

MS13 型微動開關系列 Micro switch series

◆ 特點和用途 Characteristic and usage

- 採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。

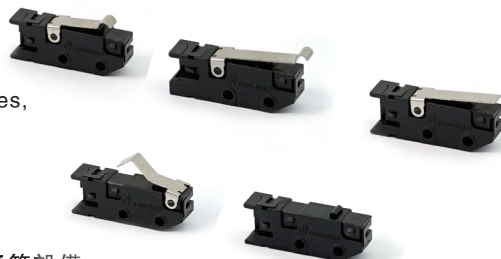
With two different mounting holes and various auxiliary operating handles, it can adapt to a variety of mounting methods.

- 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.

- 廣泛應用於辦公設備、家電設備、兒童座椅、智能遊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

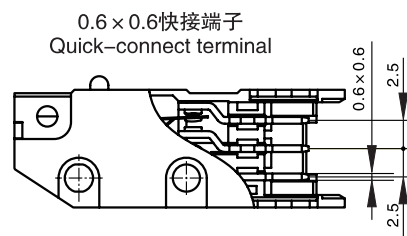
項目 Item		特性值 Value
工作速度(無負載) Operating speed (No load)		0.1mm ~ 1m/s(針狀按鈕位置)(Needle button position)
絕緣電阻 Insulation resistance		$\geq 100\text{M}\Omega$ (500VDC)
接觸電阻 Contact resistance		$\leq 100\text{m}\Omega$ (初始值 Initial value)
耐電壓 Test voltage	同極不相接端子間 Between terminals of the same polarity	AC1000V, 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		$\geq 20\text{N}$ (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	$\geq 500,000$ (通斷頻率60次/min) $\geq 500,000$ cycles (Operating Frequency 60 cycles/min)
	電氣壽命 Electrical life	≥ 5 萬次 (通斷頻率15次/min) $\geq 50,000$ 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

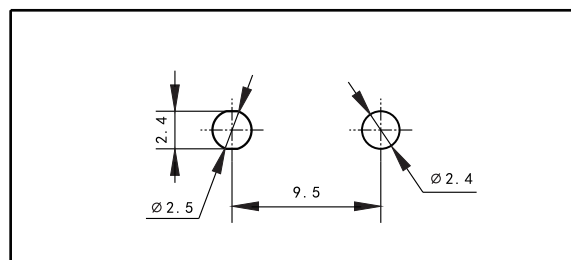
MS13 □ - □ □ □ - □ □ - (□)
1 2 3 4 5 6 7

1 溫度等級 Degree of temperature	無標記: 25T125 No mark	5 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
2 額定值 Rating	5:5(3)A 125/250VAC 2E4; 1A 30VDC 1E5; 5A 125/250VAC 5E4		6 動作力(MAX) Operating force
3 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)		
4 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.	7 附加規格編號 Additional spec numbers	適用於apply to: 1) 當開關使用了非標準零件如非標準端子時; When used not standard parts such as not standard terminal. 2) 當顧客有特殊動作特性值或其它要求時。 When customer has particular operating value or other requirements. 3)當外殼和按鈕顏色不是默認的黑色時。 附加規格編號用阿拉伯數字表示, 在沒有附加規格編號時, 該位置空缺。 When the cover and plunger color is not the default black. Additional specs number shows by Arabic numerals. If there is no additional numbers, the place is vacant.

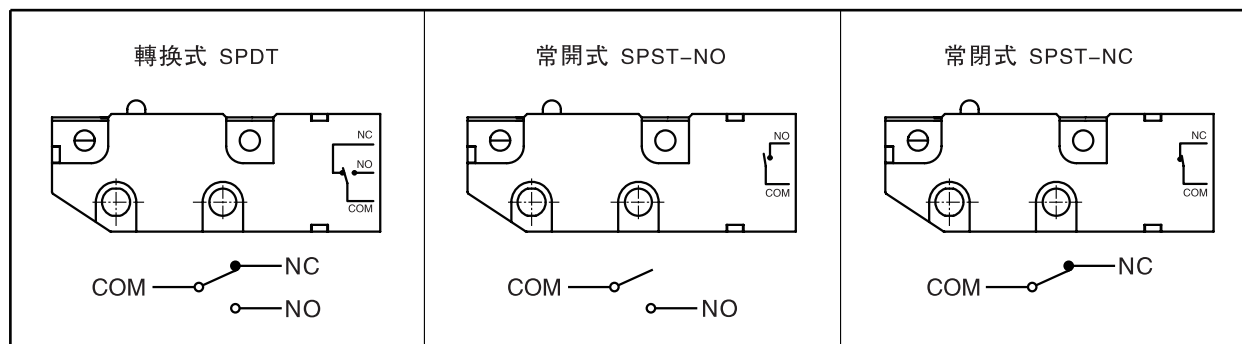
◆ 接線端尺寸 Terminal dimensions



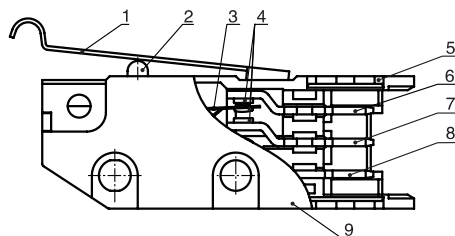
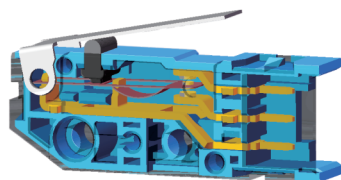
◆ 安裝孔尺寸 Mounting hole dimension



◆ 接觸形式說明圖 Circuit illustration



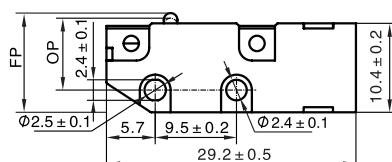
◆ 內部構造圖 Internal configuration drawing



- | | |
|---------|--------------|
| 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 |

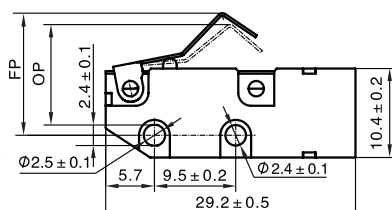
◆ 外形尺寸和動作特性 Dimensions and operating characteristics

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



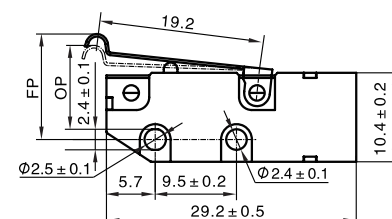
型號 Model	MS13-5Z0-X180	MS13-5Z0-X130
OF Max(N)	1.80	1.30
RF Min(N)	0.5	0.3
FP Max(mm)	9.0	
OT Min(mm)	0.4	
MD Max(mm)	0.1	
OP(mm)	8.4 ± 0.3	

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



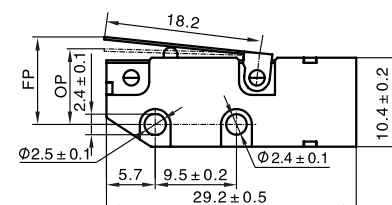
型號 Model	MS13-5ZAA-X180	MS13-5ZAA-X130
OF Max(N)	1.2	0.80
RF Min(N)	0.3	0.1
FP Max(mm)	14.5	
OT Min(mm)	1.0	
MD Max(mm)	0.5	
OP(mm)	12.8 ± 0.8	

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



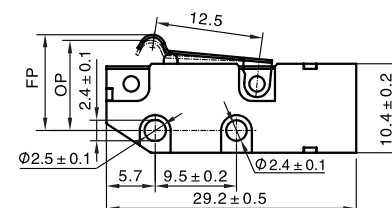
型號 Model	MS13-5ZB-X180	MS13-5ZB-X130
OF Max(N)	1.1	0.80
RF Min(N)	0.4	0.2
FP Max(mm)	12.2	
OT Min(mm)	0.6	
MD Max(mm)	0.5	
OP(mm)	10.6 ± 0.6	

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	