

## WS8型防水開關系列 Waterproof switch series

### ◆ 特點和用途 Characteristic and usage

- 業界產品體形最小、防塵、防水。採用雙面滑動接觸結構，接觸可靠、抗衝擊能力強。  
Smallest size in micro-switch industry, dustproof, waterproof. Double-sided sliding contact structure, reliable contact, strong impact resistance.
- 外殼備有無柱、單側和雙側柱子，可滿足不同的安裝要求。  
The case is equipped with columnless, single side and double side columns to meet different installation requirements.
- 接線端子種類齊全，可配備符合負載要求的導線。  
All kinds of wiring terminals can be equipped with wires that meet the load requirements.
- 可在汽車側門、後備箱、引擎蓋和家電中使用。  
Can be used in car side doors, trunk, hood and home appliance.



### ◆ 技術特性 Specifications

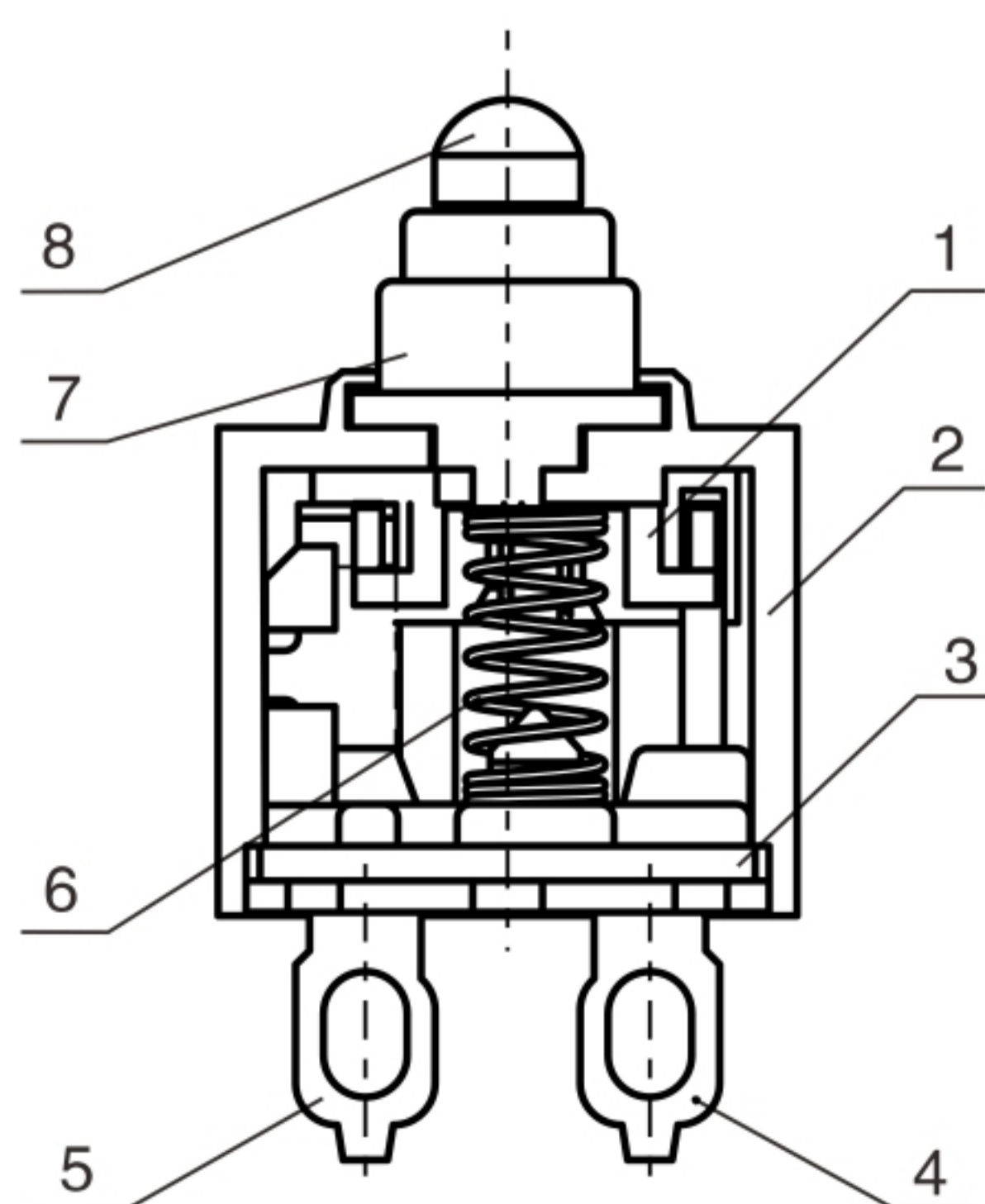
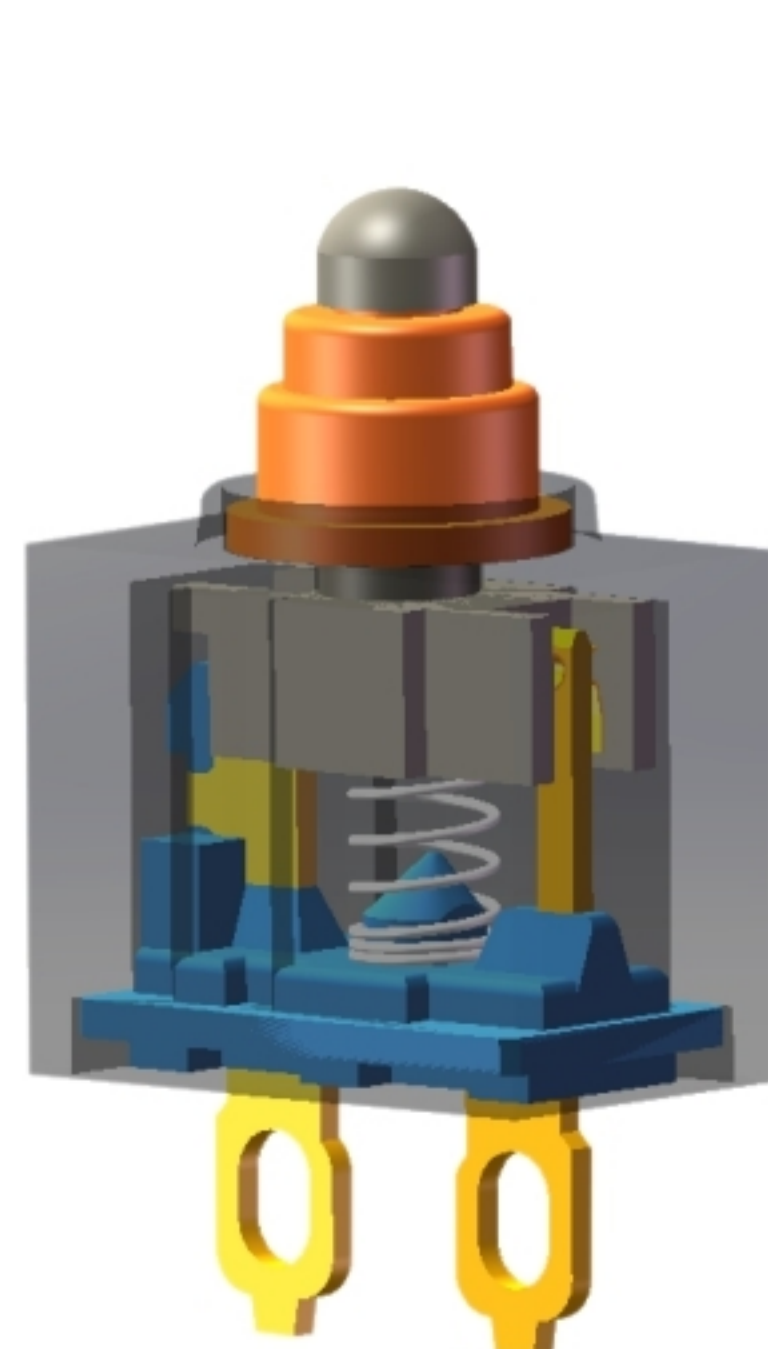
項目 Item	特性值 Value	
環境溫度 Environment temperature	-45 ~ +85°C	
相對溫度 Relative temperature	95%, 40°C	
額定值 Rating	0.1A 12V DC ; 50 μA 5V DC	
工作速度 Operating speed	1mm ~ 500mm/s (無動臂時 No lever)	
工作頻率 Operating frequency	機械 60次/min; 電氣 25次/min Mechanical 60 cycles/min; Electrical 25cycles/min	
絕緣電阻 Insulation 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	AC500V, 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.	AC500V, 50/60Hz, 1min
抗振動 Vibration resistance	10 ~ 55Hz, 1.5mm 雙振幅 Double amplitude	
抗衝擊 Shock resistance	最小Min.: 294m/s <sup>2</sup> (30G) 接觸故障持續時間不超過1ms Contact opening max. 1 msec.	
防觸電保護等級 Electric shock proof protection degree	I 級 class	
外殼防護等級 Cover protection degree	IEC IP67 (不包括外露端子部分) IEC IP67 (except exposed terminals)	
電氣壽命 Electrical life	機械 ≥ 300,000次 Mechanical ≥ 300,000cycles 電氣 ≥ 300,000次 Electrical ≥ 300,000cycles	
安全認證 Safety approvals	UL, TUV, CQC	

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

WS8 - □ - □ □ □ - □ - ( □ )  
1 2 3 4 5 6

<p><b>1</b> 接觸形式 Circuit</p>	<p>T:常開(按通)式 SPST-NO D:常閉(按斷)式 SPST-NC (見說明圖 See illustration)</p>	<p><b>4</b> 安裝構造 Installation structure</p>	<p>C:雙面各有2凸臺 There are 2 convex platform on both sides D:無柱無凸臺,底部4個小腳 No column and no convex platform, 4 small feet at the bottom. (見說明圖 See illuminations)</p>																		
<p><b>2</b> 端子類型 Terminal types</p>	<p>F:焊接端子 Solder terminal P:PCB端子 PCB terminal A:側面端子之一 One of the side terminal B:側面端子之二 The other of the side terminal Y:非標準端子 Non-standard terminal W:導綫型 Wire type C:壓入式 (見說明圖 See illuminations)</p>	<p><b>5</b> 導綫型端子導綫方向及長度 Direction and length of conductor type terminal</p>	<p>D□:導綫在開關下方引出; The wire leads out below the switch L□:導綫在開關左側引出; The wire leads out to the left of the switch R□:導綫在開關右側引出。 The wire leads out to the right of the switch (□為導綫長度毫米數) (□shows the wire lenth mm)</p>																		
<p><b>3</b> 動作力(MAX) Operating force</p>	<p>150: 1.5N ( 0.5N—1.5N ) 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.</p>	<p><b>6</b> 附加規格代號及導綫顏色配置代號 Additional specs code and wire color code</p>	<p>適用於apply to: ■ 表示有特殊要求,如非標準端子,特殊的動作特性值等。用二位阿拉伯數字表示。 ■ indicates that there are special requirements, such as not standard terminals and special operation characteristic values, which are shows as two Arabic numerals. ■ 導綫配置為非默認顏色:用二個英文字母按NC、NO順序表示導綫顏色配置(顏色代號見表1) ■ Non-default color for the wire configuration: shows as two letters NC.NO to indicate the wire color configuration (see sheet 1 for color codes).</p> <table border="1" data-bbox="1261 1613 1899 1738"> <tr> <td>顏色 color</td> <td>紅</td> <td>白</td> <td>藍</td> <td>黑</td> <td>綠</td> <td>黃</td> <td>灰</td> <td>紫</td> </tr> <tr> <td>代號 code</td> <td>R</td> <td>W</td> <td>L</td> <td>B</td> <td>G</td> <td>M</td> <td>H</td> <td>P</td> </tr> </table>	顏色 color	紅	白	藍	黑	綠	黃	灰	紫	代號 code	R	W	L	B	G	M	H	P
顏色 color	紅	白	藍	黑	綠	黃	灰	紫													
代號 code	R	W	L	B	G	M	H	P													
<p><b>4</b> 安裝構造 Installation structure</p>	<p>A:單面有2固定柱 There are 2 fixed columns on one side. B:無柱無凸臺 No column and no convex platform.</p>		<p>導綫型開關的引綫顏色默認配置規格如下: The insidious color of wire type switches is configured as follows 常閉端引綫NC: X色(待定)To be determined 常開端引綫NO: X色(待定)To be determined ■ 若同時有附加規格代號和導綫顏色代號,則導綫顏色代號位于附加規格代號之後。 If both additional specification code and wire color code exist, the wire color code comes after the additional specification code</p>																		

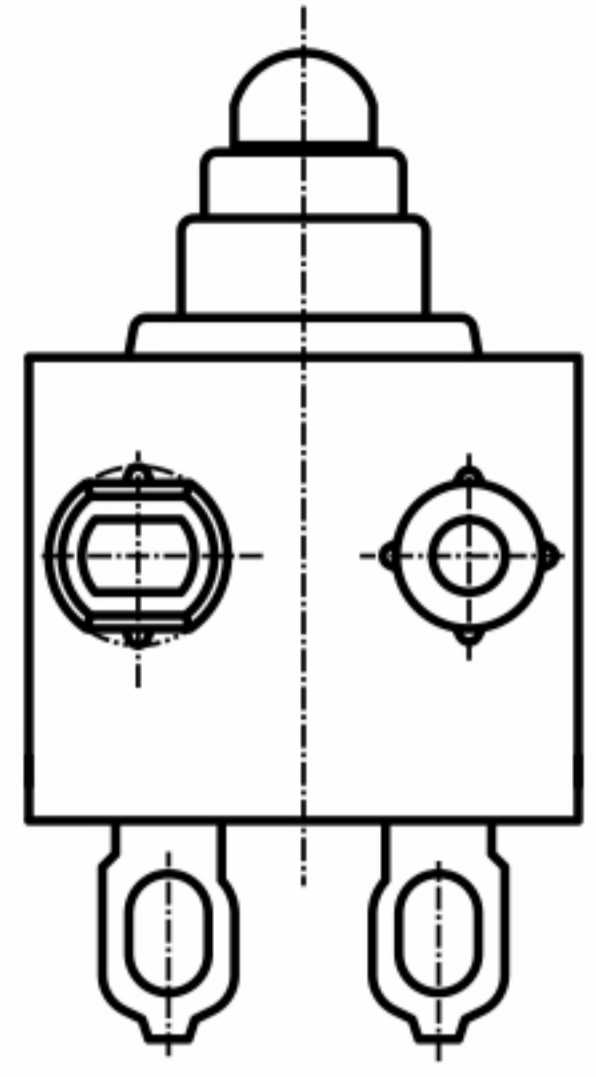
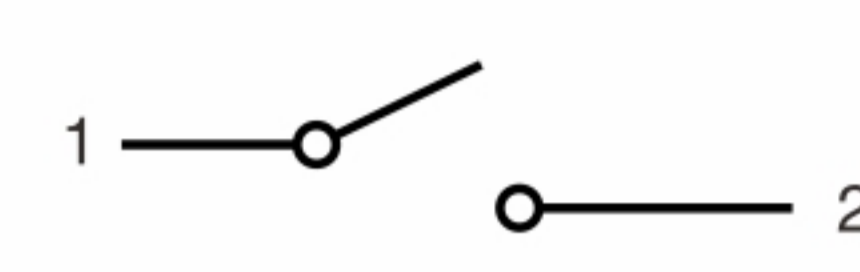

◆ 內部構造圖 Internal configuration drawing



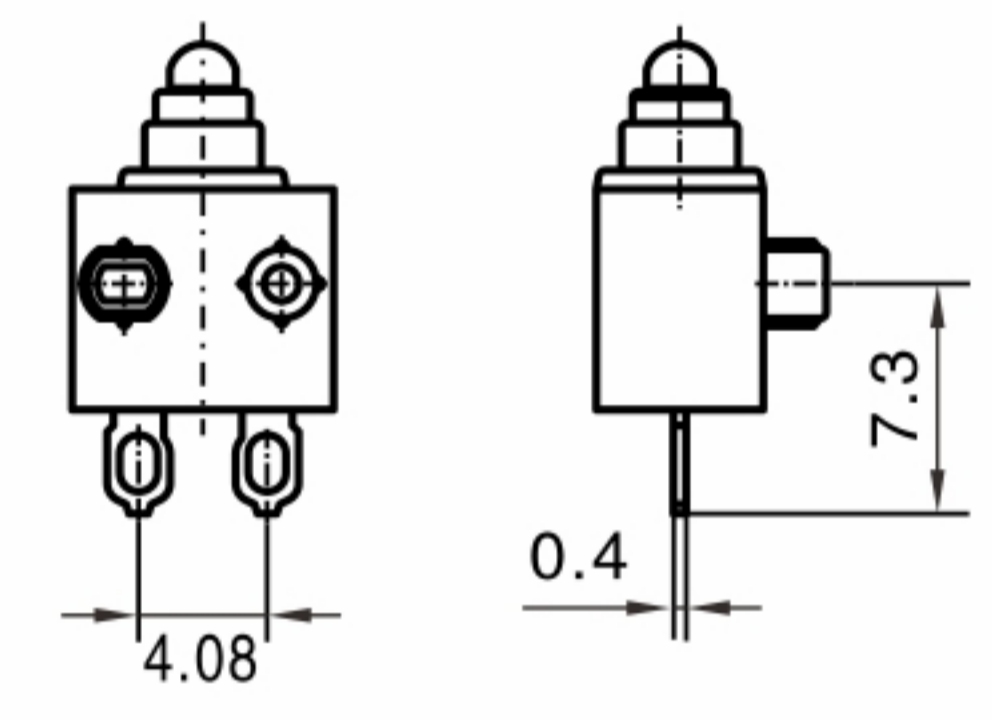
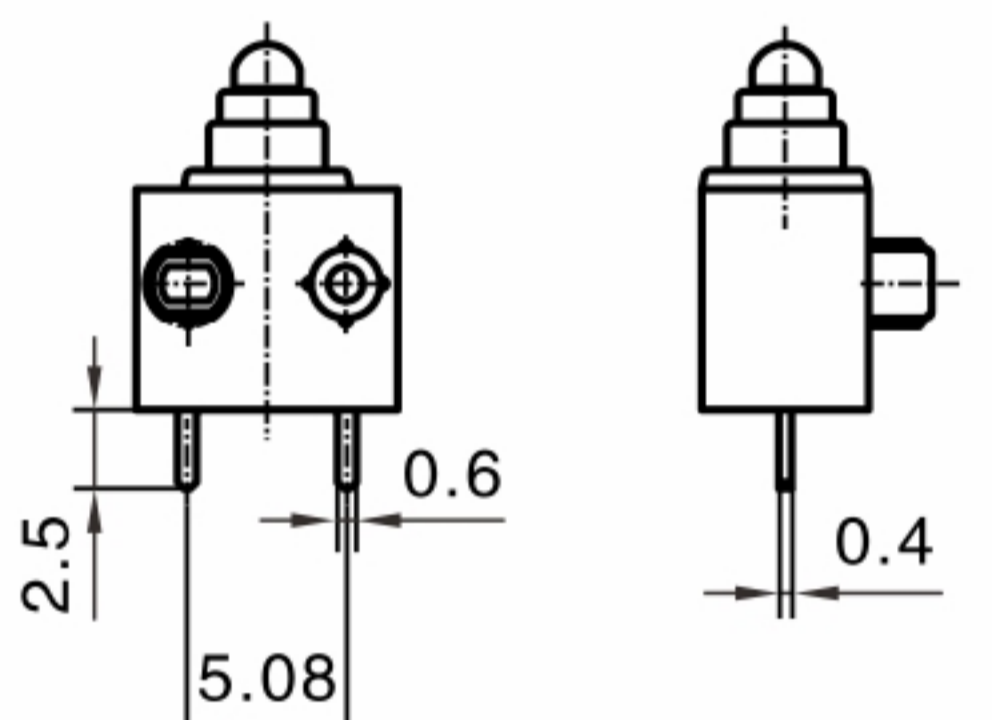
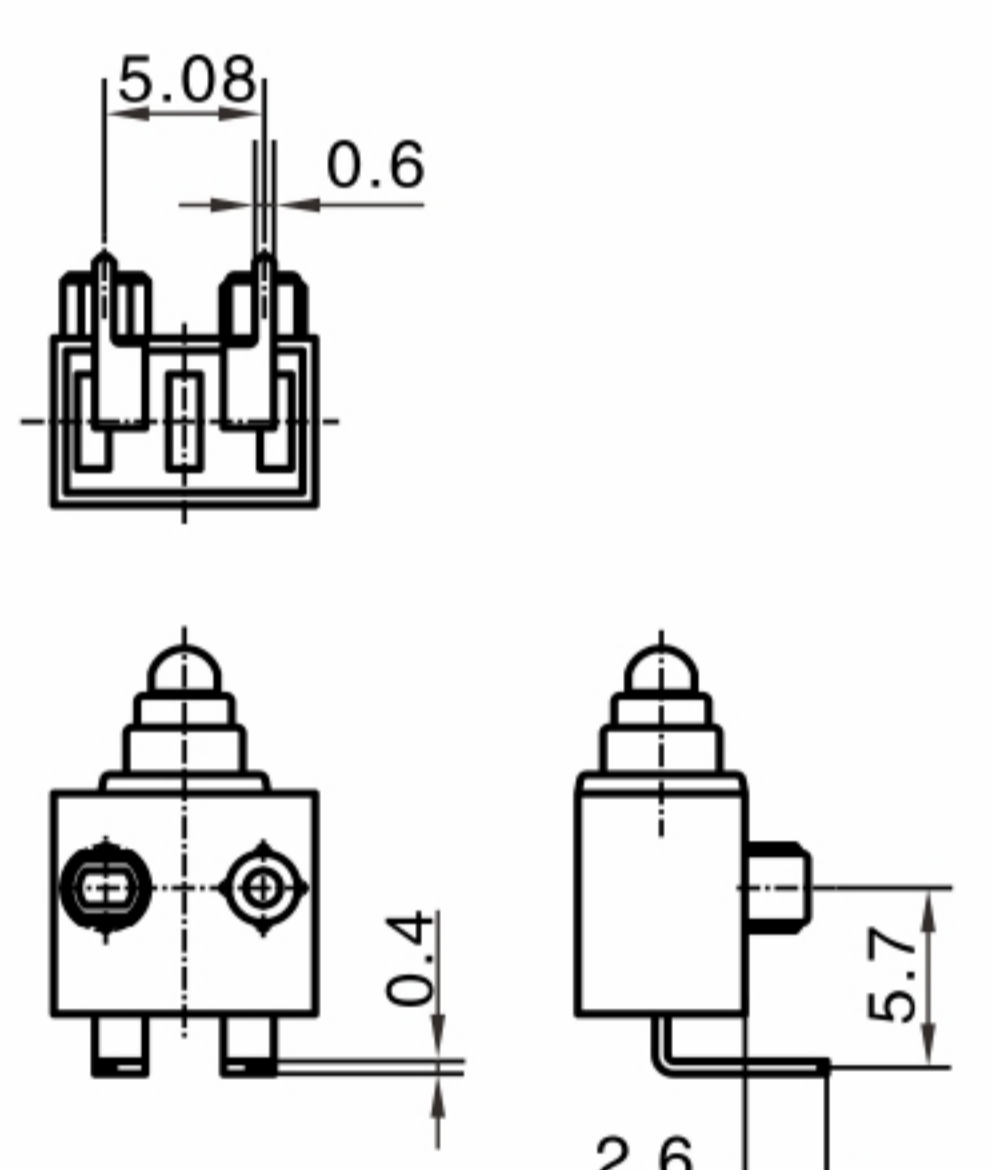
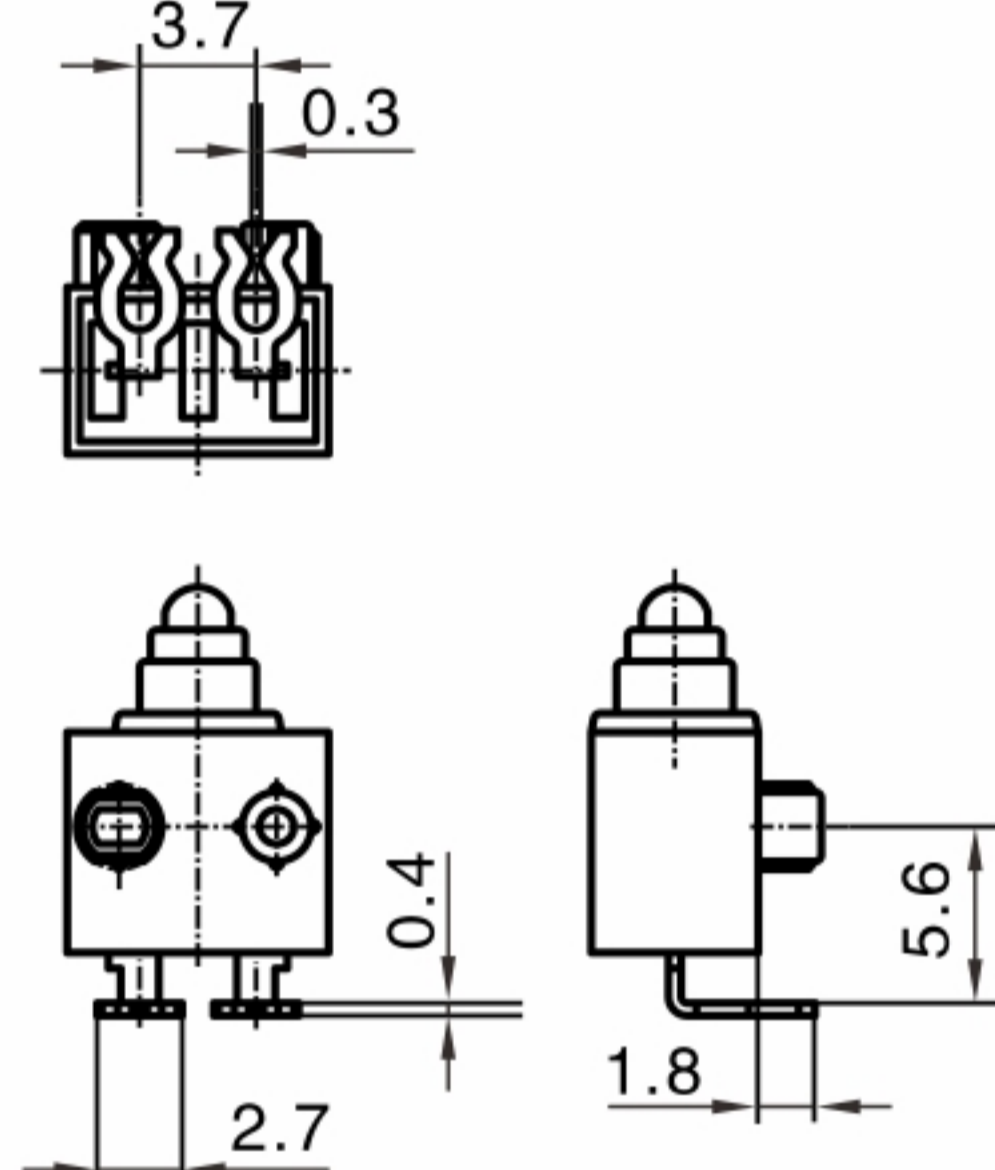
- 1: 可動片 Moving piece
- 2: 外殼 Base
- 3: 底座 Case
- 4: 端子 Terminal
- 5: 常開/常閉端子 NO terminal/NC terminal
- 6: 彈簧 Spring
- 7: 密封圈 Hermetic loop
- 8: 按鈕 NO terminal

To provide a safe and reliable on-off service, let electric appliances more perfect

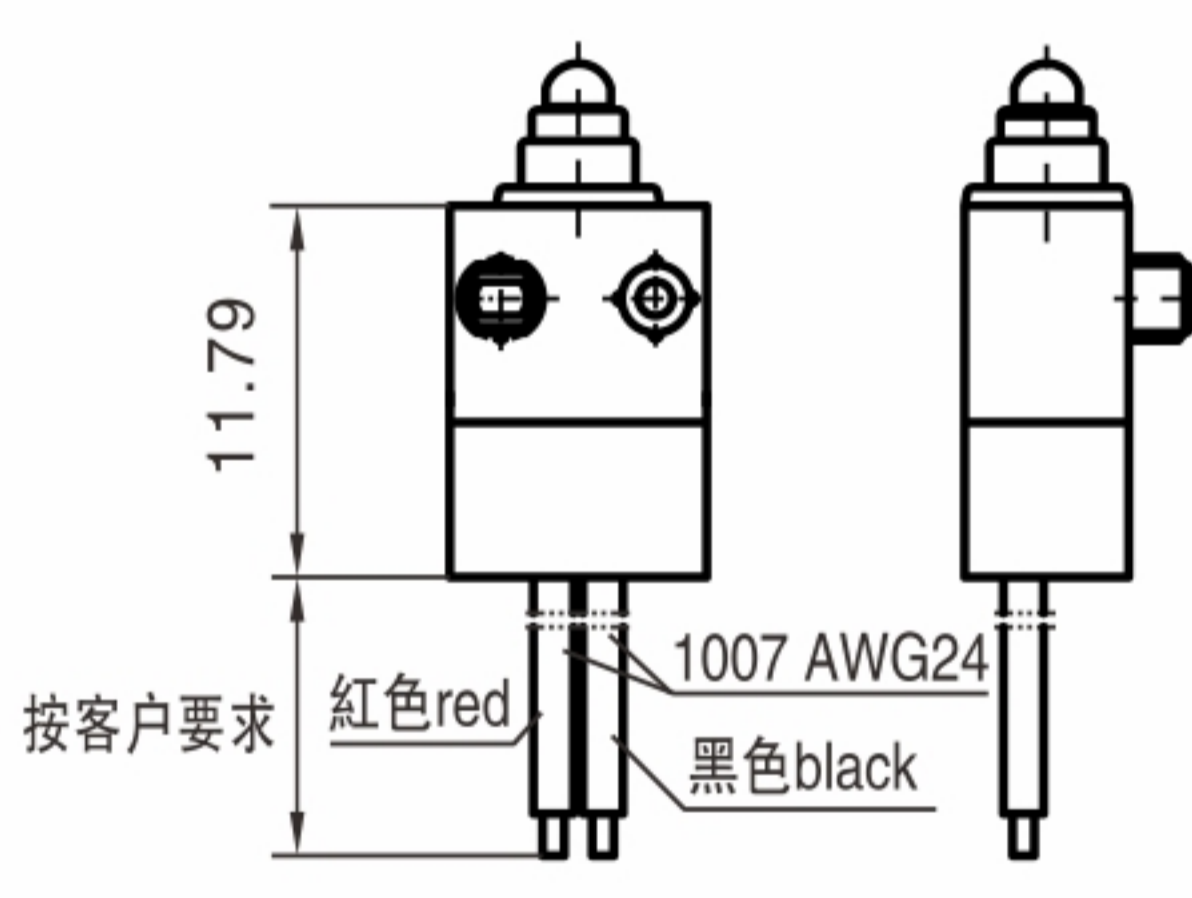
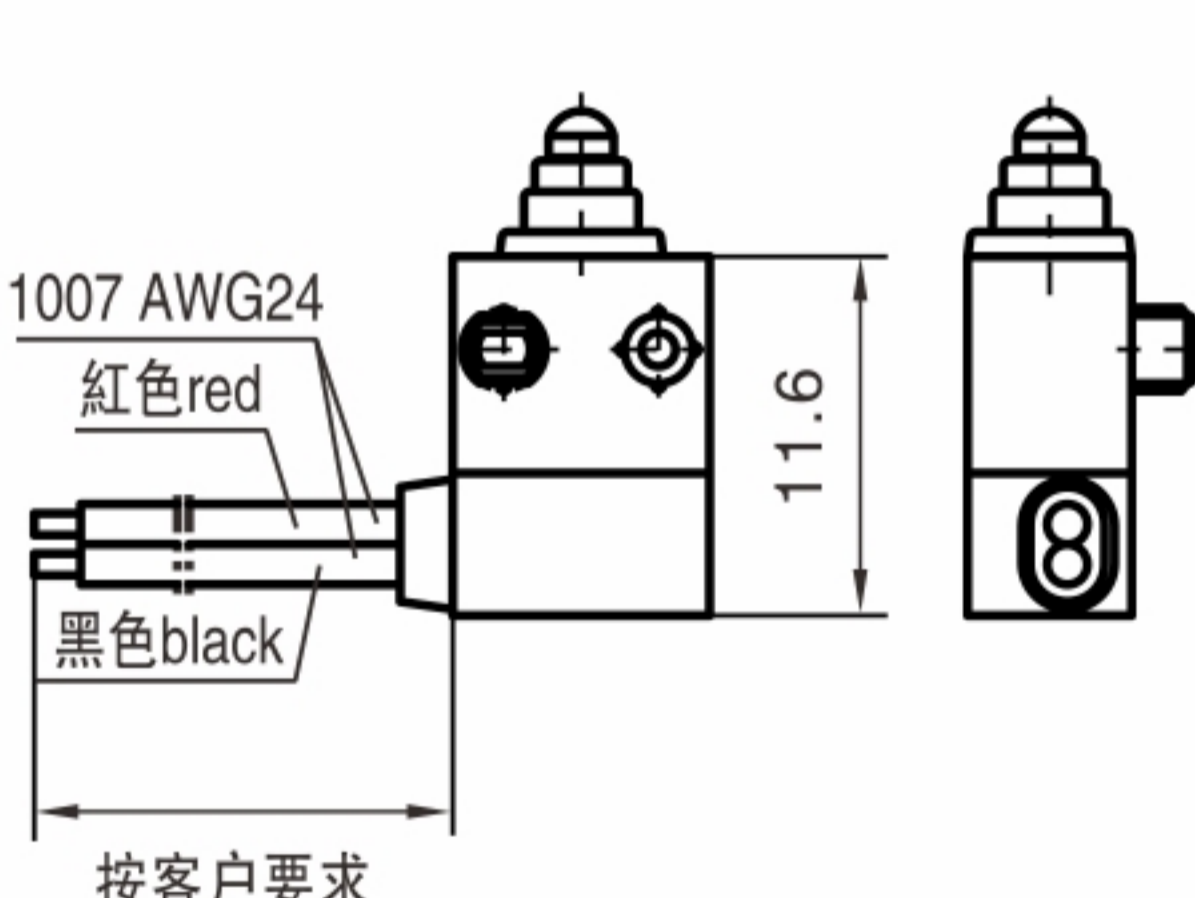
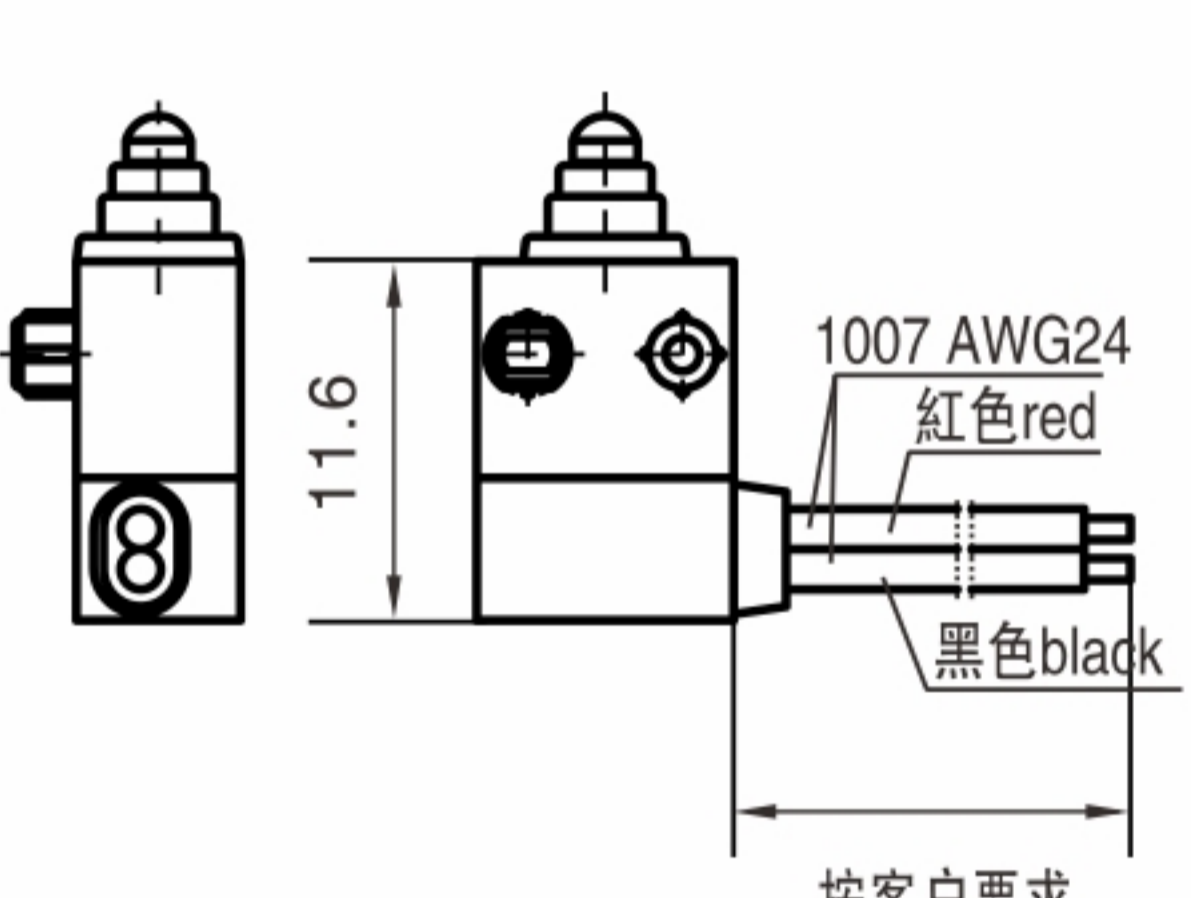
◆ 接觸形式說明圖 Circuit illustration

	常開式 SPST-NO	常閉式 SPST-NC
		

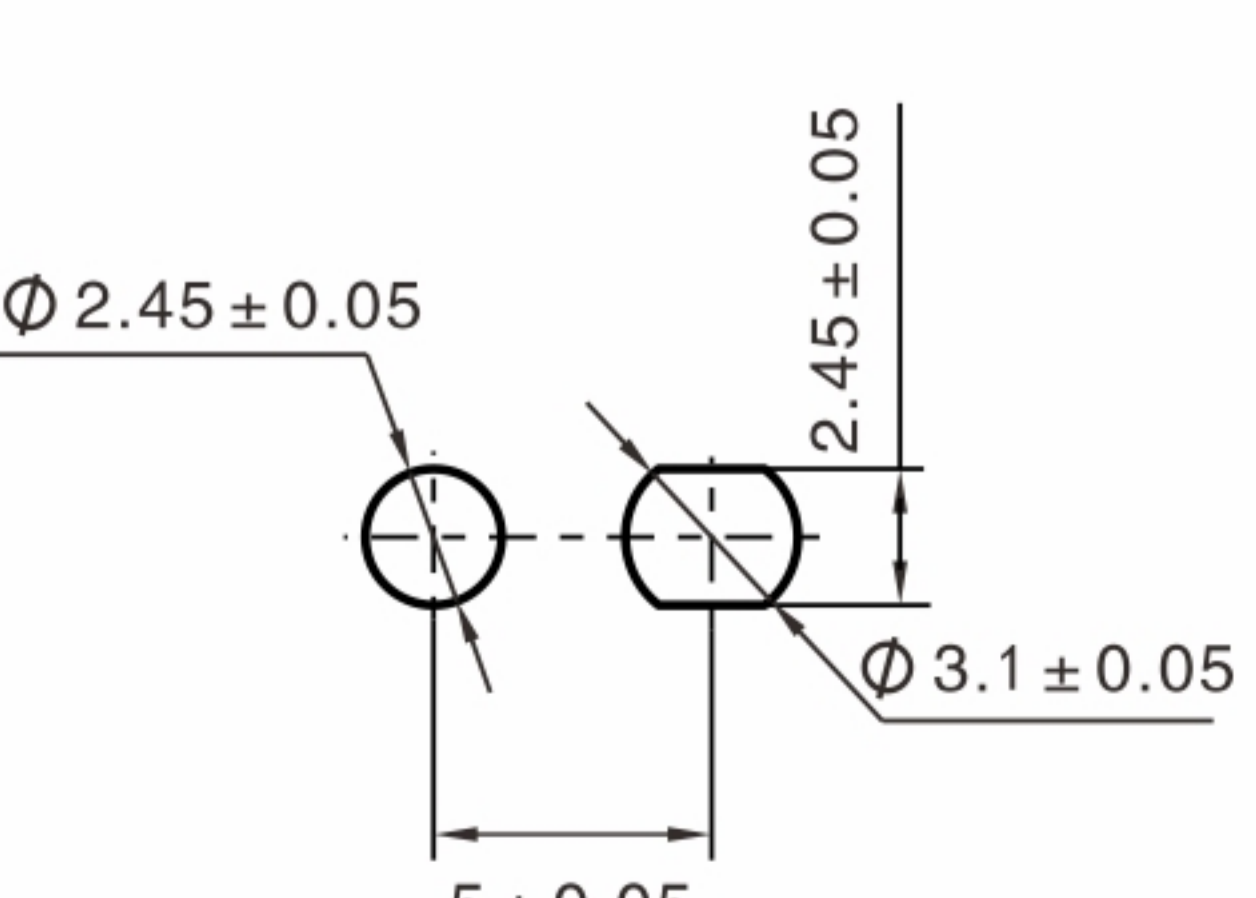
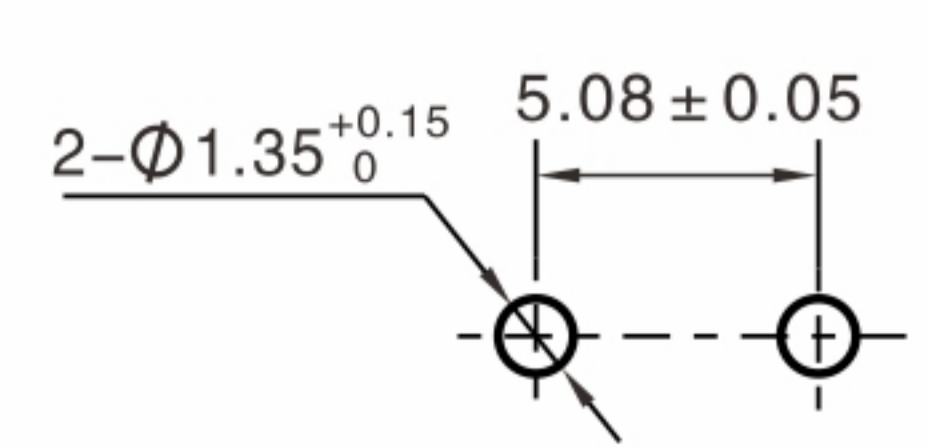
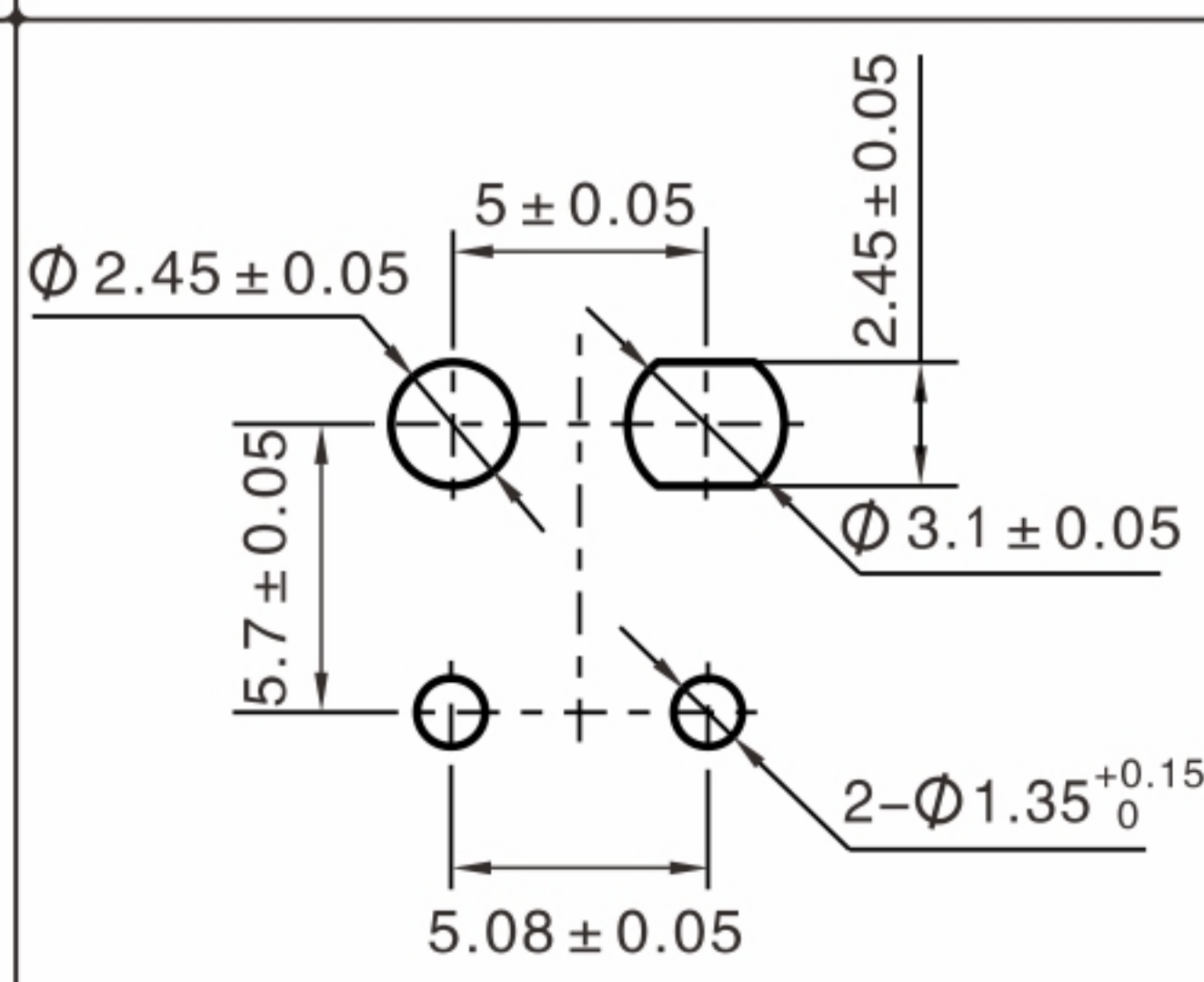
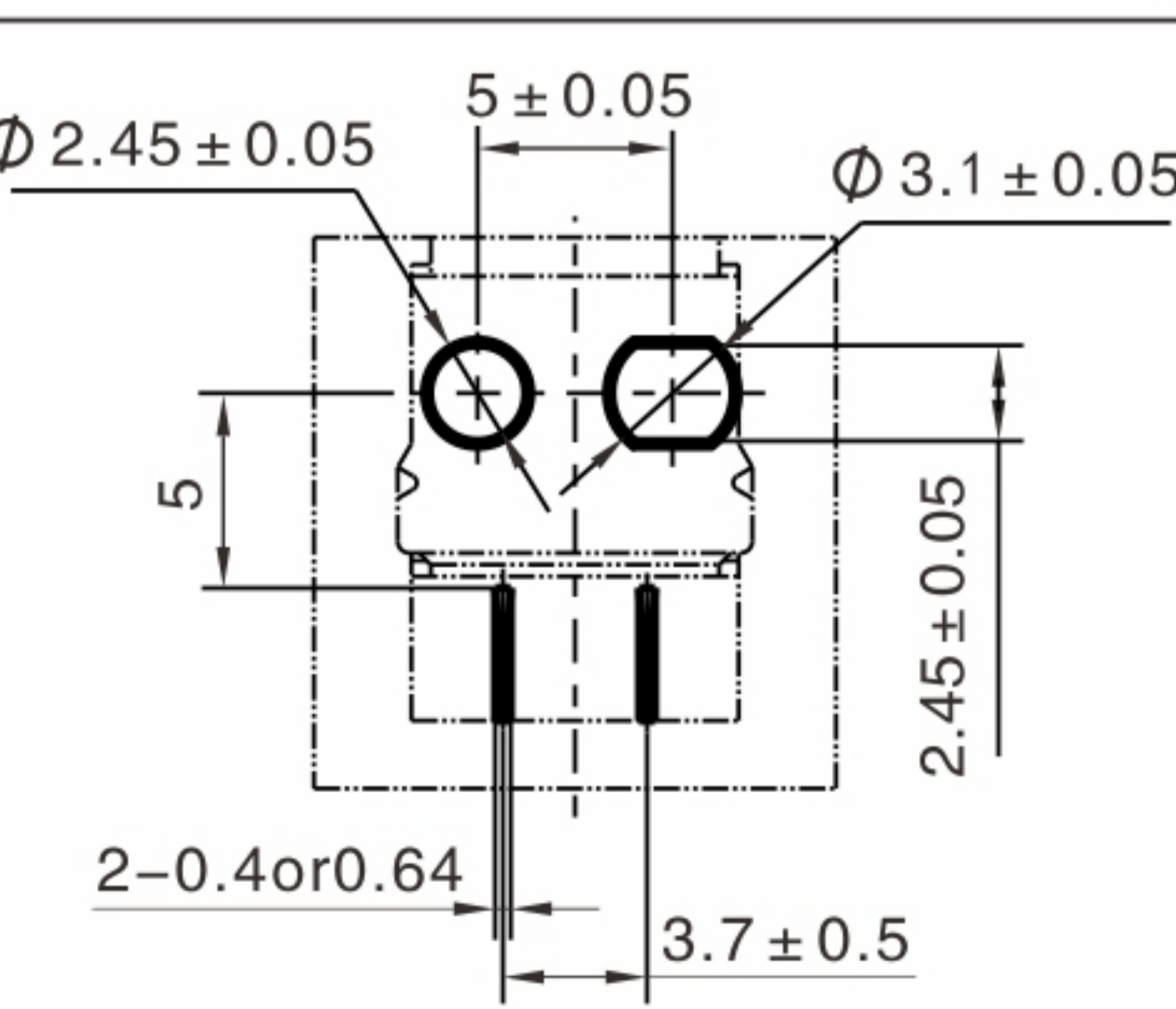
◆ 接線端尺寸 Terminal dimensions

焊接端子 Solder terminal	PCB端子 PCB terminal		壓入式端子 Press fit terminal
			

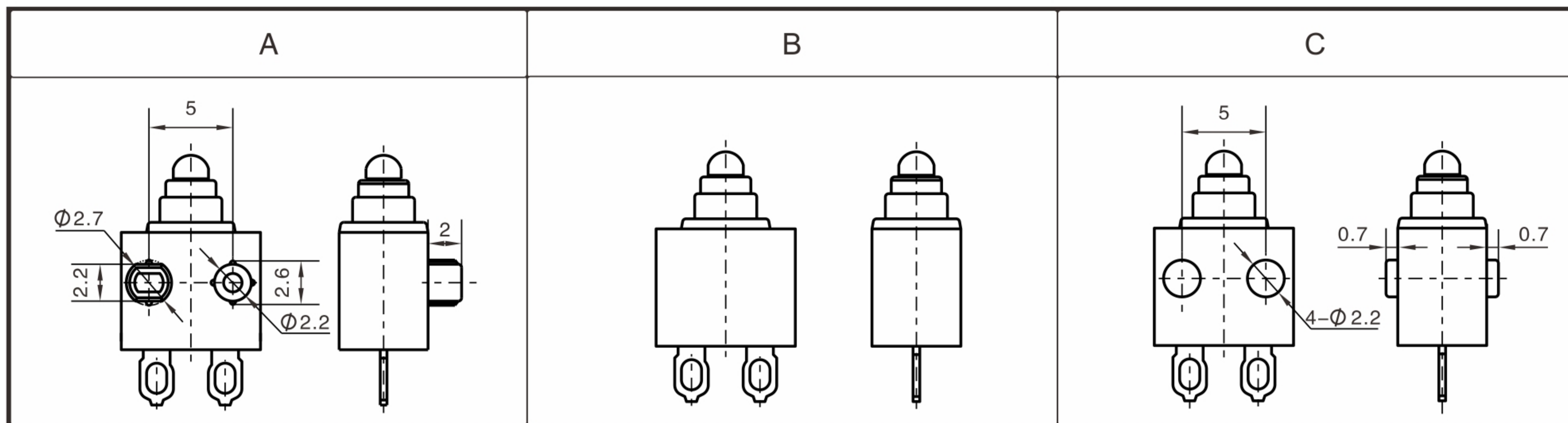
◆ 導線型外形圖 Outline drawing of wire type

D底部導線型 Bottom wire type	L左面導線型 Left side wire type	R右面導線型 Right side wire type
 <p>按客户要求 紅色red 黑色black 1007 AWG24 According to customer's requirements</p>	 <p>1007 AWG24 紅色red 黑色black 按客户要求 According to customer's requirements</p>	 <p>1007 AWG24 紅色red 黑色black 按客户要求 According to customer's requirements</p>

◆ 安裝孔尺寸 Mounting hole dimensions

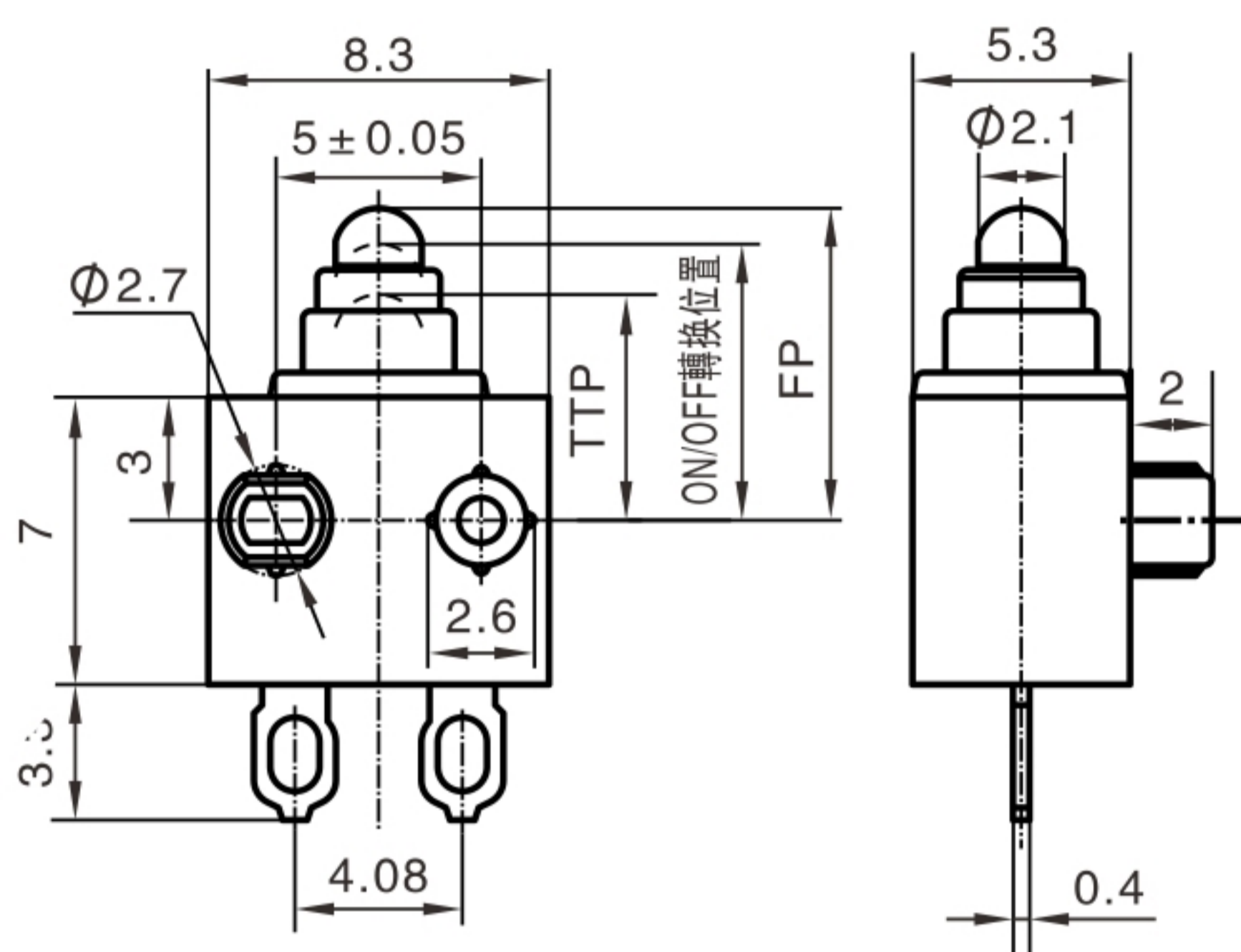
定位銷/固定銷間距 Dowel pin/fixing pin distance	直PCB端子安裝孔 Straight PCB terminal mounting hole	左右PCB端子安裝孔 Left and right PCB terminal mounting hole	壓入式安裝孔 Press fit mounting hole
			

◆ 安裝構造說明圖 Mounting construction illustration



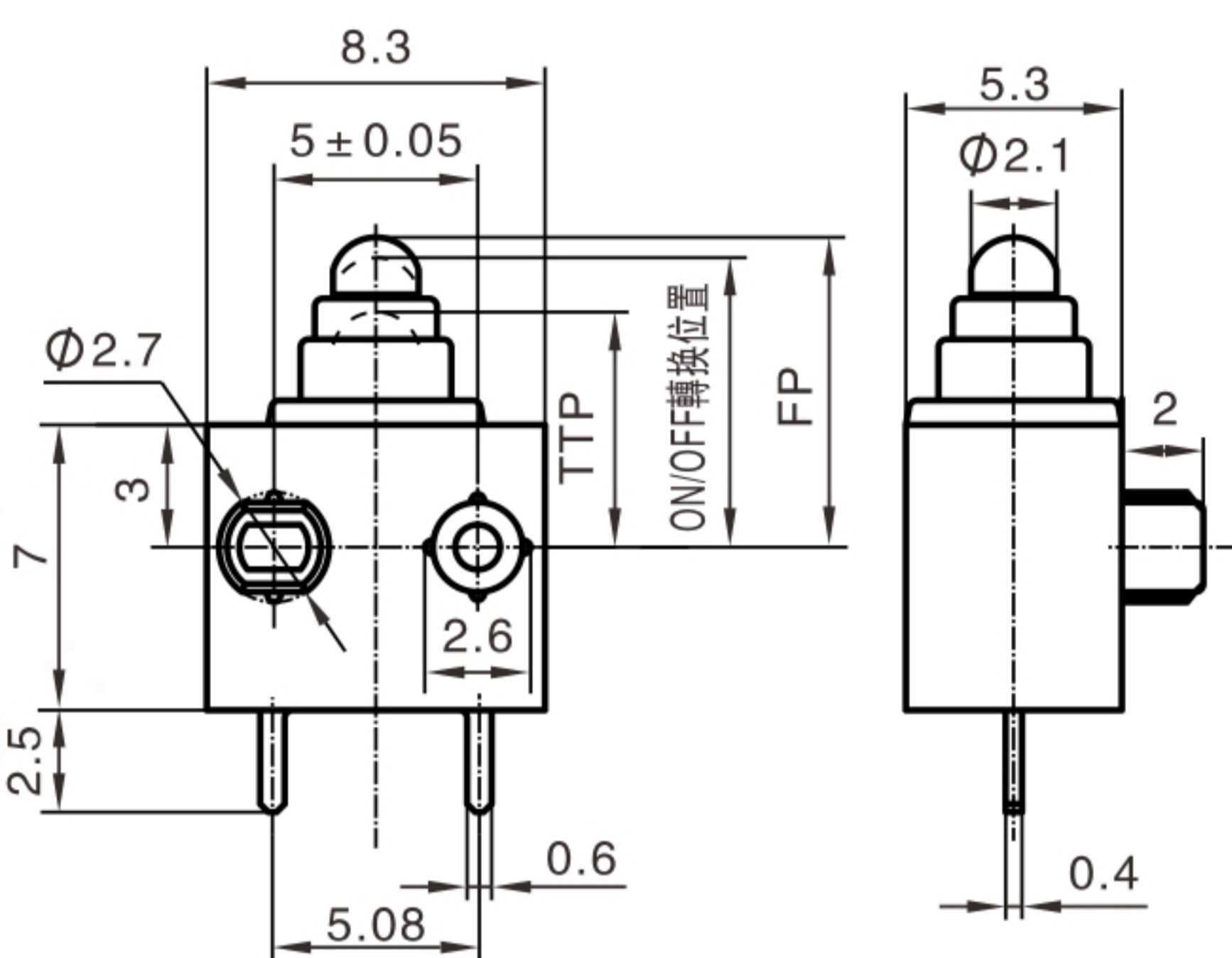
◆ 外形尺寸和動作特性 Dimensions and operating characteristics

WS8-T/D-F150B



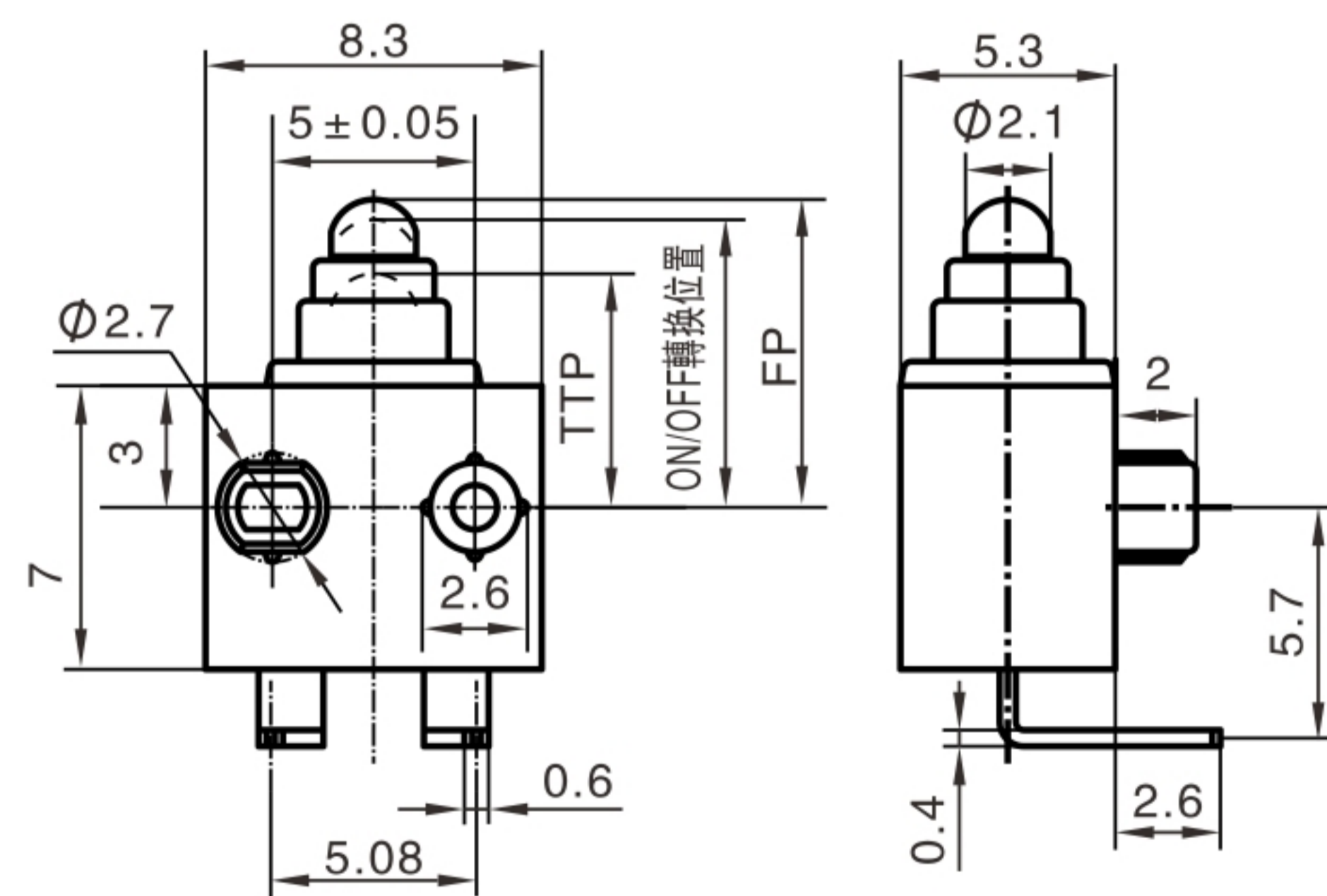
型號 Model	WS8-T/D-F150B
OF Max(N)	1.50
ON/OFF 轉換位置(mm)	7.1 ± 0.2
TTP Min(mm)	5.4
FP Max(mm)	7.9

WS8-T/D-P150A



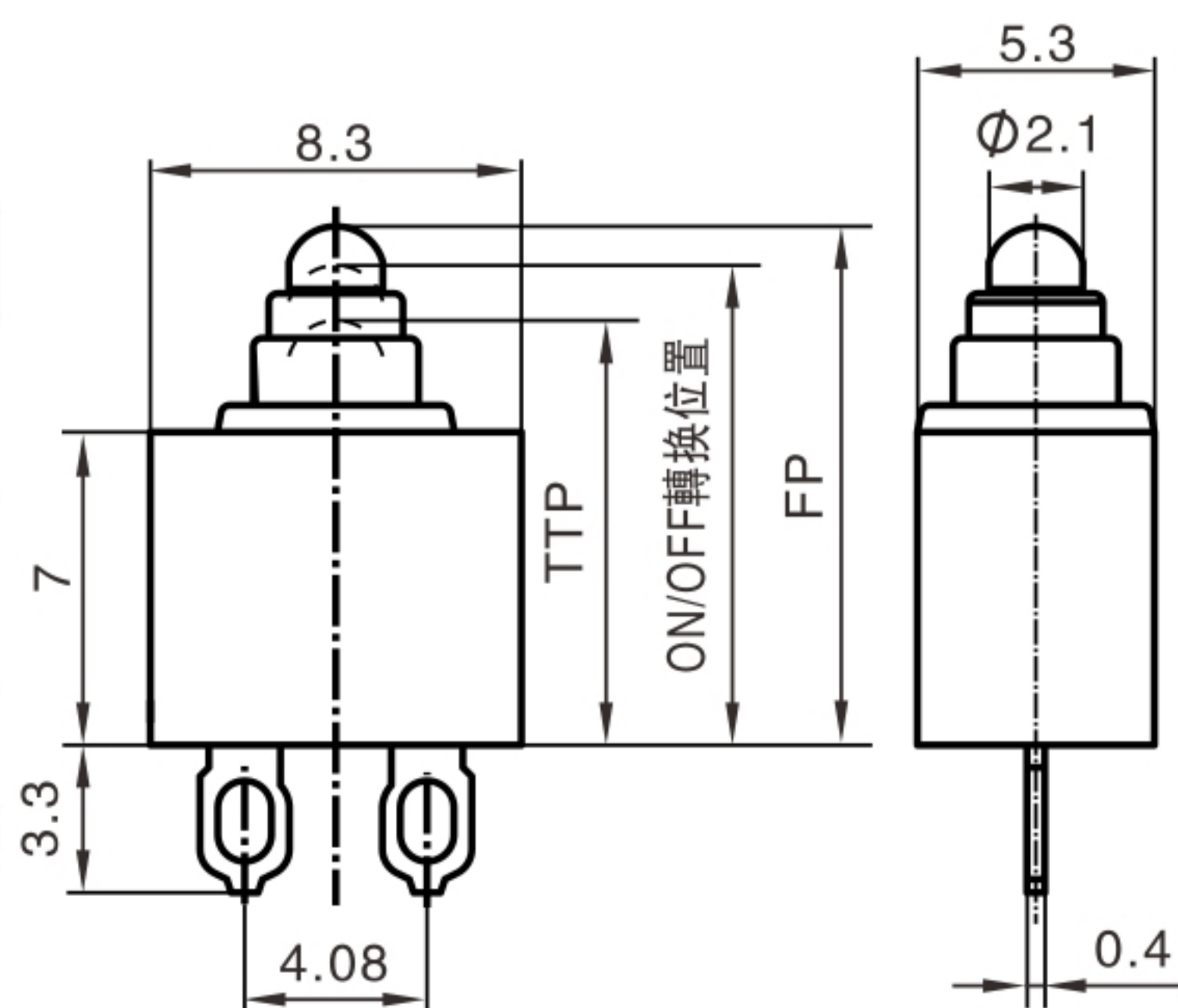
型號 Model	WS8-T/D-P150A
OF Max(N)	1.50
ON/OFF 轉換位置(mm)	7.1 ± 0.2
TTP Min(mm)	5.4
FP Max(mm)	7.9

WS8-T/D-A150A



型號 Model	WS8-T/D-A150A
OF Max(N)	1.50
ON/OFF 轉換位置(mm)	7.1 ± 0.2
TTP Min(mm)	5.4
FP Max(mm)	7.9

WS8-T/D-F150A

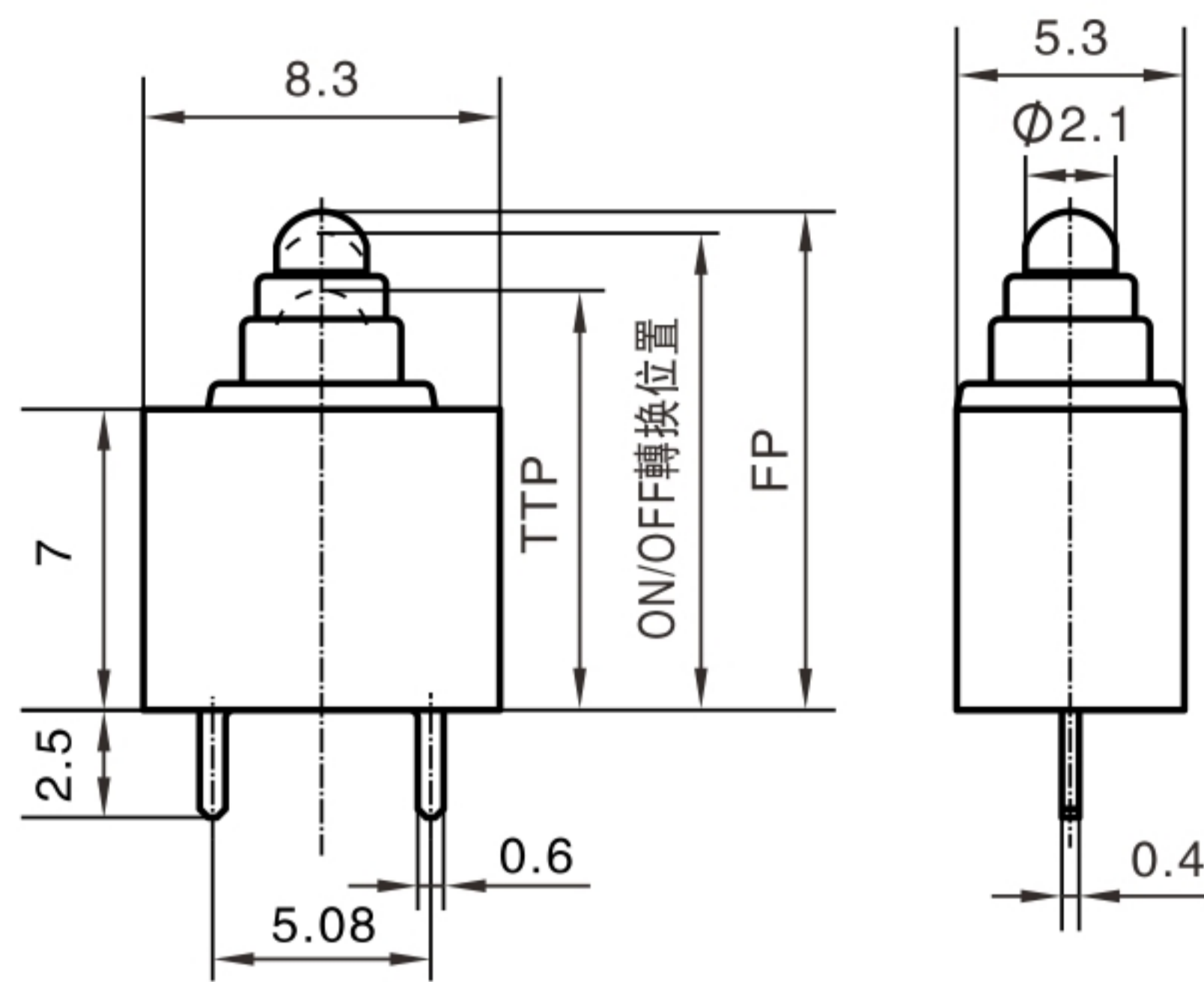


型號 Model	WS8-T/D-F150A
OF Max(N)	1.50
ON/OFF 轉換位置(mm)	11.1 ± 0.2
TTP Min(mm)	5.4
FP Max(mm)	7.9

To provide a safe and reliable on-off service, let electric appliances more perfect

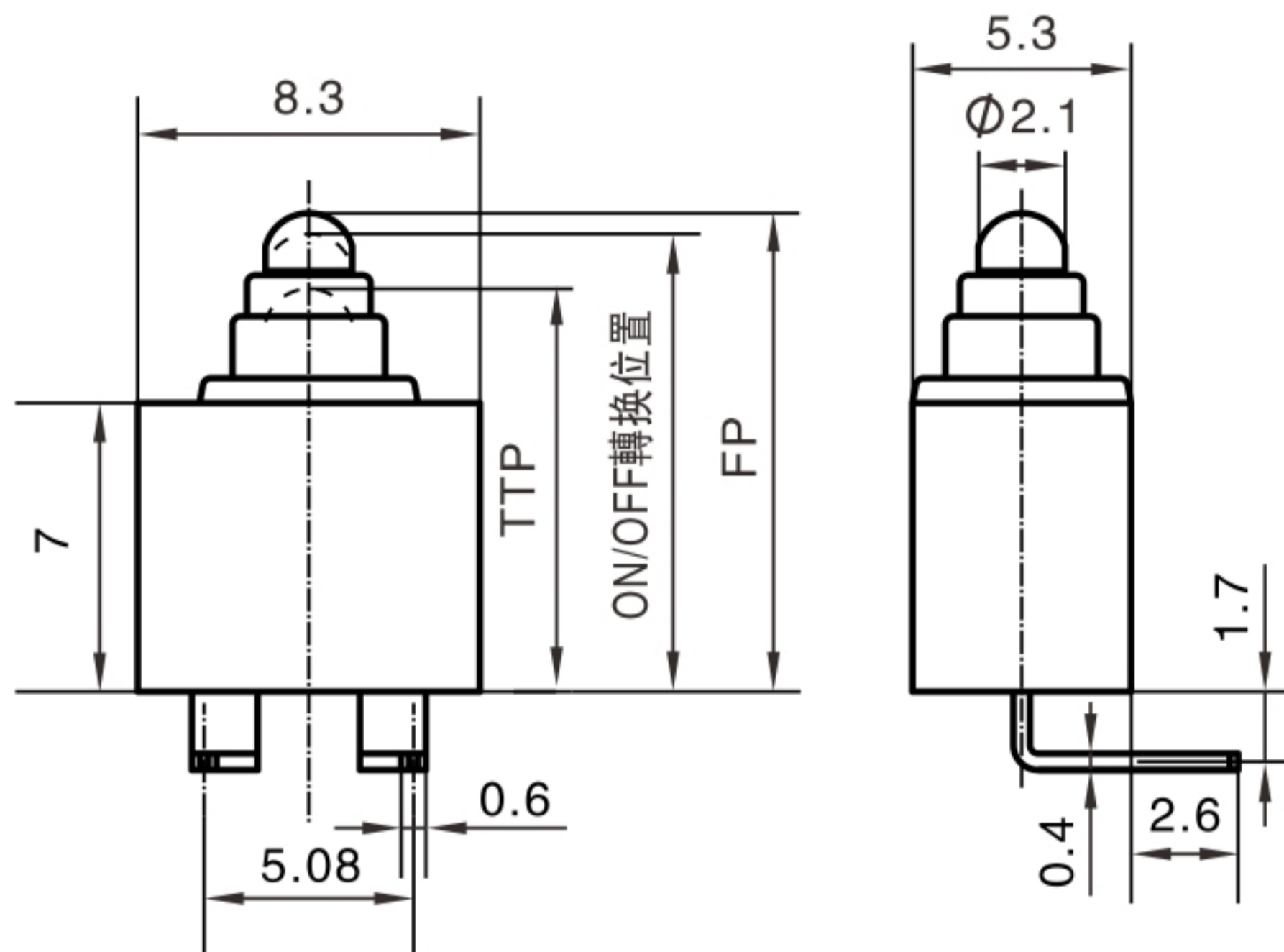
## ◆ 外形尺寸和動作特性 Dimensions and operating characteristics

WS8-T/D-P150B



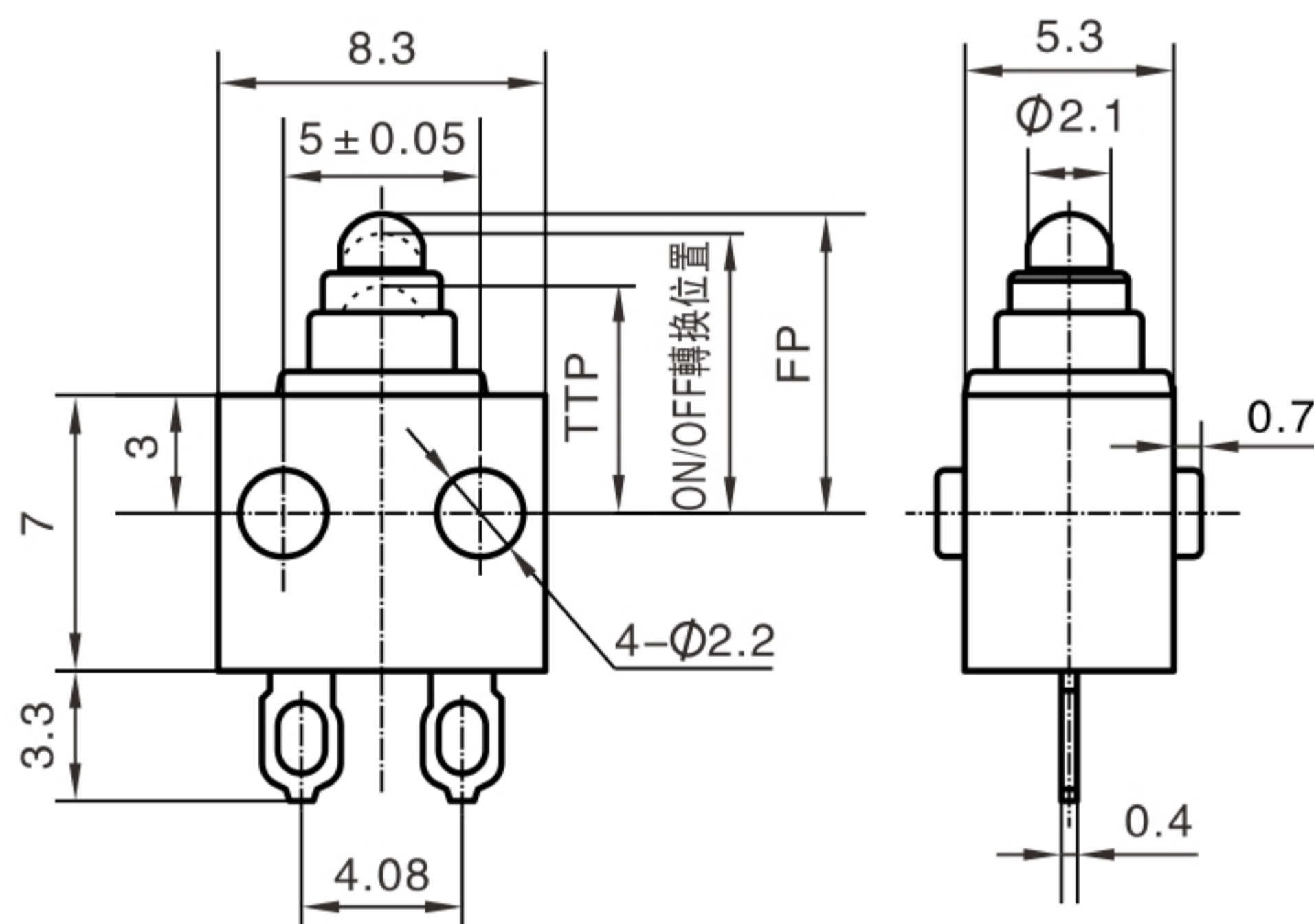
型號 Model	WS8-T/D-P150B
OF Max(N)	1.50
ON/OFF 轉換位置(mm)	11.1 ± 0.2
TTP Min(mm)	9.4
FP Max(mm)	11.9

WS8-T/D-A150B



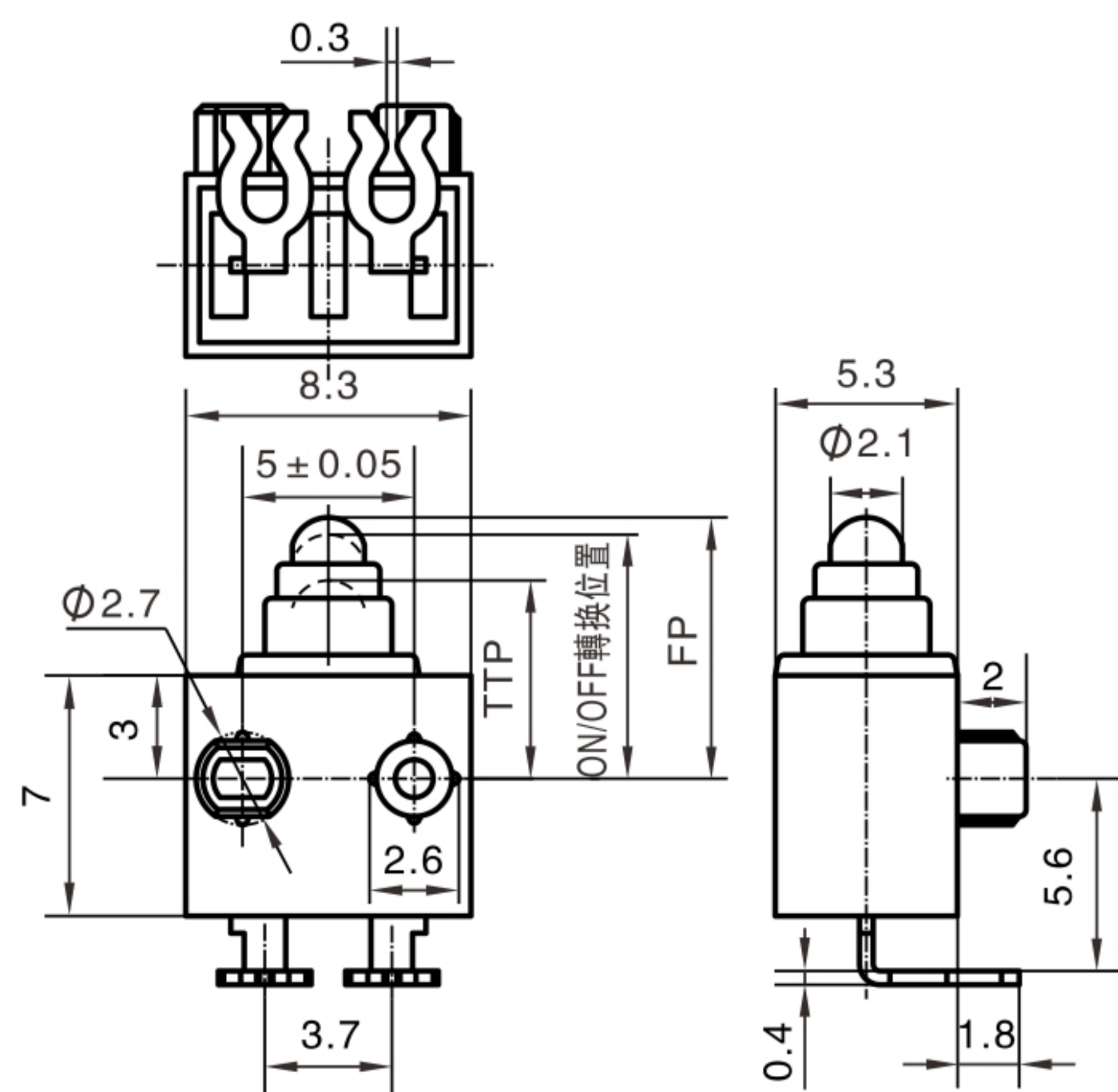
型號 Model	WS8-T/D-A150B
OF Max(N)	1.50
ON/OFF 轉換位置(mm)	11.1 ± 0.2
TTP Min(mm)	9.4
FP Max(mm)	11.9

WS8-T/D-F150C



型號 Model	WS8-T/D-F150C
OF Max(N)	1.50
ON/OFF 轉換位置(mm)	7.1 ± 0.2
TTP Min(mm)	5.4
FP Max(mm)	7.9

WS8-T/D-B150A



型號 Model	WS8-T/D-B150A
OF Max(N)	1.50
ON/OFF 轉換位置(mm)	7.1 ± 0.2
TTP Min(mm)	5.4
FP Max(mm)	7.9