

本书所列产品的外观、颜色及参数仅供参考。  
 The appearance, color and parameters of the products listed in this book are for reference only.  
 本公司保留随时修改或取消本书相关资料的权利，恕不另行通知。  
 The company reserves the right to modify or cancel the relevant materials of this book at any time without notice.  
 本公司保留对本手册的最终解释权。  
 The company reserves the right of final interpretation of this manual.

乐清埃贝肯电气有限公司

# INDUSTRIAL CONTROL SWITCH

## SELECTION MANUAL

### 工控开关选型手册

限位开关 微动开关 脚踏开关 传感器



**ABILKEEN** | 埃贝肯  
 乐清埃贝肯电气有限公司  
 YUEQINGAIBEIKEN ELECTRIC CO., LTD

代理商



www.abbeycon.com

202201 Version

**ABILKEEN** | 埃贝肯  
 值得信赖的工控专家



## 公司介绍 COMPANY INTRODUCTION

埃贝肯电气成立于1998年，经过十余年的不断发展，已成为国内工控开关的领军企业。

埃贝肯致力于行程开关、限位开关、微动开关、密封开关、防水开关、脚踏开关、传感器等系列产品的研发与生产，产品先后通过了国家CCC认证和欧盟CE认证，畅销全国各地及东南亚、中东、欧洲和美洲，产品广泛应用于机床、注塑机、汽车厂、立体停车库、环保、防灾建筑、机械生产及各种流水线等设备的电路控制。

公司本着以“专业、创新、国际化”为发展理念，坚持先进的管理模式，严格的生产制度，璀璨的未来，良好的售后服务体系，精英的工作队伍为您提供最优质的产品和最适合优化的服务。我们诚挚地希望能与您一起促进埃贝肯更为国际化的发展和见证更为璀璨的未来。

Founded in 1998, Aibeiken Electric has become the leading enterprise of industrial control switches in China after more than ten years of continuous development.

Aibeiken is committed to the R & D and production of travel switch, limit switch, microswitch, seal switch, waterproof switch, foot switch, sensor and other series of products. The products have successively passed the national CCC certification and EU CE certification, and sell well all over the country, Southeast Asia, the Middle East, Europe and America. The products are widely used in machine tools, injection molding machines, automobile factories, three-dimensional parking garages, environmental protection Circuit control of disaster prevention construction, machinery production and various assembly lines.

Based on the development concept of "professionalism, innovation and internationalization", the company adheres to the advanced management mode, strict production system, bright future, good after-sales service system and elite work team to provide you with the best quality products and the most suitable optimized services. We sincerely hope to work with you to promote the more international development of Aibeiken and witness a brighter future.

公司严格按照国家标准和国际标准组织生产，从原材料购进到成品出库实行全过程控制。制定“以客户需求为中心，以生产管理为基础，持续改进质量体系，提高用户满意产品”的质量方针。

多年来埃贝肯品牌深受广大用户的肯定，博得业界的大力支持与信赖，但我们并不以此为满足，今后以更高的理想，不断的创新，继续追求，贡献社会。

The company organizes production in strict accordance with national and international standards, and implements the whole process control from the purchase of raw materials to the delivery of finished products. Formulate the quality policy of "focusing on customer needs and based on production management, continuously improve the quality system and improve user satisfaction with products".

Over the years, ABILKEEN brand has been affirmed by the majority of users and won the strong support and trust of the industry. However, we do not take this as our satisfaction. In the future, we will continue to pursue and contribute to the society with higher ideals and continuous innovation.



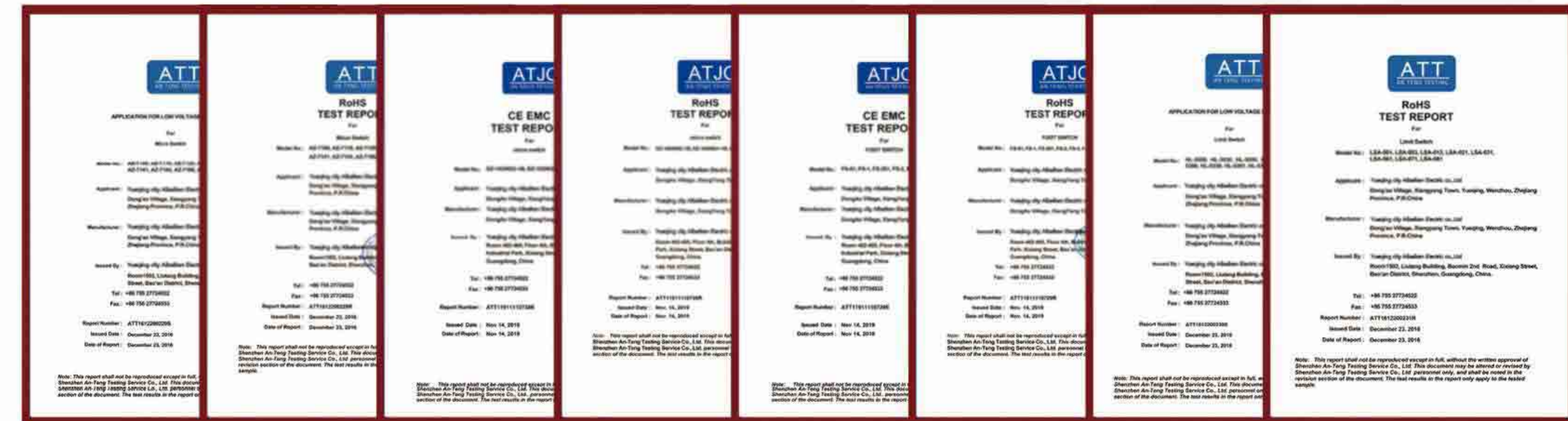




# 资质荣誉 MAJOR EQUIPMENT

我们始终坚信不经巨大的困难定会有伟大的事业，所以我们经历了无数风霜成就今日的傲雪寒梅，我们一步一个脚印走向辉煌，成为了行业的领军者让我们跟着岁月的年轮，细数那些那些过往，我们已经收获了100多份业内各类荣耀。

We always firmly believe that there will be great careers without great difficulties, so we have experienced countless winds and frosts to achieve today's Aoxue Hanmei, we step by step towards glory, and become the leader of the industry. Let us follow the growth of the years. Counting those in the past, we have harvested more than 100 honors in the industry.



# 100+

我们已经收获了 100 多份业内各类荣耀





### 限位开关 Limit Switch

KZ-8 立式限位开关	01
KZ-8 Vertical Limit Switch	
KSA 立式限位开关	03
KSA Vertical Limit Switch	
KWL 重载型限位开关	05
KWL Heavy Duty Type Limit Switch	
KZ-3 防水型限位开关	08
KZ-3 Waterproof Type Limit Switch	

### 微动开关 Micro Switch

KZ-7 立式微动开关	11
KZ-7 Vertical Micro Switch	
KM 卧式微动开关	13
KM Horizontal Micro Switch	
KM-□N 抗冲击卧式微动开关	16
KM-□N Impact Resistance Horizontal Micro Switch	
KDZ-10G 双联式微动开关	18
KDZ-10G Double Micro Switch	
LXW20 普通式直流磁吹式微动开关	20
LXW20 Ordinary DC magnetic blowing microswitch	

### 脚踏开关 Foot Switch

IBFS 脚踏开关	22
IBFS Foot Switch	





## 特点 Features

- ◎ 双回路型限位开关
- ◎ 结构坚固, 由锌合金及强化塑胶组成
- ◎ 体积小, 可防水、防油
- ◎ 内藏触点座有双簧片机构, 机械寿命更长
- ◎ 具有较大的过行程
- ◎ 使配线更加简易的导管设计
- ◎ 引动器种类多, 方便使用
- ◎ Double circuit type of limit switch
- ◎ High mechanical strength, consists of intensive plastic and aluminum cast
- ◎ Small size, water-proof and oil-proof construction
- ◎ Built-in contact box has double-spring and long mechanical life
- ◎ Smooth operation with larger over travel distance
- ◎ Conduit design for convenient cabling
- ◎ Various actuators for different applications

## 接点型式 Contact Form

常开 NO 13 — 14 常开 NO  
常闭 NC 11 — 12 常闭 NC

## 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
125VAC	5	5	1.5	0.7	3	3	2	1
250VAC	5	5	1	0.5	3	3	1.5	0.8
8VDC	5	5	3	3	5	4	3	3
14VDC	5	5	3	3	4	4	3	3
30VDC	5	5	3	3	4	4	3	3
125VDC	0.4	0.4						
250VDC	0.2	0.2						
突入电流 Inrush Current	N.C.:24A 以下、N.O.:12A 以下 N.C: below 24A, N.O: below 12A							

注: 1. 电感性负载之功率因素在 0.4 以上 (AC), 时间常数在 7msec 以下 (DC).  
2. 灯泡负载之突入电流为稳定状态电流之 10 倍。马达负载之突入电流为稳定状态电流之 6 倍。  
3. 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。

NOTES: 1. Inductive load has a power factor of 0.4 min.(AC) and a time constant of 7 msec. max.(DC).  
2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steady-state current.  
3. Product with spring, its usable range of operating part is within one third of the whole spring length from the front end of spring.

## 动作特性 Operating Characteristics

型号 Model	KZ-8	KZ-8104	KZ-8108	KZ-8107	KZ-8111	KZ-8112/8122	KZ-8166/8167/8168/8169
操作力 Operating force	OF(最大)(Max.)	750g	750g	750g	900g	900g	150g
回弹力 Release force	RF(最小)(Min.)	100g	100g	100g	150g	150g	-
预行程 Pre-travel	PT(最大)(Max.)	20°	20°	20°	1.5mm	1.5mm	30mm
过行程 Over travel	OT(最小)(Min.)	50°	50°	50°	4mm	4mm	-
行程移动分辨率 Movement differential	MD(最大)(Max.)	12°	12°	12°	1mm	1mm	-
动作位置 Operating position	OP(mm.)	-	-	-	26±0.8mm	37±0.8mm	-



## 规格 Specifications

操作速度 Operation speed	5mm 至 0.5m/s 5mm-0.5m/s
动作频率 Operating frequency	电气:30 次 / 分 Electical: 30 operations/min
接点电阻 Contact resistance	25mΩ 以下 (初期) 25mΩ max. (initial value)
绝缘电阻 Insulation resistance	100MΩ 以上 (在 500VDC 下) 100mΩ min. (below 500VDC)
电介强度 Dielectric strength	非连续端子间 1,000VAC, 50/60Hz 持续 1 分钟 1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity 载电流与无载电流零件间 1,500VAC, 50/60Hz 持续 1 分钟 1500VAC, 50/60 Hz for 1 minute between current-carrying and non-current-carrying metal parts 端子和接地之间 1,500VAC, 50/60Hz 持续 1 分钟 1500VAC, 50/60 Hz for 1 minute between each terminal and ground
振动 Vibration	10 至 55Hz, 1.5mm 双振幅 10-55Hz, 1.5mm double amplitude
冲击 Shock	机械耐久: 1,000m/Sec <sup>2</sup> (约 100G <sup>2</sup> S) 误动作耐久: 300m/Sec <sup>2</sup> (约 30G <sup>2</sup> S) Mechanical durable: 1,000m/Sec <sup>2</sup> (about 100G <sup>2</sup> S) Malfunction: 300m/Sec <sup>2</sup> (about 30G <sup>2</sup> S)
周围温度 Ambient temperature	使用时: -20~+70°C (没有结冰) Using: -20~+70°C (With no icing)
湿度 Humidity	95%RH 以下 <95% RH
电气寿命 Electrical life	500,000 次以上 500,000 operations above
保护构造 Degree of protection	IP65

## 外观和尺寸 Appearance and Dimension

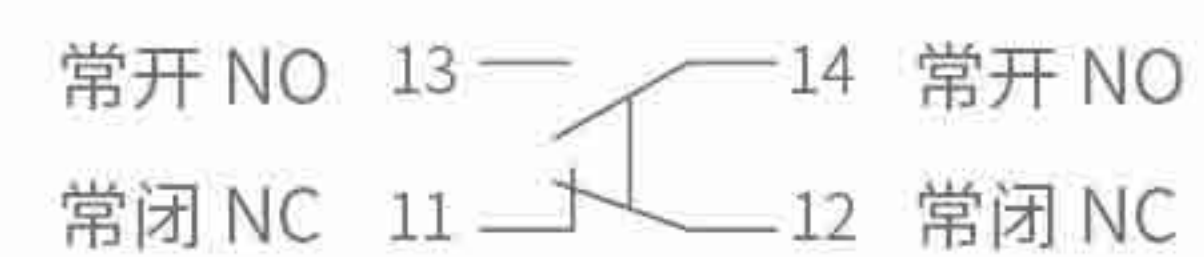
<p>KZ-8104</p>	<p>KZ-8104(钢轮) Steel wheel</p>
<p>KZ-8108</p>	<p>KZ-8108(钢轮) Steel wheel</p>
<p>KZ-8107</p>	<p>KZ-8111</p>
<p>KZ-8112</p>	<p>KZ-8122</p>
<p>KZ-8166</p>	<p>KZ-8167</p>
<p>KZ-8168</p>	<p>KZ-8169</p>



特点 Features

- ◎ 双回路型限位开关
- ◎ 结构坚固, 由锌合金及强化塑胶组成
- ◎ 可防水、防油
- ◎ 内藏触点座有双簧片设计, 机械寿命长
- ◎ 具有较大的过行程
- ◎ 三方向出线, 方便使用
- ◎ Double circuit type of limit switch
- ◎ High mechanical strength, consists of intensive plastic and aluminum cast
- ◎ Water-proof and oil proof construction
- ◎ Built-in contact box has double-spring and long mechanical life
- ◎ Smooth operation with larger over travel distance
- ◎ Three way outgoing line, easy to use

接点型式 Contact Form



额定值 Ratings

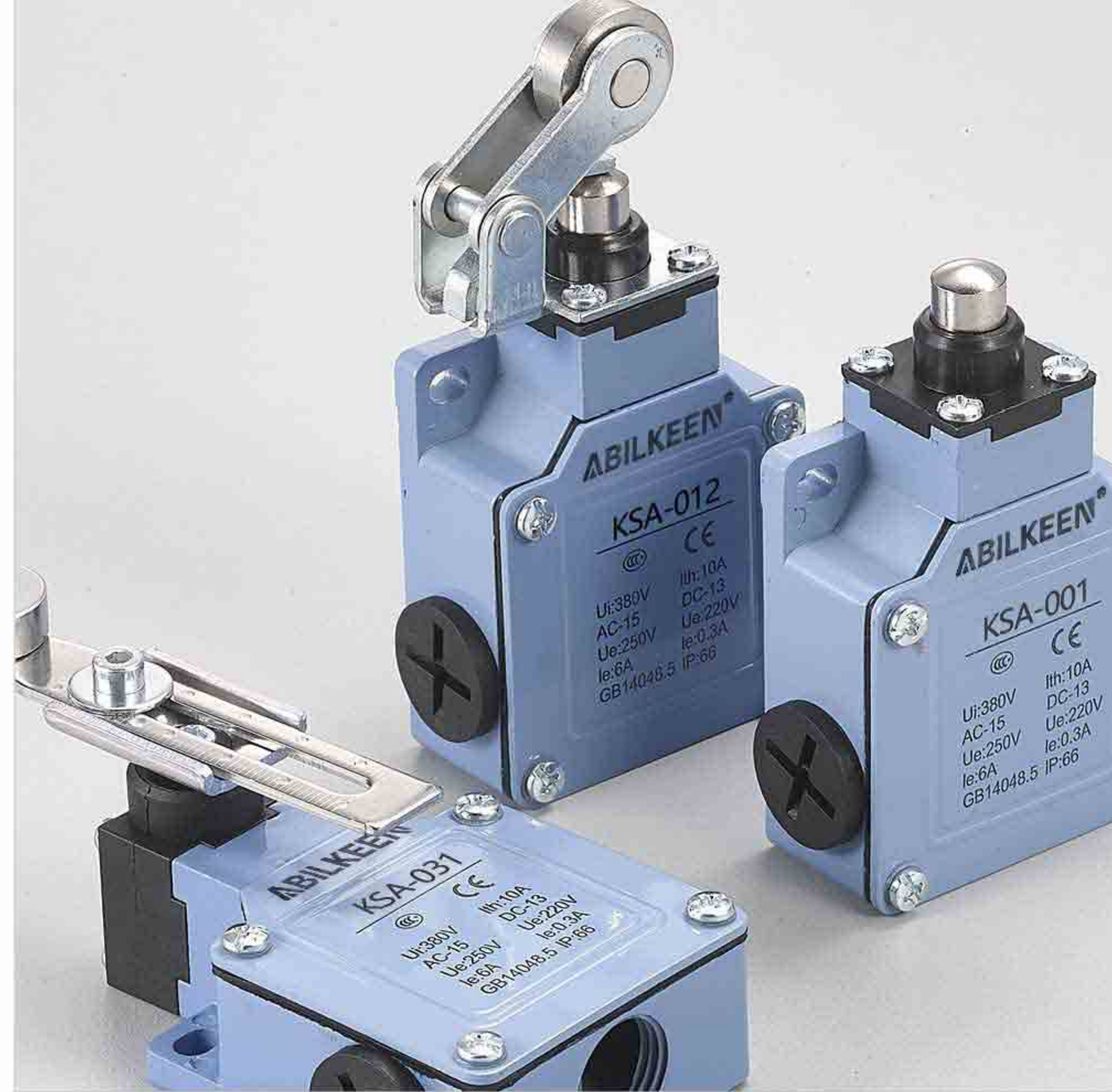
额定电压 Rated Voltage	非电感性负载 Noninductive Load (A)				电感性负载 Inductive Load (A)			
	电阻性负载 Resistance Load		灯泡负载 Lamp Load		电感性负载 Inductive Load		马达负载 Motor Load	
	NC	NO	NC	NO	NC	NO	NC	NO
125VAC	5	5	1.5	0.7	3	3	2	1
250VAC	5	5	1	0.5	3	3	1.5	0.8
8VDC	5	5	3	3	5	4	3	3
14VDC	5	5	3	3	4	4	3	3
30VDC	5	5	3	3	4	4	3	3
125VDC	0.4	0.4						
250VDC	0.2	0.2						
突入电流 Inrush Current	N.C.:24A 以下、N.O.:12A 以下 N.C.: below 24A, N.O.: below 12A							

- 注: 1. 电感性负载之功率因素在 0.4 以上 (AC), 时间常数在 7msec 以下 (DC).  
2. 灯泡负载之突入电流为稳定状态电流之 10 倍。马达负载之突入电流为稳定状态电流之 6 倍。  
3. 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。

- NOTES: 1. Inductive load has a power factor of 0.4 min.(AC) and a time constant of 7 msec. max.(DC).  
2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steady-state current.  
3. Product with spring, its usable range of operating part is within one third of the whole spring length from the front end of spring.

动作特性 Operating Characteristics

型号 Model	KSA	KSA-001	KSA-003	KSA-012	KSA-021	KSA-031	KSA-061	KSA-071	KSA-081
操作力 Operating force	OF(最大)(Max.)	800g	800g	800g	400g	400g	150g	150g	150g
回弹力 Release force	RF(最小)(Min.)	400g	400g	400g	100g	100g	50g	50g	50g
预行程 Pre-travel	PT(最大)(Max.)	1.8mm	1.8mm	1.8mm	20°	20°	30mm	30mm	30mm
触发位置 Tripping position	TP±10%	2.0mm	2.0mm	2.0mm	22.5°	22.5°	22.5°	22.5°	22.5°
行程移动分辨率 Movement differential	MD(最大)(Max.)	1.2mm	1.2mm	1.2mm	10°	10°	14°	14°	14°
过行程 Over travel	OT(最小)(Min.)	4.0mm	4.0mm	4.0mm	75°	75°	20mm	20mm	20mm
总行程 Total travel	TT(最小)(Min.)	5.8mm	5.8mm	5.8mm	95°	95°	50mm	50mm	50mm
摇臂转换分角度 Rotary indexing					22.5°	22.5°			



规格 Specifications

操作速度 Operation speed	5mm 至 0.5m/s 5mm-0.5m/s
动作频率 Operating frequency	电气: 30 次 / 分 Electrical: 30 operations/min
接点电阻 Contact resistance	25mΩ 以下 (初期) 25mΩ max. (initial value)
绝缘电阻 Insulation resistance	100MΩ 以上 (在 500VDC 下) 100MΩ min. (below 500VDC)
电介强度 Dielectric strength	非连续端子间 1,000VAC, 50/60Hz 持续 1 分钟 1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity 载电流与无载电流零件间 1,500VAC, 50/60Hz 持续 1 分钟 1500VAC, 50/60 Hz for 1 minute between current-carrying and non-current-carrying metal parts 端子和接地之间 1,500VAC, 50/60Hz 持续 1 分钟 1500VAC, 50/60 Hz for 1 minute between each terminal and ground
振动 Vibration	10 至 55Hz, 1.5mm 双振幅 10-55Hz, 1.5mm double amplitude
冲击 Shock	机械耐久: 1,000m/Sec <sup>2</sup> (约 100G <sup>2</sup> ) 误动作耐久: 300m/Sec <sup>2</sup> (约 30G <sup>2</sup> ) Mechanical durable: 1,000m/Sec <sup>2</sup> (about 100G <sup>2</sup> ) Malfunction: 300m/Sec <sup>2</sup> (about 30G <sup>2</sup> )
周围温度 Ambient temperature	使用时: -20~+70°C (没有结冰) Using: -20~+70°C (With no icing)
湿度 Humidity	95%RH 以下 <95% RH
电气寿命 Electrical life	300,000 次以上 300,000 operations above
保护构造 Degree of protection	IP66

注: 导管连接器尺寸常规默认为 M18x1.5; 导管连接器尺寸 PG11.5, 型号加 (-P), 例: KSA-012-P。

NOTES: The default size of conduit connector is M18x1.5. Conduit connector size is PG11.5, with product model number plus (-P), example KSA-012-P.



外观和尺寸 Appearance and Dimension

Model	Image	Dimensions (mm)
KSA-001		38.00-42.00, 12.50, 57.00, 25.00, 44.00, 58.00, 5.00, 4.10, 8-M3, 3 x PG.11
KSA-003		38.00-42.00, 12.50, 57.00, 25.00, 44.00, 58.00, 5.00, 4.10, 8-M3, 3 x PG.11
KSA-012		38.00-42.00, 12.00, 54.00, 25.00, 44.00, 58.00, 5.00, 4.10, 8-M3, 3 x PG.11
KSA-021		38.00-42.00, 12.00, 54.00, 25.00, 44.00, 58.00, 5.00, 4.10, 8-M3, 3 x PG.11
KSA-031		38.00-42.00, 12.00, 54.00, 25.00, 44.00, 58.00, 5.00, 4.10, 8-M3, 3 x PG.11
KSA-061		38.00-42.00, 12.50, 142.50, 25.00, 44.00, 58.00, 5.00, 4.10, 8-M3, 3 x PG.11
KSA-071		38.00-42.00, 12.50, 142.50, 25.00, 44.00, 58.00, 5.00, 4.10, 8-M3, 3 x PG.11
KSA-081		38.00-42.00, 12.50, 142.50, 25.00, 44.00, 58.00, 5.00, 4.10, 8-M3, 3 x PG.11

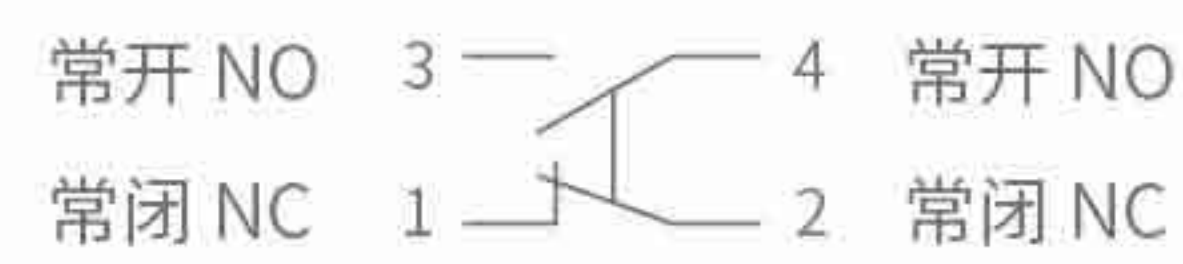
限位开关  
Limit Switch  
微动开关  
Micro Switch  
脚踏开关  
Foot Switch  
传感器  
Sensor



**特点 Features**

- ◎ 双回路型限位开关
- ◎ 具有高机械强度的一体铸造铝合金外壳
- ◎ 具耐油、防水和防压结构
- ◎ 引动器种类多，方便使用
- ◎ 内藏接点座有双簧片设计，机械寿命长
- ◎ Double-circuit type of limit switch
- ◎ High mechanical strength, mainly consists of aluminum cast
- ◎ Water-proof and oil-proof construction
- ◎ Various actuators for different applications
- ◎ Built-in contact box with double spring mechanism, longer mechanical life

**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
125VAC	10	3	1.5	10	5	2		
250VAC	5	2	1	5	3	1		
480VAC	3	1.5	0.8	3	1.5	0.8		
600VAC	1	1	0.5	1.5	1	0.5		
8VDC	10	6	3	10	6			
14VDC	10	6	3	10	6			
30VDC	6	4	3	6	4			
125VDC	0.8	0.2	0.2	0.8	0.2			
250VDC	0.4	0.1	0.1	0.4	0.1			

注：1、电感性负载：功率因素=0.4；时间常数=7msec。  
2、灯泡负载之突入电流为稳定状态电流之10倍，马达负载之突入电流为稳定状态电流之6倍。  
3、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。  
NOTES: 1. Inductive load has a power factor of 0.4 min.(AC) and a time constant of 7 msec. max.(DC).  
2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steady-state current.  
3. Product with spring, its usable range of operating part is within one third of the whole spring length from the front end of spring.

**动作特性 Operating Characteristics**

型号 Model	KWL	KWLCA2-2	KWLD2	KWLNJ	KWLNJ-S2	KWLCA12-2-Q	KWLCL	KWLCA32-41 KWLCA32-42	KWLD	KWLNJ-2	KWLNJ-30	KWLD1	KWLD3
操作力 Operating force	OF(最大)(Max.)	1360g	2720g	150g	29g	1360g	142g	1200g	2720g	120g	80g	2720g	2720g
回弹力 Release force	RF(最小)(Min.)	227g	910g	-	-	227g	28g	-	910g	-	-	910g	910g
预行程 Pre-travel	PT(最大)(Max.)	20°	1.7mm	28mm	28mm	20°	20°	55°	1.7mm	28mm	28mm	1.7mm	1.7mm
过行程 Over travel	OT(最小)(Min.)	30°	5.6mm	-	-	30°	30°	35°	6.4mm	-	-	5.6mm	5.6mm
行程移动分辨率 Movement differential	MD(最大)(Max.)	12°	1mm	-	-	12°	12°	-	1mm	-	-	1mm	1mm
总行程动作力 Total force	TF最大(Max.)	2720g	-	-	-	2720g	200g	-	-	-	-	2720g	2720g
总行程 Total travel	TT最小(Min.)	50°	6.5±0.8mm	-	-	50°	50°	OP:90±10°	OP:34±2.8mm	-	-	6.5±0.8mm	9±0.8mm



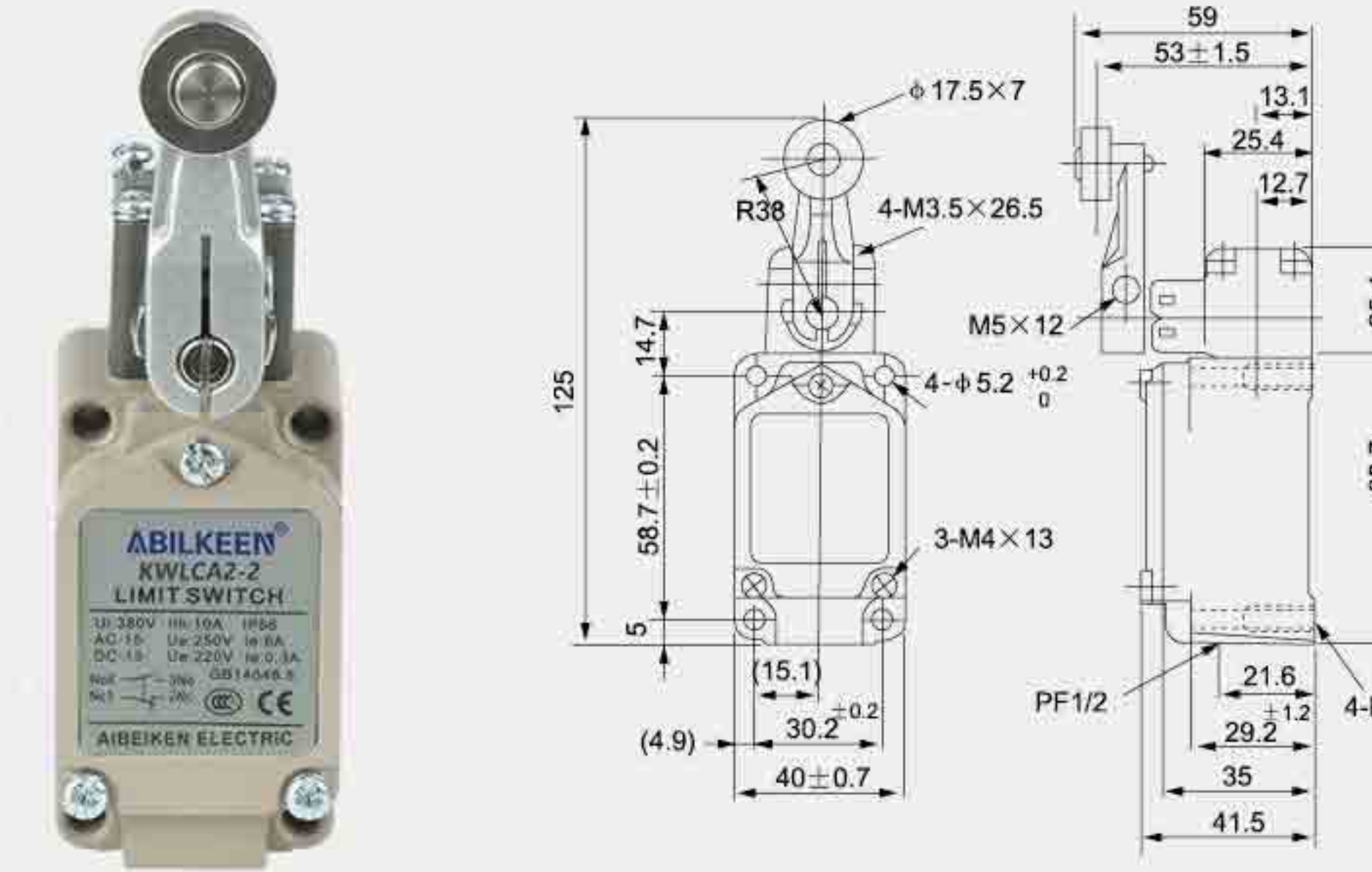
**规格 Specifications**

操作速度 Operation speed	1mm 至 1m/s(CWLCA2 型) 1mm-1m/s
动作频率 Operating frequency	电气:30 次/分 Electical: 30 operations/min
接点电阻 Contact resistance	25mΩ 以下(初期) 25mΩ max. (initial value)
绝缘电阻 Insulation resistance	100MΩ 以上(在 500VDC 下) 100MΩ min. (below 500VDC)
电介强度 Dielectric strength	非连续端子间 1,000VAC, 50/60Hz 持续 1 分钟 1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity 载电流与无载电流零件间 1,500VAC, 50/60Hz 持续 1 分钟 1500VAC, 50/60 Hz for 1 minute between current-carrying and non-current-carrying metal parts 端子和接地之间 1,500VAC, 50/60Hz 持续 1 分钟 1500VAC, 50/60 Hz for 1 minute between each terminal and ground
振动 Vibration	10 至 55Hz, 1.5mm 双振幅 10-55Hz, 1.5mm double amplitude
冲击 Shock	机械耐久:1,000m/Sec <sup>2</sup> (约 100G' S) 误动作耐久:300m/Sec <sup>2</sup> (约 30G' S) Mechanical durable: 1,000m/Sec <sup>2</sup> (about 100G'S) Malfunction: 300m/Sec <sup>2</sup> (about 30G'S)
周围温度 Ambient temperature	使用时:-20~+80°C(没有结冰) Using: -20~+80°C(With no icing)
湿度 Humidity	95%RH 以下 <95% RH
电气寿命 Electrical life	500,000 次以上 500,000 operations above
保护构造 Degree of protection	IP66

注：导管连接器尺寸常规默认为 M20x1.5，配电缆接头；导管连接器尺寸 PG13.5，型号加 (-P)，例：KWLCA2-2-P。  
NOTES: The default size of conduit connector is M20x1.5, outfitting cable connector. Conduit connector size is PG13.5, with product model number plus (-P), example:KWLCA2-2-P.

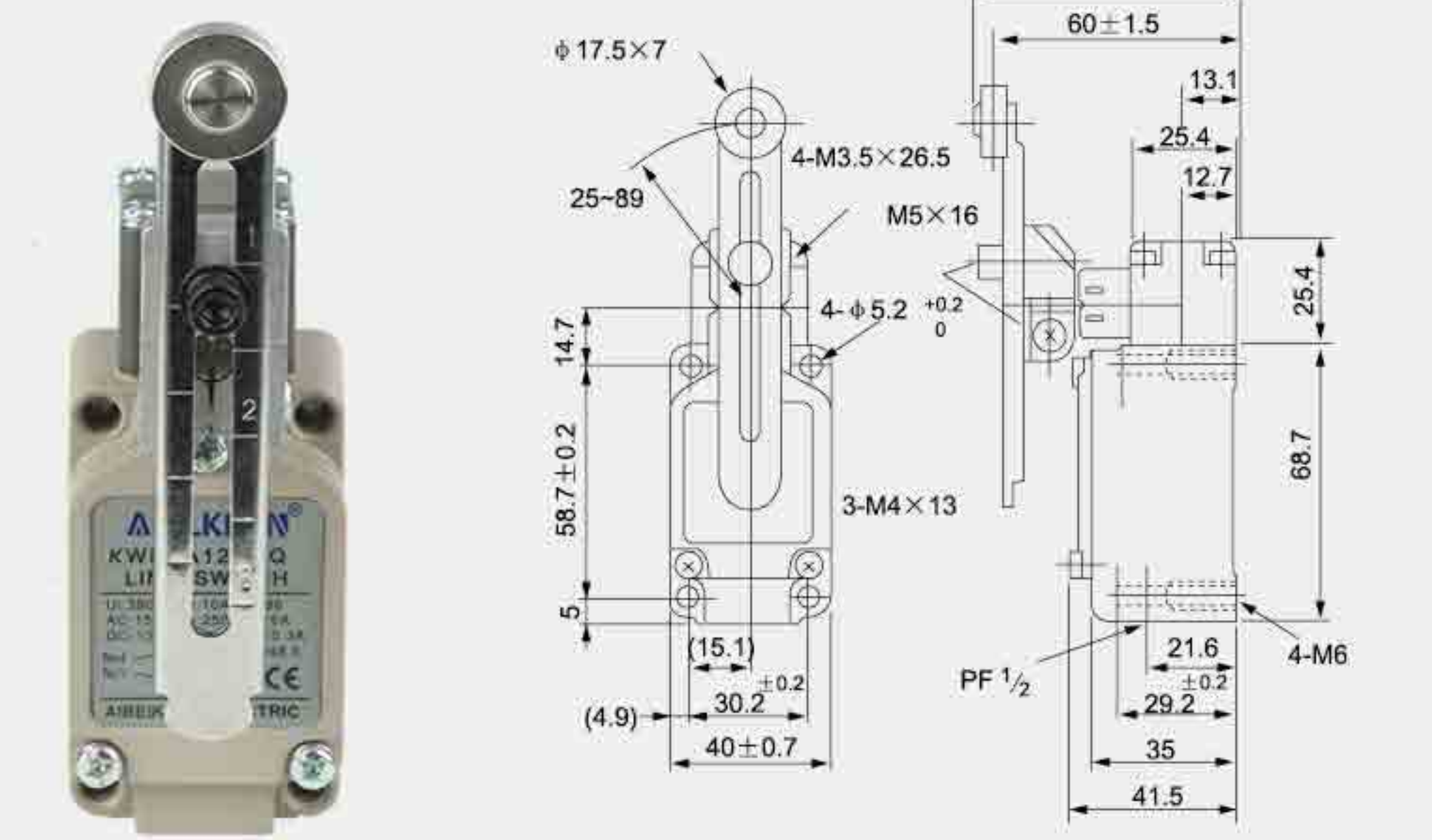
**外观和尺寸 Appearance and Dimension**

KWLCA2-2



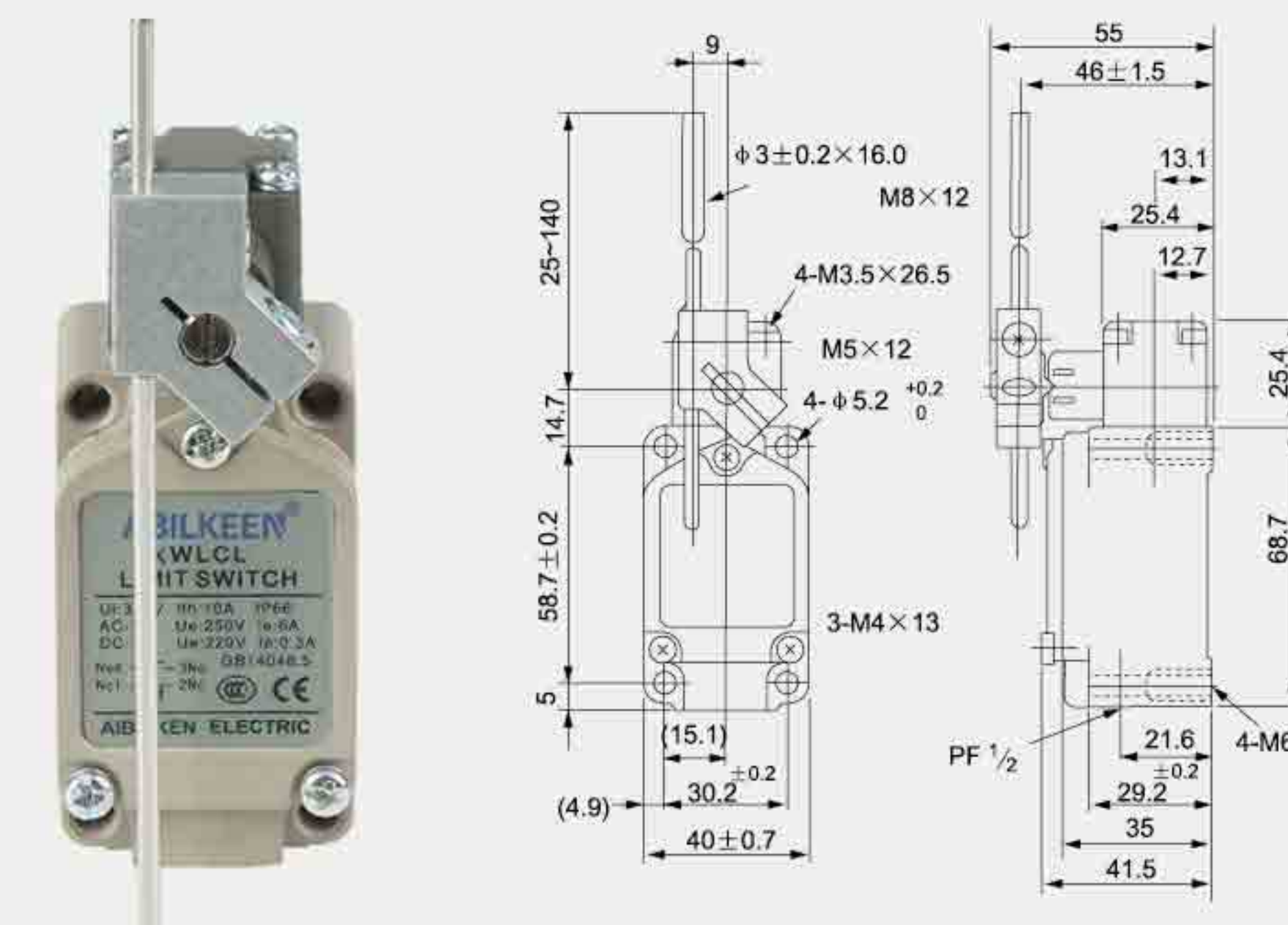
定制塑胶滚轮，型号后加 (-G)  
Customized plastic roller with (-G) after model

KWLCA12-2-Q

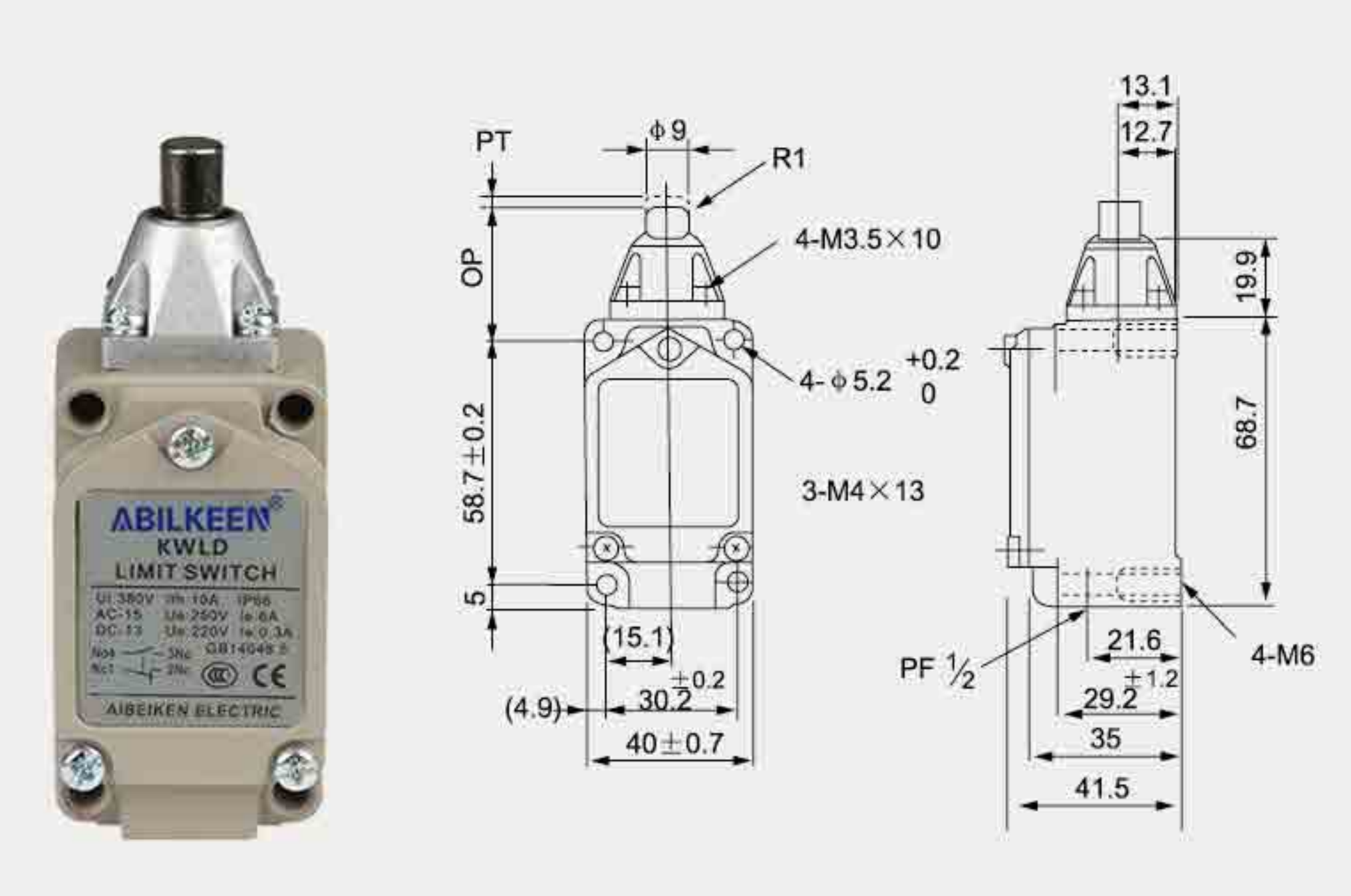


定制塑胶滚轮，型号后加 (-G)  
Customized plastic roller with (-G) after model

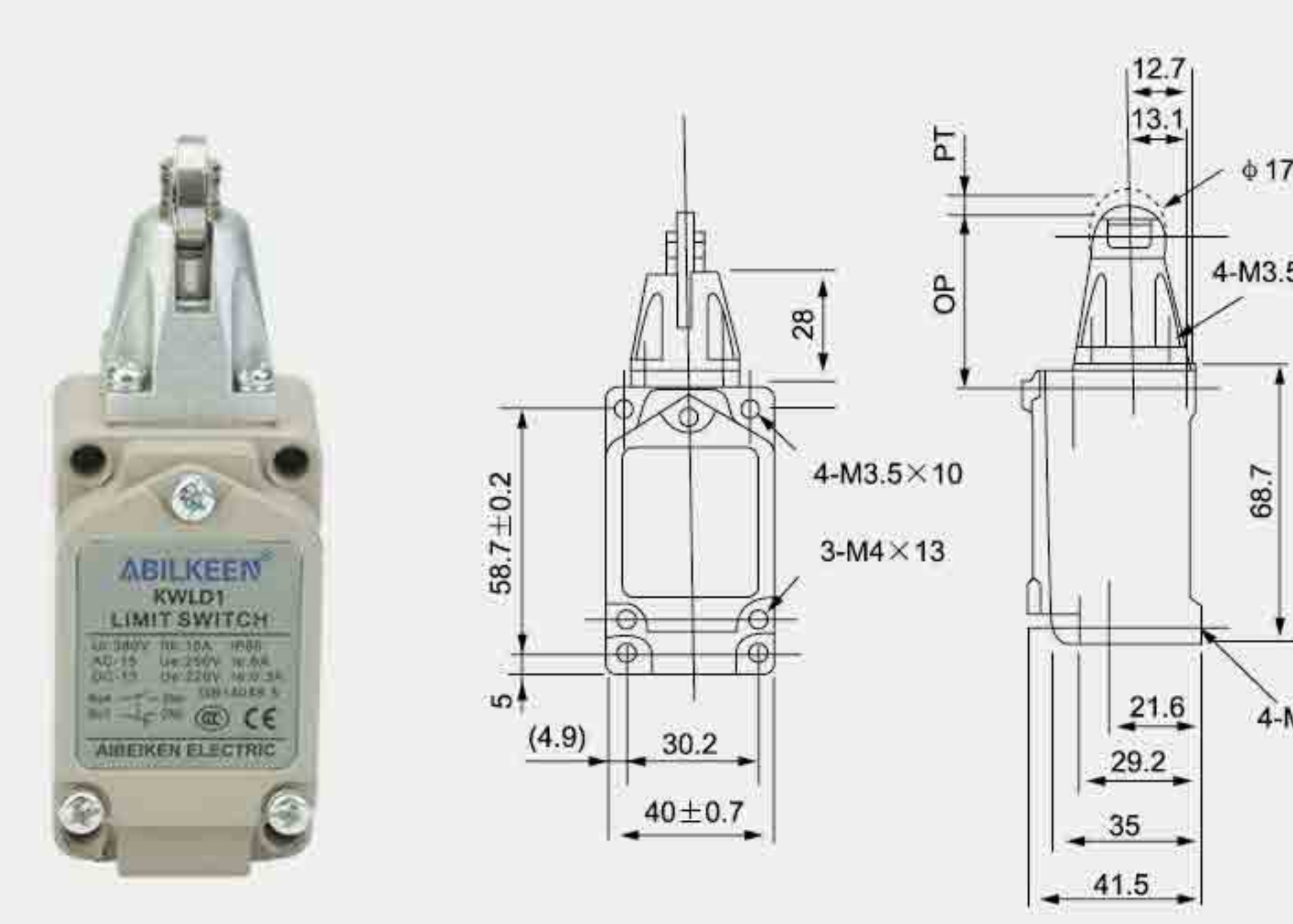
KWLCL



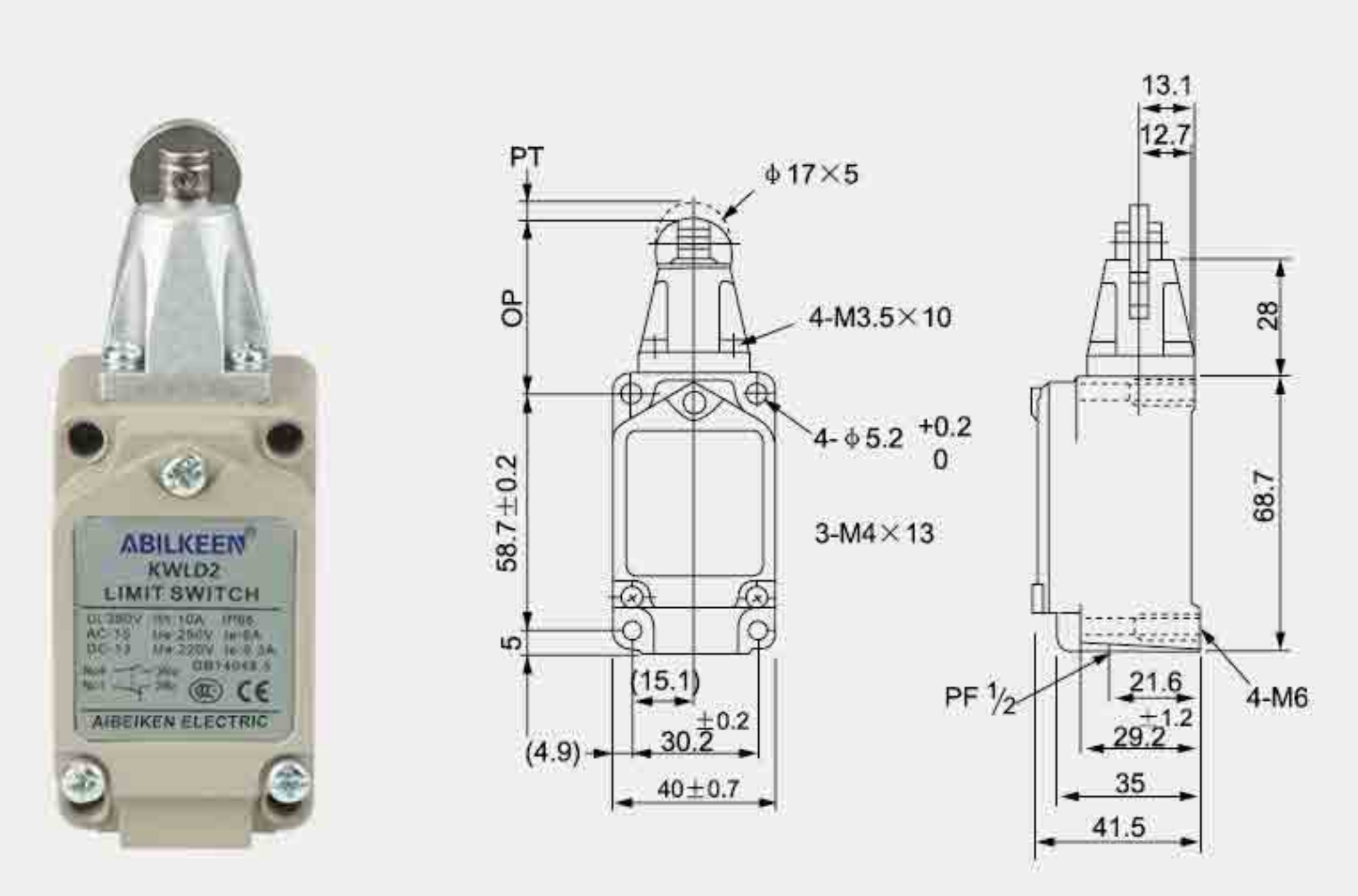
KWLD



KWLD1



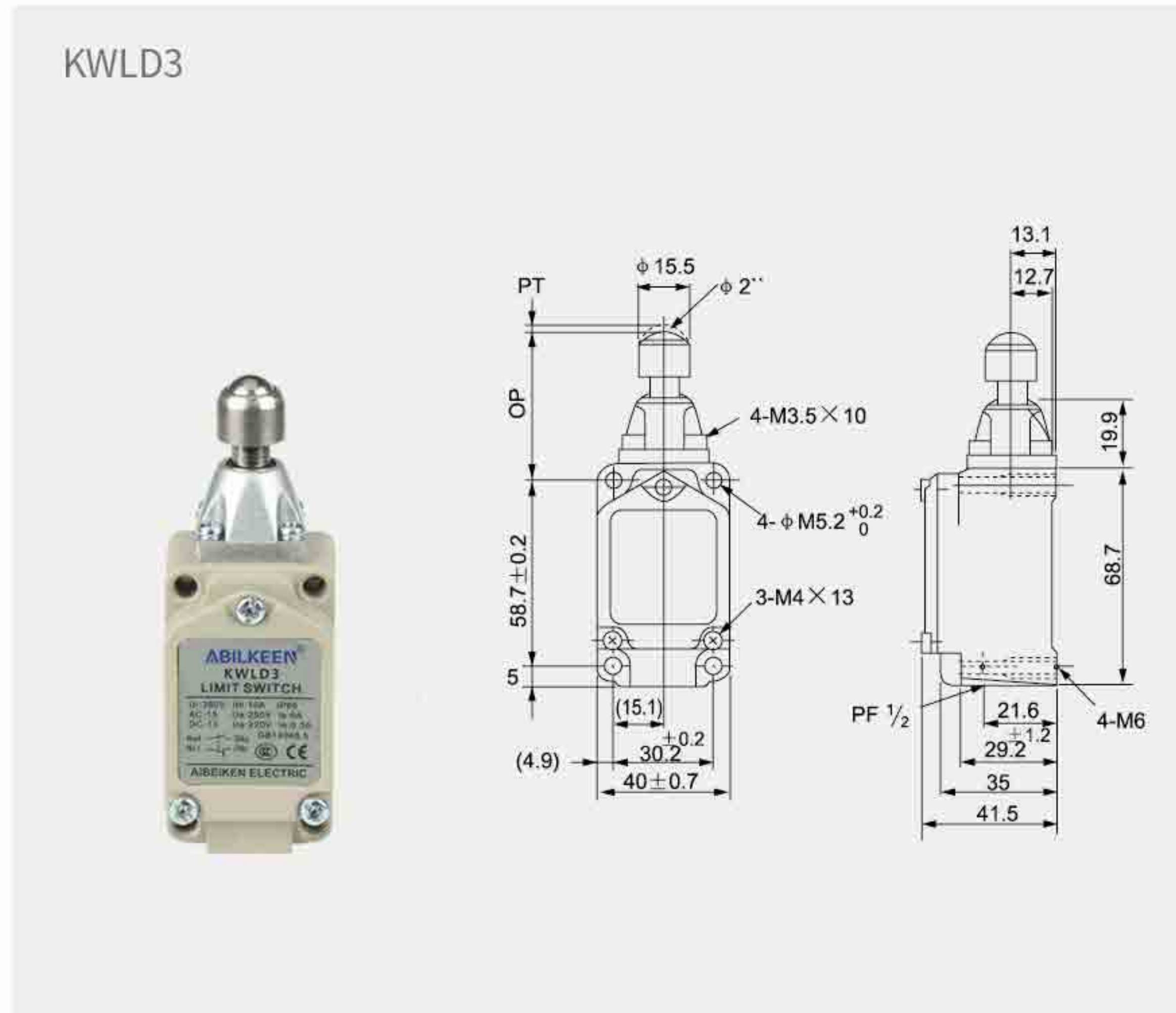
KWLD2







外观和尺寸 Appearance and Dimension

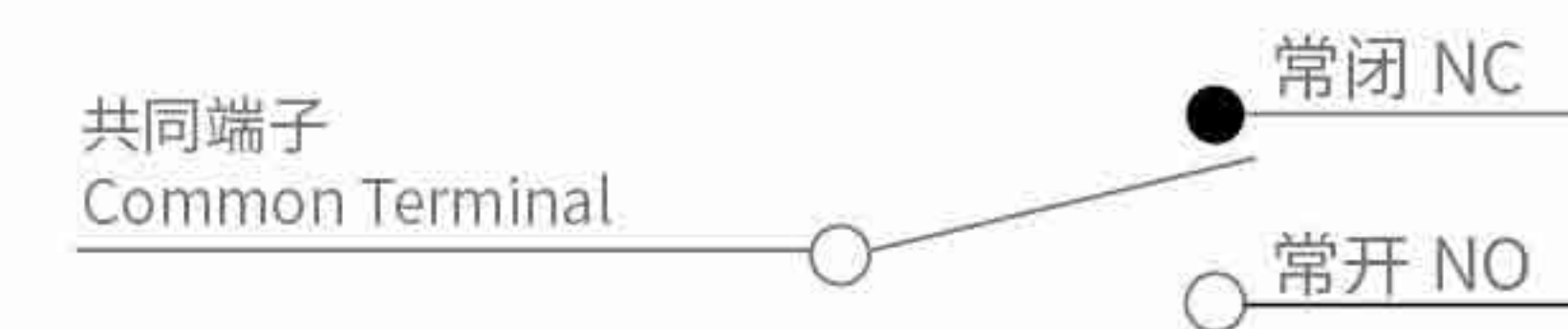


特点 Features

- ◎ 具有高机械强度的一体铸造铝合金外壳
- ◎ 具耐油, 防水和防尘结构
- ◎ 引动器种类多, 方便使用
- ◎ High mechanical strength, mainly consists of aluminum cast
- ◎ Water proof, oil proof and dust proof construction
- ◎ Various actuators for different applications



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
125VAC	5 (0.1)	1.5	0.7		3	2.5	1.3	
250VAC	3	1	0.5		2	1.5	0.8	
8VDC	5 (0.1)		2		5	4	3	
14VDC	5 (0.1)		2		4	4	3	
30VDC	4 (0.1)		2		3	3	3	
125VDC	0.4		0.05		0.4	0.4	0.05	
250VDC	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.

规格 Specifications

额定值 Rating	2A 250VAC
操作速度 Operation speed	1mm~1m/s( 摆杆型 Swing rod type) 0.1mm~0.5m/s( 柱塞型 Plunger type)
动作频率 Operating frequency	电气:30 次 / 分 Electical: 30 operations/min
接点电阻 Contact resistance	25mΩ 以下 (初期) 25mΩ max. (initial value)
绝缘电阻 Insulation resistance	100MΩ 以上 (在 500VDC 下) 100mΩ min. (below 500VDC)
电介强度 Dielectric strength	非连续端子间 1,000VAC, 50/60Hz 持续 1 分钟 1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity 载电流与无载电流零件间 1,500VAC, 50/60Hz 持续 1 分钟 1500VAC, 50/60 Hz for 1 minute between each terminal and ground
振动 Vibration	10-55Hz, 1.5mm 双振幅 10 to 55Hz, 1.5mm double amplitude
冲击 Shock	机械耐久: 1000m/s <sup>2</sup> 以上 (约 100G 以上) 误动作耐久: 500m/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)
周围温度 Ambient temperature	-20~+70 °C (没有结冰) Using: -20~+70°C (With no icing)
湿度 Humidity	< 95% RH
电气寿命 Electrical life	20 万次以上 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 Protection level	IP67

动作特性 Operating Characteristics

型号 Model	KZ-3	KZ-3101	KZ-3102	KZ-3103	KZ-3104 (3107/3108)	KZ-3111	KZ-3112	KZ-3113	KZ-3169 (3166/3167/3168)
操作力 Operating force	OF(最大)(Max.)	11.77N	11.77N	11.77N	5.69N	17.65N	17.65N	17.65N	1.47N
回弹力 Release force	RF(最小)(Min.)	4.41N	4.41N	4.41N	1.47N	4.41N	4.41N	4.41N	-
预行程 Pre-travel	PT(最大)(Max.)	1.8mm	1.8mm	1.8mm	25	1.8mm	1.8mm	1.8mm	15°
过行程 Over travel	OT(最小)(Min.)	3mm	3mm	3mm	40	3mm	3mm	3mm	-
行程移动分辨率 Movement differential	MD(最大)(Max.)	0.2mm	0.2mm	0.2mm	3	0.2mm	0.2mm	0.2mm	-
动作位置 Operating Position	TT 最小 (Min.)	15.7±1mm	28.5±1mm	28.5±1mm	-	24.9±1mm	34.3±1mm	34.3±1mm	-

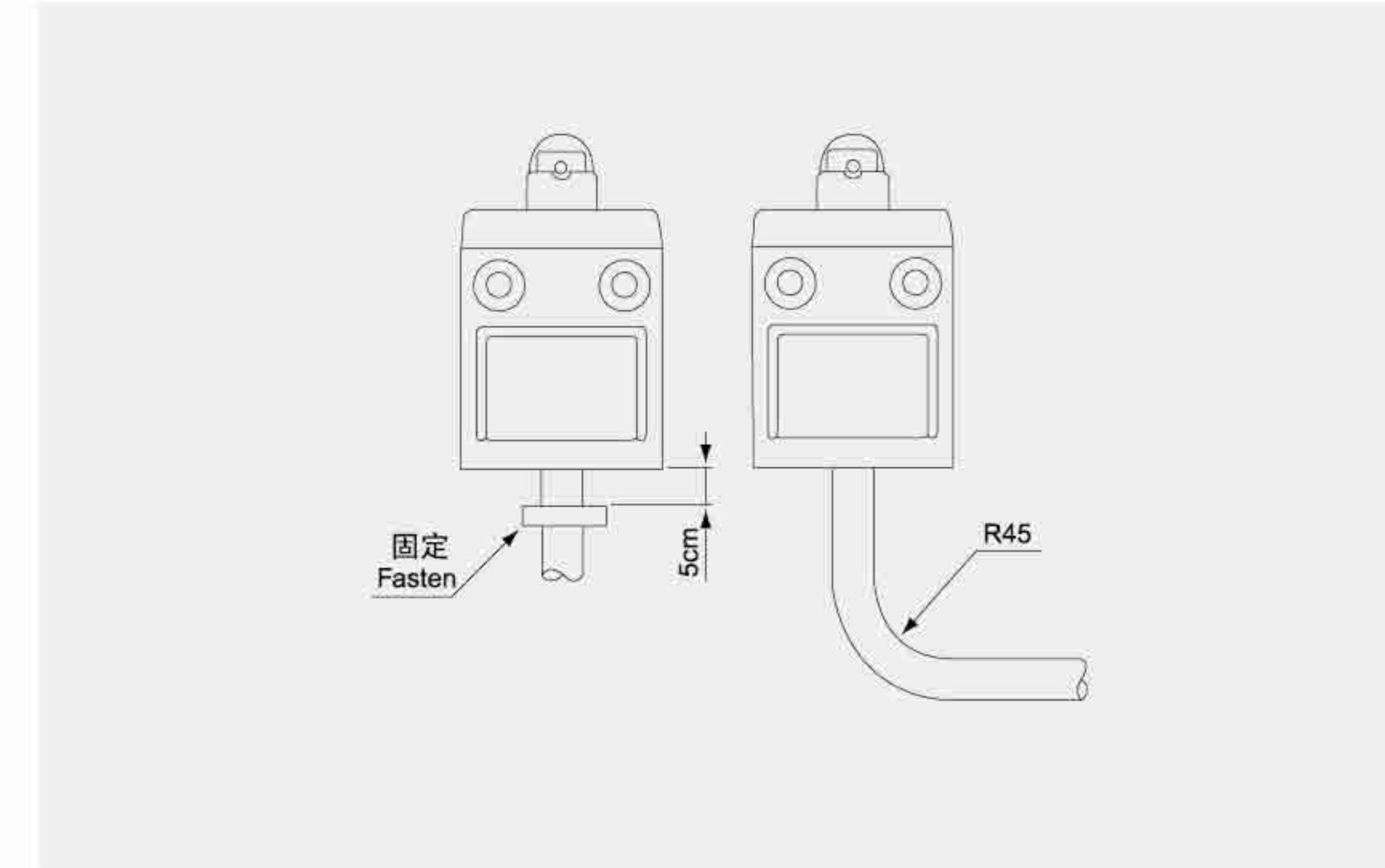


外观和尺寸 Appearance and Dimension

<p>KZ-3101</p>	<p>KZ-3102</p>
<p>KZ-3103</p>	<p>KZ-3104</p>
<p>KZ-3107</p>	<p>KZ-3108</p>
<p>KZ-3111</p>	<p>KZ-3112</p>
<p>KZ-3113</p>	<p>KZ-3166</p>
<p>KZ-3169</p>	

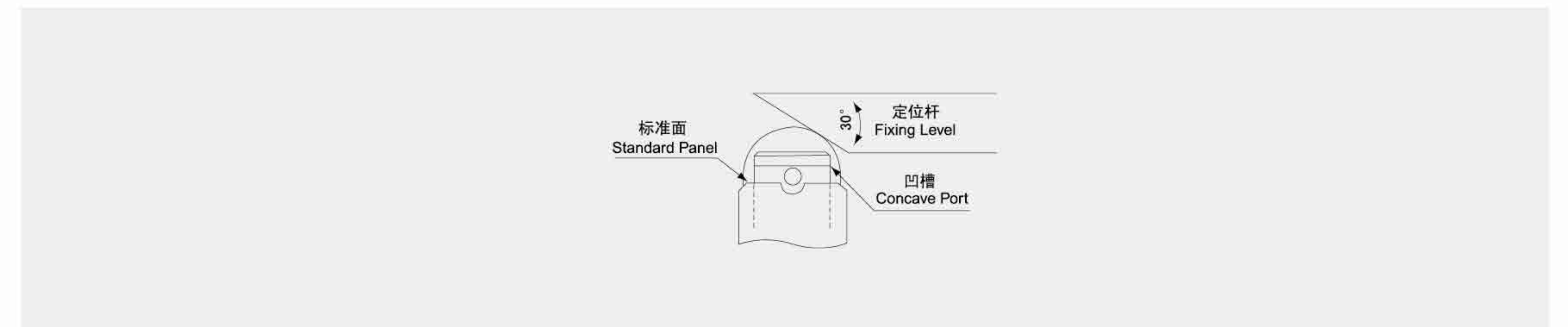
配线注意事项 Cabling Attention

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.

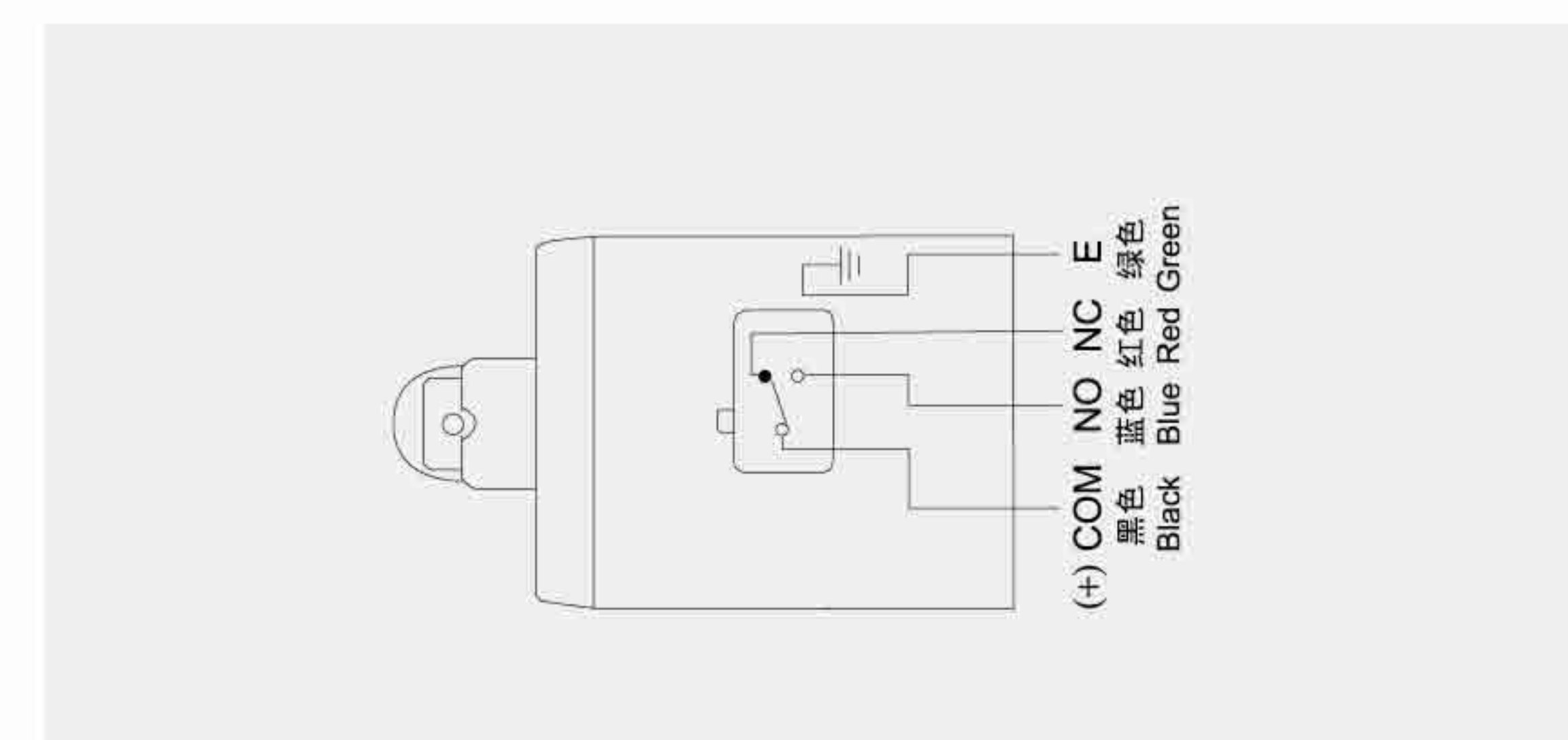


安装注意事项 Installation Attention

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合适之位置。  
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

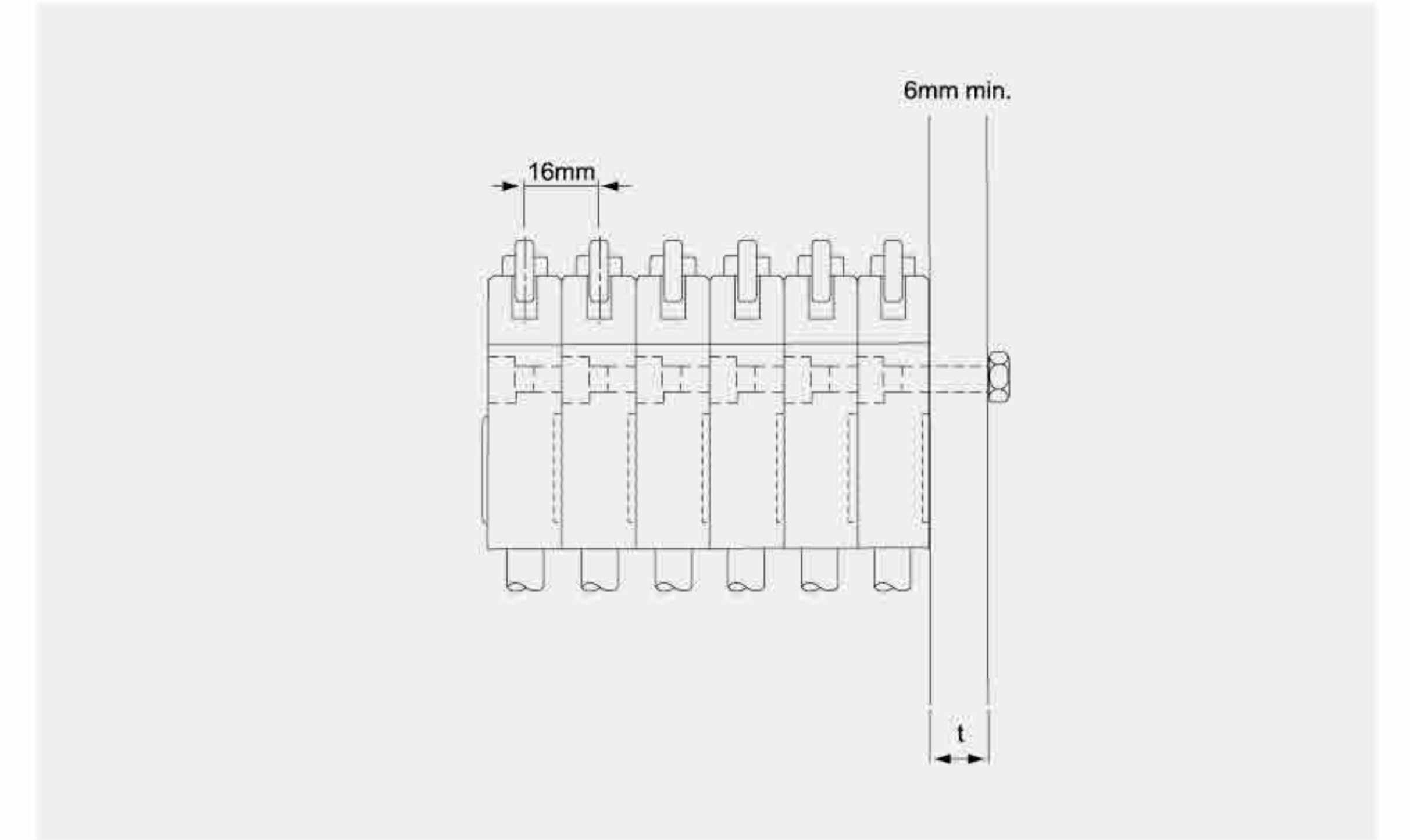


接点型式 Contact Form



多连接使用的场合 Quantity Mounted Using Attention

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.

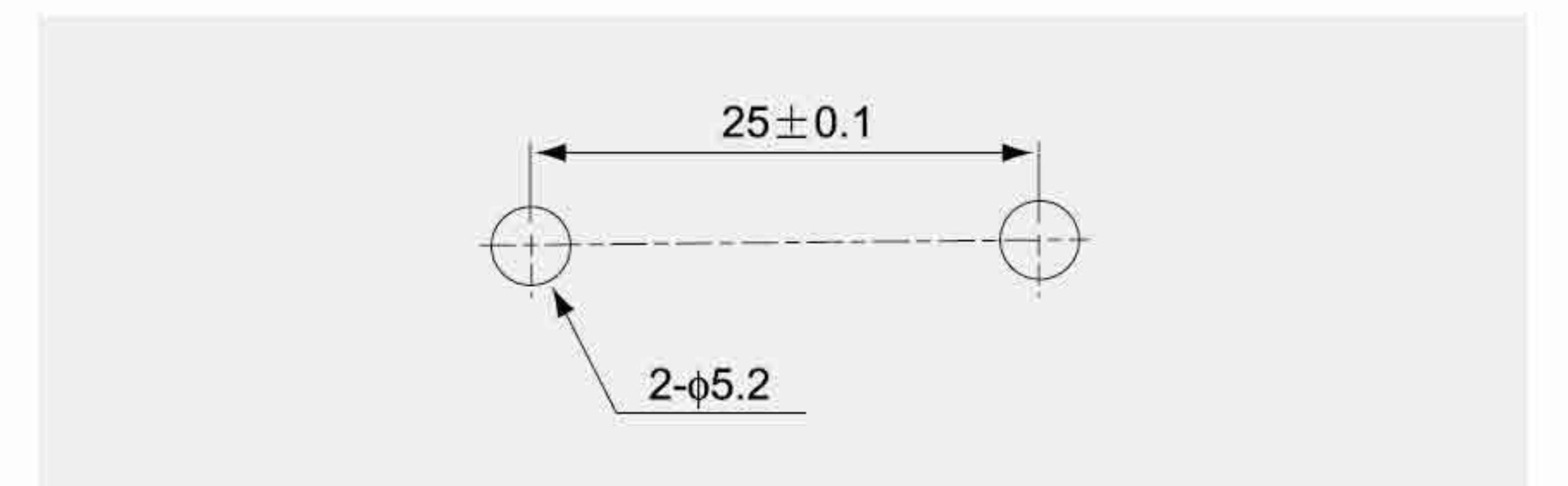


请依下表所示选择最适当之旋转扭力，施行锁紧作业，以避免伤害开关本体。  
Recommended tightening torque according to the following form.

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)

装配孔尺寸 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.

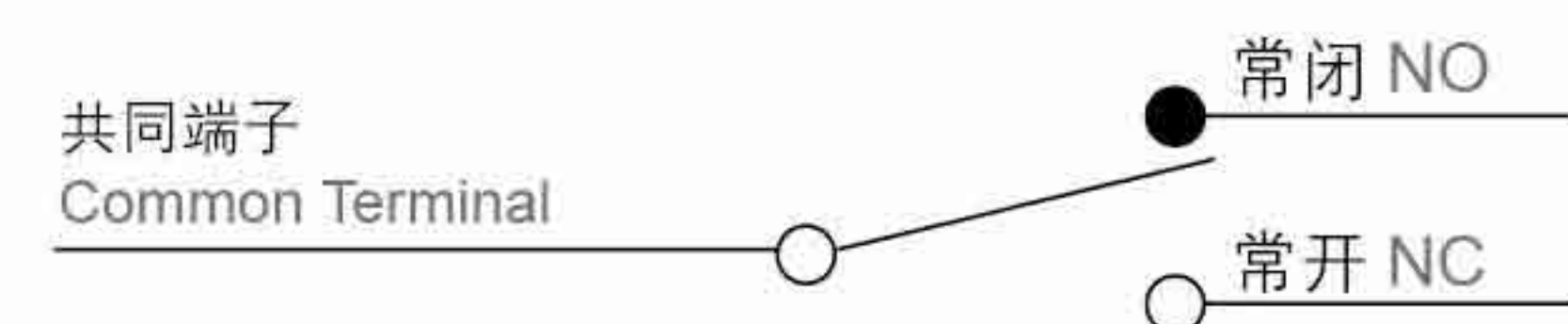




## 特点 Features

- ◎ 引动器种类广泛, 其中包含动作位置可调整的款式 (如 KZ-7121)
- ◎ 外壳包覆强化塑胶、防水、防油, 较 KM 型卧式限位开关有更高的机械强度, 耐冲击
- ◎ Various actuators and some with adjustable operating position (such as KZ-7121)
- ◎ Shell covered with intensive plastic for water-proof and oil-proof. The mechanical strength is better than KM series of horizontal limit switch

## 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	
125VAC	10		3	1.5	10	5	2.5
250VAC	10		2.5	1.25	5	3	1.5
480VAC	3		1.5	0.75	3	1.5	0.75
8VDC	10		3	1.5	10	6	5
14VDC	10		3	3	10	6	5
30VDC	8		3	3	6	5	2.5
125VDC	0.5		0.4	0.2	0.8	0.05	0.05
250VDC	0.25		0.2	0.1	0.4	0.03	0.03

- 注: 1. 电感性负载: 功率因素=0.4; 时间常数=7msec.  
 2. 灯泡负载之突入电流为稳定状态电流之10倍。马达负载之突入电流为稳定状态电流之6倍。  
 3. 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。
- NOTES: 1. Inductive load has a power factor of 0.4 min.(AC) and a time constant of 7 msec. max.(DC).  
 2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steady-state current.  
 3. Product with spring, its usable range of operating part is within one third of the whole spring length from the front end of spring.

## 动作特性 Operating Characteristics

型号 Model	KZ-7	KZ-7100	KZ-7110	KZ-7310	KZ-7311	KZ-7312	KZ-7120	KZ-7140	KZ-7121	KZ-7141	KZ-7124	KZ-7144	KZ-7166
操作力 Operating force	OF(最大)(Max.)	600g	600g	600g	600g	600g	150g	220g	180g	240g	200g	280g	120g
回弹力 Release force	RF(最小)(Min.)	100g	100g	100g	100g	100g	40g	60g	50g	80g	60g	100g	
预行程 Pre-travel	PT(最大)(Max.)	2.0mm	2.0mm	2.0mm	2.0mm	2.0mm	13.5mm	8.5mm	11.0mm	6.5mm	11mm	6.5mm	250mm
过行程 Over travel	OT(最小)(Min.)	0.8mm	5.0mm	6.0mm	6.0mm	6.0mm	4.0mm	2.5mm	3.0mm	2.0mm	3.0mm	2.0mm	11mm
行程移动分辨率 Movement differential	MD(最大)(Max.)	0.8mm	0.8mm	0.8mm	0.8mm	0.8mm	3.2mm	2.0mm	2.4mm	1.5mm	2.4mm	1.5mm	
总行程操作力 Total force	OP(mm.)	30.5±0.8mm	44±1.2mm	21.8±1.2mm	33.3±1.2mm	33.3±1.2mm	25±1mm	25±1mm	40±1mm	40±1mm	50±1.2mm	50±1.2mm	
总行程 Total travel	FP						35mm	32mm	46mm	46mm	56mm	56mm	



## 规格 Specifications

操作速度 Operation speed	0.05mm/s 至 0.5m/s
动作频率 Operating frequency	电气: 20次/分 Electrical: 20 operations/min
接点电阻 Contact resistance	25mΩ 以下 (初期) 25mΩ max. (initial value)
绝缘电阻 Insulation resistance	100MΩ 以上 (在 500VDC 下) 100MΩ min. (below 500VDC)
电介强度 Dielectric strength	非连续端子间 1,000VAC, 50/60Hz 持续 1分钟 1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity 载电流与无载电流零件间 1,500VAC, 50/60Hz 持续 1分钟 1500VAC, 50/60 Hz for 1 minute between current-carrying and non-current-carrying metal parts 端子和接地之间 1,500VAC, 50/60Hz 持续 1分钟 1500VAC, 50/60 Hz for 1 minute between each terminal and ground
振动 Vibration	10 至 55Hz, 1.5mm 双振幅 10-55Hz, 1.5mm double amplitude
冲击 Shock	机械耐久: 1,000m/Sec <sup>2</sup> (约 100G <sup>2</sup> ) 误动作耐久: 300m/Sec <sup>2</sup> (约 30G <sup>2</sup> ) Mechanical durable: 1,000m/Sec <sup>2</sup> (about 100G <sup>2</sup> ) Malfunction: 300m/Sec <sup>2</sup> (about 30G <sup>2</sup> )
周围温度 Ambient temperature	使用时: -20~+70°C (没有结冰) Using: -20~+70°C (With no icing)
湿度 Humidity	95%RH 以下 <95% RH
电气寿命 Electrical life	500,000 次以上 500,000 operations above
重量 Weight	约 60g About 60g

注: 导管连接器尺寸常规默认为 M20x1.5, 配电缆接头; 导管连接器尺寸 PG13.5, 型号加 (-P), 例: KWLCA2-2-P。  
 NOTES: The default size of conduit connector is M20x1.5, outfitting cable connector. Conduit connector size is PG13.5, with product model number plus (-P), example: KWLCA2-2-P



## 外观和尺寸 Appearance and Dimension

限位开关  
Limit Switch  
微动开关  
Micro Switch  
脚踏开关  
Foot Switch  
传感器  
Sensor

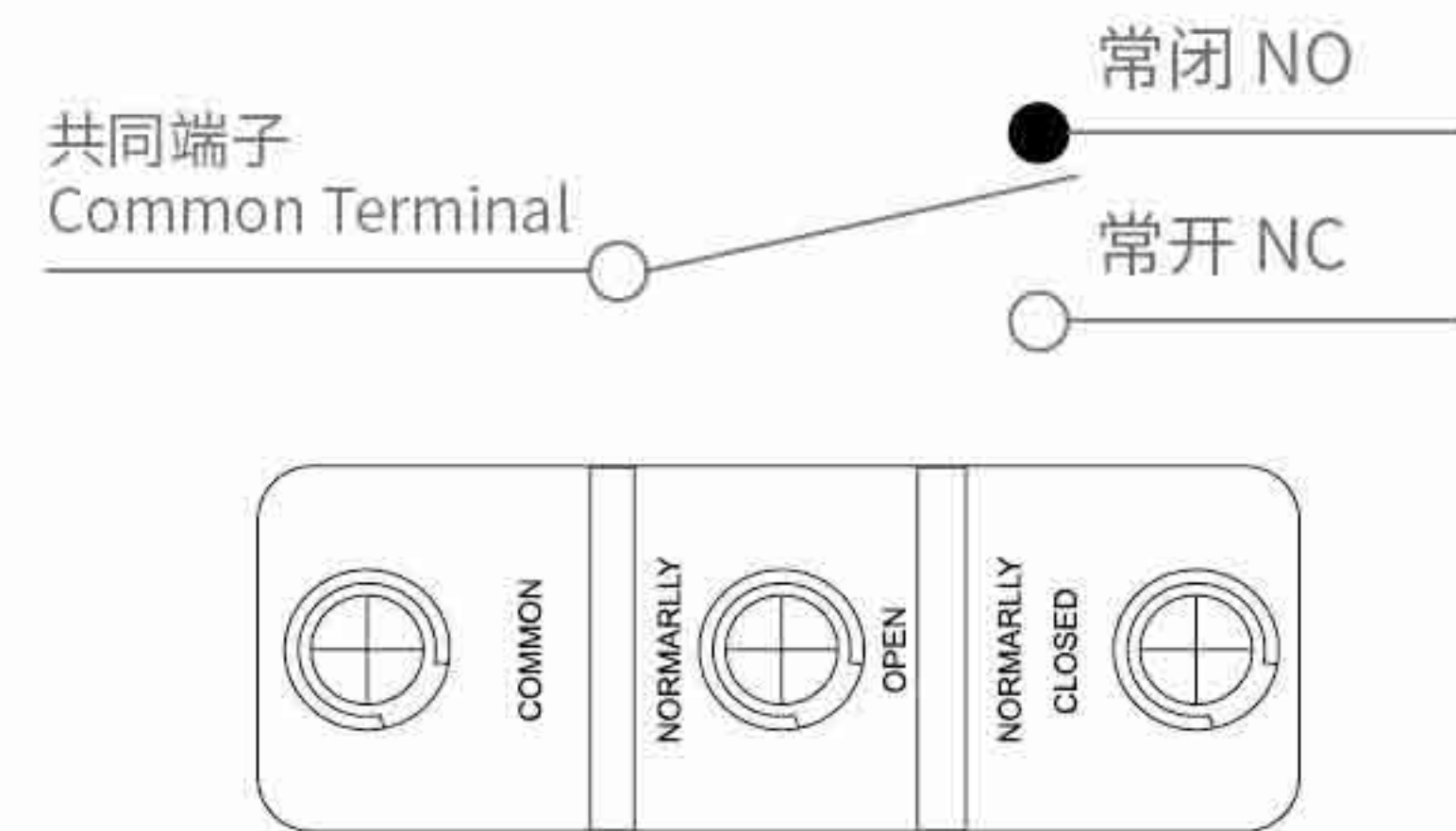


特点 Features

- 酚醛胶木壳体
- 引动器种类广泛, 其中包含动作位置可调整的款式 (如 KM1701)
- 高精度广泛操作速度范围
- Phenolic bakelite shell
- Various actuators and some with adjustable operating position (such as KM1701)
- High accuracy wide range of operation speed



接点型式 Contact Form



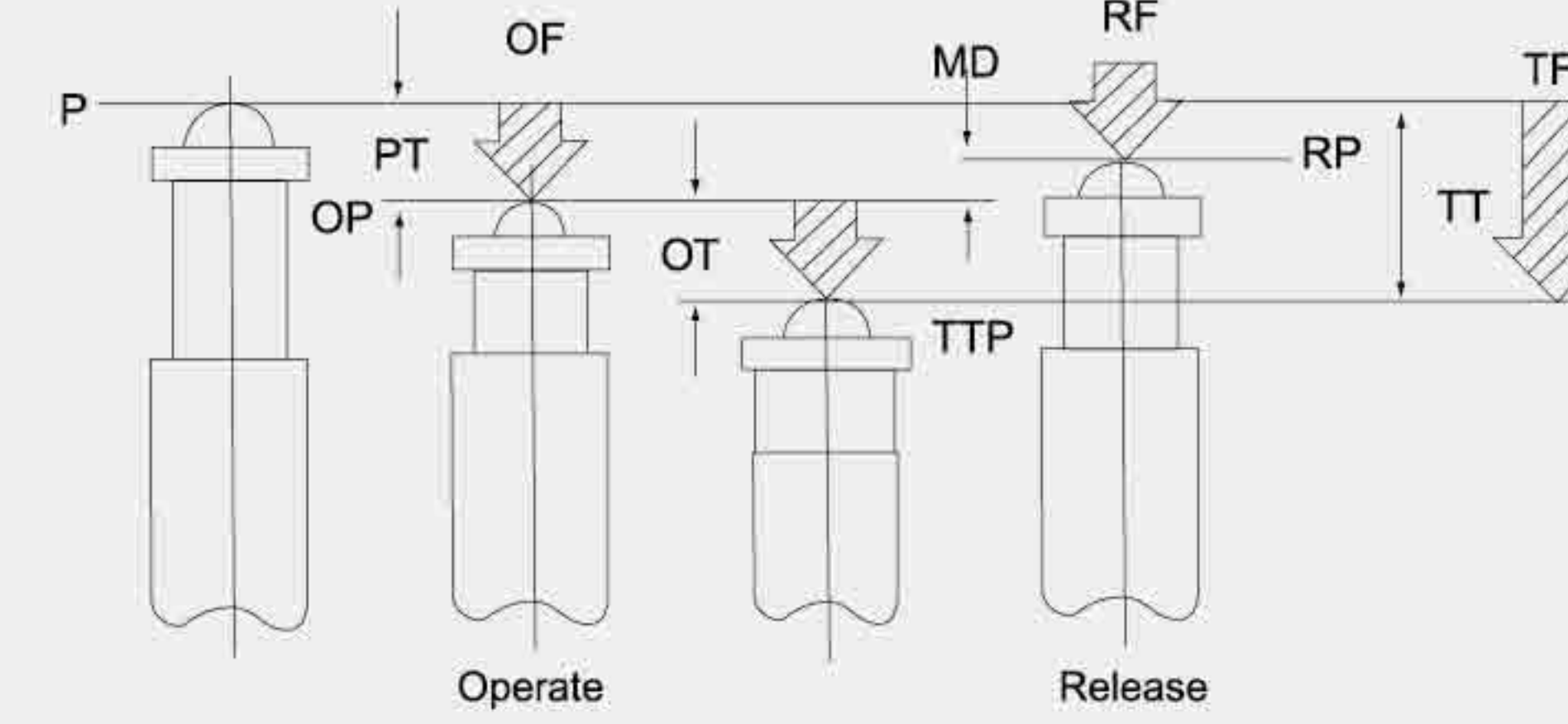
\* 黄铜端子螺丝, 型号后加 (-T).  
\* Brass terminal screw, model plus (-T).

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)				突入 电流 (A) Inrush Current	
	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		
125VAC	15	3	1.5	15	5	2.5	30 以下 max.	15 以下 max.		
250VAC	15	2.5	1.25	15	3	1.5				
500VAC	3	1.5	0.75	2.5	1.5	0.75				
8VDC	15	3	1.5	15	5	2.5				
14VDC	15	3	1.5	10	5	2.5				
30VDC	6(2)	3	1.5	5	5	2.5				
125VDC	0.4	0.4	0.4	0.05	0.05	0.05				
250VDC	0.2	0.2	0.2	0.03	0.03	0.03				

动作特性 Operating Characteristics

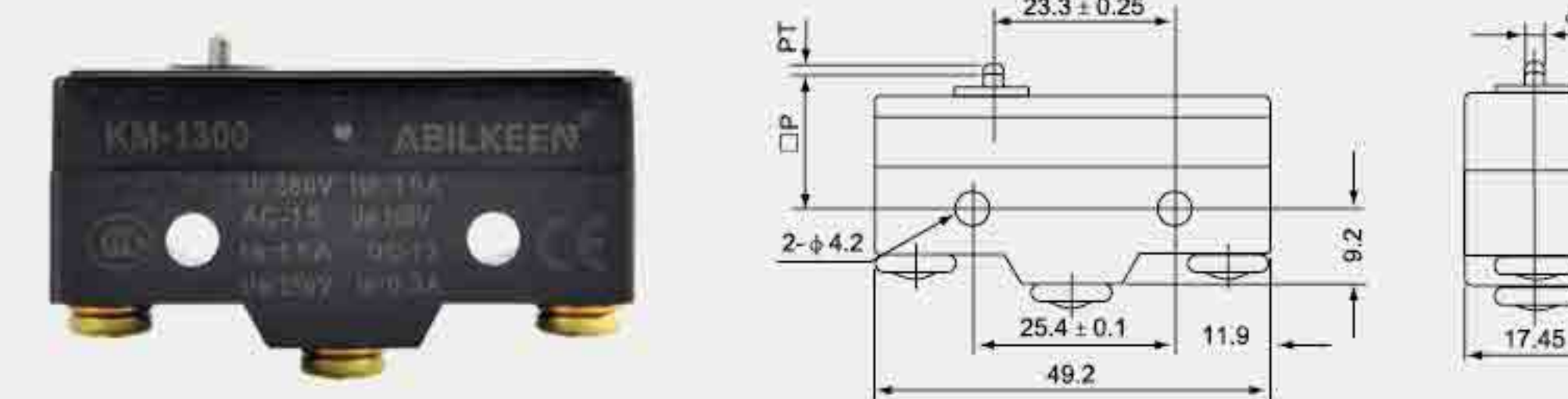
型式 Models	KM1300	KM1301	KM1303	KM1305	KM1306	KM1307	KM1308	KM1309	KM1701	KM1702	KM1703 KM1725	KM1704 KM1714	KM1705	KM1743
OF 最大 (Max.)	350g	300g	300g	350g	350g	350g	350g	350g	70g	160g	100g	160g	10g	160g
RF 最小 (Min.)	114g	50g	50g	114g	114g	114g	114g	114g	14g	28g	22g	42g	3g	42g
PT 最大 (Max.)	0.4mm	4mm	4mm	0.4mm	0.4mm	0.4mm	0.4mm	0.4mm	10mm	5mm	7.1mm	2.7mm	20mm	2.7mm
OT 最小 (Min.)	0.13mm	1.6mm	1.6mm	1.6mm	1.6mm	5.5mm	3.58mm	3.58mm	5.6mm	2mm	4mm	2.4mm	5.6mm	2.4mm
MD 最大 (Max.)	0.05mm	1.3mm	1.3mm	0.05mm	0.05mm	0.05mm	0.05mm	0.05mm	1.27mm	1mm	1.02mm	0.5mm	3mm	0.5mm
FP 最大 (Max.)		20.6mm	31.8mm						28.2mm	24.8mm	36.5mm	32.5mm		43.6mm
OP(mm)	15.9±0.4	17.4±0.8	28.6±0.8	28.2±0.5	21.5±0.5	21.8±0.8	33.4±1.2	33.4±1.2	19±0.8	19±0.4	30.2±0.8	30.2±0.4	19±0.8	43.1±0.8



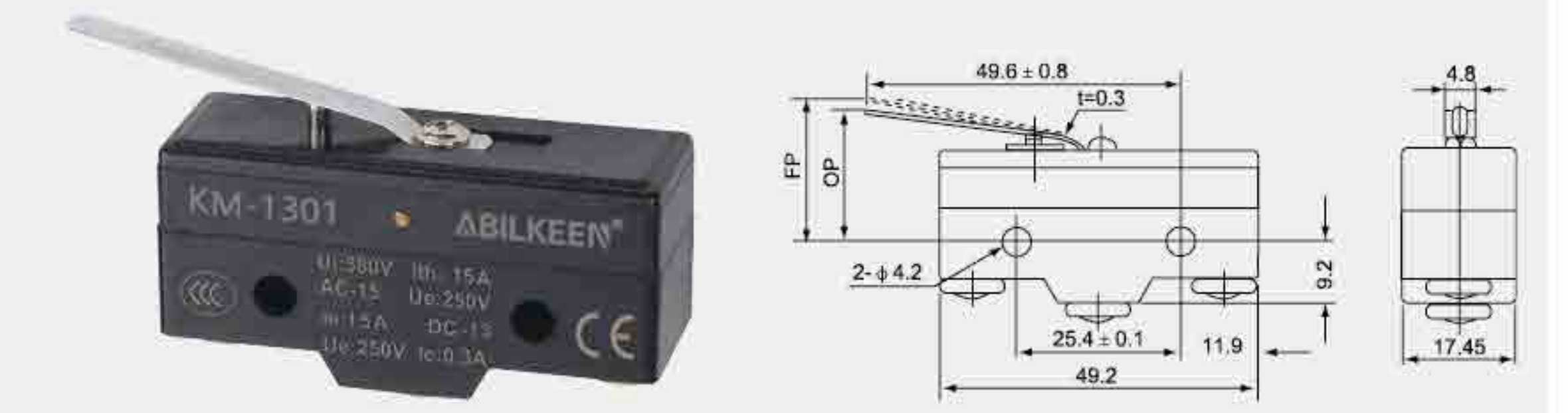
- OF: 动作力
- RF: 回复力
- TF: 总行程动作力
- FP: 自由位置
- OP: 动作位置
- RP: 返回位置
- TTP: 总行程位置
- PT: 预行程位置
- OT: 过行程
- MD: 响应差的行程
- TT: 总行程

外观和尺寸 Appearance and Dimension

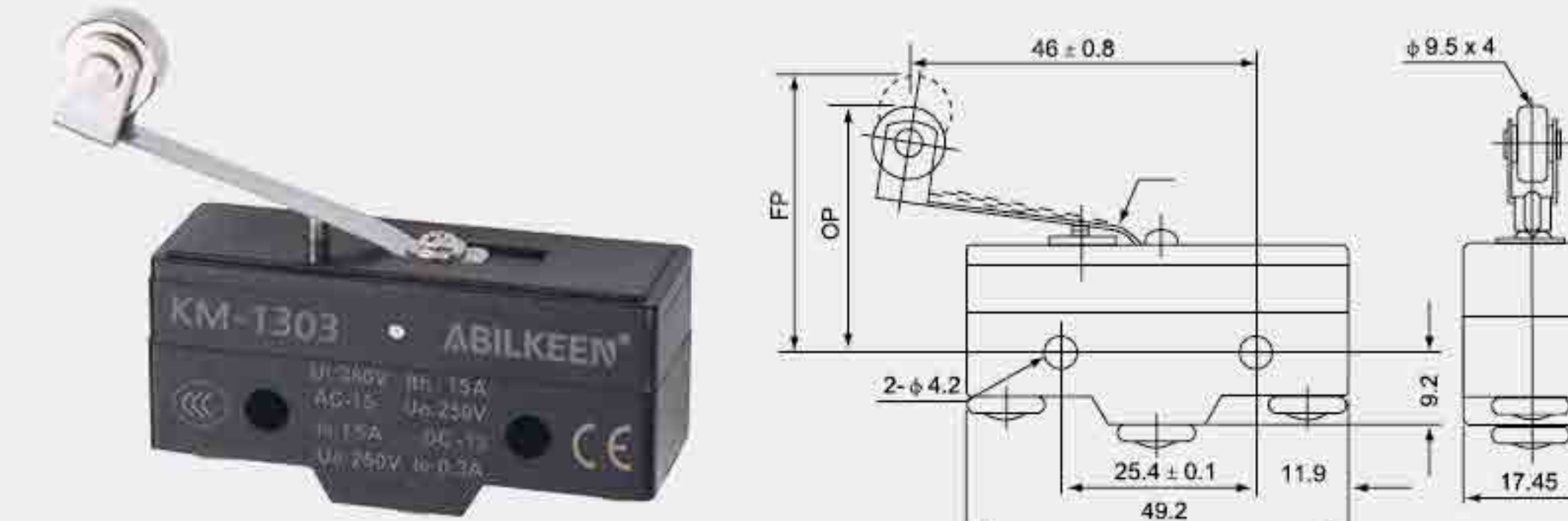
KM-1300 (AZ-15G-B)



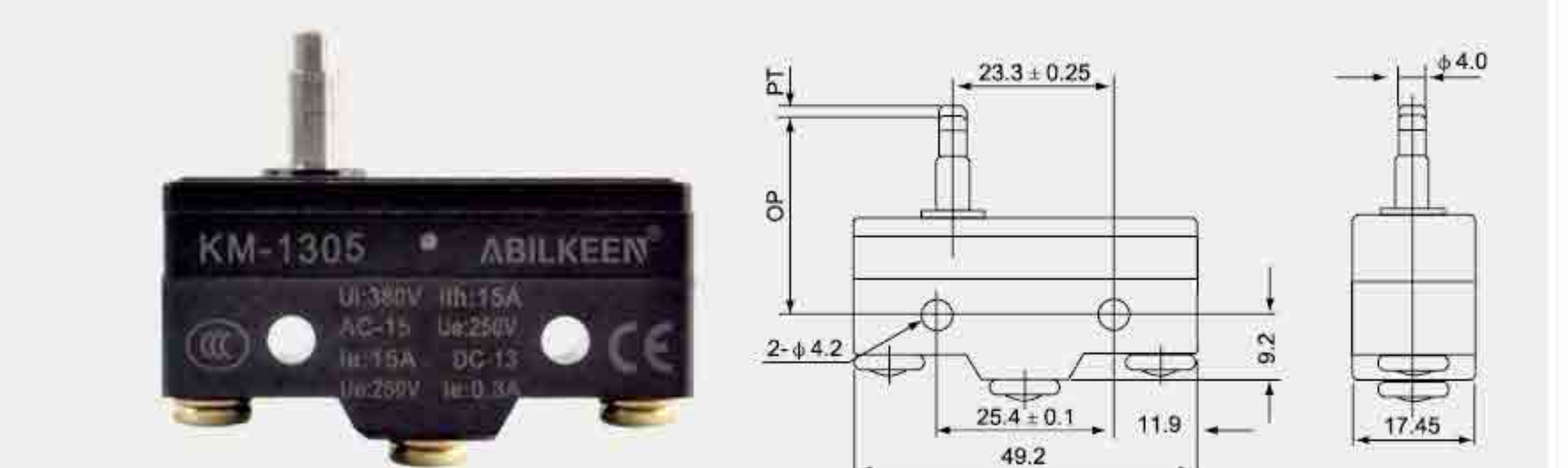
KM-1301 (AZ-15GL-B)



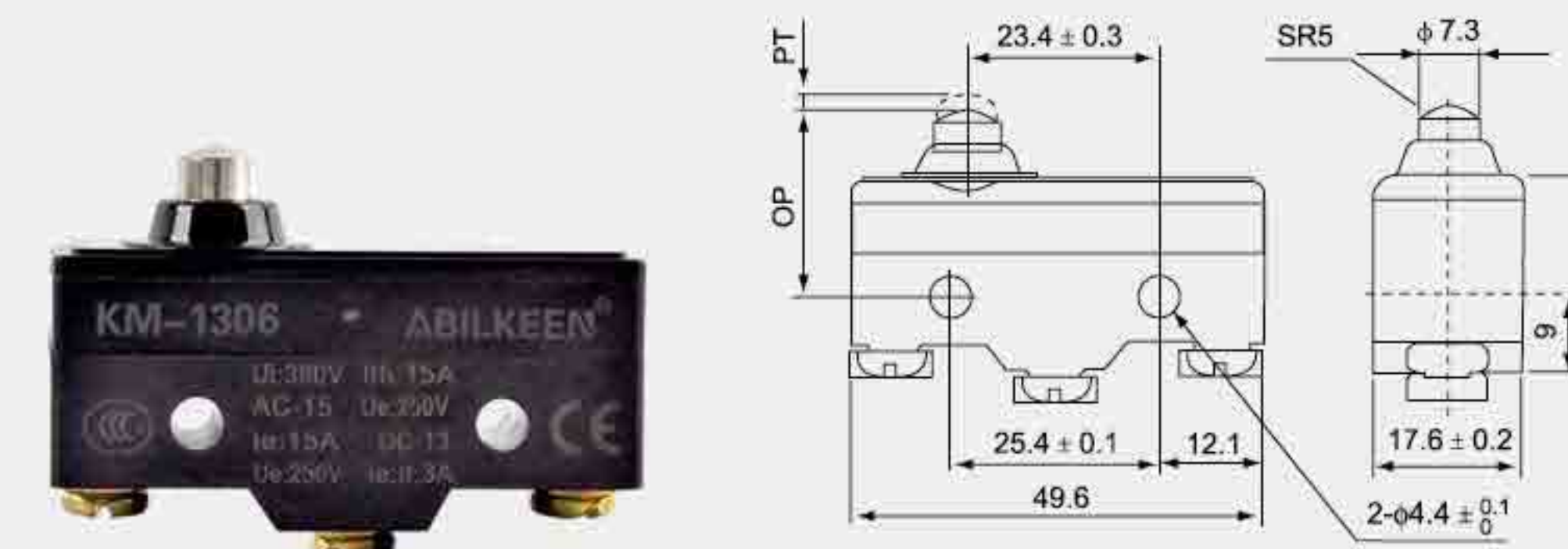
KM-1303 (AZ-15GL2-B)



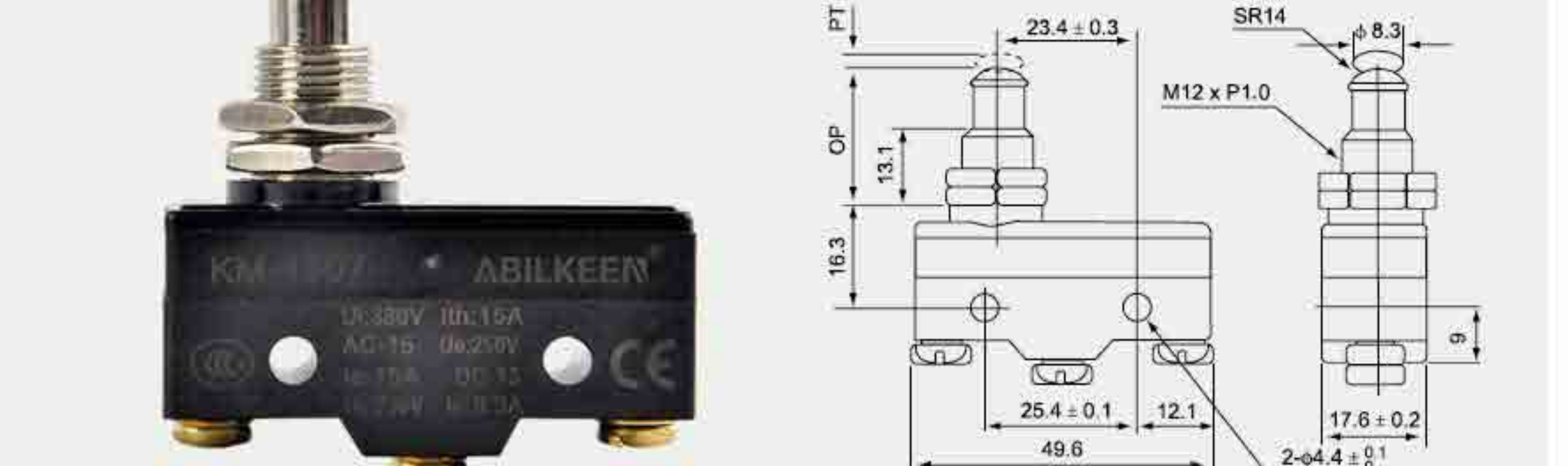
KM-1305 (AZ-15GS-B)



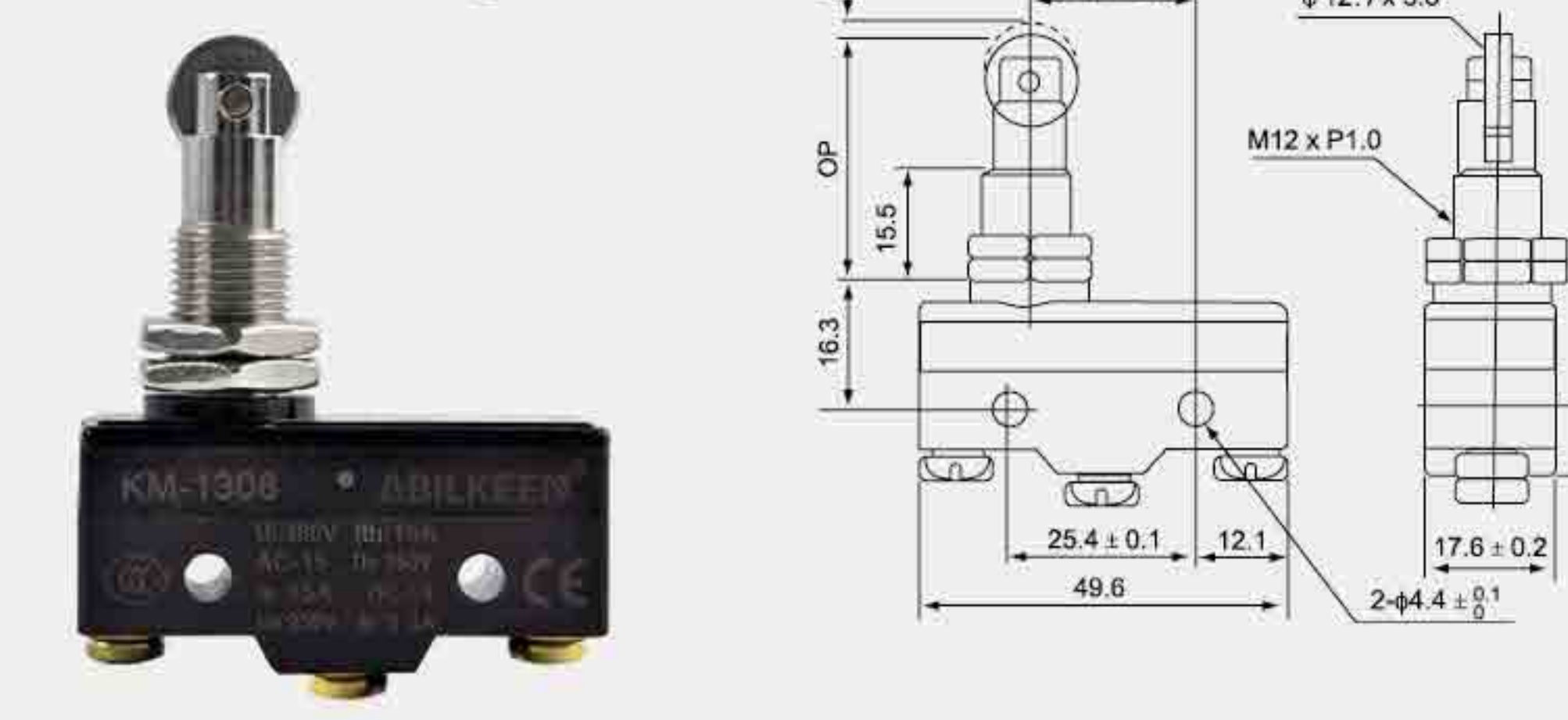
KM-1306 (AZ-15GD-B)



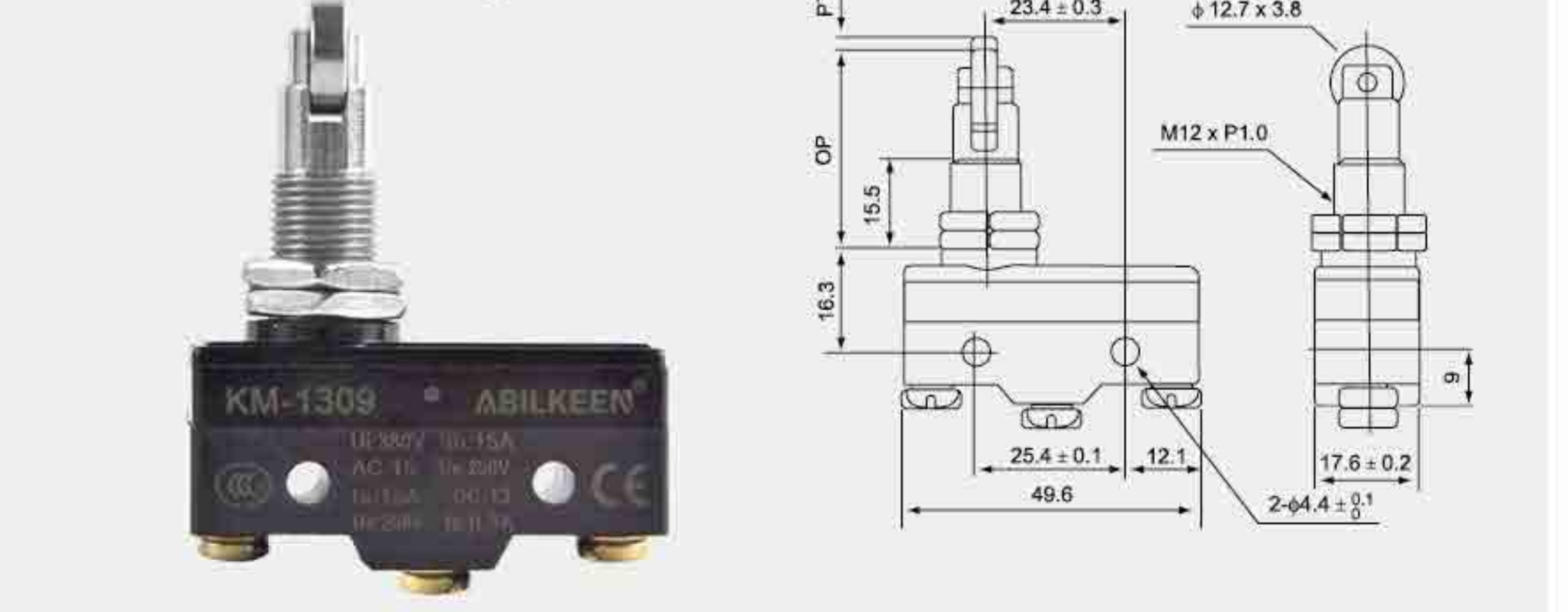
KM-1307 (AZ-15GQ-B)



KM-1308 (AZ-15GQ22-B)



KM-1309 (AZ-15GQ21-B)



限位开关  
Limit Switch

微动开关  
Micro Switch

脚踏开关  
Foot Switch

传感器  
Sensor



外观和尺寸 Appearance and Dimension

<p>KM-1701 (AZ-15GW-B)</p>	<p>KM-1702 (AZ-15GW21-B)</p>
<p>KM-1703 (AZ-15GW2-B)</p>	<p>KM-1704 (AZ-15GW22-B)</p>
<p>KM-1705 (AZ-15G78-B)</p>	<p>KM-1714</p>
<p>KM-1725</p>	<p>KM-1743 (AZ-15GW2277-B)</p>

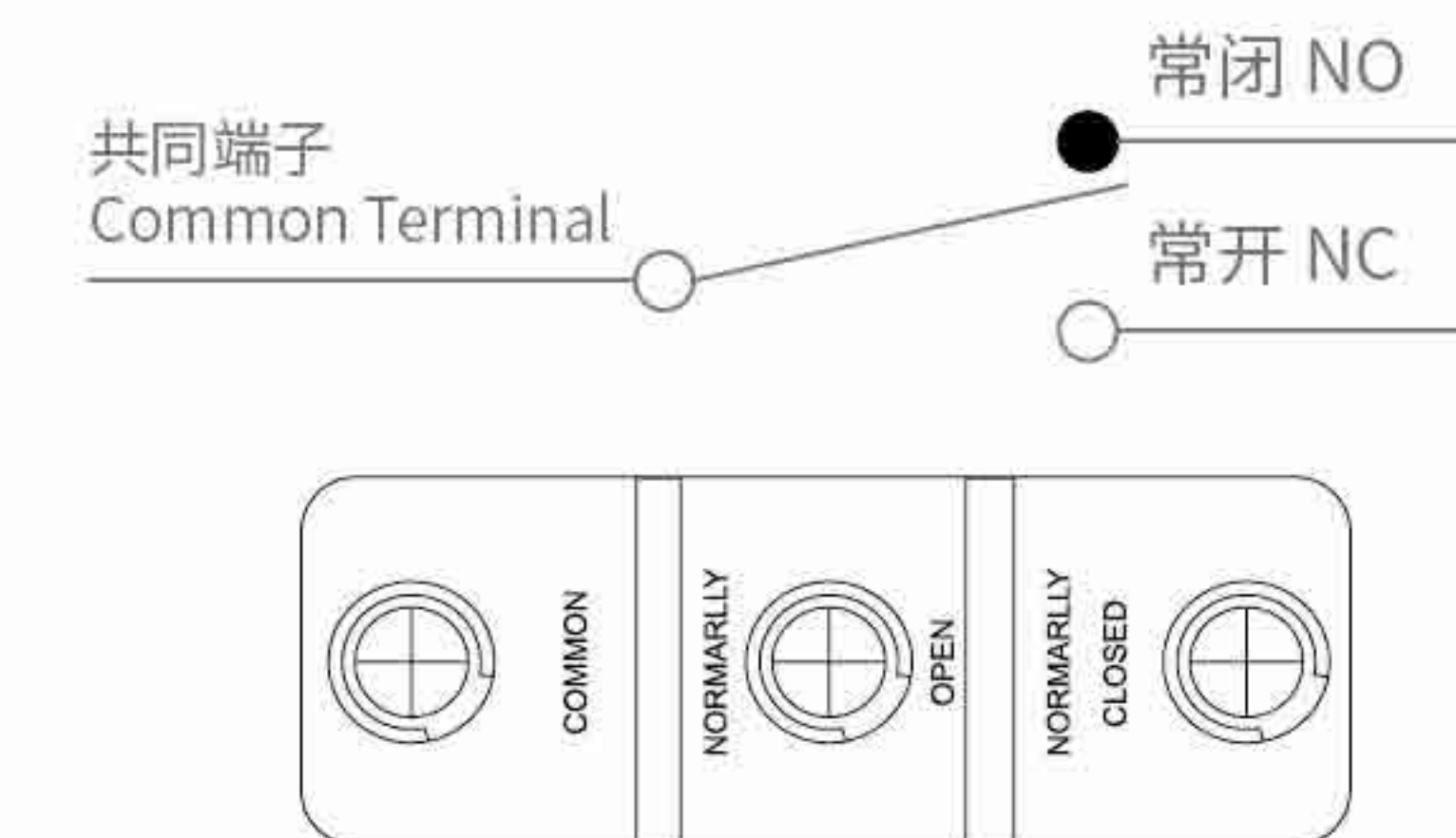
端子保护罩 Terminal Cover

<p>KWP-Y</p>	<p>KWP-C</p>
--------------	--------------

特点 Features

- ◎ 尼龙塑料壳体，强度更高，更耐冲击
- ◎ 引动器种类广泛，其中包含动作位置可调整的款式（如KM1701N）
- ◎ 高精度广泛操作速度范围
- ◎ Nylon plastic shell, higher strength and impact resistance
- ◎ Various actuators and some with adjustable operating position (such as KM1701N)
- ◎ High accuracy wide range of operation speed

接点型式 Contact Form



\* 黄铜端子螺丝，型号后加 (-T)。  
\* Brass terminal screw, model plus (-T).

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)				突入 电流 (A) Inrush Current	
	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		
125VAC	15	3	1.5	15	5	2.5			30 以下 max.	15 以下 max.
250VAC	15	2.5	1.25	15	3	1.5				
500VAC	3	1.5	0.75	2.5	1.5	0.75				
8VDC	15	3	1.5	15	5	2.5				
14VDC	15	3	1.5	10	5	2.5				
30VDC	6(2)	3	1.5	5	5	2.5				
125VDC	0.4	0.4	0.4	0.05	0.05	0.05				
250VDC	0.2	0.2	0.2	0.03	0.03	0.03				

动作特性 Operating Characteristics

型式 Models	KM1306N	KM1307N	TM1308N TM1308XN	KM1309N	KM1701N	KM1702N	KM1703N KM1725N	KM1704N KM1714N	KM1705N	KM1743N
OF 最大 (Max.)	350g	350g	350g	350g	70g	160g	100g	160g	10g	160g
RF 最小 (Min.)	114g	114g	114g	114g	14g	28g	22g	42g	3g	42g
PT 最大 (Max.)	0.4mm	0.4mm	0.4mm	0.4mm	10mm	5mm	7.1mm	2.7mm	20mm	2.7mm
OT 最小 (Min.)	1.6mm	5.5mm	3.58mm	3.58mm	5.6mm	2mm	4mm	2.4mm	5.6mm	2.4mm
MD 最大 (Max.)	0.05mm	0.05mm	0.05mm	0.05mm	1.27mm	1mm	1.02mm	0.5mm	3mm	0.5mm
FP 最大 (Max.)					28.2mm	24.8mm	36.5mm	32.5mm		43.6mm
OP(mm)	21.5±0.5	21.8±0.8	33.4±1.2	33.4±1.2	19±0.8	19±0.4	30.2±0.8	30.2±0.4	19±0.8	43.1±0.8



规格 Specifications

操作速度 Operation speed	0.05mm 至 1m/s (柱塞型) 0.05mm-1m/s (Plunger type)
动作频率 Operating frequency	电气 :20 次 / 分 Electical: 20 operations/min
接点电阻 Contact resistance	15mΩ 以下 (初期) 15mΩ max. (initial value)
绝缘电阻 Insulation resistance	100MΩ 以上 (在 500VDC 下) 100MΩ min. (below 500VDC)
电介强度 Dielectric strength	非连续端子间 1,000VAC, 50/60Hz 持续 1 分钟 1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity 载电流与无载电流零件间 1,500VAC, 50/60Hz 持续 1 分钟 1500VAC, 50/60 Hz for 1 minute between current-carrying and non-current-carrying metal parts 端子和接地之间 1,500VAC, 50/60Hz 持续 1 分钟 1500VAC, 50/60 Hz for 1 minute between each terminal and ground
振动 Vibration	(*10 至 20Hz): 1.5mm 变振幅误动作耐久 :10 至 55Hz (*10 to 20Hz): 1.5 Vibration amplitude action duration: 10 to 55Hz
冲击 Shock	机械耐久 :1,000m/Sec <sup>2</sup> (约 100G' S) 误动作耐久 :300m/Sec <sup>2</sup> (约 30G' S) Mechanical durable: 1,000m/Sec <sup>2</sup> (about 100G's) Malfunction: 300m/Sec <sup>2</sup> (about 30G's)
周围温度 Ambient temperature	使用时: -20~+70°C (没有结冰) Using: -20~+70°C (With no icing)
湿度 Humidity	泛用型: 85%RH 以上 密封型: 95%RH General purpose type: 85% RH max., Sealed type: 95% RH max.
电气寿命 Electrical life	500,000 次以上 500,000 operations above
重量 Weight	约 22 至 58g About 22 to 58g

限位开关  
Limit Switch

微动开关  
Micro Switch

脚踏开关  
Foot Switch

传感器  
Sensor





外观和尺寸 Appearance and Dimension

<p><b>KM-1307N</b></p>	<p><b>KM-1308N</b></p>
<p><b>KM-1308XN</b></p>	<p><b>KM-1309N</b></p>
<p><b>KM-1701N</b></p>	<p><b>KM-1702N</b></p>
<p><b>KM-1703N</b></p>	<p><b>KM-1704N</b></p>
<p><b>KM-1705N</b></p>	<p><b>KM-1714N</b></p>
<p><b>KM-1725N</b></p>	<p><b>KM-1743N</b></p>

特点 Features

- ◎ 很适合切换在不同电压下的电路操作，且适于控制两个独立的电路
- ◎ It is suitable for switching circuit operation at different voltages and for controlling two independent circuits

规格 Specifications

操作速度 Operation speed	0.1mm 至 1m/s *1 0.1mm-1m/s *1	
动作频率 Operating frequency	机械 Mechanics	240 次 / 分 240 operations/min
	电气 Electical	20 次 / 分 20 operations/min
绝缘电阻 Insulation resistance	100MΩ 以上 (在 500VDC 下) 100mΩ min. (below 500VDC)	
接触电阻 contact resistance	15mΩ 以下 (初期) 15mΩ max. (initial value)	
绝缘强度 Insulation strength	1000ACV, 50/60Hz, 1 分钟, 在非连续性端子之间 1000ACV, 50/60Hz, 1 minute, Between discontinuous terminals	
	1500ACV, 50/60Hz, 1 分钟, 在带电金属部与不带电金属部之间、带电金属部与地线之间以及开关之间 1500ACV, 50/60Hz, 1 minute, Between the live metal part and the non live metal part, between the live metal part and the ground wire, and between the switch	
耐冲击 Impact resistance	误动作 Misoperation	10~55Hz 双振幅 1.5mm*2; 300m/s <sup>2</sup> 以下 *1*2 10~55Hz double amplitude 1.5mm * 2; Below 300m / S <sup>2</sup> * 1 * 2
	毁坏 Damage	毁坏: 1000m/s <sup>2</sup> 以下 Damage: below 1000m / s <sup>2</sup>
电气寿命 Electrical life	机械 Mechanics	1000000 次以上 More than 1000000 times
	电气 Electical	500000 次以上 More than 500000 times
防护等级 Degree of protection	IP00	
触电保护等级 Electric shock protection level	Class I	
漏电性能 (PTI) Leakage performance (PTI)	175	
使用周围温度 Temperature	使用时: -25~+80°C (没有结冰) Using: -25~+80°C (With no icing)	
使用周围湿度 Humidity	35%~85%RH	
质量 Quality	约 30 至 50g About 30 to 50g	

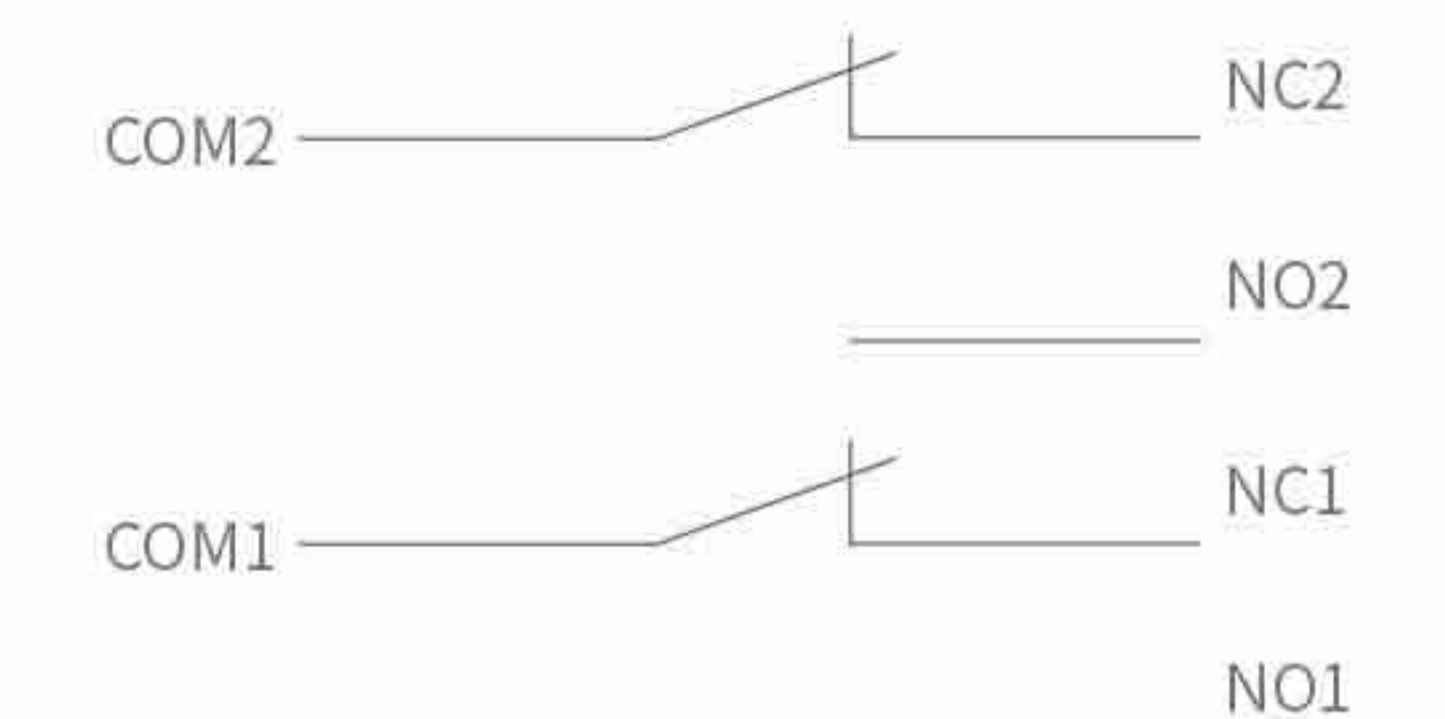
动作特性 Operating Characteristics

型式 Models	KDZ-10GW22-1B	KDZ-10GW21-1B	KDZ-10GW2-1B	KDZ-10GW-1B
OF 最大 (Max.)	3.92N	3.92N	2.09N	1.67N
RF 最小 (Min.)	0.83N	0.83N	0.41N	0.27N
OT 最小 (Min.)	0.9mm	0.9mm	1.2mm	1.6mm
MD 最大 (Max.)	2.4mm	2.4mm	3.3mm	4mm
FP 最大 (Max.)	39.7mm	39.7mm	47.6mm	46.3mm
OP(mm)	30.2±0.8mm	30.2±0.8mm	31.8±0.8mm	21.8±1mm

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
125VAC	10	2	1	6	3	1.5		
250VAC	10	1.5	0.7	4	2	1		
8VDC	10	3	1.5	6	5	2.5		
14VDC	10	3	1.5	6	5	2.5		
30VDC	10	3	1.5	4	3	1.5		
125VDC	0.5		0.5	0.05		0.05		
250VDC	0.25		0.25	0.03		0.03		

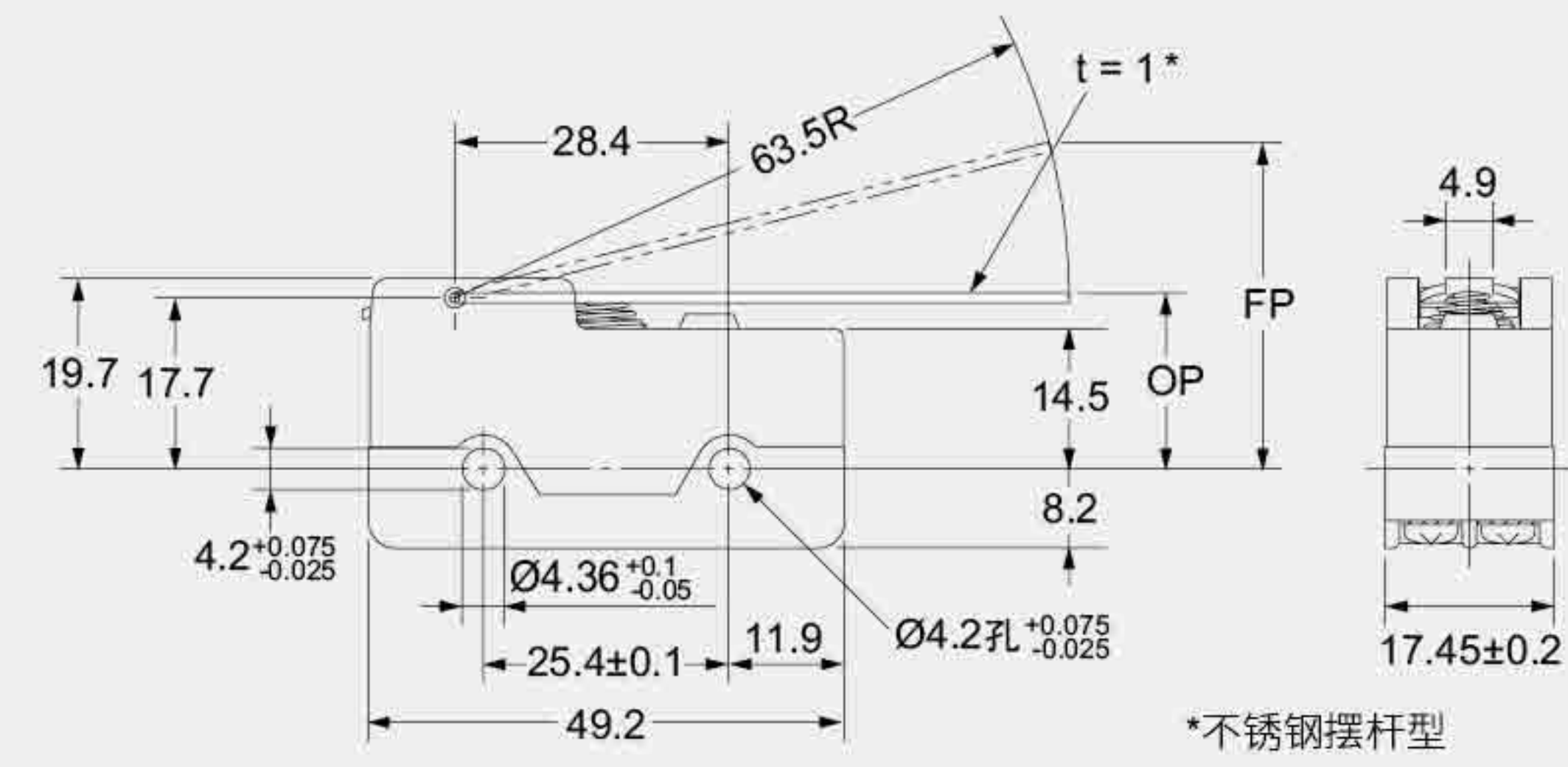
接点型式 Contact Form



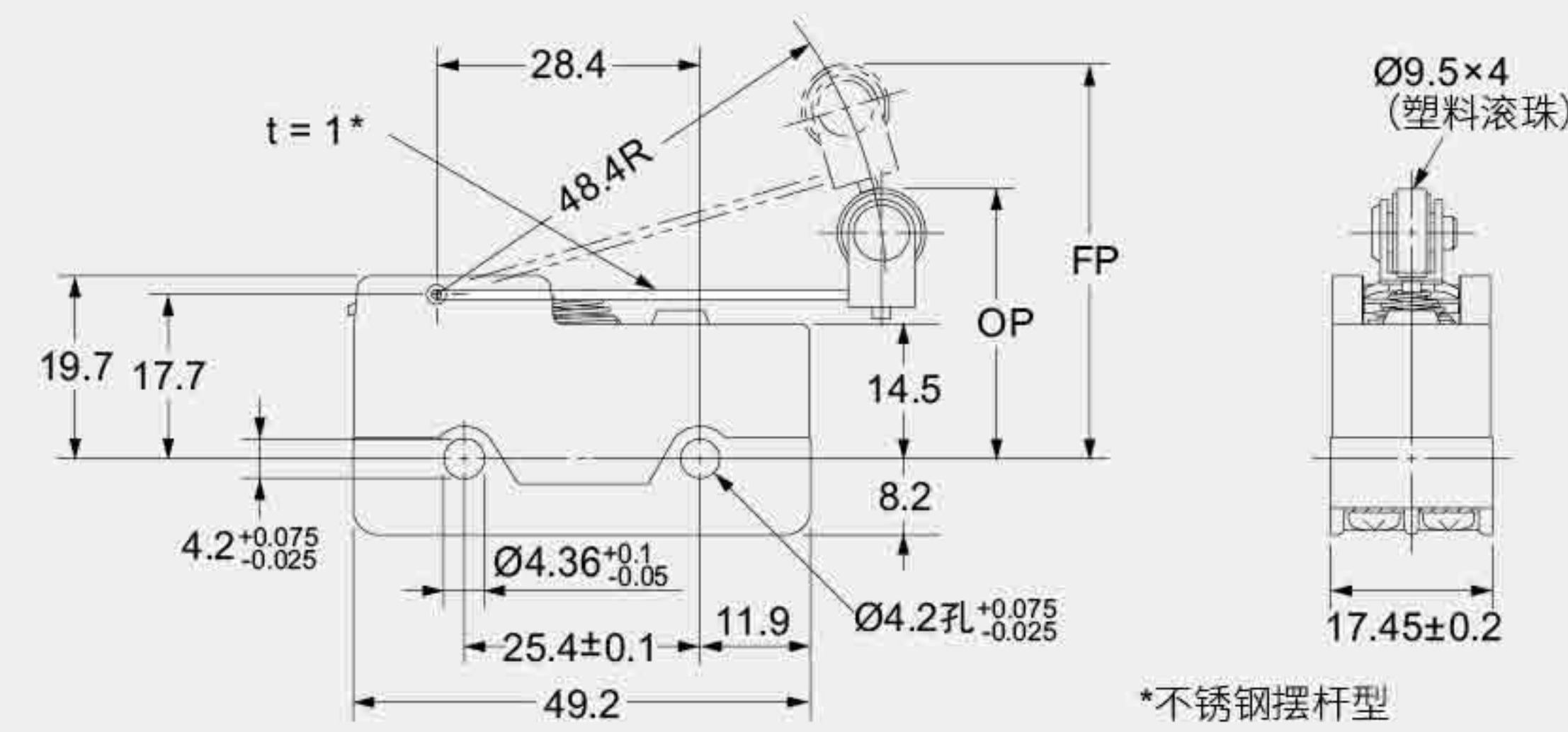


外观和尺寸 Appearance and Dimension

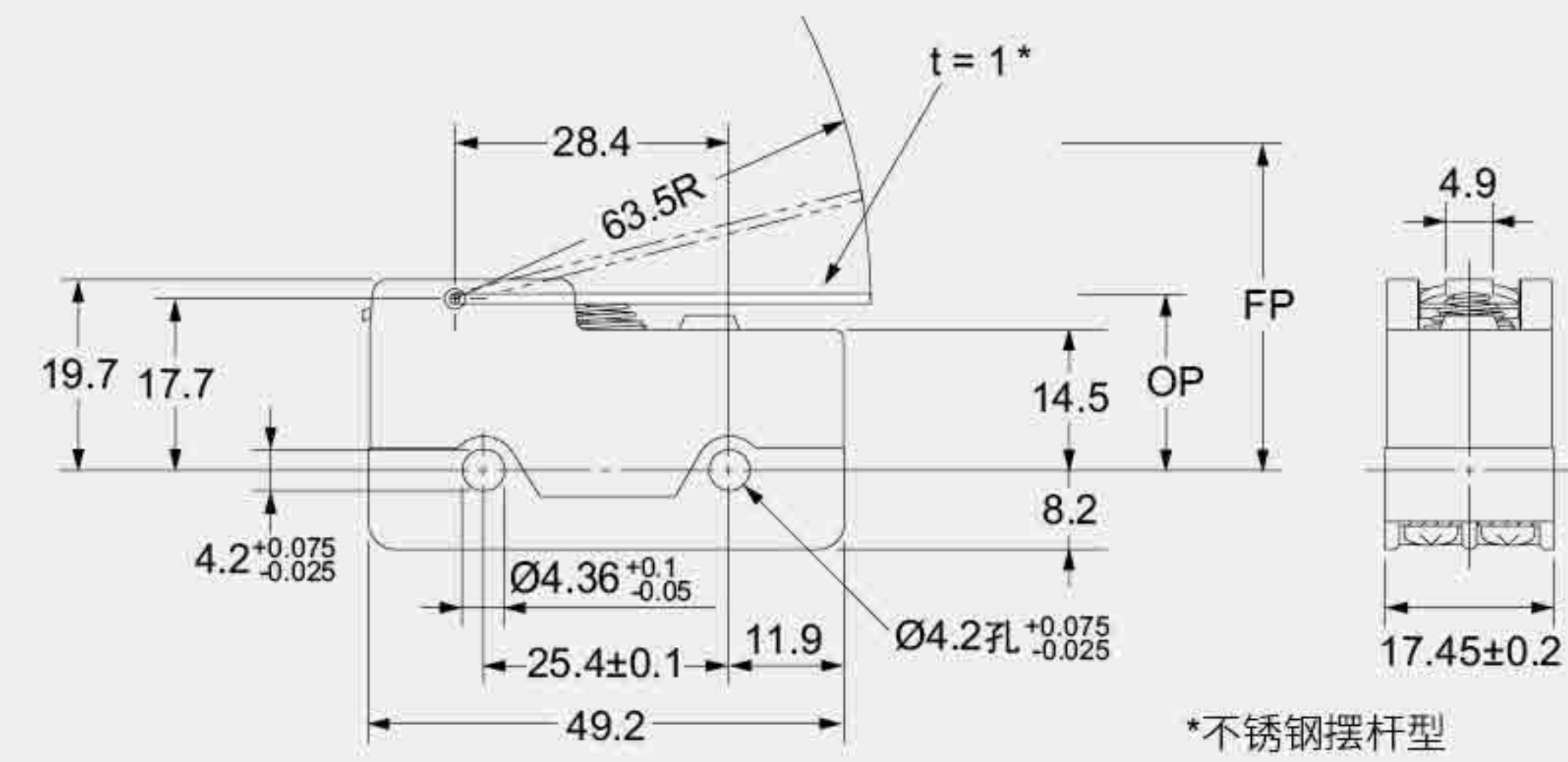
KDZ-10GW-1B  
摆杆型  
Swing rod type



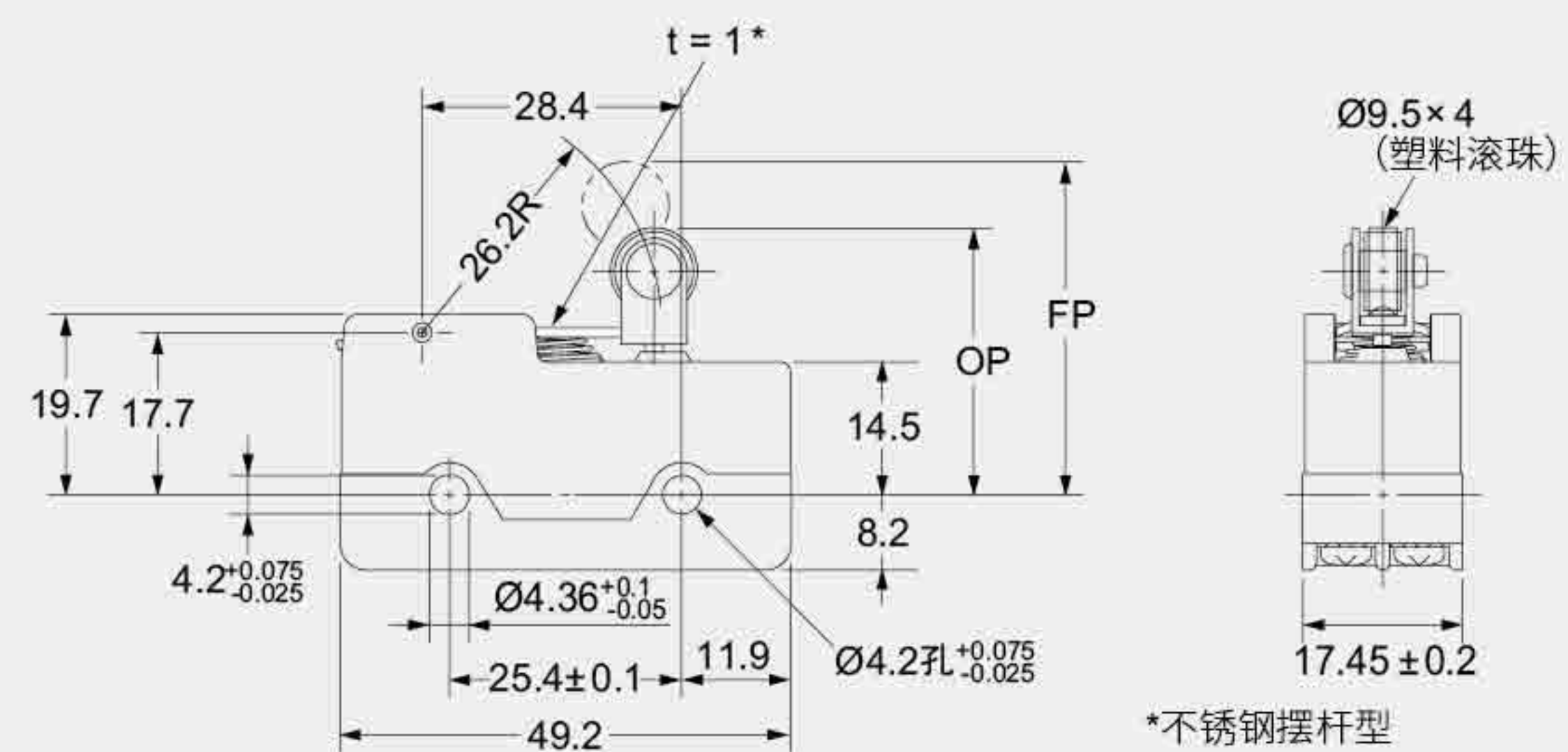
KDZ-10GW2-1B  
滚珠摆杆型  
Ball swing rod type



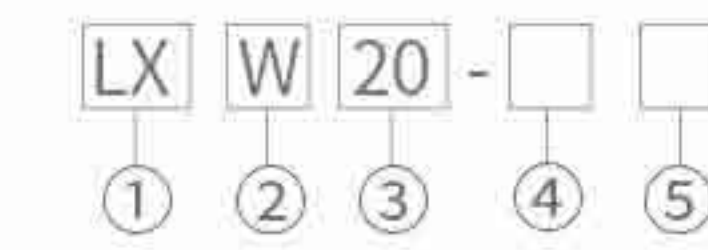
KDZ-10GW21-1B  
短摆杆型  
Short swing rod type



KDZ-10GW22-1B  
滚珠短摆杆型  
Ball short swing rod type



型号说明 Model Number Structure



项目 Item	代号 Code	说明 Description
① 种类开关 Type switch	LX	主令行程开关 Master stroke switch
② 种类开关 Type switch	W	微动开关 Micro Switch
③ 设计代号 Design code	20	阿拉伯数字 Arabic numerals
④ 基本规格代号 Basic specification code	11	常开 + 常闭 NO+NC
	01	常闭 NC
	10	常开 NO
⑤ 派生规格号 Derived specification number	M	磁吹灭弧装置 Magnetic arc blowing device

规格 Specifications

额定值 Rating	普通式 Ordinary type	AC-12 380V 16A AC-15 400V 3A
	磁吹式 Magnetic blowing type	DC-12 380V 16A DC-12 250V 5A
操作速度 Operation speed	5mm 至 0.5m/s 5mm-0.5m/s	
动作频率 Operating frequency	电气: 60 次 / 分 Electrical: 60 operations/min	
接点电阻 Contact resistance	25mΩ 以下 (初期) 25mΩ max. (initial value)	
绝缘电阻 Insulation resistance	100MΩ 以上 (在 500VDC 下) 100mΩ min. (below 500VDC)	
电介强度 Dielectric strength	非连续端子间 1,000VAC, 50/60Hz 持续 1 分钟 1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity	
	载电流与无载电流零件间 1,500VAC, 50/60Hz 持续 1 分钟 1500VAC, 50/60 Hz for 1 minute between current-carrying and non-current-carrying metal parts	
	端子与接地之间 1,500VAC, 50/60Hz 持续 1 分钟 1500VAC, 50/60 Hz for 1 minute between each terminal and ground	
振动 Vibration	(*10 至 55Hz), 1.5mm 双振幅 10-55Hz, 1.5mm (*10 to 55Hz), 1.5mm double amplitude, 10-55Hz, 1.5mm	
冲击 Shock	机械耐久: 1,000m/Sec <sup>2</sup> (约 100G <sup>2</sup> S) 误动作耐久: 300m/Sec <sup>2</sup> (约 30G <sup>2</sup> S) Mechanical durable: 1,000m/Sec <sup>2</sup> (about 100G <sup>2</sup> S) Malfunction: 300m/Sec <sup>2</sup> (about 30G <sup>2</sup> S)	
周围温度 Ambient temperature	使用时: -20~+70°C (没有结冰) Using: -20~+70°C (With no icing)	
湿度 Humidity	85%RH 以上 85% RH max.	
电气寿命 Electrical life	100,000 次以上 100,000 operations above	
接线端子 Terminal block	见右图 See the figure on the right	
防护等级 Degree of protection	IP00	

接点型式 Contact Form

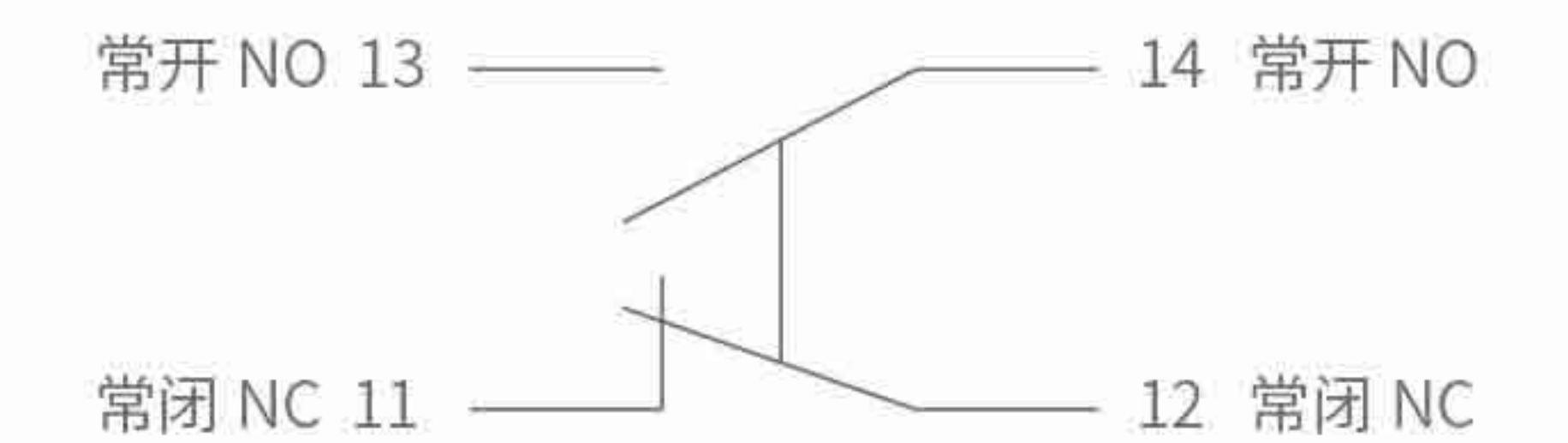
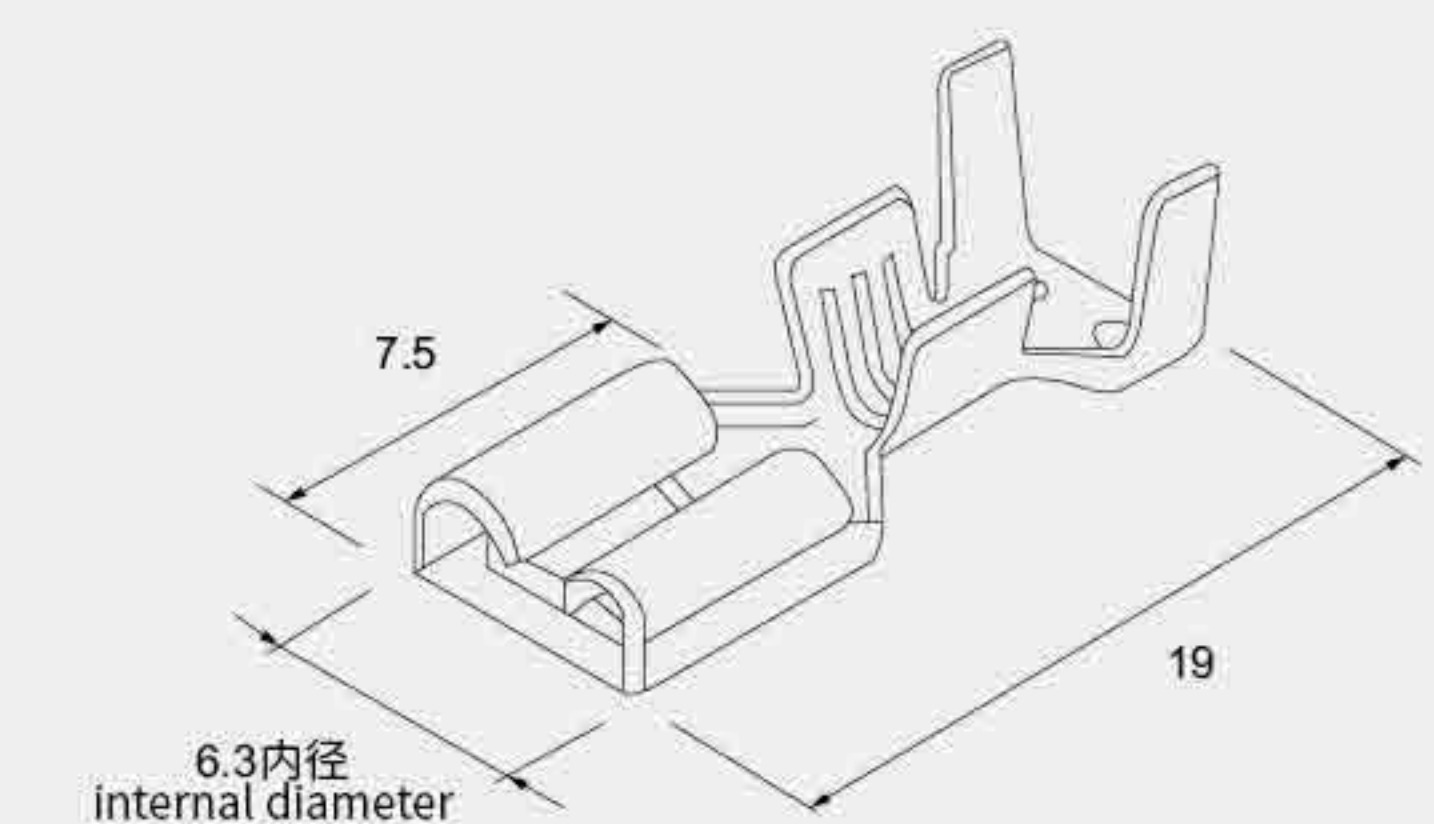


示意图 Sketch Map	型号 model	磁吹装置 Magnetic blowing device	接触方式 Contact mode
	LXW20-11-2	—	一开一闭 Open and close
	LXW20-11M-2	○	一开一闭 Open and close
	LXW20-01	—	一常闭 One normally closed
	LXW20-01M	○	一常闭 One normally closed
	LXW20-10	—	一常开 One normally open
	LXW20-10M	○	一常开 One normally open

冷压端子  
cold pressed terminal







动作特性 Operating Characteristics

型式 Models	LXW20	LXW20-11	LXW20-11M
操作力 Operating force	OF 最大 (Max.)	3.5N	3.5N
回弹力 Release force	RF 最小 (Min.)	0.8N	0.8N
预行程 Pre-travel	PT 最大 (Max.)	2.5±0.8mm	2.5±0.8mm
过行程 Over travel	OT 最小 (Min.)	3mm	3mm
响应差的行程 Stroke with poor response	MD 最大 (Max.)	1.6mm	1.6mm

外观和尺寸 Appearance and Dimension

**LXW20-11-2**  
普通式 (新款)  
Swing rod type(New)

抗冲击台阶

**LXW20-11M-2**  
磁吹式 (新款)  
Ordinary type(New)

抗冲击台阶

**LXW20-11**  
普通式  
Swing rod type

无台阶

**LXW20-11M**  
磁吹式  
Ordinary type

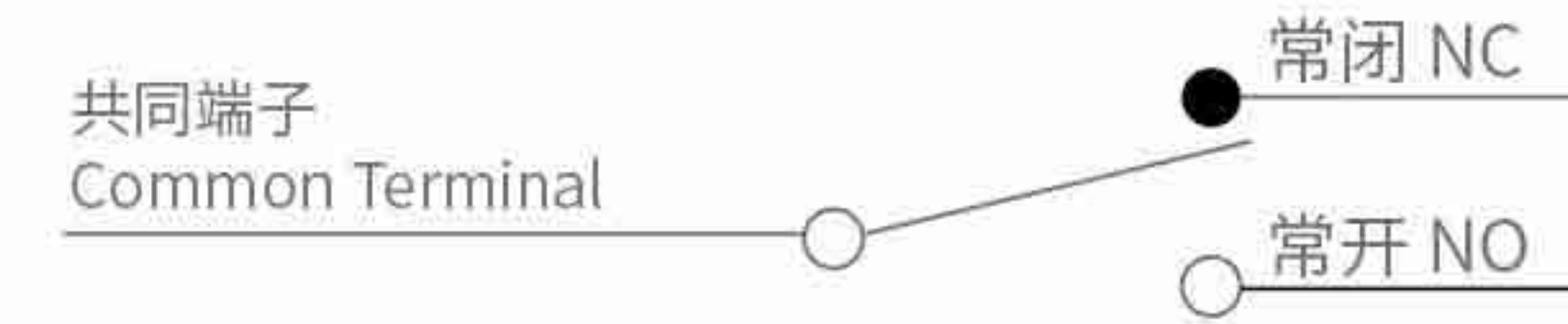
无台阶

注: 按钮标准长度为 8MM, 如需加长可咨询本公司订制。  
The standard length of the button is 8mm. If you need to lengthen it, you can consult our company for customization.

特点 Features

- 塑料外壳与金属外壳可供选择
- Plastic shell and metal shell are for selection

接点型式 Contact Form



规格 Specifications

Species	Model	Load	Micro switch type	Cable type/length	Contact	Action pressure	Shell material
Standard type Return type	IBFS-101	10A 250VAC	Import V type micro switch	0.75mm <sup>2</sup> ,3C/0.5 meter 1 meter ~3 meter	1A1B	1.2kg	Plastic
	IBFS-102	15A 250VAC	CM1704	0.75mm <sup>2</sup> ,3C/1 meter 1.5 meter ~2 meter	1A1B	1.1kg	
	IBFS-3	15A 250VAC	Import V type micro switch	0.75mm <sup>2</sup> ,3C/0.5 meter 1 meter ~3 meter	2A2B	1.2kg	Aluminum alloy
	IBFS-3S	15A 250VAC	CM1704	0.75mm <sup>2</sup> ,3C/1 meter 1 meter ~3 meter	2A2B	1.1kg	
Standard type Alternating type	IBFS-105	6A 250VAC	Import alternating type switch	0.75mm <sup>2</sup> ,2C/1 meter 1 meter ~2 meter	PUSH ON PUSH OFF	2kg	Plastic
	IBFS-106	6A 250VAC	Day alternating type switch	0.75mm <sup>2</sup> ,3C/1 meter	PUSH 1A PUSH 1B	1.5kg	
Small attached back stator	IBFS-201	10A 250VAC	Import V type micro switch	0.5mm <sup>2</sup> ,3C/1 meter ~3 meter	1A1B	0.7kg	Plastic
	IBFS-01	10A 250VAC		0.5mm <sup>2</sup> ,3C/1 meter ~3 meter	1A1B	0.7kg	
	IBFS-1	10A 250VAC		0.5mm <sup>2</sup> ,3C/1 meter ~3 meter	1A1B	0.9kg	Iron shell
Protecting cover type	IBFS-302	15A 250VAC	CM1704	Attached cable fixed head, not attached to the cable	1A1B	3.2kg	Aluminum alloy
	IBFS-305	6A 250VAC	Import alternating type switch		PUSH ON PUSH OFF	3.1kg	
	IBFS-306	6A 250VAC	Day alternating type switch		PUSH 1A PUSH 1B	3.5kg	
	IBFS-502	15A250VAC	CM1704		1A1B	3.2kg	
	IBFS-602	15A250VAC	Button spring loaded type		2*1A1B	2.8kg	
	IBFS-702	15A250VAC	CM1704		2*1A1B	3.2kg	
Big type	IBFS-402	15A250VAC	CM1704	1A1B	3.2kg		
	IBFS-802	15A 250VAC	CM1704	2*1A1B	3.2kg		

限位开关  
Limit Switch

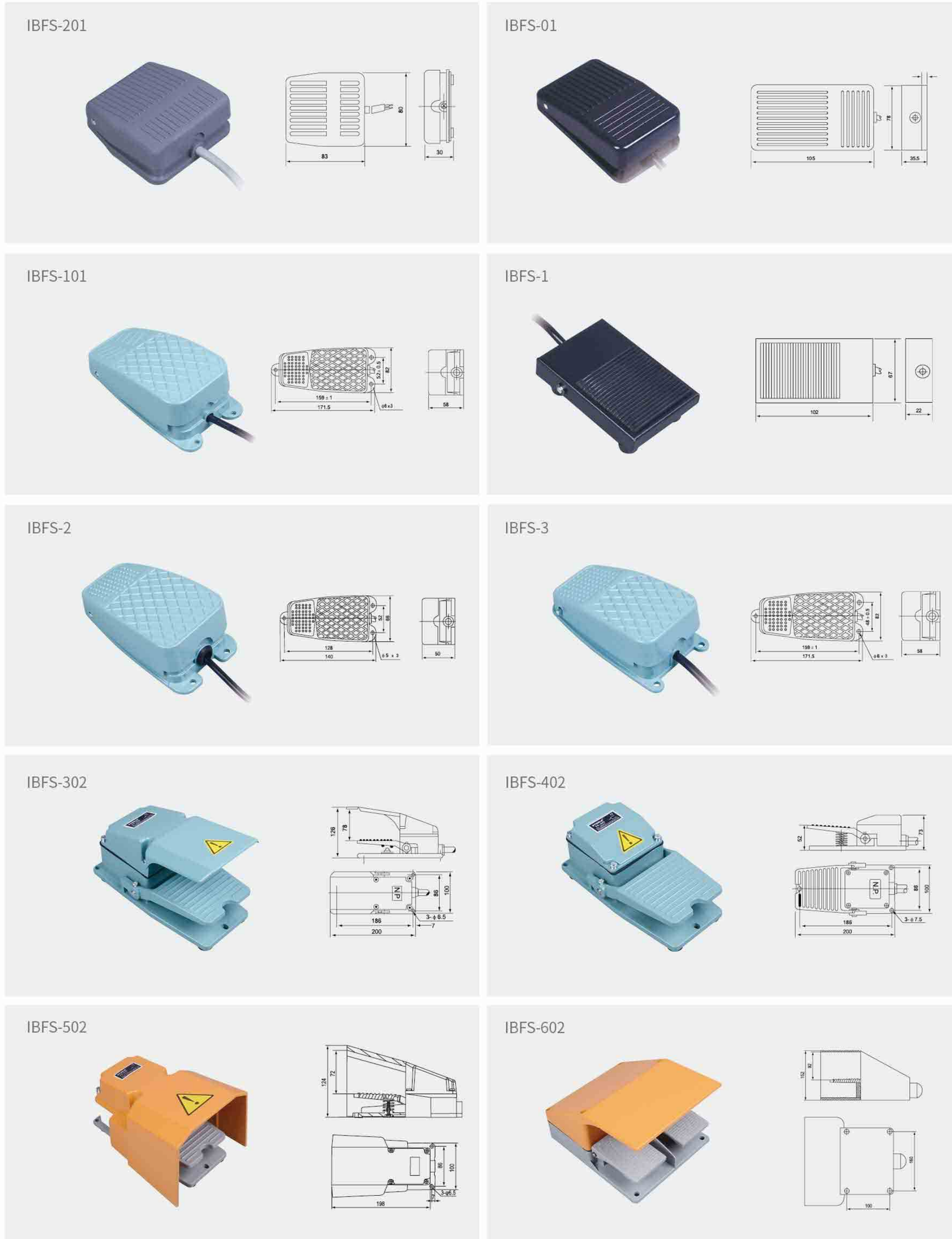
微动开关  
Micro Switch

脚踏开关  
Foot Switch

传感器  
Sensor



外观和尺寸 Appearance and Dimension



外观和尺寸 Appearance and Dimension

