

# LIMIT SWITCH

## Limit Switch

### Characteristics

Operation speed	0.5mm-50cm/sec
Operating frequency	Mechanical: 120 operations/minute Electrical: 30 operations/minute
Contact resistance	25m <sup>Ω</sup> max. (initial value)
Insulation resistance	100m <sup>Ω</sup> min. below 500VDC
Dielectric strength	1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity
	1500VAC, 50/60 Hz for 1 minute between current-carrying and non-current-carrying metal parts
	1500VAC, 50/60 Hz for 1 minute between each terminal and ground
Vibration	10-55Hz, 1.5mm double amplitude
Shock	Mechanical durable: 1,000m/Sec <sup>2</sup> (about 100G'S) Malfunction: 300m/Sec <sup>2</sup> (about 30G'S)
Ambient temperature	10~+70 <sup>°C</sup>
Humidity	<95% RH
Life	Mechanical: 10,000,000 operations above Electrical: 500,000 operations above
Degree of protection	IP65 (IEC Standard)

NOTES: 1. Inductive load has a power factor of 0.4 min.(AC) and a time constant of 7 msec. 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.  
 3. Product with spring, its usable range of operating part is within one third of the whole spring length from the front end of spring.

### Ratings

Rated voltage	Noninductive Load (A)				Inductive Load (A)			
	Resistance Load		Lamp Load		Inductive Load		Motor Load	
	NC	NO	NC	NO	NC	NO	NC	NO
125VAC	5	5	1.5	0.7	3	3	2	1
250VAC	5	5	1	0.5	3	3	1.5	0.8
8VDC	5	5	3	3	5	4	3	3
14VDC	5	5	3	3	4	4	3	3
30VDC	5	5	3	3	4	4	3	3
125VDC	0.4	0.4						
250VDC	0.2	0.2						
Inrush Current	N.C: below 24A, N.O: below 12A							

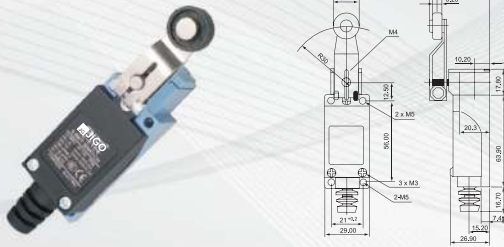
Model	JG-XZ-8104	JG-XZ-8107	JG-XZ-8108	JG-XZ-8111	JG-XZ-8112/8122	JG-XZ-8166/8167/8168/8169
OF(Max.)	750g	750g	750g	900g	900g	150g
RF(Min.)	100g	100g	100g	150g	150g	-
PT(Max.)	20°	20°	20°	1.5mm	1.5mm	30mm
OT(Min.)	50°	50°	50°	4mm	4mm	-
MD(Max.)	12°	12°	12°	1mm	1mm	-
OP	-	-	-	26±0.8mm	37±0.8mm	-



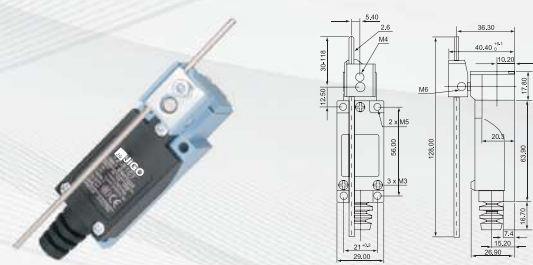
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## Limit Switch

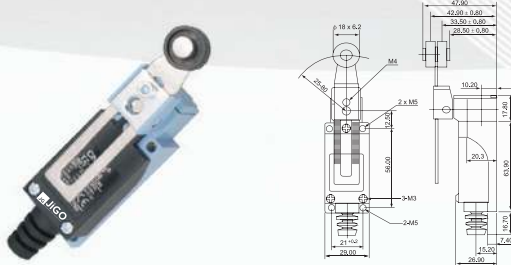
JG - XZ-8104 - Limit Switch Side Rotary Lever



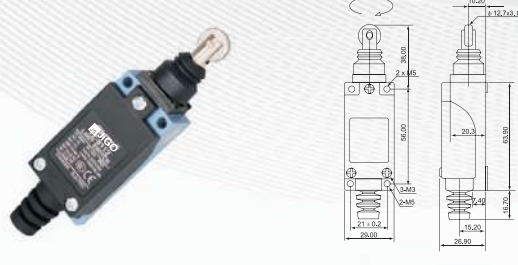
JG - XZ-8107 - Limit Switch Side Rotary with Rod



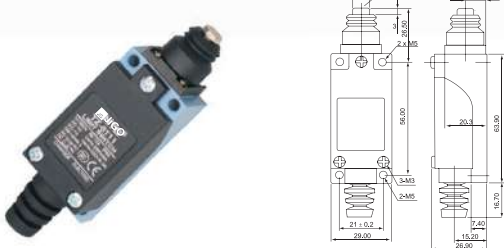
JG - XZ-8108 - Limit Switch Adjustable Lever with Roller



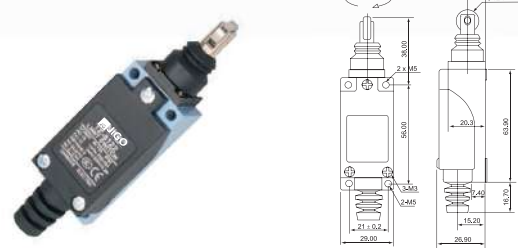
JG - XZ-8111 - Limit Switch Vertical Push Rod



JG - XZ-8112 - Limit Switch Top Roller Vertical



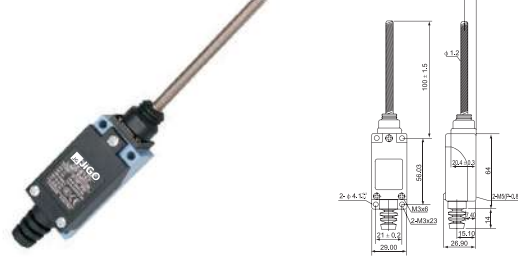
JG - XZ-8122 - Limit Switch Top Roller Horizontal



JG - XZ-8166 - Limit Switch Flexible Rod Type



JG - XZ-8167 - Limit Switch Flexible Rod Type



JG - XZ-8168 - Limit Switch Flexible Rod Type



JG - XZ-8169 - Limit Switch Flexible Rod Type

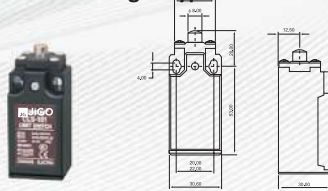


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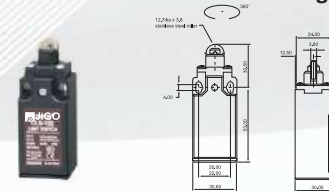
## Limit Switch

Model	JG - XZ9101	JG - XZ9102	JG - XZ9103 JG - XZ9203	JG - XZ9104 JG - XZ9204	JG - XZ9108	JG - XZ9105	JG - XZ9310	JG - XZ9508
Operating force	700g	700g	700g	500g	500g-cm	700g	500g-cm	400g-cm
Release force	200g	200g	200g	100g-cm	100g-cm	200g	100g-cm	100g-cm
Pre-travel	1.8mm	1.8mm	1.8mm	20°	20°	1.8mm	20°	20°
Tripping position	2.0mm	2.0mm	2.0mm	22.5°	22.5°	2.0mm	22.5°	22.5°
Movement differential	1.2mm	1.2mm	1.2mm	10°	10°	1.2mm	10°	10°
Over travel	4.0mm	4.0mm	4.0mm	75°	75°	4.0mm	75°	75°
Total travel	5.8mm	5.8mm	5.8mm	95°	95°	5.8mm	95°	95°
Rotary indexing				22.5°	22.5°		22.5°	22.5°

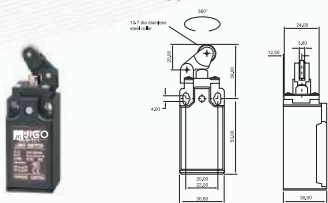
JG - XZ9101 - Limit Switch Push Plunger Type



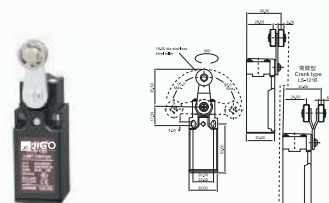
JG - XZ9102 - Limit Switch Roller Plunger Type



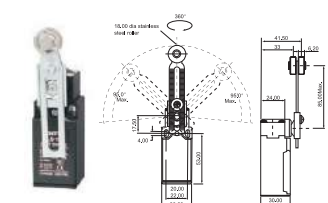
JG - XZ9103 - Limit Switch Roller Lever Type



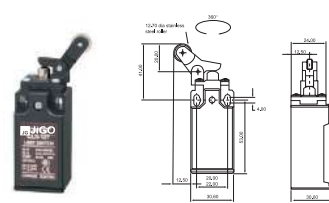
JG - XZ9104 - Limit Switch Roller Arm Type



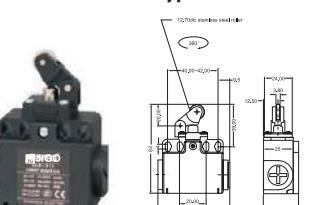
JG - XZ9108 - Limit Switch Adjustable Roller Arm Type



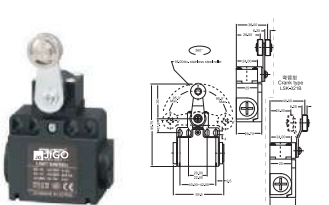
JG - XZ9105 - Limit Switch Roller Lever Type



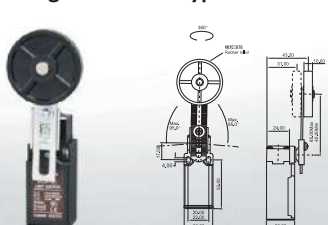
JG - XZ9203 - Limit Switch Roller Lever Type



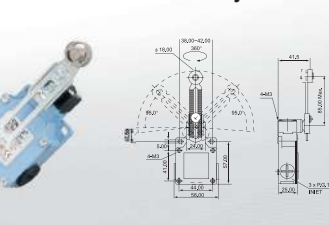
JG - XZ9204 - Limit Switch Roller Arm Type



JG - XZ9310 - Limit Switch Big Roller Arm Type



JG - XZ9508 - Limit Switch Adjustable Roller Arm Type



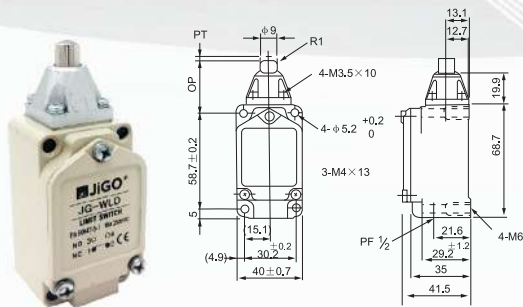
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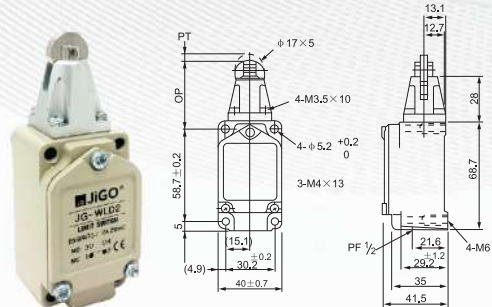
### Operating Characteristics

Models	JG - WLD	JG - WLD2	JG - WLCA2	JG - WLCA12	JG - WLCA32	JG - WLNJ
OF(Max.)	2720g	2720g	1360g	1360g	1200g	150g
RF(Min.)	910g	910g	227g	227g	-	-
PT(Max.)	1.7mm	1.7mm	20°	20°	55°	28mm
OT(Min.)	6.4mm	5.6mm	30°	30°	35°	-
MD(Max.)	1mm	1mm	12°	12°	-	-
TF(Max.)	-	-	2720g	2720g	-	-
TT(Min.)	OP:34±2.8mm	6.5±0.8mm	50°	50°	OP:90±10°	-

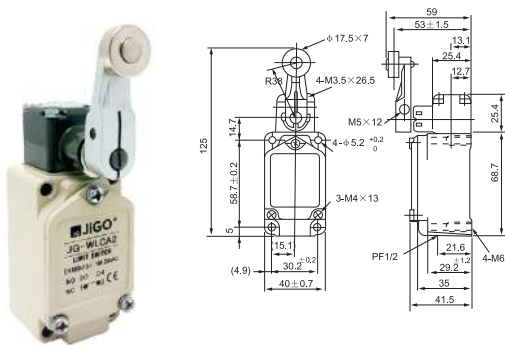
JG - WLD - Limit Switch Top Push Rod



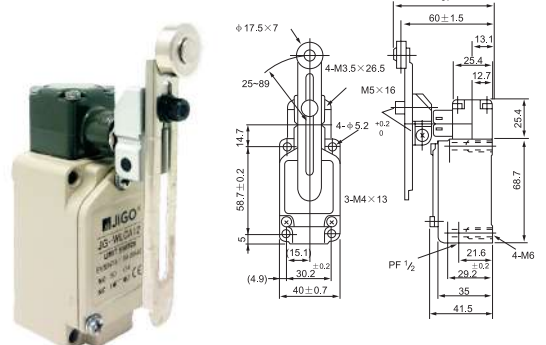
JG - WLD2 - Limit Switch Top Plunger Roller



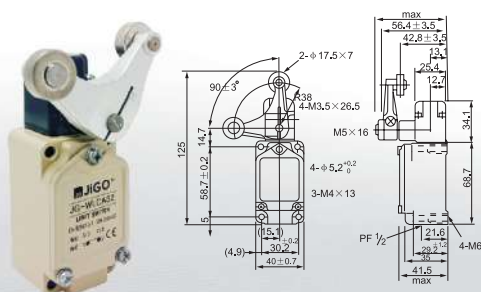
JG - WLCA2 - Limit Switch with Side Rotary Lever



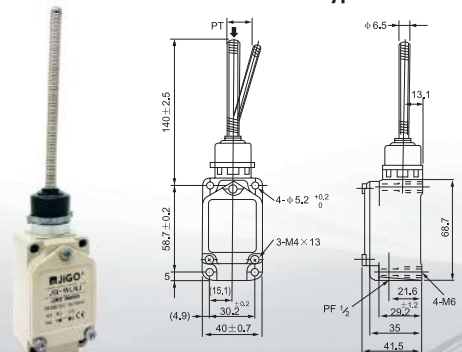
JG - WLCA12 - Limit Switch Adjustable Lever with Roller



JG - WLCA32 - Limit Switch Fork Lever with Roller



JG - WLNJ - Limit Switch Flexible Rod Type

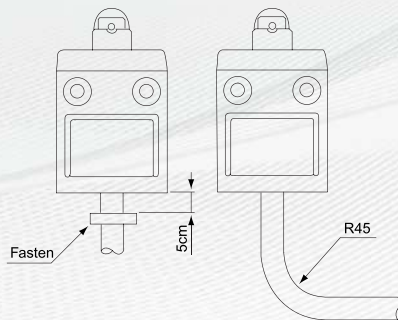


# LIMIT SWITCH

## Compact Prewired Limit Switch

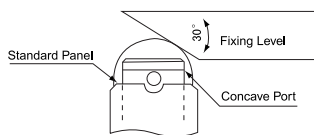
### Fastening of the switch cable

The switch bodies are filled with resin for sealing purposes. To avoid stressing the cable and switch body, fasten the switch at 5 cm or farther away from the switch body, should the wire be bent, the bending radius shall be at least 45mm.



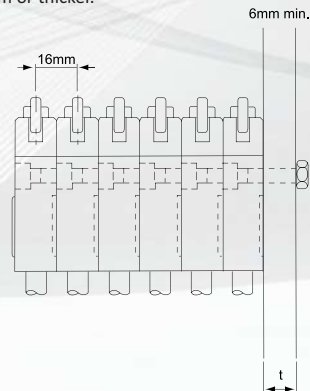
### Installation

The service life and accuracy of switches will be effected by the shape of actuator operation frequency & over travel. So the angular of the fixing level should be about 30°, the surface finish of the fixing level should be over, the hardness is from HV400~500. When installing, the position of the concave part should be above the standard panel.



### Switch bank mounting

A maximum of six switches may be mounted together as a switch bank. During the installation, the convex part of the switch back. The mounting panel shall be 6mm or thicker.

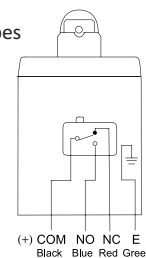


### Mounting

Recommended tightening torque according to the following form.

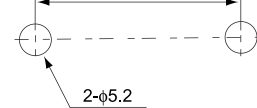
Model	Screw type	Torque
1	M5 fastening screws	43.4~52lb.in (50~60kgf.cm)
2	M3.5 installing screws	6.9~7.9lb.in (8~9kgf.cm)

### Contact types



### Mounting holes

Mount the switch body to a rigid mounting panel using two M5 screws.  $25 \pm 0.1$



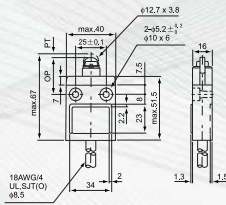
### Operating Characteristics

Models	JG - TZ-3102	JG - TZ-3112	JG - TZ-3104/3108	JG - TZ-3101	JG - TZ-3111
OF(Max.)	1200gf(11.77N)	1800gf(17.65N)	580gf(5.69N)	1200gf(11.77N)	1800gf(17.65N)
RF(Min.)	450gf(4.41N)	450gf(4.41N)	150gf(1.47N)	450gf(4.41N)	450gf(4.41N)
PT(Max.)	1.8mm	1.8mm	25	1.8mm	1.8mm
OT(Min.)	3mm	3mm	40	3mm	3mm
MD(Max.)	0.2mm	0.2mm	3	0.2mm	0.2mm
OP	28.5±1mm	34.3±1mm	-	15.7±1mm	24.9±1mm

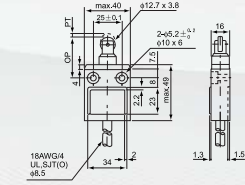
# LIMIT SWITCH

## Compact Prewired Limit Switch

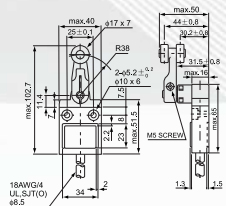
JG - TZ-3102 - 3M WITH IP68



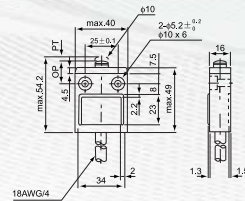
JG - TZ-3112 - 3M WITH IP68



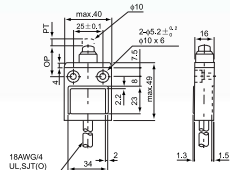
JG - TZ-3104 - 3M WITH IP68



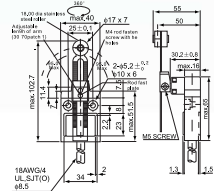
JG - TZ-3101 - 3M WITH IP68



JG - TZ-3111 - 3M WITH IP68

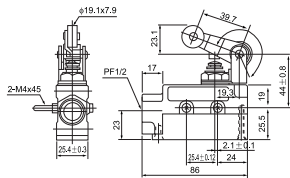


JG - TZ-3108 - 3M WITH IP68

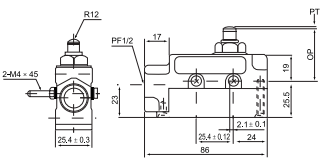


## Sealed Limit Switch

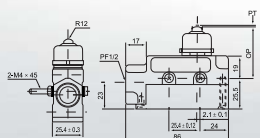
JG - TZ-6004 - Long Patti with Lever



JG - TZ-6001 - Micro Switch Plunger



JG - TZ-6101 - Micro Switch Plunger



JG - TZ-6002 - Micro Switch Horizontal Roller

