.26 in)	15.9 mm (0.63 in)	6.3 mm (0.25 in)	12 mm (0.47 in)
OT min.	0.25 mm (0.01 in)	3 mm (0.12 in)	5.6 mm (0.22 in)	3.58 mm (0.14 in)		1.2 mm (0.05 in)	4 mm (0.16 in)	1.2 mm (0.05 in)	2.4 mm (0.09 in)
MD max.	0.2 mm (0.01 in)			0.35 mm (0.01 in)		1.2 mm (0.05 in)	2.4 mm (0.09 in)	1.2 mm (0.05 in)	2.2 mm (0.09 in)
FP max.	—								
OP	16.3±0.4 mm (0.64±0.02 in)	26.2±0.5 mm (1.03±0.02 in)	21.8±0.8 mm (0.86±0.03 in)	33.4±1.2 mm (1.31±0.05 in)		19±0.8 mm (0.75±0.03 in)	19±0.8 mm (0.75±0.03 in)	29.8±0.8 mm (1.17±0.03 in)	30.2±0.8 mm (1.19±0.03 in)

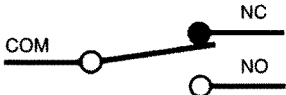
■ Ratings

Rated voltage	Non-inductive load				Inductive load			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	20 A		7.5 A		20 A		1.25 A	
250 VAC	20 A		7.5 A		20 A		8.3 A	
500 VAC	15 A		4 A		10 A		2 A	
8 VDC	20 A		3 A	1.5 A	20 A		12.5 A	
14 VDC	20 A		3 A	1.5 A	15 A		12.5 A	
30 VDC	6 A		3 A	1.5 A	5 A		5 A	
125 VDC	0.5 A		0.5 A		0.05 A		0.05 A	
250 VDC	0.25 A		0.25 A		0.03 A		0.03 A	
Inrush current	NC: 75 A max.		NO: 75 A max.		NC: 75 A max. approx.		NO: 75 A max.	

Note: 1. Inductive load has a power factor of 0.4 min. (AC) and a time constant of 7 milliseconds max. (DC).

2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steady-state current.

■ Contact Form



■ Approvals

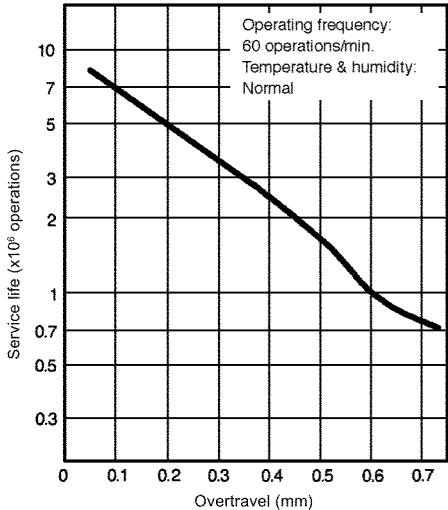
UL (File No. E41515) / CSA (File No. LR21642) / SEV (File No. D3, 21/114a)

Type	Rating
A-20 Series	20 A, 125 VAC/250 VAC/480 VAC 10 A, 125 VAC "L" (TUNGSTEN) 1/2 A, 125 VDC 1/4 A, 250 VDC 1 HP 125 VAC 2 HP 250 VAC

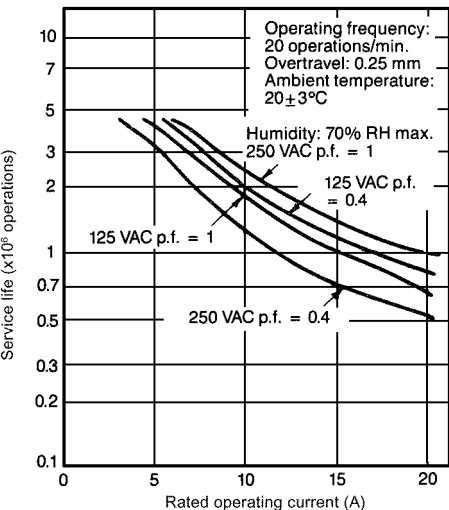
Note: The rated values approved by each of the safety standards (e.g. UL, CSA) may be different from the performance characteristics individually defined in this catalog.

Engineering Data

Mechanical service life



Electrical service life

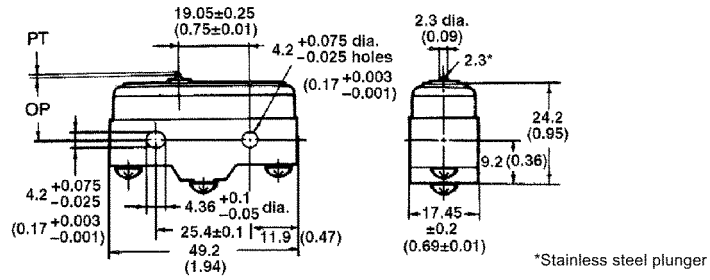


Dimensions

Unit: mm (inch)

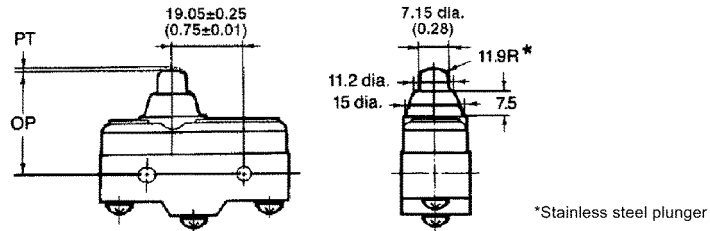
■ Pin Plunger

A-20G-B



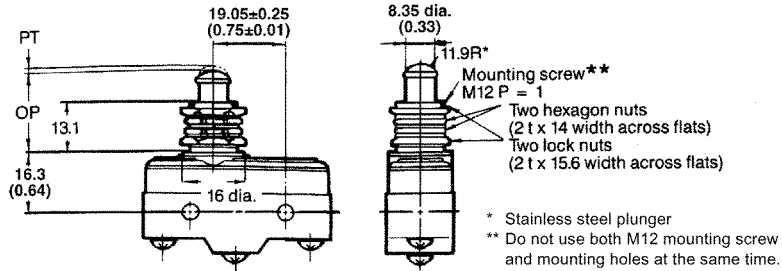
■ Short Spring Plunger

A-20GD-B



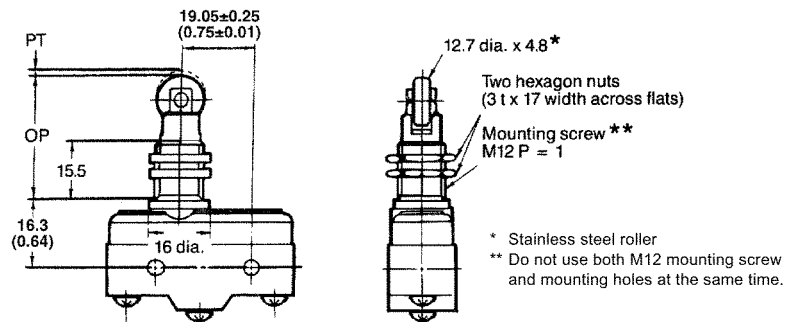
■ Panel Mount Plunger

A-20GQ-B



■ Panel Mount Roller Plunger

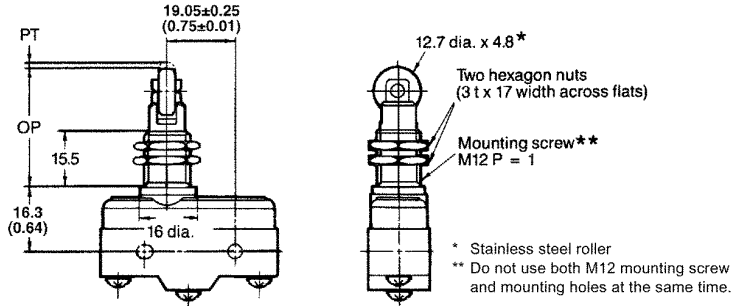
A-20GQ22-B



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

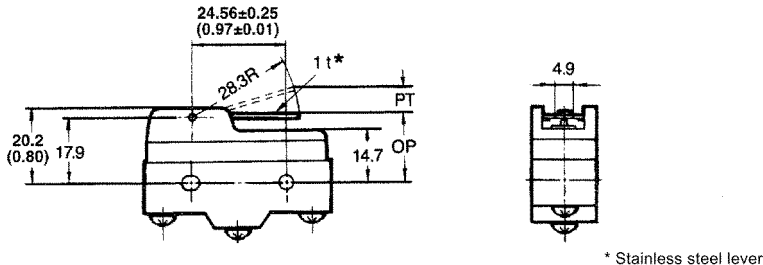
■ Panel Mount Cross Roller Plunger

A-20GQ21-B



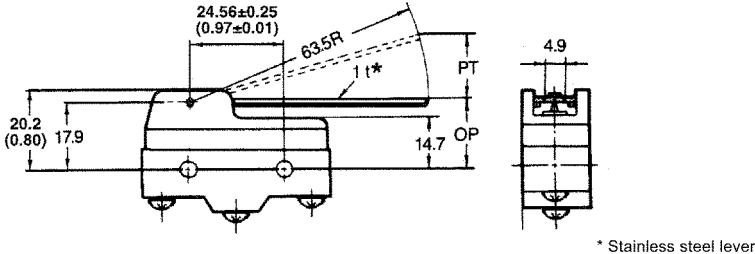
■ Short Hinge Lever

A-20GV21-B



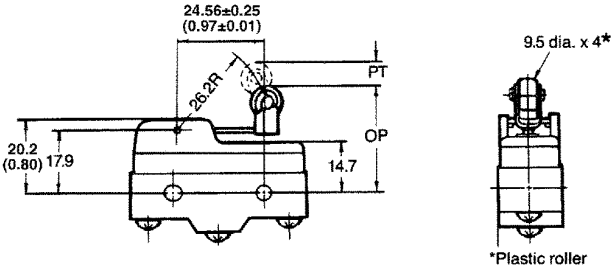
■ Hinge Lever

A-20GV-B



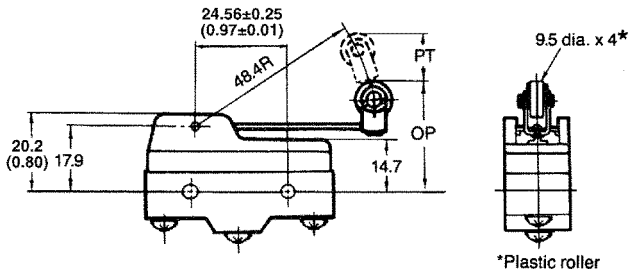
■ Short Hinge Roller Lever

A-20GV22-B



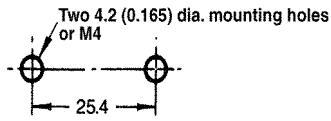
■ Hinge Roller Lever

A-20GV2-B

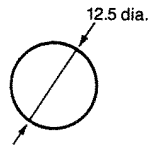


Note: 1. Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.
 2. All drawings show the switches with screw terminals. For solder terminals, remove the “-B” from the end of the part number.

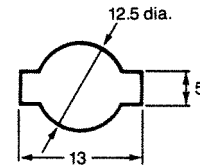
Mounting holes



Panel mount roller plunger



Panel cutout
Panel mount plunger



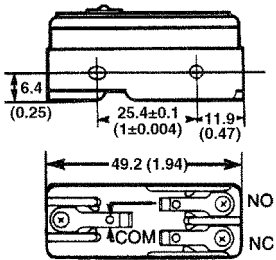
Note: 1. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.

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

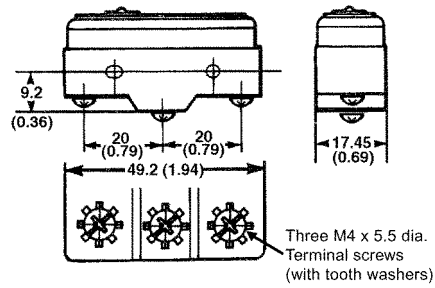
■ Terminals

Unit: mm (inch)

Solder terminal (blank)



Screw terminal (B)



Omron Electronic Components, LLC

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ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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OMRON ELECTRONIC
COMPONENTS LLC

55 E. Commerce Drive, Suite B
Schaumburg, IL 60173

847-882-2288

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