

**MS13 型微動開關系列 Micro switch series****◆ 特點和用途 Characteristic and usage**

- 采用壓接連接器用端子，節省配綫，節省工時，更加環保。

The terminal used for crimping connector can save wiring, man-hour and more environmentally.

- 0.1到5A型品種豐富齊全，多種接觸形式。

0.1 to 5A types are rich in variety and various contact forms.

- 具有兩個不同的安裝孔和各類輔助操作柄，能適應多種安裝方式。

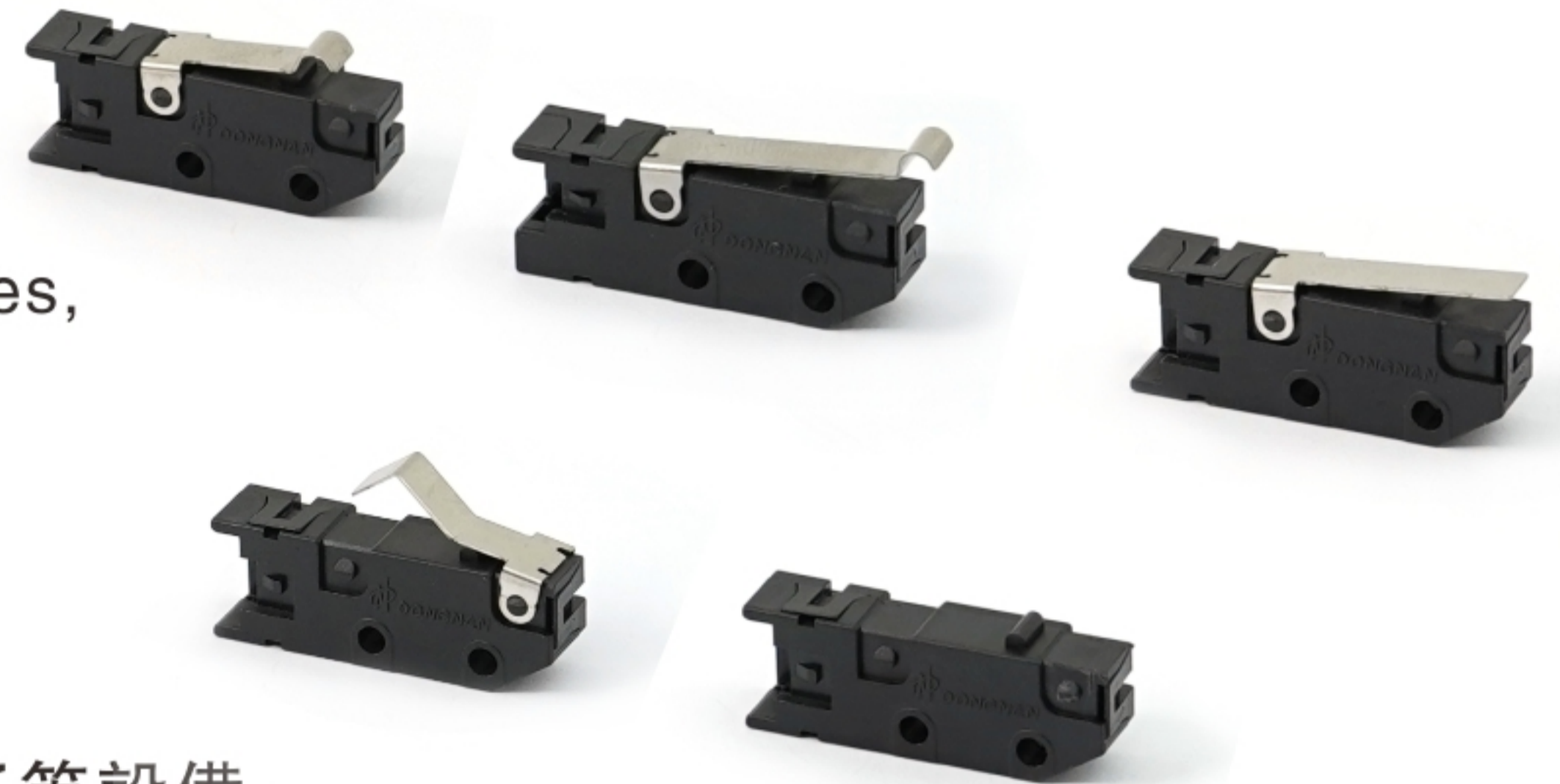
With two different mounting holes and various auxiliary operating handles, it can adapt to a variety of mounting methods.

- 安裝間距和KW4A(S)系列一致，可互換使用。

The installation spacing is consistent with KW4A(S) series and can be used interchangeably.

- 廣泛應用于辦公設備、家電設備、兒童座椅、智能游戲機及汽車電子等設備。

Widely used in office equipment, home appliances, child seats, intelligent game machines and automotive electronics and other equipments.

**◆ 技術特性 Specifications**

項目 Item		特性值 Value
工作速度(無負載) Operating speed (No load)		0.1mm ~ 1m/s(針狀按鈕位置)(Needle button position)
絕緣電阻 Insulation resistance		≥ 100MΩ (500VDC)
接觸電阻 Contact resistance		≤ 100mΩ (初始值 Initial value)
耐電壓 Test voltage	同極不相接端子間 Between terminals of the same polarity	AC1000V, 50/60Hz, 1min
	帶電金屬零件與地(外殼)之間、接綫端與不帶電金屬件之間 Between current-carrying metal parts and ground (case), and between each terminal and non-current-carrying metal parts.	AC1500V, 50/60Hz, 1min
抗振動(誤動作振動) Vibration resistance (Misoperation vibration)		單振幅0.75mm, 10Hz ~ 55Hz(觸點開離為1ms以下) Single amplitude 0.75mm, 10Hz ~ 55Hz (The contact gap is less than 1ms)
連接器插鎖定力 Connector locking force		≥ 20N (在靜荷重下拔出的插拔方向) (Pull out direction under static load)
連接器插拔次數 Connector insertion and removal times		≤ 5次(插拔方向) ≤ 5 cycles (plug direction)
防護等級 Protection degree		IP40
壽命 Life	機械壽命 Mechanical life	≥ 500,000 (通斷頻率60次/min) ≥ 500,000 cycles (Operating Frequency 60 cycles/min)
	電氣壽命 Electrical life	≥ 5萬次 (通斷頻率15次/min) ≥ 50,000 cycles (Operating Frequency 15 cycles/min)
質量 Weight		約2.5g (按鈕型) Approx. 2.5g (Button type)
安全認證 Safety approvals		UL, CUL, TUV, CE, CQC



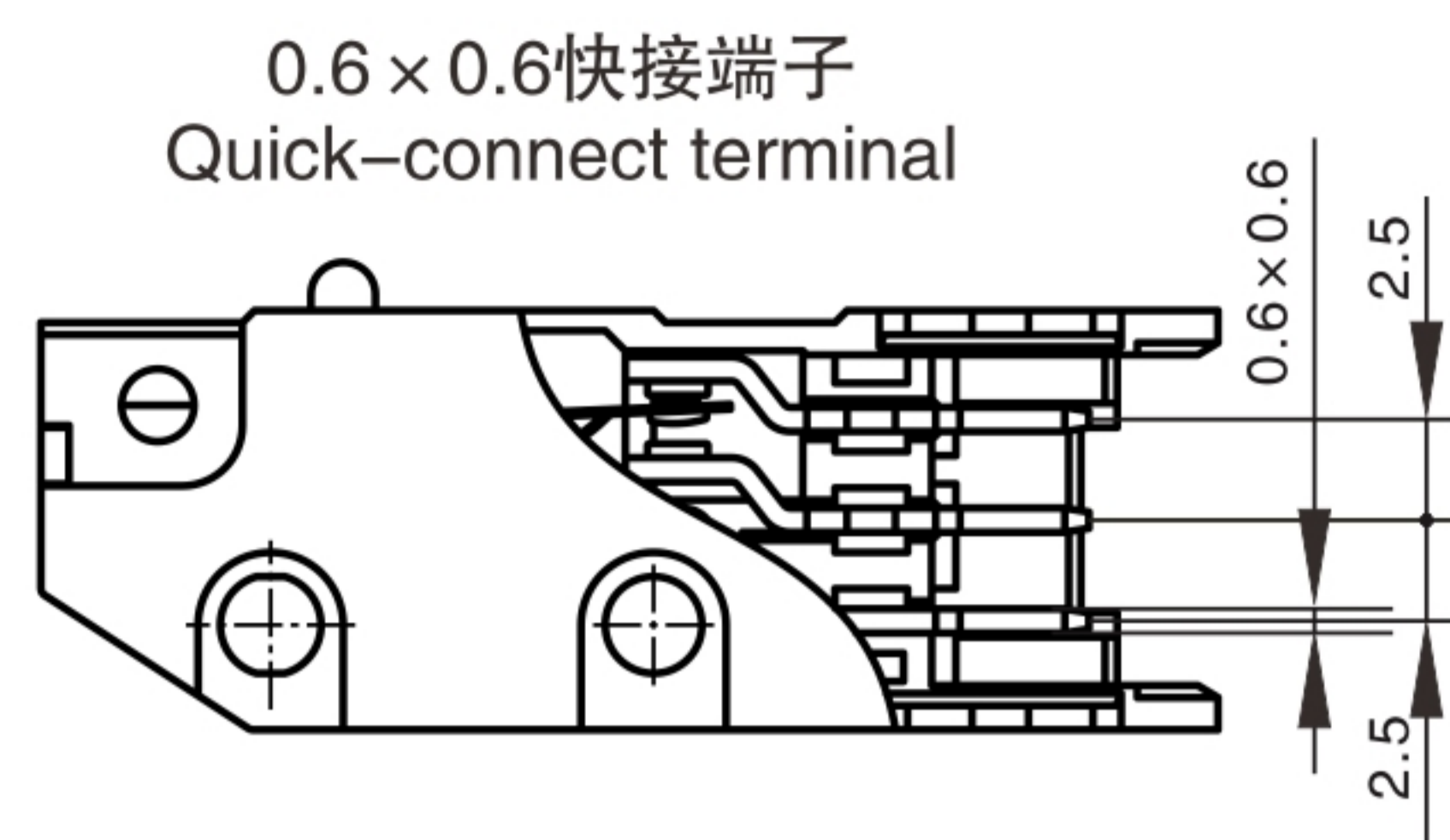
## ◆ 型號規格命名及含義 Model number legend and meanings

MS13□-□□□-□□-(□)  
1 2 3 4 5 6 7

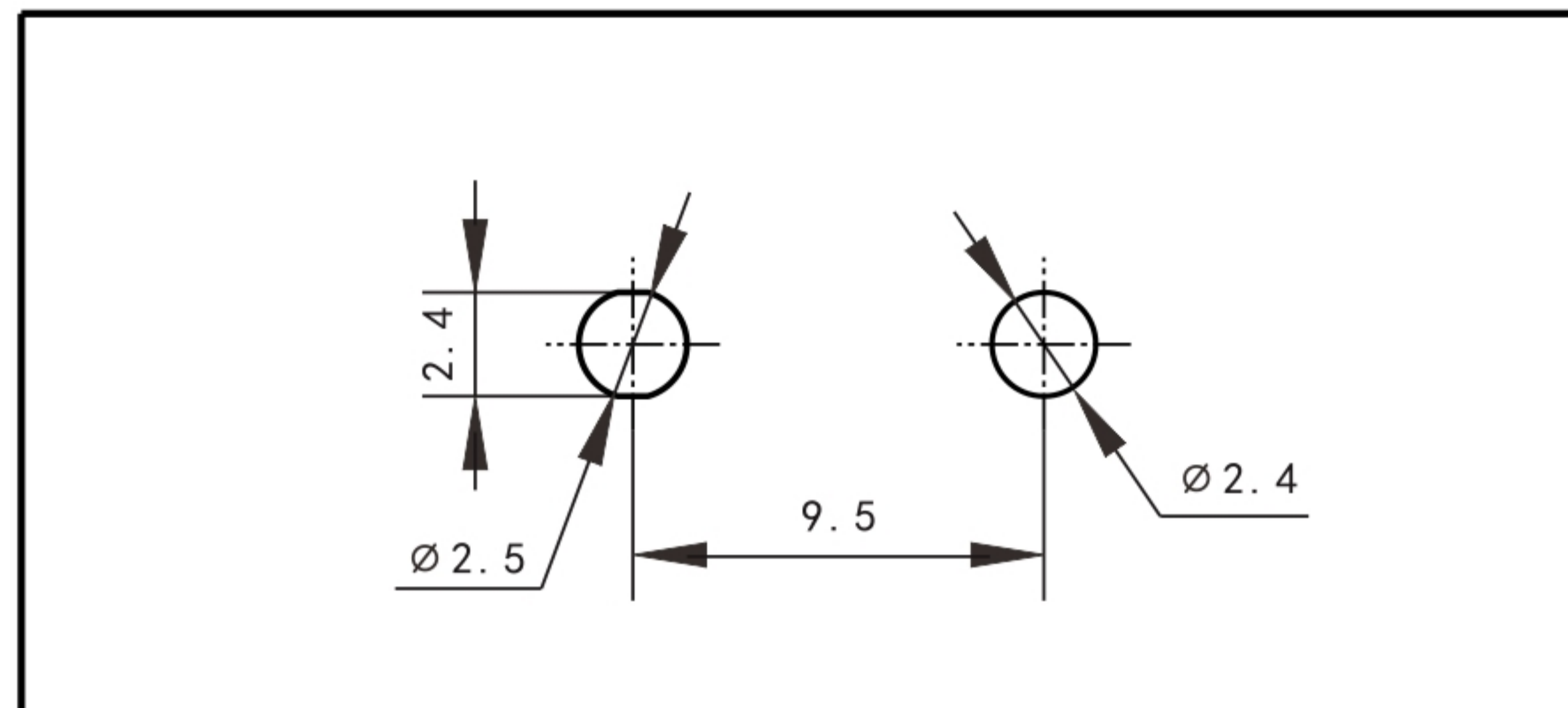
<b>1</b> 溫度等級 Degree of temperature	無標記: 25T125 No mark	<b>5</b> 端子類型 Terminal types	X: 0.6×0.6快接端子 Quick-connect terminal Y: 非標準端子 Not standard terminal
<b>2</b> 額定值 Rating	5:5(3)A 125/250VAC 2E4; 1A 30VDC 1E5; 5A 125/250VAC 5E4		<b>6</b> 動作力(MAX) Operating force
<b>3</b> 接觸形式 Circuit	Z:轉換式 SPDT T:常開(按通)式 SPST-NO D:常閉(按斷)式 SPST-NC (見說明圖 See illustration)	<b>7</b> 附加規格編號 Additional spec numbers	
<b>4</b> 驅動形式 Actuator forms	0-無動臂 No lever A1/1-短動臂 Short lever A2/2-長動臂 Long lever A3/3-中動臂 Middle lever A4/4-短滾輪臂 Short roller lever A5/5-長滾輪臂 Long roller lever A6/6-弧形動臂 Arc lever A□/□-非標準動臂Not standard lever 注: 1) A 表示動臂安裝在靠近按鈕位置, 無字母A表示動臂安裝在離按鈕較遠位置。 2) □表示非標準動臂的代號, 詳見動臂外形尺寸圖。 Note:1) A indicate the lever near to the plunger, no A indicate the lever far away from the plunger. 2)□ Indicate not standard lever, details see outline measurement drawings.		



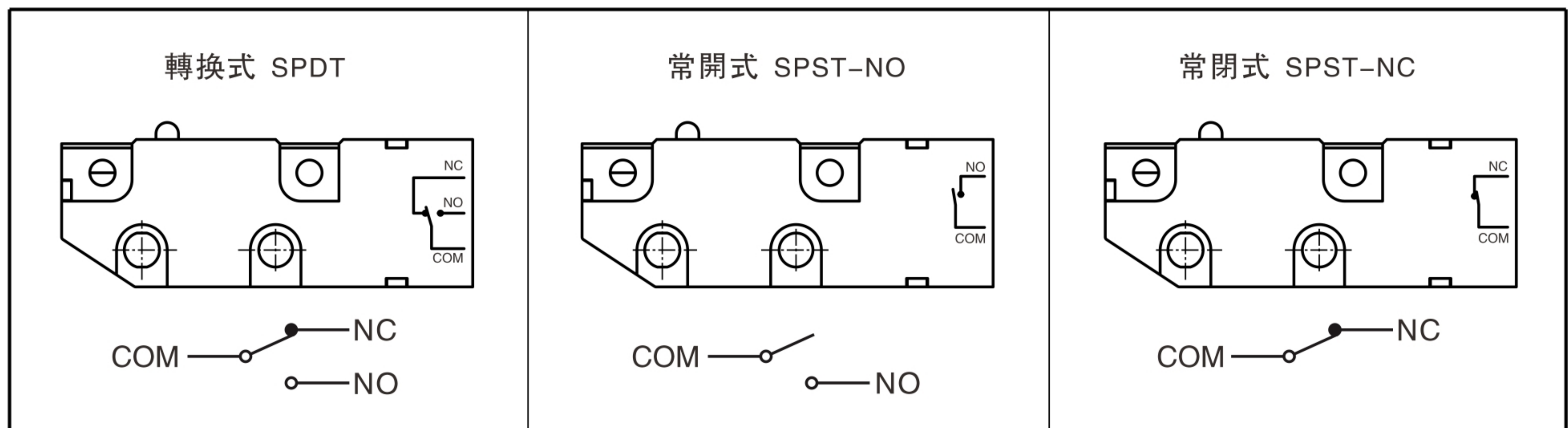
## ◆ 接線端尺寸 Terminal dimensions



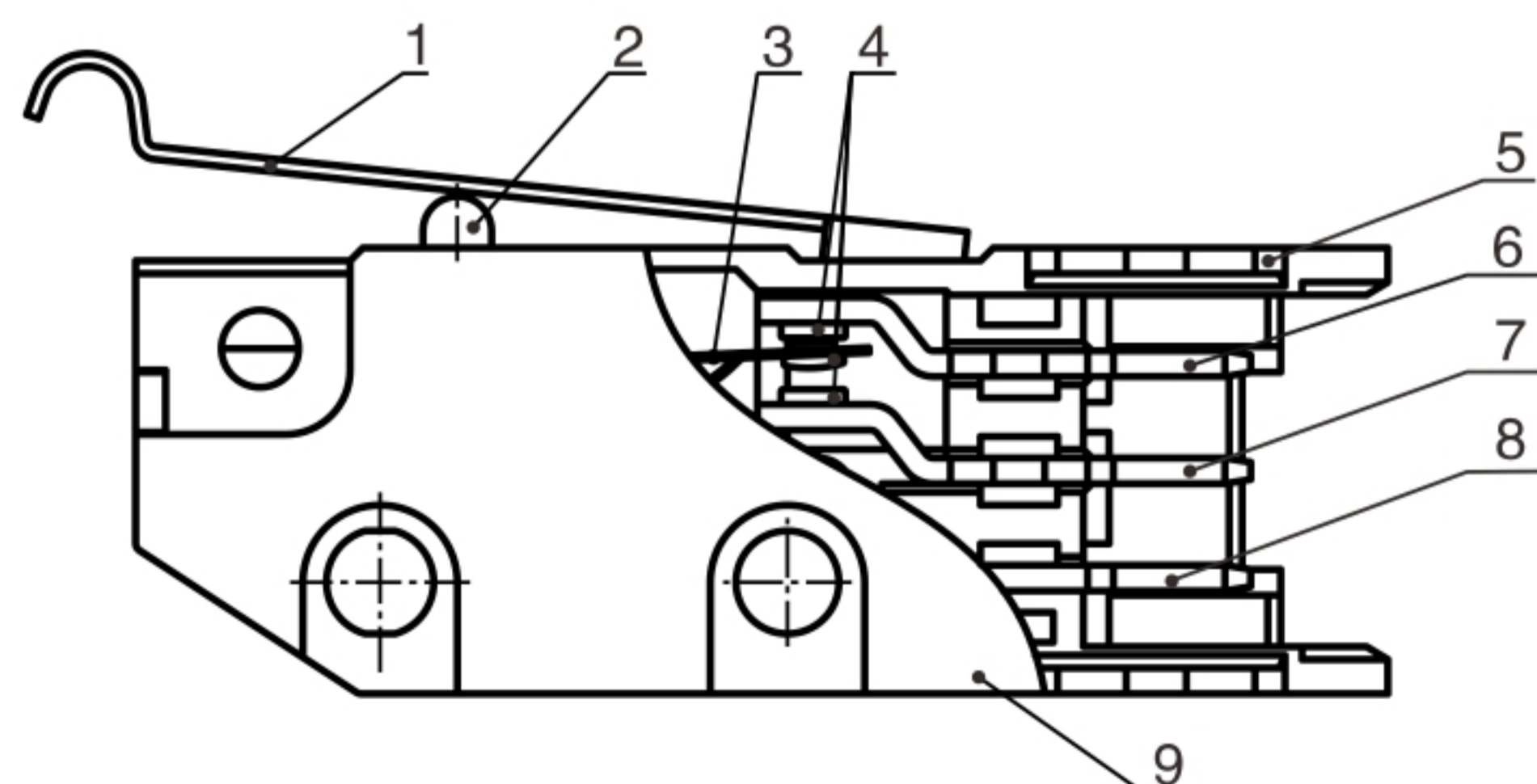
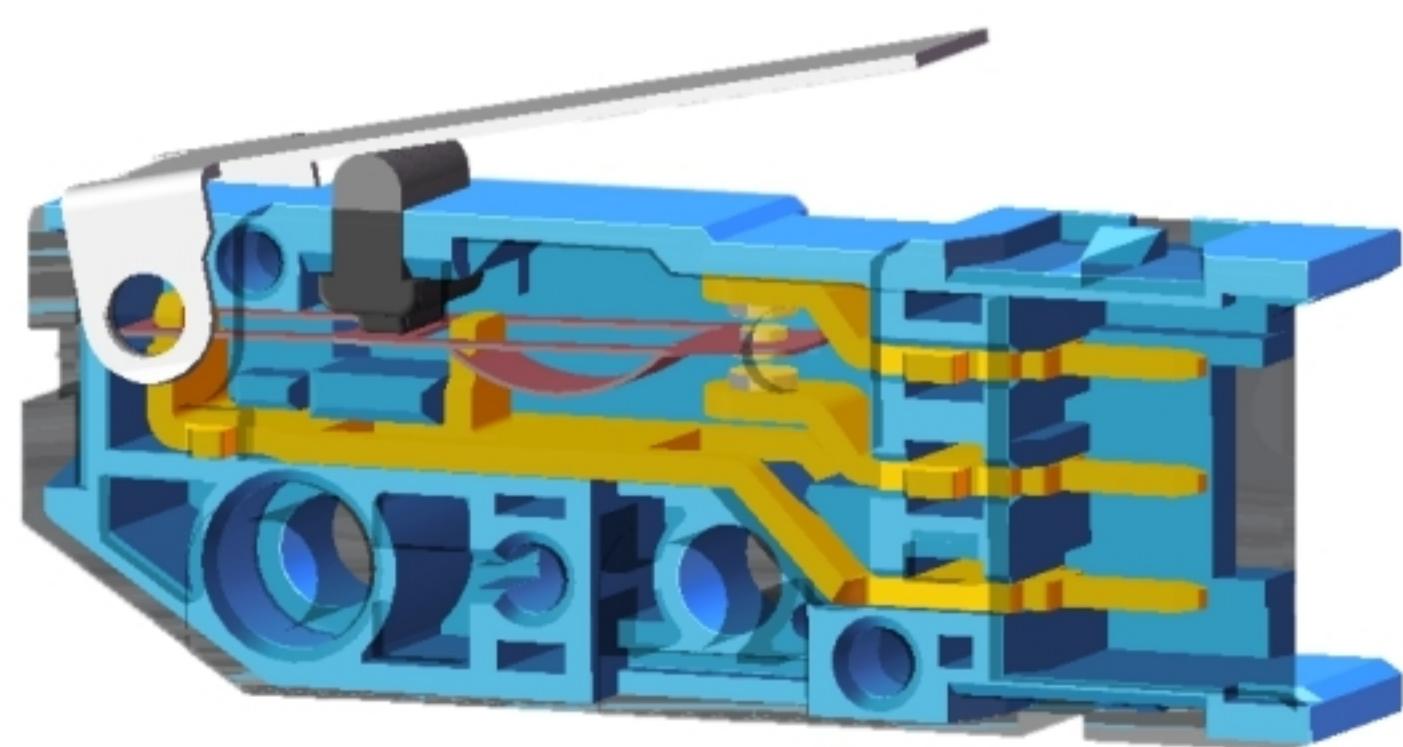
## ◆ 安裝孔尺寸 Mounting hole dimension



## ◆ 接觸形式說明圖 Circuit illustration



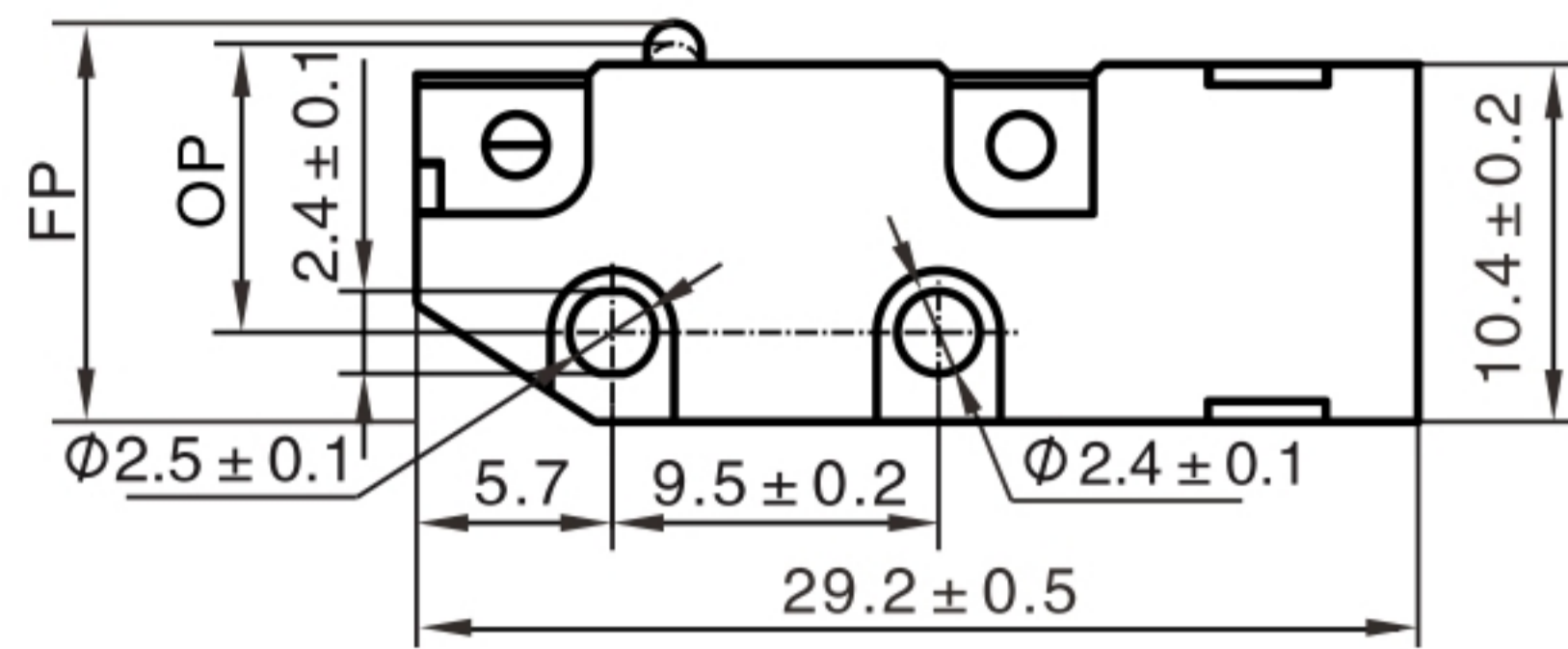
## ◆ 內部構造圖 Internal configuration drawing



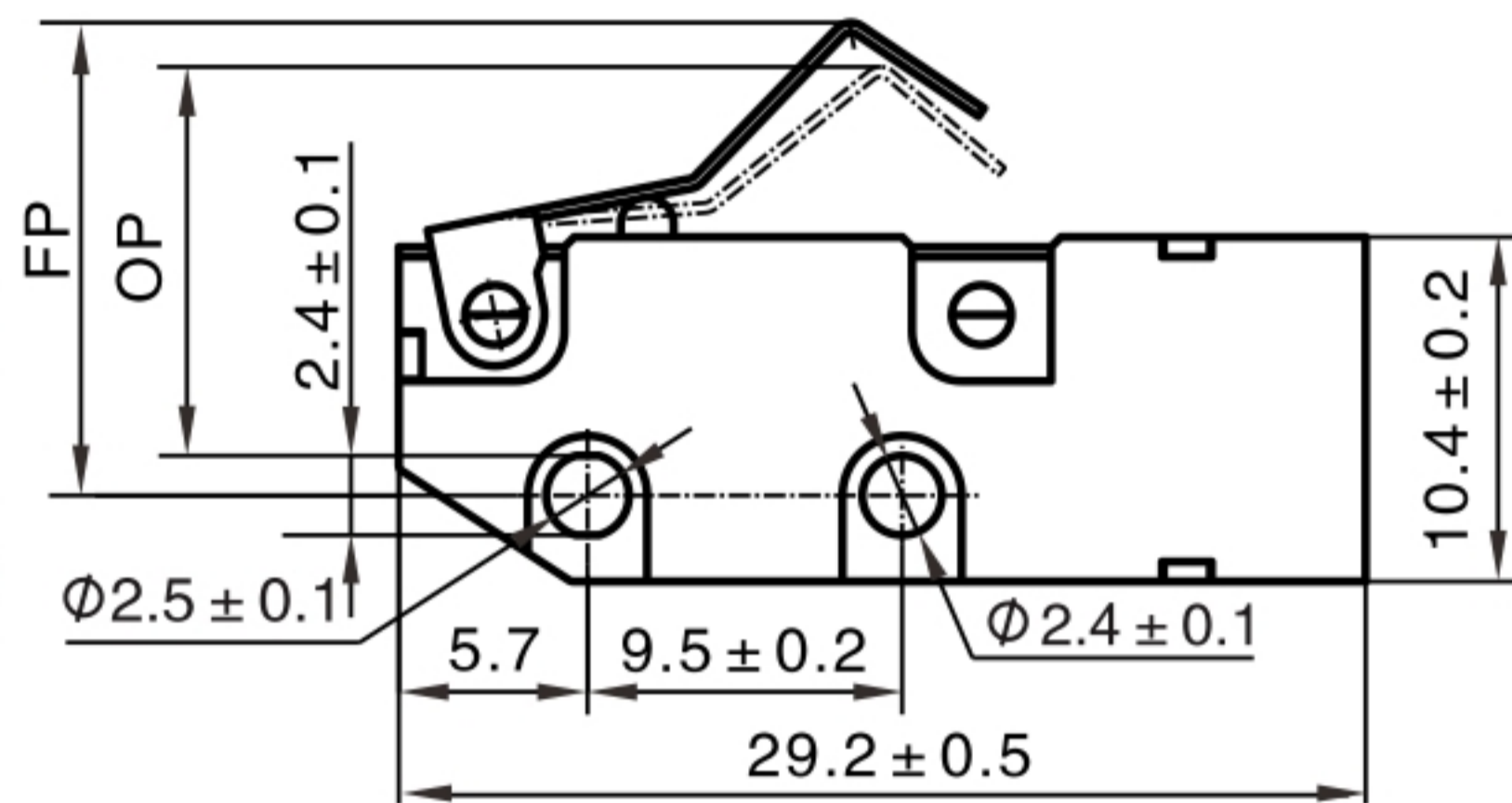
- |         |              |
|---------|--------------|
| 1: 動臂   | Lever        |
| 2: 按鈕   | Plunger      |
| 3: 可動片  | Moving piece |
| 4: 電觸點  | Contact      |
| 5: 底座   | Case         |
| 6: 常閉端子 | NO terminal  |
| 7: 常開端子 | NC terminal  |
| 8: 支架   | Support      |
| 9: 蓋    | Contact      |



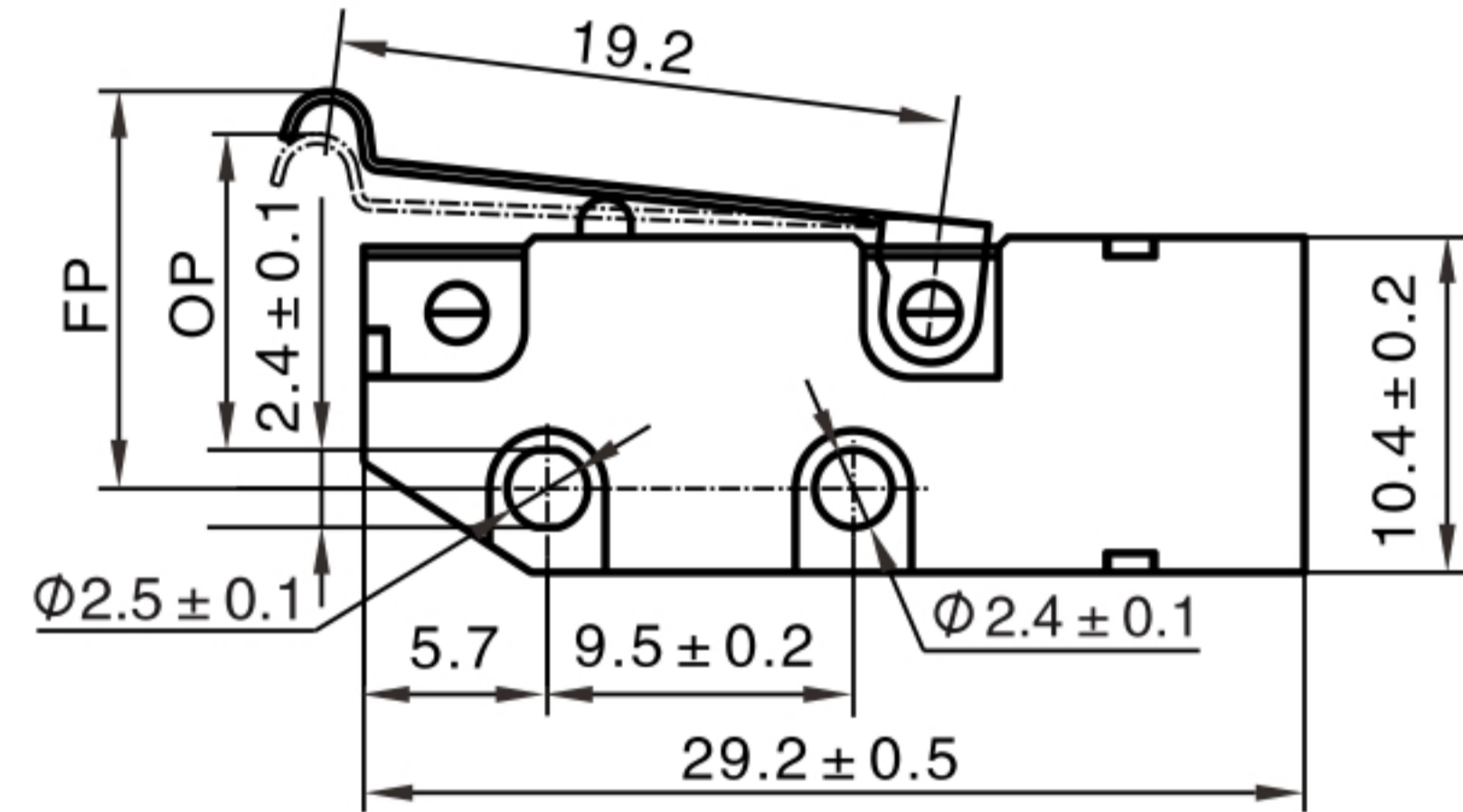
## ◆ 外形尺寸和動作特性 Dimensions and operating characteristics

MS13-5Z0-X130  
MS13-5Z0-X180

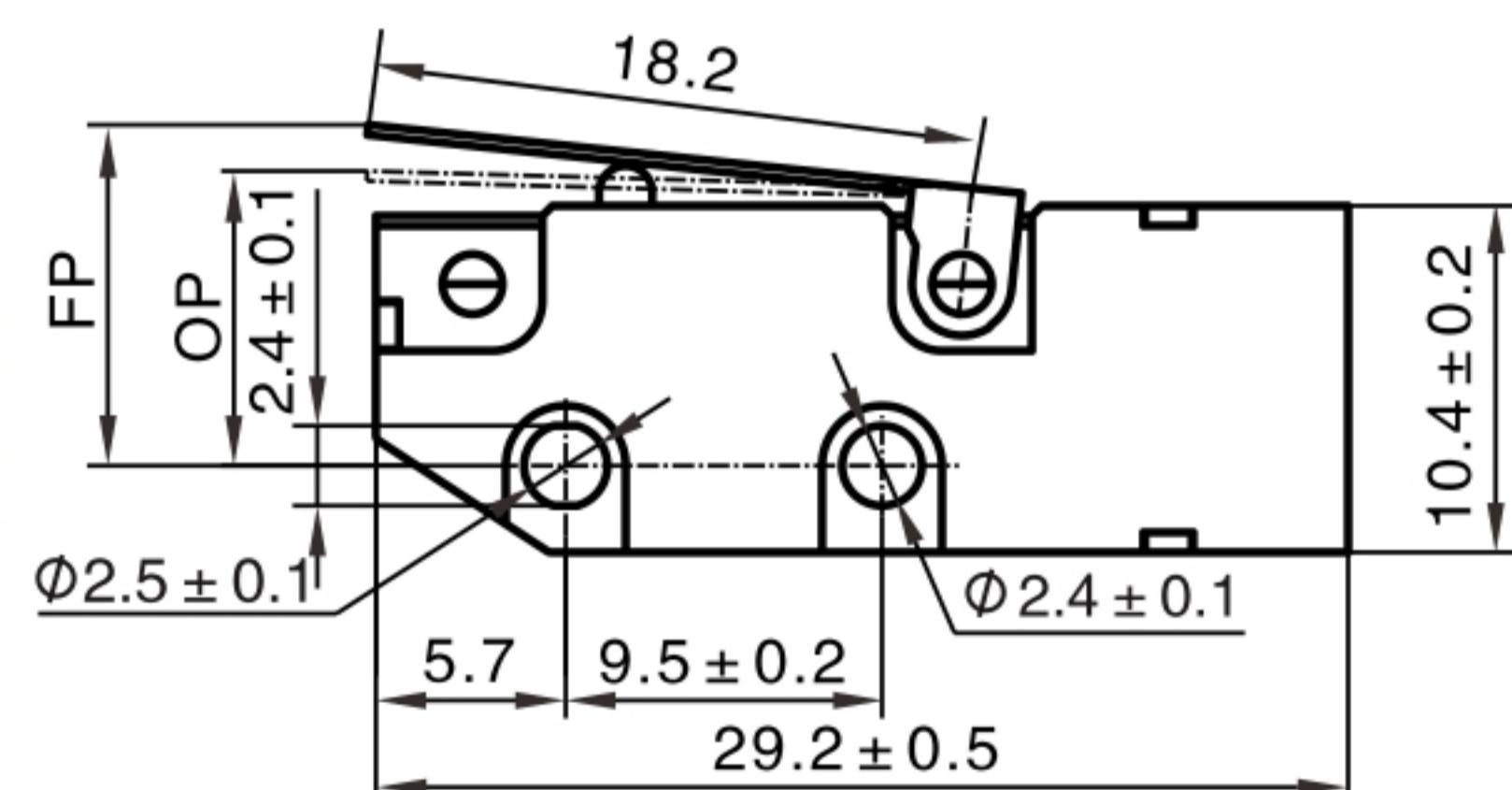
型號 Model	MS13-5Z0-X180	MS13-5Z0-X130
OF Max(N)	1.80	1.30
RF Min(N)	0.5	0.3
FP Max(mm)	9.0	
OT Min(mm)	0.4	
MD Max(mm)	0.1	
OP(mm)	8.4 ± 0.3	

MS13-5ZAA-X130  
MS13-5ZAA-X180

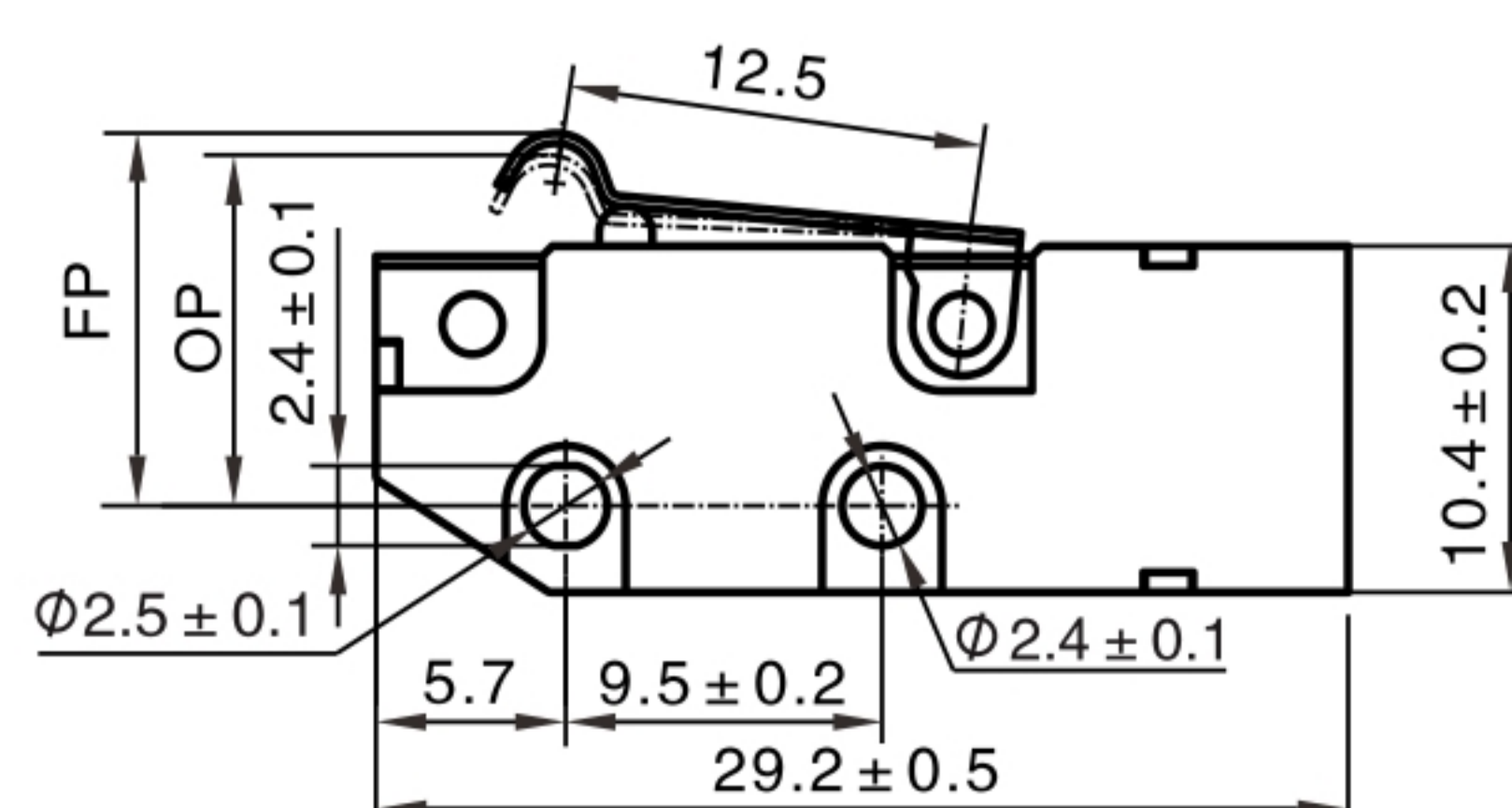
型號 Model	MS13-5ZAA-X180	MS13-5ZAA-X130
OF Max(N)	1.2	0.80
RF Min(N)	0.3	0.1
FP Max(mm)	14.5	
OT Min(mm)	1.0	
MD Max(mm)	0.5	
OP(mm)	12.8 ± 0.8	

MS13-5ZB-X130  
MS13-5ZB-X180

型號 Model	MS13-5ZB-X180	MS13-5ZB-X130
OF Max(N)	1.1	0.80
RF Min(N)	0.4	0.2
FP Max(mm)	12.2	
OT Min(mm)	0.6	
MD Max(mm)	0.5	
OP(mm)	10.6 ± 0.6	

MS13-5Z3-X130  
MS13-5Z3-X180

型號 Model	MS13-5Z3-X180	MS13-5Z3-X130
OF Max(N)	1.1	0.80
RF Min(N)	0.4	0.2
FP Max(mm)	10.0	
OT Min(mm)	0.6	
MD Max(mm)	0.5	
OP(mm)	9 ± 0.6	

MS13-5Z6-X130  
MS13-5Z6-X180

型號 Model	MS13-5Z6-X180	MS13-5Z6-X130
OF Max(N)	1.50	1.2
FP Max(mm)	0.5	0.3
RF Min(N)	11.2	
OT Min(mm)	0.6	
MD Max(mm)	0.3	
OP(mm)	10.5 ± 0.6	