



乐清彬炫电气有限公司
Yueqing Binxuan Electrical Co., Ltd.

传感器选型手册

Sensor Selection Manual

光电开关传感器
Photoelectric switch sensors

乐清彬炫电气有限公司
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乐清彬炫电气有限公司
Yueqing Binxuan Electrical Co., Ltd.

乐清彬炫电气有限公司成立于2017年3月份，是一家集研发，生产，销售为一体的综合性企业，迄今为止已有7年制造经验，公司坐落于浙江省温州市，江西上饶等地拥有着占地面积2千多平方米的工厂，数百名员工。

彬炫电气专注于生产各类型超声波传感器，电感式接近开关，电容式接近开关，光电开关，霍尔接近开关等，产品广泛应用于机械工业的各类机床、各种生产机械设备和自动化流水线，尤其是高科技数控机床、机电一体化设备，同时在印刷、塑胶、石油、轻纺、化工、食品、冶金、烟草、电力、仪器等做自动化检测、计数、测速、信号传送、自动保护及限位和位置检测控制之用，对提供自控系统有巨大作用，深受广大客户的信赖和好评。

公司始终坚持“质量第一、客户至上”的原则。产品已经通过了多项认证，如CE认证，CCC认证，RoHS认证，FCC认证等。公司致力于为客户提供最优质的产品和服务，以满足客户的需求和不同的变化。公司的销售网络遍布多个国家和地区，覆盖了北美/中东/东欧/东亚等市场。公司将不断的提高技术水平和产品质量，开拓新的市场，为客户提供更加全面、优质的服务。

Yueqing Binxuan Electrical Co., Ltd., established in March 2017, is an integrated enterprise combining R&D, production, and sales. With seven years of manufacturing experience, the company is located in Wenzhou, Zhejiang Province, with factories covering over 2,000 square meters in Shangrao, Jiangxi, and other locations, employing hundreds of staff.

Binxuan Electrical specializes in producing various types of ultrasonic sensors, inductive proximity switches, capacitive proximity switches, photoelectric switches, Hall proximity switches, and more. These products are widely used in various types of machine tools in the mechanical industry, various production machinery, and automated assembly lines, particularly in high-tech CNC machine tools and mechatronic equipment. They are also utilized in printing, plastics, petroleum, light textile, chemical, food, metallurgy, tobacco, electric power, instrumentation, and other fields for automated detection, counting, speed measurement, signal transmission, automatic protection, and limit and position detection control. These products play a significant role in providing automatic control systems and are well-trusted and highly praised by customers.

The company adheres to the principle of "quality first, customer foremost." Our products have passed multiple certifications, including CE, CCC, RoHS, and FCC. We are committed to providing the highest quality products and services to meet the needs and varied demands of our customers. Our sales network spans multiple countries and regions, covering markets in North America, the Middle East, Eastern Europe, East Asia, and more. The company continually improves technical levels and product quality, explores new markets, and provides more comprehensive and superior services to customers.



光电传感器型号 Model Designations

B (1) P (2) Z (3) C (4) A (5) 16M (6) A (7)

1. 公司代码 Company code

B:乐清彬炫电气有限公司
B: Yueqing Binxuan Electrical Co., Ltd

2. 产品类别 Product Category

P:光电开关
P: Photoelectric switch

3. 外观 Appearance

4. 感应方式 Induction method

C:漫反射 C:Diffuse reflection
K:镜反 K:Mirror reverse
Q:对射 Q:Shoot through
D:激光漫反射 D:Laser diffuse reflection
L:激光镜反 L:Laser mirror reverse
R:激光对射 R:Laser radiation
E:红光漫反射 E:Diffuse reflection of red light
M:红光镜反 M:Red light mirror reverse
S:红光对射 S:Red light cross-beam
F:接头型漫反射 F:Joint-type diffuse reflection
N:接头型镜反 N:Joint mirror reverse
T:接头型对射 T:Joint type through-beam injection
H:BGS反射 H: BGS reflection
I:猪尾插 I: Pigtail plug
C:J竖式 C: J Vertical
A:T18-Q5 A:T18-Q5
B: T18-Q8 B:T18-Q8
G: 偏光镜面反射 G:Polarized specular reflection

5. 输出功能 Output function

A:NPN常开出线 A:NPN normally open outgoing line
B:NPN常闭出线 B:NPN normally closed outlet
C:NPN常开+常闭出线 G: NPN normally open+normally closed outlet
D:PNP常开出线 D:PNP normally open outgoing line
E:PNP常闭出线 E:PNP normally closed outlet
F:PNP常开+常闭出线 F:PNP normally open+normally closed outlet
G:交流两线常开出线 G:AC two lines are always open
H:交流两线常闭出线 H: AC two-wire normally closed outlet
I:NPN+PNP常开出线 I: NPN+PNP normally open outgoing line
J:NPN+PNP常闭出线 J: NPN+PNP normally closed outlet
K:交直流继电器出线 K: AC and DC relay outlet
L:PNP+NPN L:PNP+NPN
M: NPN常开插件 M: NPN normally open plug-in
N: NPN常闭插件 N: NPN normally closed plug-in
O: NPN常开+常闭插件 O: NPN normally open+normally closed insert
P: PNP常开插件 P: PNP normally open plug-in
Q: PNP常闭插件 Q: PNP Normally Closed Insert
R: PNP常开+常闭插件 R: PNP NO + NC insert
S: 交流两线常开插件 S: AC two-wire normally open plug-in
T: 交流两线常闭插件 T: AC two-wire normally closed plug-in
U: NPN+PNP常开插件 U: NPN+PNP normally open plug-in
V: NPN+PNP常闭插件 V: NPN+PNP normally closed plug-in
W: 交直流继电器插件 W: AC & DC relay plug-in
X: PNP+NPN X: PNP+NPN

6. 感应距离 Sensing distance

16M:16m

7. 外观颜色 Exterior color

A:红色 A:Red B:黄色 B:Yellow C:蓝色 C:Blue
D:绿色 D:Green E:墨绿色 E:Dark green
F:橙色 F:Orange G:浅绿 G:Aqua
H:塑料外壳乳白色 H:Plastic shell milky white

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BP7 series



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BPA series



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BPS series



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BPP series



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BPM series



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BPZ series



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BPC系列
BPC series



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BPK series



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BPQ series



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BPR series



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BPT系列
BPT series



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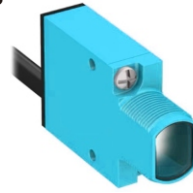
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BPW series



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BPL series



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BPG series



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微型凹槽系列
Miniature grooves series



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光电开关传感器

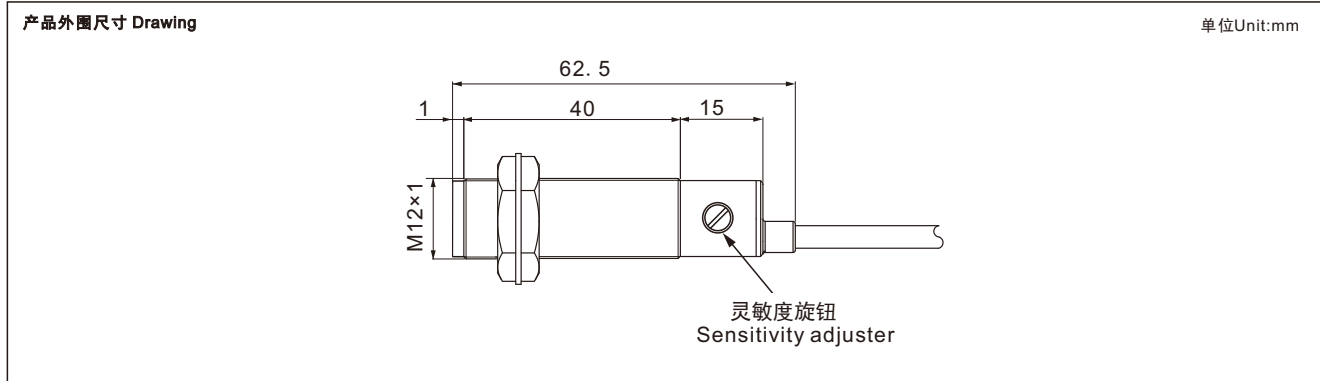
Photoelectric switch sensors



输出方式 Output	NPN	NO	BP7-CA10	BP7-CA15	BP7-KA6M
		NC	BP7-CB10	BP7-CB15	BP7-KB6M
		NO+NC	BP7-CC10	BP7-CC15	BP7-KC6M
输出方式 Output	PNP	NO	BP7-CD10	BP7-CD15	BP7-KD6M
		NC	BP7-CE10	BP7-CE15	BP7-KE6M
		NO+NC	BP7-CF10	BP7-CF15	BP7-KF6M
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离	Sensor range		0-100mm	0-150mm	0-6m
检测方式	Sensor principle		漫反射 Diffuse reflection	漫反射 Diffuse reflection	镜面反射 Retro reflection

技术参数 Technical parameters

电源电压	Supply voltage	10~30V
光源	Light source	红外LED Infrared ray LED
保护功能	Protection function	输出短路保护 Output short-circuit protection
消耗电流	Current consumption	≤40ms
回差范围	Hysteresis	3...20%
灵敏度调节	Sensitivity modulation	可调节 Adjustable
响应时间	Response time	≤1ms
绝缘电阻	Insulation resistance	20MΩ以上 (DC500V) Above20MΩ (DC500V)
环境温度	Ambient operating temperature	-25...+70°C
环境湿度	Ambient humidity	35...95%
外壳材料	Housing material	PMMA/ABS
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	100g
产品认证	Certificate	FC CE CCC RoHS



光电开关传感器

Photoelectric switch sensors



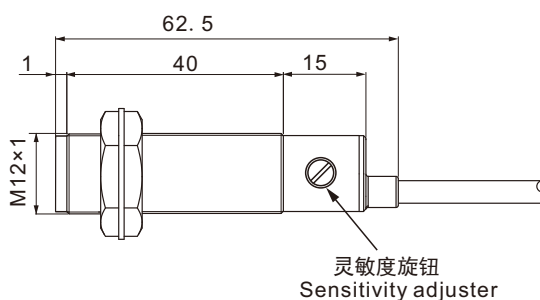
输出方式 Output	NPN	NO	BP7-QA60M		
		NC	BP7-QB60M		
		NO+NC	BP7-QC60M		
输出方式 Output	PNP	NO	BP7-QD60M		
		NC	BP7-QE60M		
		NO+NC	BP7-QF60M		
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
	继电器 Relay				
检测距离	Sensor range		0-60m		
检测方式	Sensor principle		对射 Through beam		

技术参数 Technical parameters

电源电压	Supply voltage	10~30V
光源	Light source	红外LED Infrared ray LED
保护功能	Protection function	输出短路保护 Output short-circuit protection
消耗电流	Current consumption	≤40mA
回差范围	Hysteresis	3...20%
灵敏度调节	Sensitivity modulation	可调节 Adjustable
响应时间	Response time	≤1ms
绝缘电阻	Insulation resistance	20MΩ以上 (DC500V) Above 20MΩ (DC500V)
环境温度	Ambient operating temperature	-25...+70°C
环境湿度	Ambient humidity	35...95%
外壳材料	Housing material	PMMA/ABS
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	100g
产品认证	Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



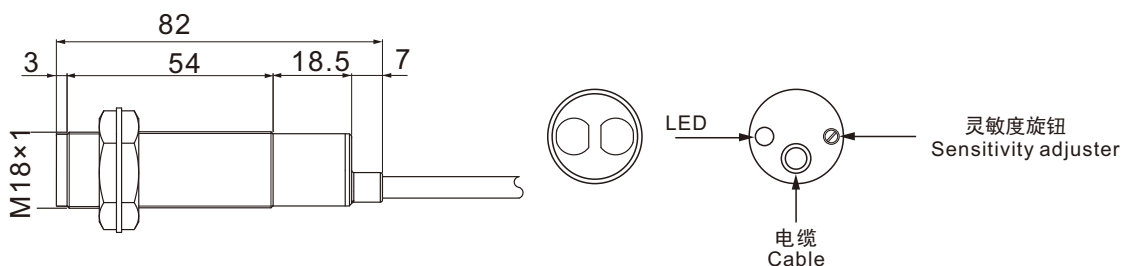
输出方式 Output	NPN	NO	BPS-CA10	BPS-CA30	BPS-CA50
		NC	BPS-CB10	BPS-CB30	BPS-CB50
		NO+NC	BPS-CC10	BPS-CC30	BPS-CC50
输出方式 Output	PNP	NO	BPS-CD10	BPS-CD30	BPS-CD50
		NC	BPS-CE10	BPS-CE30	BPS-CE50
		NO+NC	BPS-CF10	BPS-CF30	BPS-CF50
输出方式 Output	交流2线 AC 2-wire	NO	BPS-CG10	BPS-CG30	BPS-CG50
		NC	BPS-CH10	BPS-CH30	BPS-CH50
		继电器 Relay			
检测距离 Sensor range			10cm	30cm	50cm
检测方式 Sensor principle			漫反射 Diffuse reflection	漫反射 Diffuse reflection	漫反射 Diffuse reflection

技术参数 Technical parameters

电源电压 Supply voltage	DC12~24V AC90~250V
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
回差范围 Hysteresis	3...20%
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
绝缘耐压 Withstand voltage	AC2000V 50/60Hz 1min
环境温度 Ambient operating temperature	-25...+55°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



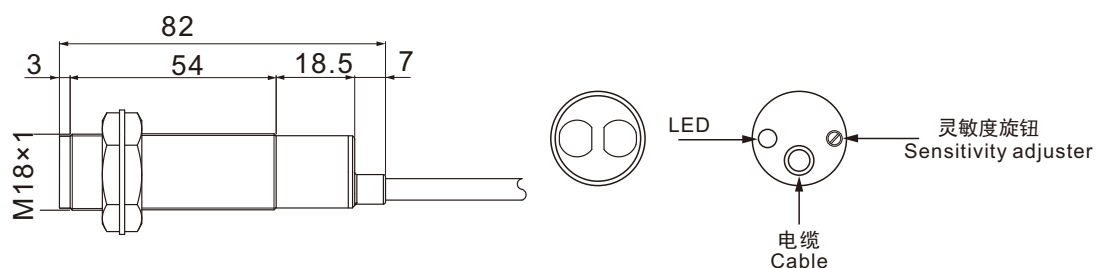
输出方式 Output	NPN	NO	BPS-KA6M	BPS-QA60M	BPS-DA10CM
		NC	BPS-KB6M	BPS-QB60M	BPS-DB10CM
		NO+NC	BPS-KC6M	BPS-QC60M	BPS-DC10CM
输出方式 Output	PNP	NO	BPS-KD6M	BPS-QD60M	BPS-DD10CM
		NC	BPS-KE6M	BPS-QE60M	BPS-DE10CM
		NO+NC	BPS-KF6M	BPS-QF60M	BPS-DF10CM
输出方式 Output	交流2线 AC 2-wire	NO	BPS-KG6M	BPS-QG60M	BPS-DG10CM
		NC	BPS-KH6M	BPS-QH60M	BPS-DH10CM
	继电器 Relay				
检测距离 Sensor range			6m	60m	10cm
检测方式 Sensor principle			镜面反射 Retro reflective	对射 Through beam	激光漫反射 Laser diffuse reflection

技术参数 Technical parameters

电源电压 Supply voltage	DC12~24V AC90~250V
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
回差范围 Hysteresis	3...20%
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
绝缘耐压 Withstand voltage	AC2000V 50/60Hz 1min
环境温度 Ambient operating temperature	-25...+55°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



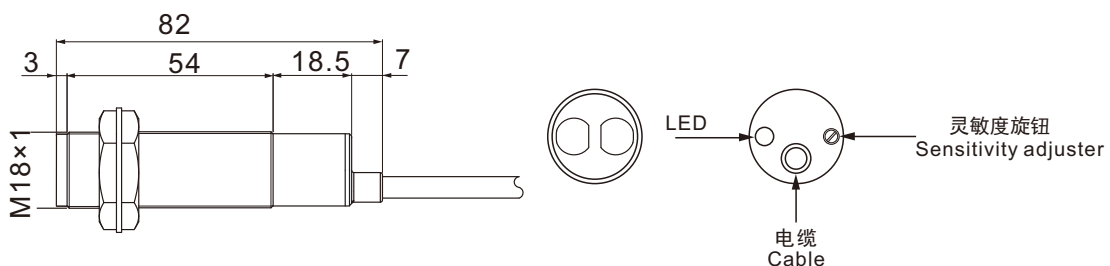
输出方式 Output	NPN	NO	BPS-LA10	BPS-RA60	
		NC	BPS-LB10	BPS-RB60	
		NO+NC	BPS-LC10	BPS-RC60	
输出方式 Output	PNP	NO	BPS-LD10	BPS-RD60	
		NC	BPS-LE10	BPS-RE60	
		NO+NC	BPS-LF10	BPS-RF60	
输出方式 Output	交流2线 AC 2-wire	NO	BPS-LG10	BPS-RG60	
		NC	BPS-LH10	BPS-RH60	
		继电器 Relay			
检测距离 Sensor range		10m		60m	
检测方式 Sensor principle		激光镜面反射 Laser Retro reflective		激光对射 Laser Through beam	

技术参数 Technical parameters

电源电压 Supply voltage	DC12~24V AC90~250V
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
回差范围 Hysteresis	3...20%
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
绝缘耐压 Withstand voltage	AC2000V 50/60Hz 1min
环境温度 Ambient operating temperature	-25...+55°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



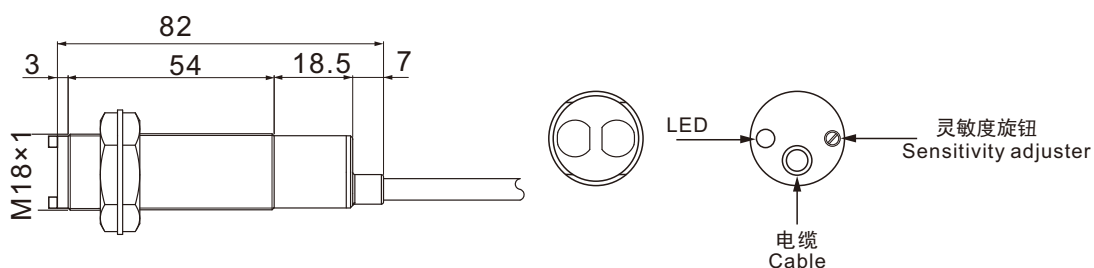
输出方式 Output	NPN	NO	BPP-CA10	BPP-CA30	BPP-CA3M
		NC	BPP-CB10	BPP-CB30	BPP-CB3M
		NO+NC	BPP-CC10	BPP-CC30	BPP-CC3M
输出方式 Output	PNP	NO	BPP-CD10	BPP-CD30	BPP-CD3M
		NC	BPP-CE10	BPP-CE30	BPP-CE3M
		NO+NC	BPP-CF10	BPP-CF30	BPP-CF3M
输出方式 Output	交流2线 AC 2-wire	NO	BPP-CG10	BPP-CG30	BPP-CG3M
		NC	BPP-CH10	BPP-CH30	BPP-CH3M
	继电器 Relay				
检测距离 Sensor range			10cm	30cm	3m
检测方式 Sensor principle			漫反射 Diffuse reflection	漫反射 Diffuse reflection	漫反射 Diffuse reflection

技术参数 Technical parameters

电源电压 Supply voltage	DC12~24V (纹波 Ripple p-p: ≤10%)
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	≤40mA
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
绝缘耐压 Withstand voltage	AC1000V 50/60Hz 1min
环境温度 Ambient operating temperature	-10...+60°C
环境湿度 Ambient humidity	35...85%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



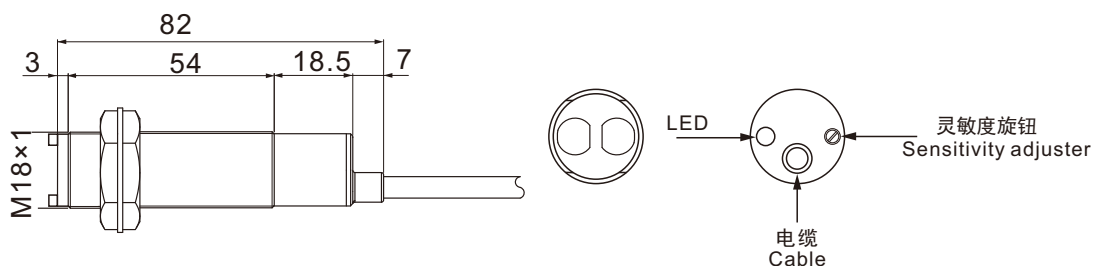
输出方式 Output	NPN	NO	BPP-KA6M	BPP-QA60M	
		NC	BPP-KB6M	BPP-QB60M	
		NO+NC	BPP-KC6M	BPP-QC60M	
输出方式 Output	PNP	NO	BPP-KD6M	BPP-QD60M	
		NC	BPP-KE6M	BPP-QE60M	
		NO+NC	BPP-KF6M	BPP-QF60M	
输出方式 Output	交流2线 AC 2-wire	NO	BPP-KG6M	BPP-QG60M	
		NC	BPP-KH6M	BPP-QH60M	
		继电器 Relay			
检测距离	Sensor range		6m	60m	
检测方式	Sensor principle		镜面反射 Retro reflective	对射 Through beam	

技术参数 Technical parameters

电源电压	Supply voltage	DC12~24V (纹波 Ripple p-p: ≤10%)		
光源	Light source	红外LED Infrared ray LED		
保护功能	Protection function	输出短路保护 Output short-circuit protection		
消耗电流	Current consumption	≤40mA		
灵敏度调节	Sensitivity modulation	灵敏度调节器 Sensitivity adjuster	固定 Fixed	
响应时间	Response time	≤1ms		
输出指示	Output indication	红色LED Red LED		
绝缘耐压	Withstand voltage	AC1000V 50/60Hz 1min		
环境温度	Ambient operating temperature	-10...+60°C		
环境湿度	Ambient humidity	35...85%		
外壳材料	Housing material	PC/ABS		
连接方式	Connection type	2m PVC电缆 2m PVC Cable		
重量	Weight	190g		
产品认证	Certificate	FC CE CCC RoHS		

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



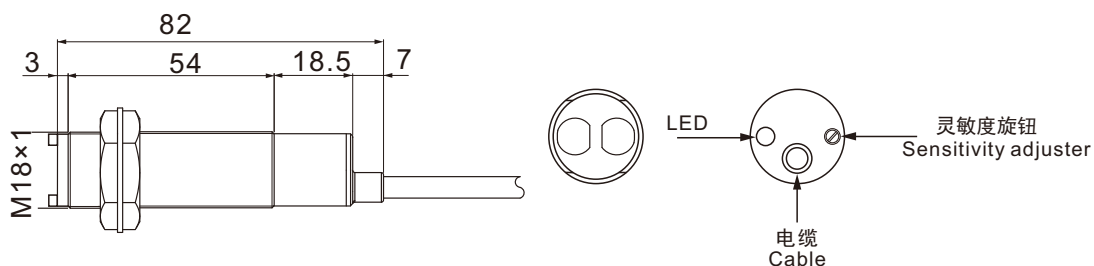
输出方式 Output	NPN	NO	BPP-DA10	BPP-LA10M	BPP-RA60M
		NC	BPP-DB10	BPP-LB10M	BPP-RB60M
		NO+NC	BPP-DC10	BPP-LC10M	BPP-RC60M
输出方式 Output	PNP	NO	BPP-DD10	BPP-LD10M	BPP-RD60M
		NC	BPP-DE10	BPP-LE10M	BPP-RE60M
		NO+NC	BPP-DF10	BPP-LF10M	BPP-RF60M
输出方式 Output	交流2线 AC 2-wire	NO	BPP-DG10	BPP-LG10M	BPP-RG60M
		NC	BPP-DH10	BPP-LH10M	BPP-RH60M
	继电器 Relay				
检测距离 Sensor range			10cm	10m	60m
检测方式 Sensor principle			激光漫反射 Laser diffuse reflection	激光镜面反射 Laser Retro reflective	激光对射 Laser Through beam

技术参数 Technical parameters

电源电压 Supply voltage	DC12~24V (纹波 Ripple p-p: ≤10%)		
光源 Light source	红外LED Infrared ray LED		
保护功能 Protection function	输出短路保护 Output short-circuit protection		
消耗电流 Current consumption	≤40mA		
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster	固定 Fixed	
响应时间 Response time	≤1ms		
输出指示 Output indication	红色LED Red LED		
绝缘耐压 Withstand voltage	AC1000V 50/60Hz 1min		
环境温度 Ambient operating temperature	-10...+60°C		
环境湿度 Ambient humidity	35...85%		
外壳材料 Housing material	PC/ABS		
连接方式 Connection type	2m PVC电缆 2m PVC Cable		
重量 Weight	190g		
产品认证 Certificate	FC CE CCC RoHS		

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



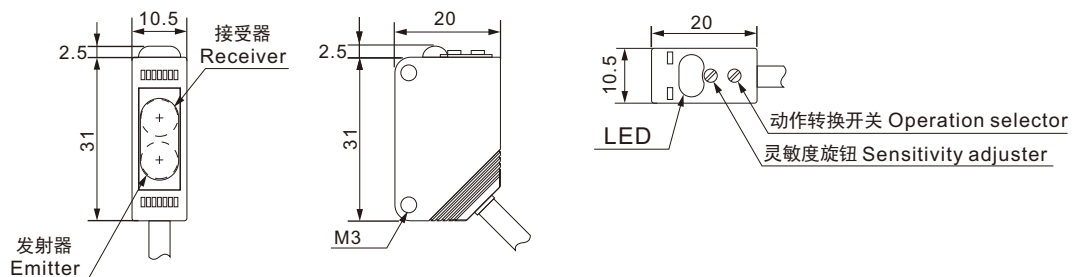
输出方式 Output	NPN	NO			
		NC			
		NO+NC	BPZ-CC10	BPZ-CC30	BPZ-DC10
输出方式 Output	PNP	NO			
		NC			
		NO+NC	BPZ-CF10	BPZ-CF30	BPZ-DF10
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离	Sensor range		100mm	300mm	100mm
检测方式	Sensor principle		漫反射 Diffuse reflection	漫反射 Diffuse reflection	激光漫反射 Laser Diffuse reflection

技术参数 Technical parameters

电源电压	Supply voltage	12~24 V ±10%波动 (p-p)
光源	Light source	红外LED Infrared ray LED
检测物	Sensing target	最小不透明材料 Opaque materials of $\geq \varnothing 12\text{mm}$
保护功能	Protection function	输出短路保护 Output short-circuit protection
消耗电流	Current consumption	$\leq 35\text{mA}$
指向角	Directional angle	投/受光器: 各3~15° Projection/receiver: 3~15° each
灵敏度调节	Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间	Response time	动作、复位: 各1ms以下 Operation and reset: 1ms or less each
绝缘耐压	Withstand voltage	AC1000V 50/60HZ 1min
环境温度	Ambient operating temperature	-25...+55°C
环境湿度	Ambient humidity	35...95%
外壳材料	Housing material	PBT
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	65g
产品认证	Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



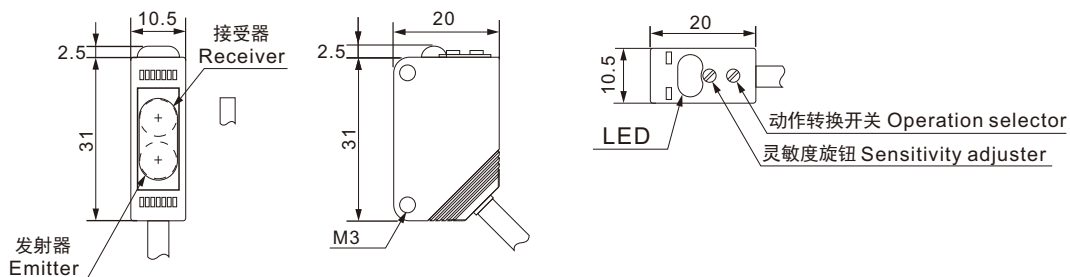
输出方式 Output	NPN	NO		
		NC		
		NO+NC	BPZ-KC3M	BPZ-LC5M
输出方式 Output	PNP	NO		
		NC		
		NO+NC	BPZ-KF3M	BPZ-LF5M
输出方式 Output	交流2线 AC 2-wire	NO		
		NC		
	继电器 Relay			
检测距离 Sensor range			3m	5m
检测方式 Sensor principle			镜面反射 Retro-reflective	激光镜面反射 Laser Retro-reflective

技术参数 Technical parameters

电源电压 Supply voltage	12~24 V ±10%波动 (p-p)
光源 Light source	红外LED Infrared ray LED
检测物 Sensing target	最小不透明材料 Opaque materials of ≥Ø75mm
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	≤35mA
指向角 Directional angle	投/受光器: 各2~10° Projection/receiver: 2~10° each
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	动作、复位: 各1ms以下 Operation and reset: 1ms or less each
绝缘耐压 Withstand voltage	AC1000V 50/60HZ 1min
环境温度 Ambient operating temperature	-25...+55°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	PBT
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	65g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

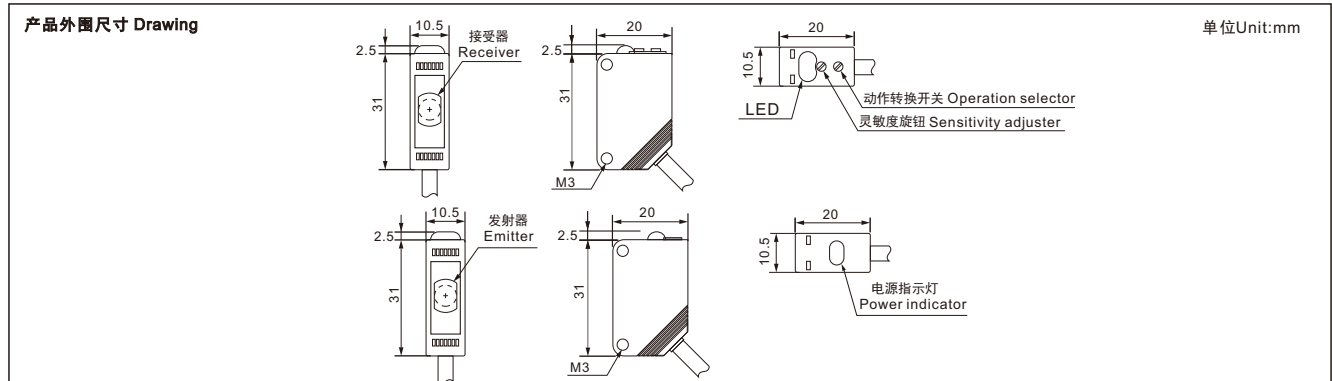
Photoelectric switch sensors



输出方式 Output	NPN	NO			
		NC			
		NO+NC	BPZ-QC10M	BPZ-QC5M	BPZ-RC20M
输出方式 Output	PNP	NO			
		NC			
		NO+NC	BPZ-QF10M	BPZ-QF5M	BPZ-RF20M
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离	Sensor range		10m	15m	20m
检测方式	Sensor principle		对射 Through beam	对射 Through beam	激光对射 Laser Through beam

技术参数 Technical parameters

电源电压	Supply voltage	DC12~24 V ±10%波动 (p-p)
光源	Light source	红外LED Infrared ray LED
检测物	Sensing target	最小不透明材料 Opaque materials of $\geq \varnothing 12\text{mm}$
保护功能	Protection function	输出短路保护 Output short-circuit protection
消耗电流	Current consumption	$\leq 35\text{mA}$
指向角	Directional angle	投/受光器: 各3~15° Projection/receiver: 3~15° each
灵敏度调节	Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间	Response time	动作、复位: 各1ms以下 Operation and reset: 1ms or less each
绝缘耐压	Withstand voltage	AC1000V 50/60HZ 1min
环境温度	Ambient operating temperature	-25...+55°C
环境湿度	Ambient humidity	35...95%
外壳材料	Housing material	PBT
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	120g
产品认证	Certificate	FC CE CCC RoHS



光电开关传感器

Photoelectric switch sensors

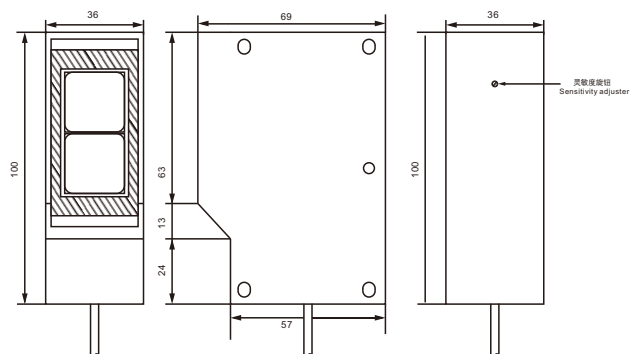


输出方式 Output	NPN	NO			
		NC			
		NO+NC			
输出方式 Output	PNP	NO			
		NC			
		NO+NC			
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay	BPK-CK2M	BPK-CK5M	BPK-CK7M
检测距离 Sensor range			2m	5m	7m
检测方式 Sensor principle			漫反射 Diffuse reflection	漫反射 Diffuse reflection	漫反射 Diffuse reflection

技术参数 Technical parameters

电源电压 Supply voltage	DC12~24V AC90~250V
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
回差范围 Hysteresis	3...20%
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
绝缘耐压 Withstand voltage	AC2000V 50/60Hz 1min
环境温度 Ambient operating temperature	-25...+55°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing



单位Unit:mm

光电开关传感器

Photoelectric switch sensors

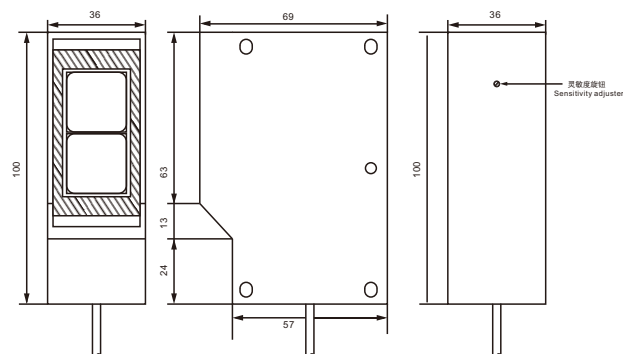


输出方式 Output	NPN	NO			
		NC			
		NO+NC			
输出方式 Output	PNP	NO			
		NC			
		NO+NC			
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay	BPK-CK10M	BPK-CK15M	BPK-KK20M
检测距离 Sensor range			10m	15m	20m
检测方式 Sensor principle			漫反射 Diffuse reflection	漫反射 Diffuse reflection	镜面反射 Retro reflective

技术参数 Technical parameters

电源电压 Supply voltage	DC12~24V AC90~250V
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
回差范围 Hysteresis	3...20%
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
绝缘耐压 Withstand voltage	AC2000V 50/60Hz 1min
环境温度 Ambient operating temperature	-25...+55°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing



单位Unit:mm

光电开关传感器

Photoelectric switch sensors

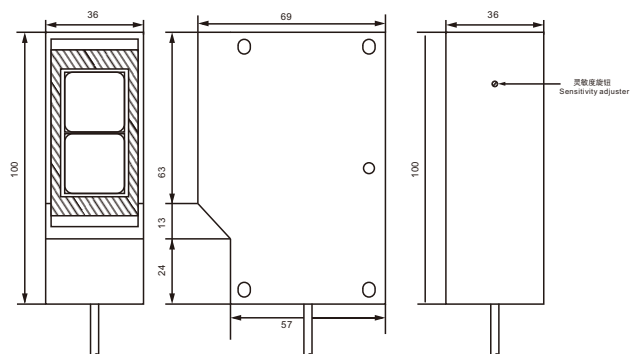


输出方式 Output	NPN	NO			
		NC			
		NO+NC			
输出方式 Output	PNP	NO			
		NC			
		NO+NC			
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
	继电器 Relay			BPK-QK60M	
检测距离 Sensor range				60m	
检测方式 Sensor principle				对射 Through beam	

技术参数 Technical parameters

电源电压 Supply voltage	DC12-24V AC90-250V
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
回差范围 Hysteresis	3...20%
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
绝缘耐压 Withstand voltage	AC2000V 50/60Hz 1min
环境温度 Ambient operating temperature	-25...+55°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing



单位Unit:mm

光电开关传感器

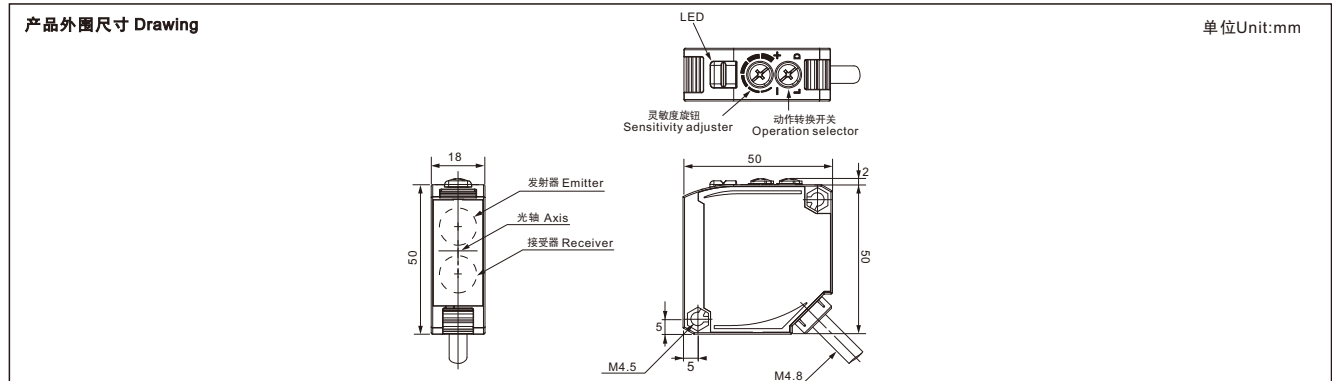
Photoelectric switch sensors



输出方式 Output	NPN	NO			
		NC			
		NO+NC	BPR-EC30	BPR-EC2.5M	BPR-DC10
输出方式 Output	PNP	NO			
		NC			
		NO+NC	BPR-EF30	BPR-EF2.5M	BPR-DF10
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
	继电器 Relay			BPR-EK30	BPR-EK2.5M
检测距离	Sensor range		300mm 可见红光 (Red light is visible)	2.5m 可见红光 (Red light is visible)	100mm 激光 (Laser)
检测方式	Sensor principle		漫反射 Diffuse reflection	漫反射 Diffuse reflection	漫反射 Diffuse reflection

技术参数 Technical parameters

电源电压	Supply voltage	(NPN/PNP) DC:10...30V含脉动 With pulsation (p-p) 10% Relay:DC24~240V±10%/脉动Pulsation (p-p) ≤10%/AC24~240V±10% 50/60Hz
光源	Light source	红外LED Infrared ray LED
保护功能	Protection function	输出短路保护 Output short-circuit protection
消耗电流	Current consumption	(NPN/PNP) DC ≤30mA Relay ≤2W
回差范围	Hysteresis	检测距离的20%以下 ≤20% of the Detection distance
灵敏度调节	Sensitivity modulation	单方向旋钮 One-turn adjuster Receiver
响应时间	Response time	(NPN/PNP) DC ≤1ms Relay ≤20ms
绝缘电阻	Insulation resistance	≥20MΩ (DC500V)
绝缘耐压	Withstand voltage	AC1500V 50/60HZ 1min
环境温度	Ambient operating temperature	-25...+55°C
环境湿度	Ambient humidity	35...95%
外壳材料	Housing material	POM/ABS/甲基丙烯酸树脂 (Methacrylic resin)
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	160g
产品认证	Certificate	FC CE CCC RoHS



光电开关传感器

Photoelectric switch sensors



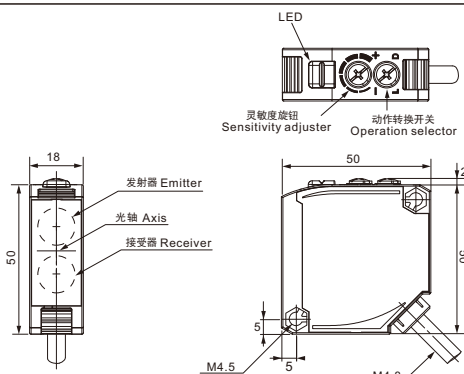
输出方式 Output	NPN	NO			
		NC			
		NO+NC	BPR-CC30	BPR-CC2.5M	
输出方式 Output	PNP	NO			
		NC			
		NO+NC	BPR-CF30	BPR-CF2.5M	
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
	继电器 Relay		BPR-CK30	BPR-CK2.5M	
检测距离 Sensor range		300mm不见光(No light)		2.5m不见光(No light)	
检测方式 Sensor principle		漫反射 Diffuse reflection		漫反射 Diffuse reflection	

技术参数 Technical parameters

电源电压 Supply voltage	(NPN/PNP) DC:10...30V含脉动 With pulsation (p-p) 10% Relay:DC24~240V±10%/脉动Pulsation (p-p) ≤10%/AC24~240V±10% 50/60Hz
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	(NPN/PNP) DC ≤30mA Relay ≤2W
回差范围 Hysteresis	检测距离的20%以下 ≤20%of the Detection distance
灵敏度调节 Sensitivity modulation	单方向旋钮 One-turn adjuster Receiver
响应时间 Response time	(NPN/PNP) DC ≤1ms Relay ≤20ms
绝缘电阻 Insulation resistance	≥20MΩ (DC500V)
绝缘耐压 Withstand voltage	AC1500V 50/60HZ 1min
环境温度 Ambient operating temperature	-25...+55°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	POM/ABS/甲基丙烯酸树脂 (Methacrylic resin)
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	160g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

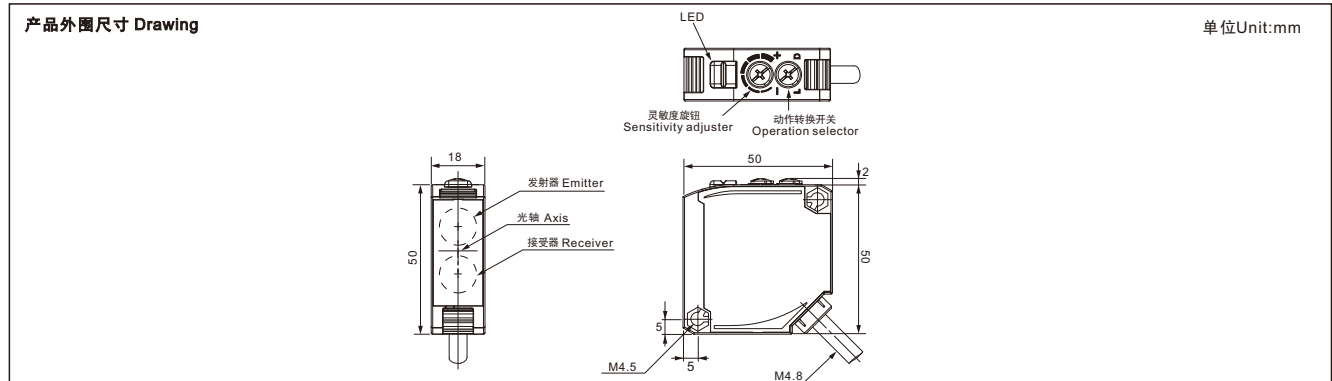
Photoelectric switch sensors



输出方式 Output	NPN	NO			
		NC			
		NO+NC	BPR-MC7M	BPR-KC7M	BPR-LC11M
输出方式 Output	PNP	NO			
		NC			
		NO+NC	BPR-MF7M	BPR-KF7M	BPR-LF11M
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
	继电器 Relay			BPR-MK7M	BPR-KK7M
检测距离	Sensor range		7m 可见红光(Red light is visible)	7m不见光(No light)	11m 激光(Laser)
检测方式	Sensor principle		镜面反射 Retro-reflective	镜面反射 Retro-reflective	镜面反射 Retro-reflective

技术参数 Technical parameters

电源电压	Supply voltage	(NPN/PNP) DC:10...30V含脉动 With pulsation (p-p) 10% Relay:DC24~240V±10%/脉动Pulsation (p-p) ≤10%/AC24~240V±10% 50/60Hz
光源	Light source	红外LED Infrared ray LED
指向角	Directional angle	≥1.5°
保护功能	Protection function	输出短路保护 Output short-circuit protection
消耗电流	Current consumption	(NPN/PNP) DC ≤30mA Relay ≤2W
灵敏度调节	Sensitivity modulation	单方向旋钮 One-turn adjuster Receiver
响应时间	Response time	(NPN/PNP) DC ≤1ms Relay ≤20ms
绝缘电阻	Insulation resistance	≥20MΩ (DC500V)
绝缘耐压	Withstand voltage	AC1500V 50/60HZ 1min
环境温度	Ambient operating temperature	-25...+55°C
环境湿度	Ambient humidity	35...95%
外壳材料	Housing material	POM/ABS/甲基丙烯酸树脂 (Methacrylic resin)
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	160g
产品认证	Certificate	FC CE CCC RoHS



光电开关传感器

Photoelectric switch sensors

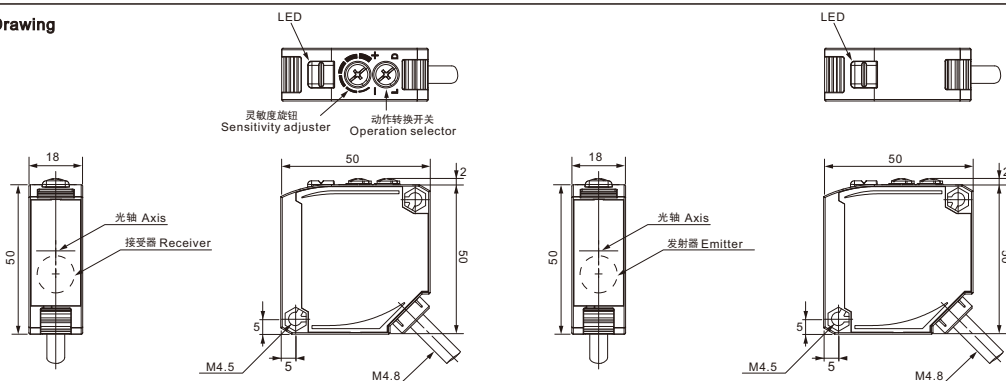


输出方式 Output	NPN	NO			
		NC			
		NO+NC	BPR-SC5M	BPR-SC40M	BPR-QC5M
输出方式 Output	PNP	NO			
		NC			
		NO+NC	BPR-SF5M	BPR-SF40M	BPR-QC5M
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
	继电器 Relay		BPR-SK5M	BPR-CK40M	BPR-QC5M
检测距离 Sensor range		5m可见光(visible light)		40m可见光(visible light)	5m不见光(No light)
检测方式 Sensor principle		对射 Through beam		对射 Through beam	对射 Through beam

技术参数 Technical parameters

电源电压 Supply voltage	(NPN/PNP) DC:10...30V含脉动 With pulsation (p-p) 10% Relay:DC24~240V±10%/脉动Pulsation (p-p) ≤10%/AC24~240V±10% 50/60Hz
光源 Light source	红外LED Infrared ray LED
指向角 Directional angle	投、受光器：各3°以上 Both Emitter and Receiver 3° min.
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	(NPN/PNP) DC:≥40mA (投光器Emitter≥25mA / 受光器Receiver≥15mA) Relay:≥3W (投光器Emitter≥1.5W / 受光器Receiver≥1.5W)
灵敏度调节 Sensitivity modulation	单方向旋钮 One-turn adjuster Receiver
响应时间 Response time	(NPN/PNP) DC ≤1ms Relay ≤20ms
绝缘电阻 Insulation resistance	≥20MΩ (DC500V)
绝缘耐压 Withstand voltage	AC1500V 50/60HZ 1min
环境温度 Ambient operating temperature	-25...+55°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	POM/ABS/甲基丙烯酸树脂 (Methacrylic resin)
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	160g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing



光电开关传感器

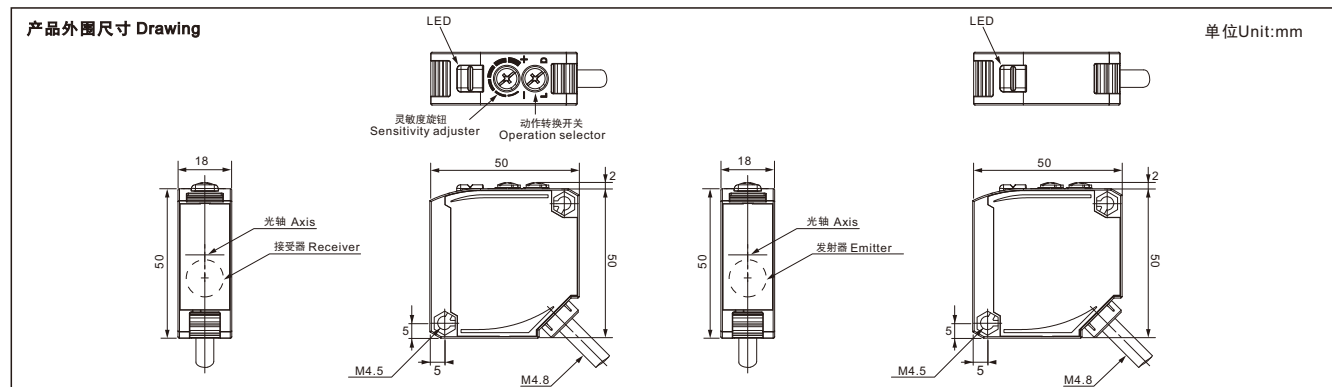
Photoelectric switch sensors



输出方式 Output	NPN	NO		
		NC		
		NO+NC	BPR-QC40M	BPR-RC40M
输出方式 Output	PNP	NO		
		NC		
		NO+NC	BPR-QF40M	BPR-RF40M
输出方式 Output	交流2线 AC 2-wire	NO		
		NC		
	继电器 Relay		BPR-QK40M	BPR-RK40M
检测距离 Sensor range		40m不见光(No light)		40m激光(Laser)
检测方式 Sensor principle		对射 Through beam		对射 Through beam

技术参数 Technical parameters

电源电压 Supply voltage	(NPN/PNP) DC:10...30V含脉动 With pulsation (p-p) 10% Relay:DC24~240V±10%/脉动Pulsation (p-p) ≤10%/AC24~240V±10% 50/60Hz
光源 Light source	红外LED Infrared ray LED
指向角 Directional angle	投、受光器: 各3°以上 Both Emitter and Receiver 3° min.
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	(NPN/PNP) DC:≥40mA (投光器Emitter≥25mA / 受光器Receiver≥15mA) Relay:≥3W (投光器Emitter≥1.5W / 受光器Receiver≥1.5W)
灵敏度调节 Sensitivity modulation	单方向旋钮 One-turn adjuster Receiver
响应时间 Response time	(NPN/PNP) DC ≤1ms Relay ≤20ms
绝缘电阻 Insulation resistance	≥20MΩ (DC500V)
绝缘耐压 Withstand voltage	AC1500V 50/60HZ 1min
环境温度 Ambient operating temperature	-25...+55°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	POM/ABS/甲基丙烯酸树脂 (Methacrylic resin)
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	160g
产品认证 Certificate	FC CE CCC RoHS



光电开关传感器

Photoelectric switch sensors



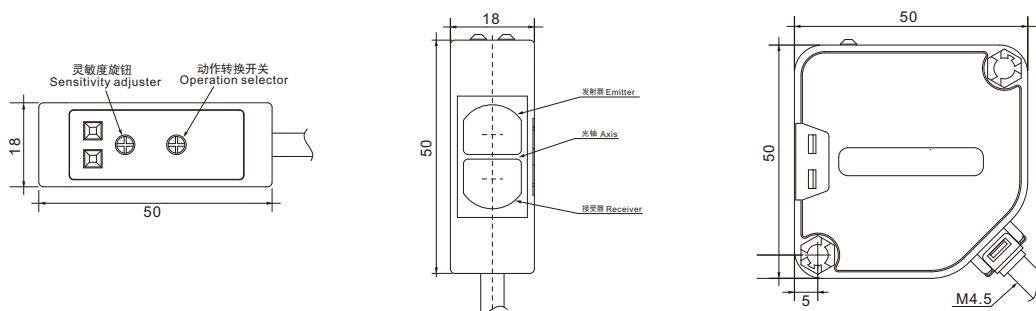
输出方式 Output	NPN	NO			
		NC			
		NO+NC			
输出方式 Output	PNP	NO			
		NC			
		NO+NC			
输出方式 Output	NPN+PNP	NO+NC	BPA-CL30	BPA-CL50	BPA-CL70
	继电器 Relay		BPA-CK30	BPA-CK50	BPA-CK70
检测距离 Sensor range			300mm	500mm	700mm
检测方式 Sensor principle			漫反射 Diffuse reflection	漫反射 Diffuse reflection	漫反射 Diffuse reflection

技术参数 Technical parameters

电源电压 Supply voltage	(NPN/PNP) DC:12~24V±10% (纹波 Ripple p-p: ≤10%) Relay:DC24~240V±10%纹波Ripple (p-p) / AC24~240V±10% 50/60Hz
光源 Light source	红外LED Infrared ray LED
检测物 Sensing target	半透明、不透明材料 Translucent, Opaque materials
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	(NPN/PNP) DC ≤50mA Relay ≤4VA
回差范围 Hysteresis	检测距离的20%以下 ≤20% of the Detection distance
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	(NPN/PNP) DC ≤1ms Relay ≤20ms
动作模式 Action mode	入光时/遮光时 Light ON/Dark ON
环境温度 Ambient operating temperature	-20...+65°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	195g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

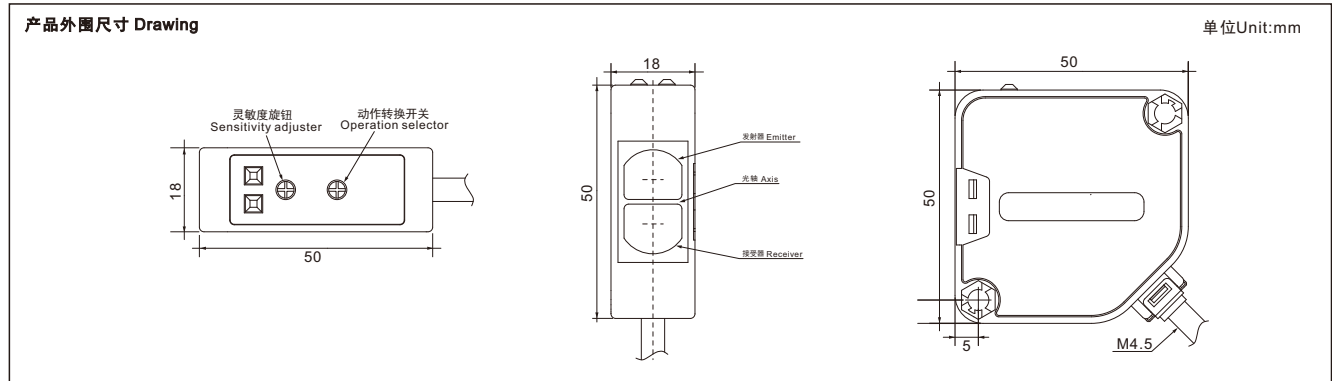
Photoelectric switch sensors



输出方式 Output	NPN	NO			
		NC			
		NO+NC			
输出方式 Output	PNP	NO			
		NC			
		NO+NC			
输出方式 Output	NPN+PNP	NO+NC	BPA-GL3M	BPA-KL5M	BPA-KL7M
	继电器 Relay		BPA-GK3M	BPA-KK5M	BPA-KK7M
检测距离 Sensor range			3m	5m	7m
检测方式 Sensor principle			偏光镜面反射 Retro-reflective (with polarizing filter)	镜面反射 Retro-reflective	镜面反射 Retro-reflective

技术参数 Technical parameters

电源电压 Supply voltage	(NPN/PNP) DC:12~24V±10% (纹波 Ripple p-p: ≤10%) Relay:DC24~240V±10%纹波Ripple (p-p) / AC24~240V±10% 50/60Hz
光源 Light source	红外LED Infrared ray LED
检测物 Sensing target	最小不透明材料 Opaque materials of ≥Ø60mm
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	(NPN/PNP) DC ≤50mA Relay ≤4VA
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	(NPN/PNP) DC ≤1ms Relay ≤20ms
动作模式 Action mode	入光时/遮光时 Light ON/Dark ON
环境温度 Ambient operating temperature	-20...+65°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	208g
产品认证 Certificate	FC CE CCC RoHS



光电开关传感器

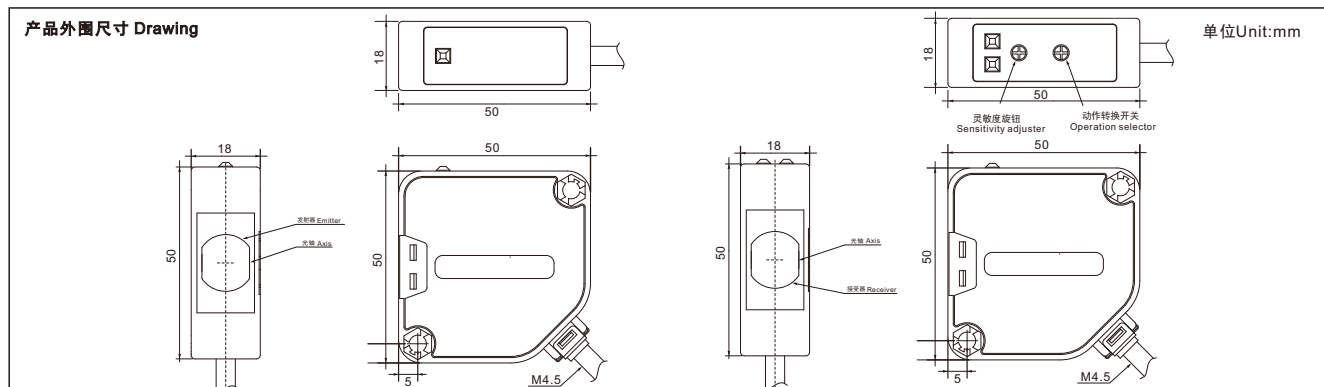
Photoelectric switch sensors



输出方式 Output	NPN	NO			
		NC			
		NO+NC			
输出方式 Output	PNP	NO			
		NC			
		NO+NC			
输出方式 Output	NPN+PNP	NO+NC	BPA-QL10M		
	继电器 Relay		BPA-QK10M		
检测距离	Sensor range	10m			
检测方式	Sensor principle	对射 Through beam			

技术参数 Technical parameters

电源电压	Supply voltage	(NPN/PNP) DC:12~24V±10% (纹波 Ripple p-p: ≤10%) Relay:DC24~240V±10%纹波Ripple (p-p) / AC24~240V±10% 50/60Hz
光源	Light source	红外LED Infrared ray LED
检测物	Sensing target	最小不透明材料 Opaque materials of ≥.Ø16mm
保护功能	Protection function	输出短路保护 Output short-circuit protection
消耗电流	Current consumption	(NPN/PNP) DC ≤50mA Relay ≤4VA
灵敏度调节	Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间	Response time	(NPN/PNP) DC ≤1ms Relay ≤20ms
动作模式	Action mode	入光时/遮光时 Light ON/Dark ON
环境温度	Ambient operating temperature	-20...+65°C
环境湿度	Ambient humidity	35...95%
外壳材料	Housing material	PC/ABS
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	208g
产品认证	Certificate	FC CE CCC RoHS



光电开关传感器

Photoelectric switch sensors



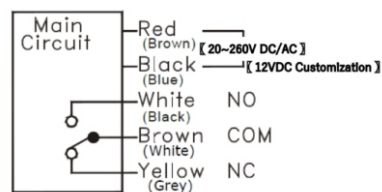
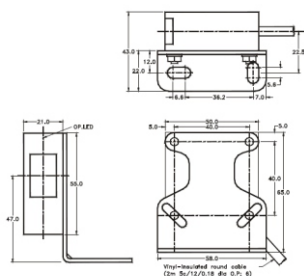
输出方式 Output	NPN	NO			
		NC			
		NO+NC			
输出方式 Output	PNP	NO			
		NC			
		NO+NC			
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay	BPJ-CK30	BPJ-CK1M	BPJ-CK2M
检测距离 Sensor range			300mm	1m	2m
检测方式 Sensor principle			漫反射 Diffuse reflection	漫反射 Diffuse reflection	漫反射 Diffuse reflection

技术参数 Technical parameters

电源电压 Supply voltage	DC/AC20~ 260V DC12V Customization 50/60Hz
光源 Light source	红外LED Infrared ray LED
接触电流 Contact current	5A/250 VAC
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	≤2VA
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤15ms
绝缘耐压 Withstand voltage	1500Vp-p/1μs
环境温度 Ambient operating temperature	-20...+60°C
环境湿度 Ambient humidity	35...85%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	208g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



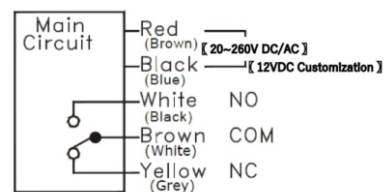
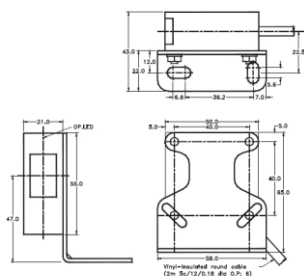
输出方式 Output	NPN	NO			
		NC			
		NO+NC			
输出方式 Output	PNP	NO			
		NC			
		NO+NC			
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay	BPJ-QK3M	BPJ-QK10M	BPJ-QK20M
检测距离 Sensor range			3m	10m	20m
检测方式 Sensor principle			对射 Through beam	对射 Through beam	对射 Through beam

技术参数 Technical parameters

电源电压 Supply voltage	DC/AC 20~260V, DC12V Customization, 50/60Hz
光源 Light source	红外LED Infrared ray LED
接触电流 Contact current	5A/250 VAC
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	≤2VA
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤15ms
绝缘耐压 Withstand voltage	1500Vp-p/1μs
环境温度 Ambient operating temperature	-20...+60°C
环境湿度 Ambient humidity	35...85%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	208g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



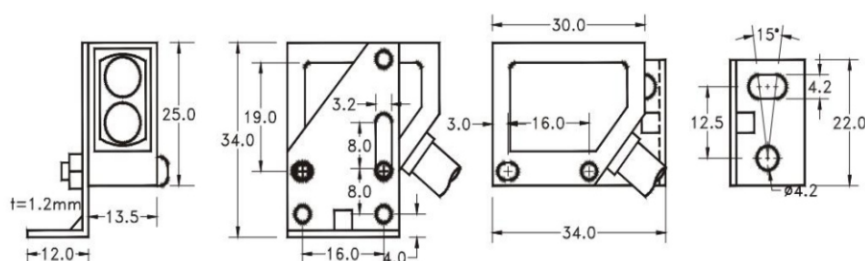
输出方式 Output	NPN	NO	BPM-CA15	BPM-CA30	BPM-CA60
		NC	BPM-CB15	BPM-CB30	BPM-CB60
		NO+NC			
输出方式 Output	PNP	NO	BPM-CD15	BPM-CD30	BPM-CD60
		NC	BPM-CE15	BPM-CE30	BPM-CE60
		NO+NC			
输出方式 Output	NPN+PNP	NO	BPM-CI15	BPM-CI30	BPM-CI60
		NC	BPM-CJ15	BPM-CJ30	BPM-CJ60
	继电器 Relay				
检测距离 Sensor range			15cm	30cm	60cm
检测方式 Sensor principle			漫反射 Diffuse reflection	漫反射 Diffuse reflection	漫反射 Diffuse reflection

技术参数 Technical parameters

电源电压 Supply voltage	DC10~30V (纹波 Ripple p-p: ≤20%)
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
回差范围 Hysteresis	≤10%
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤2ms
输出指示 Output indication	红色LED Red LED
输出电流 Output current	≤150mA
环境温度 Ambient operating temperature	-20...+60°C
环境湿度 Ambient humidity	35...85%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



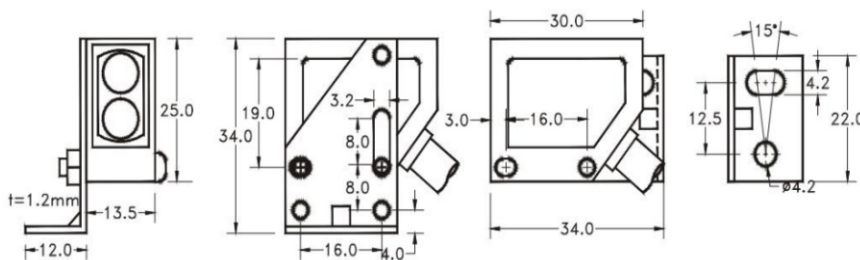
输出方式 Output	NPN	NO	BPM-KA2M	BPM-QA6M	
		NC	BPM-KB2M	BPM-QB6M	
		NO+NC			
输出方式 Output	PNP	NO	BPM-KD2M	BPM-QD6M	
		NC	BPM-KE2M	BPM-QE6M	
		NO+NC			
输出方式 Output	NPN+PNP	NO	BPM-KI2M	BPM-QI6M	
		NC	BPM-KJ2M	BPM-QJ6M	
	继电器 Relay				
检测距离	Sensor range		2m	6m	
检测方式	Sensor principle		镜面反射 Retro reflective	对射 Through-beam	

技术参数 Technical parameters

电源电压	Supply voltage	DC10~30V (纹波 Ripple p-p: ≤20%)
光源	Light source	红外LED Infrared ray LED
保护功能	Protection function	输出短路保护 Output short-circuit protection
回差范围	Hysteresis	≤10%
灵敏度调节	Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间	Response time	≤2ms
输出指示	Output indication	红色LED Red LED
输出电流	Output current	≤150mA
环境温度	Ambient operating temperature	-25...+55°C
环境湿度	Ambient humidity	35...95%
外壳材料	Housing material	PC/ABS
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	190g
产品认证	Certificate	FC CE CCC RoHS

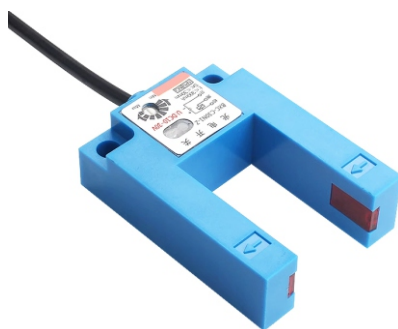
产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



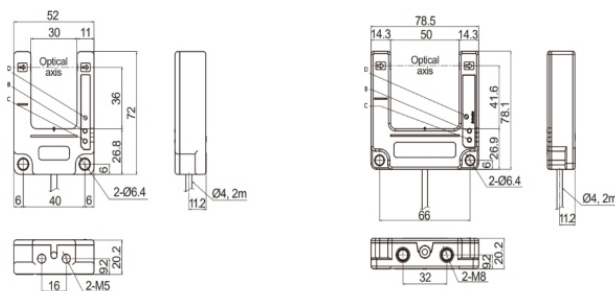
输出方式 Output	NPN	NO	BPC-QA3	BPC-QA5	
		NC	BPC-QB3	BPC-QB5	
		NO+NC	BPC-QC3	BPC-QC5	
输出方式 Output	PNP	NO	BPC-QD3	BPC-QD5	
		NC	BPC-QE3	BPC-QE5	
		NO+NC	BPC-QF3	BPC-QF5	
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离 Sensor range		30mm		50mm	
检测方式 Sensor principle		对射 Through beam		对射 Through beam	

技术参数 Technical parameters

电源电压 Supply voltage	DC12~24V±10% (纹波 Ripple p-p: ≤10%)
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	≤30mA
灵敏度调节 Sensitivity modulation	固定 Fixed
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
环境温度 Ambient operating temperature	-25...+65°C
环境湿度 Ambient humidity	35...85%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	90g
产品认证 Certificate	FC CE CCC RoHS

产品外圈尺寸 Drawing

单位Unit:mm



光电开关传感器

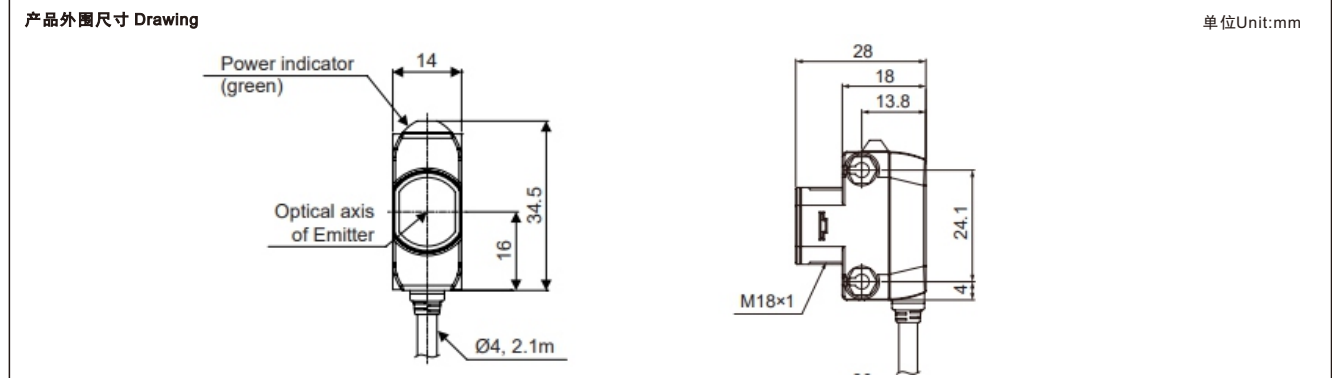
Photoelectric switch sensors



输出方式 Output	NPN	NO	BPQ-CA30	BPQ-CA1M	BPQ-KA4M
		NC	BPQ-CB30	BPQ-CB1M	BPQ-KB4M
		NO+NC	BPQ-CC30	BPQ-CC1M	BPQ-KC4M
输出方式 Output	PNP	NO	BPQ-CD30	BPQ-CD1M	BPQ-KD4M
		NC	BPQ-CE30	BPQ-CE1M	BPQ-KE4M
		NO+NC	BPQ-CF30	BPQ-CF1M	BPQ-KF4M
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离	Sensor range		30cm	1m	4m
检测方式	Sensor principle		漫反射 Diffuse reflection	漫反射 Diffuse reflection	镜面反射 Retro reflective

技术参数 Technical parameters

电源电压	Supply voltage	DC10-30V
光源	Light source	红外LED Infrared ray LED
保护功能	Protection function	输出短路保护 Output short-circuit protection
灵敏度调节	Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间	Response time	≤1ms
输出指示	Output indication	红色LED Red LED
动作模式	Action mode	入光时/遮光时 Light ON/Dark ON
环境温度	Ambient operating temperature	-20...+60℃
环境湿度	Ambient humidity	35...85%
外壳材料	Housing material	PC/ABS
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	190g
产品认证	Certificate	FC CE CCC RoHS



光电开关传感器

Photoelectric switch sensors



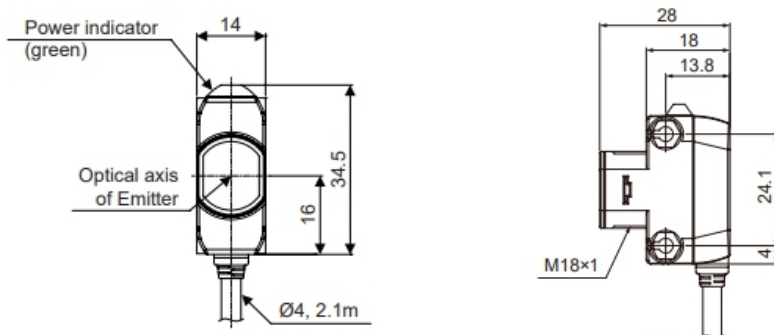
输出方式 Output	NPN	NO	BPQ-QA20M		
		NC	BPQ-QB20M		
		NO+NC	BPQ-QC20M		
输出方式 Output	PNP	NO	BPQ-QD20M		
		NC	BPQ-QE20M		
		NO+NC	BPQ-QF20M		
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离	Sensor range	20m			
检测方式	Sensor principle	对射 Through beam			

技术参数 Technical parameters

电源电压	Supply voltage	DC10-30V
光源	Light source	红外LED Infrared ray LED
保护功能	Protection function	输出短路保护 Output short-circuit protection
灵敏度调节	Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间	Response time	≤1ms
输出指示	Output indication	红色LED Red LED
动作模式	Action mode	入光时/遮光时 Light ON/Dark ON
环境温度	Ambient operating temperature	-20...+60°C
环境湿度	Ambient humidity	35...85%
外壳材料	Housing material	PC/ABS
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	190g
产品认证	Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors

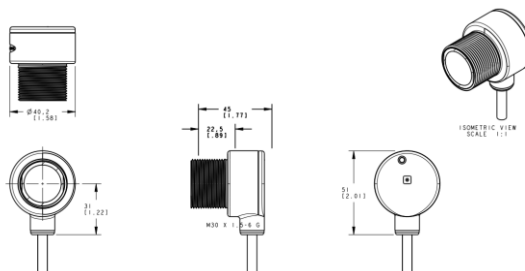


输出方式 Output	NPN	NO	BPT-CA10	BPT-CA40	BPT-CA60
		NC	BPT-CB10	BPT-CB40	BPT-CB60
		NO+NC	BPT-CC10	BPT-CC40	BPT-CC60
输出方式 Output	PNP	NO	BPT-CD10	BPT-CD40	BPT-CD60
		NC	BPT-CE10	BPT-CE40	BPT-CE60
		NO+NC	BPT-CF10	BPT-CF40	BPT-CF60
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
	继电器 Relay				
检测距离	Sensor range		10cm	40cm	60cm
检测方式	Sensor principle		漫反射 Diffuse reflection	漫反射 Diffuse reflection	漫反射 Diffuse reflection

技术参数 Technical parameters

电源电压	Supply voltage	DC10-30V
光源	Light source	红外LED Infrared ray LED
保护功能	Protection function	输出短路保护 Output short-circuit protection
灵敏度调节	Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间	Response time	≤1ms
输出指示	Output indication	红色LED Red LED
动作模式	Action mode	入光时/遮光时 Light ON/Dark ON
环境温度	Ambient operating temperature	-20...+60℃
环境湿度	Ambient humidity	35...85%
外壳材料	Housing material	PC/ABS
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	190g
产品认证	Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing 单位Unit:mm



Technical drawing showing dimensions for the photoelectric switch sensor. The drawing includes front, side, and isometric views. Key dimensions are: front view diameter $\phi 40.0$ (tolerance ± 0.01), side view diameter $\phi 40.0$ (tolerance ± 0.01), total length 45 (tolerance ± 0.01), mounting hole diameter $\phi 6.3$ (tolerance ± 0.01), and mounting hole offset 51 (tolerance ± 0.01). The isometric view is labeled 'ISOMETRIC VIEW SCALE 1:1'.

光电开关传感器

Photoelectric switch sensors



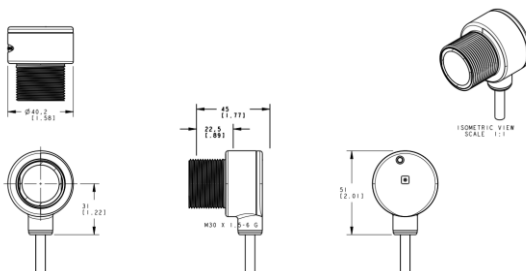
输出方式 Output	NPN	NO	BPT-KA6M	BPT-QA60M	
		NC	BPT-KB6M	BPT-QB60M	
		NO+NC	BPT-KC6M	BPT-QC60M	
输出方式 Output	PNP	NO	BPT-KD6M	BPT-QD60M	
		NC	BPT-KE6M	BPT-QE60M	
		NO+NC	BPT-KF6M	BPT-QF60M	
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离 Sensor range		6m		60m	
检测方式 Sensor principle		镜面反射 Retro reflective		对射 Through beam	

技术参数 Technical parameters

电源电压 Supply voltage	DC10-30V
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
动作模式 Action mode	入光时/遮光时 Light ON/Dark ON
环境温度 Ambient operating temperature	-20...+60°C
环境湿度 Ambient humidity	35...85%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



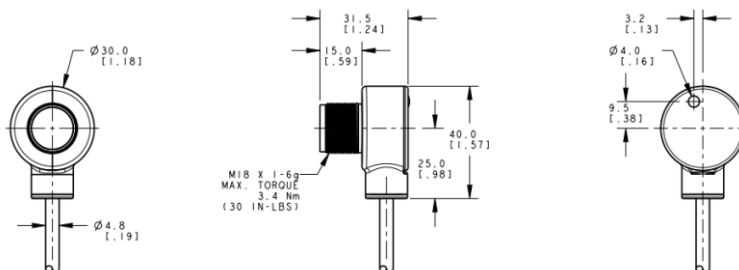
输出方式 Output	NPN	NO	BPW-CA5CM	BPW-CA10CM	BPW-CA30CM
		NC	BPW-CB5CM	BPW-CB10CM	BPW-CB30CM
		NO+NC	BPW-CC5CM	BPW-CC10CM	BPW-CC30CM
输出方式 Output	PNP	NO	BPW-CD5CM	BPW-CD10CM	BPW-CD30CM
		NC	BPW-CE5CM	BPW-CE10CM	BPW-CE30CM
		NO+NC	BPW-CF5CM	BPW-CF10CM	BPW-CF30CM
输出方式 Output	交流2线 AC 2-wire	NO			
	继电器 Relay	NC			
检测距离 Sensor range			50mm	100mm	300mm
检测方式 Sensor principle			漫反射 Diffuse reflection	漫反射 Diffuse reflection	漫反射 Diffuse reflection

技术参数 Technical parameters

电源电压 Supply voltage	DC10-30V
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
动作模式 Action mode	入光时/遮光时 Light ON/Dark ON
环境温度 Ambient operating temperature	-20...+60°C
环境湿度 Ambient humidity	35...85%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



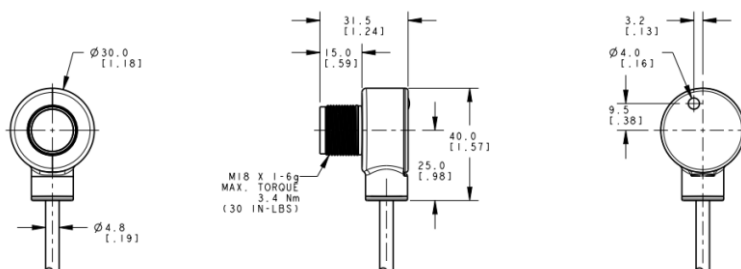
输出方式 Output	NPN	NO	BPW-CA75CM	BPW-KA6M	BPW-QA25M
		NC	BPW-CB75CM	BPW-KB6M	BPW-QB25M
		NO+NC	BPW-CC75CM	BPW-KC6M	BPW-QC25M
输出方式 Output	PNP	NO	BPW-CD75CM	BPW-KD6M	BPW-QD25M
		NC	BPW-CE75CM	BPW-KE6M	BPW-QE25M
		NO+NC	BPW-CF75CM	BPW-KF6M	BPW-QF25M
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离 Sensor range		750mm		6m	25m
检测方式 Sensor principle		漫反射 Diffuse reflection		镜面反射 Retro reflective	对射 Through beam

技术参数 Technical parameters

电源电压 Supply voltage	DC10-30V
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
动作模式 Action mode	入光时/遮光时 Light ON/Dark ON
环境温度 Ambient operating temperature	-20...+60°C
环境湿度 Ambient humidity	35...85%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



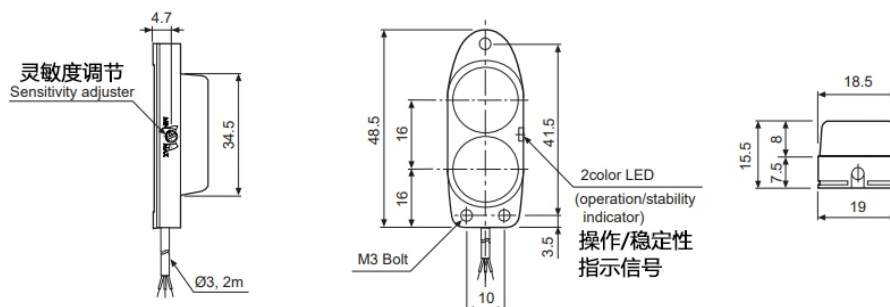
输出方式 Output	NPN	NO	BPB-CA2M		
		NC	BPB-CB2M		
		NO+NC	BPB-CC2M		
输出方式 Output	PNP	NO	BPB-CD2M		
		NC	BPB-CE2M		
		NO+NC	BPB-CF2M		
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离	Sensor range	2m			
检测方式	Sensor principle	漫反射 Diffuse reflection			

技术参数 Technical parameters

电源电压	Supply voltage	DC12~24V±10% (纹波 Ripple p-p : ≤10%)
光源	Light source	红外 LED Infrared ray LED
消耗电流	Current consumption	≤15mA
回差范围	Hysteresis	检测距离的20%以下 ≤20% of the Detection distance
灵敏度调节	Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间	Response time	≤1ms
输出指示	Output indication	红色LED Red LED
环境温度	Ambient operating temperature	-25...+55°C
环境湿度	Ambient humidity	35...85%
外壳材料	Housing material	PC/ABS
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	50g
产品认证	Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



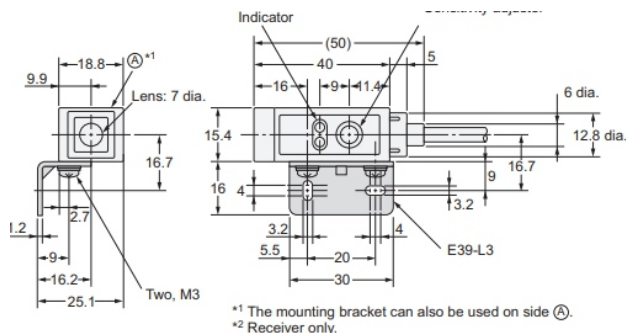
输出方式 Output	NPN	NO	BPZ1-CA10CM	BPZ1-CA30CM	BPZ1-KA2M
		NC	BPZ1-CB10CM	BPZ1-CB30CM	BPZ1-CB2M
		NO+NC	BPZ1-CC10CM	BPZ1-CC30CM	BPZ1-CC2M
输出方式 Output	PNP	NO	BPZ1-CD10CM	BPZ1-CD30CM	BPZ1-CD2M
		NC	BPZ1-CE10CM	BPZ1-CE30CM	BPZ1-CE2M
		NO+NC	BPZ1-CF10CM	BPZ1-CF30CM	BPZ1-CF2M
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离 Sensor range		10cm		30cm	2m
检测方式 Sensor principle		漫反射 Diffuse reflection		漫反射 Diffuse reflection	镜面反射 Retro reflective

技术参数 Technical parameters

电源电压 Supply voltage	12-24VDC
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
回差范围 Hysteresis	3...20%
灵敏度调节 Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间 Response time	≤1ms
输出指示 Output indication	红色LED Red LED
绝缘耐压 Withstand voltage	2000V/AC 50/60Hz 60s
环境温度 Ambient operating temperature	-25...+55°C
环境湿度 Ambient humidity	35...85%
外壳材料 Housing material	PC/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	190g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



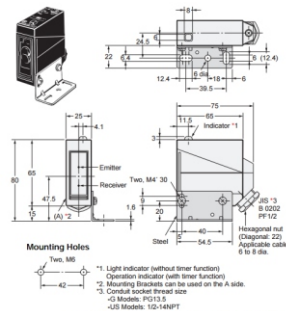
输出方式 Output	NPN	NO			
		NC			
		NO+NC			
输出方式 Output	PNP	NO			
		NC			
		NO+NC			
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay	BPG-CK70	BPG-KK4M	BPG-QK10M
检测距离	Sensor range		700mm	4m	10m
检测方式	Sensor principle		漫反射 Diffuse reflection	镜面反射 Retro-reflective	对射 Through beam

技术参数 Technical parameters

电源电压	Supply voltage	DC12~240V±10% 波动 (p-p) 10%以下、AC24~240V±10% 50/60Hz
光源	Light source	红外LED Infrared ray LED
检测物	Sensing target	最小不透明材料 Opaque materials of min Ø75mm/Ø14.8mm
保护功能	Protection function	输出短路保护 Output short-circuit protection
消耗电流	Current consumption	≤35mA
回差范围	Hysteresis	20ms以下 20ms max
灵敏度调节	Sensitivity modulation	灵敏度调节器 Sensitivity adjuster
响应时间	Response time	动作、复位: 各1ms以下 Operation and reset: 1ms or less each
指向角	Directional angle	投、受光器: 各1~5°/各3~20° Emitter, Receiver: 1~5° each/3~20° each
绝缘耐压	Withstand voltage	AC1000V 50/60HZ 1min
环境温度	Ambient operating temperature	-25...+55°C
环境湿度	Ambient humidity	35...85%
外壳材料	Housing material	PBT
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	160g/160g/270g
产品认证	Certificate	FC CE CCC RoHS

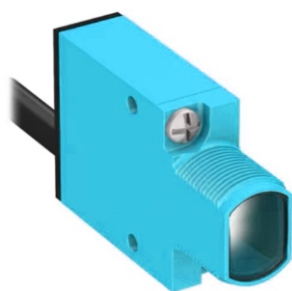
产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

Photoelectric switch sensors



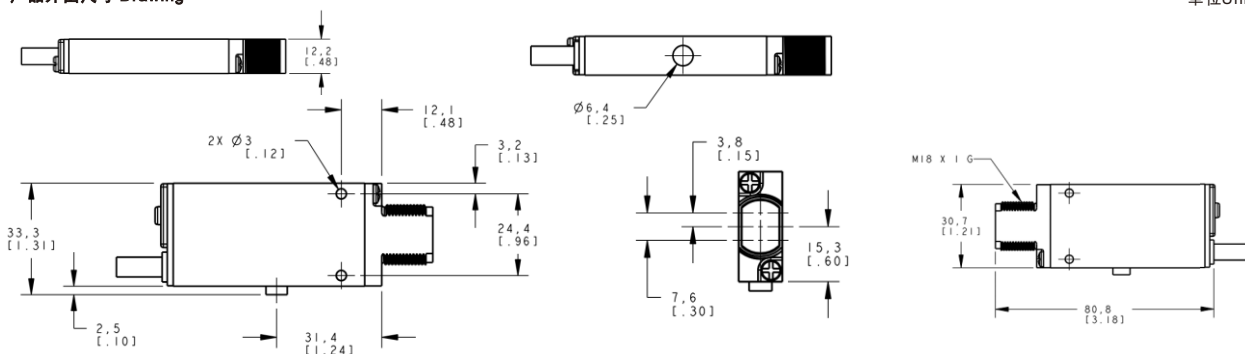
输出方式 Output	NPN	NO	BPN-CA38	BPN-KA6M	BPN-QA30M
		NC	BPN-CB38	BPN-KB6M	BPN-QA30M
		NO+NC	BPN-CC38	BPN-KC6M	BPN-QA30M
输出方式 Output	PNP	NO	BPN-CD38	BPN-KD6M	BPN-QA30M
		NC	BPN-CE38	BPN-KE6M	BPN-QA30M
		NO+NC	BPN-CF38	BPN-KF6M	BPN-QA30M
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
	继电器 Relay				
检测距离	Sensor range		0-380mm	0-6m	0-30m
检测方式	Sensor principle		漫反射 Diffuse reflection	镜面反射 Retro reflection	对射 Through beam

技术参数 Technical parameters

电源电压	Supply voltage	DC10...30V
光源	Light source	红外LED Infrared ray LED
保护功能	Protection function	输出短路保护 Output short-circuit protection
空载电流	No-load current	≤25mA
回差范围	Hysteresis	3...20%
灵敏度调节	Sensitivity modulation	可调节 Adjustable
响应时间	Response time	≥1ms
环境温度	Ambient operating temperature	-25...+70°C
环境湿度	Ambient humidity	35...85%
外壳材料	Housing material	PC/ABS
连接方式	Connection type	2m PVC电缆 2m PVC Cable
重量	Weight	80g
产品认证	Certificate	FC CE CCC RoHS

产品外形尺寸 Drawing

单位Unit:mm



光电开关传感器

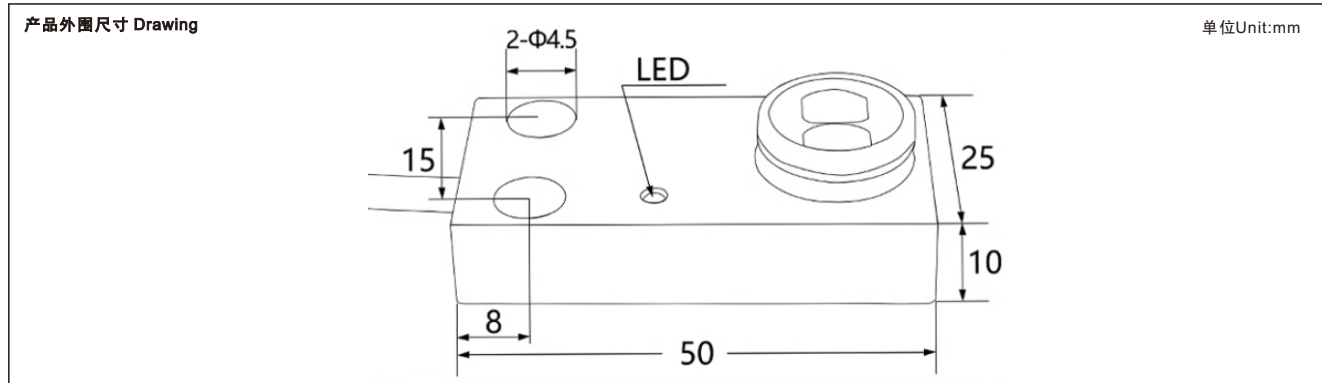
Photoelectric switch sensors



输出方式 Output	NPN	NO	BP8-CA5	BP8-CA16	BP8-CA30
		NC	BP8-CB5	BP8-CB16	BP8-CB30
		NO+NC	BP8-CC5	BP8-CC16	BP8-CC30
输出方式 Output	PNP	NO	BP8-CD5	BP8-CD16	BP8-CD30
		NC	BP8-CE5	BP8-CE16	BP8-CE30
		NO+NC	BP8-CF5	BP8-CF16	BP8-CF30
输出方式 Output	交流2线 AC 2-wire	NO			
	继电器 Relay	NC			
检测距离 Sensor range			0-50mm	0-160mm	0-300mm
检测方式 Sensor principle			漫反射 Diffuse reflection	漫反射 Diffuse reflection	漫反射 Diffuse reflection

技术参数 Technical parameters

电源电压 Supply voltage	10...30VDC
光源 Light source	红外LED Infrared ray LED
保护功能 Protection function	输出短路保护 Output short-circuit protection
空载电流 No-load current	≤25mA
回差范围 Hysteresis	3...20%
灵敏度调节 Sensitivity modulation	可调节 Adjustable
响应时间 Response time	≥1ms
绝缘电阻 Insulation resistance	20MΩ以上 (DC500V) Above 20MΩ (DC500V)
环境温度 Ambient operating temperature	-25...+70°C
环境湿度 Ambient humidity	35...85%
外壳材料 Housing material	PMMA/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	80g
产品认证 Certificate	FC CE CCC RoHS



光电开关传感器

Photoelectric switch sensors



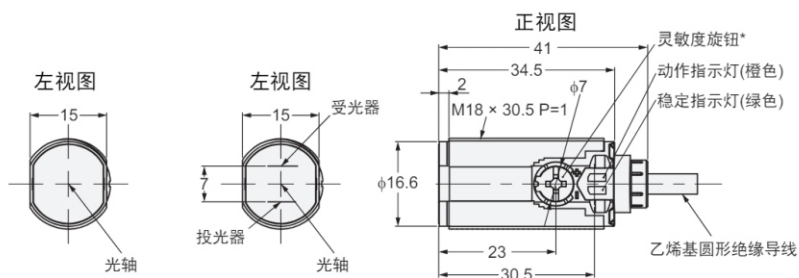
输出方式 Output	NPN	NO	BPL-CA10	BPL-CA30	BPL-KA4M
		NC	BPL-CB10	BPL-CB30	BPL-KB4M
		NO+NC	BPL-CC10	BPL-CC30	BPL-KC4M
输出方式 Output	PNP	NO	BPL-CD10	BPL-CD30	BPL-KD4M
		NC	BPL-CE10	BPL-CE30	BPL-KE4M
		NO+NC	BPL-CF10	BPL-CF30	BPL-KF4M
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离 Sensor range		0-100mm		0-300mm	0-4m
检测方式 Sensor principle		漫反射 Diffuse reflection		漫反射 Diffuse reflection	镜面反射 Retro reflection

技术参数 Technical parameters

电源电压 Supply voltage	10...30VDC
光源 Light source	红外LED Infrared ray LED
指向角 Directional angle	2°以上 Above 2°
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	≤40mA
回差范围 Hysteresis	3...20%
灵敏度调节 Sensitivity modulation	可调节 Adjustable
响应时间 Response time	≤1ms
绝缘电阻 Insulation resistance	20MΩ以上(DC500V) Above20MΩ(DC500V)
环境温度 Ambient operating temperature	-25...+70°C
环境湿度 Ambient humidity	35...85%
外壳材料 Housing material	PMMA/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	60g
产品认证 Certificate	FC CE CCC RoHS

产品外形尺寸 Drawin

单位Unit:mm



光电开关传感器

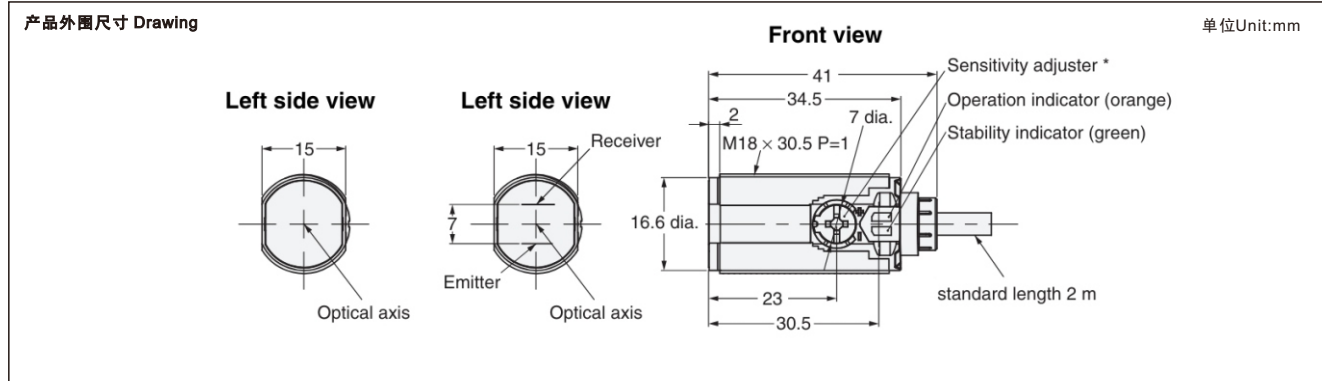
Photoelectric switch sensors



输出方式 Output	NPN	NO	BPL-QA20M		
		NC	BPL-QB20M		
		NO+NC	BPL-QC20M		
输出方式 Output	PNP	NO	BPL-QD20M		
		NC	BPL-QE20M		
		NO+NC	BPL-QF20M		
输出方式 Output	交流2线 AC 2-wire	NO			
		NC			
		继电器 Relay			
检测距离 Sensor range		0-20m			
检测方式 Sensor principle		对射 Through beam			

技术参数 Technical parameters

电源电压 Supply voltage	10...30VDC
光源 Light source	红外LED Infrared ray LED
指向角 Directional angle	2°以上 Above 2°
保护功能 Protection function	输出短路保护 Output short-circuit protection
消耗电流 Current consumption	≤40mA
回差范围 Hysteresis	3...20%
灵敏度调节 Sensitivity modulation	可调节 Adjustable
响应时间 Response time	≤1ms
绝缘电阻 Insulation resistance	20MΩ以上 (DC500V) Above 20MΩ (DC500V)
环境温度 Ambient operating temperature	-25...+70°C
环境湿度 Ambient humidity	35...95%
外壳材料 Housing material	PMMA/ABS
连接方式 Connection type	2m PVC电缆 2m PVC Cable
重量 Weight	60g
产品认证 Certificate	FC CE CCC RoHS



光电开关传感器








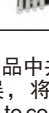
Photoelectric switch sensors

动作模式备用遮光时ON/入光时ON(可切换型)
 响应频率为1kHz的高速响应
 入光指示灯明显,便于进行动作确认
 电源电压为DC5~24V的广范围
 备有遮光时入光指示灯亮灯型
 5种形状、种类丰富
 标准采用柔韧性佳的耐曲折导线



Series includes models that enable switching between dark-ON and light-ON operation.
 Response frequency as high as 1 kHz.
 Easy operation monitoring with bright light indicator.
 Wide operating voltage range: 5 to 24 VDC
 Models in which the light indicator turns ON for dark-ON operation are also available.
 A wide range of variations in five different shapes.
 Flexible robot cable is provided as a standard feature.

种类 Ordering Information

形状 Appearance	感应距离 Sensing distance	连接方式 Connecting method	动作模式 Action mode	指示灯模式 Indicator mode	输出方式Output	
					NPN Output	PNP Output
标准型 Standard 	5mm (凹槽宽度) slot width	接插件型 Male Connector (4极poles)	遮光时ON Dark-ON 入光时ON Light-ON 可切换 selectable	入光时灯亮 Incident light	EE-SX670	EE-SX670P
				遮光时灯亮 No Incident light	EE-SX670A	EE-SX670R
入光时ON Light-ON			入光时灯亮 Incident light	EE-SX470		
L型 L-shaped 			遮光时ON Dark-ON 入光时ON Light-ON 可切换 selectable	入光时灯亮 Incident light	EE-SX671	EE-SX671P
				遮光时灯亮 No Incident light	EE-SX671A	EE-SX671R
入光时ON Light-ON			入光时灯亮 Incident light	EE-SX471		
T型凹槽中心7mm T-shaped slot center 7 mm 			遮光时ON Dark-ON 入光时ON Light-ON 可切换 selectable	入光时灯亮 Incident light	EE-SX672	EE-SX672P
				遮光时灯亮 No Incident light	EE-SX672A	EE-SX672R
入光时ON Light-ON			入光时灯亮 Incident light	EE-SX472		
紧密安装型 Close-Installation type 			遮光时ON Dark-ON 入光时ON Light-ON 可切换 selectable	入光时灯亮 Incident light	EE-SX673	EE-SX673P
				遮光时灯亮 No Incident light	EE-SX673A	EE-SX673R
入光时ON Light-ON			入光时灯亮 Incident light	EE-SX473		
紧密安装型 Close-Installation type 			遮光时ON Dark-ON 入光时ON Light-ON 可切换 selectable	入光时灯亮 Incident light	EE-SX674	EE-SX674P
				遮光时灯亮 No Incident light	EE-SX674A	EE-SX674R
入光时ON Light-ON	入光时灯亮 Incident light	EE-SX474				
T型凹槽中心10mm T-shaped, slot center 10 mm 	遮光时ON Dark-ON 入光时ON Light-ON 可切换 selectable	入光时灯亮 Incident light	EE-SX675	EE-SX675P		
F型 F-shaped 	遮光时ON Dark-ON 入光时ON Light-ON 可切换 selectable	入光时灯亮 Incident light	EE-SX676	EE-SX676P		
R型 R-shaped 	遮光时ON Dark-ON 入光时ON Light-ON 可切换 selectable	入光时灯亮 Incident light	EE-SX677	EE-SX677P		

(注1): 由于本产品中并未装备电源反向连接保护电路, 因此请切实进行连接。此外, 也未装备输出短路保护电路。请勿直接连接电源或容性负载。一旦配线错误, 将导致传感器损坏。

Notes: 1) Make sure to connect terminals correctly as the sensor does not incorporate a reverse polarity protection circuit. Further, the output is not incorporated with a short-circuit protection circuit. Do not connect it directly to a power supply or a capacitive load. Faulty wiring may result in damage.

(注2): 对不使用的输出线, 请务必进行绝缘处理。

Notes: 2) The color code of the Male Connector attached cable is also the same. Ensure to insulate the unused output wire.

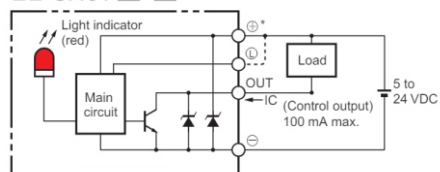
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Photoelectric switch sensors

输出回路 Output Circuits

● NPN输出

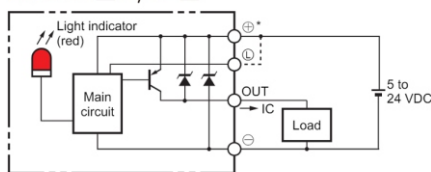
EE-SX67□
EE-SX67□-□



*The terminal arrangement depends on the model. Check the dimensional diagrams.

● PNP输出

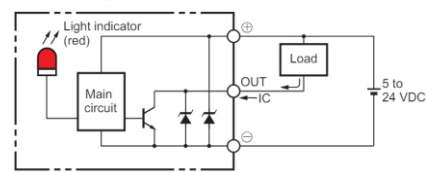
EE-SX67□P/R
EE-SX67□P/R-□



*The terminal arrangement depends on the model. Check the dimensional diagrams.

● NPN输出

EE-SX47□



技术参数 Technical parameters

检测方式 Sensor principle	对射型 Through beam	
检测距离 Sensor range	5mm(凹槽宽度Slot width)	
标准检测物体 Sensor object	最小检测物: Minimum sensing object:2×0.8mm	
回差距离 Hysteresis	0.025mm max	
光源(最大发光波长) Light source	GaAs红外发光二极管(940nm)GaAs infrared LED with a peak wavelength of 940 nm	
指示灯 Indicator ※1	入光时亮光(红光) Light indicator (red)	
电源电压 Supply voltage	DC5~24V±10%纹波ripple(P-P)10%max	
消耗电流 Current consumption	35mA max.(NPN型models)、30mA max.(PNP型models)	
控制输出 Control output	<p>NPN型: NPN型开放式接插件 输出DC5~24V 100mA max. 残留电压0.8V以下(负载电流100mA时)、 残留电压0.4以下(负载电流40mA时)、 关机电流(漏电电流) 0.5mA max.</p> <p>PNP型: PNP开放式接插件 输出DC5~24V 50mA max. 残留电压1.3V以下(负载电流50mA时)、 关机电流(漏电电流) 0.5mA max.</p> <p>NPN open collector:5 to 24 VDC, 100 mA max. 100 mA load current with a Voltage drop of 0.8 V max. 40 mA load current with a Voltage drop of 0.4 V max. OFF current(leakage current):0.5mA max.</p> <p>PNP open collector:5 to 24 VDC, 50 mA max. 50 mA load current with a Voltage drop of 1.3 V max. OFF current (leakage current):0.5 mA max.</p>	
响应频率 Response frequency ※2	1kHz min	
使用环境照度 Use ambient illumination	受光面照度Receiving surface illumination 荧光灯光fluorescent light:1,000lx max.	
环境温度范围 Ambient temperature range	工作时Operating:-25~+55℃ 保存时Storage:5~95%RH(无结冰、结露with no icing or condensation)	
环境温度范围 Ambient humidity range	工作时Operating:5~85℃ 保存时Storage:5~95%RH(无结冰、结露with no icing or condensation)	
振动(耐久) Vibration resistance	20~2,000Hz(最大加速度peak acceleration100m/s ²) 上下振幅double amplitude 1.5mm X、Y、Z各方向In each direction 2h(4min周期periods)	
冲击(耐久) Shock resistance	500m/s ² X、Y、Z各方向In each direction 3次times	
保护结构 Senso principle	IP50	
连接方式 Connecting method	接插件型Male Connector Models(可直接焊接direct soldering possible)	
材质 Material	外壳 Case	聚对苯二甲酸丁二醇酯Polybutylene phthalate(PBT)
	镜头盖 Cover	聚碳酸酯Polycarbonate

*1.GaP红色LED Theindicatoris a GaP red LED(最大发光波长Peak wavelength:690nm)

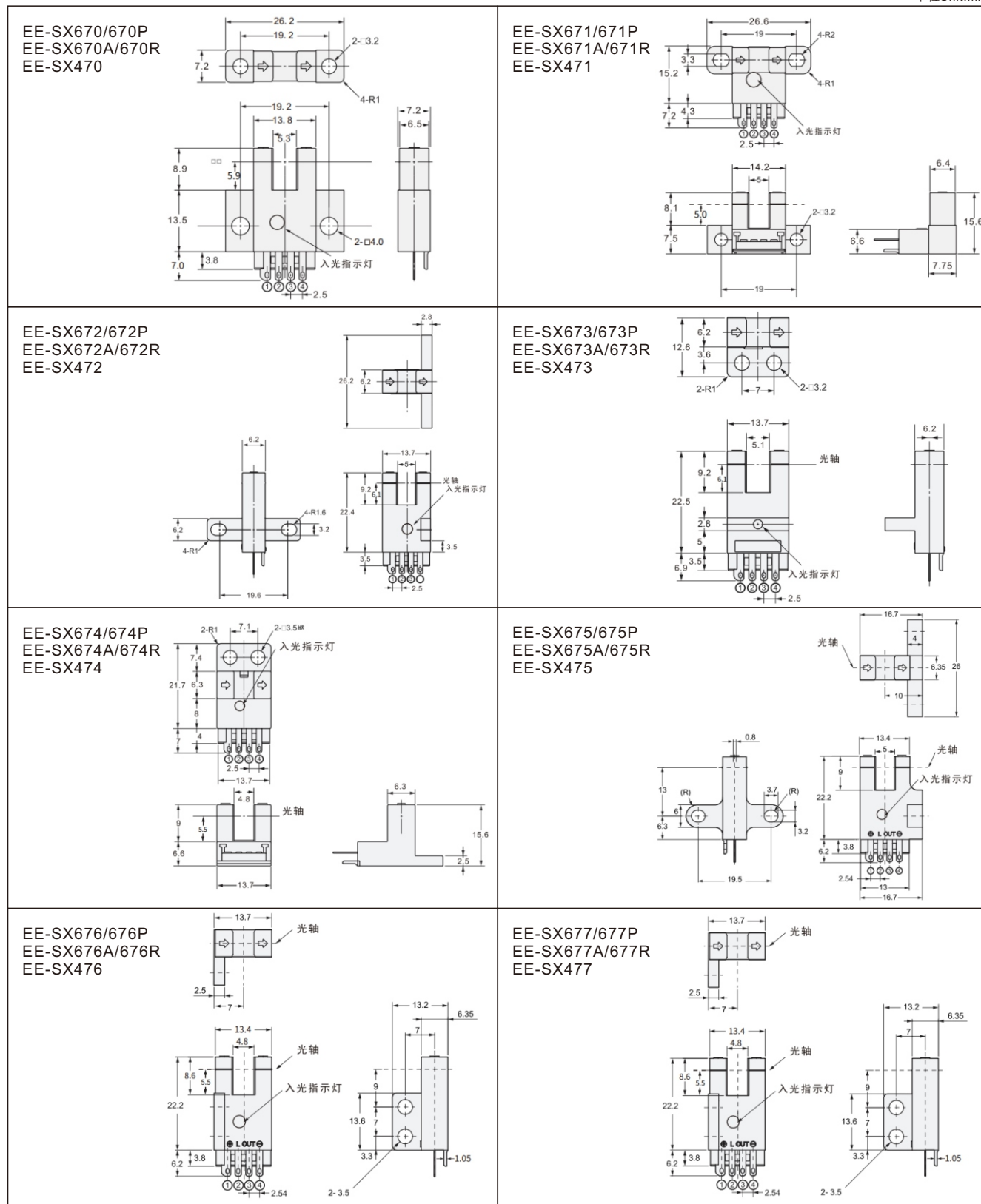
*2.响应频率测定的是旋转右图圆时的值The response frequencywasmeasured bydetecting therotating diskshowshown at the right.

光电开关传感器

Photoelectric switch sensors

产品尺寸图 Dimensions

单位Unit:mm



光电开关传感器









Photoelectric switch sensors

动作模式备用遮光时ON/入光时ON(可切换型)
 响应频率为1kHz的高速响应
 入光指示灯明显,便于进行动作确认
 电源电压为DC5~24V的广范围
 备有遮光时入光指示灯亮灯型
 5种形状、种类丰富
 标准采用柔韧性佳的耐曲折导线



Series includes models that enable switching between dark-ON and light-ON operation.
 Response frequency as high as 1 kHz.
 Easy operation monitoring with bright light indicator.
 Wide operating voltage range: 5 to 24 VDC
 Models in which the light indicator turns ON for dark-ON operation are also available.
 A wide range of variations in five different shapes.
 Flexible robot cable is provided as a standard feature.

种类 Ordering Information

形状 Appearance	感应距离 Sensing distance	连接方式 Connecting method	动作模式 Action mode	指示灯模式 Indicator mode	输出方式Output	
					NPN Output	PNP Output
标准型 Standard 	5mm (凹槽宽度) slot width	导线引出型(1m) Pre-wired Models (1m)	遮光时ON 入光时ON 可切换 Dark-ON Light-ON selectable	入光时灯亮 Incident light	EE-SX670-WR	EE-SX670P-WR
L型 L-shaped 					EE-SX671-WR	EE-SX671P-WR
T型凹槽中心7mm T-shaped slot center 7 mm 					EE-SX672-WR	EE-SX672P-WR
紧密安装型 Close-Installation type 					EE-SX673-WR	EE-SX673P-WR
紧密安装型 Close-Installation type 					EE-SX674-WR	EE-SX674P-WR
T型凹槽中心10mm T-shaped, slot center 10 mm 					EE-SX675-WR	EE-SX675P-WR
F型 F-shaped 					EE-SX676-WR	EE-SX676P-WR
R型 R-shaped 					EE-SX677-WR	EE-SX677P-WR

(注1): 由于本产品中并未装备电源反向连接保护电路, 因此请切实进行连接。此外, 也未装备输出短路保护电路。请勿直接连接电源或容性负载。一旦配线错误, 将导致传感器损坏。

Notes:1) Make sure to connect terminals correctly as the sensor does not incorporate a reverse polarity protection circuit. Further, the output is not incorporated with a short-circuit protection circuit. Do not connect it directly to a power supply or a capacitive load. Faulty wiring may result in damage.

(注2): 对不使用的输出线, 请务必进行绝缘处理。

Notes:2) The color code of the Male Connector attached cable is also the same, Ensure to insulate the unused output wire.

光电开关传感器

Photoelectric switch sensors

输出回路 Output Circuits

● NPN输出

● PNP输出

	导线颜色Wire color	输出动作Output operation
输出Output1	黑色Black	Light-ON
输出Output2	白色White	Dark-ON

	导线颜色Wire color	输出动作Output operation
输出Output1	黑色Black	Light-ON
输出Output2	白色White	Dark-ON

技术参数 Technical parameters

检测方式 Sensor principle	对射型 Through beam	
检测距离 Sensor range	5mm(凹槽宽度Slot width)	
标准检测物体 Sensor object	不透明物体: Opaque objects:1.8×0.8mm min	
应差距离 Difference distance	0.05mm max	
光源(最大发光波长) Light source	GaAs红外发光二极管(940nm)GaAs infrared LED with a peak wavelength of 940 nm	
电源电压 Supply voltage	DC5~24V±10%纹波ripple(P-P)10%max	
消耗电流 Current consumption	15mA max.	
控制输出 Control output	<p>NPN开路集电极晶体管</p> <ul style="list-style-type: none"> · 最大流入电流: 50mA · 外加电压: 30VDC以下(输出和0V之间) · 剩余电压: 0.7V以下(流入电流为50mA时) 0.4V以下(流入电流为16mA时). <p>NPN Open-collector transistor:</p> <ul style="list-style-type: none"> • Load current: 50mAmax. • Applied voltage: 30VDC max.(Between output and 0V). Voltage drop: 0.7V max.(leakage current: 50mA) 0.4V max.(leakage current: 16mA) 	
响应频率 Response frequency ※2	1kHz min.(3Hz max)	
使用环境照度 Use ambient illumination	受光面照度Receiving surface illumination 荧光灯fluorescent light: 1,000lx max.	
环境温度范围 Ambient temperature range	工作时Operating: -25~+55℃ 保存时Storage: 5~95%RH (无结冰、结露with no icing or condensation)	
环境湿度范围 Ambient humidity range	工作时Operating: 5~85℃ 保存时Storage: 5~95%RH (无结冰、结露with no icing or condensation)	
振动(耐久)Vibration resistance	20~2,000Hz(最大加速度peak acceleration100m/s ²) 上下振幅double amplitude 1.5mm X、Y、Z各方向In each direction 2h(4min周期periods)	
冲击(耐久)Shock resistance	500m/s ² X、Y、Z各方向In each direction 3次times	
保护结构 Senso principle	IP50	
连接方式 Connecting method	接插件型Male Connector Models(可直接焊接direct soldering possible)	
材质 Material	外壳 Case	聚对苯二甲酸丁二醇酯Polybutylene phthalate(PBT)
	镜头盖 Cover	聚碳酸酯Polycarbonate

*1. GaP红色LED The indicator is a GaP red LED(最大发光波长Peak wavelength: 690nm)

*2. 响应频率测定的是旋转右图圆时的值The response frequency was measured by detecting the rotating disk shown at the right.

光电开关传感器 Photoelectric switch sensors

产品尺寸图 Dimensions

单位Unit:mm

