

MS9型微動開關系列 Micro switch series

◆ 特點和用途 Characteristic and usage

- 結構緊湊、接觸穩定可靠；廣泛應用于家用電器、電動工具、玩具、傳真機和報警器等。
Compact structure, stable and reliable contact, widely used in home appliances, power tools, toys, fax machines and alarms.
- 開關超行程在0.6mm以上
Switch over travel more than 0.6mm
- 點接觸穩定可靠
Point contact is stable and reliable
- 接線端子種類齊全，可配備各種導線。
A variety of contact terminals, provide with variety kinds of wire.
- 配備各種形式動臂
Variety of levers



◆ 技術特性 Specifications

項目 Item		特性值 Value
環境溫度 Environment temperature		-40 ~ +125℃
工作速度 Operating speed		30mm ~ 600mm/s (無動臂時No lever)
工作頻率 Operating frequency		機械 60次/min; 電氣 15次/min Mechanical 60 cycles/min; Electrical 15cycles/min
絕緣電阻 Insulation resistance		≥ 100MΩ (500VDC)
接觸電阻 Contact resistance		≤ 50mΩ
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、接線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 Vibration resistance		10 ~ 55Hz, 1.5mm 雙振幅 Double amplitude
抗衝擊 Shock resistance		耐久 Endurance: 1000m/s ² (約100G approx.100G)max 誤動作 Wrong action: 300m/s ² (約30G approx.30G)max
外殼防護等級 Case protection degree		IEC IP40
電氣壽命 Electrical life		≥ 10,000次cycles or ≥ 50,000次cycles
機械壽命 Mechanical life		≥ 1000,000次cycles

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

MS9 - □ □ □ - □ □ □ - (□)
 1 2 3 4 5 6 7

1 額定值 Ratings	A: 10.1AGP 125/250VAC 1/4hp 125VAC(UL) 10(4)A 250VAC(EN) 1E4 40T125 B: 6AGP 125/250VAC(UL) 6A 250VAC(EN) 5E4 40T125 C: 1AGP 125/250VAC(UL) 1A 250VAC(EN) 5E4 40T125 D: 0.1AGP 125/250VAC(UL) 0.1A 250VAC(EN) 5E4 40T125	4 端子類型 Terminal types	R:右側面PCB端子 Right side PCB terminal T:110快接端子 110 quick-connect Y:非標準端子 Not standard terminal
	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)	5 動作力(MAX) Operating force	070: 0.7 N 150: 1.5 N 250: 2.5 N 300: 3 N 注: 若是非標準動作力, 用此動作力上限值表示。 Note: if it is not standard operating force, indicate with the upper limit.
2 接觸形式 Circuit	0: 無動臂 No lever 1: 短直動臂 Short straight lever 2: 長直動臂 Long straight lever 3: 中直動臂 Middle straight lever 5: 滾輪動臂 Roller lever 6: 弧形動臂 Arc lever □ 非標準動臂 Not standard lever	6 安裝構造 installation structure	無標記:無定位銷 No fixing pin L:左側面固定銷 Left side fixing pin R:右側面固定銷 Right side fixing pin
		7 附加規格編號 Arabic numerals	特殊要求 (用兩位阿拉伯數字表示) Special Requirements (Shows by two Arabic numerals)
3 驅動形式 Actuator forms			
4 端子類型 Terminal types	F: 焊接端子 Solder terminal P: PCB端子 1 (0.6 × 0.5) PCBterminal 1 (0.6 × 0.5) B: PCB端子 2 (1.3 × 0.5) PCBterminal 2 (1.3 × 0.5) L: 左側面PCB端子 Left side PCB terminal		

◆ 接線端尺寸 Terminal dimensions

F: 焊接端子 solder terminal	P: PCB端子1 (0.6×0.5) PCB terminal 1	B: PCB端子2 (1.3×0.5) PCB terminal 2
L: 左側面PCB端子 Left side PCB terminal	R: 右側面PCB端子 Right side PCB terminal	T: 110快接端子 Quick connect terminal #110

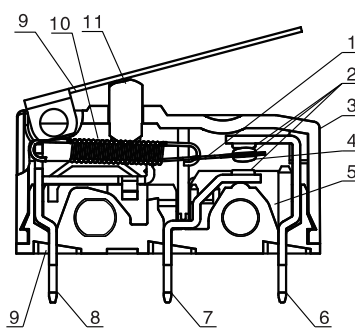
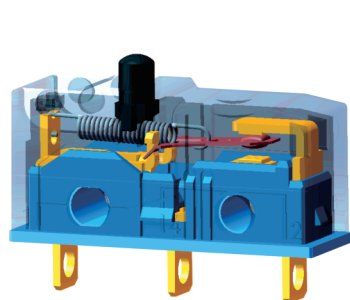
◆ 安裝孔尺寸 Mounting hole dimension

安裝孔安裝 Mounting holes	PCB端子安裝 PCB terminal	左/右側面PCB端子 Left/Right Side Terminals

◆ 接觸形式說明圖 Circuit illustration

轉換式 SPDT	常開式 SPST-NO	常閉式 SPST-NC

◆ 內部構造圖 Internal configuration drawing



- | | |
|---------|--------------|
| 1: 可動片 | Moving piece |
| 2: 電觸點 | Contact |
| 3: 蓋 | Cover |
| 4: 基座 | Case |
| 5: 常閉端子 | NC terminal |
| 6: 常開端子 | NO terminal |
| 7: 支架 | Support |
| 8: 環氧樹脂 | Epoxy resin |
| 9: 動臂 | Lever |
| 10: 拉簧 | Pull spring |
| 11: 按鈕 | Plunger |

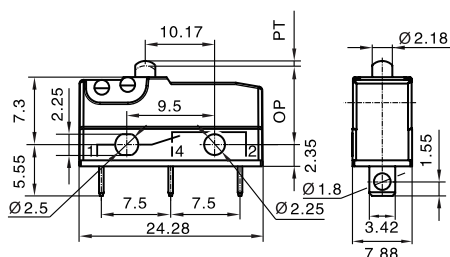
◆ 外形尺寸和動作特性 Dimensions and operating characteristics

MS9-□Z0-F100

MS9-□Z0-F150

MS9-□Z0-F250

MS9-□Z0-F300



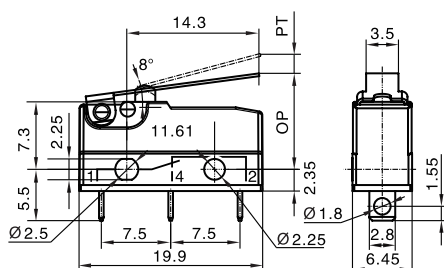
型號 Model	MS9-□Z0-F100	MS9-□Z0-F150	MS9-□Z0-F250	MS9-□Z0-F300
OF Max(N)	1.00	1.50	2.50	3.00
RF Min(N)	0.10	0.35	0.40	0.60
PT Min(mm)	1.1			
OT Min(mm)	0.6			
MD Max(mm)	0.2			
OP(mm)	8.4 ± 0.3			

MS9-□Z3-F100

MS9-□Z3-F150

MS9-□Z3-F250

MS9-□Z3-F300



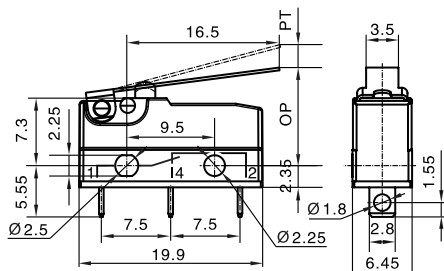
型號 Model	MS9-□Z3-F100	MS9-□Z3-F150	MS9-□Z3-F250	MS9-□Z3-F300
OF Max(N)	0.45	0.60	1.00	1.20
RF Min(N)	0.03	0.08	0.10	0.15
PT Min(mm)	4.00	4.00	4.50	4.50
OT Min(mm)	2.00	2.00	1.50	1.50
MD Max(mm)	0.80	0.80	0.80	0.80
OP(mm)	10.7 ± 1.3	10.7 ± 1.3	10.7 ± 1.6	10.7 ± 1.6

MS9-□Z2-F100

MS9-□Z2-F150

MS9-□Z2-F250

MS9-□Z2-F300



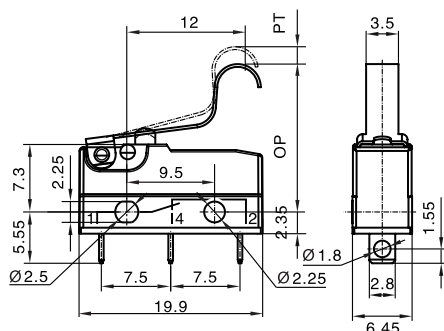
型號 Model	MS9-□Z2-F100	MS9-□Z2-F150	MS9-□Z2-F250	MS9-□Z2-F300
OF Max(N)	0.40	0.50	0.85	1.10
RF Min(N)	0.02	0.06	0.08	0.12
PT Min(mm)	4.50	4.50	5.00	5.00
OT Min(mm)	2.00	2.00	1.50	1.50
MD Max(mm)	1.20	1.20	1.20	1.20
OP(mm)	11.1 ± 1.5	11.1 ± 1.5	11.1 ± 1.8	11.1 ± 1.8

MS9-□Z6-F100

MS9-□Z6-F150

MS9-□Z6-F250

MS9-□Z6-F300



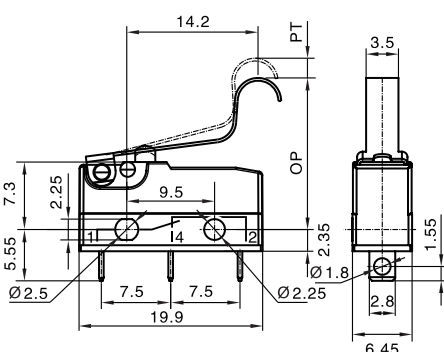
型號 Model	MS9-□Z6-F100	MS9-□Z6-F150	MS9-□Z6-F250	MS9-□Z6-F300
OF Max(N)	0.50	0.65	0.95	1.30
RF Min(N)	0.03	0.08	0.12	0.16
PT Min(mm)	4.00	4.00	4.50	4.50
OT Min(mm)	2.00	2.00	1.50	1.50
MD Max(mm)	0.70	0.70	0.70	0.70
OP(mm)	16.0 ± 1.3	16.0 ± 1.3	16.0 ± 1.6	16.0 ± 1.6

MS9-□ZA-F100

MS9-□ZA-F150

MS9-□ZA-F250

MS9-□ZA-F300



型號 Model	MS9-□ZA-F100	MS9-□ZA-F150	MS9-□ZA-F250	MS9-□ZA-F300
OF Max(N)	0.45	0.60	0.95	1.20
RF Min(N)	0.03	0.08	0.11	0.15
PT Min(mm)	4.50	4.50	5.00	5.00
OT Min(mm)	2.00	2.00	1.50	1.50
MD Max(mm)	1.00	1.00	1.00	1.00
OP(mm)	16.4 ± 1.5	16.4 ± 1.5	16.4 ± 1.8	16.4 ± 1.8