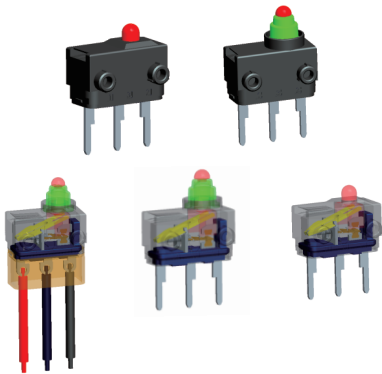


WS10 型防水開關系列 Waterproof switch series

◆ 特點和用途 Characteristics and usage

- 开关端子反置型。
Switch terminal inverted type.
- 体形小巧, 结构紧凑; 长行程, 防尘, 防水。
Small size, compact structure, long travel, dustproof, waterproof.
- 接线端子种类齐全, 可配备各种导线。
A variety of contact terminals, provide with variety kinds of wire.
- 配备各种形式动臂。
Variety of levers.
- 可在汽车、家用电器、工业控制设备等有耐环境性能要求的场合及户外设备、仪器中使用。
It can be used in automobiles, home appliances, industrial control equipment and other place which has environmental protection requirements, and outdoor equipment and instruments.



◆ 技術特性 Technical Characteristics

項目 Item		特性值 Value
環境溫度 Environment temperature		-40~+85℃
額定值 Ratings		0.1A/125VAC;3A 12VDC;0.1A/250VAC 0.1A 48VDCμ 1E5
工作速度 Operating speed		0.1mm~1m/s (无动臂时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		端子型Terminal type ≤50mΩ 导线型wire type ≤100mΩ (22#, L≤200mm)
動作力 Operating Force		180 : 1.8N (IP67) 130 : 1.3N (Ip40)
工頻耐電壓 Test voltage	不相接端子間 Between non connected terminals	AC500V,50/60Hz, 1min
	端子與不帶電金屬件之間 端子與地(外殼)之間 Between each terminal and other exposed metal parts Between each terminal and ground	AC1000V,50/60Hz, 1min
抗振動 Vibration resistance		10~55Hz, 1.5mm双振幅double amplitude
抗衝擊 Shock resistance		耐久Endurance: 1000m/s2(约100G approx.100G)max 误动作Wrong action:300m/ s2(约30G approx.30G)max
防触电保护等级 Electric shock proof protection grade		I 级class
外壳防护等级 Cover protection degree		IEC IP67(端子型的端子部位除外Besides terminal part of terminal type) 或其它等级Or other grades
壽命 Life		電氣≥100,000次 Mechanical ≥100,000 cycles 機械≥500,000次 Electrical ≥500,000 cycles
安全认证 Safety approvals		UL/CUL、TUV、CE、CQC

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

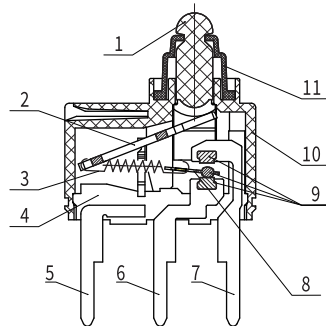
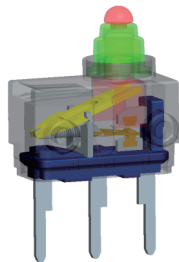
WS10 □□-□□□-□□ (□)
1 2 3 4 5 6 7 8

1 接触形式 Circuit	Z:转换式SPDT" T:常開 (按通) 式SPST-NO D:常閉 (按斷) 式SPST-NC	7 防護等級 Portection degree	无标记No mark:IP67 (端子型,端子处除外 Except terminal part of terminal type) Ip40																	
2 驱动形式 Actuator forms	0:无动臂No lever; 3(标准)直动臂Straight lever; 6:弧形动臂Arc lever; □:非标准动臂代号Not standard lever; (注:□为字母或字母+数字 □ is a letter or a combination of letters and numbers)		用数字或字母表示 Indicate by numbers or letters ■ 表示有特殊要求,如非标准端子,特殊动作特性值; 外形尺寸或结构与基本型有差异。用二位阿拉伯数字表示。 Indicates that there are special requirements, such as not standard terminals and special operation characteristic values, which are shows as two Arabic numerals. ■ 导线配置为非默认颜色: 用三个英文字母按COM、NC、NO顺序表示导线颜色配置; 若是常开式或常闭式开关,空缺位置用字母O表示。 (颜色代号见表1) Non-default color for the wire configuration: shows as three letters COM、NC、NO to indicate the wire color configuration;if NO or NC, vacant place shows o.(see sheet 1 for color codes) Sheet 1 <table><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
顏色 Color	紅	白		藍	黑	綠	黃	灰	紫											
代號 Code	R	W		L	B	G	M	H	P											
3 端子类型 Terminal types	PA:长PCB端子 Long PCB terminal PB:宽0.9短PCB端子 Width 0.9 short PCB terminal PC:宽0.6短PCB端子 Width 0.6 short PCB terminal FA:长焊接端子 Long solder terminal FB:短焊接端子 Short solder terminal B:底部导线型 Bottom wire type L:左面导线型(左右的定义见图示) Left side wire type (definition of right and left is shown in diagram) R:右面导线型 Right side wire type Y:非标准端子 Not standard terminal	8 附加代号及 导线颜色配置代号 Additional specs code and wire color code		示例: BWR—黑白红 BOR—黑(无)红 RWO——红白(无) Example: BWR - black, white, and red; BOR - Black (No) Red RWO - Red and White (None) ■ 导线配置为非默认规格(线号、牌号), 也用二位阿拉伯数字表示附加代号。 The wire configuration is non default specifications (wire number, grade), and two Arabic numerals are also used to indicate additional codes. 导线默认规格:UL1007 22# Default wire specifications:UL1007 22# ■ 若同时有附加规格代号和导线颜色代号, 则导线颜色代号位于附加规格代号之后。 If there are append specs code and wire color code at the same time, then the wirecolor code should be after the append apecs code. 注:导线型开关的引线颜色默认配置规定如下: Wire color of wire type switch is as follows: 常公共端引线COM:黑色 Common terminal wire COM:Black 常闭端引线NC: 红色 Normally closed terminal wire NC: Red 常开端引线NO: 白色 Normally opened terminal wire NO: White																
4 动作力(max) Operating force	130:1.30N 180:1.80N 注:若是非标准作力, 则用此动作力上限值表示。 Note: if it is not standard operating force, indicate with the upper limit.																			
5 安装构造 Mounting construction	AL:左定位销Left dowel pin AR:右定位销Right dowel pin AA:双面定位销 each double sides dowel pin W:无定位销 without hole and pin																			
6 导线式端子的 导线长度 Wire length of wire type terminal	导线式端子的导线长度(毫米数) 若非导线型,该位置空缺。 Wire length of wire type terminal (mm). Vacant for non-wire type																			

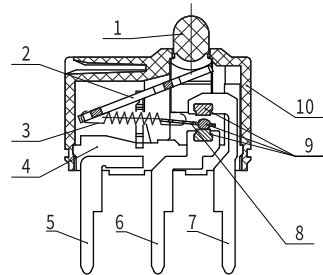
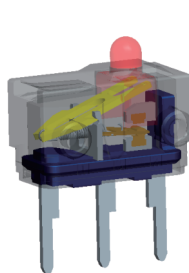
WS10

◆ 内部构造图 Internal configuration drawing

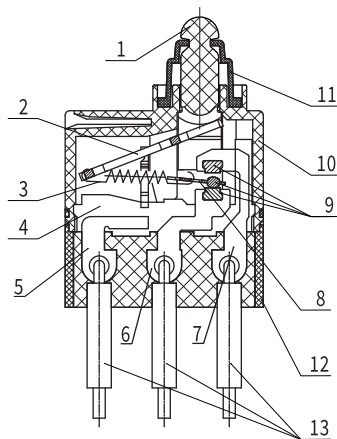
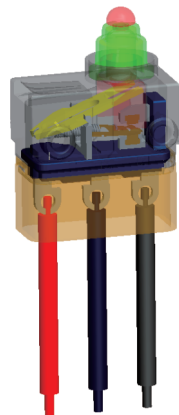
WS10 IP67



WS10 IP40



WS10 IP67 带线和防水罩

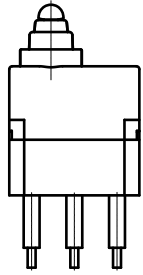
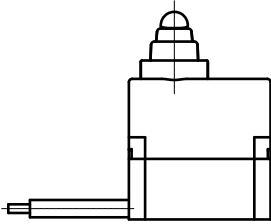
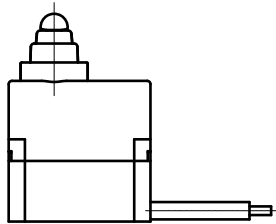


- | | |
|--------|---------------|
| 1 按钮 | Plunger |
| 2 杠杆 | Lever |
| 3 拉簧 | Pull spring |
| 4 底座 | Base |
| 5 支架 | Support |
| 6 常闭端子 | NC terminal |
| 7 常开端子 | NO terminal |
| 8 可动片 | Moving piece |
| 9 电触点 | Contact |
| 10 外壳 | Cover |
| 11 密封圈 | Hermetic loop |
| 12 防水罩 | Cover |
| 13 导线 | Wire |

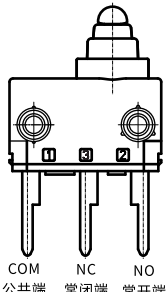
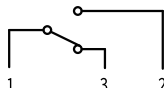
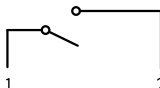
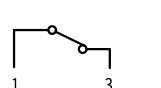
◆ 接线端子尺寸 Terminal dimensions

P1: 长PCB端子 Long PCB terminal	P2: 0.9宽短PCB端子 Width 0.9 short PCB terminal	P3: 0.6宽短PCB端子 Width 0.6 short PCB terminal
S1: 短焊接端子 Short solder terminal	S2: 长焊接端子 Long solder terminal	

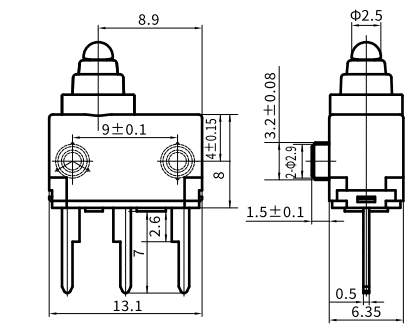
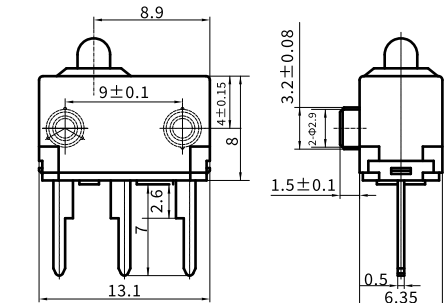
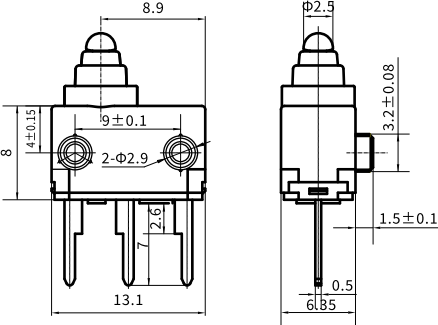
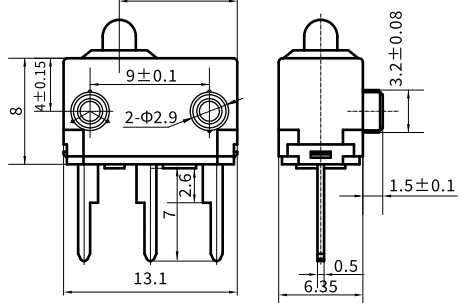
◆ 接线端子尺寸 Terminal dimensions

B: 底面出线型 Bottom wire type	L: 左面出线型 Left side wire type	R: 右面出线型 Right side wire type
		

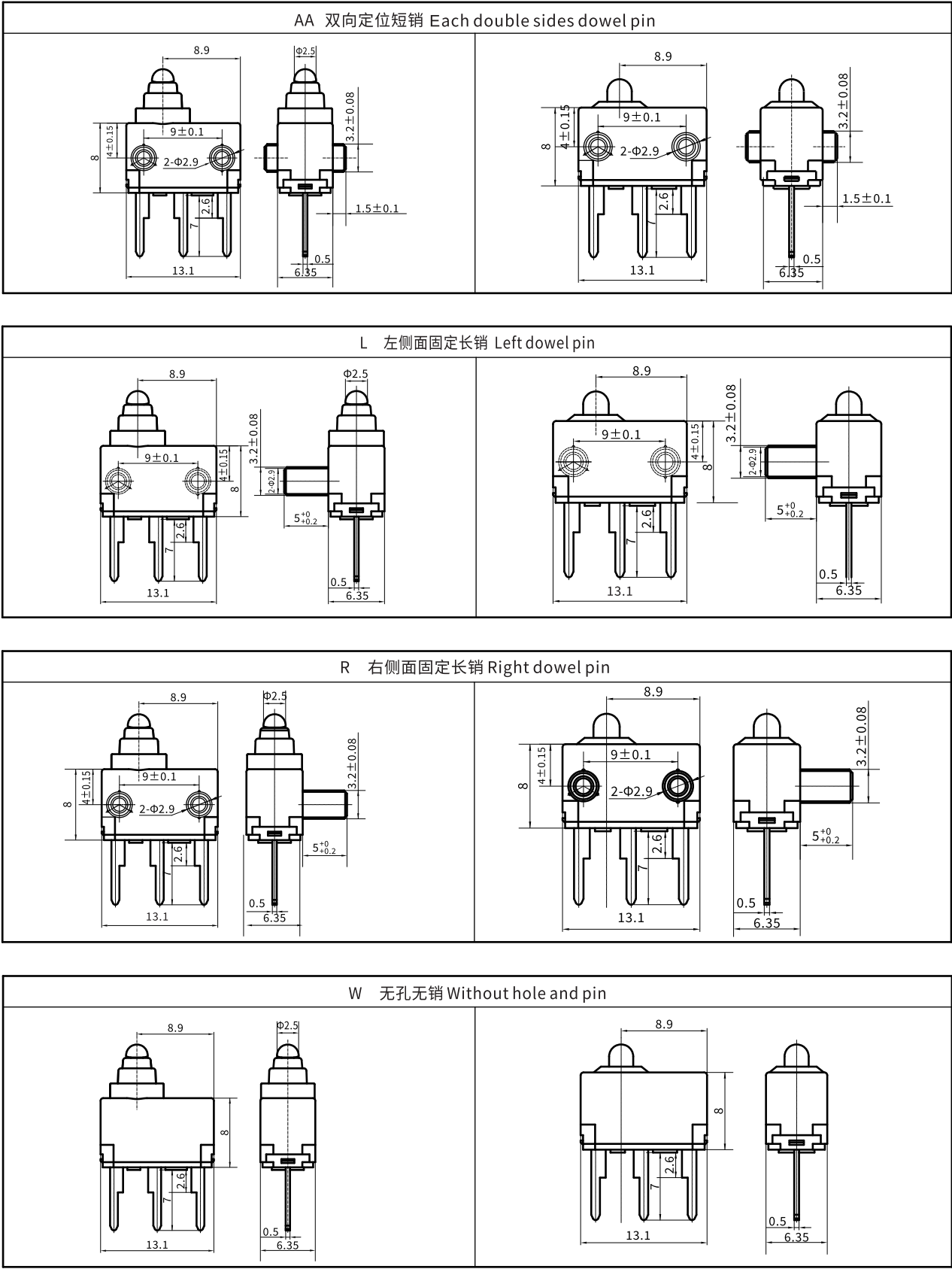
◆ 接触形式说明图 Circuit illustration

	Z: 转换式 SPDT	T: 常开式 SPST-NO	D: 常闭式 SPST-NC
			

◆ 安装构造说明图 Mounting construction illustration

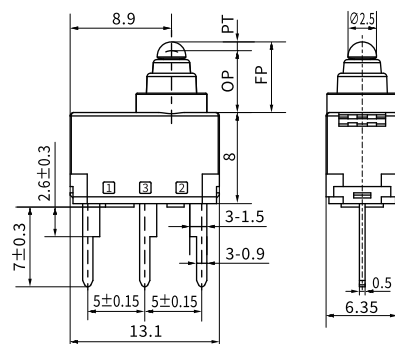
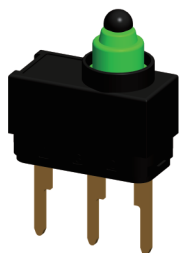
AL 左向定位短销 Left dowel pin	
	
AR 右向定位短销 Right dowel pin	
	

◆ 安装构造说明图 Mounting construction illustration



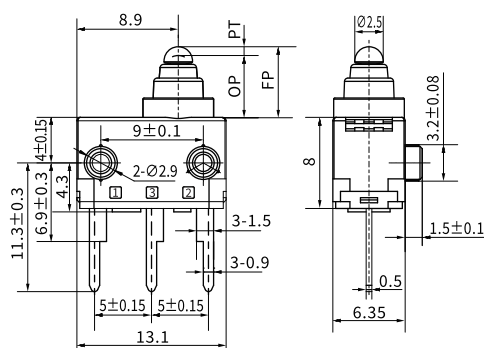
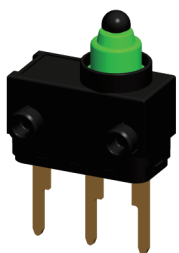
◆ 外形尺寸和动作特性 Dimensions and operating characteristics

WS10-Z0-PA180W



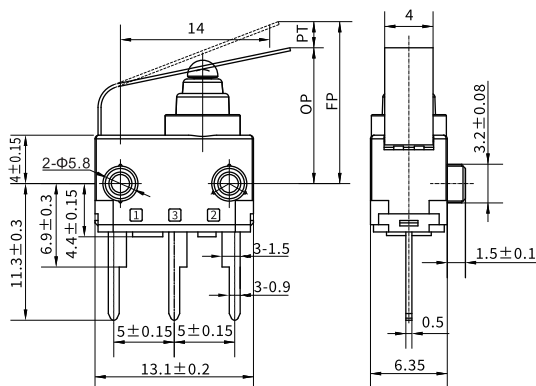
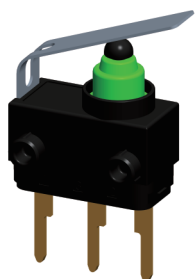
型号 Model	WS10-Z0-PA180W
FP Max(mm)	6.3
OP (mm)	5.4±0.3
PT Max(mm)	1.5
OT Min(mm)	0.7
MD Max(mm)	0.4
OF Max(N)	1.8
RF Min(N)	0.2

WS10-Z0-PA180AL



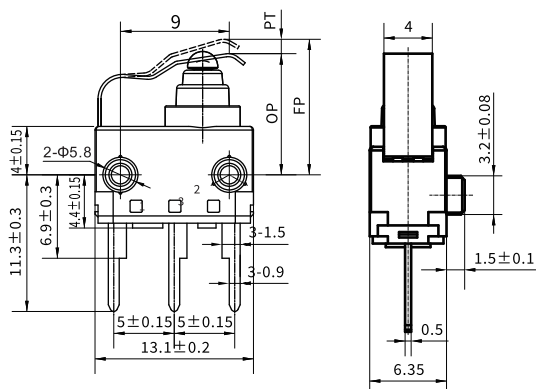
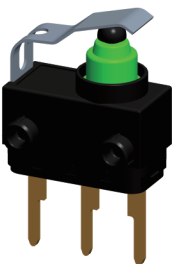
型号 Model	WS10-Z0-PA180AL
FP Max(mm)	10.3
OP (mm)	9.4±0.3
PT Max(mm)	1.5
OT Min(mm)	0.7
MD Max(mm)	0.4
OF Max(N)	1.8
RF Min(N)	0.2

WS10-Z3-PA180AL



型号 Model	WS10-Z3-PA180AL
FP Max(mm)	15
OP (mm)	10.7±1.5
PT Max(mm)	5.5
OT Min(mm)	0.7
MD Max(mm)	1.1
OF Max(N)	2.5
RF Min(N)	0.5

WS10-ZA-PA180AL



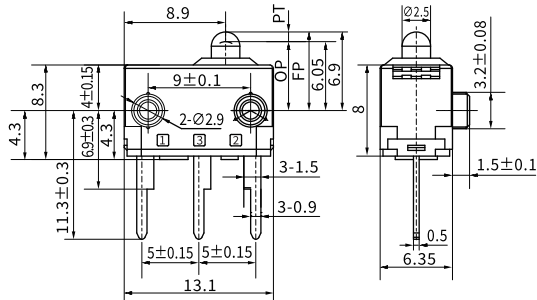
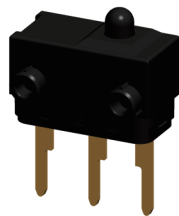
型号 Model	WS10-ZA-PA180AL
FP Max(mm)	12
OP (mm)	10±1.2
PT Max(mm)	2
OT Min(mm)	0.7
MD Max(mm)	1.1
OF Max(N)	2.5
RF Min(N)	0.5

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

WS10

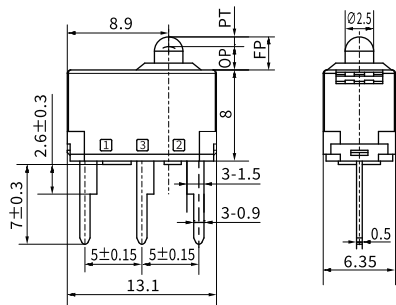
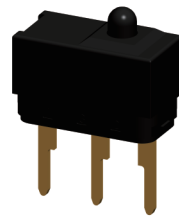
◆ 外形尺寸和动作特性 Dimensions and operating characteristics

WS10-Z0-PA130AL-IP40



型号 Model	WS10-Z0-PA130AL-IP40
FP Max(mm)	7.3
OP (mm)	6.2±0.3
PT Max(mm)	1.5
OT Min(mm)	0.7
MD Max(mm)	0.4
OF Max(N)	1.3
RF Min(N)	0.1

WS10-Z0-PA130W-IP40



型号 Model	WS10-Z0-PA130W-IP40
FP Max(mm)	3.3
OP (mm)	2.2±0.3
PT Max(mm)	1.5
OT Min(mm)	0.7
MD Max(mm)	0.4
OF Max(N)	1.3
RF Min(N)	0.1