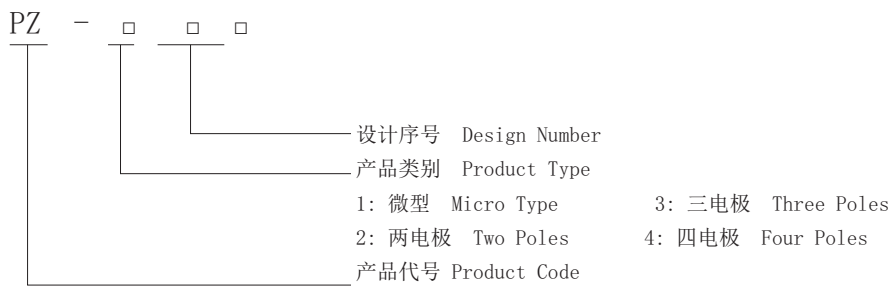


- 由密封玻璃管、电极和水银组成；
- 通过水银的流动特性来实现电路的通断，自由角度，灵活控制；
- 高温烧制，可以做成任何形状；
- 广泛应用于水位液位控制、报警装置、检测装置、通讯设备、仪器仪表等领域作信号传递及控制用。

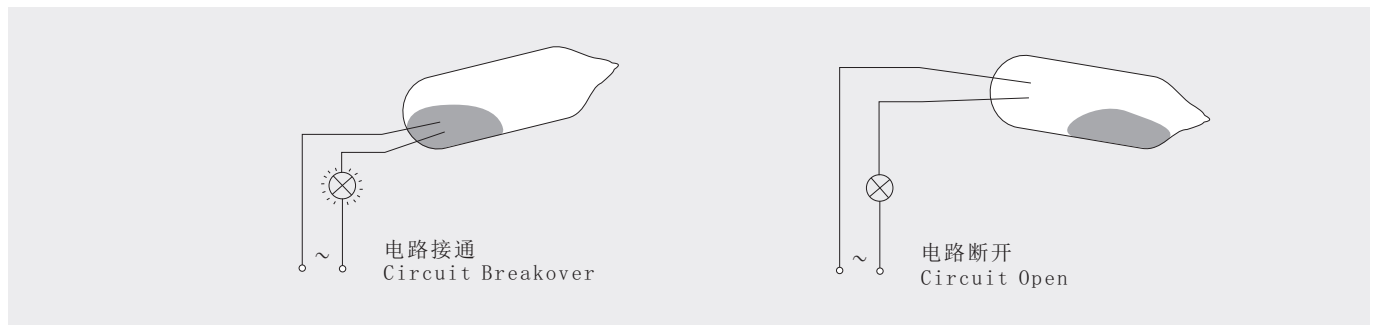
- It is composed of sealed glass tube, electrode and mercury;
- Circuit on&off, free angle, flexible control can be achieved by liquidity of mercury;
- High temperature fire and making, it can be make any Shape;
- Widely used on control of water level (liquid level), warning device, checkout gear, communication equipment, instrumentation and etc to transmit signal and control.



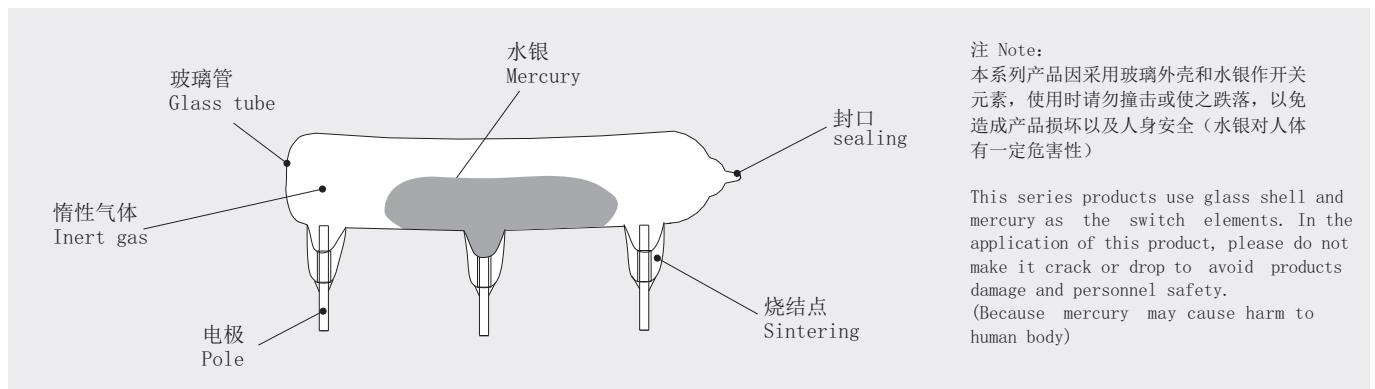
## □ 型号含义 Model & Meanings



## □ 工作原理 Work Principle



## □ 产品结构图 Product Structure



## □ 技术参数 Specification

·PZ-101



直 径 Diameter	Φ3.2-3.5mm
长 度 Length	8.5-9.5mm
工作角度 Operating Angle	5-10°
额定电压 Rating Voltage	20V
额定电流 Rating Current	0.3A
介质耐压 Withstand Voltage	200VAC

·PZ-201



直 径 Diameter	Φ9±0.5mm
长 度 Length	27±1mm
工作角度 Operating Angle	16°
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-102



直 径 Diameter	Φ4.3-4.7mm
长 度 Length	12-13mm
工作角度 Operating Angle	5-10°
额定电压 Rating Voltage	20V
额定电流 Rating Current	0.5A
介质耐压 Withstand Voltage	200VAC

·PZ-202



直 径 Diameter	Φ11.5±0.5mm
长 度 Length	37±1mm
工作角度 Operating Angle	10°
额定电压 Rating Voltage	220V
额定电流 Rating Current	2A
介质耐压 Withstand Voltage	2000VAC

·PZ-103



直 径 Diameter	Φ5.7-6.2mm
长 度 Length	19-20mm
工作角度 Operating Angle	5-10°
额定电压 Rating Voltage	20V
额定电流 Rating Current	0.8A
介质耐压 Withstand Voltage	200VAC

·PZ-203



直 径 Diameter	Φ13±0.5mm
长 度 Length	43±1mm
工作角度 Operating Angle	6°
额定电压 Rating Voltage	220V
额定电流 Rating Current	3A
介质耐压 Withstand Voltage	2000VAC

·PZ-205(万向导通Omnidirectional Breakover)



直 径 Diameter	Φ5.5-6mm
长 度 Length	14-15mm
工作角度 Operating Angle	30-60°
额定电压 Rating Voltage	20V
额定电流 Rating Current	0.8A
介质耐压 Withstand Voltage	200VAC

·PZ-204



直 径 Diameter	Φ10±0.5mm
长 度 Length	35±1mm
工作角度 Operating Angle	9°
额定电压 Rating Voltage	220V
额定电流 Rating Current	5A
介质耐压 Withstand Voltage	2000VAC

·PZ-201A



直 径 Diameter	Φ7±0.5mm
长 度 Length	24±1mm
工作角度 Operating Angle	16°
额定电压 Rating Voltage	220V
额定电流 Rating Current	2A
介质耐压 Withstand Voltage	2000VAC

·PZ-205



直 径 Diameter	Φ8.5±0.5mm
长 度 Length	28.5±0.5mm
工作角度 Operating Angle	16°
额定电压 Rating Voltage	220V
额定电流 Rating Current	5A
介质耐压 Withstand Voltage	2000VAC

·PZ-206



直 径 Diameter	$\Phi 11 \pm 0.5\text{mm}$
长 度 Length	$48 \pm 1\text{mm}$
工作角度 Operating Angle	$5^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	10A
介质耐压 Withstand Voltage	2000VAC

·PZ-212



直 径 Diameter	$\Phi 12.5 \pm 0.5\text{mm}$
长 度 Length	$41 \pm 1\text{mm}$
工作角度 Operating Angle	$5^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	3A
介质耐压 Withstand Voltage	2000VAC

·PZ-208



直 径 Diameter	$\Phi 13 \pm 0.5\text{mm}$
长 度 Length	$38 \pm 1\text{mm}$
工作角度 Operating Angle	$9^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	5A
介质耐压 Withstand Voltage	2000VAC

·PZ-214



直 径 Diameter	$\Phi 13.5 \pm 0.5\text{mm}$
长 度 Length	$62 \pm 0.5\text{mm}$
工作角度 Operating Angle	$9^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	10A
介质耐压 Withstand Voltage	2000VAC

·PZ-209



直 径 Diameter	$\Phi 12 \pm 0.5\text{mm}$
长 度 Length	$47 \pm 1\text{mm}$
工作角度 Operating Angle	$8^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	3A
介质耐压 Withstand Voltage	2000VAC

·PZ-215



直 径 Diameter	$\Phi 10 \pm 0.5\text{mm}$
长 度 Length	$34 \pm 1\text{mm}$
工作角度 Operating Angle	$15^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	5A
介质耐压 Withstand Voltage	2000VAC

·PZ-210A



直 径 Diameter	$\Phi 9.5 \pm 0.5\text{mm}$
长 度 Length	$47 \pm 1\text{mm}$
工作角度 Operating Angle	$8^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	3A
介质耐压 Withstand Voltage	2000VAC

·PZ-216



直 径 Diameter	$\Phi 12 \pm 0.5\text{mm}$
长 度 Length	$37 \pm 1\text{mm}$
工作角度 Operating Angle	$9^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-211



直 径 Diameter	$\Phi 13 \pm 0.5\text{mm}$
长 度 Length	$52 \pm 1\text{mm}$
工作角度 Operating Angle	$9^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	10A
介质耐压 Withstand Voltage	2000VAC

·PZ-217



直 径 Diameter	$\Phi 12 \pm 1\text{mm}$
长 度 Length	$37 \pm 1\text{mm}$
工作角度 Operating Angle	$9^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-218



直 径 Diameter	$\Phi 12 \pm 0.5\text{mm}$
长 度 Length	$38 \pm 1\text{mm}$
工作角度 Operating Angle	$9^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-223



直 径 Diameter	$\Phi 13 \pm 1\text{mm}$
长 度 Length	$34 \pm 1\text{mm}$
工作角度 Operating Angle	$9^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-219



直 径 Diameter	$\Phi 10 \pm 0.5\text{mm}$
长 度 Length	$25 \pm 1\text{mm}$
工作角度 Operating Angle	$5^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-228



直 径 Diameter	$\Phi 11 \pm 0.5\text{mm}$
长 度 Length	$48 \pm 1\text{mm}$
工作角度 Operating Angle	$10^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-220



直 径 Diameter	$\Phi 10.5 \pm 0.5\text{mm}$
长 度 Length	$48 \pm 1\text{mm}$
工作角度 Operating Angle	$7^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	5A
介质耐压 Withstand Voltage	2000VAC

·PZ-229



直 径 Diameter	$\Phi 8 \pm 0.5\text{mm}$
长 度 Length	$30 \pm 1\text{mm}$
工作角度 Operating Angle	$15^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	3A
介质耐压 Withstand Voltage	2000VAC

·PZ-221



直 径 Diameter	$\Phi 13 \pm 0.5\text{mm}$
长 度 Length	$58 \pm 1\text{mm}$
工作角度 Operating Angle	$20^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-230



直 径 Diameter	$\Phi 6 \pm 1\text{mm}$
长 度 Length	$24 \pm 1\text{mm}$
工作角度 Operating Angle	$10^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-222



直 径 Diameter	$\Phi 10 \pm 0.5\text{mm}$
长 度 Length	$45 \pm 1\text{mm}$
工作角度 Operating Angle	$10^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	3A
介质耐压 Withstand Voltage	2000VAC

·PZ-231(万向导通Omnidirectional Breakover)



直 径 Diameter	$\Phi 10 \pm 0.5\text{mm}$
长 度 Length	$20 \pm 1\text{mm}$
工作角度 Operating Angle	$30-60^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	2A
介质耐压 Withstand Voltage	2000VAC



·PZ-232



直 径 Diameter	$\Phi 7 \pm 0.5\text{mm}$
长 度 Length	$12 \pm 1/26 \pm 1\text{mm}$
工作角度 Operating Angle	$100^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	5A
介质耐压 Withstand Voltage	2000VAC

·PZ-302



直 径 Diameter	$\Phi 12 \pm 0.5\text{mm}$
长 度 Length	$55 \pm 1\text{mm}$
工作角度 Operating Angle	$10^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	10A
介质耐压 Withstand Voltage	2000VAC

·PZ-233(万向关断Omnidirectional Disconnection)



直 径 Diameter	$\Phi 13 \pm 1\text{mm}$
长 度 Length	$18 \pm 1\text{mm}$
工作角度 Operating Angle	$30-60^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-303



直 径 Diameter	$\Phi 12 \pm 0.5\text{mm}$
长 度 Length	$37 \pm 1\text{mm}$
工作角度 Operating Angle	$7^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	5A
介质耐压 Withstand Voltage	2000VAC

·PZ-235(万向导通Omnidirectional Breakover)



直 径 Diameter	$\Phi 13 \pm 0.5\text{mm}$
长 度 Length	$25 \pm 1\text{mm}$
工作角度 Operating Angle	$30-60^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	2A
介质耐压 Withstand Voltage	2000VAC

·PZ-304



直 径 Diameter	$\Phi 10 \pm 0.5\text{mm}$
长 度 Length	$49 \pm 1\text{mm}$
工作角度 Operating Angle	$10^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	3A
介质耐压 Withstand Voltage	2000VAC

·PZ-238



直 径 Diameter	$\Phi 7 \pm 0.5\text{mm}$
长 度 Length	$48 \pm 2/60 \pm 2\text{mm}$
工作角度 Operating Angle	$65^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	2A
介质耐压 Withstand Voltage	2000VAC

·PZ-305



直 径 Diameter	$\Phi 11 \pm 0.5\text{mm}$
长 度 Length	$36 \pm 1\text{mm}$
工作角度 Operating Angle	$20^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	3A
介质耐压 Withstand Voltage	2000VAC

·PZ-301



直 径 Diameter	$\Phi 11 \pm 0.5\text{mm}$
长 度 Length	$48 \pm 1\text{mm}$
工作角度 Operating Angle	$5.5^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	10A
介质耐压 Withstand Voltage	2000VAC

·PZ-310



直 径 Diameter	$\Phi 7 \pm 0.5\text{mm}$
长 度 Length	$30 \pm 1\text{mm}$
工作角度 Operating Angle	$2^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-401



直 径 Diameter	$\Phi 11.5 \pm 0.5\text{mm}$
长 度 Length	$35 \pm 1\text{mm}$
工作角度 Operating Angle	$7^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	2A
介质耐压 Withstand Voltage	2000VAC

·PZ-405



直 径 Diameter	$\Phi 12 \pm 0.5\text{mm}$
长 度 Length	$50 \pm 1\text{mm}$
工作角度 Operating Angle	$15^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	5A
介质耐压 Withstand Voltage	2000VAC

·PZ-402



直 径 Diameter	$\Phi 9 \pm 0.5\text{mm}$
长 度 Length	$65 \pm 1\text{mm}$
工作角度 Operating Angle	$10^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	6A
介质耐压 Withstand Voltage	2000VAC

·PZ-601



直 径 Diameter	$\Phi 11 \pm 0.5\text{mm}$
长 度 Length	$52 \pm 1\text{mm}$
工作角度 Operating Angle	$60^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	2A
介质耐压 Withstand Voltage	2000VAC

·PZ-403



直 径 Diameter	$\Phi 8 \pm 0.5\text{mm}$
长 度 Length	$37 \pm 1\text{mm}$
工作角度 Operating Angle	$16^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	1A
介质耐压 Withstand Voltage	2000VAC

·PZ-602



直 径 Diameter	$\Phi 10 \pm 0.5\text{mm}$
长 度 Length	$79 \pm 1\text{mm}$
工作角度 Operating Angle	$40+60^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	2A
介质耐压 Withstand Voltage	2000VAC

·PZ-404



直 径 Diameter	$\Phi 12 \pm 0.5\text{mm}$
长 度 Length	$48 \pm 1\text{mm}$
工作角度 Operating Angle	$15^\circ$
额定电压 Rating Voltage	220V
额定电流 Rating Current	5A
介质耐压 Withstand Voltage	2000VAC

### □ 结构 Structure

本产品分为A型、B型两种，两种结构相同，只是电缆引出方向及拨杆方向相反。A型安装于皮带左侧，B型安装于皮带右侧。一般情况下，两种是配套使用，如需其中一种同样可以供应，电缆长度可增可减。

The products are divided into A and B types. Two types' structure is the same, Only the cable outlet and lever direction is the opposite. A type mounted on the left side of the belt, B type mounted on the right side of the belt. Usually, the two types are supporting the use, if need one, can also be supply, Cable length can be increased or reduced.

### □ 用途 Application

本产品专用于钢丝绳牵引皮带输送机在运行中发生掉绳、掉带、断带故障时，能及时停机，避免事故。

This product is designed for wire rope pull belt conveyor happed running out of Rope, fall belt, broken belt failure, can timely stop to avoid the accident.

### □ 使用说明 Operation Instruction

本产品可根据钢带机运行情况，逐架或隔架安装在钢带机托轮架上，拨杆指向皮带运行方向，并使拨杆横端置于钢丝绳下方3-5cm处，将开关体与座的卡槽插牢。一旦发生掉绳、掉带等故障时拨杆受压将开关体从卡槽中拉出向下翻转，水银开关断开，发出故障信号，或直接使电机接触器线圈断电从而使钢带机及时停止运行而得到瓮中保护。

This product can be mounted by rack or shelf on belt conveyer, Pull the lever pointing the direction of the belt, Make the lever's transver end put below the belt 3-5cm side. And inserted firmly the card slot of the switch body and base. Once off the rope, fall belt happed, lever under pressure will flip down the switch body pulled from the card slot. The mercury is cut off, will send a fault signal, or directly made motor contactor Coil Power off, So the strip machine timely stop running and get the urn protected.

### □ 技术参数 Technical Specification

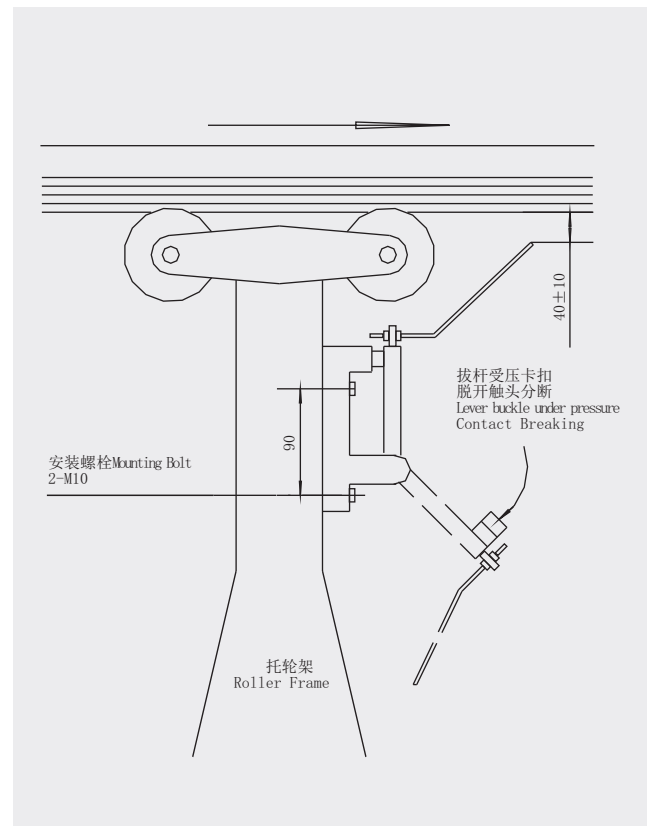
产品型号	Product model	PZ-21
额定电压	Voltage rating	220VAC
额定电流	Current rating	3A
动作压力	Operating force	≥2Kg
工作角度	Operating angle	180°
触点形式	Contact form	NC/NO
防护等级	Protection degree	IP67
接触电阻	Contact resistance	≤200mΩ
介质耐压	Medium withstand voltage	≥2500VAC
绝缘电阻	Insulating resistance	≥100MΩ
工作温度	Operating temperature	-25-80℃



### □ 安装位置及工作原理

#### Installed position and working Principle

当皮带如图所示方向运行时，远侧安装B型，近侧安装A型  
When the belt running direction as shown, Far side Installation B type, Near-side installation A type.



### □ 结构 Structure

本开关系采用PZ-215型水银开关以环氧树脂固封在聚乙烯外壳中，并将引出电缆一端同时封在其中成为全封闭式开关，在化工厂酸碱车间及矿井高湿度作业区具有很好的防水防腐能力。

This Switch adopt PZ-215 type mercury switch, With epoxy resin fixed outside the polyethylene In the shell, will lead to one of the cable end, At the same time become fully enclosed switch. Acid and alkali plant in chemical plant and mine in the high humidity areas has very good waterproof anti-corrosion Ability.

### □ 用途 Application

本开关是参照国外矿用绞车安全门开关的同类产品，它结构简单，价格低廉，可直接固定在机械的传动部件上，做位置信号或定位控制用。

This switch is referring to the similar products of foreign mining winch the security switch, its structure is Simple, low cost, can be directly fixed on the mechanical transmission parts, are widely used in Signal or positioning control.

### □ 使用说明 Operation Instruction

根据开关工作位置打出安装孔用螺钉将开关固定，固定时开关下应垫上一层 5mm 厚的橡胶片，固定螺钉不宜扭得过紧，以免挤裂环氧树脂。

通电前应将开关向接通方向大角度倾斜一次，使水银充满水银开关的电极杯，以免电极在大电流下与水银直接接触产生火花而烧蚀电极使电极氧化而增大接触电阻。

According to the switch work position with mounting holes use screws to fix the switch, The switch should be with a 5 mm thick layer of rubber piece when it should have been to be fixed. Set screw should not be too tight, in order to avoid cracked epoxy resin. The switch should to connect large angle to a direction before electricity, the mercury is full of water Silver electrode of the switch. In order to avoid the electrode in large electrical flow has Direct contact with mercury Spark, and ablation electrode increased by oxidation of electrode contact resistance.

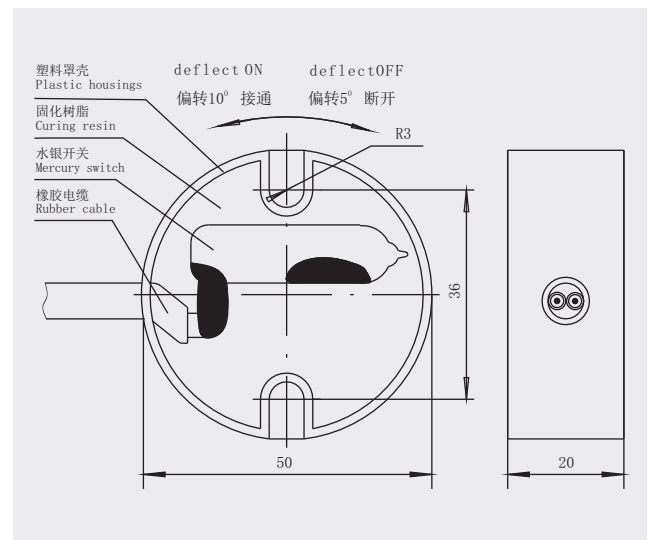


### □ 技术参数 Technical Specification

产品型号	Product model	PZ-22
额定电压	Voltage rating	220VAC
额定电流	Current rating	3A
工作角度	Operating angle	15°
触点形式	Contact form	NO
防护等级	Protection degree	IP67
接触电阻	Contact resistance	≤200mΩ
介电耐压	Medium withstand voltage	≥2500VAC
绝缘电阻	Insulating resistance	≥100MΩ
工作温度	Operating temperature	-25~80℃

### □ 外形安装尺寸及结构图

#### Outshape mounting & Product Structure



### □ 结构 Structure

本开关系采用ABS塑料外壳以密封在环氧树脂内的水银开关做触点，具有极好的防潮、防腐能力，可完全不考虑水、尘瓦斯及酸碱气体的影响。

The Switch use ABS plastic shell and use the epoxy resin sealed mercury switch as contact, has excellent moisture, corrosion resistance, can not be considered the impact of water, dust, gas and acid-base gas.

### □ 用途 Application

本开关是参照国外同类产品并加以改进的矿用开关，供矿山、化工生产单位作井口安全门煤仓箕门等处作行程控制及发生位置信号用。

This switch is mine switch, reference to similar foreign products. It is used for mining, control and the occurrence of stroke position signal In chemical production for wellhead safety door, etc.

### □ 使用说明 Operation Instruction

为便于定位，开关的两个安装孔中有一个设计成弧形，这样可使开关在安装后作左右40°的偏转，以选择最佳工作点，然后将螺栓拧紧即可。

For easy positioning, One of the two mounting holes is designed to be curved. So can make a deflection of about 40° after installation, In order to select the optimal operation point, then tighten the bolts.

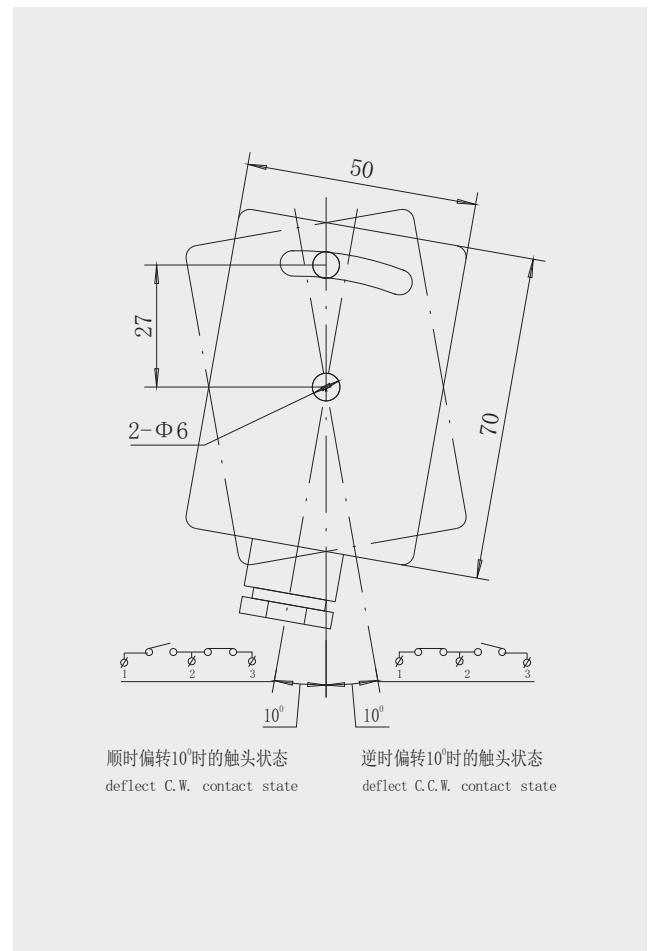
### □ 技术参数 Technical Specification

产品型号 Product model	PZ-31
额定电压 Voltage rating	220VAC
额定电流 Current rating	3A
工作角度 Operating angle	10°
触点形式 Contact form	1NC1NO
防护等级 Protection degree	IP67
接触电阻 Contact resistance	≤200mΩ
介质耐压 Medium withstand voltage	≥2500VAC
绝缘耐压 Insulating resistance	≥100MΩ
工作温度 Operating temperature	-25~80℃



### □ 外形安装尺寸及工作位置

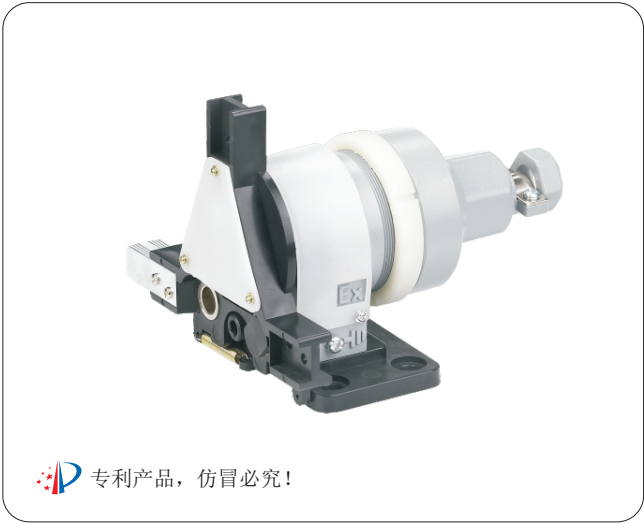
Outshape mounting & working position



□ 结构 Strucuture

本开关系利用水银开关作电触头，与具有较高强度的铝合金隔爆外壳组装而成，具有工作可靠，轻巧耐用等特点，特别适合于一般机械触头开关不能胜任的恶劣环境场合。矿用防爆水银开关的安装及动作原理与一般限位开关基本相同，使用更加方便。

This switch Using mercury switch as a electric contact, It's consisted of high strength aluminum alloy explosion-proof enclosure, With reliable work, Lightweight and durable, etc. Particularly suitable for general mechanical contactor switch which is not up to a bad situation. The Installation and principle of action for explosion-proof mercury switch is basically the same as general limit switches. It is more convenient for use.



专利产品，仿冒必究！

□ 用途 Application

防爆水银限位开关适用于矿井，油库化工厂等具有一级可燃可爆性气体或粉尘、潮湿及有腐蚀性介质的环境，作运动机械的限位、保护、信号、位置检测自控用。如：矿井井筒吊罐车的停车、过卷保护；推车机、翻车机的位置检测及控制煤仓箕门的开关信号以及皮带运输机的跑偏、断带保护等。

Explosion-proof Limit mercury switch is suitable for mine and Oil chemical plant Such as with level of com bustible gas, or Dust, moisture and corrosive medium environment, as uesd in exercise mechanical limit, protection, signal, position detection control. Such as: The mine shaft hoisting, tank car parking, overwinding protection; The pusher, the position detection and control of the dumper Coal basket door switch signals and belt conveyor running deviation, strip break protection, etc.

□ 外形安装尺寸及工作位置

Outshape mounting & working position

产品型号	Product model	BLY1-5/111	BLY1-5/211
额定电压	Voltage rating	127VAC/110VDC	
额定电流	Current rating	2A AC/2A DC	
动作方式	Operating force	顺时针 C. W.	逆时针 C. C. W.
工作角度	Operating angle	30°	
触点形式	Contact form	1NC1NO	
防护等级	Protection degree	IP67	
接触电阻	Contact resistance	≤200mΩ	
介质耐压	Medium withstand voltage	≥2500VAC	
绝缘电阻	Insulating resistance	≥100MΩ	
操作频率	Operation frequency	≤600次/小时	
引入电缆外径	Ingoing cable diameter	Φ 14-19mm	
工作温度	Operating temperature	-25-80℃	

□ 外形安装尺寸及工作位置 Outshape mounting & working position

