

## ► MN SERIES MINI ENCLOSED LIMIT SWITCHES

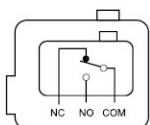
### ◆ FEATURES/功能

- Side mount switches. / 側邊固定式
- Momentary contacts. / 接點敏捷
- Wide choice of heads and actuators. / 具各種不同之頭及連桿
- Sealed actuators. / 密閉式連桿
- Completely sealed structure. / 輔助式密封結構
- Plastic sealed construction. / 塑膠成型固定座
- Temperature range +5°F to +175°F (-15°C to +80°C). / 適用溫度

### ◆ RATING/額定

10A	250V AC
0.5A	125V DC

### ◆ CIRCUITRY/電氣回路



### ◆ ORDER GUIDE

		MN - □ - □	
		1	2 3
① 基本型號 Series name	MN: 限位元開關	Limit switches	
	5100: 短按鈕標準型	Short plunger	
	5110: 長按鈕標準型	Long plunger	
	5110L: 加長按鈕標準型	Extra long plunger	
	5110XL: 特長按鈕標準型	Specified long plunger	
	5120: 長搖柄標準型	Long hinge lever	
	5121: 滾輪長搖柄型	Long roller lever	
	5124: 塑膠雙滾輪長搖柄型	Unidirectional long roller lever	
② 操動器型式 Actuator	5140: 短搖柄標準型	Short hinge lever	
	5141: 滾輪短搖柄型	Short roller lever	
	5144: 塑膠雙滾輪短搖柄型	Unidirectional short roller lever	
	5161: 彈簧棒感觸輪型	Spring lever, metal	
	5166: 塑膠頭彈簧棒感觸輪型	Spring lever, plastic	
	5169: 鋼線彈簧棒感觸輪型	Wire spring lever	
	5310: 按鈕頭部固定型	Screw fixed plunger	
	5311: 滾輪押扣標準型	Screw fixed roller plunger	
	5312: 90度橫向滾輪押扣標準型	Cross roller plunger	
③ 按鈕或滾輪材質 Materials	P: 塑膠滾輪	Plastic roller	
	PT: 鐵氟龍按鈕頭部或滾輪	Taflon plunger or roller	
	無: 金屬按鈕頭部或滾輪	Metal plunger or roller	



● MN-5100-P

### ◆ CHARACTERISTICS/特性

Operating speed	速度	0.01mm to 50cm/sec (at pin plunger)
Operating frequency	頻率	120 operations/min.
Contact resistance	接觸電阻	25m Ω max. (initial)
Insulation resistance	絕緣電阻	100M Ω min. (at 500 VDC)
Dielectric strength	耐壓	1,000 VAC, 50/60 Hz for 1 minute between non-continuous terminals
		2,000 VAC, 50/60 Hz for 1 minute between current-carrying and non-current carrying parts and between each terminal and ground
Vibration	震動	Malfunction durability: 10 to 55Hz 1.5mm double amplitude
Shock	衝擊	Mechanical durability: 1,000m/s <sup>2</sup> (approx. 100G's)
		Malfunction durability: 300m/sec <sup>2</sup> (approx. 30G's)
Ambient operating temperature	溫度	Operating: -10°C to +80°C
Humidity	濕度	95% RH max. (at +20°C to 35°C)
Service life	壽命	Mechanically: 10,000,000 operations min. (at rated OT value)
		Electrically: (2A, 110VAC) MAX 500,000 operations min.
Degree of protection	防水	IEC: IP65



● MN-5110L



● MN-5121



● MN-5110-PT



● MN-5120



● MN-5100



● MN-5124



● MN-5140



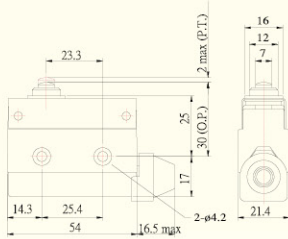
● MN-5110XL



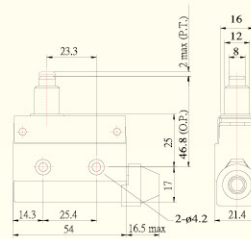
● MN-5110

## DIMENSIONS (mm)

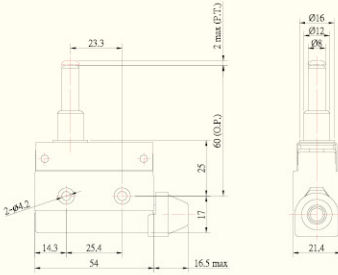
● MN-5100



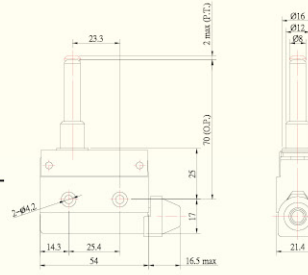
● MN-5110



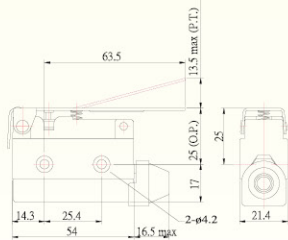
● MN-5110L



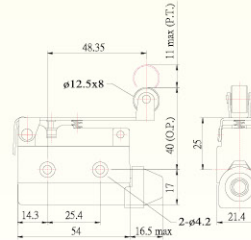
● MN-5110XL



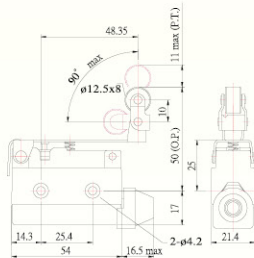
● MN-5120



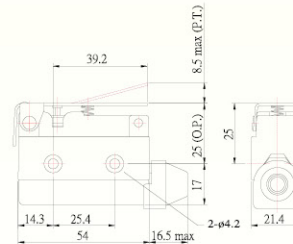
● MN-5121



● MN-5124



● MN-5140



## OPERATING CHARACTERISTICS

### MN-5100

OF MAX	600g
RF MIN	100g
PT MAX	2.0mm
OT MIN	0.8mm
DT MAX	0.8mm
OP	30 ± 1.5mm

### MN-5110

MN-5110	MN-5110L	MN-5110XL
OF MAX	600g	600g
RF MIN	100g	100g
PT MAX	2.0mm	2.0mm
OT MIN	5.0mm	5.0mm
DT MAX	0.8mm	0.8mm
OP	46.8±1.5mm	70±1.5mm

### MN-5120

OF MAX	150g
RF MIN	40g
PT MAX	13.5mm
OT MIN	4.0mm
DT MAX	3.2mm
OP	25 ± 2.0mm

### MN-5121

OF MAX	180g
RF MIN	50g
PT MAX	11.0mm
OT MIN	3.0mm
DT MAX	2.4mm
OP	40 ± 1.9mm

### MN-5124

OF MAX	200g
RF MIN	60g
PT MAX	11.0mm
OT MIN	3.0mm
DT MAX	2.4mm
OP	50 ± 1.9mm

### MN-5140

OF MAX	220g
RF MIN	60g
PT MAX	8.5mm
OT MIN	2.5mm
DT MAX	2.0mm
OP	25 ± 1.3mm

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## ORDER GUIDE

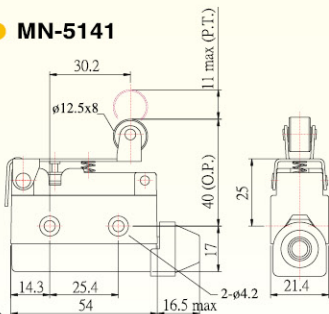
### DIMENSIONS (mm)

### OPERATING CHARACTERISTICS

### DIMENSIONS (mm)

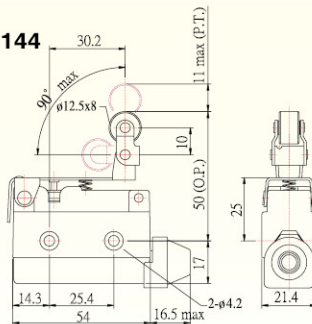
### OPERATING CHARACTERISTICS

#### ● MN-5141



OF MAX	240g
RF MIN	80g
PT MAX	6.5mm
OT MIN	2.0mm
DT MAX	1.5mm
OP	40 ± 1.6mm

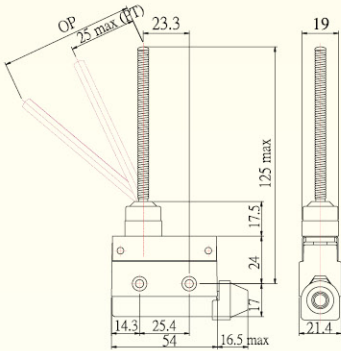
#### ● MN-5144



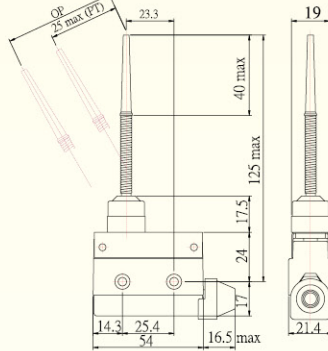
OF MAX	280g
RF MIN	100g
PT MAX	6.5mm
OT MIN	2.0mm
DT MAX	1.5mm
OP	50 ± 1.6mm

## DIMENSIONS (mm)

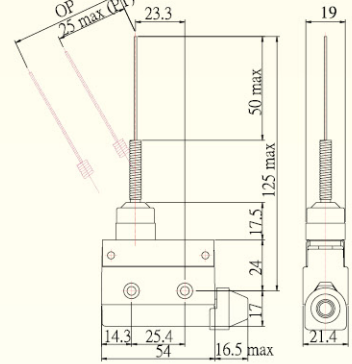
### ● MN-5161



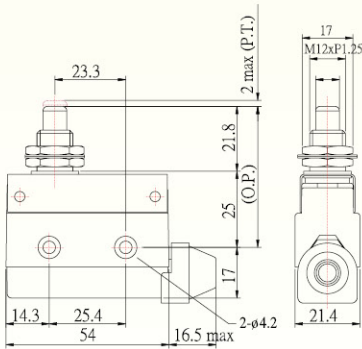
### ● MN-5166



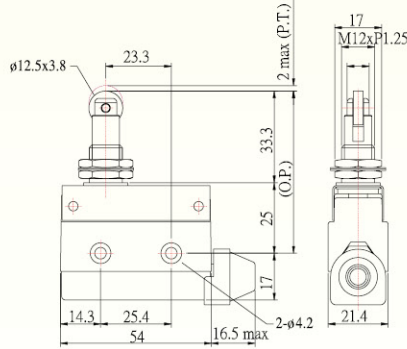
### ● MN-5169



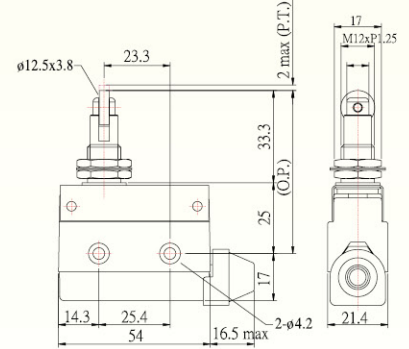
### ● MN-5310



### ● MN-5311



### ● MN-5312



## OPERATING CHARACTERISTICS

	<b>MN-5161</b>
OF MAX	120g
RF MIN	-
PT MAX	25mm
OT MIN	11mm
DT MAX	-

	<b>MN-5166</b>
OF MAX	120g
RF MIN	-
PT MAX	25mm
OT MIN	11mm
DT MAX	-

	<b>MN-5169</b>
OF MAX	120g
RF MIN	-
PT MAX	25mm
OT MIN	11mm
DT MAX	-

	<b>MN-5310</b>
OF MAX	600g
RF MIN	100g
PT MAX	2.0mm
OT MIN	6.0mm
DT MAX	0.8mm
OP	46.8 ± 1.5mm

	<b>MN-5311</b>
OF MAX	600g
RF MIN	100g
PT MAX	2.0mm
OT MIN	6.0mm
DT MAX	0.8mm
OP	58.3 ± 1.5mm

	<b>MN-5312</b>
OF MAX	600g
RF MIN	100g
PT MAX	2.0mm
OT MIN	6.0mm
DT MAX	0.8mm
OP	58.3 ± 1.5mm