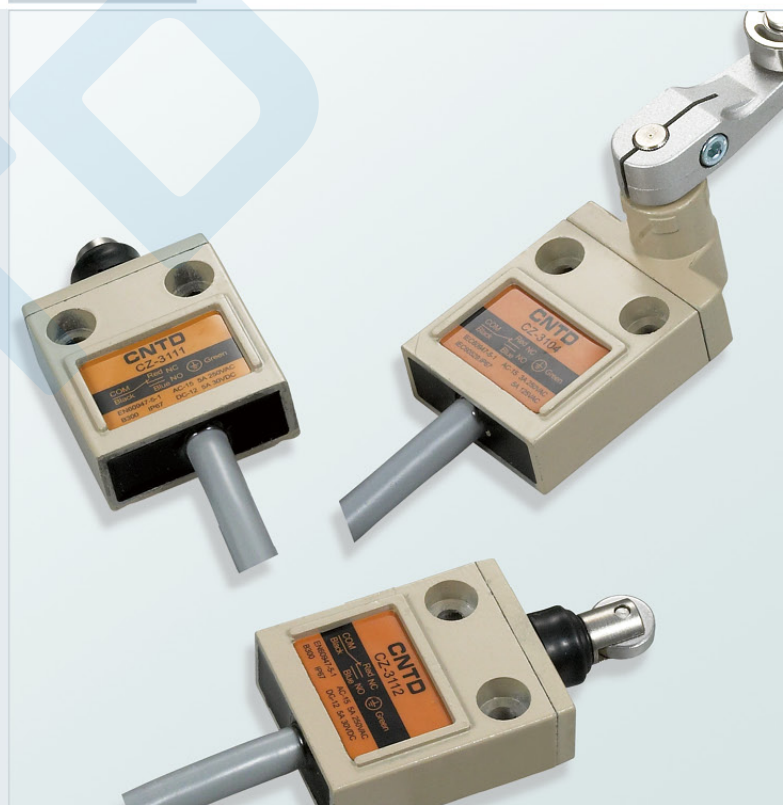


### 特征 Features

- 双回路型限位开关，用途广泛
- 具坚固一体铸造铝合金外壳
- 高机械强度
- 具耐油，防水和防尘结构
- DPDS limit switch for multiple applications
- Rugged aluminum alloy diecast housing
- High mechanical strength
- Oil resistance, waterproof and dustproof structure

### 接点型式 Contact Form



### 额定值 Ratings

额定电压 Rated voltage	非电感性负载 Noninductive Load (A)				电感性负载 Inductive Load (A)			
	电阻性负载 Resistance Load		灯泡负载 Lamp Load		电感性负载 Inductive Load		马达负载 Motor Load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	5 (0.1)		1.5	0.7	3		2.5	1.3
250 VAC	3		1	0.5	2		1.5	0.8
8 VDC	5 (0.1)		2		5	4	3	
14 VDC	5 (0.1)		2		4	4	3	
30 VDC	4 (0.1)		2		3	3	3	
125 VDC	0.4		0.05		0.4	0.4	0.05	
250 VDC	0.2		0.03		0.2	0.2	0.03	

注：带弹簧系列产品，操作体的使用范围为从弹簧的前端到弹簧全长的1/3以内。  
Note: Product with spring, its usable range of operating part is within one third of the whole spring length from the front end of spring.

### 特性 Characteristics

额定值 Rating	5A 125V, 3A 250VAC
操作速度 Operating speed	1mm~1m/s
动作频率 Operating frequency	机械: 120次/分 电气: 30次/分 Mechanical: 120 operations/min. Electrical: 30 operations/min.
接点电阻 Contact resistance	15mΩ 以下 15mΩ max. (initial)
绝缘电阻 Insulation resistance	100mΩ 以上 (在500VDC以下) 100mΩ min. (at 500VDC)
电介强度 Dielectric strength	不连续端子间: 1000VAC, 50/60Hz, 持续1分钟 1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity 端子和接地之间: 1500VAC, 50/60Hz, 持续1分钟 1500VAC, 50/60 Hz for 1 minute between current-carrying and non-current-carrying metal parts 端子和无载电流金属零件之间: 1500VAC, 50/60Hz, 持续1分钟 1500VAC, 50/60 Hz for 1 minute between each terminal and ground
振动 Vibration Frequency	误动作耐久: 10-55Hz, 1.5mm双振幅 10 to 55Hz, 1.5mm double amplitude
冲击 Shock	机械耐久: 1000mm/s <sup>2</sup> 以上 (约100G以上) 误动作耐久: 500mm/s <sup>2</sup> 以上 (约50G以上) Mechanical: Approx. 1000m/s <sup>2</sup> (Approx. 100G'S) Electrical: Approx. 500m/s <sup>2</sup> (Approx. 50G'S)
使用温度 Ambient temperature	-10℃ ~ +70℃ (没有结冰 With no icing)
湿度 Humidity	< 95% RH
使用寿命 Life	机械: 1000万次以上 电气: 20万次以上 Mechanical: 10,000,000 operations/min. Electrical: 200,000 operations/min.
重量 Weight	约360g (电缆线长3m) 约540g (电缆线长5m) Approx. 360g (cable length 3m) Approx. 540g (cable length 5m)
防水等级 Degree of protection	IP67


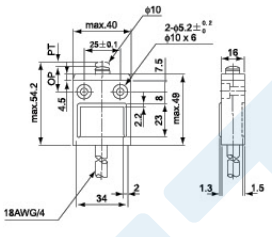

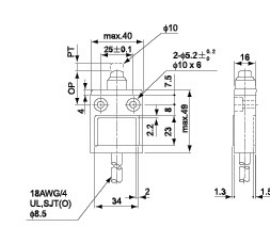

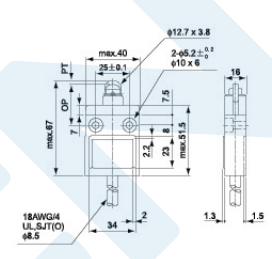

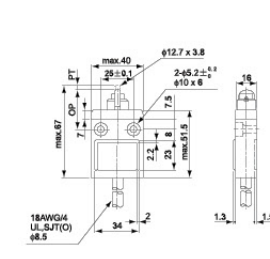

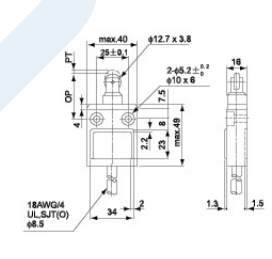

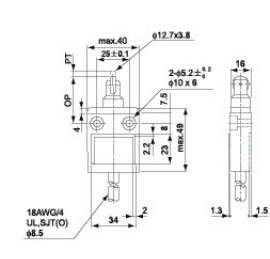

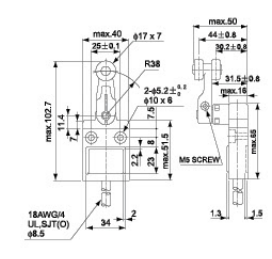

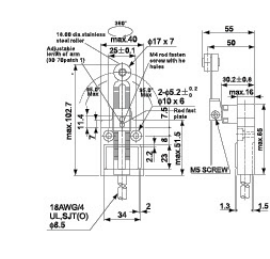

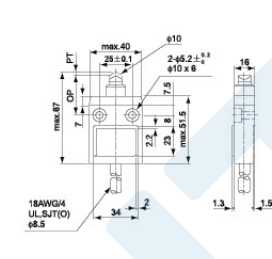

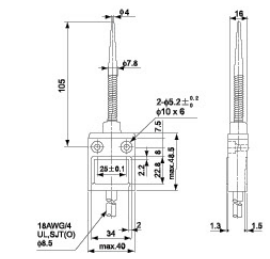

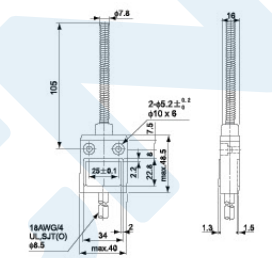

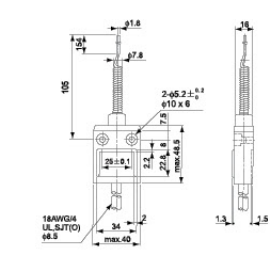
### 动作特性 Operating Characteristics

型号 Models	CZ-3101	CZ-3102	CZ-3103	CZ-3104(3108)	CZ-3110	CZ-3111	CZ-3112	CZ-3113	CZ-3169 (3166/3167)
OF最大(Max.)	1200gf(11.77N)	1200gf(11.77N)	1200gf(11.77N)	580gf(5.69N)	1200gf(11.77N)	1800gf(17.65N)	1800gf(17.65N)	1800gf(17.65N)	150gf(1.47N)
RF最小(Min.)	450gf(4.41N)	450gf(4.41N)	450gf(4.41N)	150gf(1.47N)	450gf(4.41N)	450gf(4.41N)	450gf(4.41N)	450gf(4.41N)	-
PT最大(Max.)	1.8mm	1.8mm	1.8mm	25	1.8mm	1.8mm	1.8mm	1.8mm	15°
OT最小(Min.)	3mm	3mm	3mm	40	3mm	3mm	3mm	3mm	-
MD最大(Max.)	0.2mm	0.2mm	0.2mm	3	0.2mm	0.2mm	0.2mm	0.2mm	-
OP	15.7 ± 1mm	28.5 ± 1mm	28.5 ± 1mm	-	28.5 ± 1mm	24.9 ± 1mm	34.3 ± 1mm	34.3 ± 1mm	-

# CZ-3 防水型行程开关

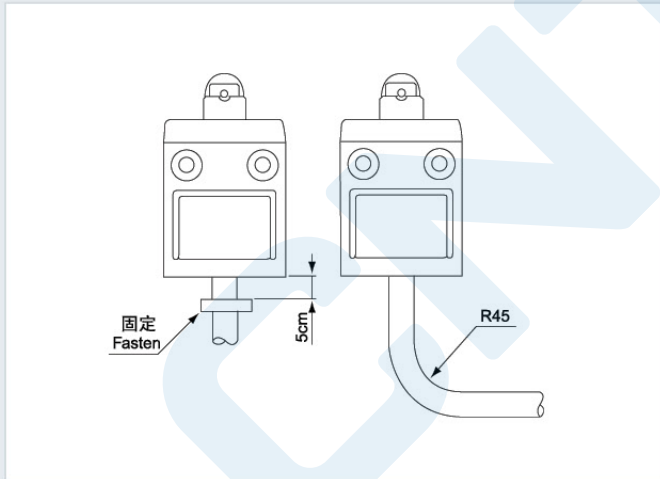
## Compact Prewired Limit Switch

### 外观和尺寸 Appearance and Dimension

<p><b>CZ-3101</b></p>  	<p><b>CZ-3111</b></p>  
<p><b>CZ-3102</b></p>  	<p><b>CZ-3103</b></p>  
<p><b>CZ-3112</b></p>  	<p><b>CZ-3113</b></p>  
<p><b>CZ-3104</b></p>  	<p><b>CZ-3108</b></p>  
<p><b>CZ-3110</b></p>  	<p><b>CZ-3166</b></p>  
<p><b>CZ-3167</b></p>  	<p><b>CZ-3169</b></p>  

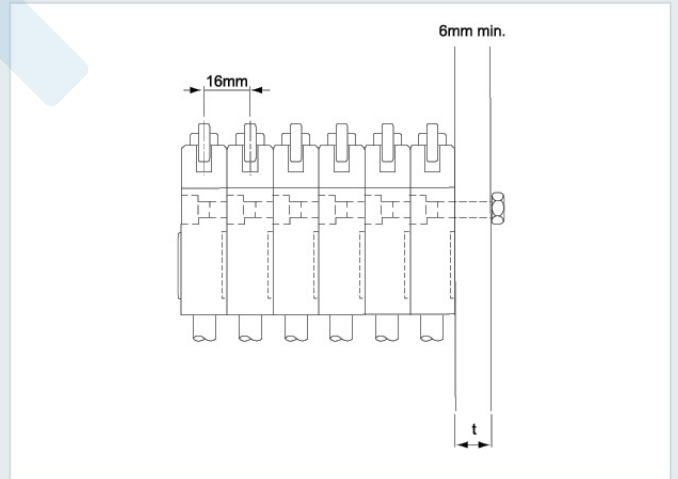
### 配线注意事项 Fastening of the switch cable

配线需注意于离开关5cm处须加以固定，而电线之弯曲半径不得小于R45cm，注意勿伤及电线绝缘体，以避免电线漏电等情形。  
The switch bodies are filled with resin for sealing purposes. To avoid stressing the cable and switch body, fasten the switch at 5 cm or farther away from the switch body, should the wire be bent, the bending radius shall be at least 45mm.



### 多连接使用的场合 Switch bank mounting

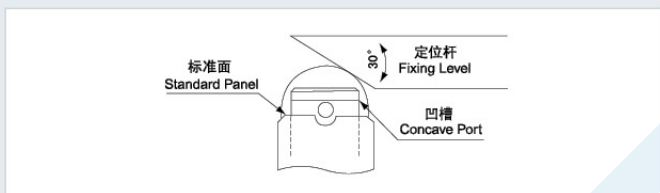
需连接多组使用的场合时，最多可连接6组开关，连接时，开关表面之凹凸槽相互配合，另板厚t之尺寸应在6mm以上为适当。  
A maximum of six switches may be mounted together as a switch bank. During the installation, the convex part of the switch back. The mounting panel shall be 6mm or thicker.



### 安装注意事项 Installation

凸轮与定位杆等形状，频率及动作后移动等，将会影响使用寿命与精准度，因此建议定位杆之角度约30°，而定位杆之表面粗糙度，以上，硬度HV400-500，在设定开关之行程时，凹沟必须高于标准面之上为最适当之位置。

The service life and accuracy of switches will be effected by the shape of actuator operation frequency & over travel. So the angular of the fixing level should be about 30° , the surface finish of the fixing level should be over, the hardness is from HV400~500. When installing, the position of the concave part should be above the standard panel



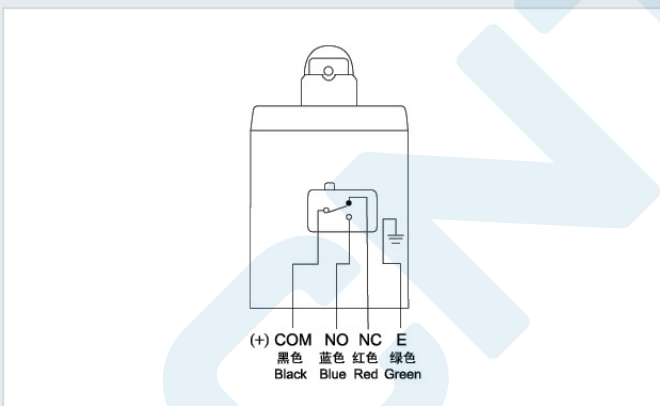
### 安装注意事项 Mounting

请依下表所示选择最适当之旋转扭力，施行锁紧作业，以避免伤害开关本体。

Recommended tightening torque according to the following form.

编号 Model	螺丝尺寸 Screw type	最适当之旋转扭力 Torque
1	M5六角孔螺栓之固定螺丝 M5 fastening screws	43.4~52lb.in (50~60kgf.cm)
2	头部M3.5之安装螺丝 M3.5 installing screws	6.9~7.9lb.in (8~9kgf.cm)

### 接点型式 Contact types



### 装配孔之尺寸 Mounting holes

安装板发生翘曲或凸起之状态，会造成安装上之不良，安装板请经筛选确认后，再予以使用。

Mount the switch body to a rigid mounting panel using two M5 screws.

