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## 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. / 密封式連桿
- 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



● MN-5100-P

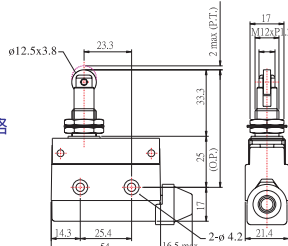
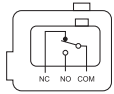
### ◆ CHARACTERISTICS/特性

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

### ◆ RATING/額定

|      |         |
|------|---------|
| 10A  | 250V AC |
| 0.5A | 125V DC |

### ◆ CIRCUITRY/電氣回路



MN-5311 ROLLER PLUNGER

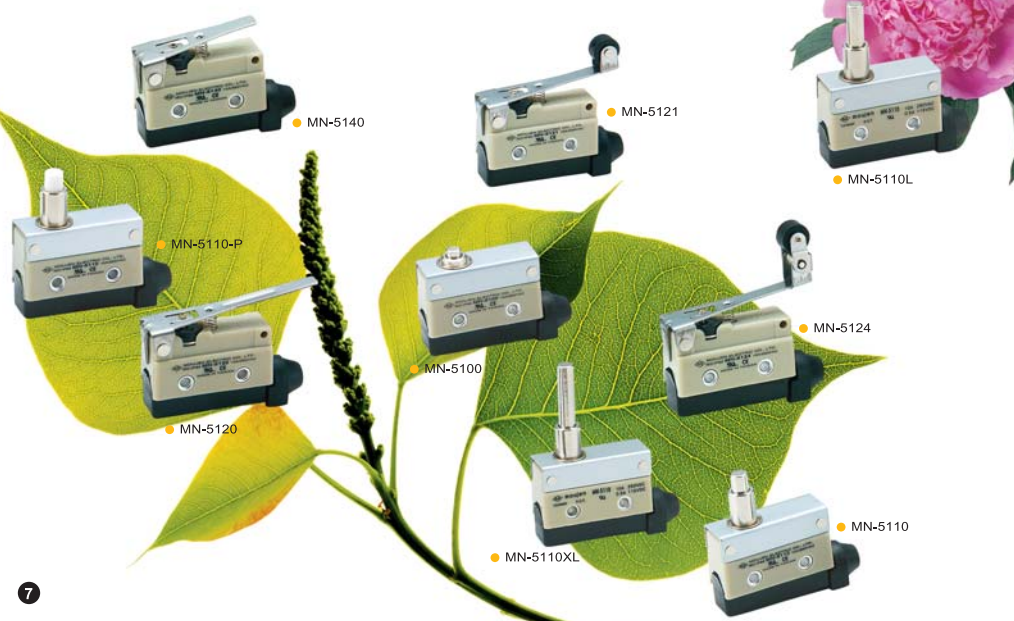
### ◆ ORDER GUIDE

- Standard type: 標準型

|         |         |          |           |         |         |
|---------|---------|----------|-----------|---------|---------|
| MN-5100 | MN-5110 | MN-5110L | MN-5110XL | MN-5120 | MN-5121 |
| MN-5124 | MN-5140 | MN-5141  | MN-5144   | MN-5161 | MN-5166 |
| MN-5169 | MN-5310 | MN-5311  | MN-5312   |         |         |

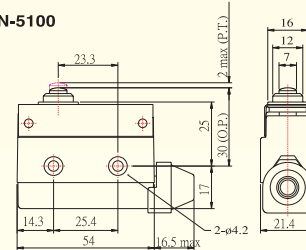
- Plastic head or roller type (custom made): 塑膠頭部或滾輪 (訂製品)

|           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|
| MN-5100-P | MN-5110-P | MN-5310-P | MN-5311-P | MN-5312-P |
|-----------|-----------|-----------|-----------|-----------|

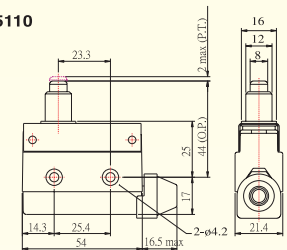


### DIMENSIONS (mm)

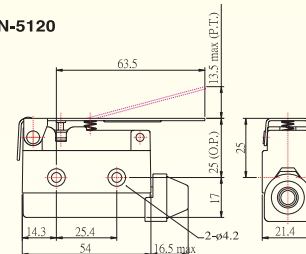
#### ● MN-5100



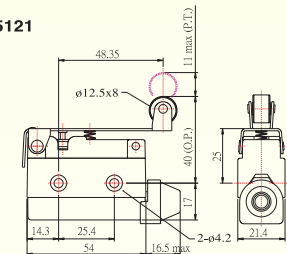
#### ● MN-5110



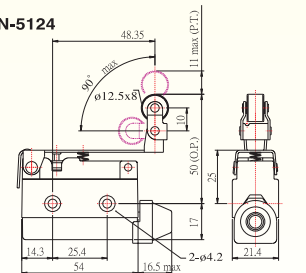
#### ● MN-5120



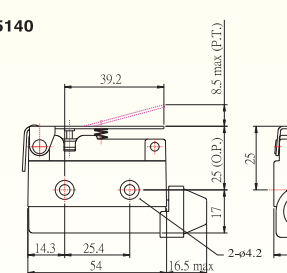
#### ● MN-5121



#### ● MN-5124



#### ● MN-5140



### OPERATING CHARACTERISTICS

|                |            |
|----------------|------------|
| <b>MN-5100</b> |            |
| OF MAX         | 600g       |
| RF MIN         | 100g       |
| PT MAX         | 2.0mm      |
| OT MIN         | 0.8mm      |
| DT MAX         | 0.8mm      |
| OP             | 30 ± 1.5mm |

|                |            |          |           |
|----------------|------------|----------|-----------|
| <b>MN-5110</b> | MN-5110    | MN-5110L | MN-5110XL |
| OF MAX         | 600g       | 600g     | 600g      |
| RF MIN         | 100g       | 100g     | 100g      |
| PT MAX         | 2.0mm      | 2.0mm    | 2.0mm     |
| OT MIN         | 5.0mm      | 5.0mm    | 5.0mm     |
| DT MAX         | 0.8mm      | 0.8mm    | 0.8mm     |
| OP             | 44 ± 1.5mm | 60mm     | 70mm      |

|                |            |
|----------------|------------|
| <b>MN-5120</b> |            |
| OF MAX         | 150g       |
| RF MIN         | 40g        |
| PT MAX         | 13.5mm     |
| OT MIN         | 4.0mm      |
| DT MAX         | 3.2mm      |
| OP             | 25 ± 2.0mm |

|                |            |
|----------------|------------|
| <b>MN-5121</b> |            |
| OF MAX         | 180g       |
| RF MIN         | 50g        |
| PT MAX         | 11.0mm     |
| OT MIN         | 3.0mm      |
| DT MAX         | 2.4mm      |
| OP             | 40 ± 1.9mm |

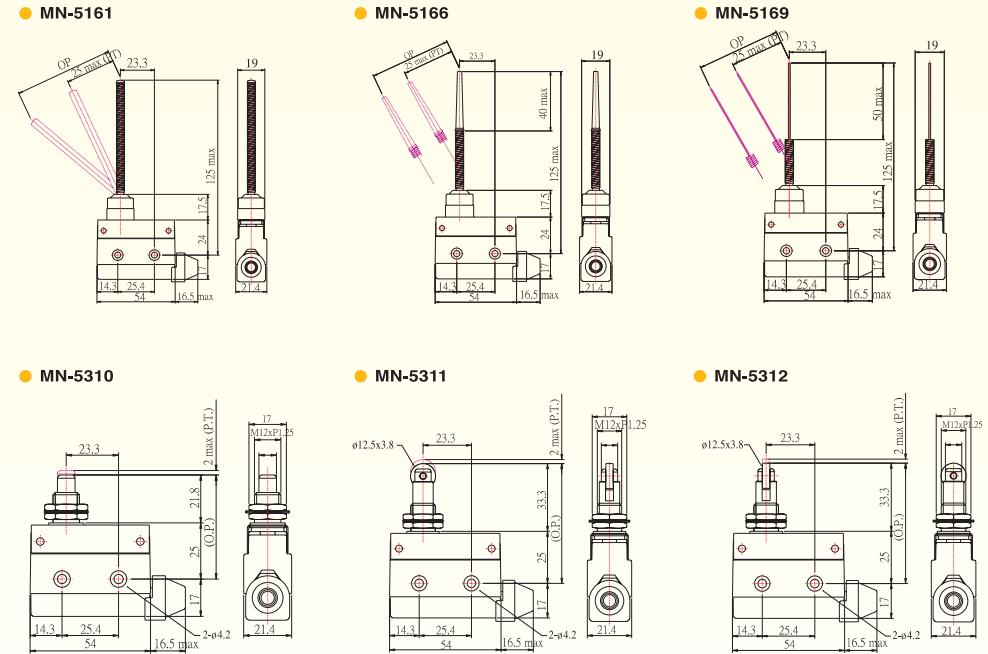
|                |            |
|----------------|------------|
| <b>MN-5124</b> |            |
| OF MAX         | 200g       |
| RF MIN         | 60g        |
| PT MAX         | 11.0mm     |
| OT MIN         | 3.0mm      |
| DT MAX         | 2.4mm      |
| OP             | 50 ± 1.9mm |

|                |            |
|----------------|------------|
| <b>MN-5140</b> |            |
| OF MAX         | 220g       |
| RF MIN         | 60g        |
| PT MAX         | 8.5mm      |
| OT MIN         | 2.5mm      |
| DT MAX         | 2.0mm      |
| OP             | 25 ± 1.3mm |

## ► MN SERIES MINI ENCLOSED LIMIT SWITCHES



### DIMENSIONS (mm)



## ORDER GUIDE

### OPERATING CHARACTERISTICS

|        | MN-5161 |
|--------|---------|
| OF MAX | 120g    |
| RF MIN | -       |
| PT MAX | 25mm    |
| OT MIN | 11mm    |
| DT MAX | -       |

|        | MN-5166 |
|--------|---------|
| OF MAX | 120g    |
| RF MIN | -       |
| PT MAX | 25mm    |
| OT MIN | 11mm    |
| DT MAX | -       |

|        | MN-5169 |
|--------|---------|
| OF MAX | 120g    |
| RF MIN | -       |
| PT MAX | 25mm    |
| OT MIN | 11mm    |
| DT MAX | -       |

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

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

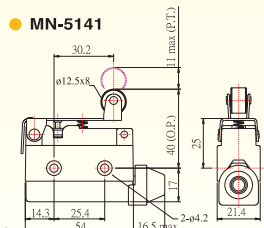
|        | MN-5312      |
|--------|--------------|
| OF MAX | 600g         |
| RF MIN | 100g         |
| PT MAX | 2.0mm        |
| OT MIN | 6.0mm        |
| DT MAX | 0.8mm        |
| OP     | 58.3 ± 1.5mm |

### DIMENSIONS (mm)

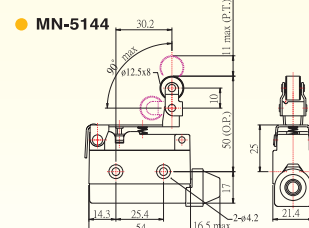
### OPERATING CHARACTERISTICS

### DIMENSIONS (mm)

### OPERATING CHARACTERISTICS



|        |            |
|--------|------------|
| OF MAX | 240g       |
| RF MIN | 80g        |
| PT MAX | 6.5mm      |
| OT MIN | 2.0mm      |
| DT MAX | 1.5mm      |
| OP     | 40 ± 1.8mm |



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