

## Features

- NC contacts direct opening mechanism added (able to open contacts when faults occur)
- Strengthen the head seal structure to increase seal properties
- Wide ambient operating temperature range: -40°C ~ +80°C
- Approved by UL, CSA, CCC, EN(TUV)

## Characteristics

Degree of protection		IP67 (EN60947-5-1)
Rating	IEC 60947-5-1	AC-15 400V AC / 2A
	UL508	A600 250V AC / 15A
Durability	Mechanical	30,000,000 operations min. (snap-action) 10,000,000 operations min. (slow-action)
	Electrical	500,000 operations min. (10A resistive load at 250V AC)
Operating Speed		1mm/s to 0.5m/s
Operating Frequency	Mechanical	120 operations /min
	Electrical	30 operations /min
Rated Frequency		50/60Hz
Insulation Resistance		100MΩ min.
Contact Resistance		25mΩ max. (initial value)
Dielectric Strength	Between terminals of same polarity	Uimp 2.5kV (snap-action) Uimp 4kV (slow-action)
	Between terminals of different polarity	Uimp 4kV (slow-action)
	Between current-carrying metal parts and ground	Uimp 4kV
	Between each terminal and non-current-carrying metal part	Uimp 4kV
Rated insulation voltage (Ui)		600V (EN60947-5-1)
OFF reverse voltage		1500V max. (EN60947-5-1)
Pollution degree (Application environment)		3 (EN60947-5-1)
Conditional short-circuit current		100A (EN60947-5-1)
Conventional enclosed thermal current(Ithe)		20A (EN60947-5-1)
Electric shock protection class		Class I (with ground terminal)
Vibration Resistance	Malfunction	10~55 Hz 0.75mm single amplitude
Shock Resistance	Destruction	1,000m/s <sup>2</sup> min.
	Malfunction	300m/s <sup>2</sup> min.
Ambient operating temperature range		-40°C ~ +80°C with no icing
Ambient operating humidity range		95% RH Max.

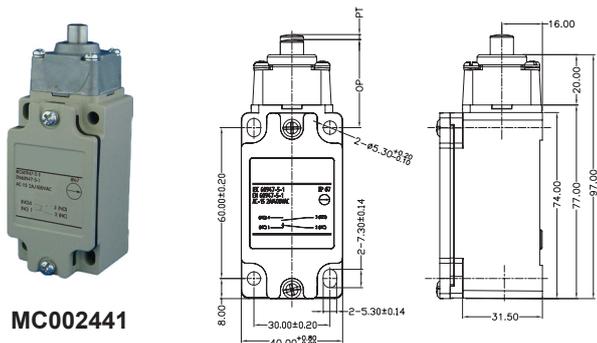
### Notes:

1. Above values of these characteristics are initial values.
2. Above values of these characteristics may be depending on different models.
3. Above durability is for an ambient temperature of 5 to 35°C and ambient humidity of 40% to 70%.

## Operating Characteristics

Part Number	Operating Force (Max.)	Release Force (Min.)	Pre Travel (Max.)	Over Travel (Min.)	Movement Differential (Max.)	Direct Opening Travel	Direct Opening Force	Total Travel	Free Position (Max.)	Operating Position
MC002441	18.63N	1.96N	2mm / 3mm	5mm	1mm	3.2mm	49.03N	7mm	38mm	35° ±1mm
MC002442	18.63N	1.96N	2mm / 3mm	5mm	1mm	3.2mm	49.03N	7mm	51mm	48° ±1mm
MC002443	18.63N	1.96N	2mm / 3mm	5mm	1mm	3.2mm	49.03N	7mm	51mm	48° ±1mm
MC002444	9.41N	1.47N	21° ± 3°/45°	50°	12°	35° / 55°	19.61N	(75°)	-	-
MC002445	9.41N	1.47N	21° ± 3°/45°	50°	12°	35° / 55°	19.61N	(75°)	-	-
MC002446	2.12N	0.29N	21° ± 3°/45°	50°	12°	35° / 55°	19.61N	(75°)	-	-
MC002447	1.47N	-	15°	-	-	-	-	-	-	-
MC002448	1.47N	-	15°	-	-	-	-	-	-	-

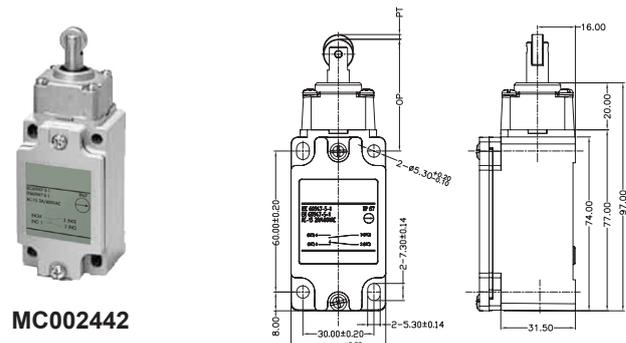
### Standard Pin Plunger



MC002441

Weight: 232.7g

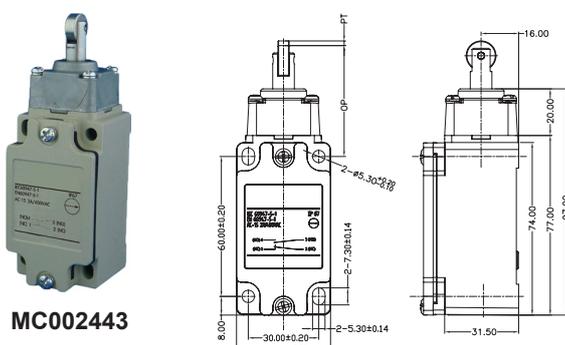
### Top Roller Plunger



MC002442

Weight: 237.1g

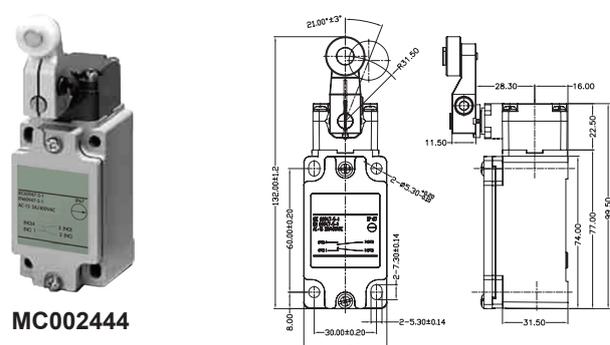
### Top Crossroller Plunger



MC002443

Weight: 237.1g

### Vertical Standard Roller Lever



MC002444

Weight: 271.7g

Dimensions : Millimetres

# Safety Limit Switch

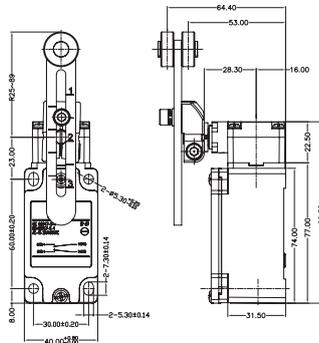
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## Adjustable Roller Lever



**MC002445**

Weight: 304.5g

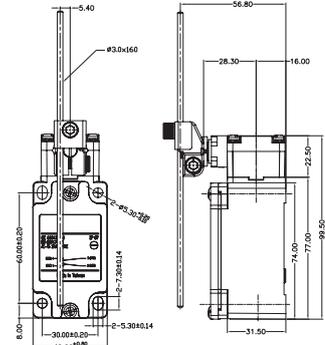


## Adjustable Rod Lever



**MC002446**

Weight: 284.6g

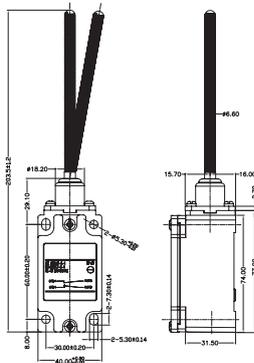


## Coil Spring



**MC002447**

Weight: 221.3g

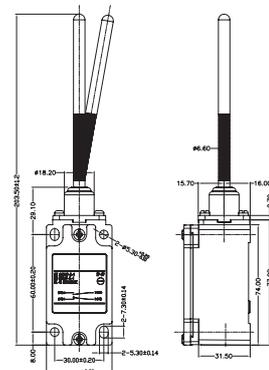


## Plastic Rod



**MC002448**

Weight: 211.2g



Dimensions : Millimetres

## Part Number Table

Description	Part Number
Vertical Safety Limit Switch, Standard Pin Plunger, Screw Terminal	MC002441
Vertical Safety Limit Switch, Top Roller Plunger, Screw Terminal	MC002442
Vertical Safety Limit Switch, Top Cross Roller Plunger, Screw Terminal	MC002443
Vertical Safety Limit Switch, Vertical Standard Roller Lever, Screw Terminal	MC002444
Vertical Safety Limit Switch, Adjustable Roller Lever, Screw Terminal	MC002445
Vertical Safety Limit Switch, Adjustable Rod Lever, Screw Terminal	MC002446
Vertical Safety Limit Switch, Coil Spring, Screw Terminal	MC002447
Vertical Safety Limit Switch, Plastic Rod, Screw Terminal	MC002448

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