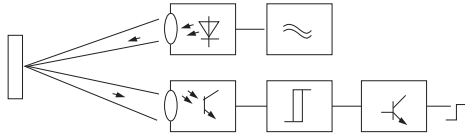


# 光电开关 PHOTOELECTRIC SWITCH

## 结构分类 Structural category

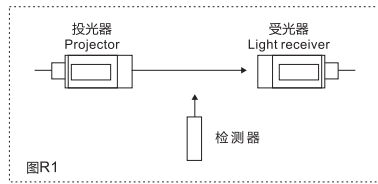
### ❖ 光电开关工作原理 Photoelectric switch Principle of photoelectric switch

光电开关的原理是根据投光器发射的光束，被物体阻断或部分反射，受光器最终据此做出判断反应。  
The working principle of the photoelectric switch is that when the beam emitted by the emitter is blocked or partly reflected by the object, the beam receiver whereby makes a judgment and reacts.



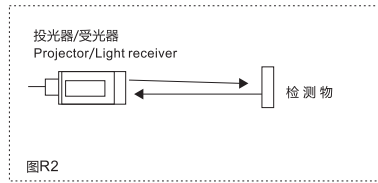
### ❖ 类型说明 Description Thru-beam type

对射式(透射型) Diact type (through type) 对射式光电开关是将投光器与受光器置于相对的两个装置，光束也是在相对的两个装置之间，穿过投光器与受光器之间的物体会阻断光束并启动受光器。(图R1)  
Through-beam type photoelectric switch is designed that via the light beam between opposite-mounted transmitter and receiver, the object passing through these two devices will interrupt the light beam and start the receiver.(Fig.R1)



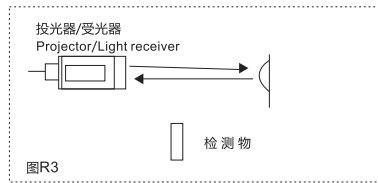
### ❖ 扩散反射型(漫反射型) Diffuse type

扩散反射型光电开关将投光器与受光器置于一体，光电开关反射的光被检测物体反射回受光器。(图R2)  
Diffuse reflection type photoelectric switch integrates the transmitter and the receiver. Light reflected by the photoelectric switch is reflected back to the receiver by the detected object.(Fig.R2)



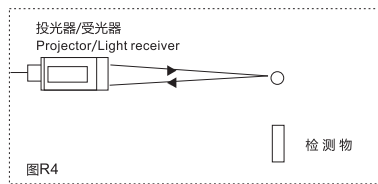
### ❖ 镜面反射型(反馈反射型) Retroreflective type

镜面反射型的反射式光电开关也将投光器与受光器置于一体，它不同于其它模式是它采用反射板将光线反射回光电开关，光电开关于反射板之间的物体虽然也反射光线，但其效率远低于反射板，因而切断反射光束。(图R3)  
Retroreflective type photoelectric switch also integrates the transmitter and the receiver. Its difference from other models is that reflector is used to reflect light to the photoelectric switch. Though the object between the photoelectric switch and reflector can reflect the light, it is much less efficient than the reflector so as to cut down reflected light.(Fig.R3)



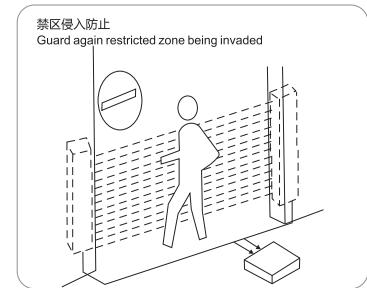
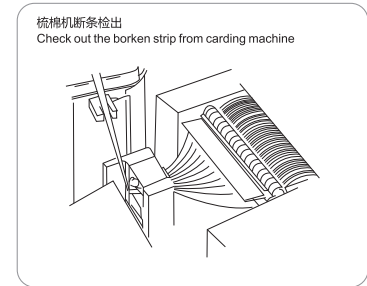
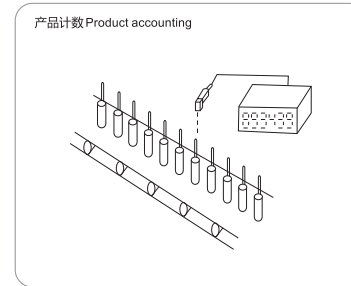
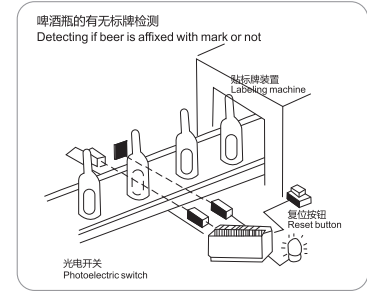
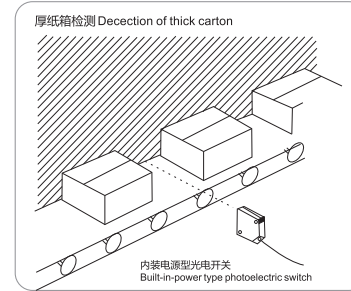
### ❖ 会聚型反射型(聚光型) Convergence reflection type (condensation type)

会聚型反射式的光电开关的工作原理类似于直接反射式光电开关，然而其投光器与受光器聚焦于物距离，只有当物体出现在聚焦时，光电开关才有动作。(图R4)  
The working principle of convergence reflection type photoswitch is similar to that of direct reflection type one, while its projector and light receiver focus on object distance, only when the object presents to the focus can the photoswitch actuate.(Fig.R4)



# 光电开关 PHOTOELECTRIC SWITCH

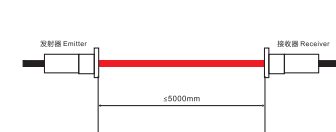
## 光电开关应用图例 Application illustration or photoelectric switch



## 产品简介 Introduction

## 外形尺寸 Dimension

- ❖ SN-GDD-1型对射/漫反射红外线光电开关由一对红外线发射器和接收器相对安装构成电路。产品接通电源后，当来自发射器的红外线光束被物体阻断时，接收器就输出一个电信号(NPN/PNP)给需要控制的设备及系统。
- ❖ SN-GDD-1 beam/diffused infrared photoelectric sensor consist of a pair of emitter and receiver installed face to face which compose a circuit. After power is supplied, the receiver will send out an electric signal (NPN/PNP) to the controlled equipment and system when the infrared beam from emitter is blocked by an object.



# 光电开关 PHOTOELECTRIC SWITCH

光电开关型号构成及含义 Model composition and definition of infrared ray photoelectric switch.

G 18 3 A 10 N A □  
1 2 3 4 5 6 7 8

编号 No	构成 Composition	代码及含义 Code and definition
1	基本形式 Basic form	G:塑料壳体红外线光电开关 E:金属红外线光电开关 infrared ray photoelectric switch
2	外形编号 Outward appearance code	18,50,76.....
3	工作电压 Working voltage	2.90-250VAC 3:10-30VDC 4:12-240VDC/24~240VAC 5:特殊电压 Special voltage
4	检测方式 Detection way	A:漫反射型(扩散反射型) B:反馈反射型(镜面反射型) C:透过型(对射型) D:标记检测型 G:光纤型 F:槽型 A:diffused reflection type(scattered reflection type) B:feedback reflection type mirror(reflection type) C:penetration type(correlation type) D:marking detection type G:optical fiber type
5	检测距离 Detection distance	05:5cm 10:10cm 30:30cm 101:10cm
6	输出形式 Output form	N:NPN直流负逻辑输出 P:PNP直流正逻辑输出 J:继电器触点输出 L:交流二线输出 S:具备NPN和PNP二种输出 N:PNP transistor output P:PNP transistor output J: Relay contact output L:AC two-wire output S:With two outputs: NPN and PNP
7	输出状态 Output state	A:常开(入光NO) B:常闭(遮光NC) C:一开一闭 Z:常开常闭可逆 A: Normally open(light entering NO) B: Normally close(light sheltering NC) C: normally open+normally close
8	附属功能 Subsidiary	T1:前延时 front delay T2:后延时 rear delay Y:防油型 oil proof T:带航空插件 with aviation connector I:特殊要求 special requirement

例: G18-3A10NA For example:G18-3A10NA

◆ 表示: M18圆柱形, DC10-30V工作电压, 漫反射型, 检测距离为10cm, NPN(负逻辑)常开式的红外线光电开关。

◆ That indicates the infrared ray photoelectric switch of M18 cylinder, DC10-30V working voltage, diffused reflection type, detection distance 10cm, and NPN normally open type.

## 技术参数 Technical parameters

检测方式 Detection way	5000mm(对射 beam)	输出电流 Output current	≤80mA(DC12V)
检测距离 Detection distance	800mm(反射 reflection)	环境温度 Ambient temperature	使用时In use-25°C----+55°C
	红外线 infrared(920mm)		存储时At stock-4°C----+70°C
光源(波长) Light source(wavelength)	≤30度 degree	引线长度 Lead length	发射器,接收器个2米 Emitter, receiver both 2m
指向角 Point angle	6-36VDC	输出方式 Output	NPN或PNP晶体管输出 NPN or PNP transistor output
电源电压 Supply voltage	对射型或反射型Beam type of reflective type	防护等级 Protection level	IP67(IEC60529)
残留电压 Residual voltage	DC三线式(3-wire):≤1.5VDC AC二线式(2-wire):≤12VDC	耐压 Withstanding voltage	1500VAC 50/60Hz一分钟(one minute)
绝缘电阻 Insulation resistance	≥50MΩ Min (500VDC Mega 基准)	抗冲击 Impact resistance	500M/S(50G <sup>3</sup> )X、Y、Z各方向3次 (3 times in each direction)
温度影响 Temperature effect	在-25°C~+70°C范围内, 对在+25°C时的检测距离是在10%以下 Within -25°C~+70°C, less than 10% compared with the detection range at+25°C	抗振动 Vibration resistance	10-55Hz(周期每分钟cycles per min.) 复振幅(complex amplitude)1mm.X、Y、Z各方向2小时(2 hours in each direction)

# 光电开关 PHOTOELECTRIC SWITCH

长距离反射型 Long distance reflection type

- ◆ 外形尺寸虽小, 检测距离可远
- ◆ Small dimensions, long distance detection

## 特点 Characteristics

- ◆ 通过特殊的光学设计, 可使漫反射型下检测距离达到2m  
With special optic design, detection distance is improved to 2m for diffused type
- ◆ 内置稳定的动作指示灯  
With stable built-in caution indicator light
- ◆ 灵敏度调整功能  
With sensitivity adjustment
- ◆ 双色LED显示  
With 2-color LED indication

使用前请仔细阅读操作手册中的安全注意事项

Please read carefully the safety cautions in the operation manual before use

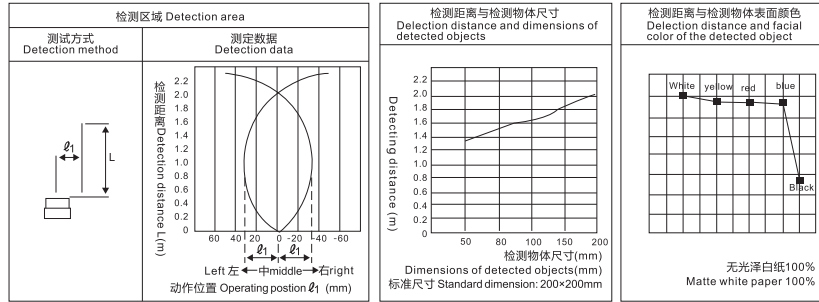


## 规格参数 Specifications

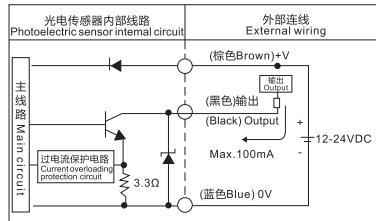
型号 Type	BA2M-DDT
检测模式 Detection method	漫反射型 Diffuse type
检测距离 Detection distance	2m
检测物体 Detection object	透明, 半透明, 不透明物体 Transparent, translucent, opaque objects
回差值 Difference in value	不超过标检测距离的20% Less than 20% of the standard detection distance
响应时间 Response time	大约approx 1ms
电源电压 Supply voltage	12-24VDC±10%(Ripple P-P:Max.10%)
电流消耗 Current consumption	Max.15mA(Max.30mA 输出 Output On)
光源 Light source	红外光 Infrared(850mm 调制光 Modulated light)
灵敏度调节 Sensitivity adjustment	内置可调 Built-in adjustable VR
动作模式 Action pattern	Light ON (Dark On 为可选项 Optional)
控制输出 Output control	NPN开路集电极输出: 负载电压DC30V 以下负载电流100mA以下, 残留电压1V以下 NPN open-collector output: loading voltage below DC30V, loading current below 100mA, residual voltage below 1V
保护电路 Protection circuit	内置电压波动, 电源反向连接, 过流保护电路 Built-in protection circuit for voltage fluctuation, reverse connection, and current overloading
感光元素 Photosensitive element	光电感应二极管(内置IC) Photoelectric sensor diode
指示灯 Indicator light	双色LED灯(动作时: 红色, 稳定时: 黄色 (红色+绿色) Two-color LED(action: red, stable: yellow(red+green))
绝缘阻抗 Insulation resistance	不小于No less than 20MΩ(500VDC)
抗噪音强度 Noise resistance	±240V噪音发生器产生脉动宽度1的方波 Noise generator produces a square wave pulse of 1"wide
耐电压 Withstanding voltage	1000VAC 50/60Hz 1分钟 minute
抗振动 Vibration resistance	1.5mm振幅, 10-55频率, X,Y,Z各方向2小时 Amplitude 1.5mm, frequency 10-55, 2 hours in each direction
抗冲击 Impact resistance	100/s <sup>2</sup> (10G) in X,Y,Z方向3次(3 times in each direction)
环境光照 Ambient illumination	太阳光: 最强10,000/lx, 白炽灯: 最强3,000/lx In sunlight: utmost 10,000/lx, Incandescent light: utmost 3,000/lx
使用环境温度 Ambient temperature	-25S~+55°C(非结冰状态 Non-frozen), 存储温度 Storage temperature:-25S~70°C
使用环境湿度 Ambient humidity	35~80%RH
防护等级 Protection level	IP50(IEC标准 IEC standard)
材质 Material	外装: PBT, 透镜: PMMA Shell: PBT, lens: PMMA
连接电缆 Connection cable	3P, Φmm, 长度Length: 2m
附件 Accessories	灵敏度调节工具 Sensitivity adjustment tool
认证 Certification	CE
质量 Weight	大约50g Approx. 50g.

# 光电开关 PHOTOELECTRIC SWITCH

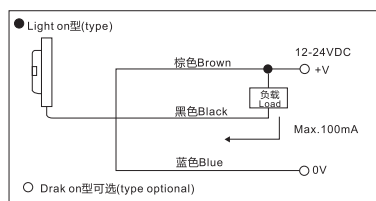
## 特性参数 Specifications



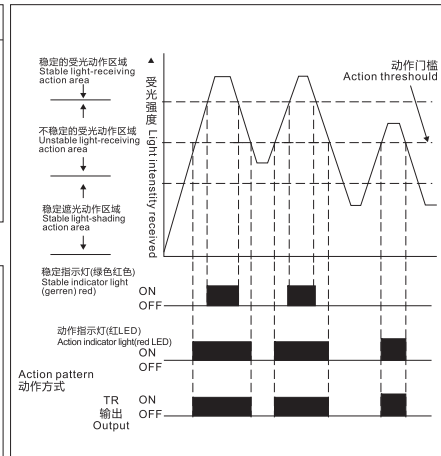
## 控制输出线路图 Control output circuit diagram



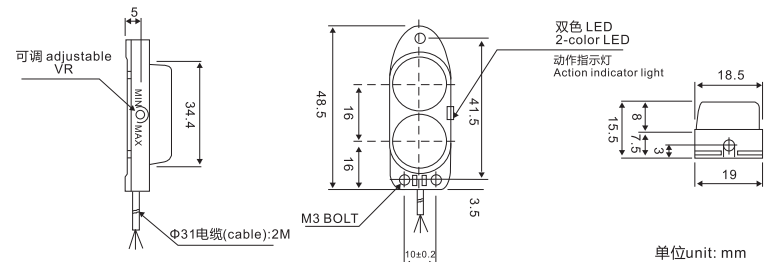
## 控制图 Control diagram



## 动作模式 Action pattern



## 外形尺寸 Dimension



# 光电开关 PHOTOELECTRIC SWITCH

## 光电开关术语解释 Explanation of technical terms of photoelectric switch

术语 Technical terms	解释 Explanation	术语 Technical terms	解释 Explanation
光芒光轴 Optic axis of radiance	 光轴: 光芒的中心轴 Optical axis: the central axis of the light radiance 光扩: 光的扩展 light radiance: rays of light	标准被测物体 Standard detected object	指在反射型传感器中为决定基本规定面作为标准的被测物体。一般是白色无光, 对专用传感器使用相应的被测物体。(例如薄片) That indicates the standard detected object, which is to determine the basic specifications in the reflection type sensor. Generally, it is white and lightless. Use relevant detected object (for example, the slice) to the sensor for special purpose
检测轴 Detection axis	 受光轴 Axis of receiving rays 光轴 Optical axis 投光轴 Axis of emitting rays 投光和受光的中心轴 在透过型中即为光轴 For through-beam type, the optical axis is the central axis of the receiving rays and emitting rays	最小被测物体 Min detected object	指在一定条件下传感器能测出的最小物体。对射型、镜面反射型是指不透明体(完全遮光), 对反射型是指铁丝或铜丝相应的值。 That indicates the smallest object, which can be detected by sensor under a certain condition. To correlation type and mirror reflection type, that indicates opaque body (wholly light sheltering). To reflection type, that indicated the corresponding value of iron wire or copper wire.
检测距离 Detection distance	对射型 Correlation type 可稳定设定的投光器和受光器之间的距离 Stably set distance between light projector and photoreceptor  投光器 Emitter 受光器 Receiver 反馈反射型 Feedback reflection type 标准设定的传感器和反射之间的距离(0的情况将“0”省略) Standard setting distance between sensor and reflection mirror (omit "0" on the occasion with "0") 	重复精度 Repeated precision	指在一定条件下, 重复动作时响应位置的误差。 That indicates the error of response position when repeating action under a certain condition. 
响应时间 Response time	 检测状态 detection state 输出信号 Output signal T 响应 Response	检测状态变化后到输出ON或OFF信号的延迟时间。 The time delay from the change of detection state to the output of ON or OFF signal	
漫反射型 Diffused reflection type	可稳定被测物体(通常是白色无光纸)能被稳定检测的最大距离(“0”的情况半“0”省略) The max stable detectable distance of detectable object, generally white matte paper (omit "0" on the occasion with "0") 	使用环境照度(耐杂散光) Intensity of illumination of operating environment (resistance to mixed astigmatism) 	

# 光电开关 PHOTOELECTRIC SWITCH

术语 Technical terms      解释 Explanation      使用注意事项 Cautions

在对射型以及反馈反射型中，在各设定距离内，从右方在左方向中心线移动，使角度逐渐变小，以传感器动作响应的角度为轨迹所表示的图(灵敏度最大状态下)。  
To correlation type and feedback reflection type, move from right to the centering of left direction within each setting distance to gradually reduce the angle. That is shown by locus diagram of sensor action response angle (under max sensitivity state)

**角度特性**  
Angel characteristic

**对射型 反馈反射型** To correlation type and feedback reflection type  
**距离设定** Distance equipment

- 设定距离应小于说明书上规定的检测距离。由于留有冗余，大于所规定的检测距离里也能工作。但性能不能保证。另外，在有垃圾和尘埃的恶劣环境中，距离设定时，请保证一定的冗余。
- The set distance should be less than the detection distance stipulated in the operation instruction. Because of keeping a room, although it can work when the set distance is bigger than the stipulated detection distance, the performance cannot be guaranteed In addition, please make sure to keep certain room in the bad environment with rubbish and dust when setting a distance.

**漫反射型** To diffused reflection type

- 规格书上登出的检测距离是相对于标准被测物体而言的。实际的检测距离，因被测物体大小，颜色及表面的凹凸状况不同，会有所变化。距离设定时，请保证规定的冗余。
- 随被测物体的大小变化，检测距离的变化规律被测物体越大，反光量越大，检测距离越长。但是，当物体的受光面的大小已大于受光的检测，物体大小再增大，检测距离也不会增大。
- The detection distance shown in the specification manual is in accordance with standard detected object. Actual detection distance will change in pace with the change of the size, color, surface evenness of detected object. Please ensure the stipulated room when set distance.
- According to the change or detected object size and variation regulation regulation of detection distance, bigger detected object, bigger reflection volume, longer detection distance. But when the size of optic receiving surface is bigger than the size of the detected object, the detection distance won't increase even if the object size increases again.

**被测物体不同检测距离的差异(适用于漫反射型)**  
The difference between different detection distances of the detected object (Apply to scattered reflection type)

表示在反射型中，因被物体大小对检测距离影响的规律。此图对根据被测物体大小决定能稳定检测的距离有用。带有灵敏度旋钮的传感器是将灵敏度调到与刚好能检测标准被测物体的最大检测距离响应的位置。  
Toreflexion type, because the size of detected object affects detection distance, this diagram is useful to determine the stable detection distance according to the size of detected object, the sensor with sensitivity button is to turn the sensitivity to therelevant position of max. detection distance where exactly etecting the standard detected object

**被测物体大小和检测距离特性**  
The characteristic of detected object size and detection distance

**反射型 Reflective type**

Object Type	Detection Distance (mm)
A	100
B	90
C	100
D	40
E	110
F	70
G	170
H	350
I	850
J	28
K	35
L	42

白色无光纸(基准) B、自然色的纸箱 C、胶会 D、黑色无光纸(三级光泽度) E、有光泽的胶合板(自然的米黄板, 褐色丙烯板, 红色乙烯合成革) F、灰色乙烯合成革 G、有绿色光泽橡胶板 H、铝板 I、反射型或反射板 J、Φ10的修铁棒 K、黑布 L、深蓝色布

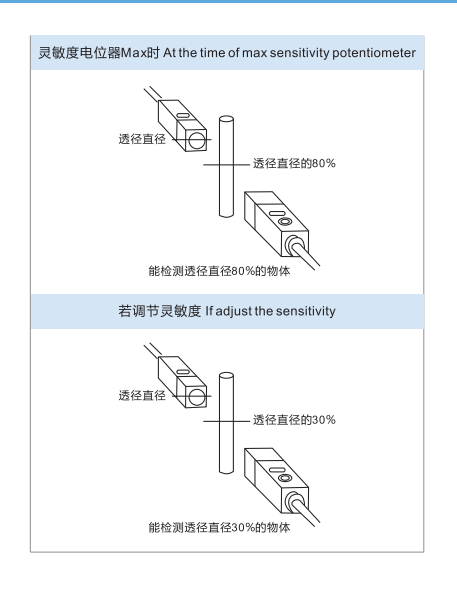
A、White matt paper (reference)  
B、Natural color carton  
C、Veneer  
D、Black matt paper (Grade 3 glossiness)  
E、Glossy vener (Natural cream-colored board, brown propylene board, red ethylene synthetic board)  
F、Grey ethylene synthetic board  
G、Green glossy rubber board  
H、Alboard  
I、Reflector or reflecting board  
J、Rusty iron iron bar Φ10  
K、Black cloth  
L、Dark blue cloth

# 光电开关 PHOTOELECTRIC SWITCH

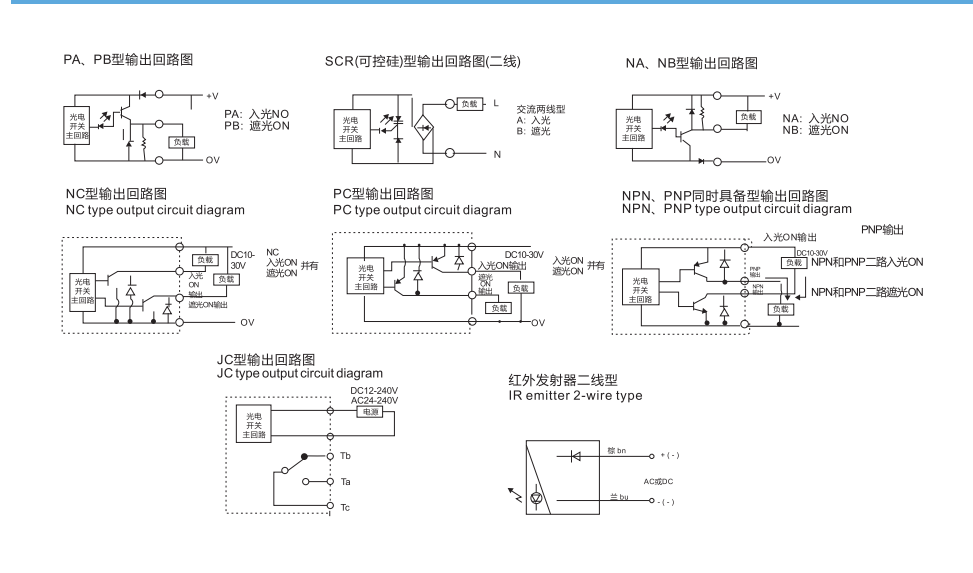
防止相互干扰的方法及注意事项 Method of anti mutual-interference and cautions

把光电传感器接近设置时，另一个传感器的光入射时造成的不稳定动作，叫做相互干扰。  
The unstable action resulted from the entrance light from another sensor while the photoelectric sensor is approaching the equipment is called mutual interference.

- 投影机、受光器相互交叉安装。  
Mutual cross installation of optic projector and photoreceptor
- 反射式并列使用时，相互间隔须维持设定距离在检测距离的1.4倍以上。When using reflection type in parallel, the mutual spacing should be kept at over 1.4 times detection distance.
- 对射式并列使用时，相互间隔须维持设定距离在检测距离的0.4倍以上。When using correlation type in parallel, the mutual spacing should be kept at over 0.4 times detection distance.
- 电源电压请在使用电源电压范围内使用。  
The mains voltage should be within the range of operating mains voltage.
- 下列安装场所会造成误动作原因，请注意：  
The following installation occasions will result in error action, take note of:
  - 灰尘较多场所
  - 腐蚀性气体较多的场所
  - 水、油、药剂直接溅散的场所
  - 室外或太阳光等有强光直射的场所



## 光电开关输出回路图 Output retrun diagram of photoelectric switch



# 光电开关 PHOTOELECTRIC SWITCH

结构分类 Structural category

光电开关 Photoelectric switch

外形编号Outward appearance code		G12	G13	G14	G15		
外形图例 Outward appearance illustration							
外形尺寸 Overall dimensions							
检测距离 DETECTION DISTANCE		7cm	10cm	10cm	10cm		
漫反射型 Retroreflective	直流 DC 10-30 VDC 负逻辑 NPN	常开NO	G12-3A07NA	G13-3A10NA	G14-3A10NA	G15-3A10NA	
		常闭NC	G12-3A07NB	G13-3A10NB	G14-3A10NB	G15-3A10NB	
		一开一闭NO+NC	G12-3A07NC	G13-3A10NC	G14-3A10NC	G15-3A10NC	
	正逻辑 PNP	常开NO	G12-3A07PA	G13-3A07PA	G14-3A07PA	G15-3A07PA	
		常闭NC	G12-3A07PB	G13-3A07PB	G14-3A07PB	G15-3A07PB	
		一开一闭NO+NC	G12-3A07PC	G13-3A07PC	G14-3A07PC	G15-3A07PC	
	交流 AC 90-250 VAC SCR可控硅 Control Hable silicon	常开NO					
		常闭NC					
		继电器输出 Relay output					
	检测距离 DETECTION DISTANCE		1m	1m	1m	1m	
	区域反射型 Retroreflective	直流 DC 10-30 VDC 负逻辑 NPN	常开NO	G12-3B1NA	G13-3B1NA	G14-3B1NA	G15-3B1NA
			常闭NC	G12-3B1NB	G13-3B1NB	G14-3B1NB	G15-3B1NB
一开一闭NO+NC			G12-3B1NC	G13-3B1NC	G14-3B1NC	G15-3B1NC	
正逻辑 PNP		常开NO	G12-3B1PA	G13-3B1PA	G14-3B1PA	G15-3B1PA	
		常闭NC	G12-3B1PB	G13-3B1PB	G14-3B1PB	G15-3B1PB	
		一开一闭NO+NC	G12-3B1PC	G13-3B1PC	G14-3B1PC	G15-3B1PC	
交流 AC 90-250 VAC SCR可控硅 Control Hable silicon		常开NO					
		常闭NC					
		继电器输出 Relay output					
检测距离 DETECTION DISTANCE		3m	3m	3m	3m		
对射型 Through beam		直流 DC 10-30 VDC 负逻辑 NPN	常开NO	G12-3C3NA	G13-3C3NA	G14-3C3NA	G15-3C3NA
			常闭NC	G12-3C3NB	G13-3C3NB	G14-3C3NB	G15-3C3NB
	一开一闭NO+NC		G12-3C3NC	G13-3C3NC	G14-3C3NC	G15-3C3NC	
	正逻辑 PNP	常开NO	G12-3C3PA	G13-3C3PA	G14-3C3PA	G15-3C3PA	
		常闭NC	G12-3C3PB	G13-3C3PB	G14-3C3PB	G15-3C3PB	
		一开一闭NO+NC	G12-3C3PC	G13-3C3PC	G14-3C3PC	G15-3C3PC	
	交流 AC 90-250 VAC SCR可控硅 Control Hable silicon	常开NO					
		常闭NC					
		继电器输出 Relay output					
	输出电流 DC/SCR 继电器 Control output		DC:200mA				
	消耗电流 DC/AC Consumption current		DC<15mA				
	响应时间 DC/AC Response time		DC<2ms				
指向角 Directional angle		3°~10°					
检测物体 Detected object		透明或不透明体 transparent or opaque body					
工作环境温度 Working environment temperature		-25°C~+55°C					
工作环境照度 Intensity of illumination of working environment		太阳光10000LX以下Sunlight under10000LX白炽灯3000LX以下 incandescent lamp under 3000LX					
外壳材料 Shell materia		金属Metal	金属Metal	塑料Plastic	塑料-金属Plastic, Metal		
防护等级 Protection grade		IP54	IP54	IP54	IP54		

# 光电开关 PHOTOELECTRIC SWITCH

结构分类 Structural category

光电开关 Photoelectric switch

外形编号Outward Appearance code		G16	G17	G18	G23		
外形图例 Outward appearance illustration							
外形尺寸 Overall dimensions							
检测距离 DETECTION DISTANCE		10cm	30cm	10-30cm	10-50cm		
漫反射型 Retroreflective	直流 DC 10-30 VDC 负逻辑 NPN	常开NO	G16-3A10NA	G17-3A30NA	G18-3A10NA	G23-3A10NA	
		常闭NC	G16-3A10NB	G17-3A30NB	G18-3A10NB	G23-3A10NB	
		一开一闭NO+NC	G16-3A10NC	G17-3A30NC	G18-3A10NC	G23-3A10NC	
	正逻辑 PNP	常开NO	G16-3A10PA	G17-3A30PA	G18-3A10PA	G23-3A10PA	
		常闭NC	G16-3A10PB	G17-3A30PB	G18-3A10PB	G23-3A10PB	
		一开一闭NO+NC	G16-3A10PC	G17-3A30PC	G18-3A10PC	G23-3A10PC	
	交流 AC 90-250 VAC SCR可控硅 Control Hable silicon	常开NO			G18-2A10LA		
		常闭NC			G18-2A10LB		
		继电器输出 Relay output					
	检测距离 DETECTION DISTANCE		1m	2m	2m	2m	
	区域反射型 Retroreflective	直流 DC 10-30 VDC 负逻辑 NPN	常开NO	G16-3B1NA	G17-3B2NA	G18-3B2NA	G23-3B2NA
			常闭NC	G16-3B1NB	G17-3B2NB	G18-3B2NB	G23-3B2NB
一开一闭NO+NC			G16-3B1NC	G17-3B2NC	G18-3B2NC	G23-3B2NC	
正逻辑 PNP		常开NO	G16-3B1PA	G17-3B2PA	G18-3B2PA	G23-3B2PA	
		常闭NC	G16-3B1PB	G17-3B2PB	G18-3B2PB	G23-3B2PB	
		一开一闭NO+NC	G16-3B1PC	G17-3B2PC	G18-3B2PC	G23-3B2PC	
交流 AC 90-250 VAC SCR可控硅 Control Hable silicon		常开NO			G18-2B2LA		
		常闭NC			G18-2B2LB		
		继电器输出 Relay output					
检测距离 DETECTION DISTANCE		5m	3m	5m	5m		
对射型 Through beam		直流 DC 10-30 VDC 负逻辑 NPN	常开NO	G16-3C5NA	G17-3C3NA	G18-3C5NA	G23-3C5NA
			常闭NC	G16-3C5NB	G17-3C3NB	G18-3C5NB	G23-3C5NB
	一开一闭NO+NC		G16-3C5NC	G17-3C3NC	G18-3C5NC	G23-3C5NC	
	正逻辑 PNP	常开NO	G16-3C5PA	G17-3C3PA	G18-3C5PA	G23-3C5PA	
		常闭NC	G16-3C5PB	G17-3C3PB	G18-3C5PB	G23-3C5PB	
		一开一闭NO+NC	G16-3C5PC	G17-3C3PC	G18-3C5PC	G23-3C5PC	
	交流 AC 90-250 VAC SCR可控硅 Control Hable silicon	常开NO			G18-2C5LA		
		常闭NC			G18-2C5LB		
		继电器输出 Relay output					
	输出电流 DC/SCR 继电器 Control output		DC:200mA/ AC:400mA Relay:3A				
	消耗电流 DC/AC Consumption current		DC<15mA, AC<10mA				
	响应时间 DC/AC Response time		DC<2ms, AC<2ms				
指向角 Directional angle		3°~10°					
检测物体 Detected object		透明或不透明体 transparent or opaque body					
工作环境温度 Working environment temperature		-25°C~+55°C					
工作环境照度 Intensity of illumination of working environment		太阳光10000LX以下Sunlight under 10000LX白炽灯3000LX以下 incandescent lamp under 3000LX					
外壳材料 Shell materia		塑料Plastic	塑料Plastic	塑料Plastic	金属Metal		
防护等级 Protection grade		IP54	IP54	IP54	IP54		

# 光电开关 PHOTOELECTRIC SWITCH

结构分类 Structural category

光电开关 Photoelectric switch

外形编号 Outward Appearance code		G24	G30	G33	G35			
外形图例 Outward appearance illustration								
外形尺寸 Overall dimensions								
检测距离 DETECTION DISTANCE		50cm		50cm	50cm			
漫反射型 Retroreflective	直流 DC 10-30 VDC	负逻辑 NPN	G24-3A50NA 常开NO G24-3A50NB 常闭NC 一开一闭NO+NC G24-3A50NC	G30-3A70NA G30-3A70NB G30-3A70NC	G33-3A10NA G33-3A10NB G33-3A10NC	G35-3A50NA G35-3A50NB G35-3A50NC		
		交流 AC 90-250 VAC	正逻辑 PNP	G24-3A50PA 常开NO G24-3A50PB 常闭NC 一开一闭NO+NC G24-3A50PC	G30-3A70PA G30-3A70PB G30-3A70PC	G33-3A10PA G33-3A10PB G33-3A10PC	G35-3A50PA G35-3A50PB G35-3A50PC	
			SCR可控硅 Control Hable silicon	常开NO 常闭NC	G30-2A70LA G30-2A70LB G30-2A70LC		G35-2A50LA G35-2A50LB G35-2A50JC	
	继电器输出 Relay output							
	检测距离 DETECTION DISTANCE		4m		1m	3m		
	区域反射型 Retroreflective	直流 DC 10-30 VDC	负逻辑 NPN	G24-3B4NA 常开NO G24-3B4NB 常闭NC 一开一闭NO+NC G24-3B4NC	G30-3B3NA G30-3B3NB G30-3B3NC	G33-3B1NA G33-3B1NB G33-3B1NC	G35-3B3NA G35-3B3NB G35-3B3NC	
			交流 AC 90-250 VAC	正逻辑 PNP	G24-3B4PA 常开NO G24-3B4PB 常闭NC 一开一闭NO+NC G24-3B4PC	G30-3B3PA G30-3B3PB G30-3B3PC	G33-3B1PA G33-3B1PB G33-3B1PC	G35-3B3PA G35-3B3PB G35-3B3PC
				SCR可控硅 Control Hable silicon	常开NO 常闭NC	G30-2B3LA G30-2B3LB G30-2B3JC		G35-2B3LA G35-2B3LB G35-2B3JC
		继电器输出 Relay output						
		检测距离 DETECTION DISTANCE		5m		3m	5m	
对射型 Trough beam		直流 DC 10-30 VDC	负逻辑 NPN	G24-3C5NA 常开NO G24-3C5NB 常闭NC 一开一闭NO+NC G24-3C5NC	G30-3C10NA G30-3C10NB G30-3C10NC	G33-3C3NA G33-3C3NB G33-3C3NC	G35-3C5NA G35-3C5NB G35-3C5NC	
			交流 AC 90-250 VAC	正逻辑 PNP	G24-3C5PA 常开NO G24-3C5PB 常闭NC 一开一闭NO+NC G24-3C5PC	G30-3C10PA G30-3C10PB G30-3C10PC	G33-3C3PA G33-3C3PB G33-3C3PC	G35-3C5PA G35-3C5PB G35-3C5PC
				SCR可控硅 Control Hable silicon	常开NO 常闭NC	G30-2C10LA G30-2C10LB G30-2C10JC		G35-2C5LA G35-2C5LB G35-2C5JC
		继电器输出 Relay output						
		输出电流 DC/SCR 继电器 Control output		DC:200mA/ AC:400mA Relay:3A				
	消耗电流 DC/AC Consumption current		DC<15mA, AC<10mA					
	响应时间 DC/AC Response time		DC<2ms, AC<2ms					
	指向角 Directional angle		3°-10°					
	检测物体 Detected object		透明或不透明体 transparent or opaque body					
	工作环境温度 Working environment temperature		-25℃~+55℃					
工作环境照度 Intensity of illumination of working environment		太阳光10000LX以下 Sunlight under 10000LX 白炽灯3000LX以下 incandescent lamp under 3000LX						
外壳材料 Shell materia		塑料 Plastic	塑料 Plastic	塑料 Plastic	金属 Metal			
防护等级 Protection grade			IP66	IP54	IP54			

# 光电开关 PHOTOELECTRIC SWITCH

光电开关 Photoelectric switch

外形编号 Outward Appearance code		G36	G40	G44	G50	G54		
外形图例 Outward appearance illustration								
外形尺寸 Overall dimensions								
检测距离 DETECTION DISTANCE		20cm	10-30cm	30cm	30-50cm	20cm		
漫反射型 Retroreflective	直流 DC 10-30 VDC	负逻辑 NPN	G36-3A20NA 常开NO G36-3A20NB 常闭NC 一开一闭NO+NC G36-3A20NC	G40-3A10NA G40-3A10NB G40-3A10NC	G44-3A30NA G44-3A30NB G44-3A30NC	G50-3A30NA G50-3A30NB G50-3A30NC		
		交流 AC 90-250 VAC	正逻辑 PNP	G36-3A20PA 常开NO G36-3A20PB 常闭NC 一开一闭NO+NC G36-3A20PC	G40-3A10PA G40-3A10PB G40-3A10PC	G44-3A30PA G44-3A30PB G44-3A30PC	G50-3A30PA G50-3A30PB G50-3A30PC	
			SCR可控硅 Control Hable silicon	常开NO 常闭NC	G40-3A10LA G40-3A10LB G40-3A10JC		G50-2A30JC	
	继电器输出 Relay output							
	检测距离 DETECTION DISTANCE		2m	3m	3m	4m	2m	
	区域反射型 Retroreflective	直流 DC 10-30 VDC	负逻辑 NPN	G36-3B2NA 常开NO G36-3B2NB 常闭NC 一开一闭NO+NC G36-3B2NC	G40-3B3NA G40-3B3NB G40-3B3NC	G44-3B30NA G44-3B30NB G44-3B30NC	G50-3B4NA G50-3B4NB G50-3B4NC	
			交流 AC 90-250 VAC	正逻辑 PNP	G36-3B2PA 常开NO G36-3B2PB 常闭NC 一开一闭NO+NC G36-3B2PC	G40-3B3PA G40-3B3PB G40-3B3PC	G44-3B30PA G44-3B30PB G44-3B30PC	G50-3B4PA G50-3B4PB G50-3B4PC
				SCR可控硅 Control Hable silicon	常开NO 常闭NC	G40-3B3LA G40-3B3LB G40-3B3JC		G50-2B4JC
		继电器输出 Relay output						
		检测距离 DETECTION DISTANCE		5m	4m	5m	5m	5m
对射型 Trough beam		直流 DC 10-30 VDC	负逻辑 NPN	G36-3C5NA 常开NO G36-3C5NB 常闭NC 一开一闭NO+NC G36-3C5NC	G40-4C4NA G40-4C4NB G40-4C4NC	G44-3C5NA G44-3C5NB G44-3C5NC	G50-3C5NA G50-3C5NB G50-3C5NC	
			交流 AC 90-250 VAC	正逻辑 PNP	G36-3C5PA 常开NO G36-3C5PB 常闭NC 一开一闭NO+NC G36-3C5PC	G40-4C4PA G40-4C4PB G40-4C4PC	G44-3C5PA G44-3C5PB G44-3C5PC	G50-3C5PA G50-3C5PB G50-3C5PC
				SCR可控硅 Control Hable silicon	常开NO 常闭NC	G40-4C4LA G40-4C4LB G40-4C4JC		G50-2C5JC
		继电器输出 Relay output						
		输出电流 DC/SCR 继电器 Control output		DC:200mA/ AC:400mA R relay:3A				
	消耗电流 DC/AC Consumption current		DC<15mA, AC<10ms					
	响应时间 DC/AC Response time		DC<2ms, AC<20mA					
	指向角 Directional angle		3°-10°					
	检测物体 Detected object		透明或不透明体 transparent or opaque body					
	工作环境温度 Working environment temperature		-25℃~+55℃					
工作环境照度 Intensity of illumination of working environment		太阳光10000LX以下 Sunlight under 10000LX 白炽灯3000LX以下 incandescent lamp under 3000LX						
外壳材料 Shell materia		金属 Metal	金属 Metal	金属 Metal	塑料 Plastic	塑料 Plastic		
防护等级 Protection grade		IP54	IP50	IP54	IP54	IP54		

# 光电开关 PHOTOELECTRIC SWITCH

结构分类 Structural category

光电开关 Photoelectric switch

外形编号 Outward Appearance code		G55	G64	G68	G70		
外形图例 Outward appearance illustration							
外形尺寸 Overall dimensions							
检测距离 DETECTION DISTANCE		20cm	10cm	30cm	20-100cm		
漫反射型 Retroreflective	直流 DC 10-30 VDC	常开NO	G55-3A20NA	G64-3A10NA	G68-3A30NA	G70-3A20NA	
		常闭NC	G55-3A20NB	G64-3A10NB	G68-3A30NB	G70-3A20NB	
		一开一闭NO+NC	G55-3A20NC	G64-3A10NC	G68-3A30NC	G70-3A20NC	
	正逻辑 PNP	常开NO	G55-3A20PA	G64-3A10PA	G68-3A30PA	G70-3A20PA	
		常闭NC	G55-3A20PB	G64-3A10PB	G68-3A30PB	G70-3A20PB	
		一开一闭NO+NC	G55-3A20PC	G64-3A10PC	G68-3A30PC	G70-3A20PC	
	交流 AC 90-250 VAC	SCR可控硅 Control Silicon	常开NO				
		常闭NC					
		继电器输出 Relay output					
	检测距离 DETECTION DISTANCE		2m	1.5-2m	2m	2m	
	区域反射型 Retrofrictive	直流 DC 10-30 VDC	常开NO	G55-3B2NA	G64-3B2NA	G68-3B2NA	G70-3B2NA
			常闭NC	G55-3B2NB	G64-3B2NB	G68-3B2NB	G70-3B2NB
一开一闭NO+NC			G55-3B2NC	G64-3B2NC	G68-3B2NC	G70-3B2NC	
正逻辑 PNP		常开NO	G55-3B2PA	G64-3B2PA	G68-3B2PA	G70-3B2PA	
		常闭NC	G55-3B2PB	G64-3B2PB	G68-3B2PB	G70-3B2PB	
		一开一闭NO+NC	G55-3B2PC	G64-3B2PC	G68-3B2PC	G70-3B2PC	
交流 AC 90-250 VAC		SCR可控硅 Control Silicon	常开NO				
		常闭NC					
		继电器输出 Relay output					
检测距离 DETECTION DISTANCE		4m	3m	5m	5m		
对射型 Through beam		直流 DC 10-30 VDC	常开NO	G55-3C4NA	G64-3C3NA	G68-3C5NA	G70-3C5NA
			常闭NC	G55-3C4NB	G64-3C3NB	G68-3C5NB	G70-3C5NB
	一开一闭NO+NC		G55-3C4NC	G64-3C3NC	G68-3C5NC	G70-3C5NC	
	正逻辑 PNP	常开NO	G55-3C4PA	G64-3C3PA	G68-3C5PA	G70-3C5PA	
		常闭NC	G55-3C4PB	G64-3C3PB	G68-3C5PB	G70-3C5PB	
		一开一闭NO+NC	G55-3C4PC	G64-3C3PC	G68-3C5PC	G70-3C5PC	
	交流 AC 90-250 VAC	SCR可控硅 Control Silicon	常开NO				
		常闭NC					
		继电器输出 Relay output					
	输出电流 DC/SCR 继电器 Control output		DC:200mA/ AC:400mA Relay:3A				
	消耗电流 DC/AC Consumption current		DC<15mA, AC<10ms				
	响应时间 DC/AC Response time		DC<2ms, AC<20ms				
指向角 Directional angle		3°-10°					
检测物体 Detected object		透明或不透明体 transparent or opaque body					
工作环境温度 Working environment temperature		-25°C~+55°C					
工作环境照度 Intensity of illumination of working environment		太阳光10000LX以下 Sunlight under 10000LX 白炽灯3000LX以下 Incandescent lamp under 3000LX					
外壳材料 Shell materia		金属 Metal	塑料 Plastic	塑料 Plastic	塑料 Plastic		
防护等级 Protection grade		IP54	IP66	IP54	IP54		

# 光电开关 PHOTOELECTRIC SWITCH

光电开关 Photoelectric switch

G71	G72	G180	G75	G76				
外形图例 Outward appearance illustration								
外形尺寸 Overall dimensions								
检测距离 DETECTION DISTANCE		50cm	40cm	10cm	80cm	1m		
漫反射型 Retroreflective	直流 DC 10-30 VDC	常开NO	G71-3A50NA	G72-3A40NA	G180-3A10NA	G75-3A80NA	G76-3A1NA	
		常闭NC	G71-3A50NB	G72-3A40NB	G180-3A10NB	G75-3A80NB	G76-3A1NB	
		一开一闭NO+NC	G71-3A50NC	G72-3A40NC	G180-3A10NC	G75-3A80NC	G76-3A1NC	
	正逻辑 PNP	常开NO	G71-3A50PA	G72-3A40PA	G180-3A10PA	G75-3A80PA	G76-3A1PA	
		常闭NC	G71-3A50PB	G72-3A40PB	G180-3A10PB	G75-3A80PB	G76-3A1PB	
		一开一闭NO+NC	G71-3A50PC	G72-3A40PC	G180-3A10PC	G75-3A80PC	G76-3A1PC	
	交流 AC 90-250 VAC	SCR可控硅 Control Silicon	常开NO		G180-2A10LA	G75-2A80LA	G76-3A1LA	
		常闭NC			G180-2A10LB	G75-2A80LB	G76-3A1LB	
		继电器输出 Relay output				G75-2A80JC	G76-3A1JC	
	检测距离 DETECTION DISTANCE		2m	3m	2m	3m	5m	
	区域反射型 Retrofrictive	直流 DC 10-30 VDC	常开NO	G71-3B2NA	G72-3B3NA	G180-3B2NA	G75-3B3NA	G76-3B5NA
			常闭NC	G71-3B2NB	G72-3B3NB	G180-3B2NB	G75-3B3NB	G76-3B5NB
一开一闭NO+NC			G71-3B2NC	G72-3B3NC	G180-3B2NC	G75-3B3NC	G76-3B5NC	
正逻辑 PNP		常开NO	G71-3B2PA	G72-3B3PA	G180-3B2PA	G75-3B3PA	G76-3B5PA	
		常闭NC	G71-3B2PB	G72-3B3PB	G180-3B2PB	G75-3B3PB	G76-3B5PB	
		一开一闭NO+NC	G71-3B2PC	G72-3B3PC	G180-3B2PC	G75-3B3PC	G76-3B5PC	
交流 AC 90-250 VAC		SCR可控硅 Control Silicon	常开NO		G180-2B2LA	G75-2B3LA	G76-2B5LA	
		常闭NC			G180-2B2LB	G75-2B3LB	G76-2B5LB	
		继电器输出 Relay output				G75-2B3JC	G76-2B5JC	
检测距离 DETECTION DISTANCE		5m	5m	5m	8m	10-50m		
对射型 Through beam		直流 DC 10-30 VDC	常开NO	G71-3C5NA	G72-3C5NA	G180-3C5NA	G75-3C8NA	G76-3C10NA
			常闭NC	G71-3C5NB	G72-3C5NB	G180-3C5NB	G75-3C8NB	G76-3C10NB
	一开一闭NO+NC		G71-3C5NC	G72-3C5NC	G180-3C5NC	G75-3C8NC	G76-3C10NC	
	正逻辑 PNP	常开NO	G71-3C5PA	G72-3C5PA	G180-3C5PA	G75-3C8PA	G76-3C10PA	
		常闭NC	G71-3C5PB	G72-3C5PB	G180-3C5PB	G75-3C8PB	G76-3C10PB	
		一开一闭NO+NC	G71-3C5PC	G72-3C5PC	G180-3C5PC	G75-3C8PC	G76-3C10PC	
	交流 AC 90-250 VAC	SCR可控硅 Control Silicon	常开NO		G180-2C5LA	G75-2C8LA	G76-2C10LA	
		常闭NC			G180-2C5LB	G75-2C8LB	G76-2C10LB	
		继电器输出 Relay output				G75-2C8JC	G76-2C10JC	
	输出电流 DC/SCR 继电器 Control output		DC:200mA/ AC:400mA Relay:3A					
	消耗电流 DC/AC Consumption current		DC<15mA, AC<10mA					
	响应时间 DC/AC Response time		DC<2ms, AC<20ms					
指向角 Directional angle		3°-10°						
检测物体 Detected object		透明或不透明体 transparent or opaque body						
工作环境温度 Working environment temperature		-25°C~+55°C						
工作环境照度 Intensity of illumination of working environment		太阳光10000LX以下 Sunlight under 10000LX 白炽灯3000LX以下 Incandescent lamp under 3000LX						
外壳材料 Shell materia		金属 Metal	塑料 Plastic	塑料 Plastic	金属 Metal	塑料 Plastic		
防护等级 Protection grade		IP54	IP54	IP66	IP54	IP54		

# 光电开关 PHOTOELECTRIC SWITCH

结构分类 Structural category

光电开关 Photoelectric switch

外形编号 Outward Appearance code		G77	G78	G80	G85		
外形图例 Outward appearance illustration							
外形尺寸 Overall dimensions							
检测距离 DETECTION DISTANCE		30cm	40cm	80cm	1m		
漫反射型 Retroreflective	直流 DC 10-30 VDC	常开NO	G77-3A30NA	G78-3A40NA	G80-3A80NA	G85-3A1NA	
		常闭NC	G77-3A30NB	G78-3A40NB	G80-3A80NB	G85-3A1NB	
		一开一闭NO+NC	G77-3A30NC	G78-3A40NC	G80-3A80NC	G85-3A1NC	
	正逻辑 PNP	常开NO	G77-3A30PA	G78-3A40PA	G80-3A80PA	G85-3A1PA	
		常闭NC	G77-3A30PB	G78-3A40PB	G80-3A80PB	G85-3A1PB	
		一开一闭NO+NC	G77-3A30PC	G78-3A40PC	G80-3A80PC	G85-3A1PC	
	交流 AC 90-250 VAC	SCR可控硅 Control Silicon	常开NO	G77-2A30LA	G78-2A40LA	G80-2A80LA	G85-2A1LA
		常闭NC	G77-2A30LB	G78-2A40LB	G80-2A80LB	G85-2A1LB	
		继电器输出 Relay output			G80-2A80JC	G85-2A1JC	
	检测距离 DETECTION DISTANCE		3m	2m	3m	5m	
	区域反射型 Retrofrictive	直流 DC 10-30 VDC	常开NO	G77-3B3NA	G78-3B2NA	G80-3B3NA	G85-3B5NA
			常闭NC	G77-3B3NB	G78-3B2NB	G80-3B3NB	G85-3B5NB
一开一闭NO+NC			G77-3B3NC	G78-3B2NC	G80-3B3NC	G85-3B5NC	
正逻辑 PNP		常开NO	G77-3B3PA	G78-3B2PA	G80-3B3PA	G85-3B5PA	
		常闭NC	G77-3B3PB	G78-3B2PB	G80-3B3PB	G85-3B5PB	
		一开一闭NO+NC	G77-3B3PC	G78-3B2PC	G80-3B3PC	G85-3B5PC	
交流 AC 90-250 VAC		SCR可控硅 Control Silicon	常开NO	G77-2B3LA	G78-2B2LA	G80-2B3LA	G85-2B5LA
		常闭NC	G77-2B3LB	G78-2B2LB	G80-2B3LB	G85-2B5LB	
		继电器输出 Relay output			G80-2B3JC	G85-2B5JC	
检测距离 DETECTION DISTANCE		5m	5m	5m	10m		
对射型 Through beam		直流 DC 10-30 VDC	常开NO	G77-3C5NA	G78-3C5NA	G80-3C5NA	G85-3C101NA
			常闭NC	G77-3C5NB	G78-3C5NB	G80-3C5NB	G85-3C101NB
	一开一闭NO+NC		G77-3C5NC	G78-3C5NC	G80-3C5NC	G85-3C101NC	
	正逻辑 PNP	常开NO	G77-3C5PA	G78-3C5PA	G80-3C5PA	G85-3C101PA	
		常闭NC	G77-3C5PB	G78-3C5PB	G80-3C5PB	G85-3C101PB	
		一开一闭NO+NC	G77-3C5PC	G78-3C5PC	G80-3C5PC	G85-3C101PC	
	交流 AC 90-250 VAC	SCR可控硅 Control Silicon	常开NO	G77-2C5LA	G78-2C5LA	G80-2C5LA	G85-2C101LA
		常闭NC	G77-2C5LB	G78-2C5LB	G80-2C5LB	G85-2C101LB	
		继电器输出 Relay output			G80-2C5JC	G85-2C101JC	
	输出电流 DC/SCR 继电器 Control output		DC:200mA/ AC:400mA Relay:3A				
	消耗电流 DC/AC Consumption current		DC<15mA, AC<10mA				
	响应时间 DC/AC Response time		DC<2ms, AC<20ms				
指向角 Directional angle		3°-10°					
检测物体 Detected object		透明或不透明体 transparent or opaque body					
工作环境温度 Working environment temperature		-25℃~+55℃					
工作环境照度 Intensity of illumination of working environment		太阳光10000LX以下 Sunlight under 10000LX 白炽灯3000LX以下 Incandescent lamp under 3000LX					
外壳材料 Shell materia		塑料 Plastic	塑料 Plastic	塑料 Plastic	金属 Metal		
防护等级 Protection grade		IP54	IP54	IP54	IP54		

# 光电开关 PHOTOELECTRIC SWITCH

光电开关 Photoelectric switch

GEN	G100	G139	G51	G56		
检测距离 DETECTION DISTANCE		30cm	1m	1m		
漫反射型 diffuse type	GEN300-DDT NPN/PNP 集电极开路输出 open-collector output 12-24VDC	G100-3A1NA	G139-3A1NA	G100-3A1NB	G139-3A1NB	
		G100-3A1NC	G139-3A1NC	G100-3A1PB	G139-3A1PB	
		G100-3A1PC	G139-3A1PC	G100-2A1LA	G139-2A1LA	
	GEN300-PFR 继电器输出 Relay output 24-240VAC/ 24-240VDC	G100-2A1LB	G139-2A1LB	G100-2A1JC	G139-2A1JC	
		漫反射型 diffuse type 300MM				
		5m				
	镜面反射型 retro-reflective type	GEN5M-MDT NPN/PNP 集电极开路输出 Open-collector output 12-24VDC	G100-3B5NA	G139-3B5NA	G100-3B5NB	G139-3B5NB
			G100-3B5NC	G139-3B5NC	G100-3B5PA	G139-3B5PA
			G100-3B5PB	G139-3B5PB	G100-3B5PC	G139-3B5PC
		GEN5M-MFR 继电器输出 Relay output 24-240VAC/ 24-240VDC	G100-2B5LA	G139-2B5LA	G100-2B5LB	G139-2B5LB
			镜面反射型 retro-reflective type 0.1-5m			
			5m			
对射型 through-beam type	GEN10M-TDT NPN/PNP 集电极开路输出 Open-collector output 12-24VDC	G100-3C101NA	G139-3C101NA	G100-3C101NB	G139-3C101NB	
		G100-3C101NC	G139-3C101NC	G100-3C101PA	G139-3C101PA	
		G100-3C101PB	G139-3C101PB	G100-3C101PC	G139-3C101PC	
	GEN10M-TFR 继电器输出 Relay output 24-240VAC/ 24-240VDC	G100-2C101LA	G139-2C101LA	G100-2C101LB	G139-2C101LB	
		对射型 through-beam type 10m				
		10m				
	输出电流 DC/SCR 继电器 Control output		DC:200mA/ AC:400mA Relay:3A			
	消耗电流 DC/AC Consumption current		DC<15mA, AC<10mA			
	响应时间 DC/AC Response time		DC<2ms, AC<20ms			
	指向角 Directional angle		3°-10°			
	检测物体 Detected object		透明或不透明体 transparent or opaque body			
	工作环境温度 Working environment temperature		-25℃~+55℃			
工作环境照度 Intensity of illumination of working environment		太阳光10000LX以下 Sunlight under 10000LX 白炽灯3000LX以下 Incandescent lamp under 3000LX				
外壳材料 Shell materia		塑料 Plastic	金属 Metal	铝壳/塑料 Aluminum/Plastic	塑料 Plastic	
防护等级 Protection grade		IP54	IP54	IP54	IP54	



# 光电开关 PHOTOELECTRIC SWITCH

结构分类 Structural category

光电开关 Photoelectric switch

外形编号 Outward Appearance code		G115	G63	G65	G57			
外形图例 Outward appearance illustration								
外形尺寸 Overall dimensions								
检测距离 DETECTION DISTANCE								
漫反射型 Retroreflective	直流 DC 10-30 VDC	负逻辑 NPN	常开NO	常闭NC	一开一闭NO+NC			
		交流 AC 90-250 VAC	正逻辑 PNP	常开NO	常闭NC	一开一闭NO+NC		
			SCR可挂硅	常开NO	常闭NC			
			继电器输出 Relay output					
		反射型 Retrofricitive	直流 DC 10-30 VDC	负逻辑 NPN	常开NO	常闭NC	一开一闭NO+NC	
				交流 AC 90-250 VAC	正逻辑 PNP	常开NO	常闭NC	一开一闭NO+NC
	SCR可挂硅				常开NO	常闭NC		
	继电器输出 Relay output							
	对射型 Trough beam		直流 DC 10-30 VDC	负逻辑 NPN	常开NO	常闭NC	一开一闭NO+NC	
				交流 AC 90-250 VAC	正逻辑 PNP	常开NO	常闭NC	一开一闭NO+NC
		SCR可挂硅			常开NO	常闭NC		
		继电器输出 Relay output						
检测距离 DETECTION DISTANCE		25m		3m	1cm	1.5cm		
输出电流 DC/SCR 继电器 Control output		DC:200mA/ AC:400mA Relay:3A						
消耗电流 DC/AC Consumption current		DC<15mA, AC<10mA						
响应时间 DC/AC Response time		DC<2ms, AC<20ms						
指向角 Directional angle		3°~10°						
检测物体 Detected object		透明或不透明体 transparent or opaque body						
工作环境温度 Working environment temperature		-25°C~+55°C						
工作环境照度 Intensity of illumination of working environment		太阳光10000LX以下 Sunlight under 10000LX 白炽灯3000LX以下 Incandescent lamp under 3000LX						
外壳材料 Shell materia	金属Metal	金属或塑料Metal, Plastic	塑料Plastic	塑料Plastic	塑料Plastic			
防护等级 Protection grade	IP64	IP54						

# 光电开关(PTQ18) PHOTOELECTRIC SWITCH

特点 Characteristic

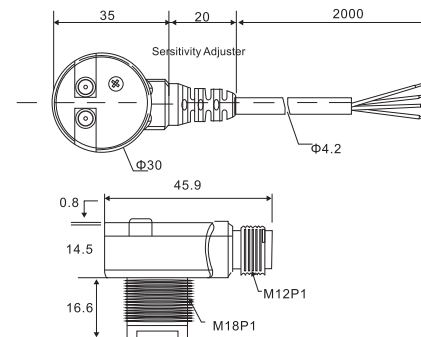
- T型设计可省空间  
T-shaped housing design, saving space.
- N.O./N.I.C.可用选择线切换  
N.O./N.C.function swithable by different wires.
- 体积小, 安装容易  
Easy to install.(30°45.9°31.9mm)
- 接线使用特殊材质耐弯曲  
Special design for bending resistance.
- Superior waterproof IP67



规格表 Specifications

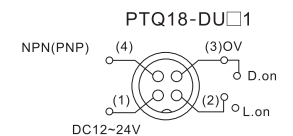
型号 Model	NPN L.on/D.on	PTQ18-DU10/40N	PTQ18-DU10/40NK1
	PNP L.on/D.on	PTQ18-DU10/40P	PTQ18-DU10/40PK1
检出方式 Sensing type	扩散反射式 Diffuse reflection		
检出距离 Sensing distance	10cm/40cm, white paper 10°10'(10/40cm)		
发光源 Emitting light	Infrared LED 850nm		
工作电压 Operating voltage	DC12~24V		
消耗电流 Current Consumption	20mA Max		
负载电流 Load current	100mA Max.at DC20V		
反应时间 Response time	1.5ms Max.		
隔离阻抗 Insulation resistance	20MΩmin.(DC500V)		
绝缘耐压 Voltage withstandability	AC1000V 60Hz for 60 Sec		
工作温度 Operating temperature	-25°C~+60°C		
工作湿度 Ambient humidity	35%~85%RH		
防水等级 Protection degree	IP67		
外观材质 Material	ABS		
出线方式 Wiring method	M12接头 M12 plug-in connector type	Pre-wiredΦ4.2*2M/3-wires出线	
重量 Weight	Approx.68.5g		Approx.18g

尺寸图 Dimensions



PTQ18-DU□

- BROWN ● 12~24V
- BLACK ● OUTPUT
- WHITE ○ L.ON
- BLUE ○ D.ON



## 光电开关(PTQ18) PHOTOELECTRIC SWITCH

### 特点 Characteristic

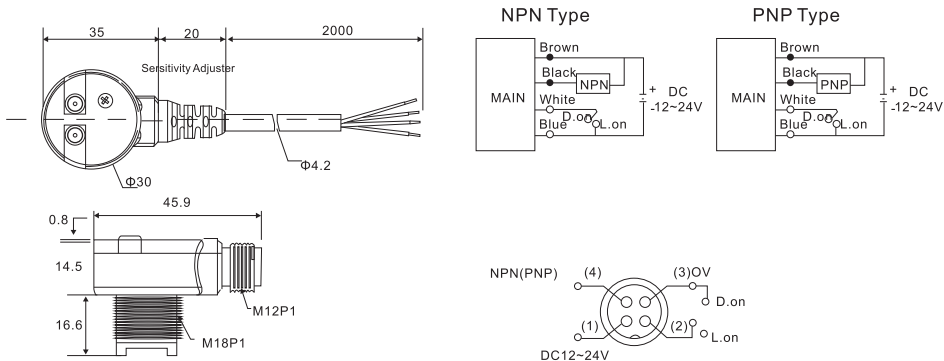
- 有L.on/D.on两种输出型能的选择  
L.on/D.on switches function.
- 体积小, 安装容易  
Easy to install. (30\*45.9\*31.9mm)
- 接线使用特殊材质耐弯曲  
Special design for bending resistance.
- Superior waterproof IP67



### 规格表 Specifications

型号 Model	NPN L.on/D.on	PTQ18-QR2N	PTQ18-QR2NK1	PTQ18-PRI1N	PTQ18-PRIPK1
	PNP L.on/D.on	PTQ18-QR2P	PTQ18-QR2PK1	PTQ18-PRIP	PTQ18-PRIPK1
检出方式 Sensing type	镜片反射式 Retroreflective		偏光镜反射式 Polarizing Retroreflective		
检出距离 Sensing distance	2M		1M		
发光源 Emitting light	Infrared LED 650nm		Red LED 650nm		
工作电压 Operating voltage	DC12~24V				
消耗电流 Current Consumption	20mA Max				
负载电流 Load current	100mA Max. at DC24V				
反应时间 Response time	1.5ms Max.				
隔离阻抗 Insulation resistance	20MΩmin. (DC500V)				
绝缘耐压 Voltage withstandability	AC1000V 60Hz for 60 Sec				
工作温度 Operating temperature	-20°C~+60°C				
工作湿度 Ambient humidity	35%~85%RH				
防水等级 Protection degree	IP67				
外观材质 Material	ABS				
出线方式 Wiring method	Pre-wired Φ4.2*2M/4-wires	M12接头 M12 plug-in connector type	Pre-wired Φ4.2*2M/4-wires	M12接头 M12 plug-in connector type	
重量 Weight	Approx. 68.5g	Approx. 17.5g	Approx. 68.5g	Approx. 17.5g	

### 尺寸图 Dimensions



## 光电开关(TQ18) PHOTOELECTRIC SWITCH

### 特点 Characteristic

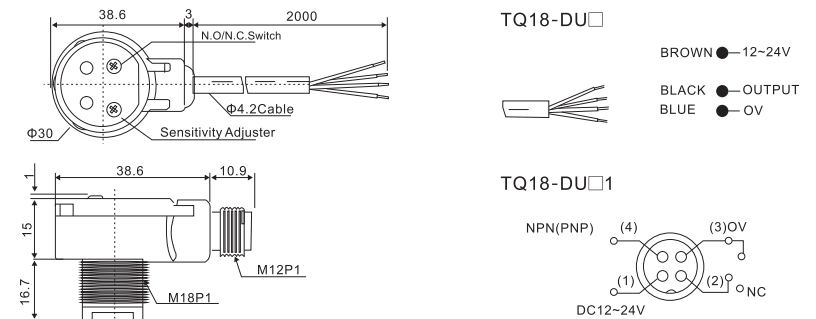
- 晶体输出, 反应快  
Elbow housing design, space saving.
- 输出之NO/NC可用VR调整, 无需重新配线(N.C.:VR转至最左; N.O.:VR转至最右)  
N.O./N.C.function can be adjusted by N.O./N.C.Switch.  
(N.C.(D.on):Turn the switch to the end of left side.  
(N.O.(L.on):Turn the switch to the end of right side.)
- 体积小, 安装容易  
Easy to install. (30\*49.5\*32.7mm)
- 具有防尘盖, 可防水、防油  
Prevent from water and oil, dust cover attached.



### 规格表 Specifications

型号 Model	NPN L.on/D.on	TQ18-DU10/40N	TQ18-DU10/40NK1
	PNP L.on/D.on	TQ18-DU10/40P	TQ18-DU10/40PK1
检出方式 Sensing type	扩散反射式 Diffuse reflection		
检出距离 Sensing distance	10cm/40cm, white paper 100*100(10/40cm)		
发光源 Emitting light	Infrared LED 850nm		
工作电压 Operating voltage	DC12~24V		
消耗电流 Current Consumption	34mA Max		
负载电流 Load current	100mA Max. at DC24V		
反应时间 Response time	1.5ms Max.		
隔离阻抗 Insulation resistance	20MΩmin. (DC500V)		
绝缘耐压 Voltage withstandability	AC1000V 60Hz for 60 Sec		
工作温度 Operating temperature	-25°C~+60°C		
工作湿度 Ambient humidity	35%~85%RH		
防水等级 Protection degree	IP66		
外观材质 Material	ABS		
出线方式 Wiring method	Pre-wired Φ4.2*2M/3-wires 出线		M12接头 M12 plug-in connector type
重量 Weight	Approx. 65g		Approx. 18g

### 尺寸图 Dimensions



## 光电开关(TQ18) PHOTOELECTRIC SWITCH

### 特点 Characteristic

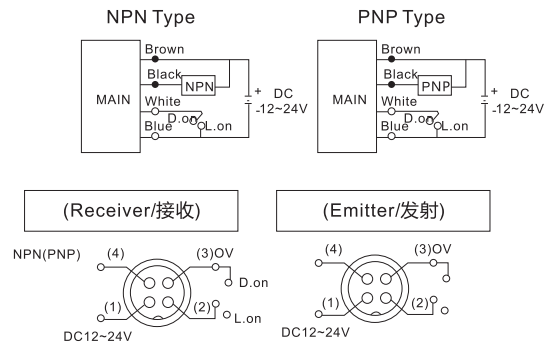
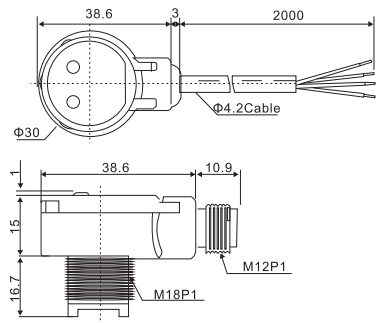
- 高亮度双LED指示灯, 让您以很快的了解感应器的使用状态  
High brightness dual LED makes you easy to know the current operating situation.
- 有L.on/D.on两种输出型的选择。  
L.on/D.on Switch function.
- 体积小, 安装容易  
Easy to install.(30\*49.5\*32.7mm)
- 具有防尘盖, 可防水、防油  
Prevent from water and oil, dust cover attached.



### 规格表 Specifications

型号 Model	NPN L.on/D.on	TQ18-10/20N	TQ18-10/20NK1
	PNP L.on/D.on	TQ18-10/20P	TQ18-10/20PK1
检出方式 Sensing type	扩散反射式 Diffuse reflection		
检出距离 Sensing distance	10cm/40cm, white paper 100*100(10/40cm)		
发光源 Emitting light	Infrared LED 850nm		
工作电压 Operating voltage	DC12~24V		
消耗电流 Current Consumption	34mA Max		
负载电流 Load current	100mA Max.at DC24V		
反应时间 Response time	1.5ms Max.		
隔离阻抗 Insulation resistance	20MΩmin.(DC500V)		
绝缘耐压 Voltage withstandability	AC1000V 60Hz for 60 Sec		
工作温度 Operating temperature	-25°C~+60°C		
工作湿度 Ambient humidity	35%~85%RH		
防水等级 Protection degree	IP66		
外观材质 Material	ABS		
出线方式 Wiring method	PX:Pre-wiredΦ4.22M/4-wires PX:Pre-wiredΦ4.22M/2-wires	M12接头 M12 plug-in connector type	
重量 Weight	Approx.130g		Approx.3.5g

### 尺寸图 Dimensions



## 光纤放大器 FIBER OPTIC AMPLIFIER

### E3X-A11 光纤放大器 Fiber optic amplifier

#### 主要特点 Main features

- 用8回转调整旋钮可进行微调的通用型。  
Universal type with 8-shaped rotated adjusting knob to do micro-adjustment
- 是传统产品检测距离的2倍。  
Double detection distance of traditional product
- 带有公差可旋钮  
With a variable knob
- 使用脉冲亮灯进行20uS的超高速应答。  
With pulsing light to respond within an ultra-short time of 20
- 以绿色光源可检测微妙的色差。  
Can detect delicate aberration with green light source



### 主要参数 The main parameters

项目 Project	通用型NPN输出 General-purpose NPN output	型号 Model: E3X-A11
光源(发光波长) light source(light-emitting wavelength)	红色发光二极管 Red light-emitting diode(660nm)	
电源电压 Voltage	DC10~30V[含脉动 (p-p)10%] DC10~30V[with the pulse(p-p)10%]	
消耗电流 Current consumption	35mA以下 The following 35mA	
控制输出 Output Control	负荷电源电压DC35V以下, 负荷电流100mA以下(留电压1V以下)集电极开路输出形(NPN/PNP) 的输出因形式不同而异入光时ON/无光时ON/开关转换式 Main voltage of load is below DC35v, load current is below 100mA(residual voltage below 1v), open-collector output type(NPN or PNP output varies in different state), on when	
应答时间 Response time	动作·复位、各200us以下 Reset action, the following 200us	
灵敏度调整 Sensitivity adjustment	8旋转无终端旋钮(带有指示器) 8 rotary knob without end(with indicator)	
保护电路 Protection circuit	保护电源逆接线, 保护输出短路, 防止相互干扰功能 Protection against the power connection ,output short circuit protection to prevent interference function	
照明 Lighting	受光面的光照度, 白炽灯; 3000lx以下, 太阳光10000lx以下 Smooth by the light ,incandescent 3000lx below ,following the sun 10000lx	
周围温度 Ambient temperature	动作时: -25~+55°C, 保存时: 40~70°C(不能有结冰, 结露现象) When action:-25~+55°C,save time:40~70°C(there can not be frozen, the phenomenon of condensation)	
周围湿度 Surrounding humidity	35~85%RH, 保存时: 35~95%RH(不能有结露现象) 35~85%RH,Save: Save time:35~95%RH(can not have the phenomenon of condensation)	
绝缘电阻 Insulation resistance	20mΩ以下(DC500MV以兆计(20mΩ above(DC500MV to trillion dollars)	
耐电压 Voltage resistance	AC1,000V 50/60Hz 1min	
振动(耐久) Vibration(durable)	10~55Hz复振幅1.5mm X、Y、Z各方向2h 10~55Hz complex amplitude 1.5mm X、Y、Z direction of the 2h	
冲击(耐久) Shock (durable)	500m/s <sup>2</sup> X、Y、Z各方向3次 500/s <sup>2</sup> X、Y、Z direction of the 3rd	
保护构造 Protection structure	IBC规格IP50(安装保护盖时)IBC standard IP50(when the installation of protective cover)	
连接方式 Connection	导线引出开型(标准线长2m)Open-wire lead (standard long line 2m)	
质量(以包装情况下) Weight(in cases)	100g	
材料 Materials	外壳 Shell	耐热 ABS Heat-resistant ABS
	保护罩 The protective shield	聚酯 Polyester
附属品 Accessories	金属安装配件, 调整用螺丝刀, 操作说明 The installation of metal accessories used to adjust screwdriver, operation manuals	