



CHANKO

长江

产品选型手册
PRODUCTS CATALOG

长江传感

让万物互联更可靠

Make the Internet of everything more reliable



上海长江汲智传感技术有限公司

SHANGHAI CHANGJIANG JIZHI SENSOR TECHNOLOGY CO., LTD.



千流百汇 长江奔腾
All rivers flow to the Changjiang

CHANGJIANG GROUP

长江

长江

作为提供智能电气、传感技术和工业软件数字化解决方案的服务商，在这个数字经济和实体经济加速融合的时代，正用专业能力演绎着一个个属于中国人自己的传感故事.....

CHANKO

As a provider of intelligent electrical sensor technology and industrial software digital solutions, CHANKO is acting out Chinese people's own sensor stories with its professional ability in this era of accelerating integration of the digital economy and the real economy...



长江传感
让万物互联更可靠

Visit WWW.CHANKO.COM for product details

关于长江传感 About CHANKO

长江传感是上海长江集团(CHANKO)旗下专注于智能传感技术研发和高端传感产品制造的科技创新型公司,致力于成为全球领先的传感技术及解决方案服务商。

长江传感位于长三角G60科创走廊策源地—上海松江,秉承“**汲取智慧,造就智能,达成极致**”的经营理念,积极推动中国传感技术向更高目标发展。公司目前已研制推出了**激光位移传感器、智能光纤传感器、安全光幕、光电传感器及接近传感器**等多个系列5000多种型号的产品,业务覆盖多个国家和地区,产品广泛应用于半导体、物流行业、锂电行业、包装机械、光伏和储能等领域。长江传感凭借可靠的品质和高效的服务,受到了国内外用户的广泛认可。

长江传感,让万物互联更可靠。

CHANKO is innovative company of Shanghai Changjiang Group, which focuses on intelligent sensor technology R&D and high-end sensor manufacturing and is committed to becoming the world's leading sensor technology and solution service provider.

CHANKO, located in Songjiang, Shanghai, the source of Yangtze River Delta G60 Science and Technology Innovation Corridor, adheres to the business philosophy of “**Drawing wisdom, creating intelligence, and achieving the ultimate**”, and actively promotes the development of Chinese sensor technology to a higher goal. At present, CHANKO has developed and launched more than 5000 models of products such as **laser displacement sensor, intelligent optical fiber sensor, safety light curtain, photoelectric sensor and proximity sensor**. Its business covers many countries and regions, and its products are widely used in the semiconductor industry, logistics industry, lithium battery industry, packaging machinery, photovoltaic field, energy storage and other fields. With reliable quality and efficient service, CHANKO has been widely recognized by domestic and foreign users.

CHANKO makes the Internet of everything more reliable.



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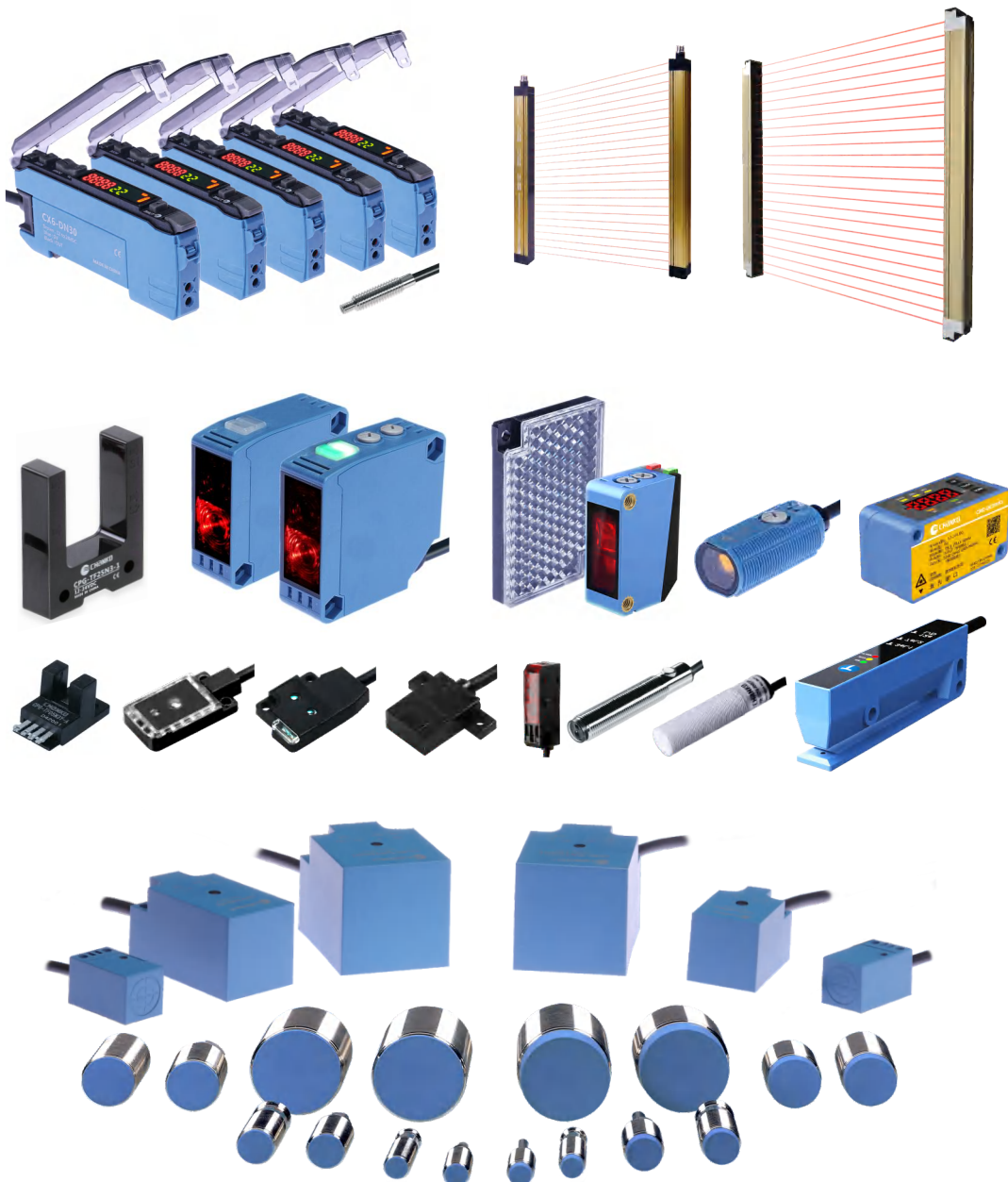
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Log in CHANKO official website ([HTTP://WWW.CHANKO.COM/ZH](http://www.chanko.com/zh)) to search for certain specification and gain full-scale information.

 | 请输入关键词



产品应用 Applications

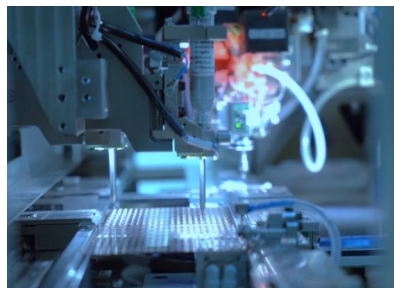
新能源、半导体、锂电、3C、汽车工业、物流仓储、包装灌装、木材家具、纺织工业、医疗制药、食品饮料、机器人、机械加工、电梯 / 车库 / 闸机等。

New energy, semiconductor, lithium electricity, 3C, automobile industry, logistics and warehousing, packaging and filling, wood furniture, textile industry, medical and pharmaceutical, food and beverage, robot, mechanical processing, elevator/garage/gate, etc.

新能源 New energy
CX6 光纤传感器
 CX6 Optical fiber sensor
 检测光伏生产时硅片的有无
 Detect whether there is silicon wafer



半导体 Semiconductor
CX6 光纤传感器
 CX6 Optical fiber sensor
 检测传送带上小型半导体有无
 Detect the presence of semiconductors



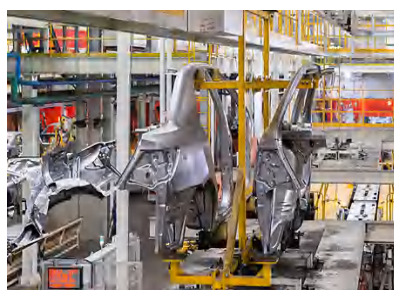
锂电 Lithium
CX6 光纤传感器
 CX6 Optical fiber sensor
 检测输送线上电芯的通过
 Detect the passage of the cell



3C 3C electron
CPY 漫反射光电式传感器
 CPY diffuse photoelectric sensor
 检测组装线上摄像头的有无
 Detect for cameras



汽车工业 Auto industry
CC 电容式传感器 (接近开关)
 CC capacitive sensor (Proximity switch)
 检测汽车车门是否到位
 Detect if the car doors are in place



物流 Logistics
CPY 镜面反射光电式传感器
 CPY polarized reflection photoelectric sensor
 检测机场安检线上置物拖盘的通过
 Detect the pass of the pallet in the security line



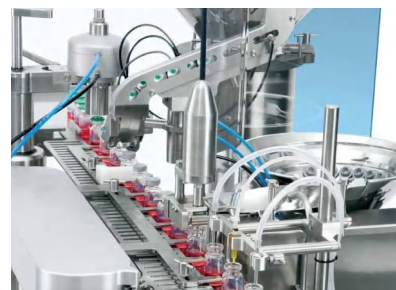
仓储 Warehousing
CPY 背景抑制光电式传感器
 CPY background suppression photoelectric sensor
 检测 AGV 小车四周是否有障碍物
 Detect whether there are obstacles around the AGV car



包装 Packaging
CPL 标签传感器 CPL label sensor
 检测标签有无、确认标签的位置
 Detect whether the label is present and the location of the label



灌装 Filling equipment
CPY 漫反射光电式传感器
 CPY diffuse photoelectric sensor
 用于灌装线上检测瓶体有无
 Used for testing the bottle on filling line



产品应用 Applications

新能源、半导体、锂电、3C、汽车工业、物流仓储、包装灌装、木材家具、纺织工业、医疗制药、食品饮料、机器人、机械加工、电梯 / 车库 / 闸机等。

New energy, semiconductor, lithium electricity, 3C, automobile industry, logistics and warehousing, packaging and filling, wood furniture, textile industry, medical and pharmaceutical, food and beverage, robot, mechanical processing, elevator/garage/gate, etc.

木材家具 Wood furniture
CPK 光电式传感器
 CPK photoelectric sensor
 用于砂光机中检测砂带的偏移
 Used to detect the offset of the sand belt in the sander



纺织工业 Textile industry
CPA 光电式传感器
 CPA photoelectric sensor
 检测络筒落入和有无
 Detection of winding tube fall and presence



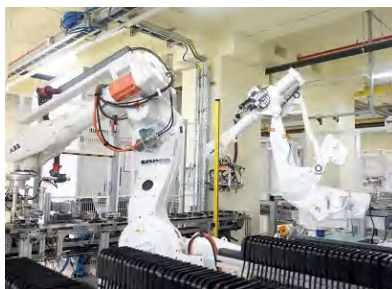
医疗制药 Pharmaceutical
CPG 槽型光电式传感器
 CPG U-shaped photoelectric sensor
 药瓶旋盖时对旋盖机构进行限位
 Limit the capping mechanism



食品饮料 Food & Beverage
CX6 智能光纤传感器
 CX6 Intelligent optical fiber sensor
 贴标时对瓶盖进行定位检测
 When labeling, the bottle cap should be located and tested



机器人 The robot
CA 区域光幕
 CA area light curtain
 机器人工作站安全防护及机械臂限位
 Robot workstation safety protection and manipulator limit



机械加工 Machining
CA 区域光幕
 CA area light curtain
 装机床两端防止人员侵入作业区域
 Install both ends of the machine to prevent personnel from invading the operation area



电梯 Elevator
CL 电感式传感器 (接近开关)
 CL Inductive sensor (proximity switch)
 对自动扶梯动力装置进行测速限位
 Speed limit for the power unit of escalator



立体车库 Stereo garage
CPK 光电式传感器
 CPK photoelectric sensor
 立体车库中检测库位是否有车进入
 Check whether there is a car in the warehouse



闸机 Gate machine
CPY 对射式光电传感器
 CPY through beam reflection photoelectric sensor
 装在双门闸机两侧检测是否有人通过
 Side test to see if anyone has passed

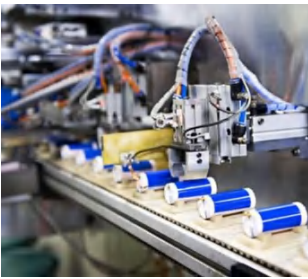


CX6智能光纤传感器
CX6 Intelligent Optical Fiber Sensor



CX6系列是基于国产芯片研发和制造的智能光纤传感器，拥有多项自主知识产权和专利技术，并荣获中国工博会“CIIF智能制造奖”。具有RS485通讯、收光量自动补偿、区域检测等多项特色功能，每秒可检测15000次。搭配CX2系列光纤线，可实现细小物体及复杂环境的安装检测，广泛用于半导体、锂电、制药等精密制造领域。

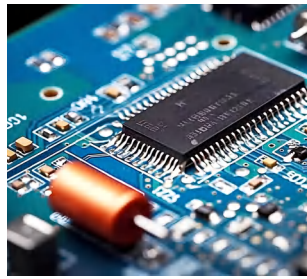
CX6 series is an intelligent fiber optic sensor, developed and manufactured leveraging domestic chip technology. It has multiple independent intellectual property rights and patented technologies, and has been honored with the "CIIF Intelligent Manufacturing Award" at the CIIF. This sensor has several distinctive features such as RS485 communication, automatic light reception compensation, and area detection, capable of performing up to 15,000 detections per second. When paired with the CX2 fiber optic lines, it can carry out installation detection of tiny objects and complex environments, finding extensive application in precision manufacturing sectors such as semiconductors, lithium batteries, and pharmaceuticals.



锂电行业
Lithium battery industry



芯片制造
Chip manufacturing



3C电子制造
3C electronic manufacturing



包装行业
Packaging industry

光纤传感器系列 Optical Fiber Sensor Series

型号命名规则 Model Naming Rule



1. 上海长江传感器
CHANKO

2. 光纤传感器
Optical fiber sensor

3. 产品代码
Product code

4. 额定工作电压: 12-24VDC
Rated operating voltage:12-24VDC

5. 输出形式: N:NPN P:PNP
Output form: N:NPN P:PNP

6. 功能
Function
30:标准型 30C:计数型 10: 加强型 50: 专业型
30: Standard type 30C: Counting type 10: Enhanced type
50: Professional type
10S:升级型 11R:RS485型
10S: Upgrade type 11R: RS485 type

7. 连接方式
Connection Type
无: 成型电缆*1 A:M12中继型*2
None: Molded cable*1 A: M12 trunk type*2

光纤线系列 Optical Fiber Cord Series

型号命名规则 Model Naming Rule



1. 上海长江传感器
CHANKO

2. 光纤系列
Optical fiber series

3. 光纤线代码
Code of optical fiber cable

4. 检测方式 D:漫反射 T:对射
Detection mode D: diffuse reflection T: through-beam

5. 光纤头直径 3:表示螺纹型 R3:表示圆柱型
Diameter of optical fiber pigtail 3: thread type R3: cylindrical

6. 光纤线材质 F:塑料光纤 G:玻璃光纤
Optical fiber material F: plastic optical fiber G: glass optical fiber

7. 光纤形状 L:直线式 T:90°直角式
Optical fiber shape L: linear T: right-angle

8. 光纤线类型
Type of optical fiber cable
无: 标准型C:同轴型
None: standard type C: coaxial type

9. 光纤线长度
Length of optical fiber cable
无: 标准型2M 10:1M 30:3M 50:5M
None: standard type 2M 10:1M 30:3M 50:5M

10. 针管直径
Diameter of pin tube
单位: mm例: 0.8/1.5/1.2
Unit: mm Example: 0.8/1.5/1.2

11. 针管长度
Length of pin tube
单位: mm例: 5/10/12
Unit: mm Example: 5/10/12

*1默认为2米成型电缆 (标准型); *2默认为0.5米 (标准型)。
*1 2m Molded cable (standard type) by default; *2 0.5m (standard) by default.

CX6智能光纤传感器(RS485型)/CX6 Intelligent Optical Fiber Sensor (RS485 Type)

- ◆ 满足数字化工厂、智能化工厂应用需求
Meet the application requirements of digitalized and intelligent factories
- ◆ 设备的批量布置、批量设定，提高产线安装及调试效率
Equipment batch layout and setting, improving production line installation and debugging efficiency
- ◆ 功能的远程设定、数据远程采集与传输
Function remote setting, data remote collection and transmission
- ◆ 调试现场与调试人员分离，提高作业安全性
The debugging site is separated from the debugging personnel, improving operation safety



额定规格/性能

Rated Specification/Performance

系列 Series		智能光纤传感器 Intelligent Optical Fiber Sensor
型号 Model	NPN	CX6-DN11R
	PNP	CX6-DP11R
光源 Light source		红色4元素发光二极管 (625nm) Red 4-element LED (625 nm)
电源电压 Supply voltage		DC12-24V 纹波 (P-P) 10%以下 (DC10-30V) DC12-24V ripple (P-P) Below 10% (DC10-30V)
动作方式 Action mode		Light ON / Dark ON
输出方式 Output mode		NPN或PNP (集电极开路输出) 负载电流100mA以下 (残留电压3V以下), 负载电源电压30V以下 NPN or PNP (open-collector output), load current below 100mA (residual voltage below 3V), load supply voltage below 30V
响应时间 Response time	超高速模式 (SHS) Super high speed mode (SHS)	动作、复位: 各30μs Action, reset: 30μs each
	高速模式 (HS) High speed mode (HS)	动作、复位: 各200μs Action, reset: 200μs each
	标准模式 (STND) Standard mode (STND)	动作、复位: 各800μs Action, reset: 800μs each
	高精度模式 (GIGA) High precision mode (GIGA)	动作、复位: 各18ms Action, reset: 18ms each
保护电路 Protection circuit		电源逆接保护、输出短路保护、输出逆接保护、电源浪涌保护 Power connection reverse protection, output short circuit protection, output reverse connection protection, power surge protection
常用功能 Common functions		一键设定、阈值调节、初始化、存取数据、按键锁定、常开常闭切换、收光量归零、四种检测速度、光量自补偿、三种定时功能、光量等级调整、百分比调整、微分功能、数字显示切换、翻转显示、节电功能。 One-key setting, threshold adjustment, initialization, data access, key locking, normally open/closed switching, received light return to zero, four detection speeds, light amount self-compensation, three timing functions, light amount level adjustment, percentage adjustment, differential function, digital display switching, flip display, power saving function.
功率消耗 Power consumption	标准模式 Standard mode	720mW以下 (电源电压24V时消耗电流30mA以下/电源电压12V时消耗电流60mA以下) 720mW or less (current consumption below 30mA when the supply voltage is 24V/current consumption below 60mA when the supply voltage is 12V)
耐电压 Withstand voltage		AC1000V 50/60Hz 1min
绝缘电阻 Insulation resistance		500VDC以上 Above 500VDC
耐震动 Shock resistance		10~55Hz双振幅0.7mm或50m/s ² X/Y/Z各方向1.5h 10-55Hz, double-amplitude, 0.7mm or 50m/s ² , 1.5h in X/Y/Z direction
耐冲击 Impact resistance		150m/s ² X/Y/Z各方向3次 150m/s ² in X/Y/Z direction 3 times
使用环境湿度 Ambient humidity		工作/保存时25~85%RH (无结冰、无结露) 25-85%RH during operation/storage (no icing, no condensation)
使用环境温度 Ambient temperature		工作/保存时-10~55℃ (无结冰、无结露) -10 to 55℃ during operation/storage (no icing, no condensation)
使用环境光照 Ambient lighting		白炽灯: 2000 lx 太阳光: 10000 lx Incandescent lamp: 2000 lx Sunlight: 10000 lx
防护等级 Protection level		IEC标准IP50 IEC standard Ip50
连接方式 Connection Type		成型电缆 Molded cable
重量/电缆长度 Weight/cable length		约65g/2m About 65g/2m
材质 Material		外壳: PC 电缆:PVC Shell: PC Cable: PVC
附件 Accessories		说明书、合格证 Manual, certificate

CX6智能光纤传感器(升级型)/CX6 Intelligent Optical Fiber Sensor (Upgrade Type)

- 可通过一键按钮实现阈值和光量的设置, 操作方便;
One-key setting of threshold value and light amount, easy to operate;
- 4种响应模式可选, 大幅度提高超高速响应频率;
4 response modes are available to greatly improve the super high speed response frequency;
- 设有窗口检测模式, 满足更多使用环境;
Window detection mode, meeting the requirements for more operating environments;
- 5种延时定时模式可选;
5 delay timing modes are available;
- 抗干扰能力强。
Strong anti-interference capability.



额定规格/性能 Rated Specification/Performance

系列 Series		智能光纤传感器 Intelligent Optical Fiber Sensor
型号 Model	NPN	CX6-DN10S
	PNP	CX6-DP10S
光源 Light source		红色4元素发光二极管(625 nm) Red 4-element LED (625 nm)
电源电压 Supply voltage		DC12-24V纹波(P-P)10%以下(DC10-30V) DC12-24V ripple (P-P), below 10% (DC10-30V)
动作方式 Action mode		Light ON / Dark ON
输出方式 Output mode		NPN或PNP(集电极开路输出)负载电流100mA以下(残留电压3V以下), 负载电源电压30V以下 NPN or PNP (open-collector output), load current below 100mA (residual voltage below 3V), load supply voltage below 30V
响应时间 Response time	超高速模式(SHS) Super high speed mode (SHS)	动作、复位: 各33μs Action, reset: 33μs each
	高速模式(HS) High speed mode (HS)	动作、复位: 各200μs Action, reset: 200μs each
	标准模式(STND) Standard mode (STND)	动作、复位: 各850μs Action, reset: 850μs each
	高精度模式(GIGA) High precision mode (GIGA)	动作、复位: 各18ms Action, reset: 18ms each
保护电路 Protection circuit		电源逆接保护、输出短路保护、输出逆接保护、电源浪涌保护 Power connection reverse protection, output short circuit protection, output reverse connection protection, power surge protection
常用功能 Common functions		一键设定、阈值调节、初始化、存取数据、按键锁定、窗口检测、常开常闭切换、收光量归零、四种检测速度、光量自补偿、五种定时功能、光量等级调整、百分比调整、微分功能、数字显示切换、翻转显示、节能功能。 One-key setting, threshold adjustment, initialization, data access, key locking, window detection, normally open/closed switching, received light return to zero, four detection speeds, light amount self-compensation, five timing functions, light amount level adjustment, percentage adjustment, differential function, digital display switching, flip display, power saving function.
功率消耗 Power consumption	标准模式 Standard mode	720mW以下(电源电压24V时 消耗电流30mA以下/电源电压12V时 消耗电流60mA以下) 720mW or less (current consumption below 30mA when the supply voltage is 24V/current consumption below 60mA when the supply voltage is 12V)
耐电压 Withstand voltage		AC1000V 50/60Hz 1min
绝缘电阻 Insulation resistance		500VDC以上 Above 500VDC
耐震动 Shock resistance		10~55Hz双振幅0.7mm或50m/s ² X/Y/Z各方向1.5h 10-55Hz, double-amplitude, 0.7mm or 50m/s ² , 1.5h in X/Y/Z direction
耐冲击 Impact resistance		150m/s ² X/Y/Z各方向3次 150m/s ² in X/Y/Z direction, 3 times
使用环境湿度 Ambient humidity		工作/保存时25~85%RH (无结冰、无结露) 25-85%RH during operation/storage (no icing, no condensation)
使用环境温度 Ambient temperature		工作/保存时-10~55°C (无结冰、无结露) -10 to 55°C during operation/storage (no icing, no condensation)
使用环境光照 Ambient lighting		白炽灯: 2000 lx 太阳光: 10000 lx Incandescent lamp: 2000 lx Sunlight: 10000 lx
防护等级 Protection level		IEC标准IP50 IEC standard Ip50
连接方式 Connection Type		成型电缆 Molded cable
重量/电缆长度 Weight/cable length		约65g/2m About 65g/2m
材质 Material		外壳: PC 电缆:PVC Shell: PC Cable: PVC
附件 Accessories		说明书、合格证 Manual, certificate

CX6智能光纤传感器 (加强型) /CX6 Intelligent Optical Fiber Sensor (Enhanced Type)

- ◆ 内置收光量校正补偿功能, 产品稳定性强;
Built-in received light amount correction and compensation function, and high product stability;
- ◆ 可通过一键按钮实现阈值和光量的设置, 操作方便;
One-key setting of threshold value and light amount, easy to operate;
- ◆ 4种响应模式可选;
4 response modes are available;
- ◆ 抗干扰能力强;
Strong anti-interference capability;
- ◆ 性能稳定可靠, 一致性好, 性价比高。
Stable and reliable performance, good consistency, high cost performance.



额定规格/性能

Rated Specification/Performance

系列 Series		智能光纤传感器 Intelligent Optical Fiber Sensor
型号 Model	NPN	CX6-DN10
	PNP	CX6-DP10
光源 Light source		红色4元素发光二极管(625nm) Red 4-element LED (625 nm)
电源电压 Supply voltage		DC12-24V纹波(P-P)10%以下(DC10-30V) DC12-24V ripple (P-P), below 10% (DC10-30V)
动作方式 Action mode		Light ON / Dark ON
输出方式 Output mode		NPN或PNP(集电极开路输出)负载电流100mA以下(残留电压3V以下), 负载电源电压30V以下 NPN or PNP (open-collector output), load current below 100mA (residual voltage below 3V), load supply voltage below 30V
响应时间 Response time	超高速模式(SHS) Super high speed mode (SHS)	动作、复位: 各50μs Action, reset: 50μs each
	高速模式(HS) High speed mode (HS)	动作、复位: 各300μs Action, reset: 300μs each
	标准模式(STND) Standard mode (STND)	动作、复位: 各2ms Action, reset: 2ms each
	高精度模式(GIGA) High precision mode (GIGA)	动作、复位: 各16ms Action, reset: 16ms each
保护电路 Protection circuit		电源逆接保护、输出短路保护、输出逆接保护、电源浪涌保护 Power connection reverse protection, output short circuit protection, output reverse connection protection, power surge protection
常用功能 Common functions		一键设定、阈值调节、初始化、存取数据、按键锁定、常开常闭切换、收光量归零、四种检测速度、光量自补偿、三种定时功能、光量等级调整、百分比调整、微分功能、数字显示切换、翻转显示、节电功能。 One-key setting, threshold adjustment, initialization, data access, key locking, normally open/closed switching, received light return to zero, four detection speeds, light amount self-compensation, three timing functions, light amount level adjustment, percentage adjustment, differential function, digital display switching, flip display, power saving function.
功率消耗 Power consumption	标准模式 Standard mode	720mW以下(电源电压24V时消耗电流30mA以下/电源电压12V时消耗电流60mA以下) 720mW or less (current consumption below 30mA when the supply voltage is 24V/current consumption below 60mA when the supply voltage is 12V)
耐电压 Withstand voltage		AC1000V 50/60Hz 1min
绝缘电阻 Insulation resistance		500VDC以上 Above 500VDC
耐震动 Shock resistance		10~55Hz双振幅0.7mm或50m/s ² X/Y/Z各方向1.5h 10-55Hz, double-amplitude, 0.7mm or 50m/s ² , 1.5h in X/Y/Z direction
耐冲击 Impact resistance		150m/s ² X/Y/Z各方向3次 150m/s ² in X/Y/Z direction, 3 times
使用环境湿度 Ambient humidity		工作/保存时25~85%RH (无结冰、无结露) 25-85%RH during operation/storage (no icing, no condensation)
使用环境温度 Ambient temperature		工作/保存时-10~55℃ (无结冰、无结露) -10 to 55℃ during operation/storage (no icing, no condensation)
使用环境光照 Ambient lighting		白炽灯: 2000 lx 太阳光: 10000 lx Incandescent lamp: 2000 lx Sunlight: 10000 lx
防护等级 Protection level		IEC标准IP50 IEC standard Ip50
连接方式 Connection Type		成型电缆 Molded cable
重量/电缆长度 Weight/cable length		约65g/2m About 65g/2m
材质 Material		外壳: PC 电缆:PVC Shell: PC Cable: PVC
附件 Accessories		说明书、合格证 Manual, certificate

CX6智能光纤传感器 (标准型) /CX6 Intelligent Optical Fiber Sensor (Standard Type)

- ◆ 内置收光量校正补偿功能, 产品稳定性强;
Built-in received light amount correction and compensation function, and high product stability;
- ◆ 可通过一键按钮实现阈值和光量的设置, 操作方便;
One-key setting of threshold value and light amount, easy to operate;
- ◆ 4种响应模式可选;
4 response modes are available;
- ◆ 抗干扰能力强;
Strong anti-interference capability;
- ◆ 性能稳定可靠, 一致性好, 性价比高。
Stable and reliable performance, good consistency, high cost performance.



额定规格/性能

Rated Specification/Performance

系列 Series		智能光纤 Intelligent Optical Fiber	智能光纤计数型传感器 Intelligent Optical Fiber Counting Sensor
型号 Model	NPN	CX6-DN30	CX6-DN30C
	PNP	CX6-DP30	CX6-DP30C
光源 Light source		红色4元素发光二极管(625nm) Red 4-element LED (625 nm)	
电源电压 Supply voltage		DC12-24V纹波(P-P)10%以下(DC10-30V) DC12-24V ripple (P-P), below 10% (DC10-30V)	
动作方式 Action mode		Light ON / Dark ON	
输出方式 Output mode		NPN或PNP(集电极开路输出)负载电流100mA以下(残留电压3V以下), 负载电源电压30V以下 NPN or PNP (open-collector output), load current below 100mA (residual voltage below 3V), load supply voltage below 30V	
响应时间 Response time	超高速模式(SHS) Super high speed mode (SHS)	动作、复位: 各100μs Action, reset: 100μs each	
	高速模式(HS) High speed mode (HS)	动作、复位: 各350μs Action, reset: 350μs each	
	标准模式(STND) Standard mode (STND)	动作、复位: 各3ms Action, reset: 3ms each	
	高精度模式(GIGA) High precision mode (GIGA)	动作、复位: 各18ms Action, reset: 18ms each	
保护电路 Protection circuit		电源逆接保护、输出短路保护、输出逆连接保护、电源浪涌保护 Power connection reverse protection, output short circuit protection, output reverse connection protection, power surge protection	
常用功能 Common functions		一键设定、阈值调节、初始化、存取数据、按键锁定、窗口检测、常开常闭切换、收光量归零、四种检测速度、光量自补偿、三种定时功能、光量等级调整、百分比调整、数字显示切换、翻转显示、节电功能。显示动作次数 One-key setting, threshold adjustment, initialization, data access, key locking, window detection, normally open/closed switching, received light return to zero, four detection speeds, light amount self-compensation, three timing functions, light amount level adjustment, percentage adjustment, digital display switching, flip display, power saving function. Action times displayed	
功率消耗 Power consumption	标准模式 Standard mode	720mW以下(电源电压24V时消耗电流30mA以下/电源电压12V时消耗电流60mA以下) 720mW or less (current consumption below 30mA when the supply voltage is 24V/current consumption below 60mA when the supply voltage is 12V)	
耐电压 Withstand voltage		AC1000V 50/60Hz 1min	
绝缘电阻 Insulation resistance		500VDC以上 Above 500VDC	
耐震动 Shock resistance		10~55Hz双振幅0.7mm或50m/s ² X/Y/Z各方向1.5h 10-55Hz, double-amplitude, 0.7mm or 50m/s ² , 1.5h in X/Y/Z direction	
耐冲击 Impact resistance		150m/s ² X/Y/Z各方向3次 150m/s ² in X/Y/Z direction, 3 times	
使用环境湿度 Ambient humidity		工作/保存时25~85%RH (无结冰、无结露) 25-85%RH during operation/storage (no icing, no condensation)	
使用环境温度 Ambient temperature		工作/保存时-10~55°C (无结冰、无结露) -10 to 55°C during operation/storage (no icing, no condensation)	
使用环境光照 Ambient lighting		白炽灯: 2000lx 太阳光: 10000lx Incandescent lamp: 2000 lx Sunlight: 10000 lx	
防护等级 Protection level		IEC标准IP50 IEC standard Ip50	
连接方式 Connection Type		成型电缆 Molded cable	
重量/电缆长度 Weight/cable length		约65g/2m About 65g/2m	
材质 Material		外壳: PC 电缆:PVC Shell: PC Cable: PVC	
附件 Accessories		说明书、合格证 Manual, certificate	

CX6智能光纤传感器 (专业型) /CX6 Intelligent Optical Fiber Sensor (Professional Type)

- ◆ 功能精简优化、操作更加简洁方便;
Function simplification and optimization, more simple and convenient operation;
- ◆ 增加发射功率可调功能, 满足不同检测环境;
The transmission power adjustable function is increased to meet the requirements for different detection environments;
- ◆ 3种响应模式可选, 标准、高速模式响应频率更快;
3 response modes are available, and the response frequency in standard and high-speed modes is faster;
- ◆ 性能稳定可靠, 一致性好, 性价比高。
Stable and reliable performance, good consistency, high cost performance.

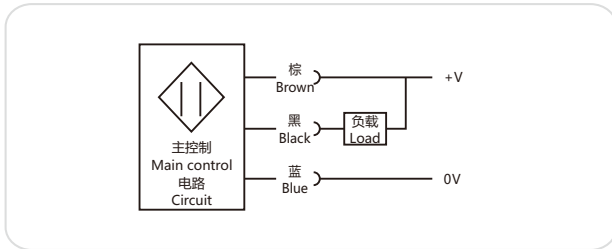


额定规格/性能 Rated Specification/Performance

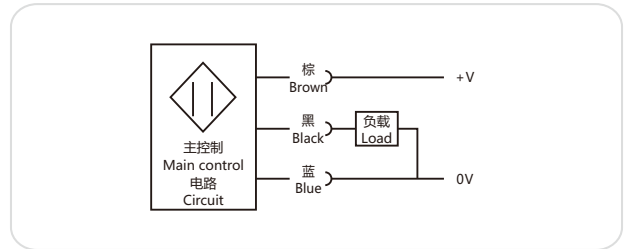
系列 Series		智能光纤传感器 Intelligent Optical Fiber Sensor
型号 Model	NPN	CX6-DN50
	PNP	CX6-DP50
光源 Light source		红色4元素发光二极管(625nm) Red 4-element LED (625 nm)
电源电压 Supply voltage		DC12-24V纹波(P-P)10%以下(DC10-30V) DC12-24V ripple (P-P), below 10% (DC10-30V)
动作方式 Action mode		Light ON / Dark ON
输出方式 Output mode		NPN或PNP(集电极开路输出)负载电流100mA以下(残留电压3V以下), 负载电源电压30V以下 NPN or PNP (open-collector output), load current below 100mA (residual voltage below 3V), load supply voltage below 30V
响应时间 Response time	高速模式(HS) High speed mode (HS)	动作、复位: 各200μs Action, reset: 200μs each
	标准模式(STND) Standard mode (STND)	动作、复位: 各1ms Action, reset: 1ms each
	高精度模式(GIGA) High precision mode (GIGA)	动作、复位: 各16ms Action, reset: 16ms each
保护电路 Protection circuit		电源逆接保护、输出短路保护、输出逆接保护、电源浪涌保护 Power connection reverse protection, output short circuit protection, output reverse connection protection, power surge protection
常用功能 Common functions		一键设定、阈值调节、初始化、常开常闭切换、发射功率设定、三种检测速度、三种定时功能、数字显示切换、节电功能。 One-key setting, threshold adjustment, initialization, normally open/closed switching, transmitted power setting, three detection speeds, three timing functions, digital display switching, power saving function.
功率消耗 Power consumption	标准模式 Standard mode	720mW以下(电源电压24V时 消耗电流30mA以下/电源电压12V时 消耗电流60mA以下) 720mW or less (current consumption below 30mA when the supply voltage is 24V/current consumption below 60mA when the supply voltage is 12V)
耐电压 Withstand voltage		AC1000V 50/60Hz 1min
绝缘电阻 Insulation resistance		500VDC以上 Above 500VDC
耐震动 Shock resistance		10~55Hz双振幅0.7mm或50m/s ² X/Y/Z各方向1.5h 10-55Hz, double-amplitude, 0.7mm or 50m/s ² , 1.5h in X/Y/Z direction
耐冲击 Impact resistance		150m/s ² X/Y/Z各方向3次 150m/s ² in X/Y/Z direction, 3 times
使用环境湿度 Ambient humidity		工作/保存时25~85%RH (无结冰、无结露) 25-85%RH during operation/storage (no icing, no condensation)
使用环境温度 Ambient temperature		工作/保存时-10~55℃ (无结冰、无结露) -10 to 55°C during operation/storage (no icing, no condensation)
使用环境光照 Ambient lighting		白炽灯: 2000lx 太阳光: 10000 lx Incandescent lamp: 2000 lx Sunlight: 10000 lx
防护等级 Protection level		IEC标准IP50 IEC standard Ip50
连接方式 Connection Type		成型电缆 Molded cable
重量/电缆长度 Weight/cable length		约65g/2m About 65g/2m
材质 Material		外壳: PC 电缆:PVC Shell: PC Cable: PVC
附件 Accessories		说明书、合格证 Manual, certificate

CX6-控制输出图(10S型、10型、30型、50型)
CX6 - Control Output Diagram (10S, 10, 30, 50)

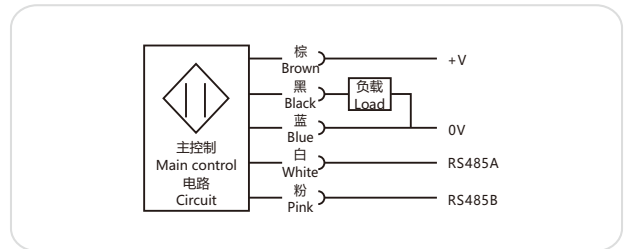
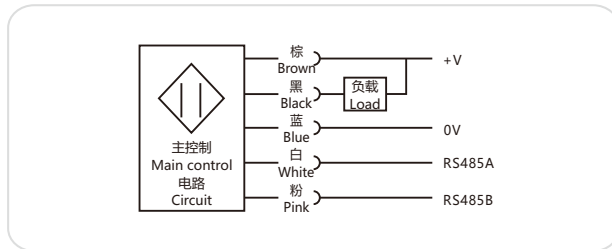
NPN集电极开路输出
NPN open-collector output



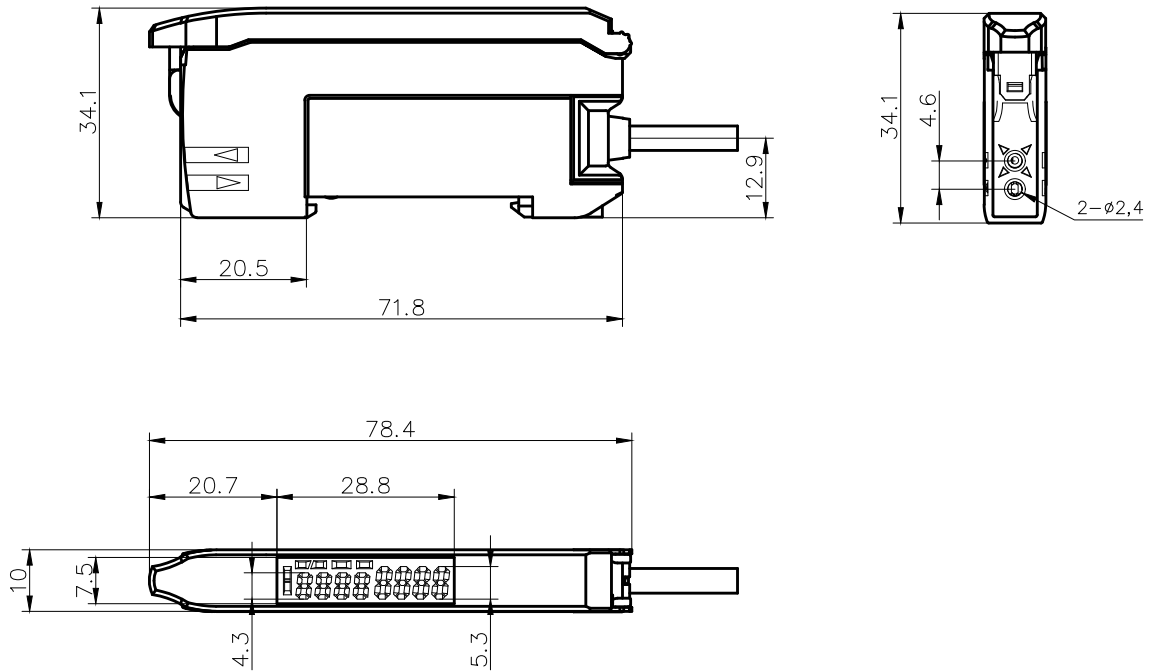
PNP集电极开路输出
PNP open-collector output



CX6-控制输出图(11R型)
CX6 - Control Output Diagram (11R)



CX6外形尺寸图
Overall Dimension Drawing for Cx6



注释
Comment

L/D指示灯 (L/D indicator)
显示设定状态, 入光ON为L, 遮光ON为D
Display setting status, incident light receiving indicates L, incident light shielding indicates D

(DPC指示灯) (DPC indicator)
启用Dynamic power control功能时亮灯
The indicator is on when Dynamic power control is enabled

模式切换(MODE)按钮 (MODE switching button)
按住持续3秒以上即可在设定模式和检测模式之间进行切换
Hold down for more than 3 seconds to switch between setting mode and detection mode

灵敏度设定(TUNE)按钮
检测物体有和无时各按一次(ST)指示灯亮灯
Sensitivity setting Pres (TUNE) button when detecting whether an object is present or not (ST) indicator is on

(ST指示灯) (ST indicator)
执行Smart Tuning时亮灯
The indicator is on when Smart Tuning is performed

OUT指示灯
输出为ON时亮灯
When the output of the OUT indicator is ON, the indicator is on

阈值微调(UP/Down)按钮
绿色数字的阈值发生变化
Threshold fine tuning The green digit of the (UP/Down) button changes

输出切换(L/D)按钮
按1次即可进行入光时ON(L)遮光时ON(D)的切换
Press once to switch ON(L) is shading ON(D) indicator switching

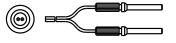
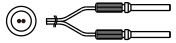


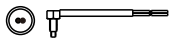
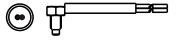


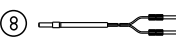





光量调整 (光量饱和状态时)	+
Light amount adjustment (when the light amount is saturated)	Simultaneously press
设定初始化	→
Setting initialization	按顺序同时按
按键锁定	+
Key locking	Simultaneously press in order
归零重置	+
Reset	

CX2光纤线系列/CX2 Optical Fiber Series

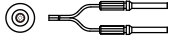


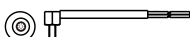
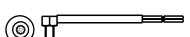
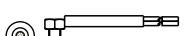



- 光点小, 适用于微小物体的检测
Small light spot, suitable for detection of small objects
- 产品耐弯曲度好, 适应于狭小空间安装
Good bending resistance, suitable for installation in a small space.
- 满足高精度、高速等特殊环境使用
Suitable for special environments such as high precision and high speed
- 型号规格众多, 可满足各类应用场景的选型
Many models and specifications to meet the requirements for selection of various application scenarios.













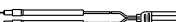
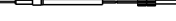


漫反射型 Diffuse reflection

种类 Type	型号 Model	结构 Structure	尺寸 Dimension	外形 Appearance 结构 Structure	检测 Detection 距离 (mm) distance (mm)	最小检 测物体 (mm) Minimum detected object (mm)	线缆弯 曲半径 (mm) Cable bending radius (mm)	光纤头 材质 Material of optical fiber pigtail	工作 Operating 温度 temperature
标准型 Standard	CX2-D3FL		M3	直线式 Linear	0-200	φ0.03	R5	金属 Metal	-40~+75℃
	CX2-D4FL		M4	直线式 Linear	0-200	φ0.03	R5		
	CX2-D6FL		M6	直线式 Linear	0-500	φ0.03	R10		
	CX2-D3FT		M3	直角式 Right-angle	0-200	φ0.03	R5		
	CX2-D4FT		M4	直角式 Right-angle	0-200	φ0.03	R10		
	CX2-D6FT		M6	直角式 Right-angle	0-250	φ0.03	R10		
	CX2-DR1.5FL		φ1.5	直线式 Linear	0-35	φ0.03	R5		
	CX2-DR2FL		φ2	直线式 Linear	0-100	φ0.03	R10		
	CX2-DR3FL		φ3	直线式 Linear	0-100	φ0.03	R10		
	CX2-D3FL/0.8-15		M3	直线式 Linear	0-150	φ0.03	R5		
	CX2-DR1.5FL/0.5-4		φ1.5	直线式 Linear	0-50	φ0.03	R5		
	CX2-DR1.5FL/1-3		φ1.5	直线式 Linear	0-150	φ0.03	R10		
	CX2-DR3FL/0.8-5		φ3	直线式 Linear	0-150	φ0.03	R10		
	CX2-DR3FL/2-15		φ3	直线式 Linear	0-50	φ0.03	R10		

漫反射型
Diffuse reflection

种类 Type	型号 Model	结构 Structure	尺寸 Dimension	外形 Appearance 结构 Structure	检测 Detection 距离 (mm) distance (mm)	最小检 测物体 (mm) Minimum detected object (mm)	线缆弯 曲半径 (mm) Cable bending radius (mm)	光纤头 材质 Material of optical fiber pigtail	工作 Operating 温度 temperature
同轴型 Coaxial	CX2-D3FL-C		M3	直线式 Linear	0-200	φ 0.03	R5	金属 Metal	-40~ +75°C
	CX2-D4FL-C		M4	直线式 Linear	0-200	φ 0.03	R5		
	CX2-D6FL-C		M6	直线式 Linear	0-500	φ 0.03	R10		
	CX2-D3FT-C		M3	直角式 Right-angle	0-200	φ 0.03	R5		
	CX2-D4FT-C		M4	直角式 Right-angle	0-200	φ 0.03	R5		
	CX2-D6FT-C		M6	直角式 Right-angle	0-400	φ 0.03	R10		
	CX2-D3FL-C/1.5-5		M3	直线式 Linear	0-200	φ 0.03	R10		
	CX2-D3FL-C/1.5-10		M3	直线式 Linear	0-200	φ 0.03	R10		
	CX2-DR3FL-C/1.5-6		φ3	直线式 Linear	0-200	φ 0.03	R10		

对射型
Through-beam

种类 Type	型号 Model	结构 Structure	尺寸 Dimension	外形 Appearance 结构 Structure	检测 Detection 距离 (mm) distance (mm)	最小检测物体 (mm) Minimum detected object (mm)	线缆弯曲半径 (mm) Cable bending radius (mm)	光纤头 材质 Material of optical fiber pigtail	工作 Operating 温度 temperature
标准型 Standard	CX2-T3FL		M3	直线式 Linear	0-1500	Φ0.03	R5	金属 Metal	-40~+75℃
	CX2-T4FL		M4	直线式 Linear	0-2000	Φ0.03	R5		
	CX2-T6FL		M6	直线式 Linear	0-2000	Φ0.03	R15		
	CX2-T3FT		M3	直角式 Right-angle	0-500	Φ0.03	R5		
	CX2-T4FT		M4	直角式 Right-angle	0-500	Φ0.03	R10		
	CX2-T6FT		M6	直角式 Right-angle	0-1000	Φ0.03	R10		
	CX2-TR1FL		Φ1	直线式 Linear	0-700	Φ0.03	R10		
	CX2-TR1.5FL		Φ1.5	直线式 Linear	0-250	Φ0.03	R4		
	CX2-TR2FL		Φ2	直线式 Linear	0-1000	Φ0.03	R5		
	CX2-TR3FL		Φ3	直线式 Linear	0-2000	Φ0.03	R5		
	CX2-TR2.5FL/0.3-6		Φ2.5	直线式 Linear	0-20	Φ0.03	R5		
	CX2-TR3FL/0.4-5		Φ3	直线式 Linear	0-40	Φ0.03	R5		
	CX2-TR3FL/0.3-42		Φ3	直线式 Linear	0-20	Φ0.03	R2		
	CX2-TR2.5FL/0.8-15		Φ2.5	直线式 Linear	0-100	Φ0.03	R5		

型号命名规则 Model Naming Rule



1. 上海长江传感器
CHANKO

2. 光纤系列
Optical fiber series

3. 光纤线代码
Code of optical fiber cable

4. 检测方式
Detection mode
T: 对射型 D: 漫反射
T: Through-beam D: Diffuse reflection

5. 检测高度
Detection height
6 : 6mm

6. 光纤头外形
Appearance of optical fiber pigtail
矩形式
Rectangular

7. 光纤形状
Shape of optical fiber
直线式
Linear

矩形对射型 Rectangular through-beam

种类 Type	型号 Model	结构 Structure	尺寸 (mm) Dimension (mm)	外形 Appearance 结构 Structure	检测 Detection 距离 (mm) distance (mm)	最小检测物体 (mm) Minimum detected object (mm)	检测 Detection 高度 (mm) Height (mm)	线缆弯 曲半径 (mm) Cable bending radius (mm)	光纤头 材质 Material of optical fiber pigtail	工作 Operating 温度 temperature
区域型 Area Type	CX2-T6QL		15*15*5	矩形式 Rectangular	0-1000	φ1.0	6	R5	金属 Metal	-40~+75℃
	CX2-T11QL		31*10.5*5	矩形式 Rectangular	0-1500	φ2.0	11	R5		
	CX2-T12QL		20*20*5	矩形式 Rectangular	0-1500	φ2.0	12	R5		
	CX2-T30QL		40*20*7	矩形式 Rectangular	0-1500	φ3.0	30	R4		
	CX2-T50QL		57*17*6	矩形式 Rectangular	0-1500	φ4.0	50	R5		

备注: 1、光纤线的检测距离, 是以光纤传感器CX6-DN30检测白色绘画纸为标准的数值, 仅供选型参考。

Remarks: 1. The detection distance of the optical fiber cable is the value taking the white drawing paper for the optical fiber sensor CX6-DN30 detection as the standard, only for selection reference.

2、光纤线长度标准为2米, 其它长度要求属非标定制。








2. The length standard of the optical fiber cable is 2 meters, and other length requirements are non-standard customizations.

CX2光纤透镜/CX2 Fiber Lens

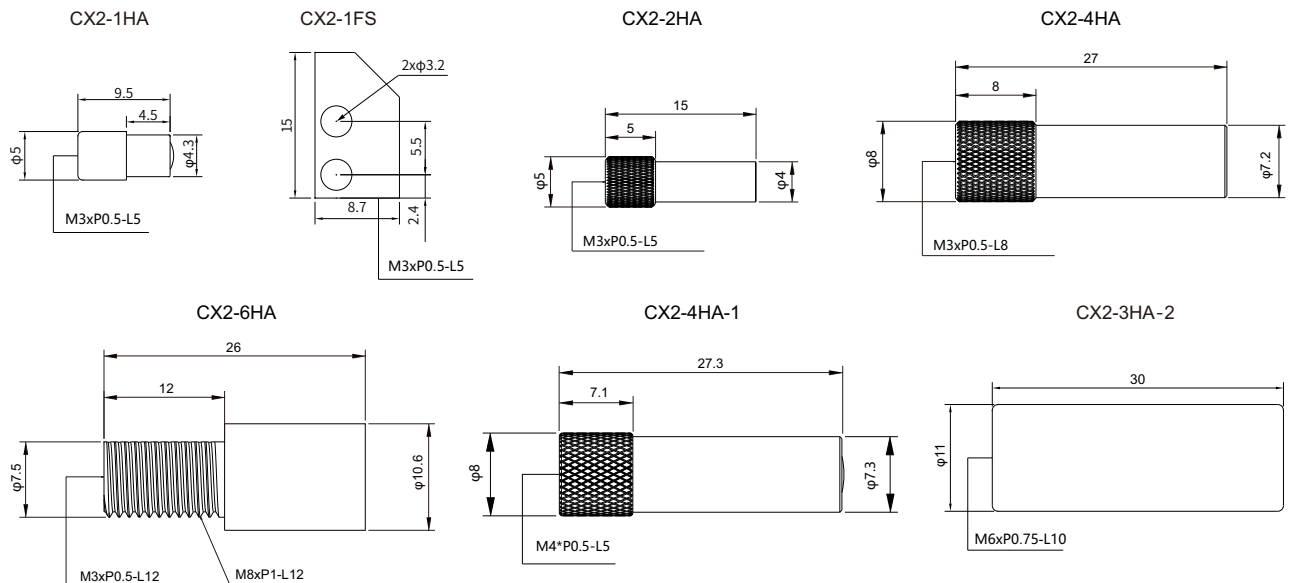
- ◆ 汇聚光线，检测微小物体
Converge light to detect tiny objects
- ◆ 加长检测距离
Extend the detection distance
- ◆ 检测精度高、稳定性好
High detection accuracy and good stability



光纤透镜 Fiber lens

种类 Type	型号 Model	结构 Structure	出光方式 Light output mode	光点直径 Spot diameter	焦距 Focal length	使用光纤线 Use of optical fiber cable
小光点 Small spot	CX2-1HA		平行 Parallel	约 $\phi 7$ (50mm处) Approx. $\phi 7$ (50mm)	/	M3
	CX2-1FS		直角交叉 Right-angle crossing	约 $\phi 1$ Approx. $\phi 1$	10 ± 2	
	CX2-2HA		交叉 Crossing	约 $\phi 0.4$ Approx. $\phi 0.4$	7 ± 2	
	CX2-4HA		交叉 Crossing	约 $\phi 0.5$ Approx. $\phi 0.5$	15 ± 2	
	CX2-6HA		交叉 Crossing	约 $\phi 2$ Approx. $\phi 2$	35 ± 3	
	CX2-4HA-1		交叉 Crossing	约 $\phi 1$ Approx. $\phi 1$	15 ± 2	M4
	CX2-3HA-2		交叉 Crossing	约 $\phi 3$ Approx. $\phi 3$	40 ± 3	M6

备注：针对更小光斑及更小距离检测要求，可增加以上小光点选型
Remark: For smaller spots and smaller distance detection requirements, the above small spot models can be increased



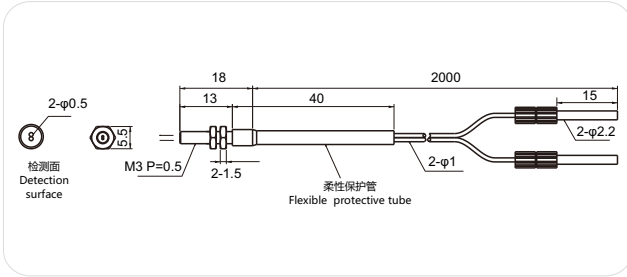
CX2外形尺寸图

Overall Dimension Drawing for CX2

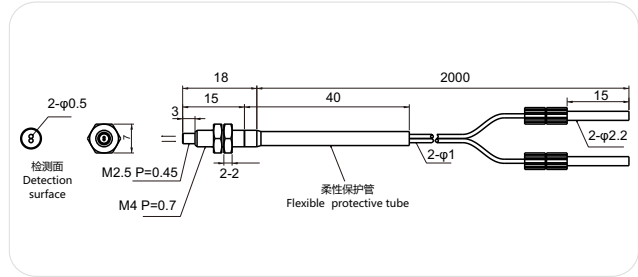
●漫反射型 (标准型)

Diffuse reflection (standard)

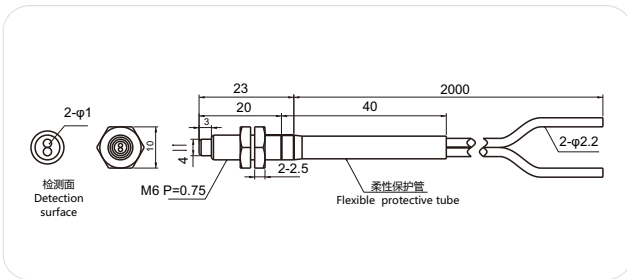
CX2-D3FL



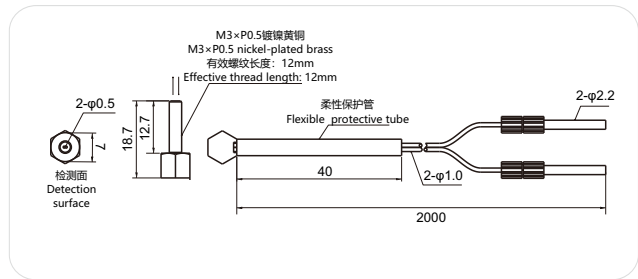
CX2-D4FL



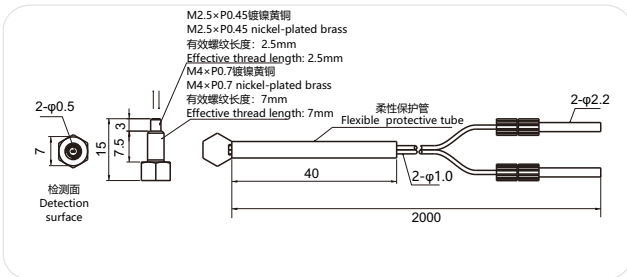
CX2-D6FL



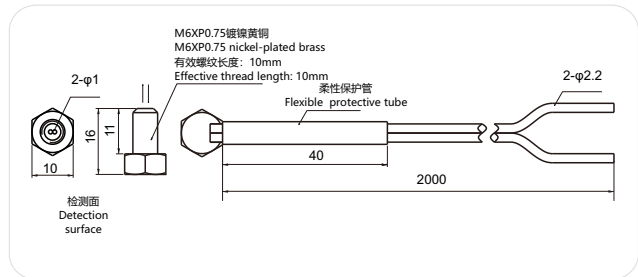
CX2-D3FT



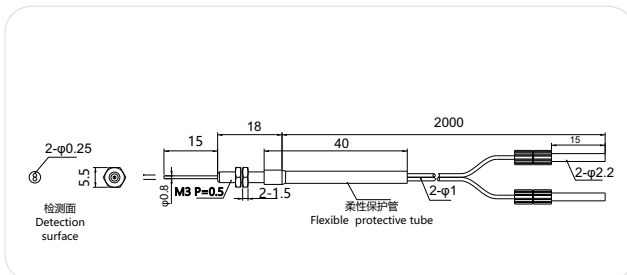
CX2-D4FT



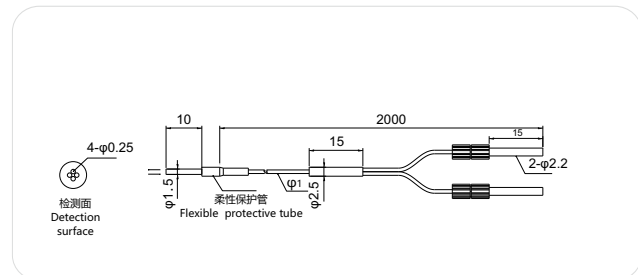
CX2-D6FT



CX2-D3FL/0.8-15



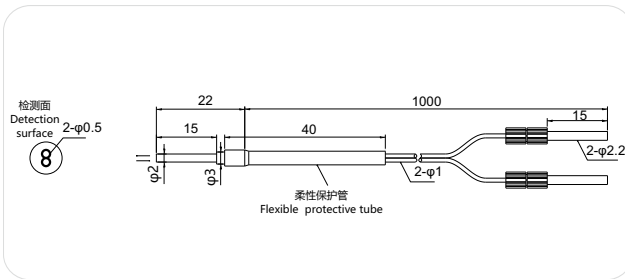
CX2-DR1.5FL



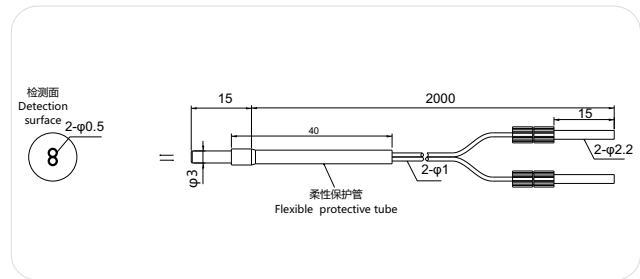
CX2外形尺寸图 Overall Dimension Drawing for CX2

- 漫反射型 (标准型)
Diffuse reflection (standard)

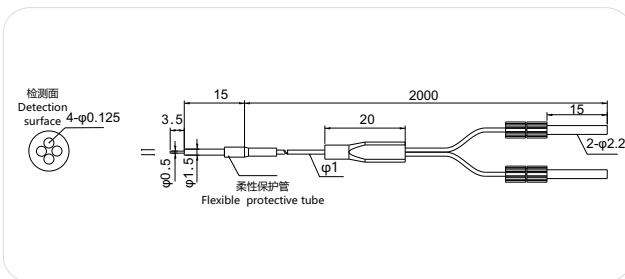
CX2-DR2FL



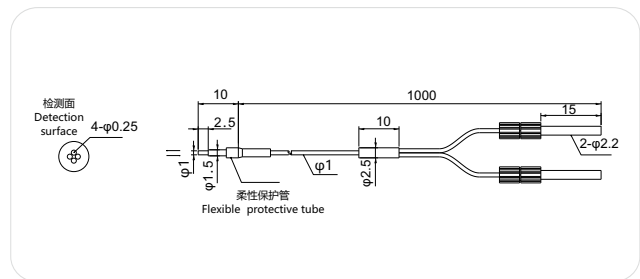
CX2-DR3FL



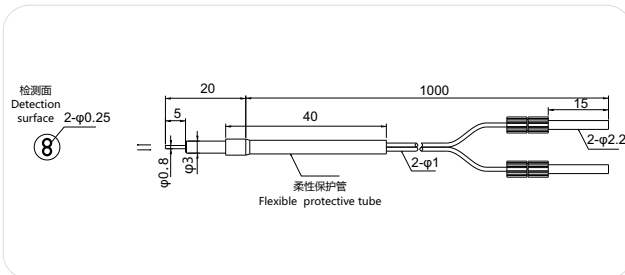
CX2-DR1.5FL/0.5-4



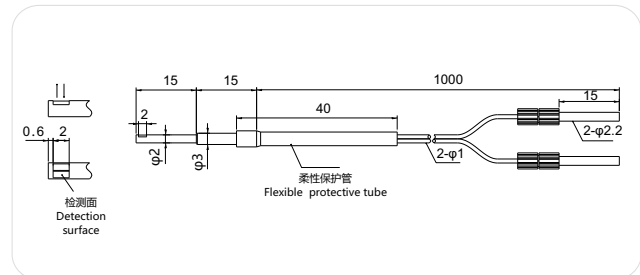
CX2-DR1.5FL/1-3



CX2-DR3FL/0.8-5

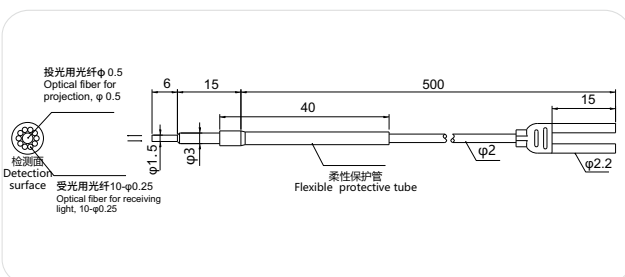


CX2-DR3FL/2-15



CX2外形尺寸图 Overall Dimension Drawing for CX2

- 漫反射型 (同轴型)
Diffuse reflection (coaxial)

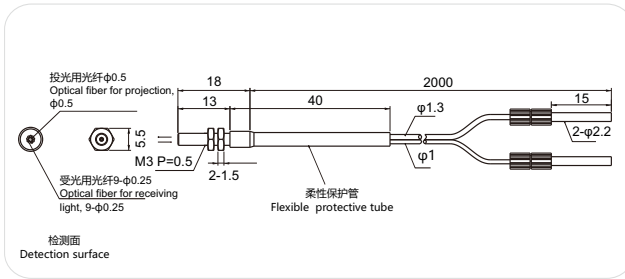


CX2-DR3FL-C/1.5-6

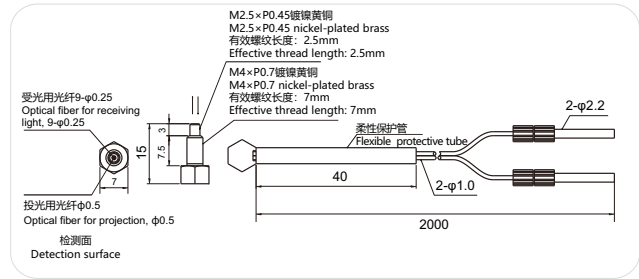
CX2外形尺寸图 Overall Dimension Drawing for CX2

- 漫反射型 (同轴型)
Diffuse reflection (coaxial)

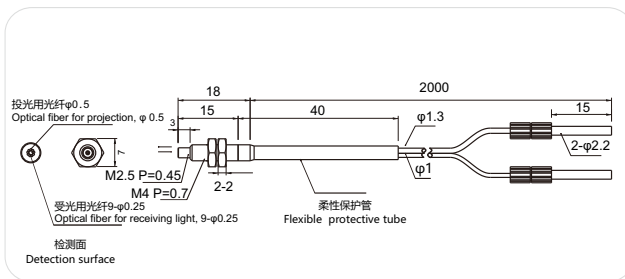
CX2-D3FL-C



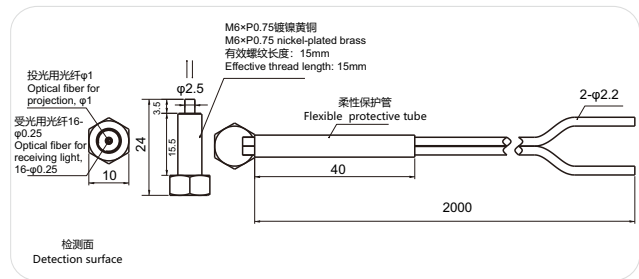
CX2-D4FT-C



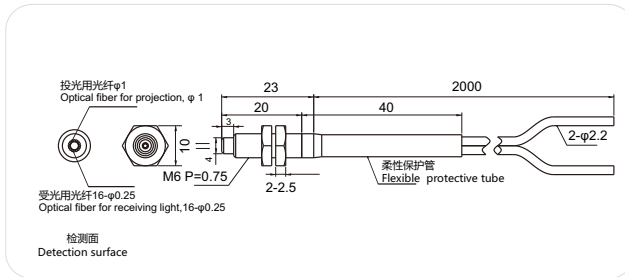
CX2-D4FL-C



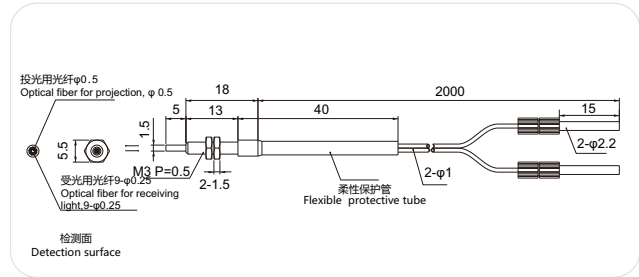
CX2-D6FT-C



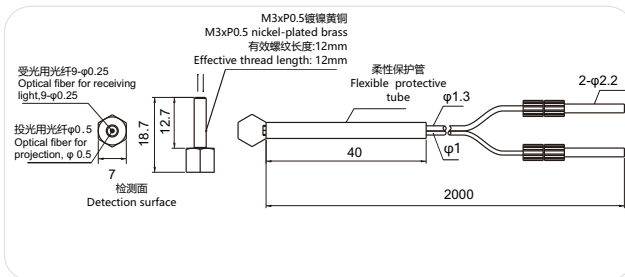
CX2-D6FL-C



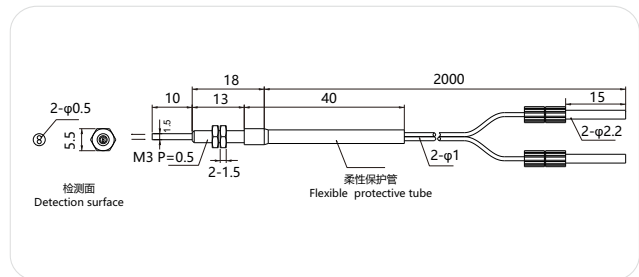
CX2-D3FL-C/1.5-5



CX2-D3FT-C



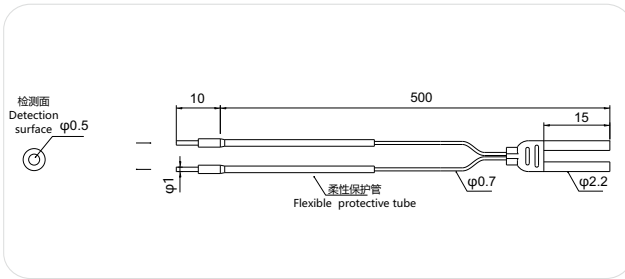
CX2-D3FL-1.5-10



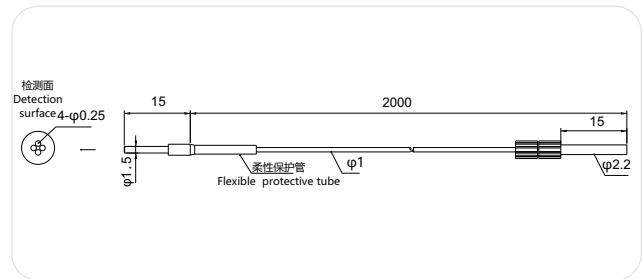
CX2外形尺寸图 Overall Dimension Drawing for CX2

- 对射型 (标准型)
Through-beam (standard)

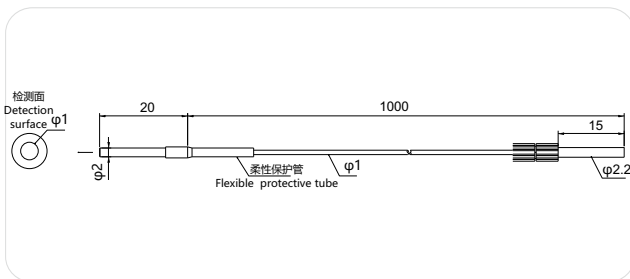
CX2-TR1FL



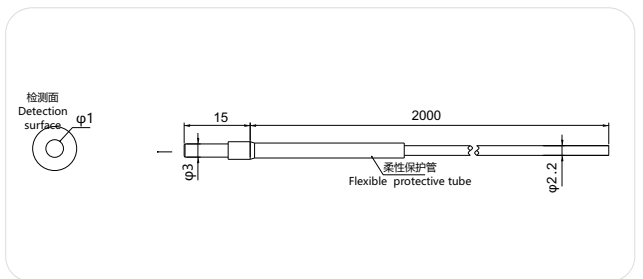
CX2-TR1.5FL



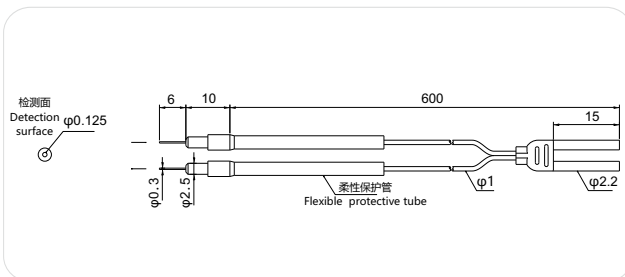
CX2-TR2FL



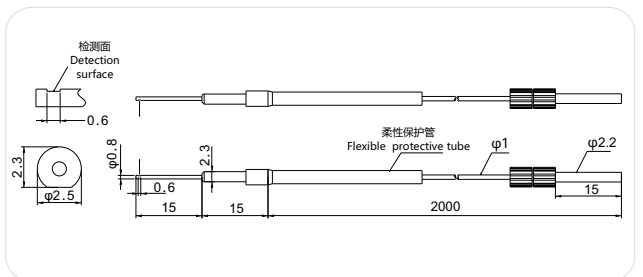
CX2-TR3FL



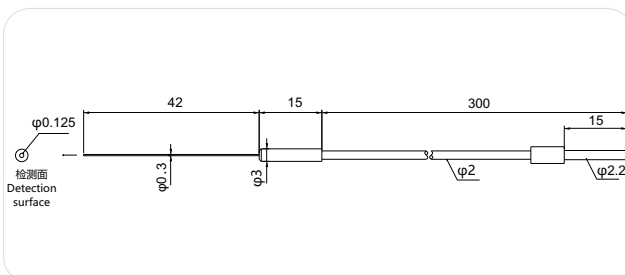
CX2-TR2.5FL/0.3-6



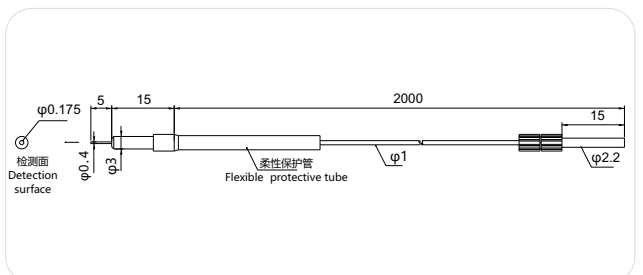
CX2-TR2.5FL/0.8-15



CX2-TR3FL/0.3-42



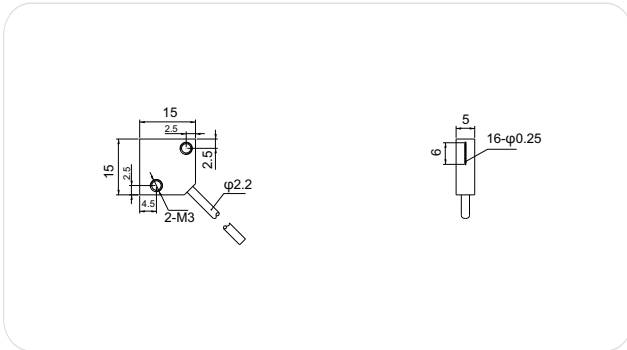
CX2-TR3FL/0.4-5



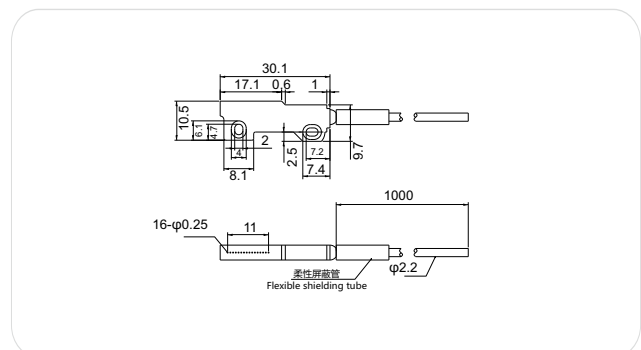
CX2外形尺寸图 Overall Dimension Drawing for CX2

- 矩形对射型
Rectangular through-beam

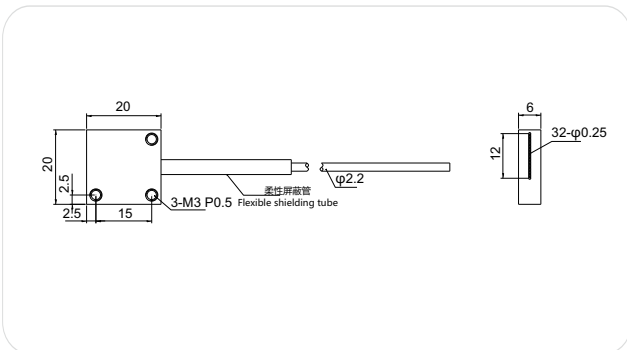
CX2-T6QL



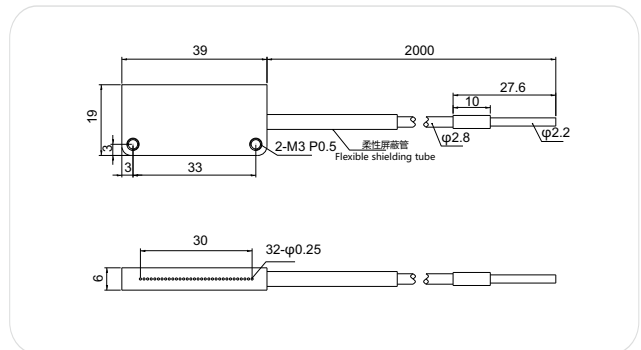
CX2-T11QL



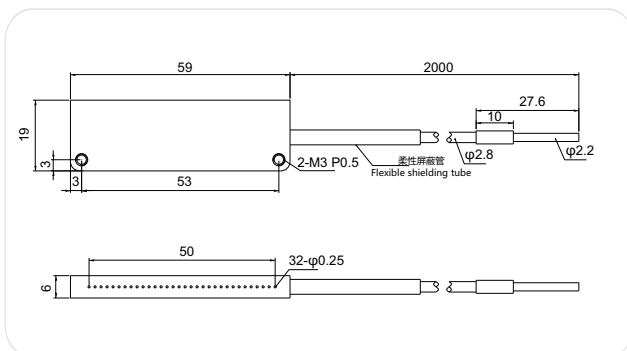
CX2-T12QL



CX2-T30QL



CX2-T50QL



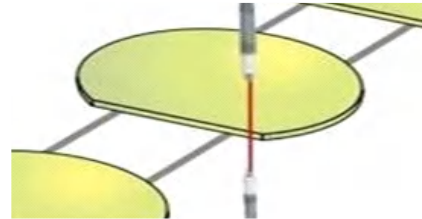
产品应用案例 Product Application Cases

我司产品广泛应用在半导体、包装机械、印刷机械、制药机械、塑料机械、锂电池设备、太阳能设备、农业机械等领域。Our products are widely used in semiconductor, packaging machinery, printing machinery, pharmaceutical machinery, plastic machinery, lithium battery equipment, solar energy equipment, agricultural machinery and other fields.

检测产品有无
Detect the presence of products



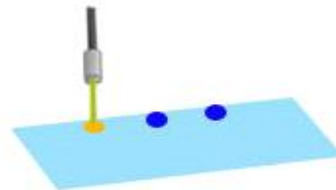
检测玻璃边缘是否有缺口
Detect the edge of the glass for notches



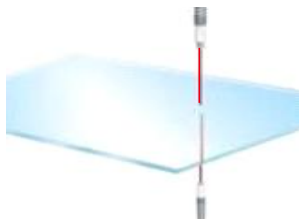
检测电容器引线有无
Detect whether the capacitor leads are present



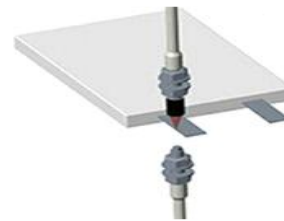
漫反射型光标检测
Detect the diffuse reflection cursor



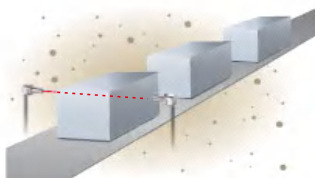
检测玻璃边缘是否平整
Detect whether the edge of the glass is flat



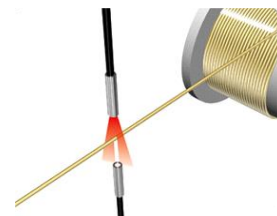
检测电池的两个极耳端位置
Detect the position of the two tab ends of the battery



检测传送带上箱子是否中断
Detect whether the box on the conveyor belt is interrupted



检测绕线机的线是否用完
Detect whether the wire of the winding machine is used up

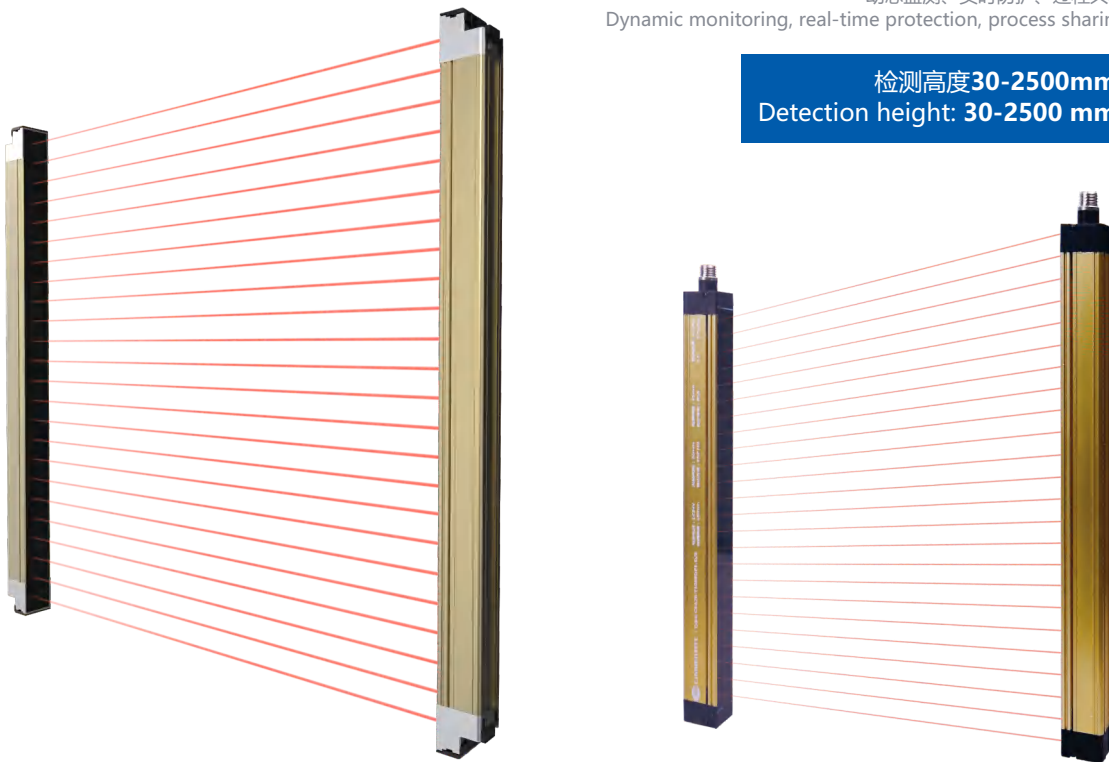


光幕传感器系列
Light Curtain Sensor Series

CS系列光幕传感器
CS Series Light Curtain Sensors

动态监测、实时防护、过程共享
Dynamic monitoring, real-time protection, process sharing

检测高度30-2500mm
Detection height: 30-2500 mm



CS系列光幕传感器，适用于手指、手臂、躯体等通过性区域检测。检测精度高，规格齐全，最小光轴间距可选，2、5、10、15、25mm,检测高度30-2500mm。支持实时防护、动态监测、数据分析、预测反馈、过程回放、数据共享等。自带安装孔，安装简单便捷，结构稳定牢固。广泛适用于机器人行业、锻压冲压、城市交通、生产保护等领域。

CS series light curtain sensors are suitable for detection of fingers, arms, body and other pass-through areas. They have high detection accuracy, complete specifications, minimum optical axis spacings of 2, 5, 10, 15 and 25mm, and detection height of 30-2500 mm. They support real-time protection, dynamic monitoring, data analysis, predictive feedback, process playback, data sharing, etc. They are provided with mounting holes and easily installed, and have stable structure. They are widely used in robot industry, forging and stamping, urban transportation, production protection and other fields.

光幕传感器系列 Light Curtain Sensor Series

CSS系列光幕 (安全型)

CSS Series Light Curtains (Safety Type)

检测物体 Φ 10mm,上下检测盲区共计19mm,新型结构配合铝制外壳,使产品更耐用、轻便。支架可多角度安装,内置双重检测电路,两路安全输出,保证光幕在任何环境下使用都不会导致失去保护。产品采用RS485同步方式更加稳定可靠。

The product can detect the object with diameter of 10mm, and the vertical non-detection zone is 19mm. The new structure and aluminum shell make the product more durable and lightweight. The bracket can be installed at multiple angles, built-in dual detection circuit and two safety outputs are provided to ensure that the light curtain will not lead to the loss of protection in any environment. The product adopts RS485 synchronization mode, being more stable and reliable.

CSA系列光幕 (通用型)

CSA Series Light Curtains (General Type)

检测物体 Φ 15-95mm.检测盲区较小,塑料外壳堵头,重量轻,便于安装、维护。相较于CA系列可适用于更多的安装环境,且具备其全部功能,性价比更高。可定制抗阳光以及IP67的型号。

The product can detect the object with diameter of 15-95mm. The product has small non-detection zone, plastic shell plug and light weight, being easy to install and maintain. It can be used in more installation environments than CA series, has all the features of CA series and is more cost-effective. Sunlight resistant and IP67 models can be customized.

CA系列光幕 (标准型)

CA Series Light Curtains (Standard Type)

检测物体 Φ 20-100mm.新型结构配合铝制外壳,使产品更耐用、轻便。支架可多角度安装,拥有自检程序与多重电路防护,强干扰环境下亦可正常使用,基本满足选型需求。

The product can detect the object with diameter of 20-100mm. The new structure and aluminum shell make the product more durable and lightweight. The bracket can be installed at multiple angles, and the product has self-test program and multicircuit protection, and can be used normally in strong interference environment, basically meeting the selection needs.

CSF/CSL系列光幕 (超薄型)

CSF/CSL Series Light Curtains (Ultra-thin Type)

最小检测物体5mm,满足微小物体检测。能有效节省安装体积,在安装条件受限时优先选择;自带安装孔,进一步降低对安装空间的要求。优化体积同时,采用了金属材质,保证产品的高强度。

The product can detect the object with minimum diameter of 5mm, meeting the detection requirement for tiny objects. It can effectively save installation volume, and is preferred when installation conditions are limited; it is equipped with mounting holes, further reducing the requirements for the installation space. CS adopts metal materials and optimize volume to ensure the high strength.

CSP系列光幕 (轻量型)

CSP Series Light Curtains (Light Type)

最小检测物体 Φ 30mm.利用新型工艺、精选PBT材质,保证产品结构稳固、重量更轻、成本更低。轻量化的产品可有效减少运输和安装成本。自带安装孔,降低对安装空间要求。

The product can detect the object with minimum diameter of 30mm. New technology and selected PBT material ensure that the product has stable structure, lighter weight and lower cost. Lightweight product can effectively reduce transportation and installation costs. It is equipped with mounting holes, reducing installation space requirements.

CSG系列光幕 (加强型)

CSG Series Light Curtains (Enhanced Type)

检测物体 Φ 5-70mm.高强度金属结构,对抗冲击、扭曲和弯曲性能更强。检测距离最长可达30米。拥有NPN/PNP、继电器、外置控制器等输出方式。可以定制抗阳光款式,满足户外场景使用需求。

The product can detect the object with diameter of 5-70mm. It has high strength metal structure, better resistant to impact, distortion and bending. The detection distance is up to 30 meters. The product has output modes such as NPN/PNP, relay and external controller. The sun-resistant style can be customized to meet the requirements for outdoor scenes.

CSM系列光幕 (测量型)

CSM Series Light Curtains (Measurement Type)

检测物体 Φ 10-70mm.适用于高精度检测及测量。拥有RS485、MODBUS、4-20mA等三种输出方式;可进行在线检测、尺寸轮廓测量、孔径测量、产品定位、零件技术等多种检测和测量。

The product can detect the object with diameter of 10-70mm. It is suitable for high precision detection and measurement. It has three output modes of RS485, modbus and 4-20mA; it can perform various detections and measurements, such as online detection, dimensional contour measurement, aperture measurement, product positioning, parts technology and so on.



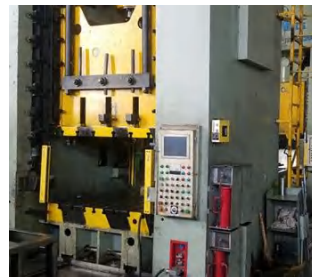
机器人行业
Robot industry



锻压冲压
Forging and stamping



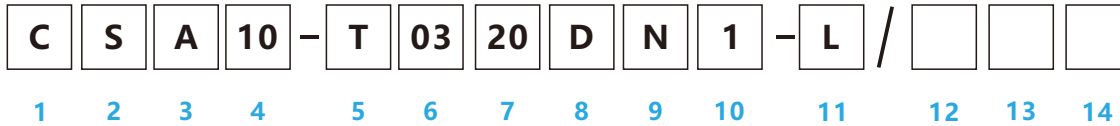
城市交通
Urban traffic



生产保护
Production protection

光幕传感器系列 Light Curtain Sensor Series

型号命名规则 Model Naming Rule



1. 上海长江传感
CHANKO

2. 光幕传感器
Light Curtain Sensor

3. 光幕类别 S: 安全光幕 A: 区域光幕通用型 F: 正面超薄型光栅
Light curtain category S: Safety light curtain A: Area light curtain, general type F: Front ultra-thin grating
L: 侧面超薄型光栅 P: 塑料外壳光栅 G: 加强型光栅
L: Lateral ultra-thin grating P: Plastic shell grating G: Enhanced grating
MF: 薄型测量型安全光栅 MG: 常规测量型安全光栅
MF: Thin measurement type safety optical grating MG: Conventional measurement type safety light curtain

4. 光轴间距
Optical axis spacing
08: 8mm间距 10: 10mm间距 20: 20mm间距依次类推
08: 8mm spacing 10: 10 mm spacing 20: 20 mm spacing and so on

5. 检测方式
Detection mode
T: 对射
T: Through-beam

6. 检测距离 (米)
Detection distance (m)
03: 3米 05: 5米 10: 10米 依次类推
03: 3 m 05: 5 m 10: 10 m and so on

7. 光轴数量
Number of optical axes
20: 20光轴 40: 40光轴 依次类推
20: 20 optical axis 40: 40 optical axis and so on

8. 电源电压
Supply voltage
D: DC24V

9. 输出方式
Output mode
N: NPN输出 P: PNP输出
N: NPN output P: PNP output
E: NPN+PNP T: 继电器 L: 4-20mA电流 M: modbus
E: NPN+PNP T: Relay L: 4-20mA current M: modbus

10. 动作模式

Action mode
1: Dark on常开 2: Light on常闭 3: D/L常开/常闭可切换
1: Dark on normally open 2: Light on normally closed
3: D/L normally open/closed can be switched

11. 发射/接收

Transmitting/receiving
L: 发射端 D: 接收端
L: Transmitting terminal D: Receiving terminal

12. 同步方式

Synchronization mode
无: 线同步 R: RS485同步 G: 光同步
None: Line synchronization R: RS485 synchronization
G: Optical synchronization

13. 安装方式

Installation mode
无: 上下安装 L: 侧面安装
None: vertical installation L: Lateral installation

14. 特殊要求

Special requirements
无: 标准产品 K: 防水型
None: Standard product K: Waterproof
X: 交叉检测 A: 浮动消隐
X: Cross detection A: Floating blanking
B: 固定消隐 S: 抗太阳光
B: Fixed blanking S: Sunlight resistant
5M: 5米线缆.....
5M: 5m cable...

注: 线同步光幕, 发射端+接收端线缆不能超过5米;
Note: Line synchronous light curtain, transmitting terminal + receiving terminal cable can not exceed 5 meters;
CSS系列安全光幕产品动作模式: 1为Light on常闭。
Action mode of CSS series safety light curtain product: 1 represents Light on normally closed; 2 represents Dark on normally open.

产品系列 Product series	检测距离 Detection distance	常规检测高度 Conventional detection height	连接方式 Connection Type	输出形式 Output form	产品图片 Product picture
CSS系列 CSS Series	0.1-7m	248-1528mm	成型电缆 Molded cable	PNP-NC RS485	
			M16中继型 M16 trunk type	PNP-NC RS485	
CSA系列 CSA Series	0.1-3m(线同步) 0.1-3m(linear synchronization) 0.1-10m (RS485)	60-2500mm	接插件 Connector	NPN-NO	
				NPN-NC	
				PNP-NO	
				PNP-NC	
CA系列 CA Series	0.1-3m	60-990mm	成型电缆 Molded cable	NPN-NO	
				NPN-NC	
			M12中继型 M12 trunk type	PNP-NO	
				PNP-NC	
CSF系列 CSF Series	1-2m	30-1880mm	成型电缆 Molded cable	NPN-NO	
				NPN-NC	
			M12中继型 M12 trunk type	PNP-NO	
				PNP-NC	
CSL系列 CSL Series	1-2m	30-1880mm	成型电缆 Molded cable	NPN-NO	
				NPN-NC	
			M12中继型 M12 trunk type	PNP-NO	
				PNP-NC	
CSP系列 CSP Series	1-2m	100-300mm	成型电缆 Molded cable	NPN-NO	
				NPN-NC	
			M12中继型 M12 trunk type	PNP-NO	
				PNP-NC	
CSG系列 CSG Series	3-30m	30-1740mm	成型电缆 Molded cable	NPN-NO	
				NPN-NC	
				PNP-NO	
				PNP-NC	
			M12中继型 M12 trunk type	继电器 Relay	
				外置控制器 External controller	
				NPN-NO	
				NPN-NC	
M12中继型 M12 trunk type	PNP-NO				
	PNP-NC				
	继电器 Relay				
	外置控制器 External controller				
CSM系列 CSM Series	0.4-20m	30-940mm	成型电缆 Molded cable	RS485	
				MODBUS	
			M12中继型 M12 trunk type	4-20mA	
				RS485	
				MODBUS	
				4-20mA	

注：成型电缆默认为2米成型电缆（标准型）；M12中继型默认为0.5米（标准型），接插件产品需要另外采购转接线。

Note: The Molded cable is 2m (standard type) by default; M12 trunk cable is 0.5m (standard type) by default, and separate adapter cable needs to be purchased for connector products.

CSS系列安全光幕/CSS Series Safety Light Curtain

- 产品内部采用双重电路结构安全可靠
The product has a dual circuit structure inside, being safe and reliable
- 产品具有PNP输出
The product has PNP output
- 产品具有完善的电路保护
The product has comprehensive circuit protection
- 防水防尘等级IP65
The waterproofing and dustproof rating is IP65
- 铝合金外壳坚固可靠
The aluminum shell is robust and reliable



额定规格/性能 Rated Specification/Performance

检测能力 Detection capability	不透明物体 Opaque object
	直径≥10mm Diameter≥10mm
光轴间距 Optical axis spacing	8、16、32mm
光轴数 Number of optical axes	8-192
保护高度 Protection height	248-1528mm (以128mm为递增) 248-1528mm (by increment of 128)
检测距离 Detection distance	0.1~7m
响应时间 Response time	25ms
通电后启动时间 Start time after power-on	<2s
电源电压 Supply voltage	DC24V 纹波 (P-P) 10%以下 DC 24V ripple (P-P), below 10%
消耗电流(无负载) Current consumption (no load)	投光器 Light projector
	受光器 Light receptor
发光波长 Luminous wavelength	红外850nm Infrared ray of 850nm
有效开口角 (EAA) Effective angular aperture (EAA)	根据IEC61496-2,投光器、受光器小于±2.5° (检测距离3m以上) According to IEC61496-2, EAA of the light projector and light receptor is less than ±2.5° (at detection distance of more than 3m)
安全输出 (OSSD) Safety output (OSSD)	PNP输出*2(OSSD1、OSSD2),负载电流 < 200mA, 残留电压 < 2V (排除导线延长的影响)、允许容量负载2.2uF、漏电流 < 1mA PNP output * 2 (OSSD1, OSSD2), load current < 200mA, residual voltage < 2V (excluding the effect of wire extension), allowable capacity load of 2.2uF, leakage current < 1mA
辅助输出1 (非安全输出) Auxiliary output 1 (non-safety output)	PNP晶体管集电极开路输出*1,负载电流 < 200mA,残留电压 < 2V (排除导线延长的影响)、漏电流 < 1mA PNP transistor open-collector output * 1, load current < 200mA, residual voltage < 2V (excluding the effect of wire extension), leakage current < 1mA
辅助输出2 (非安全输出) Auxiliary output 2 (non-safety output)	PNP晶体管集电极开路输出*1,负载电流 < 50mA,残留电压 < 2V (排除导线延长的影响)、漏电流 < 1mA PNP transistor open-collector output * 1, load current < 50mA, residual voltage < 2V (excluding the effect of wire extension), leakage current < 1mA
输出动作模式 Output action mode	安全输出: 入光时ON、遮光时OFF, 辅助输出1:安全输出的反相输出, 辅助输出2:安全输出的反相输出 Safety output: ON when entering light, OFF when blocking light, Auxiliary output 1: Inverted output of safety output, Auxiliary output 2: Inverted output of safety output
输入电压 Input voltage	测试输入、联锁选择输入、复位输入、屏蔽输入、外部监控输入均为: ON电压: 24V OFF电压: 0V或开路 Test input, interlock selection input, reset input, shielding input, external monitoring input: ON Voltage: 24V OFF voltage: 0V or open circuit

指示灯 Indicator	投光器 Light projector	<p>受光水平指示灯 (绿色LED*2,橙色LED*3) :根据受光量点亮 Received light level indicator (green LED * 2, orange LED * 3): ON according to the amount of light received</p> <p>错误模式指示灯 (红色LED*3) : ON、闪烁显示错误原因 Error mode indicator (red LED * 3): ON, blinking indicates the cause of the error</p>	<p>联锁指示灯 (黄色LED*1) :联锁时点亮、锁定时闪烁 Interlock indicator (yellow LED * 1): ON when interlocking, blinking when locking</p> <p>屏蔽指示灯 (绿色LED*2) :屏蔽时点亮、屏蔽错误闪烁 Shielding indicator (green LED * 2): ON when shielding, blinking in the case of shielding error</p> <p>测试/复位/消隐3功能指示灯 (绿色LED*1) :复位时点亮、测试时闪烁 Test/Reset/blank3 Function indicator (green LED*1): ON when resetting, blinking during testing</p>
	受光器 Light receptor	<p>受光水平指示灯 (绿色LED*2,橙色LED*3) :根据受光量点亮 Received light level indicator (green LED * 2, orange LED * 3): ON according to the amount of light received</p> <p>错误模式指示灯 (红色LED*3) : ON、闪烁显示错误原因 Error mode indicator (red LED*3): ON, blinking indicates the cause of the error</p> <p>OFF指示灯 (红色LED*1) :安全输出OFF点亮 OFF indicator (red LED*1): The safety output is OFF</p>	<p>ON指示灯 (绿色LED*1) :安全输出ON是点亮 ON indicator (red LED*1): The safety output is ON</p> <p>外部设备监控指示灯 (绿色LED*1) :有监控输入时点亮 External device monitoring indicator (green LED*1): ON when there is monitoring input</p> <p>电源指示灯 (绿色LED*1) :通电时点亮、维护时, OFF指示灯, ON指示灯, 电源指示灯同时闪烁 Power indicator (green LED*1): OFF indicator,ON indicator, power supply indicator are blinking simultaneously</p>
串联连接 Series connection	<p>串联连接时 连接数: ≤4套, 光轴总数: ≤384光轴, 2套之间的电线最大长度: ≤10m Number of connections when connected in series: ≤ 4 sets, Total number of optical axes: ≤ 384, Maximum length of wire between two sets: ≤ 10m</p>		
外部输入 External input	<p>外部输入: 利用外部输入来停止投光器发光的功能 External input: An external input is used to stop the function of the light projector to emit light</p>		
安全相关功能 Safety related functions	<p>启动联锁、重启联锁 (使用屏蔽功能时, 只能使用自动复位模式) 外部监控、屏蔽功能、固定消隐、浮动消隐 Enable interlock and restart interlock (when the shielding function is used, only automatic reset mode can be used), external monitoring, shielding function, fixed blanking, floating blanking</p>		
连接方式 Connection Type	<p>中继型 Trunk type</p>		
保护电路 Protection circuit	<p>输出短路保护、输出逆接保护, 电源逆接保护 Output short-circuit protection, output reverse connection protection, power reverse connection protection</p>		
环境温度 Ambient temperature	<p>工作时: -10~55°C,存储时: -30~70°C During operation: -10 to 55°C, during storage: -30 to 70°C</p>		
环境湿度 Ambient humidity	<p>工作时: 35~85%RH,存储时: 35~95%RH During operation: 35-85%RH, during storage: 35-95%RH</p>		
使用环境照度 Ambient illumination	<p>白炽灯: 受光面照度 < 3000lx,太阳光: 受光面照度 < 10000lx Incandescent lamp: illuminated surface illuminance < 3000lx, sunlight: illuminated surface illuminance < 10000lx</p>		
绝缘电阻 Insulation resistance	<p>> 20MΩ (使用DC500V兆欧表测量) > 20MΩ (measured with DC500V megohmmeter)</p>		
耐电压 Withstand voltage	<p>AC1000V,50/60Hz,1min</p>		
防护等级 Protection level	<p>IP65</p>		
耐振动 Vibration resistance	<p>10~55Hz,多振幅0.7mm, X,Y,Z各方向20次 10~55Hz, multi-amplitude 0.7mm, 20 times each in X, Y and Z directions</p>		
耐冲击 Impact resistance	<p>100m/S², X,Y,Z各方向 1000次 100m/S², 1000 times each in X, Y and Z directions</p>		
材质 Material	<p>外壳: 铝 滤光片: PMMA 端盖: PC 堵头: SUS304 电缆: PVC Shell: Aluminum Optical filter: PMMA End cover: PC Plug: SUS304 Cable: PVC</p>		
产品配件 Product accessories	<p>说明书, 合格证, 安装支架, 安装螺丝 Manual, certificate, mounting bracket, mounting screws</p>		

CSS安全光幕系列额定规格一览表
List of Rated Specifications of CSS Safety Light Curtain Series

PNP常闭 PNP normally closed	光轴数(n) Number of optical axes (n)	检测高度H(mm) Detection height (mm)	整机长度L (mm) Length L (mm)	光轴间距(mm) Optical axis spacing (mm)	电缆连接方式 Cable connection mode		
CSS08-T0732DP1	32	248	267	8	M16中继型 M16 trunk type		
CSS08-T0748DP1	48	376	395				
CSS08-T0764DP1	64	504	523				
CSS08-T0780DP1	80	632	651				
CSS08-T0796DP1	96	760	779				
CSS08-T07112DP1	112	888	907				
CSS08-T07128DP1	128	1016	1035				
CSS08-T07144DP1	144	1144	1163				
CSS08-T07160DP1	160	1272	1291				
CSS08-T07176DP1	176	1400	1419				
CSS08-T07192DP1	192	1528	1547				
CSS16-T0732DP1	32	248	267	16		M16中继型 M16 trunk type	
CSS16-T0748DP1	48	376	395				
CSS16-T0764DP1	64	504	523				
CSS16-T0780DP1	80	632	651				
CSS16-T0796DP1	96	760	779				
CSS16-T07112DP1	112	888	907				
CSS16-T07128DP1	128	1016	1035				
CSS16-T07144DP1	144	1144	1163				
CSS16-T07160DP1	160	1272	1291				
CSS16-T07176DP1	176	1400	1419				
CSS16-T07192DP1	192	1528	1547				
CSS32-T0732DP1	32	248	267	32			M16中继型 M16 trunk type
CSS32-T0748DP1	48	376	395				
CSS32-T0764DP1	64	504	523				
CSS32-T0780DP1	80	632	651				
CSS32-T0796DP1	96	760	779				
CSS32-T07112DP1	112	888	907				
CSS32-T07128DP1	128	1016	1035				
CSS32-T07144DP1	144	1144	1163				
CSS32-T07160DP1	160	1272	1291				
CSS32-T07176DP1	176	1400	1419				
CSS32-T07192DP1	192	1528	1547				

备注：安全光幕需搭配安全继电器使用，安全继电器可选购我司CSS-RUA。
 具体选型官网/旗舰店下载，或联系客户热线400-808-6488。

Remark: Safety light screen should be MATCHed with safety relay, safety relay can be purchased by our CSS-RUA.
 Download the specific models at the official website/flagship store, or call the customer hotline 400-808-6488.

CSA系列区域光幕 (标准型) / CSA Series Area Light Curtains (Standard Type)

- 最小检测物体 Φ 15mm
The product can detect the object with minimum diameter of 15mm.
- 检测高度60-2500mm
Detection height: 60-2500mm
- 检测距离可选: 0.1-3m, 0.1-10m
Optional detection distance: 0.1-3m, 0.1-10m
- 检测盲区较小, 同等检测高度, 适用于更多安装空间
Small non-detection zone, same detection height, suitable for more installation space
- 铝制外壳, 塑料堵头, 搭配支架、螺丝, 安装简单, 有效降低安装及维护成本
Aluminum shell, plastic plug, bracket, and screws, easy to install, effectively reducing installation and maintenance costs
- 输出方式可选开关量输出和485输出
Output mode can be digital output or 485 output



额定规格/性能 Rated Specification/Performance

产品系列 Product series	开关量光幕 Digital light curtain	485光幕 485 light curtain
光轴间距(mm) Optical axis spacing (mm)	10,20,30,40,50,60,70,80,90	
光轴数 Number of optical axes	见额定规格一览表 See List of Rated Specifications	
检测高度 Detection height	见额定规格一览表 See List of Rated Specifications	
整机长度 Length	见额定规格一览表 See List of Rated Specifications	
光源 Light source	红外光源850nm Infrared light source of 850nm	
响应时间 Response time	$\leq 20\text{ms}$ (根据不同光轴数量) $\leq 20\text{ms}$ (according to the number of different optical axes)	
检测物体 Detected object	最小 $\Phi 15\text{mm}$ 以上不透明物体 Opaque object with minimum diameter of 15mm or more	
检测距离 Detection distance	0.1-3m,0.1-10m	
电源电压 Supply voltage	DC24V纹波(P-P)10%以下 DC 24V ripple (P-P), below 10%	
控制输出 Control output	NPN或PNP晶体管集电极开路输出, 负载电流 < 100mA NPN or PNP transistor open-collector output, load current < 100mA	
动作模式 Action mode	Light on常闭/Dark on常开 Light on normally closed / Dark on normally open	RS485 Light on常闭/Dark on常开 RS485 Light on normally closed /Dark on normally open
使用环境照度 Ambient light illumination	收光器面照度: 白炽灯3000Lx以下, 太阳光10000Lx以下, 入射角<5° Light receiver surface illumination: incandescent lamp: below 3000Lx, sunlight: below 10000Lx, incident angle <5°	
指示灯 Indicator	线同步: 常态(无障态) 发光器红色长亮收光器绿色长亮 RS485同步: 常态(无障态) 发光器绿色长亮收光器绿色长亮 有障态发/收光器均红色长亮, 故障态发/收光器均红色闪烁 linear synchronization: Normal (faultless): the red indicator of the illuminator is constantly on, and the green indicator of the light receiver is constantly on. RS485 synchronization: Normal (faultless): the green indicator of the illuminator is constantly on, and the green indicator of the light receiver is constantly on. Detected: the red indicators of the illuminator and the light receiver are constantly on, Fault state: the red indicators of the illuminator and the light receiver flash	
保护回路 Protection circuit	电源逆接保护、输出短路保护 Power reverse connection protection, output short-circuit protection	
使用环境温度 Ambient temperature	工作时-15~55°C, 保存时-25~70°C (无结冰、无结露) -10 to 55°C during operation, -25 to 70°C during storage (no icing, no condensation)	
使用环境湿度 Ambient humidity	工作/保存时35-85%RH(无结露) 35-85%RH during operation/storage (no condensation)	
耐电压 Withstand voltage	AC1000V50/60Hz,1min充电整体与外壳之间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell	
耐振动 Vibration resistance	10~55Hz上下振幅1.5mmX,Y,Z各方向2小时 10-55Hz, amplitude of 1.5mm, 2 hours each in X,Y,Z directions	
耐冲击 Impact resistance	30m/s ² ,X,Y,Z各方向3次 30m/s ² , 3 times each in X,Y,Z direction	
防护等级 Protection level	IEC标准IP65 IEC standard IP65	
材质 Material	外壳铝滤光片: PMMA端盖: ABS Shell: Aluminum Optical filter: PMMA End cover: ABS	
附件 Accessories	说明书、合格证、安装支架、安装螺丝 Manual, certificate, mounting bracket, mounting screws	

注: CSA系列可选抗阳光功能, RS485输出, 分别需要在型号后面增加/S与/R,线同步产品最长检测距离3M,RS485可做10M,产品最长保护高度可做2.5米, 详细型号以及参数请与我司沟通。
Note: CSA series has optional sunlight resistant function and RS485 output. It is necessary to respectively add -S and -R after the model. The maximum detection distance of the line synchronization product is 3M, the maximum detection distance of RS485 can be 10M, and the maximum protection height of the product can be 2.5m. For detailed model and parameters, please contact us.

CA系列区域光幕 (通用型) /CA Series Area Light Curtains (General Type)

- 0盲区检测距离
0 blind area detection distance
- 10mm倍率光束间距
10mm power beam spacing
- 15mm防护精度
15mm protection accuracy
- 双闭环检测技术
Double closed loop detection technology
- 规格齐全光轴间距10-90mm,检测高度60-990mm
Complete specifications, optical axis spacing of 10-90mm, and detection height of 60-990mm



额定规格/性能 Rated Specification/Performance

光轴间距(mm) Optical axis spacing (mm)	10、20、30、40、50、60、70、80、90
光轴数 Number of optical axes	见额定规格一览表 See List of Rated Specifications
检测高度 Detection height	见额定规格一览表 See List of Rated Specifications
整机长度 Length	见额定规格一览表 See List of Rated Specifications
光源 Light source	红外光源850nm Infrared light source of 850nm
响应时间 Response time	≤20ms(根据不同光轴数量) ≤20ms (according to the number of different optical axes)
检测物体 Detected object	光轴间距+10mm以上不透明物体 Opaque object with optical axis spacing 10 mm+
检测距离 Detection distance	0.1-3m
电源电压 Supply voltage	工作电压: DC24V纹波(P-P)10%以下; 消耗电流: 30mA/40mA Operating voltage: DC24V ripple (P-P), below 10%; current consumption: 30mA/40mA (DC:24V,参考CA20-T0304DN1),每增加2光轴, 消耗电流增加约2mA (DC 24V, refer to CA20-T0304DN1), the current consumption increases by about 2mA with increase of 2 optical axes
控制输出 Control output	NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output
动作模式 Action mode	Light on 常闭/Dark on常开 Light on normally closed / Dark on normally open
使用环境照度 Ambient light illumination	收光器面照度:白炽灯3000lx以下、太阳光10000lx以下, 入射角<3° Light receiver surface illumination: Incandescent lamp below 3000lx, sunlight: below 10000lx, incident angle <3°
指示灯 Indicator	常态(无障态): 发光器红色长亮收光器绿色长亮, 有障态: 发/收光器均红色长亮, 故障态: 发/收光器均红色闪烁 Normal (faultless): the red indicator of the illuminator is constantly on, and the green indicator of the light receiver is constantly on Faulted: the red indicators of the illuminator and the light receiver are constantly on Fault state: the red indicators of the illuminator and the light receiver flash
保护回路 Protection circuit	电源逆接保护、输出短路保护 Power reverse connection protection, output short-circuit protection
使用环境温度 Ambient temperature	工作时-15~55°C, 保存时-25~70°C (无结冰、无结露) -10 to 55°C during operation, -25 to 70°C during storage (no icing, no condensation)
使用环境湿度 Ambient humidity	工作/保存时35-85%RH(无结露) 35-85%RH during operation/storage (no condensation)
耐电压 Withstand voltage	AC1000V50/60Hz 1min充电整体与外壳之间 AC 1,000V, 50/60HZ, 1min, between entire charging part and shell
耐振动 Vibration resistance	10~55HZ上下振幅1.5mmX,Y,Z各方向2小时 10-55HZ, amplitude of 1.5mm, 2 hours each in X, Y, Z directions
耐冲击 Impact resistance	30m/S²,X,Y,Z各方向3次 30m/s², 3 times each in X, Y, Z direction
防护等级 Protection level	IEC标准IP65 IEC standard IP65
材质 Material	外壳: 铝, 滤光片: PMMA, 端盖: PC, 插头: SUS304, 电缆: PVC Shell: Aluminum, Optical filter: PMMA, End cover: PC, Plug: SUS304, Cable: PVC
附件 Accessories	说明书、合格证、安装支架、安装螺丝 Manual, certificate, mounting bracket, mounting screws

CSA小盲区光幕系列额定规格一览表
List of Rated Specifications of CSA Small Blind Area Safety Light Curtain Series

NPN 常开/常闭 NPN NO/NC	PNP 常开/常闭 PNP NO/NC	光轴数 (n) Number of optical axes (n)	检测高度 H(mm) Detection height H(mm)	整机长度 L (mm) Length L (mm)	光轴间距 Optical axis spacing (mm)	电缆连接方式 Cable connection mode	
CSA10-T0308DN1/2	CSA10-T0308DP1/2	8	70	124	10	M12接插件 M12 connector	
CSA10-T0312DN1/2	CSA10-T0312DP1/2	12	110	164			
CSA10-T0316DN1/2	CSA10-T0316DP1/2	16	150	204			
CSA10-T0320DN1/2	CSA10-T0320DP1/2	20	190	244			
CSA10-T0324DN1/2	CSA10-T0324DP1/2	24	230	284			
CSA10-T0328DN1/2	CSA10-T0328DP1/2	28	270	324			
CSA10-T0332DN1/2	CSA10-T0332DP1/2	32	310	364			
CSA10-T0336DN1/2	CSA10-T0336DP1/2	36	350	404			
CSA10-T0340DN1/2	CSA10-T0340DP1/2	40	390	444			
CSA10-T0344DN1/2	CSA10-T0344DP1/2	44	430	484			
CSA10-T0348DN1/2	CSA10-T0348DP1/2	48	470	524			
CSA10-T0352DN1/2	CSA10-T0352DP1/2	52	510	564			
CSA10-T0356DN1/2	CSA10-T0356DP1/2	56	550	604			
CSA10-T0360DN1/2	CSA10-T0360DP1/2	60	590	644			
CSA10-T0364DN1/2	CSA10-T0364DP1/2	64	630	684			
CSA10-T0368DN1/2	CSA10-T0368DP1/2	68	670	724			
CSA10-T0372DN1/2	CSA10-T0372DP1/2	72	710	764			
CSA10-T0376DN1/2	CSA10-T0376DP1/2	76	750	804			
CSA10-T0380DN1/2	CSA10-T0380DP1/2	80	790	844			
CSA10-T0384DN1/2	CSA10-T0384DP1/2	84	830	884			
CSA10-T0388DN1/2	CSA10-T0388DP1/2	88	870	924			
CSA10-T0392DN1/2	CSA10-T0392DP1/2	92	910	964			
CSA10-T0396DN1/2	CSA10-T0396DP1/2	96	950	1004			
CSA10-T03100DN1/2	CSA10-T03100DP1/2	100	990	1044			
CSA20-T0304DN1/2	CSA20-T0304DP1/2	4	60	124	20		M12接插件 M12 connector
CSA20-T0306DN1/2	CSA20-T0306DP1/2	6	100	164			
CSA20-T0308DN1/2	CSA20-T0308DP1/2	8	140	204			
CSA20-T0310DN1/2	CSA20-T0310DP1/2	10	180	244			
CSA20-T0312DN1/2	CSA20-T0312DP1/2	12	220	284			
CSA20-T0314DN1/2	CSA20-T0314DP1/2	14	260	324			
CSA20-T0316DN1/2	CSA20-T0316DP1/2	16	300	364			
CSA20-T0318DN1/2	CSA20-T0318DP1/2	18	340	404			
CSA20-T0320DN1/2	CSA20-T0320DP1/2	20	380	444			
CSA20-T0322DN1/2	CSA20-T0322DP1/2	22	420	484			
CSA20-T0324DN1/2	CSA20-T0324DP1/2	24	460	524			
CSA20-T0326DN1/2	CSA20-T0326DP1/2	26	500	564			
CSA20-T0328DN1/2	CSA20-T0328DP1/2	28	540	604			
CSA20-T0330DN1/2	CSA20-T0330DP1/2	30	580	644			
CSA20-T0332DN1/2	CSA20-T0332DP1/2	32	620	684			
CSA20-T0334DN1/2	CSA20-T0334DP1/2	34	660	724			
CSA20-T0336DN1/2	CSA20-T0336DP1/2	36	700	764			
CSA20-T0338DN1/2	CSA20-T0338DP1/2	38	740	804			
CSA20-T0340DN1/2	CSA20-T0340DP1/2	40	780	844			
CSA20-T0342DN1/2	CSA20-T0342DP1/2	42	820	884			
CSA20-T0344DN1/2	CSA20-T0344DP1/2	44	860	924			
CSA20-T0346DN1/2	CSA20-T0346DP1/2	46	900	964			
CSA20-T0348DN1/2	CSA20-T0348DP1/2	48	940	1004			
CSA20-T0350DN1/2	CSA20-T0350DP1/2	50	980	1044			

CSA小盲区光幕系列额定规格一览表
List of Rated Specifications of CSA Small Blind Area Safety Light Curtain Series

NPN 常开/常闭 NPN NO/NC	PNP 常开/常闭 PNP NO/NC	光轴数(n) Number of optical axes (n)	检测高度H(mm) Detection height H(mm)	整机长度 L (mm) Length L (mm)	光轴间距 Optical axis spacing (mm)	电缆连接方式 Cable connection mode	
CSA30-T0304DN1/2	CSA30-T0304DP1/2	4	90	164	30	M12接插件 M12 connector	
CSA30-T0305DN1/2	CSA30-T0305DP1/2	5	120	204			
CSA30-T0306DN1/2	CSA30-T0306DP1/2	6	150	204			
CSA30-T0307DN1/2	CSA30-T0307DP1/2	7	180	244			
CSA30-T0308DN1/2	CSA30-T0308DP1/2	8	210	284			
CSA30-T0309DN1/2	CSA30-T0309DP1/2	9	240	324			
CSA30-T0310DN1/2	CSA30-T0310DP1/2	10	270	324			
CSA30-T0311DN1/2	CSA30-T0311DP1/2	11	300	364			
CSA30-T0312DN1/2	CSA30-T0312DP1/2	12	330	404			
CSA30-T0313DN1/2	CSA30-T0313DP1/2	13	360	444			
CSA30-T0314DN1/2	CSA30-T0314DP1/2	14	390	444			
CSA30-T0315DN1/2	CSA30-T0315DP1/2	15	420	484			
CSA30-T0316DN1/2	CSA30-T0316DP1/2	16	450	524			
CSA30-T0317DN1/2	CSA30-T0317DP1/2	17	480	564			
CSA30-T0318DN1/2	CSA30-T0318DP1/2	18	510	564			
CSA30-T0319DN1/2	CSA30-T0319DP1/2	19	540	604			
CSA30-T0320DN1/2	CSA30-T0320DP1/2	20	570	644			
CSA30-T0321DN1/2	CSA30-T0321DP1/2	21	600	684			
CSA30-T0322DN1/2	CSA30-T0322DP1/2	22	630	684			
CSA30-T0323DN1/2	CSA30-T0323DP1/2	23	660	724			
CSA30-T0324DN1/2	CSA30-T0324DP1/2	24	690	764			
CSA30-T0325DN1/2	CSA30-T0325DP1/2	25	720	804			
CSA30-T0326DN1/2	CSA30-T0326DP1/2	26	750	804			
CSA30-T0327DN1/2	CSA30-T0327DP1/2	27	780	844			
CSA30-T0328DN1/2	CSA30-T0328DP1/2	28	810	884			
CSA30-T0329DN1/2	CSA30-T0329DP1/2	29	840	924			
CSA30-T0330DN1/2	CSA30-T0330DP1/2	30	870	924			
CSA30-T0331DN1/2	CSA30-T0331DP1/2	31	900	964			
CSA30-T0332DN1/2	CSA30-T0332DP1/2	32	930	1004			
CSA30-T0333DN1/2	CSA30-T0333DP1/2	33	960	1044			
CSA30-T0334DN1/2	CSA30-T0334DP1/2	34	990	1044			
CSA40-T0303DN1/2	CSA40-T0303DP1/2	3	80	164	40		M12接插件 M12 connector
CSA40-T0304DN1/2	CSA40-T0304DP1/2	4	120	204			
CSA40-T0305DN1/2	CSA40-T0305DP1/2	5	160	244			
CSA40-T0306DN1/2	CSA40-T0306DP1/2	6	200	284			
CSA40-T0307DN1/2	CSA40-T0307DP1/2	7	240	324			
CSA40-T0308DN1/2	CSA40-T0308DP1/2	8	280	364			
CSA40-T0309DN1/2	CSA40-T0309DP1/2	9	320	404			
CSA40-T0310DN1/2	CSA40-T0310DP1/2	10	360	444			
CSA40-T0311DN1/2	CSA40-T0311DP1/2	11	400	484			
CSA40-T0312DN1/2	CSA40-T0312DP1/2	12	440	524			
CSA40-T0313DN1/2	CSA40-T0313DP1/2	13	480	564			
CSA40-T0314DN1/2	CSA40-T0314DP1/2	14	520	604			
CSA40-T0315DN1/2	CSA40-T0315DP1/2	15	560	644			
CSA40-T0316DN1/2	CSA40-T0316DP1/2	16	600	684			
CSA40-T0317DN1/2	CSA40-T0317DP1/2	17	640	724			
CSA40-T0318DN1/2	CSA40-T0318DP1/2	18	680	764			
CSA40-T0319DN1/2	CSA40-T0319DP1/2	19	720	804			
CSA40-T0320DN1/2	CSA40-T0320DP1/2	20	760	844			
CSA40-T0321DN1/2	CSA40-T0321DP1/2	21	800	884			
CSA40-T0322DN1/2	CSA40-T0322DP1/2	22	840	924			
CSA40-T0323DN1/2	CSA40-T0323DP1/2	23	880	964			
CSA40-T0324DN1/2	CSA40-T0324DP1/2	24	920	1004			
CSA40-T0325DN1/2	CSA40-T0325DP1/2	25	960	1044			

CSA小盲区光幕系列额定规格一览表
List of Rated Specifications of CSA Small Blind Area Safety Light Curtain Series

NPN 常开/常闭 NPN NO/NC	PNP 常开/常闭 PNP NO/NC	光轴数(n) Number of optical axes (n)	检测高度H(mm) Detection height H(mm)	整机长度 L (mm) Length L (mm)	光轴间距 Optical axis spacing (mm)	电缆连接方式 Cable connection mode	
CSA50-T0304DN1/2	CSA50-T0304DP1/2	4	150	204	50	M12接插件 M12 connector	
CSA50-T0305DN1/2	CSA50-T0305DP1/2	5	200	284			
CSA50-T0306DN1/2	CSA50-T0306DP1/2	6	250	324			
CSA50-T0307DN1/2	CSA50-T0307DP1/2	7	300	364			
CSA50-T0308DN1/2	CSA50-T0308DP1/2	8	350	404			
CSA50-T0309DN1/2	CSA50-T0309DP1/2	9	400	484			
CSA50-T0310DN1/2	CSA50-T0310DP1/2	10	450	524			
CSA50-T0311DN1/2	CSA50-T0311DP1/2	11	500	564			
CSA50-T0312DN1/2	CSA50-T0312DP1/2	12	550	604			
CSA50-T0313DN1/2	CSA50-T0313DP1/2	13	600	684			
CSA50-T0314DN1/2	CSA50-T0314DP1/2	14	650	724			
CSA50-T0315DN1/2	CSA50-T0315DP1/2	15	700	764			
CSA50-T0316DN1/2	CSA50-T0316DP1/2	16	750	804			
CSA50-T0317DN1/2	CSA50-T0317DP1/2	17	800	884			
CSA50-T0318DN1/2	CSA50-T0318DP1/2	18	850	924			
CSA50-T0319DN1/2	CSA50-T0319DP1/2	19	900	964			
CSA50-T0320DN1/2	CSA50-T0320DP1/2	20	950	1004			
CSA60-T0303DN1/2	CSA60-T0303DP1/2	3	120	204			60
CSA60-T0304DN1/2	CSA60-T0304DP1/2	4	180	244			
CSA60-T0305DN1/2	CSA60-T0305DP1/2	5	240	324			
CSA60-T0306DN1/2	CSA60-T0306DP1/2	6	300	364			
CSA60-T0307DN1/2	CSA60-T0307DP1/2	7	360	444			
CSA60-T0308DN1/2	CSA60-T0308DP1/2	8	420	484			
CSA60-T0309DN1/2	CSA60-T0309DP1/2	9	480	564			
CSA60-T0310DN1/2	CSA60-T0310DP1/2	10	540	604			
CSA60-T0311DN1/2	CSA60-T0311DP1/2	11	600	684			
CSA60-T0312DN1/2	CSA60-T0312DP1/2	12	660	724			
CSA60-T0313DN1/2	CSA60-T0313DP1/2	13	720	804			
CSA60-T0314DN1/2	CSA60-T0314DP1/2	14	780	844			
CSA60-T0315DN1/2	CSA60-T0315DP1/2	15	840	924			
CSA60-T0316DN1/2	CSA60-T0316DP1/2	16	900	964			
CSA60-T0317DN1/2	CSA60-T0317DP1/2	17	960	1044			
CSA70-T0303DN1/2	CSA70-T0303DP1/2	3	140	204	70		
CSA70-T0304DN1/2	CSA70-T0304DP1/2	4	210	284			
CSA70-T0305DN1/2	CSA70-T0305DP1/2	5	280	364			
CSA70-T0306DN1/2	CSA70-T0306DP1/2	6	350	404			
CSA70-T0307DN1/2	CSA70-T0307DP1/2	7	420	484			
CSA70-T0308DN1/2	CSA70-T0308DP1/2	8	490	564			
CSA70-T0309DN1/2	CSA70-T0309DP1/2	9	560	644			
CSA70-T0310DN1/2	CSA70-T0310DP1/2	10	630	684			
CSA70-T0311DN1/2	CSA70-T0311DP1/2	11	700	764			
CSA70-T0312DN1/2	CSA70-T0312DP1/2	12	770	844			
CSA70-T0313DN1/2	CSA70-T0313DP1/2	13	840	924			
CSA70-T0314DN1/2	CSA70-T0314DP1/2	14	910	964			
CSA70-T0315DN1/2	CSA70-T0315DP1/2	15	980	1044			

CSA小盲区光幕系列额定规格一览表
List of Rated Specifications of CSA Small Blind Area Safety Light Curtain Series

NPN 常开/常闭 NPN NO/NC	PNP 常开/常闭 PNP NO/NC	光轴数(n) Number of optical axes (n)	检测高度H(mm) Detection height H(mm)	整机长度 L (mm) Length L (mm)	光轴间距 Optical axis spacing (mm)	电缆连接方式 Cable connection mode	
CSA80-T0302DN1/2	CSA80-T0302DP1/2	2	80	164	80	M12接插件 M12 connector	
CSA80-T0303DN1/2	CSA80-T0303DP1/2	3	160	244			
CSA80-T0304DN1/2	CSA80-T0304DP1/2	4	240	324			
CSA80-T0305DN1/2	CSA80-T0305DP1/2	5	320	404			
CSA80-T0306DN1/2	CSA80-T0306DP1/2	6	400	484			
CSA80-T0307DN1/2	CSA80-T0307DP1/2	7	480	564			
CSA80-T0308DN1/2	CSA80-T0308DP1/2	8	560	644			
CSA80-T0309DN1/2	CSA80-T0309DP1/2	9	640	724			
CSA80-T0310DN1/2	CSA80-T0310DP1/2	10	720	804			
CSA80-T0311DN1/2	CSA80-T0311DP1/2	11	800	884			
CSA80-T0312DN1/2	CSA80-T0312DP1/2	12	880	964			
CSA80-T0313DN1/2	CSA80-T0313DP1/2	13	960	1044			
CSA90-T0302DN1/2	CSA90-T0302DP1/2	2	90	164	90		M12接插件 M12 connector
CSA90-T0303DN1/2	CSA90-T0303DP1/2	3	180	244			
CSA90-T0304DN1/2	CSA90-T0304DP1/2	4	270	324			
CSA90-T0305DN1/2	CSA90-T0305DP1/2	5	360	444			
CSA90-T0306DN1/2	CSA90-T0306DP1/2	6	450	524			
CSA90-T0307DN1/2	CSA90-T0307DP1/2	7	540	604			
CSA90-T0308DN1/2	CSA90-T0308DP1/2	8	630	684			
CSA90-T0309DN1/2	CSA90-T0309DP1/2	9	720	804			
CSA90-T0310DN1/2	CSA90-T0310DP1/2	10	810	884			
CSA90-T0311DN1/2	CSA90-T0311DP1/2	11	900	964			
CSA90-T0312DN1/2	CSA90-T0312DP1/2	12	990	1044			

备注：保护高度可做到2500mm。
 Remark: The protection height can be 2500mm.
 实际型号举例为CSA20-T0326DN1。
 The actual example model is CSA20-T0326DN1.
 定制型号举例，10m光幕型号为CSA20-T1026DN3/R,防水光幕型号为CSA20-T0326DN1/K,抗阳光光幕型号为CSA20-T0326DN1/S,RS485光幕型号为CSA20-T0326DN3/R。
 For examples, the custom model of 10m light curtain is CSA20-T1026DN3/R, the custom model of waterproof light curtain is CSA20-T0326DN1/K, the custom model of sunlight resistant light curtain is CSA20-T0326DN1/S, and the custom model of RS485 light curtain is CSA20-T0326DN3/R.
 具体选型官网/旗舰店下载，或联系客服热线400-808-6488。
 Download the specific models at the official website/flagship store, or call the customer hotline 400-808-6488.

CA系列额定规格一览表
List of Rated Specifications of CA Series

NPN 常开/常闭 NPN NO/NC	PNP 常开/常闭 PNP NO/NC	光轴数(n) Number of optical axes (n)	检测高度H(mm) Detection height H(mm)	整机长度 L (mm) Length L (mm)	光轴间距 Optical axis spacing (mm)	电缆连接方式 Cable connection mode
CA10-T0312DN1/2	CA10-T0312DP1/2	12	110	190	10	成型电缆/M12中继型 Molded cable/M12 trunk type
CA10-T0316DN1/2	CA10-T0316DP1/2	16	150	230		
CA10-T0320DN1/2	CA10-T0320DP1/2	20	190	270		
CA10-T0324DN1/2	CA10-T0324DP1/2	24	230	310		
CA10-T0328DN1/2	CA10-T0328DP1/2	28	270	350		
CA10-T0332DN1/2	CA10-T0332DP1/2	32	310	390		
CA10-T0336DN1/2	CA10-T0336DP1/2	36	350	430		
CA10-T0340DN1/2	CA10-T0340DP1/2	40	390	470		
CA10-T0344DN1/2	CA10-T0344DP1/2	44	430	510		
CA10-T0348DN1/2	CA10-T0348DP1/2	48	470	550		
CA10-T0352DN1/2	CA10-T0352DP1/2	52	510	590		
CA10-T0356DN1/2	CA10-T0356DP1/2	56	550	630		
CA10-T0360DN1/2	CA10-T0360DP1/2	60	590	670		
CA10-T0364DN1/2	CA10-T0364DP1/2	64	630	710		
CA10-T0368DN1/2	CA10-T0368DP1/2	68	670	750		
CA10-T0372DN1/2	CA10-T0372DP1/2	72	710	790		
CA10-T0376DN1/2	CA10-T0376DP1/2	76	750	830		
CA10-T0380DN1/2	CA10-T0380DP1/2	80	790	870		
CA10-T0384DN1/2	CA10-T0384DP1/2	84	830	910		
CA10-T0388DN1/2	CA10-T0388DP1/2	88	870	950		
CA10-T0392DN1/2	CA10-T0392DP1/2	92	910	990		
CA10-T0396DN1/2	CA10-T0396DP1/2	96	950	1030		
CA10-T03100DN1/2	CA10-T03100DP1/2	100	990	1070		
CA20-T0306DN1/2	CA20-T0306DP1/2	6	100	190	20	成型电缆/M12中继型 Molded cable/M12 trunk type
CA20-T0308DN1/2	CA20-T0308DP1/2	8	140	230		
CA20-T0310DN1/2	CA20-T0310DP1/2	10	180	270		
CA20-T0312DN1/2	CA20-T0312DP1/2	12	220	310		
CA20-T0314DN1/2	CA20-T0314DP1/2	14	260	350		
CA20-T0316DN1/2	CA20-T0316DP1/2	16	300	390		
CA20-T0318DN1/2	CA20-T0318DP1/2	18	340	430		
CA20-T0320DN1/2	CA20-T0320DP1/2	20	380	470		
CA20-T0322DN1/2	CA20-T0322DP1/2	22	420	510		
CA20-T0324DN1/2	CA20-T0324DP1/2	24	460	550		
CA20-T0326DN1/2	CA20-T0326DP1/2	26	500	590		
CA20-T0328DN1/2	CA20-T0328DP1/2	28	540	630		
CA20-T0330DN1/2	CA20-T0330DP1/2	30	580	670		
CA20-T0332DN1/2	CA20-T0332DP1/2	32	620	710		
CA20-T0334DN1/2	CA20-T0334DP1/2	34	660	750		
CA20-T0336DN1/2	CA20-T0336DP1/2	36	700	790		
CA20-T0338DN1/2	CA20-T0338DP1/2	38	740	830		
CA20-T0340DN1/2	CA20-T0340DP1/2	40	780	870		
CA20-T0342DN1/2	CA20-T0342DP1/2	42	820	910		
CA20-T0344DN1/2	CA20-T0344DP1/2	44	860	950		
CA20-T0346DN1/2	CA20-T0346DP1/2	46	900	990		
CA20-T0348DN1/2	CA20-T0348DP1/2	48	940	1030		
CA20-T0350DN1/2	CA20-T0350DP1/2	50	980	1070		

CA系列额定规格一览表
List of Rated Specifications of CA Series

NPN 常开/常闭 NPN NO/NC	PNP 常开/常闭 PNP NO/NC	光轴数(n) Number of optical axes (n)	检测高度 H(mm) Detection height H(mm)	整机长度L (mm) Length L (mm)	光轴间距 Optical axis spacing (mm)	电缆连接方式 Cable connection mode		
CA30-T0304DN1/2	CA30-T0304DP1/2	4	90	190	30	成型电缆/M12中继型 Molded cable/M12 trunk type		
CA30-T0305DN1/2	CA30-T0305DP1/2	5	120	230				
CA30-T0306DN1/2	CA30-T0306DP1/2	6	150	230				
CA30-T0307DN1/2	CA30-T0307DP1/2	7	180	270				
CA30-T0308DN1/2	CA30-T0308DP1/2	8	210	310				
CA30-T0309DN1/2	CA30-T0309DP1/2	9	240	350				
CA30-T0310DN1/2	CA30-T0310DP1/2	10	270	350				
CA30-T0311DN1/2	CA30-T0311DP1/2	11	300	390				
CA30-T0312DN1/2	CA30-T0312DP1/2	12	330	430				
CA30-T0313DN1/2	CA30-T0313DP1/2	13	360	470				
CA30-T0314DN1/2	CA30-T0314DP1/2	14	390	470				
CA30-T0315DN1/2	CA30-T0315DP1/2	15	420	510				
CA30-T0316DN1/2	CA30-T0316DP1/2	16	450	550				
CA30-T0317DN1/2	CA30-T0317DP1/2	17	480	590				
CA30-T0318DN1/2	CA30-T0318DP1/2	18	510	590				
CA30-T0319DN1/2	CA30-T0319DP1/2	19	540	630				
CA30-T0320DN1/2	CA30-T0320DP1/2	20	570	670				
CA30-T0321DN1/2	CA30-T0321DP1/2	21	600	710				
CA30-T0322DN1/2	CA30-T0322DP1/2	22	630	710				
CA30-T0323DN1/2	CA30-T0323DP1/2	23	660	750				
CA30-T0324DN1/2	CA30-T0324DP1/2	24	690	790				
CA30-T0325DN1/2	CA30-T0325DP1/2	25	720	830				
CA30-T0326DN1/2	CA30-T0326DP1/2	26	750	830				
CA30-T0327DN1/2	CA30-T0327DP1/2	27	780	870				
CA30-T0328DN1/2	CA30-T0328DP1/2	28	810	910				
CA30-T0329DN1/2	CA30-T0329DP1/2	29	840	950				
CA30-T0330DN1/2	CA30-T0330DP1/2	30	870	950				
CA30-T0331DN1/2	CA30-T0331DP1/2	31	900	990				
CA30-T0332DN1/2	CA30-T0332DP1/2	32	930	1030				
CA30-T0333DN1/2	CA30-T0333DP1/2	33	960	1070				
CA30-T0334DN1/2	CA30-T0334DP1/2	34	990	1070				
CA40-T0303DN1/2	CA40-T0303DP1/2	3	80	190			40	成型电缆/M12中继型 Molded cable/M12 trunk type
CA40-T0304DN1/2	CA40-T0304DP1/2	4	120	230				
CA40-T0305DN1/2	CA40-T0305DP1/2	5	160	270				
CA40-T0306DN1/2	CA40-T0306DP1/2	6	200	310				
CA40-T0307DN1/2	CA40-T0307DP1/2	7	240	350				
CA40-T0308DN1/2	CA40-T0308DP1/2	8	280	390				
CA40-T0309DN1/2	CA40-T0309DP1/2	9	320	430				
CA40-T0310DN1/2	CA40-T0310DP1/2	10	360	470				
CA40-T0311DN1/2	CA40-T0311DP1/2	11	400	510				
CA40-T0312DN1/2	CA40-T0312DP1/2	12	440	550				
CA40-T0313DN1/2	CA40-T0313DP1/2	13	480	590				
CA40-T0314DN1/2	CA40-T0314DP1/2	14	520	630				

CA系列额定规格一览表

List of Rated Specifications of CA Series

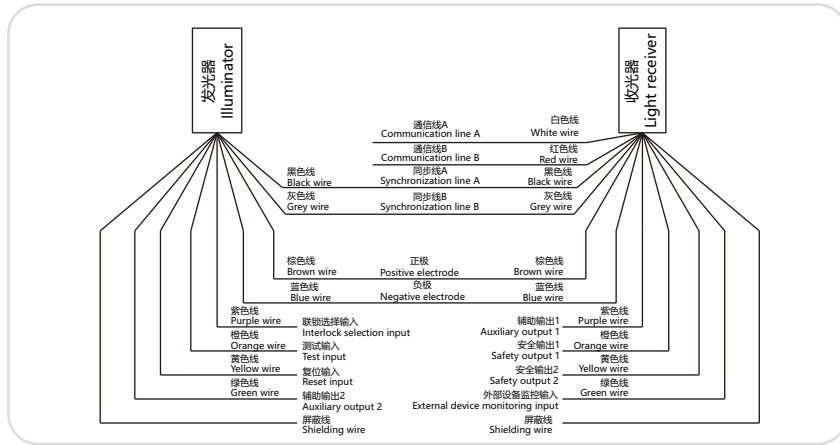
NPN 常开/常闭 NPN NO/NC	PNP 常开/常闭 PNP NO/NC	光轴数(n) Number of optical axes (n)	检测高度H(mm) Detection height H(mm)	整机长度L (mm) Length L (mm)	光轴间距 Optical axis spacing (mm)	电缆连接方式 Cable connection mode
CA40-T0315DN1/2	CA40-T0315DP1/2	15	560	670	40	成型电缆/M12中继型 Molded cable/M12 trunk type
CA40-T0316DN1/2	CA40-T0316DP1/2	16	600	710		
CA40-T0317DN1/2	CA40-T0317DP1/2	17	640	750		
CA40-T0318DN1/2	CA40-T0318DP1/2	18	680	790		
CA40-T0319DN1/2	CA40-T0319DP1/2	19	720	830		
CA40-T0320DN1/2	CA40-T0320DP1/2	20	760	870		
CA40-T0321DN1/2	CA40-T0321DP1/2	21	800	910		
CA40-T0322DN1/2	CA40-T0322DP1/2	22	840	950		
CA40-T0323DN1/2	CA40-T0323DP1/2	23	860	990		
CA40-T0324DN1/2	CA40-T0324DP1/2	24	920	1030		
CA40-T0325DN1/2	CA40-T0325DP1/2	25	960	1070		
CA50-T0303DN1/2	CA50-T0303DP1/2	3	100	190		
CA50-T0304DN1/2	CA50-T0304DP1/2	4	150	230		
CA50-T0305DN1/2	CA50-T0305DP1/2	5	200	310		
CA50-T0306DN1/2	CA50-T0306DP1/2	6	250	350		
CA50-T0307DN1/2	CA50-T0307DP1/2	7	300	390		
CA50-T0308DN1/2	CA50-T0308DP1/2	8	350	430		
CA50-T0309DN1/2	CA50-T0309DP1/2	9	400	510		
CA50-T0310DN1/2	CA50-T0310DP1/2	10	450	550		
CA50-T0311DN1/2	CA50-T0311DP1/2	11	500	590		
CA50-T0312DN1/2	CA50-T0312DP1/2	12	550	630		
CA50-T0313DN1/2	CA50-T0313DP1/2	13	600	710		
CA50-T0314DN1/2	CA50-T0314DP1/2	14	650	750		
CA50-T0315DN1/2	CA50-T0315DP1/2	15	700	790		
CA50-T0316DN1/2	CA50-T0316DP1/2	16	750	830		
CA50-T0317DN1/2	CA50-T0317DP1/2	17	800	910		
CA50-T0318DN1/2	CA50-T0318DP1/2	18	850	950		
CA50-T0319DN1/2	CA50-T0319DP1/2	19	900	990		
CA50-T0320DN1/2	CA50-T0320DP1/2	20	950	1030		
CA60-T0303DN1/2	CA60-T0303DP1/2	3	120	230	60	成型电缆/M12中继型 Molded cable/M12 trunk type
CA60-T0304DN1/2	CA60-T0304DP1/2	4	180	270		
CA60-T0305DN1/2	CA60-T0305DP1/2	5	240	350		
CA60-T0306DN1/2	CA60-T0306DP1/2	6	300	390		
CA60-T0307DN1/2	CA60-T0307DP1/2	7	360	470		
CA60-T0308DN1/2	CA60-T0308DP1/2	8	420	510		
CA60-T0309DN1/2	CA60-T0309DP1/2	9	480	590		
CA60-T0310DN1/2	CA60-T0310DP1/2	10	540	630		
CA60-T0311DN1/2	CA60-T0311DP1/2	11	600	710		
CA60-T0312DN1/2	CA60-T0312DP1/2	12	660	750		
CA60-T0313DN1/2	CA60-T0313DP1/2	13	720	830		
CA60-T0314DN1/2	CA60-T0314DP1/2	14	780	870		
CA60-T0315DN1/2	CA60-T0315DP1/2	15	840	950		
CA60-T0316DN1/2	CA60-T0316DP1/2	16	900	990		
CA60-T0317DN1/2	CA60-T0317DP1/2	17	960	1070		

CA系列额定规格一览表
List of Rated Specifications of CA Series

NPN 常开/常闭 NPN NO/NC	PNP 常开/常闭 PNP NO/NC	光轴数(n) Number of optical axes (n)	检测高度H (mm) Detection height H (mm)	整机长度L(mm) Length L (mm)	光轴间距 Optical axis spacing	电缆连接方式 Cable connection mode
CA70-T0303DN1/2	CA70-T0303DP1/2	3	140	230	70	成型电缆/M12中继型 Molded cable/M12 trunk type
CA70-T0304DN1/2	CA70-T0304DP1/2	4	210	310		
CA70-T0305DN1/2	CA70-T0305DP1/2	5	280	390		
CA70-T0306DN1/2	CA70-T0306DP1/2	6	350	430		
CA70-T0307DN1/2	CA70-T0307DP1/2	7	420	510		
CA70-T0308DN1/2	CA70-T0308DP1/2	8	490	590		
CA70-T0309DN1/2	CA70-T0309DP1/2	9	560	670		
CA70-T0310DN1/2	CA70-T0310DP1/2	10	630	710		
CA70-T0311DN1/2	CA70-T0311DP1/2	11	700	790		
CA70-T0312DN1/2	CA70-T0312DP1/2	12	770	870		
CA70-T0313DN1/2	CA70-T0313DP1/2	13	840	950		
CA70-T0314DN1/2	CA70-T0314DP1/2	14	910	990		
CA70-T0315DN1/2	CA70-T0315DP1/2	15	980	1070		
CA80-T0302DN1/2	CA80-T0302DP1/2	2	80	190	80	成型电缆/M12中继型 Molded cable/M12 trunk type
CA80-T0303DN1/2	CA80-T0303DP1/2	3	160	270		
CA80-T0304DN1/2	CA80-T0304DP1/2	4	240	350		
CA80-T0305DN1/2	CA80-T0305DP1/2	5	320	430		
CA80-T0306DN1/2	CA80-T0306DP1/2	6	400	510		
CA80-T0307DN1/2	CA80-T0307DP1/2	7	480	590		
CA80-T0308DN1/2	CA80-T0308DP1/2	8	560	670		
CA80-T0309DN1/2	CA80-T0309DP1/2	9	640	750		
CA80-T0310DN1/2	CA80-T0310DP1/2	10	720	830		
CA80-T0311DN1/2	CA80-T0311DP1/2	11	800	910		
CA80-T0312DN1/2	CA80-T0312DP1/2	12	880	990		
CA80-T0313DN1/2	CA80-T0313DP1/2	13	960	1070		
CA90-T0302DN1/2	CA90-T0302DP1/2	2	90	190	90	成型电缆/M12中继型 Molded cable/M12 trunk type
CA90-T0303DN1/2	CA90-T0303DP1/2	3	180	270		
CA90-T0304DN1/2	CA90-T0304DP1/2	4	270	350		
CA90-T0305DN1/2	CA90-T0305DP1/2	5	360	470		
CA90-T0306DN1/2	CA90-T0306DP1/2	6	450	550		
CA90-T0307DN1/2	CA90-T0307DP1/2	7	540	630		
CA90-T0308DN1/2	CA90-T0308DP1/2	8	630	710		
CA90-T0309DN1/2	CA90-T0309DP1/2	9	720	830		
CA90-T0310DN1/2	CA90-T0310DP1/2	10	810	910		
CA90-T0311DN1/2	CA90-T0311DP1/2	11	900	990		
CA90-T0312DN1/2	CA90-T0312DP1/2	12	990	1070		

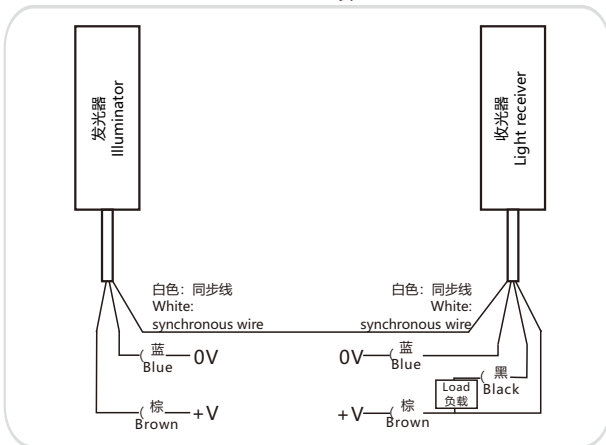
备注：具体选型官网/旗舰店下载，或联系客户热线400-8086488。
 Remark: Download the specific models at the official website/flagship store, or call the customer hotline 400-8086488.

CSS系列控制输出图 Control Output Diagram of CSS Series

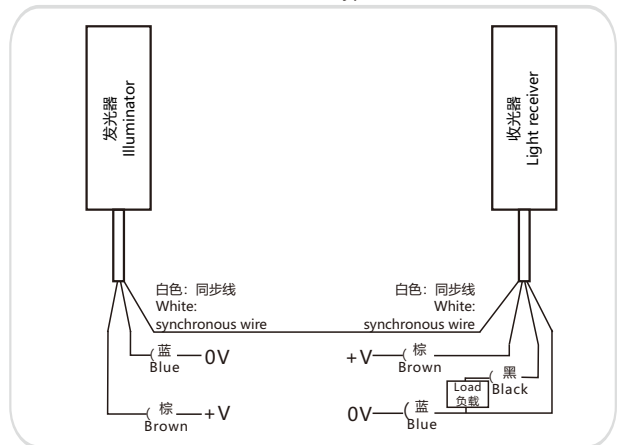


CA系列控制输出图 Control Output Diagram of CA Series

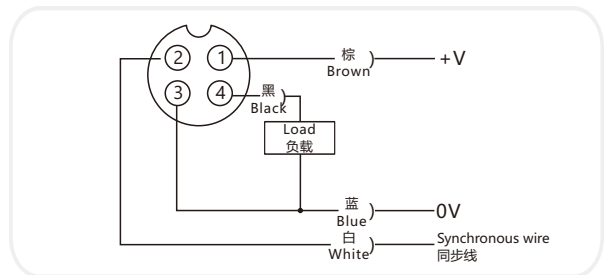
NPN导线式
NPN wire type



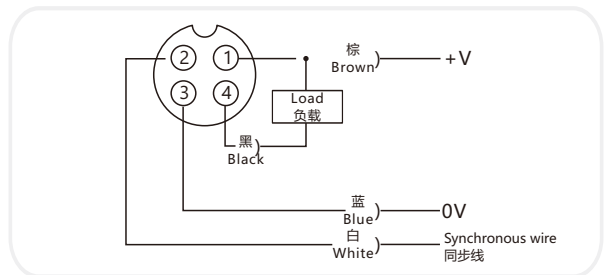
PNP导线式
PNP wire type



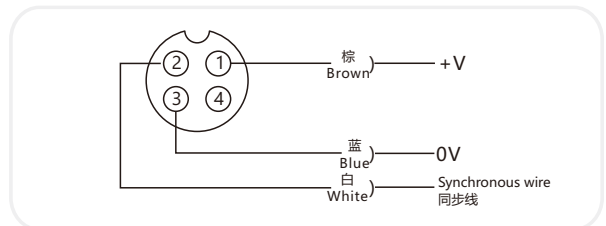
接收器PNP型M12中继型
Light receiver PNP M12 trunk type



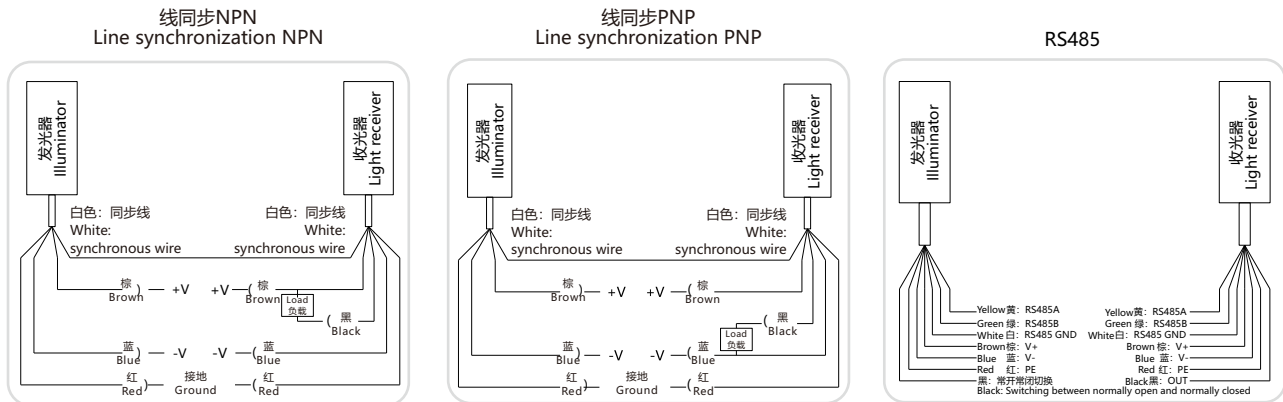
接收器NPN型M12中继型
Light receiver NPN M12 trunk type



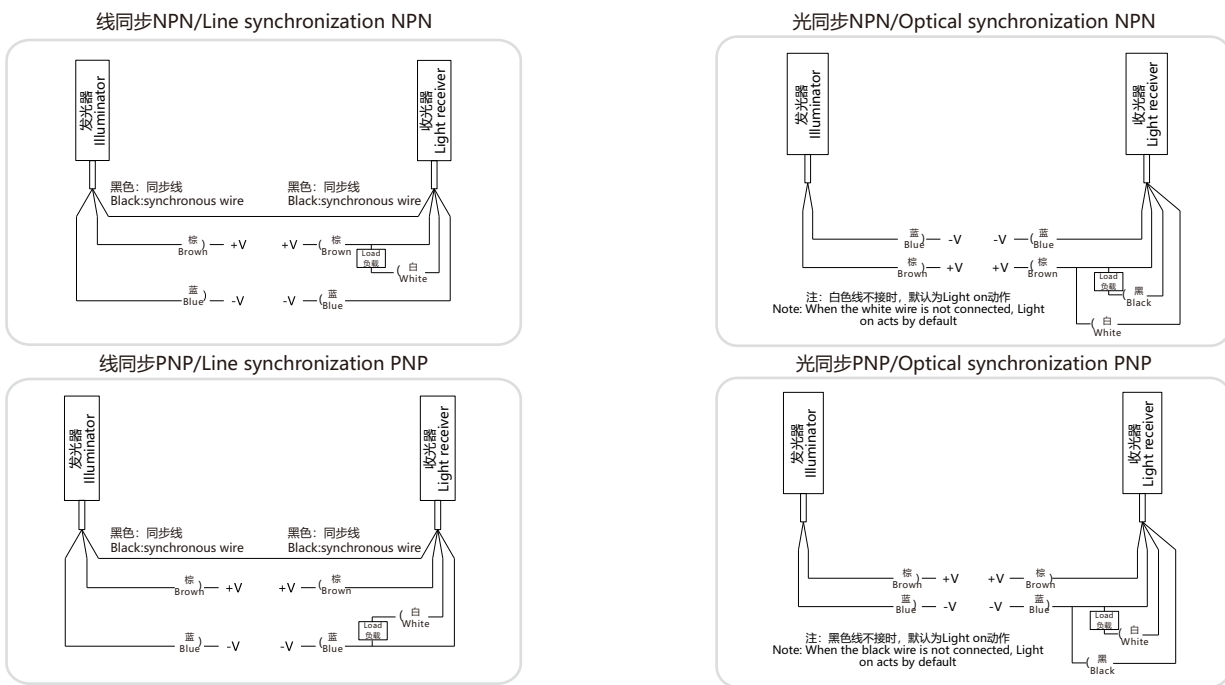
发光器 M12中继型
Illuminator M12 trunk type



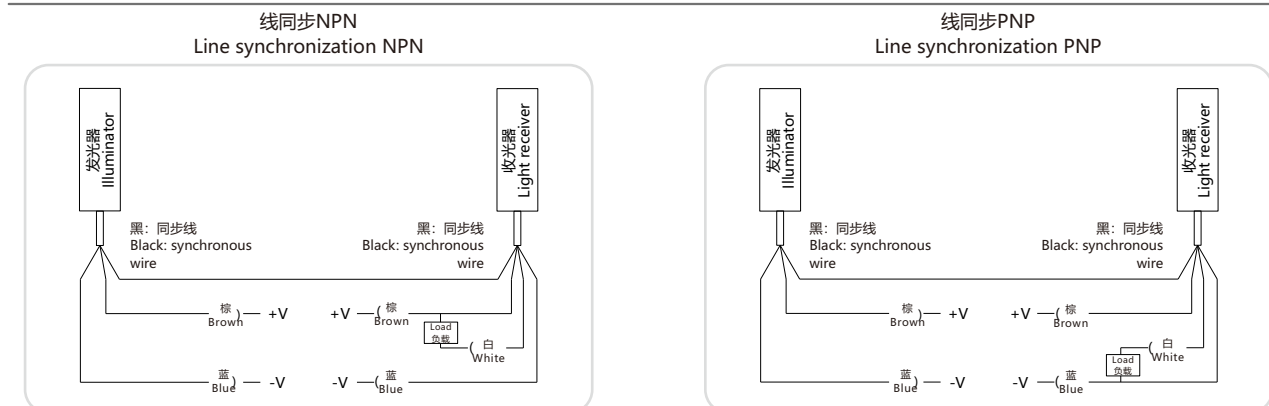
CSA系列控制输出图 Control Output Diagram of CSA Series



CSF系列控制输出图 Control Output Diagram of CSF Series

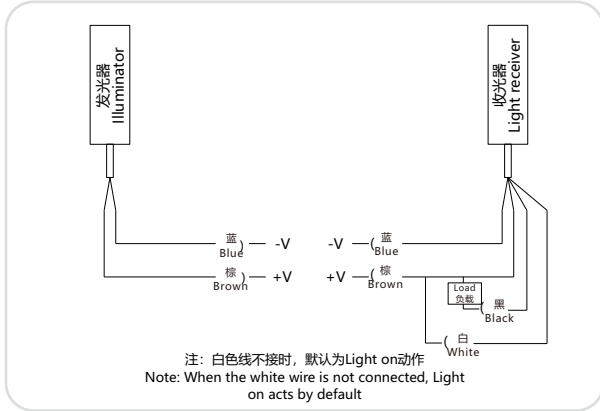


CSL/CSP系列控制输出图 Control Output Diagram of CSL/CSP Series

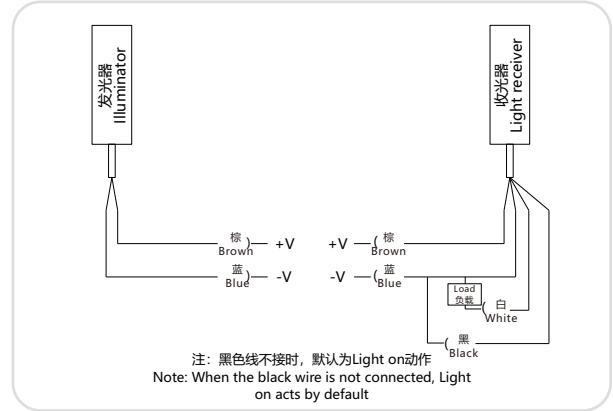


CSG系列控制输出图 Control Output Diagram of CSG Series

NPN

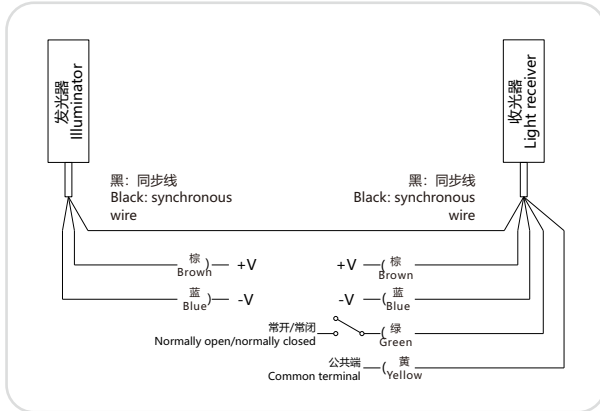


PNP

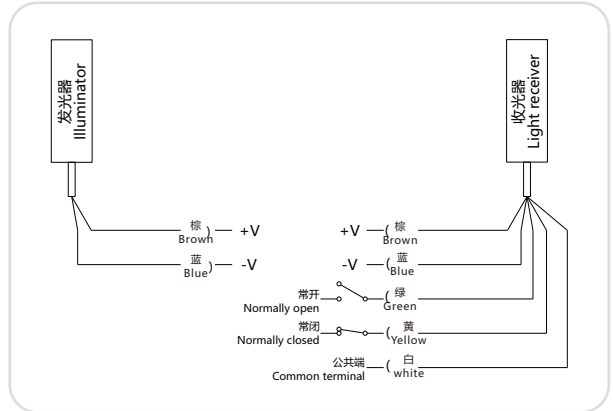


CSG系列控制输出图 Control Output Diagram of CSG Series

线同步继电器
Line synchronization relay

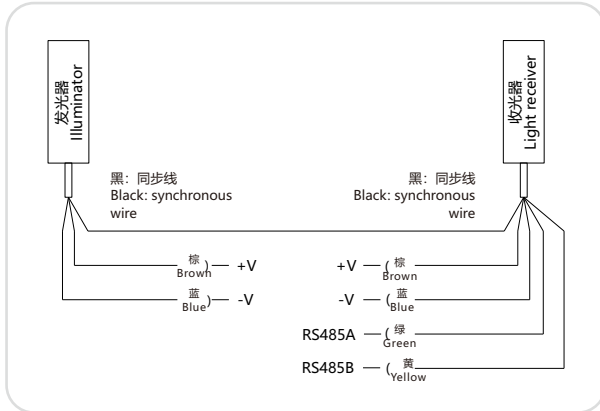


线同步继电器
Line synchronization relay

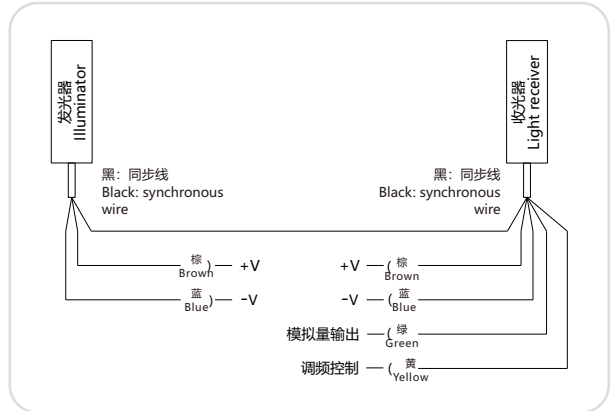


CSMF/CSMG系列控制输出图 Control Output Diagram of CSMF/CSMG Series

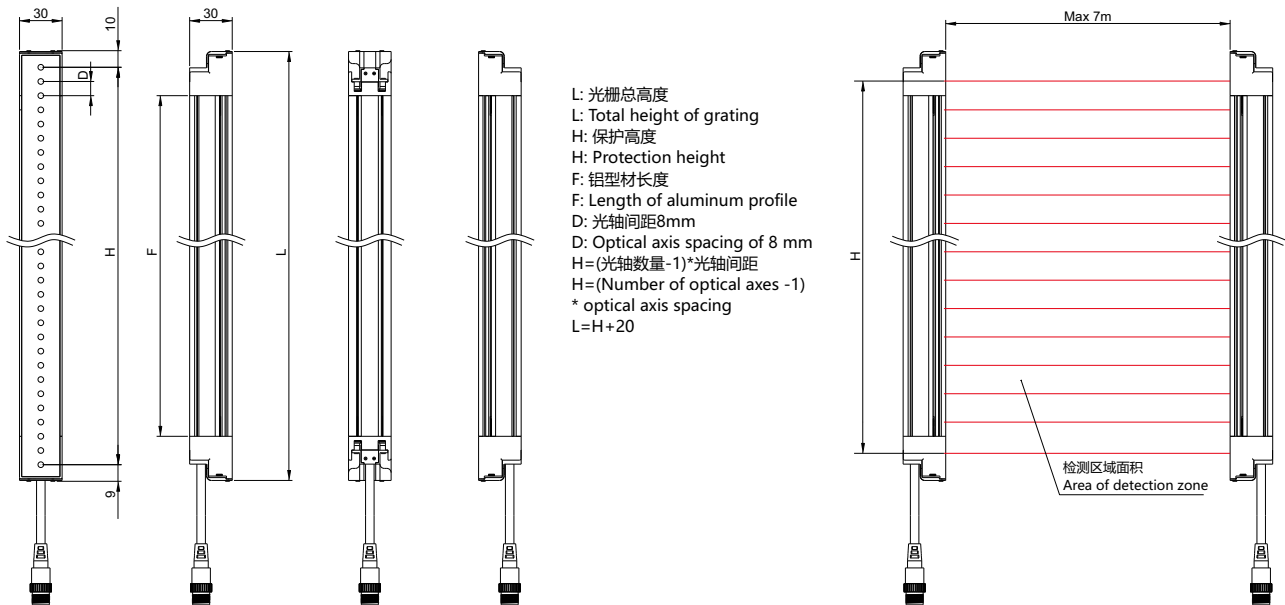
RS485输出
RS485 output



模拟量输出
Analog output

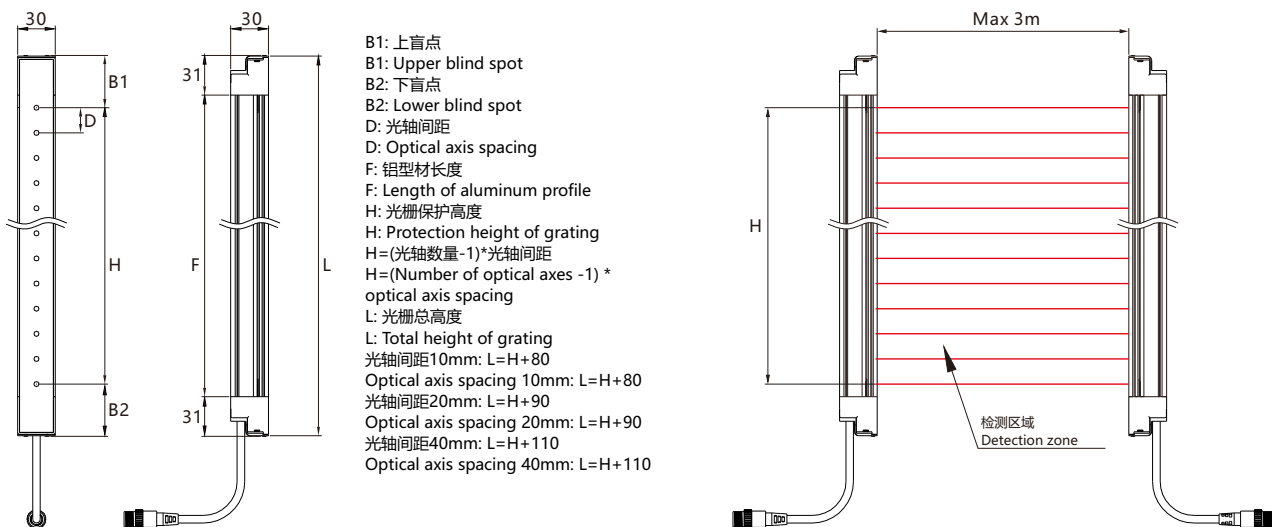


CSS系列外形尺寸图 Overall Dimension Drawing for CSS Series



注：具体型号规格尺寸请对应额定规格/性能参数表查询。
 Note: For the specific model specifications, please refer to the list of rated specifications/performance parameters.

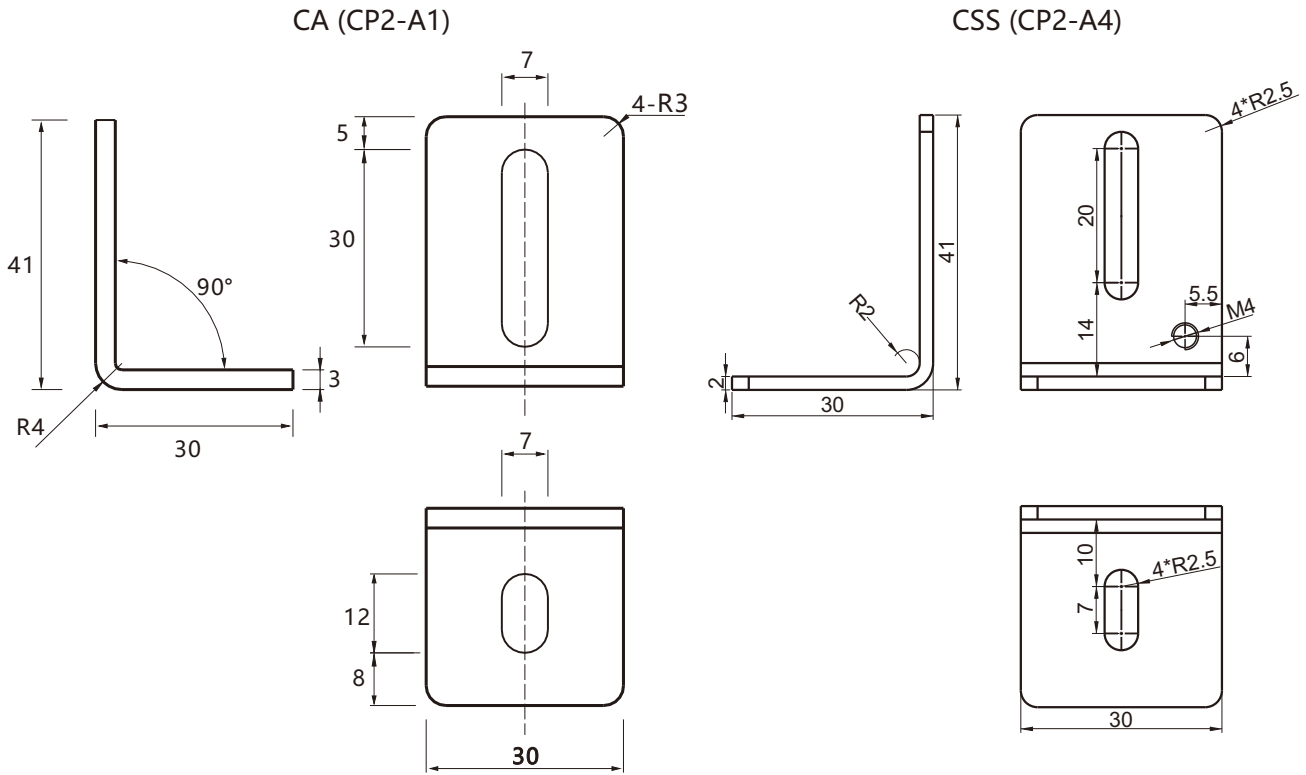
CA系列外形尺寸图 Overall Dimension Drawing for CA Series



注：具体型号规格尺寸与其他光轴间距总高度请对应额定规格/性能参数表查询。
 Note: For the specific model specifications and other Total height of grating Optical axis spacing, please refer to the list of rated specifications/performance parameters.

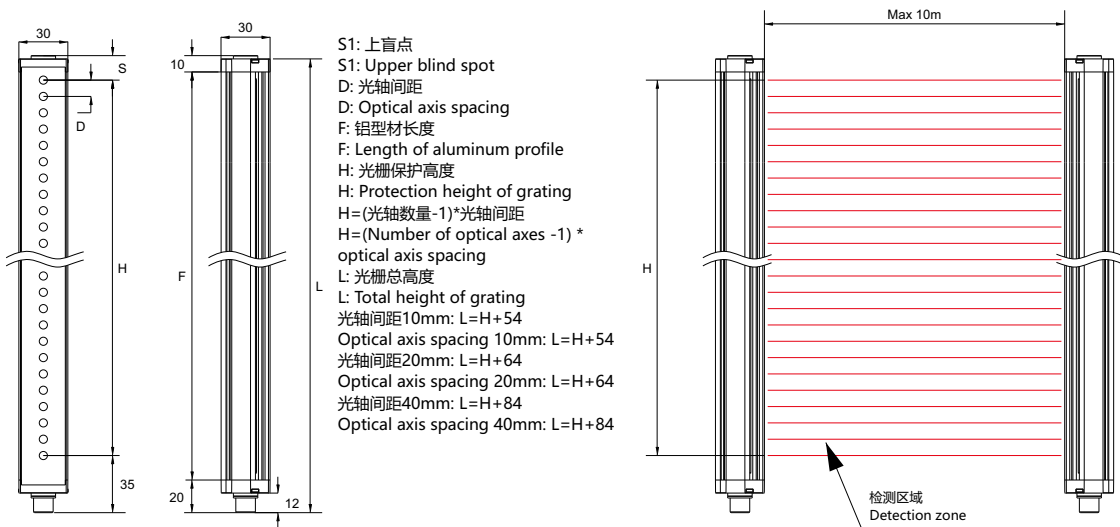
CA/CSS系列安装支架尺寸图

Dimension Drawing for Mounting Bracket of CA/CSS Series



CSA系列外形尺寸图

Overall Dimension Drawing for CSA Series

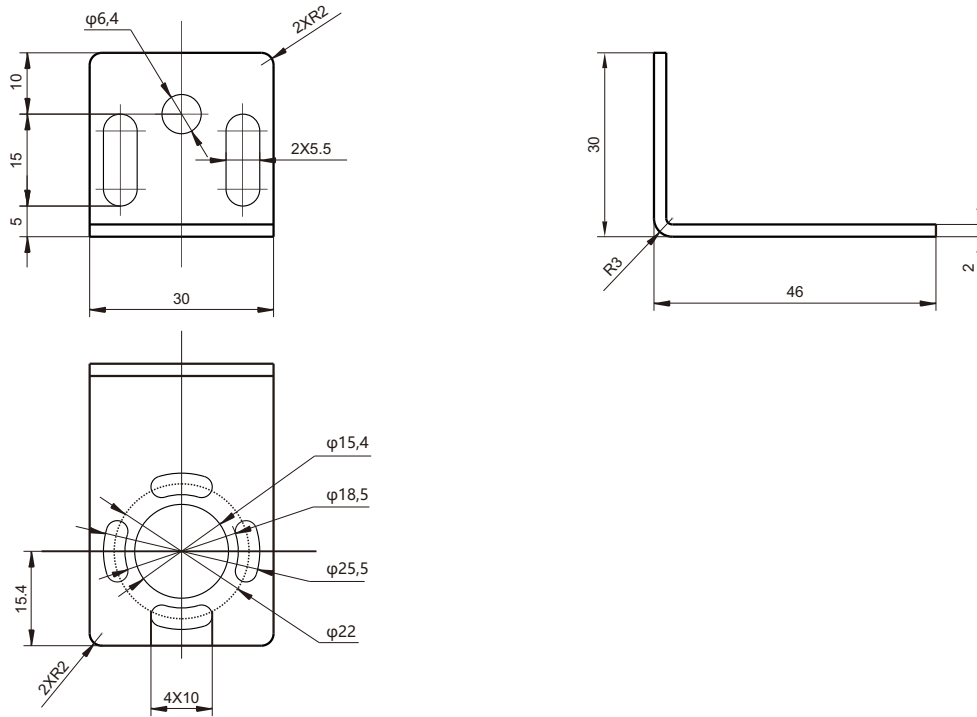


注：具体型号规格尺寸与其他光轴间距总高度请对应额定规格/性能参数表查询。

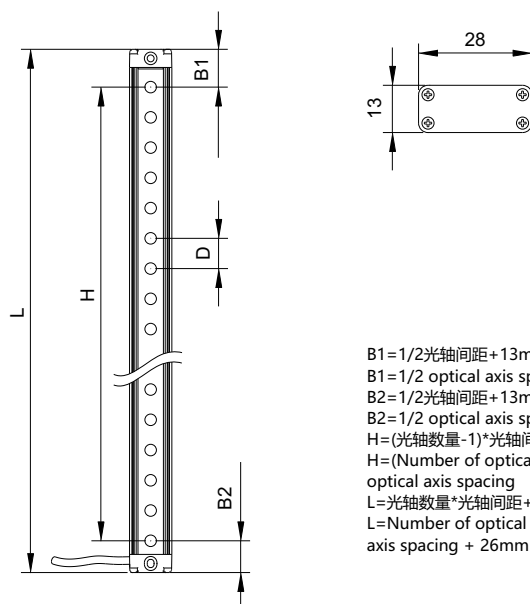
Note: For the specific model specifications and other Total height of grating Optical axis spacing, please refer to the list of rated specifications/performance parameters.

CSA系列安装支架尺寸图
Dimension Drawing for Mounting Bracket of CSA Series

CSA (CP2-A2)



CSF系列外形尺寸图
Overall Dimension Drawing for CSF Series

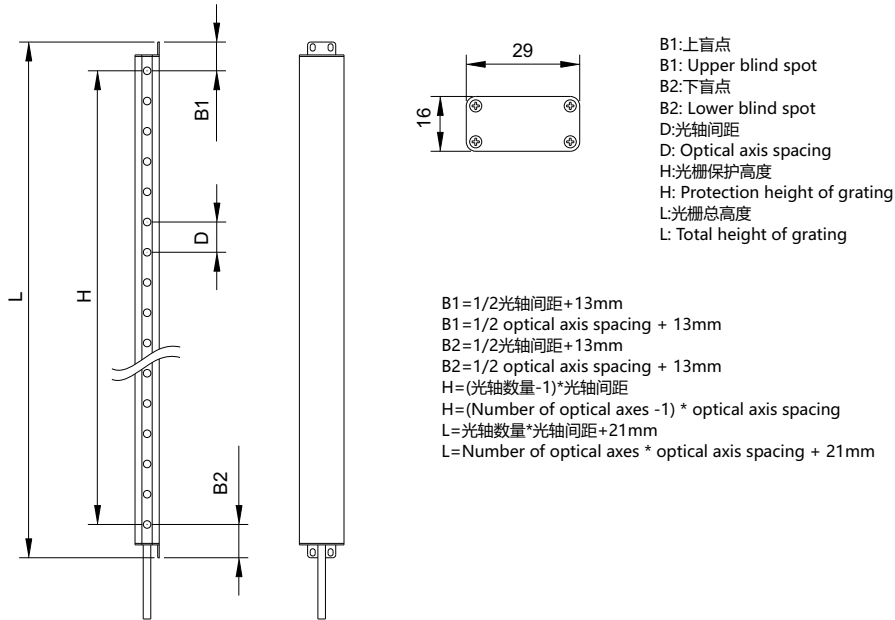


- B1: 上盲点
- B1: Upper blind spot
- B2: 下盲点
- B2: Lower blind spot
- D: 光轴间距
- D: Optical axis spacing
- H: 光栅保护高度
- H: Protection height of grating
- L: 光栅总高度
- L: Total height of grating

$B1 = 1/2 \text{光轴间距} + 13\text{mm}$
 $B1 = 1/2 \text{ optical axis spacing} + 13\text{mm}$
 $B2 = 1/2 \text{光轴间距} + 13\text{mm}$
 $B2 = 1/2 \text{ optical axis spacing} + 13\text{mm}$
 $H = (\text{光轴数量} - 1) * \text{光轴间距}$
 $H = (\text{Number of optical axes} - 1) * \text{optical axis spacing}$
 $L = \text{光轴数量} * \text{光轴间距} + 26\text{mm}$
 $L = \text{Number of optical axes} * \text{optical axis spacing} + 26\text{mm}$

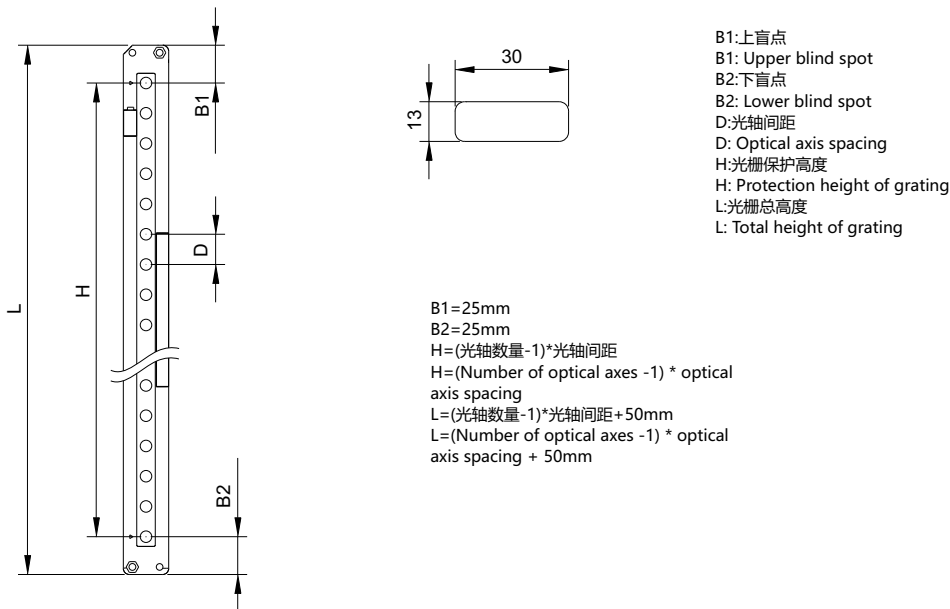
注：具体型号规格尺寸请对应额定规格/性能参数表查询。
 Note: For the specific model specifications, please refer to the list of rated specifications/performance parameters.

CSL系列外形尺寸图 Overall Dimension Drawing for CSL Series



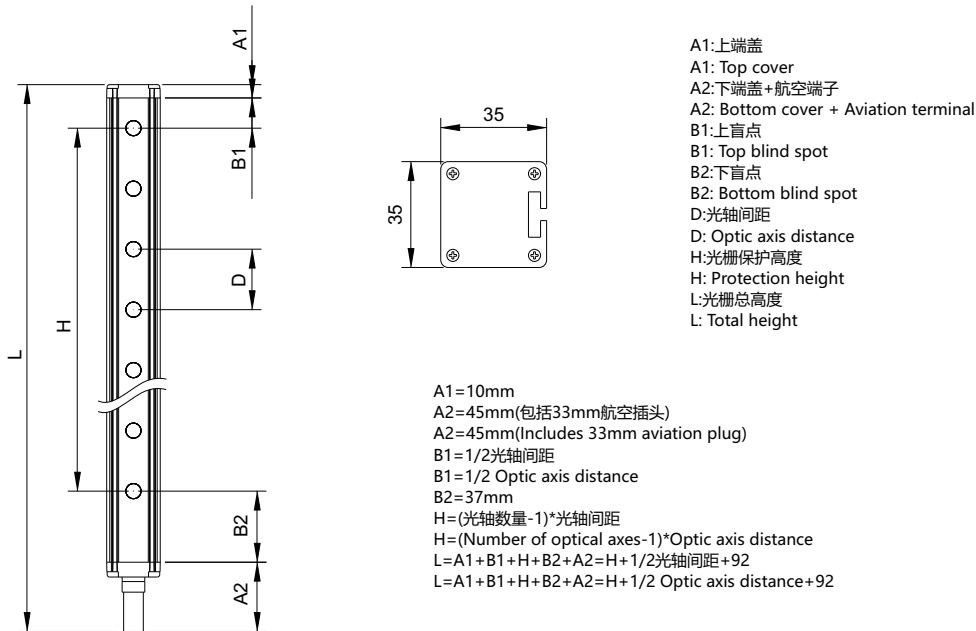
注：具体型号规格尺寸请对应额定规格/性能参数表查询。
 Note: For the specific model specifications, please refer to the list of rated specifications/performance parameters.

CSP系列外形尺寸图 Overall Dimension Drawing for CSP Series



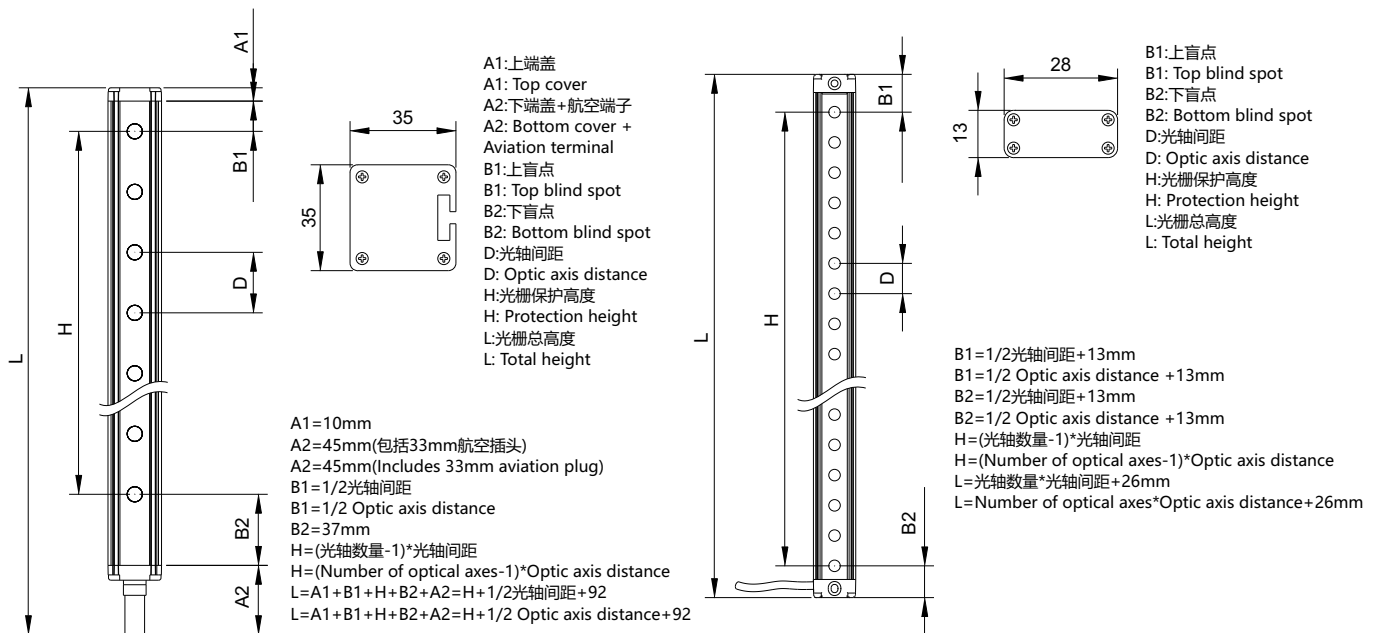
注：具体型号规格尺寸请对应额定规格/性能参数表查询。
 Note: For the specific model specifications, please refer to the list of rated specifications/performance parameters.

CSG系列外形尺寸图 CSG Series Outline Dimensional Drawing



注：具体型号规格尺寸请对应额定规格/性能参数表查询
 Note: For the specific model specifications, please refer to the rated specifications/performance parameter table

CSM系列外形尺寸图 CSM Series Outline Dimensional Drawing



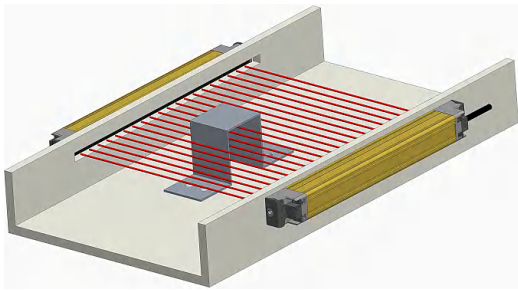
注：具体型号规格尺寸请对应额定规格/性能参数表查询
 Note: For the specific model specifications, please refer to the rated specifications/performance parameter table

产品应用案例 Product Application Cases

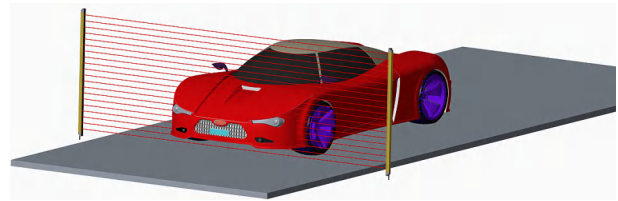
我司产品广泛应用在半导体、包装机械、印刷机械、制药机械、塑料机械、锂电池设备、太阳能设备、农业机械、汽车制造业、安全防护等领域。

Our products are widely used in semiconductor, packaging machinery, printing machinery, pharmaceutical machinery, plastic machinery, lithium battery equipment, solar energy equipment, agriculture Industry machinery, automobile manufacturing, safety protection and other fields.

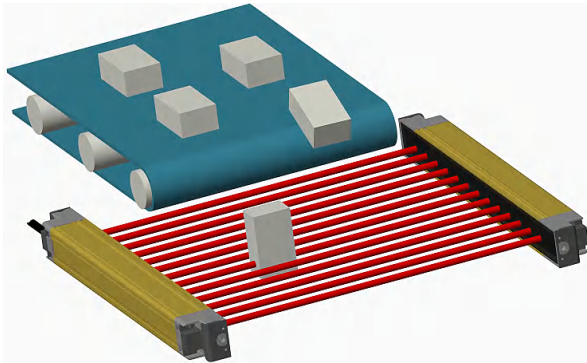
检测产品有无
Check whether the product is available



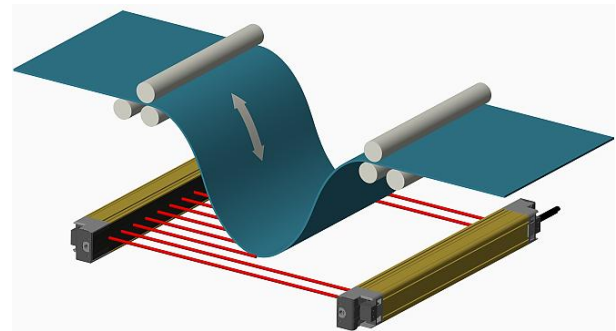
汽车出入口的检测
Detection of vehicle entrances and exits



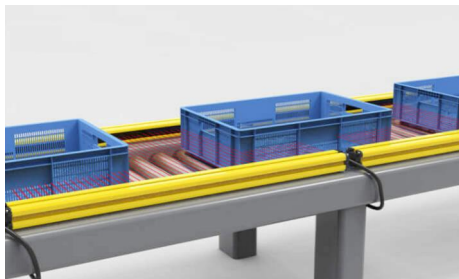
检测物件的掉落
Detect the drop of an object



检测物体的下垂度
Detect the droop of the object



物流运输
Logistics transportation



冲压
Stamping



激光位移传感器系列
Laser Displacement Sensor Series

CMD激光位移传感器系列 CMD Laser Displacement Sensor Series

高精度检测、功能多样、安装便捷
High precision detection, diverse functions, convenient installation

检测范围 $200 \pm 80\text{mm}$
Detection range $200 \pm 80\text{mm}$



CMD激光位移传感器，通过三角测距原理，搭配高精度激光和线阵CMOS，稳定可靠地实现高精度检测。产品采用铝制外壳，具有极好的抗干扰性能和结构可靠性。支持外部输入，可远程设定与操作4类功能；拥有两点示教、外部输入、按键锁定、定时延时、微分等10+种功能，以适配各类应用环境的不同需求；自带安装孔和数码屏，让安装、调试更简单便捷。

CMD laser displacement sensor, through the principle of triangulation, with high precision laser and linear array CMOS, stable and reliable to achieve high precision detection. The product is made of aluminum shell, which has excellent anti-interference performance and structural reliability. Support external input, remote setting and operation of 4 types of functions. It has 10+ functions such as two-point teaching, external input, key locking, timing delay, differential, etc., to meet the different needs of various application environments. Equipped with mounting holes and digital screen, making installation and debugging more simple and convenient.

激光位移传感器系列 Laser Displacement Sensor Series

型号命名规则 Model Naming Rule



1.上海长江传感器
CHANKO

2.激光CMOS型
Laser CMOS type

3.检测类型
Detection type
D: 位移型
D: Displacement type

4.检测方式
Detection mode
D: 漫反射
D: Diffuse reflection

5.光源类型
Light source type
E: 激光点光束
E: Laser spot beam

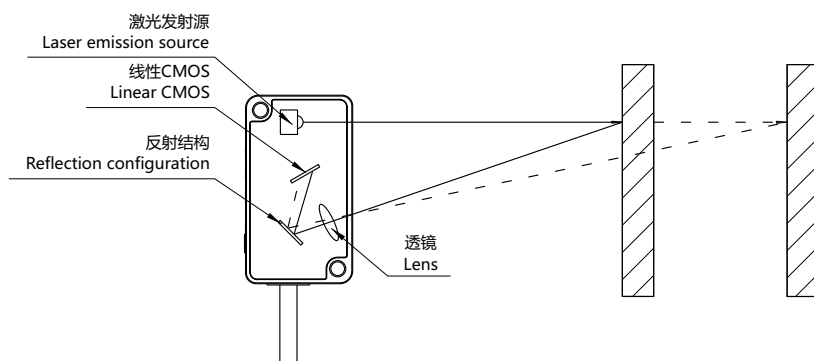
6.检测距离
Detect distance
200: 200±80mm 400: 400±200mm

7.输出方式
Output mode
N3: NPN输出 P3: PNP输出 ES: NPN+PNP+模拟量输出
N3: NPN output P3: PNP output ES: NPN+PNP+Analog output

8.连接方式
Connection type
无: 2米成型电缆 A: M12中继型接插件
None: 2M Formed cable* A: M12 trunk type*

激光位移传感器检测原理图示 Laser displacement sensor detection principle diagram

激光位移传感器采用激光发射源，搭配透镜与反射结构，使得物体表面的光斑精确投射到线性CMOS上，在检测物体移动时，光斑也会在CMOS上移动，内部程序通过判断光斑的位移程度变化，来得出实际的位移变化量。
The laser displacement sensor uses a laser emission source, with a lens and a reflection structure, so that the light spot on the surface of the object is accurately projected onto the linear CMOS. When detecting the movement of the object, the light spot will also move on the CMOS. The internal program obtains the actual displacement change by judging the displacement degree change of the light spot.



CMD激光位移传感器/CMD laser displacement sensor

- ◆ 采用激光光源和线性CMOS，精确检测
Using laser light source and linear CMOS for precise detection
- ◆ 内置10余种功能，可搭配外部输入远程调节
Built in over 10 functions that can be remotely adjusted with external inputs
- ◆ 铝铸件外壳，抗干扰强，结构牢固
Aluminum casting shell, strong anti-interference, and sturdy structure
- ◆ 调试方便，最快按两次即可完成设定
Easy to debug, can be set up by pressing twice at the fastest
- ◆ 响应速度快，可适应各类工况环境
Fast response, adaptable to various working conditions and environments

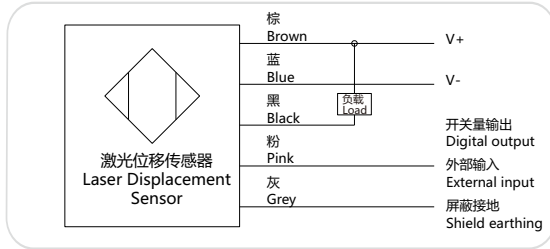


额定规格/性能 Specifications/Performance

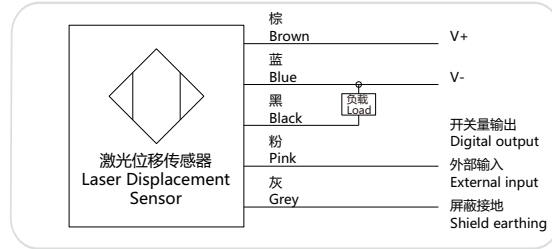
种类 Sensor type	测量中心200mm型/Measurement center 200mm type			
类型 Type	NPN	CMD-DE200N3	CMD-DE200ES	
	PNP	CMD-DE200P3	CMD-DE200ES	
测量中心距离 Sensing Center Distance	200mm			
测量范围 Sensing Range	±80mm			
重复精度 Repetitive Accuracy	200um			
线性度 Linearity	±0.2%F.S.			
温漂特性 Temperature Drift Characteristics	0.03%F.S./°C			
光源 Light Source	红色半导体激光2类(IEC/GB) 最大输出: 1mW、发光光束波长: 655nm Red semiconductor laser Class 2 (IEC/GB) maximum output: 1mW, emitting beam wavelength: 655nm			
光束直径 Beam Diameter	约φ1.5mm About 1.5mm in diameter			
工作电压 Supply Voltage	DC24V 纹波 (P-P) 10%以下 (DC10-30V) DC24V ripple (P-P) below 10% (DC10-30V)			
消耗电流 Consumed Current	40mA以下(电源电压24VDC时)、65mA以下(电源电压12VDC时) Below 40mA (when the power supply voltage is 24VDC), below 65mA (when the power supply voltage is 12VDC)			
控制输出 Control Output	<NPN或PNP输出型> NPN或PNP晶体管集电极开路输出 -最大流入电流: 50mA -电源电压: DC10-30V -剩余电压: 1.5V以下 (流入电流50mA下) -漏电流: 0.1mA以下	<NPN or PNP output type> NPN or PNP transistor collector open circuit output -Maximum input current: 50mA -Supply power voltage: DC10-30V -Remaining voltage: below 1.5V (Under input current of 50mA) -Leakage current: below 0.1mA	<NPN或PNP输出型> NPN或PNP晶体管集电极开路输出 -最大源电流: 50mA -电源电压: DC10-30V -剩余电压: 1.5V以下 (流出电流50mA下) -漏电流: 0.1mA以下 -模拟电压输出: 0~5V -模拟电流输出: 4mA~20mA	<NPN or PNP output type> NPN or PNP transistor collector open circuit output -Maximum current: 50mA -Supply power voltage: DC10-30V -Remaining voltage: below 1.5V (Under an outflow current of 50mA) -Leakage current: below 0.1mA -Analog voltage output: 0-5V -Analog current output: 4mA~20mA
输出动作 Output action	入光时ON/非入光时ON可切换 ON when in light/ON when not in light can be switched			
保护回路 Protection Circuit	电源逆接保护, 输出逆接保护, 输出短路保护 Power reverse protection, output reverse protection, output short circuit protection			
响应时间 Response Time	2.5ms/10ms/20ms 可切换 2.5ms/10ms/20ms switchable			
外部输入 External Input	<NPN输出型> NPN无接点输入 -输入条件 -无效: +8V~+VDC或者悬空 -有效: 0V~+1.2VDC -输入阻抗: 约10kΩ	<NPN output type> NPN contactless input -Input conditions -Invalid: +8V~+VDC or suspended -Effective: 0V~+1.2VDC -Input impedance: approximately 10kΩ	<PNP输出型> PNP无接点输入 -输入条件 -无效: 0V~+0.6VDC或者悬空 -有效: +4V~+VDC -输入阻抗: 约10kΩ	<PNP output type> PNP contactless input -Input conditions -Invalid: 0V~+0.6VDC or suspended -Effective: +4V~+VDC -Input impedance: approximately 10kΩ
防护等级 Protection Level	IP65(IEC)			
使用环境温度 Ambient Temperature	-10°C~+45°C (无结冰、无结露)、保存时: -20°C~+60°C Working: -10 °C ~ +45 °C (no icing, no condensation) / Storing: -20 °C ~ +60 °C			
使用环境湿度 Ambient Humidity	35%~85%RH、保存时: 35%~85%RH Working: 35~85%RH / Storing: 35~85%RH			
使用环境照度 Ambient Illumination	白炽灯: 受光面照度3000lux以下 Incandescent lamp: Illumination level of the receiving surface is below 3000lux			
使用海拔 Using Altitude	2000m以下 Below 2000m			
电缆 Cable	带0.2mm²5芯复合电缆2m With a 0.2mm² 5-core composite cable of 2m			
材质 Material	本体外壳: 铝铸件 前面盖板: 丙烯酸 Body shell: aluminum casting, front cover plate: acrylic based			
重量 Weight	约85g About 85g			
附件 Accessories	说明书、合格证、安装支架、安装螺丝 Manual, certificate, mounting bracket, mounting screws			

CMD控制输出图 CMD Control Output Diagram

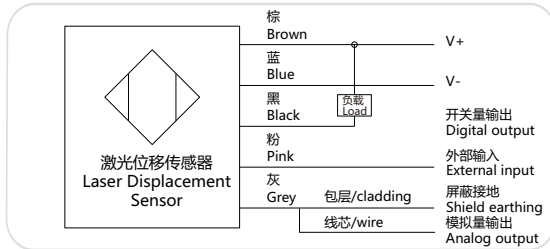
NPN输出图
NPN Output diagram



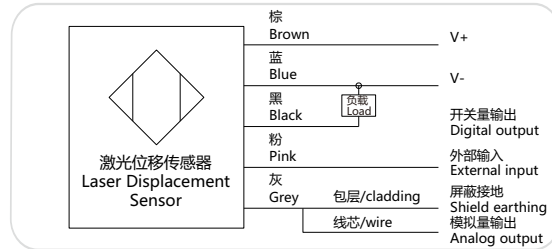
PNP输出图
PNP Output diagram



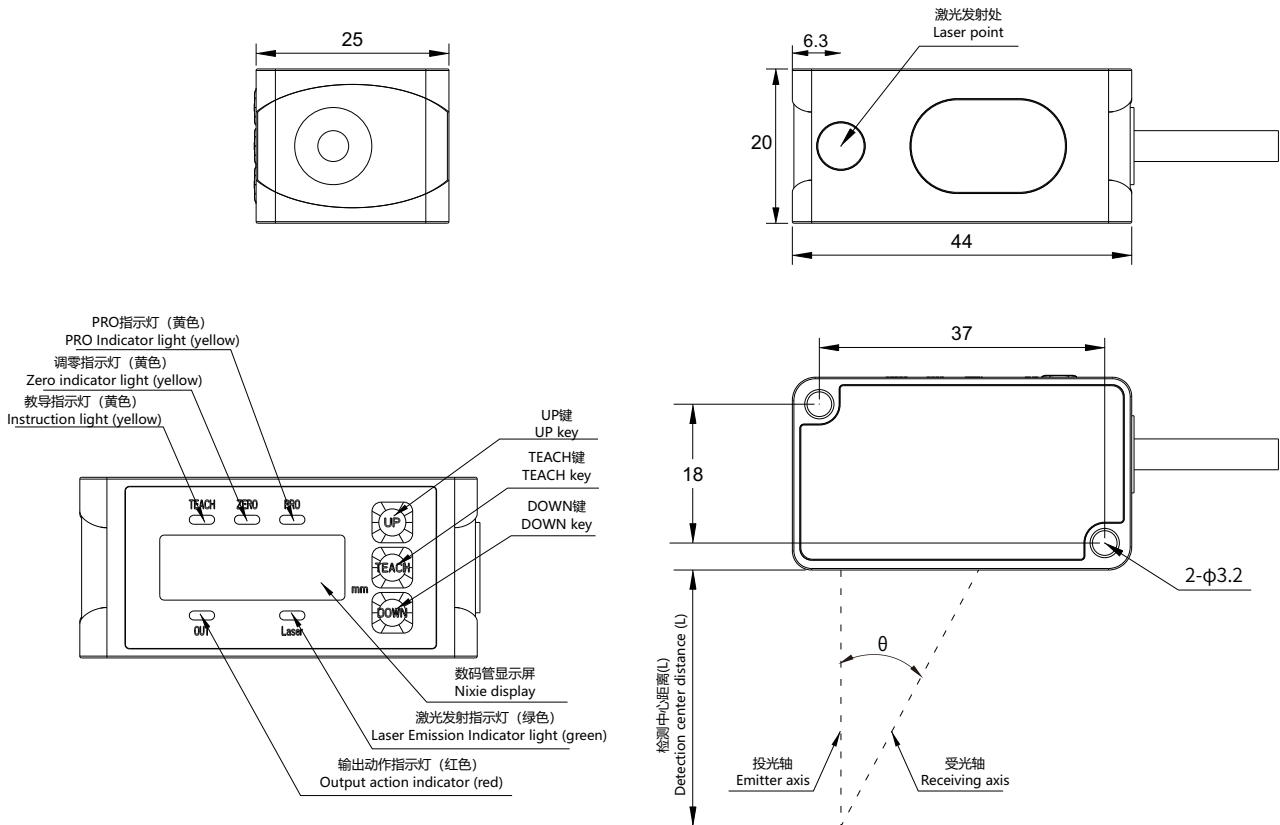
NPN模拟量输出图
NPN Analog output diagram



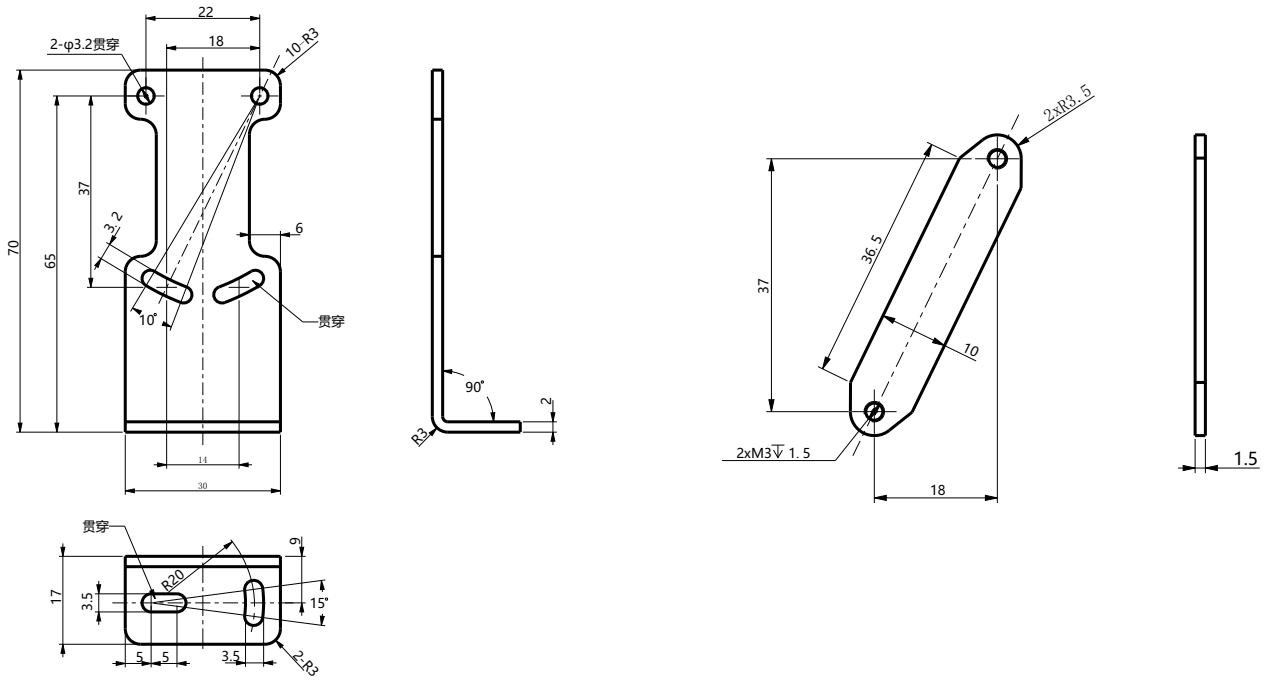
PNP模拟量输出图
PNP Analog output diagram



CMD外形尺寸图 CMD Outline Dimensional Drawing



CMD系列安装支架尺寸图
Dimension Drawing for Mounting Bracket of CMD Series

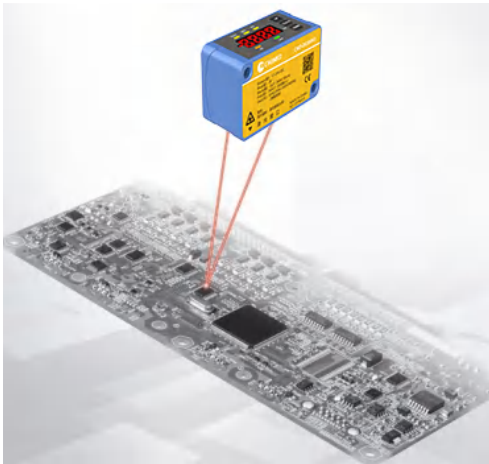


产品应用案例
Product Application Cases

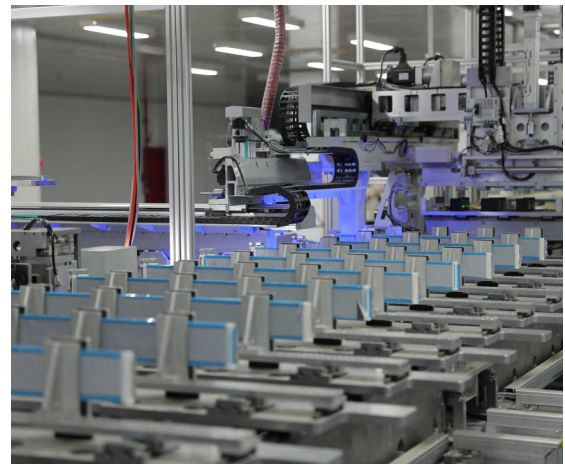
因体积小、光斑小、精度高、可靠性好等特点，长江CMD激光位移传感器在电子元器件加工、汽车制造、机器人、太阳能光伏等需要精密检测的行业运用广泛。

Due to the characteristics of small size, small spot, high precision and good reliability, CHANKO CMD laser displacement sensor is widely used in electronic component processing, automobile manufacturing, robotics, solar photovoltaic and other industries requiring precision detection.

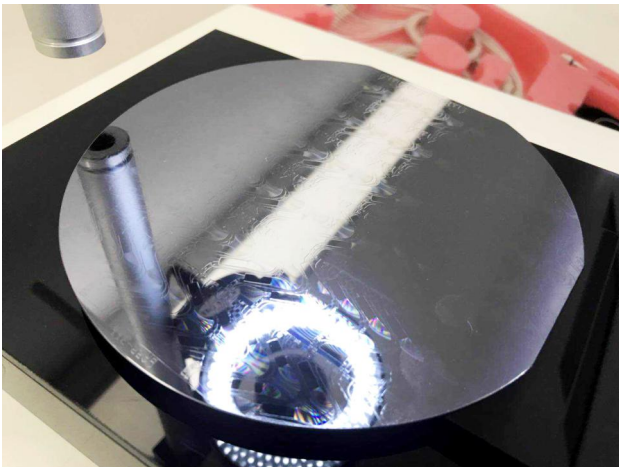
电子行业
Electron Industry



锂电池行业
Lithium Battery Industry



太阳能行业
Solar Energy Industry



机器人行业
Robot Industry



光电式传感器系列
Photoelectric Sensor Series



CP系列光电式传感器
CP SERIES PHOTOELECTRIC SENSORS

动作模式可自由切换 型号多样
The action modes can be switched freely, and the models are diverse

防护等级: IP67
Protection level: IP67

CP系列光电式传感器已通过欧盟CE认证, 斩获“CAIMRS”多项大奖。拥有背景抑制(BGS)、镜面反射、漫反射和对射多种检测方式。根据使用场景和需求, 可选择激光、红外光或红光等光源。具备光斑直径小、检测距离长等特点。产品规格齐全、性能稳定可靠, 广泛应用于智慧仓储、木工机械、物流运输、包装机械及非标自动化等行业。

CP series photoelectric sensors have received CE certification and won a number of CAIMRS awards. They have a variety of detection modes such as background suppression (BGS), specular reflection, diffuse reflection and through beam. Light sources such as laser, infrared or red light can be selected according to the usage scenario and requirements. They have the characteristics of small spot diameter and long detection distance. The products have complete specifications, and stable and reliable performance, and are widely used in intelligent storage, woodworking machinery, logistics conveying, packaging machinery, non-standard automation and other industries.



仓储物流
Warehouse Logistics



生产流水线
Production Line



木工机械
Woodworking Machinery



非标自动化
Non-standard Automation

光电式传感器系列 Photoelectric Sensor Series

概述 Overview

光电式传感器是采用光电元件作为检测元件的传感器，它首先把被测量的变化转换成光信号的变化，然后借助光电元件进一步将光信号转换成电信号。光电式传感器一般由光源、光学通路和光电元件三部分组成。

The photoelectric sensor uses the photoelectric element as a detection element. It first converts the measured change into the optical signal change and then further converts the optical signal into an electrical signal through the photoelectric element. The photoelectric sensor is generally composed of light source, optical path and photoelectric element.

光电式传感器的功能分类：光电式传感器根据检测方式不同分为五种，分别是：对射型、漫反射型、镜面反射型、偏正光镜面反射型、背景抑制型。

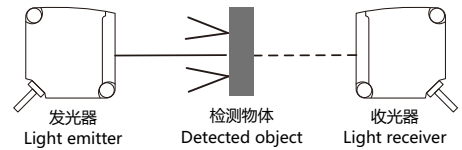
Functional classification of photoelectric sensors: Photoelectric sensors are divided into five types according to different detection modes: through-beam, diffuse reflection, specular reflection, polarized light specular reflection and background suppression.

① 对射型光电式传感器

Through-beam photoelectric sensor

发光器和收光器在同一条光轴上相对安装，当两者之间有物体时，根据透过光亮度的变化检测出物体并输出，这种传感器称为对射型光电式传感器。

The light emitter and the light receiver are relatively installed on the same optical axis. When there is an object between the two, the sensor detects and outputs the object according to the change of the light. The sensor is called through-beam photoelectric sensor.

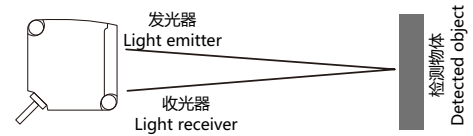


② 漫反射型光电式传感器

Diffuse reflection photoelectric sensor

发光器和收光器一体型光电式传感器，发光器发出光后到检测物体，经过检测物体反射到收光器，通过反射回光的光量强度识别检测物体并输出。

A light emitter and light receiver integrated photoelectric sensor. After the light emitter emits light to the detected object, the light pass through the detected object and is reflected to the light receiver, and the detected object is identified and output by the light intensity of the reflected light.

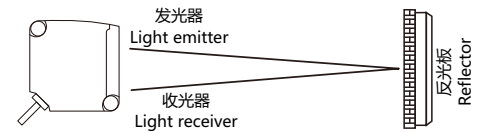


③ 镜面反射型光电式传感器

Specular reflection photoelectric sensor

发光器和收光器一体型光电式传感器，发光器发出的光经过反光板反射到收光器，光电式传感器和反光板中间有物体挡住时，通过反射回来收光量变化来判断物体并输出，这种光电式传感器是镜面反射型光电式传感器。

A light emitter and light receiver integrated photoelectric sensor. The light emitted by the light emitter is reflected by the reflector to the light receiver. When there is an object blocked between the photoelectric sensor and the reflector, the object is judged and output by the change in the amount of light reflected and received. This photoelectric sensor is a specular reflection photoelectric sensor.

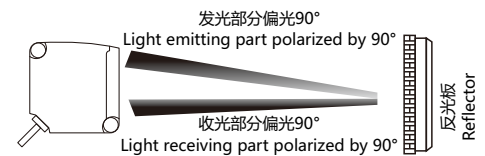


④ 偏振光镜面反射型光电式传感器

Polarized light specular reflection photoelectric sensor

偏振光镜面反射型光电式传感器和镜面反射型动作方式相同，是在发光器和收光器安装了偏光滤波器，接收和发射滤波器偏角各为90°，收光部分只接收发光部分发出的经过偏光90°后的光，利用这一特性，可以检测强反光物体，如：金属。

The polarized light specular reflection photoelectric sensor has the same action mode as that of the specular reflection photoelectric sensor. A polarizing filter is installed in the light emitter and the light receiver, the receiving and transmitting filter declinations are 90°, the light receiving part only receives the light emitted by the light emitting part and polarized by 90°. Using this feature, Can detect highly reflective objects, such as metal objects.

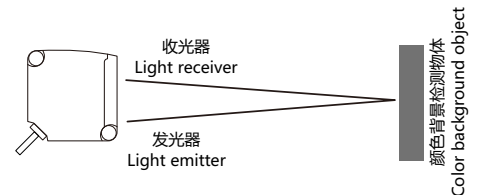


⑤ 背景抑制型光电传感器

Background suppression photoelectric sensor

发光器和收光器一体的光电式传感器，检测距离不受被检测物的颜色影响，不受被检测物后方的背景影响。

Photoelectric sensor integrated with light emitting device and light receiving device, the detection distance is not affected by the color of the detected object, and is not affected by the background behind the detected object.



专业名词解释

Explanation of professional terms

① 光电式传感器的消耗电流：光电式传感器工作状态所需的电流。

Current consumption of photoelectric sensor: the current required in the working state of the photoelectric sensor.

② 光电式传感器的响应时间：被检测物进入或离开检测区域，传感器做出判断并控制输出的时间。

Response time of photoelectric sensor: When the detected object enters or leaves the detection area, the sensor makes a judgment and manages the output time.

③ 光电式传感器的动作模式：Dark on 和Light on

Dark on (遮光动作)

是指从发光器发出的光，收光器收不到光时输出，为on动作模式。

Light on (入光动作)

是指从发光器发出的光，收光器收到光时输出，为on动作模式。

Action modes of photoelectric sensor: Dark on and Light on

Dark on

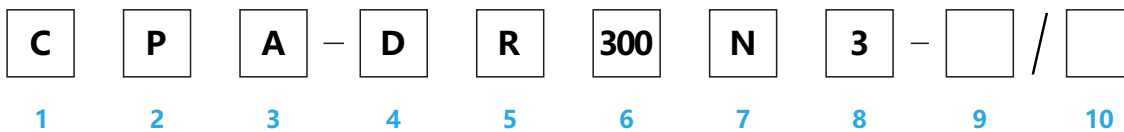
Refers to ON mode output when the light receiver cannot receive the light emitted by the light emitter.

Light on

Refers to ON mode output when light receiver receives the light emitted by the light emitter.

光电式传感器系列 Photoelectric Sensor Series

型号命名规则 Model Naming Rules



1. 上海长江传感器 CHANKO sensor

2. 光电式传感器 Photoelectric sensor

3. 产品系列代号 Product series code

A、K、G、Y、H.....
A、K、G、Y、H...

4. 检测方式 Detection mode

D: 漫反射型 T: 对射型 R: 镜面反射型
D: Diffuse reflection T: Through-beam R: Specular reflection
DB: 漫反射背景抑制型 RM: 偏振光镜面反射型
DB: Diffuse background suppression
RM: Polarized light specular reflection

5. 光源类型 Light source type

R: 红色光 F: 红外光 E: 激光
R: Red light F: Infrared light E: Laser

6. 检测距离 (单位: mm) Detection distance (unit: mm)

300表示300毫米 当检测距离≥1米时, 用m为单位, 例如1m、10m
300 means 300 mm;
when the detection distance is more than or equal to 1 m,
use m as the unit, such as 1m or 10m

7. 输出形式 Output form

N: NPN P: PNP E: NPN+PNP T: 推挽输出 R:继电器
N: NPN P: PNP E: NPN+PNP T: Push-pull output R: relay

8. 输出状态 Output state

1: 常开 2: 常闭 3: 常开/常闭切换
1.NO 2.NC 3.NO/NC optional
漫反射动作模式: 1为Light on 常开; 2为Dark on 常闭
Diffuse reflection action mode: 1.Light on NO 2.Dark on NC
对射、镜面反射动作模式: 1为Dark on 常开; 2为Light on 常闭
Through-beam, specular reflection action mode:
1.Dark on NO 2.Light on NC

9. 对应要求 Corresponding requirements

无: 成型电缆*¹ A: M12中继型*²
None: Molded cable*¹ A: M12 trunk type*²
1: G系列产品1光轴 2: G系列产品2光轴 L: 对射产品发光器
1: G series products with 1 optical axis
2: G series products with 2 optical axes
L: Light emitter of through-beam products
D: 对射产品收光器 小槽形K/L/T/Y型
D: Light receiver of through-beam products,
small slot K/L/T/Y type

10. 特殊要求 Special requirements

K: IP67 X: 小光斑
K: IP67 X: Small light spot

*¹ 默认为2米成型电缆 (标准型); *² 默认为0.5米 (标准型), 插件产品需要另外采购转接线。

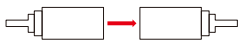

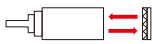


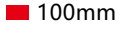


*¹ is 2m formed cable (standard type) by default; *² is 0.5m (standard type) by default, and patch cords need to be purchased separately for the connector products.

CPA圆柱形光电式传感器
CPA Cylindrical Photoelectric Sensor

红色光

Red light











检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	连接方式 Connection mode	输出形式 Output form	型号 Model
对射型 Through-beam		 20m	成型电缆 Formed cable	NPN	CPA-TR20MN3
				PNP	CPA-TR20MP3
			M12中继型 M12 trunk type	NPN	CPA-TR20MN3-A
				PNP	CPA-TR20MP3-A
偏振光镜面 反射型 Polarized light specular reflection		 0.5~4m	成型电缆 Formed cable	NPN	CPA-RMR4MN3
				PNP	CPA-RMR4MP3
			M12中继型 M12 trunk type	NPN	CPA-RMR4MN3-A
				PNP	CPA-RMR4MP3-A
漫反射型 Diffuse reflection		 100mm	成型电缆 Formed cable	NPN	CPA-DR100N3
				PNP	CPA-DR100P3
			M12中继型 M12 trunk type	NPN	CPA-DR100N3-A
				PNP	CPA-DR100P3-A
		 300mm	成型电缆 Formed cable	NPN	CPA-DR300N3
				PNP	CPA-DR300P3
			M12中继型 M12 trunk type	NPN	CPA-DR300N3-A
				PNP	CPA-DR300P3-A
		 1m	成型电缆 Formed cable	NPN	CPA-DR1MN3
				PNP	CPA-DR1MP3
			M12中继型 M12 trunk type	NPN	CPA-DR1MN3-A
				PNP	CPA-DR1MP3-A

CPA圆柱形光电式传感器
CPA Cylindrical Photoelectric Sensor

红外光

Infrared light



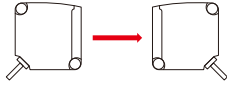



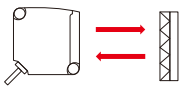



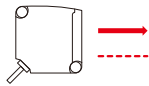


检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	连接方式 Connection mode	输出形式 Output form	型号 Model
对射型 Through-beam		 15m	成型电缆 Formed cable	NPN	CPA-TF15MN3
				PNP	CPA-TF15MP3
			M12中继型 M12 trunk type	NPN	CPA-TF15MN3-A
				PNP	CPA-TF15MP3-A
偏振光镜面 反射型 Polarized light specular reflection		 0.5-4m	成型电缆 Formed cable	NPN	CPA-RMF4MN3
				PNP	CPA-RMF4MP3
			M12中继型 M12 trunk type	NPN	CPA-RMF4MN3-A
				PNP	CPA-RMF4MP3-A
漫反射型 Diffuse reflection		 100mm	成型电缆 Formed cable	NPN	CPA-DF100N3
				PNP	CPA-DF100P3
			M12中继型 M12 trunk type	NPN	CPA-DF100N3-A
				PNP	CPA-DF100P3-A
		 300mm	成型电缆 Formed cable	NPN	CPA-DF300N3
				PNP	CPA-DF300P3
			M12中继型 M12 trunk type	NPN	CPA-DF300N3-A
				PNP	CPA-DF300P3-A
		 1m	成型电缆 Formed cable	NPN	CPA-DF1MN3
				PNP	CPA-DF1MP3
			M12中继型 M12 trunk type	NPN	CPA-DF1MN3-A
				PNP	CPA-DF1MP3-A

CPK方形AC/DC电源通用光电式传感器
CPK Square General Photoelectric Sensor for AC/DC Power Supply

红色光

Red light

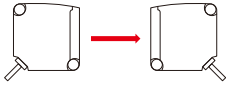


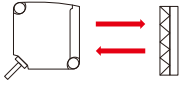


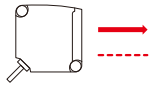



检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	输出形式 Output form	型号 Model
对射型 Through-beam		 50m	继电器 Relay	CPK-TR50MR3
		 40m		CPK-TR40MR3
		 20m		CPK-TR20MR3
偏振光镜面 反射型 Polarized light specular reflection		 6m		CPK-RMR6MR3
		 8m		CPK-RMR8MR3
		 12m		CPK-RMR12MR3
漫反射型 Diffuse reflection		 1m		CPK-DR1MR3
		 2.5m		CPK-DR2.5MR3

红外光

Infrared light

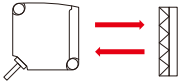
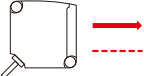


检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	输出形式 Output form	型号 Model
对射型 Through-beam		 40m	继电器 Relay	CPK-TF40MR3
		 20m		CPK-TF20MR3
偏振光镜面 反射型 Polarized light specular reflection		 6m		CPK-RMF6MR3
		 8m		CPK-RMF8MR3
		漫反射型 Diffuse reflection		
 2.5m	CPK-DF2.5MR3			

CPK方形晶体管输出光电式传感器 CPK Square Transistor Output Photoelectric Sensor

红色光
Red light



检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	连接方式 Connection mode	输出形式 Output form	型号 Model
偏振光镜面 反射型 Polarized light specular reflection		0.1-6m	成型电缆 Formed cable	PNP+NPN	CPK-RMR6ME3
				推挽输出 Push-pull output	CPK-RMR6MT3
			M12中继型 M12 trunk type	PNP+NPN	CPK-RMR6ME3-A
				推挽输出 Push-pull output	CPK-RMR6MT3-A
漫反射型 Diffuse reflection		1m	成型电缆 Formed cable	PNP+NPN	CPK-DR1ME3
				推挽输出 Push-pull output	CPK-DR1MT3
			M12中继型 M12 trunk type	PNP+NPN	CPK-DR1ME3-A
				推挽输出 Push-pull output	CPK-DR1MT3-A
		2.5m	成型电缆 Formed cable	PNP+NPN	CPK-DR2.5ME3
				推挽输出 Push-pull output	CPK-DR2.5MT3
			M12中继型 M12 trunk type	PNP+NPN	CPK-DR2.5ME3-A
				推挽输出 Push-pull output	CPK-DR2.5MT3-A

注：可单独定制NPN或PNP输出系列

Note: The NPN or PNP output series can be customized individually.

CPK方形晶体管输出光电式传感器
CPK Square Transistor Output Photoelectric Sensor

红外光

Infrared light



检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	连接方式 Connection mode	输出形式 Output form	型号 Model
偏振光镜面反射型 Polarized light specular reflection		0.1-6m	成型电缆 Formed cable	PNP+NPN	CPK-RMF6ME3
				推挽输出 Push-pull output	CPK-RMF6MT3
			M12中继型 M12 trunk type	PNP+NPN	CPK-RMF6ME3-A
				推挽输出 Push-pull output	CPK-RMF6MT3-A
漫反射型 Diffuse reflection		1m	成型电缆 Formed cable	PNP+NPN	CPK-DF1ME3
				推挽输出 Push-pull output	CPK-DF1MT3
			M12中继型 M12 trunk type	PNP+NPN	CPK-DF1ME3-A
				推挽输出 Push-pull output	CPK-DF1MT3-A
		2.5m	成型电缆 Formed cable	PNP+NPN	CPK-DF2.5ME3
				推挽输出 Push-pull output	CPK-DF2.5MT3
			M12中继型 M12 trunk type	PNP+NPN	CPK-DF2.5ME3-A
				推挽输出 Push-pull output	CPK-DF2.5MT3-A

注:可单独定制 NPN或 PNP输出系列
Note: The NPN or PNP output series can be customized individually.

CPY小方形光电式传感器-检测透明物体型
CPY small square photoelectric sensor-Detecting transparent object type

红色光

Red light



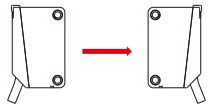

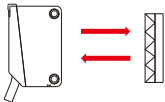

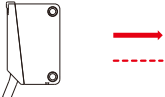
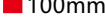
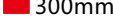

检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	连接方式 Connection mode	输出形式 Output form	动作模式 Action mode	动作模式 Action mode
偏振光镜面反射型 Polarized light specular reflection		2M	成型电缆 Formed cable	NPN	常开常闭切换 NO/NC optional	CPY-RMR2MN3-S
				PNP	常开常闭切换 NO/NC optional	CPY-RMR2MP3-S
			M12中继型 M12 trunk type	NPN	常开常闭切换 NO/NC optional	CPY-RMR2MN3-A/S
				PNP	常开常闭切换 NO/NC optional	CPY-RMR2MP3-A/S

CPY方形光电式传感器
CPY Square Photoelectric Sensor

红色光

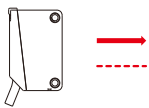

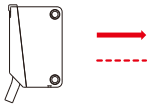

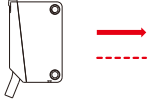

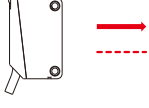

Red light



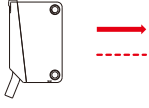

检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	连接方式 Connection mode	输出形式 Output form	型号 Model	
对射型 Through-beam		 20m	成型电缆 Formed cable	NPN	CPY-TR20MN3	
				PNP	CPY-TR20MP3	
			M12中继型 M12 trunk type	NPN	CPY-TR20MN3-A	
				PNP	CPY-TR20MP3-A	
偏振光镜面 反射型 Polarized light specular reflection		 2m	成型电缆 Formed cable	NPN	CPY-RMR2MN3	
				PNP	CPY-RMR2MP3	
			M12中继型 M12 trunk type	NPN	CPY-RMR2MN3-A	
				PNP	CPY-RMR2MP3-A	
漫反射型 Diffuse reflection		 100mm	成型电缆 Formed cable	NPN	CPY-DR100N3	
				PNP	CPY-DR100P3	
			M12中继型 M12 trunk type	NPN	CPY-DR100N3-A	
				PNP	CPY-DR100P3-A	
			 300mm	成型电缆 Formed cable	NPN	CPY-DR300N3
					PNP	CPY-DR300P3
		M12中继型 M12 trunk type		NPN	CPY-DR300N3-A	
				PNP	CPY-DR300P3-A	
		 1m		成型电缆 Formed cable	NPN	CPY-DR1MN3
					PNP	CPY-DR1MP3
			M12中继型 M12 trunk type	NPN	CPY-DR1MN3-A	
				PNP	CPY-DR1MP3-A	

CPY背景抑制光电式传感器
CPY Background Suppression Photoelectric Sensor

红色光
Red light 

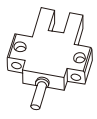
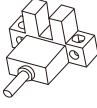
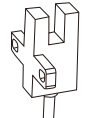
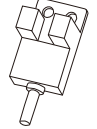
检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	连接方式 Connection mode	输出形式 Output form	型号 Model
背景抑制 Background suppression		 250mm	成型电缆 Formed cable	NPN	CPY-DBR250N3
				PNP	CPY-DBR250P3
			M12中继型 M12 trunk type	NPN	CPY-DBR250N3-A
				PNP	CPY-DBR250P3-A
		 60mm	成型电缆 Formed cable	NPN	CPY-DBR60N3
				PNP	CPY-DBR60P3
			M12中继型 M12 trunk type	NPN	CPY-DBR60N3-A
				PNP	CPY-DBR60P3-A
		 300mm	成型电缆 Formed cable	NPN	CPY-DBR300N3/X
				PNP	CPY-DBR300P3/X
			M12中继型 M12 trunk type	NPN	CPY-DBR300N3-A/X
				PNP	CPY-DBR300P3-A/X
	 100mm	成型电缆 Formed cable	NPN	CPY-DBR100N3/X	
			PNP	CPY-DBR100P3/X	
		M12中继型 M12 trunk type	NPN	CPY-DBR100N3-A/X	
			PNP	CPY-DBR100P3-A/X	

红外光
Infrared light 

	 300mm	成型电缆 Formed cable	NPN	CPY-DBF300N3
			PNP	CPY-DBF300P3
		M12中继型 M12 trunk type	NPN	CPY-DBF300N3-A
			PNP	CPY-DBF300P3-A

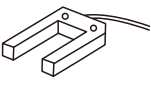
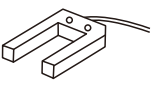
CPG小槽形光电式传感器 CPG Small Slot Type Photoelectric Sensor

 红外光
 Infrared light


检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	输出形式 Output form	连接方式 Connection mode	型号 Model
K型 K type		5mm	NPN	成型电缆 Formed cable	CPG-TF05N3K
				接插件 Connector	CPG-TF05N3K-A
			PNP	成型电缆 Formed cable	CPG-TF05P3K
				接插件 Connector	CPG-TF05P3K-A
L型 L type		5mm	NPN	成型电缆 Formed cable	CPG-TF05N3L
				接插件 Connector	CPG-TF05N3L-A
			PNP	成型电缆 Formed cable	CPG-TF05P3L
				接插件 Connector	CPG-TF05P3L-A
T型 T type		5mm	NPN	成型电缆 Formed cable	CPG-TF05N3T
				接插件 Connector	CPG-TF05N3T-A
			PNP	成型电缆 Formed cable	CPG-TF05P3T
				接插件 Connector	CPG-TF05P3T-A
Y型 Y type		5mm	NPN	成型电缆 Formed cable	CPG-TF05N3Y
				接插件 Connector	CPG-TF05N3Y-A
			PNP	成型电缆 Formed cable	CPG-TF05P3Y
				接插件 Connector	CPG-TF05P3Y-A

CPG槽型光电式传感器 CPG Slot Type Photoelectric Sensor

 红外光
 Infrared light


检测方式 Detection mode	简图 Schematic diagram	检测宽度 Detection width	连接方式 Connection mode	光轴数 Number of optical axes	型号 Model	
					NPN输出 NPN output	PNP输出 PNP output
对射型 Through-beam		25mm	成型电缆 Formed cable	1光轴 1 optical axis	CPG-TF25N3-1	CPG-TF25P3-1
			M12中继型 M12 trunk type		CPG-TF25N3-1/A	CPG-TF25P3-1/A
			成型电缆 Formed cable	2光轴 2 optical axis	CPG-TF25N3-2	CPG-TF25P3-2
			M12中继型 M12 trunk type		CPG-TF25N3-2/A	CPG-TF25P3-2/A
对射型 Through-beam		25mm	成型电缆 Formed cable	1光轴 1 optical axis	CPG-TF25N3-1(G)	CPG-TF25P3-1(G)
			M12中继型 M12 trunk type		CPG-TF25N3-1/A(G)	CPG-TF25P3-1/A(G)
			成型电缆 Formed cable	2光轴 2 optical axis	CPG-TF25N3-2(G)	CPG-TF25P3-2(G)
			M12中继型 M12 trunk type		CPG-TF25N3-2/A(G)	CPG-TF25P3-2/A(G)

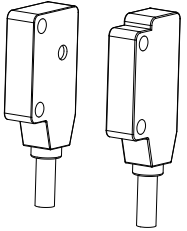
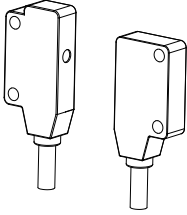
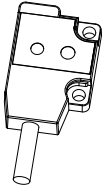
注：CPG25系列产品常规型号与后缀加（G）型号区别为，常规型号安装孔距为28mm，（G）型号安装孔距为19mm。

Note: The difference between the conventional model of CPG25 series products and the model with suffix plus (G) is that the installation hole distance of the conventional model is 28mm, and the installation hole distance of the (G) model is 19mm.

CPD超薄形光电式传感器
CPD Ultra-thin Photoelectric Sensor

红色光
Red light



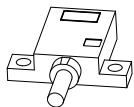
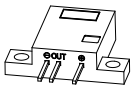
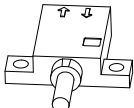
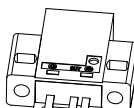
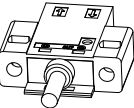
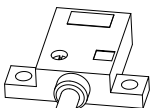
检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	检测面 Test face	输出形式 Output form	动作模式 Action mode	型号 Model
对射式 Through-beam		150mm	正面检测 Front detection	NPN	常开 Normally open	CPD-TRP150N1
					常闭 Normally closed	CPD-TRP150N2
		300mm	正面检测 Front detection	NPN	常开 Normally open	CPD-TRP300N1
					常闭 Normally closed	CPD-TRP300N2
		1m	正面检测 Front detection	NPN	常开 Normally open	CPD-TRP1MN1
					常闭 Normally closed	CPD-TRP1MN2
		150mm	侧面检测 Side detection	NPN	常开 Normally open	CPD-TRF150N1
					常闭 Normally closed	CPD-TRF150N2
		300mm	侧面检测 Side detection	NPN	常开 Normally open	CPD-TRF300N1
					常闭 Normally closed	CPD-TRF300N2
		1m	侧面检测 Side detection	NPN	常开 Normally open	CPD-TRF1MN1
					常闭 Normally closed	CPD-TRF1MN2
漫反射 Diffuse reflection		30mm	正面检测 Front detection	NPN	常开 Normally open	CPD-DRP30N1
					常闭 Normally closed	CPD-DRP30N2
				PNP	常开 Normally open	CPD-DRP30P1
					常闭 Normally closed	CPD-DRP30P2

CPF短距离光电式传感器
CPF Short-range Photoelectric Sensor

红外光

Infrared light



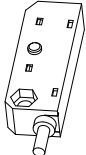
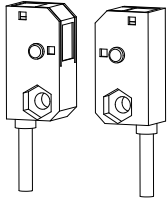
检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	检测面 Test face	输出形式 Output form	连接方式 Connection mode	动作模式 Action mode	型号 Model					
漫反射 Diffuse reflection		5mm	正面检测 Front detection	NPN	成型电缆 Formed cable	常开 Normally open	CPF-DP5N1					
						常闭 Normally closed	CPF-DP5N2					
						接插件式 Connector type	常开 Normally open	CPF-DP5N1-A				
					常闭 Normally closed	CPF-DP5N2-A						
						35mm	正面检测 Front detection	NPN	成型电缆 Formed cable	常开 Normally open	CPF-DP35N1	
										常闭 Normally closed	CPF-DP35N2	
	接插件式 Connector type	常开 Normally open	CPF-DP35N1-A									
	常闭 Normally closed	CPF-DP35N2-A										
		5mm	前端检测 Front-end detection	NPN					成型电缆 Formed cable	常开 Normally open	CPF-DF5N1	
										常闭 Normally closed	CPF-DF5N2	
					接插件式 Connector type	常开 Normally open	CPF-DF5N1-A					
					常闭 Normally closed	CPF-DF5N2-A						
限定反射 Limited reflection						5mm	正面检测 Front detection	NPN	成型电缆 Formed cable	常开 Normally open	CPF-DBP5N1	
										常闭 Normally closed	CPF-DBP5N2	
	接插件式 Connector type	常开 Normally open	CPF-DBP5N1-A1									
	常闭 Normally closed	CPF-DBP5N2-A1										
		5mm	前端检测 Front-end detection	NPN					成型电缆 Formed cable	常开 Normally open	CPF-DBF5N1	
										常闭 Normally closed	CPF-DBF5N2	
					接插件式 Connector type	常开 Normally open	CPF-DBF5N1-A1					
					常闭 Normally closed	CPF-DBF5N2-A1						
					可调漫反射 Adjustable diffuse reflection		30mm	正面检测 Front detection	NPN	成型电缆 Formed cable	常开 Normally open	CPF-DTP30N1
								常闭 Normally closed	CPF-DTP30N2			
	前端检测 Front-end detection	NPN	接插件式 Connector type	常开 Normally open				CPF-DTF30N1				
				常闭 Normally closed				CPF-DTF30N2				

CPJ长条形光电式传感器 CPJ Strip Photoelectric Sensor

红外光

Infrared light



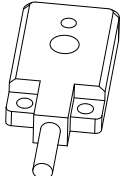
检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	输出形式 Output form	连接方式 Connection mode	动作模式 Action mode	型号 Model
漫反射 Diffuse reflection		150mm	NPN	成型电缆 Formed cable	常开 Normally open	CPJ-DF150N1
			PNP	成型电缆 Formed cable	常闭 Normally closed	CPJ-DF150N2
对射 Through-beam		1.5M	NPN	成型电缆 Formed cable	常开 Normally open	CPJ-TF1.5MN1
					常闭 Normally closed	CPJ-TF1.5MN2
		2M	NPN	成型电缆 Formed cable	常开 Normally open	CPJ-TF2MN1
					常闭 Normally closed	CPJ-TF2MN2
		3M	NPN	成型电缆 Formed cable	常开 Normally open	CPJ-TF3MN1
					常闭 Normally closed	CPJ-TF3MN2
	PNP	成型电缆 Formed cable	常开 Normally open	CPJ-TF3MP1		

CPI扁平光电式传感器 CPI Flat Photoelectric Sensor

红色光

Red light



检测方式 Detection mode	简图 Schematic diagram	检测距离 Detection distance	连接方式 Connection mode	输出形式 Output form	动作模式 Action mode	型号 Model
漫反射 Diffuse reflection		30mm	成型电缆 Formed cable	NPN	常开 Normally open	CPI-DR30N1

CPA圆柱形 (M18) 光电式传感器 (红色光) / CPA Cylindrical (M18) Photoelectric Sensor (Red Light)

- 检测距离长, 对射长达20米, 漫反射长达1米
Long detection distance, through-beam distance up to 20 m, and diffuse reflection distance up to 1 m
- 响应时间快: 0.5ms
Fast response time: 0.5ms
- 动作模式Dark ON / Light ON 可自由切换
Action mode: Free switching of Dark ON / Light ON
- 抗干扰能力强
Strong anti-interference capability
- 性能稳定可靠, 一致性好, 性价比高
Stable and reliable performance, good consistency, and high cost performance



额定规格/性能 Specifications/Performance

传感器类型 Sensor type		对射型 Through-beam	偏振光镜面反射型 Polarized light specular reflection	漫反射型 Diffuse reflection			
型号 Model	NPN输出 NPN output	成型电缆 Formed cable	CPA-TR20MN3	CPA-RMR4MN3	CPA-DR100N3	CPA-DR300N3	CPA-DR1MN3
	NPN输出 NPN output	M12中继型 M12 trunk type	CPA-TR20MN3-A	CPA-RMR4MN3-A	CPA-DR100N3-A	CPA-DR300N3-A	CPA-DR1MN3-A
	PNP输出 PNP output	成型电缆 Formed cable	CPA-TR20MP3	CPA-RMR4MP3	CPA-DR100P3	CPA-DR300P3	CPA-DR1MP3
	PNP输出 PNP output	M12中继型 M12 trunk type	CPA-TR20MP3-A	CPA-RMR4MP3-A	CPA-DR100P3-A	CPA-DR300P3-A	CPA-DR1MP3-A
	检测距离 Detection distance		20m	0.5~4m	100mm	300mm	1m
光斑直径 (参考值) Spot diameter (reference value)			-	40x45mm	40x50mm	120x150mm	
回差 Return difference					检测距离的20%以下 Less than 20% of the detection distance		
标准检测物体 Standard detected object		Φ7mm以上的不透明物体 Opaque objects above Φ7mm	Φ75mm以上的不透明物体 Opaque objects above Φ75mm		白色绘图纸: 300x300mm White drawing paper: 300x300mm		
指向角 Angle of spread			最小2° Minimum 2 degrees				
光源 (波长) Light source (wavelength)				红色发光二极管(617nm) Red LED (617nm)			
电源电压 Supply voltage				DC12~24V纹波(p-p)10%以下(DC10~30V) DC12~24V, ripple (p-p): below 10% (DC10~30V)			
消耗电流 Current consumption		40mA以下 (发射器25mA以下, 接收器15mA以下) Below 40mA (transmitter: below 25mA, receiver: below 15mA)			25mA以下 Below 25mA		
控制输出 Control output			NPN/PNP(晶体管集电极开路输出)负载电流100mA以下 (残留电压3V以下), 负载电源电压30V以下 NPN/PNP (transistor collector open output), load current: below 100mA (residual voltage: below 3V), load supply voltage: below 30V				
动作模式 Action mode				DarkON/Light ON通过接线选择 DarkON/Light ON, selected by wiring			
指示灯 Indicator				动作指示灯 (橙色) Action indicator (orange) 稳定指示灯 (绿色) Stability indicator (green) 电源指示灯 (红色): 仅对射型的发射器 Power indicator (red): for through-beam emitter only			
保护回路 Protection circuit				电源逆接保护、浪涌吸收、负载短路保护 Power reverse connection protection, surge absorption, load short-circuit protection			
响应时间 Response time		0.5ms		1ms			
灵敏度调节 Sensitivity adjustment				单圈旋钮 Single-turn knob			
使用环境照度 (接收器侧) Ambient illuminance (receiver side)				收光面照度白炽灯: 3,000lx以下, 太阳光: 10,000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx			
使用环境温度 Ambient temperature				工作时: -25~+55°C/保存时: -25~+70°C (无结冰、无结露) -25~+55°C during operation / -25~+70°C during storage (no icing, no condensation)			
使用环境湿度 Ambient humidity				工作时: 35~85%RH/保存时: 35~95%RH(无结冰、无结露) 35~85%RH during operation / 35~95%RH during storage (no icing, no condensation)			
绝缘电阻 Insulation resistance				20M以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)			
耐压 Withstand voltage				AC1,000V, 50/60Hz, 1min, between whole charging part and shell			
耐震动 Shock resistance				10~55Hz上下振幅1.5mmX、Y、Z各方向2h			
耐冲击 Impact resistance				10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions			
防护等级 Protection level				300m/s² X、Y、Z各方向3次 300m/s², respectively 3 times in X, Y and Z directions			
重量/长度 Weight/length	成型电缆 Formed cable	约94g/2m About 94g/2m	约65g/2m About 65g/2m		约50g/2m About 50g/2m		
	M12中继型 M12 trunk type	约80g/0.5m About 80g/0.5m	约68g/0.5m About 68g/0.5m		约55g/0.5m About 55g/0.5m		
材质 Material	外壳/螺母 Shell/nut			ABS			
	透镜/显示窗 Lens/display window			PMMA			
	旋钮 Knob			POM			
	电缆 Cable			PVC			
附件 Accessories		使用说明书、M18螺母(4个)、合格证 Operating manual, M18 nuts (4), certificate	反光版、使用说明书、M18螺母(2个)、合格证 Reflector, operating manual, M18 nuts (2), certificate		使用说明书、M18螺母(2个)、合格证 Operating manual, M18 nuts (2), certificate		

注: 对射产品由发射端与接收端组成, 发射产品型号为表内型号加上L, 接收产品型号为表内型号加上D;

Notes: The through-beam product consists of the transmitting terminal and the receiving terminal. The model of the transmitting product is the model in the table plus L, and the model of the receiving product is the model in the table plus D;

如: CPA-TR20MN3-L, CPA-TR20MN3-D, CPA-TR20MN3-L/A, CPA-TR20MN3-D/A

For example: CPA-TR20MN3-L, CPA-TR20MN3-D, CPA-TR20MN3-L/A, and CPA-TR20MN3-D/A.

CPA圆柱形 (M18) 光电式传感器 (红外光) / CPA Cylindrical (M18) Photoelectric Sensor (Infrared Light)

- 检测距离长, 对射15米, 漫反射长1米
Long detection distance, through-beam distance up to 15 m, and diffuse reflection distance up to 1 m
- 响应时间快: 0.5ms
Fast response time: 0.5ms
- 防护等级: IP67
protection level: IP67
- 动作模式Dark ON / Light ON 自由切换
Action mode: Free switching of Dark ON / Light ON
- 性能稳定可靠, 一致性好, 性价比高
Stable and reliable performance, good consistency, and high cost performance



额定规格/性能 Specifications/Performance

传感器类型 Sensor type		对射型 Through-beam	偏振光镜面反射型 Polarized light specular reflection	漫反射型 Diffuse reflection		
型号 Model	NPN输出 NPN output	CPA-TF15MN3	CPA-RMF4MN3	CPA-DF100N3	CPA-DF300N3	CPA-DF1MN3
	成型电缆 Formed cable					
	NPN输出 NPN output	CPA-TF15MN3-A	CPA-RMF4MN3-A	CPA-DF100N3-A	CPA-DF300N3-A	CPA-DF1MN3-A
	M12中继型 M12 trunk type					
	PNP输出 PNP output	CPA-TF15MP3	CPA-RMF4MP3	CPA-DF100P3	CPA-DF300P3	CPA-DF1MP3
成型电缆 Formed cable						
PNP输出 PNP output	CPA-TF15MP3-A	CPA-RMF4MP3-A	CPA-DF100P3-A	CPA-DF300P3-A	CPA-DF1MP3-A	
M12中继型 M12 trunk type						
标准检测距离 Standard detection distance		15m	0.5-4m	100mm	300mm	1m
标准检测物体 Standard detected object		Φ7mm以上的不透明物体 Opaque objects above Φ7mm			白色绘图纸: 300x300mm White drawing paper: 300x300mm	
回差 Return difference		-			检测距离的20%以下 Less than 20% of the detection distance	
指向角 Angle of spread		最小2° Minimum 2 degrees			-	
光源 (波长) Light source (wavelength)		红外发光二极管(850nm) Infrared LED (850nm)				
电源电压 Supply voltage		DC12~24V纹波(p-p)10%以下(DC10-30V) DC12~24V, ripple (p-p): below 10% (DC10-30V)				
消耗电流 Current consumption		40mA以下 (发射器25mA以下, 接收器15mA以下) Below 40mA (transmitter: below 25mA, receiver: below 15mA)			25mA以下 Below 25mA	
控制输出 Control output		NPN/PNP(晶体管集电极开路输出)负载电流100mA以下 (残留电压3V以下), 负载电源电压30V以下 NPN/PNP (transistor collector open output), load current: below 100mA (residual voltage: below 3V), load supply voltage: below 30V				
动作模式 Action mode		DarkON/LightON通过接线选择 DarkON/Light ON, selected by wiring				
指示灯 Indicator		动作指示灯 (橙色) Action indicator (orange) 稳定指示灯 (绿色) Stability indicator (green) 电源指示灯 (红色): 仅对射型的发射器 Power indicator (red): for through-beam emitter only 电源逆接保护、浪涌吸收、负载短路保护 Power reverse connection protection, surge absorption, load short-circuit protection				
保护回路 Protection circuit		Power reverse connection protection, surge absorption, load short-circuit protection				
响应时间 Response time		0.5ms	1ms			
灵敏度调节 Sensitivity adjustment		单圈旋钮 Single-turn knob				
使用环境照度 (接收器侧) Ambient illumination (receiver side)		收光面照度白炽灯: 3,000lx以下, 太阳光: 10,000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx				
使用环境温度 Ambient temperature		工作时: -25~+55°C/保存时: -25~+70°C (无结冰、无结露) -25~+55°C during operation / -25~+70°C during storage (no icing, no condensation)				
使用环境湿度 Ambient humidity		工作时: 35~85%RH/保存时: 35~95%RH(无结冰、无结露) 35~85%RH during operation / 35~95%RH during storage (no icing, no condensation)				
绝缘电阻 Insulation resistance		20M以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)				
耐电压 Withstand voltage		AC1,000V, 50/60Hz, 1min, between whole charging part and shell AC1,000V, 50/60Hz, 1min, between whole charging part and shell				
耐振动 Vibration resistance		10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions				
耐冲击 Impact resistance		300m/s ² X, Y, Z各方向3次 300m/s ² X, Y, Z各方向3次				
防护等级 Protection level		IEC标准: IP65 (注: 不带旋钮默认IP67) IEC standard: IP65 (Note: IP67 by default for products without knob)				
重量/长度 Weight/length	成型电缆 Formed cable	约94g/2m	约65g/2m	约50g/2m		
	M12中继型 M12 trunk type	约80g/0.5m	约68g/0.5m	约55g/0.5m		
	M12中继型 M12 trunk type	约80g/0.5m	约68g/0.5m	约55g/0.5m		
	M12中继型 M12 trunk type	约80g/0.5m	约68g/0.5m	约55g/0.5m		
材质 Material	外壳/螺母 Shell/nut				ABS	
	透镜/显示窗 Lens/display window				PMMA	
	旋钮 Knob				POM	
	电缆 Cable				PVC	
附件 Accessories		使用说明书, M18螺母(4个), 合格证 Operating manual, M18 nuts (4), certificate	反光版, 使用说明书, M18螺母(2个), 合格证 Reflector, operating manual, M18 nuts (2), certificate	使用说明书, M18螺母(2个), 合格证 Operating manual, M18 nuts (2), certificate		

注: 对射产品由发射端与接收端组成, 发射产品型号为表内型号加上L, 接收产品型号为表内型号加上D;

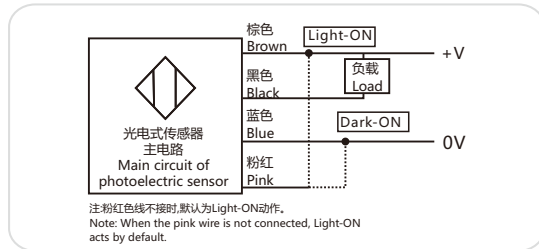
Notes: The through-beam product consists of the transmitting terminal and the receiving terminal. The model of the transmitting product is the model in the table plus L, and the model of the receiving product is the model in the table plus D;

如: CPA-TF20MN3-L, CPA-TF20MN3-D, CPA-TF20MN3-L/A, CPA-TF20MN3-D/A

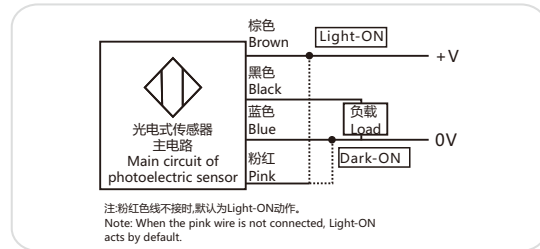
For example: CPA-TF20MN3-L, CPA-TF20MN3-D, CPA-TF20MN3-L/A, and CPA-TF20MN3-D/A.

CPA控制输出图 CPA Control Output Diagram

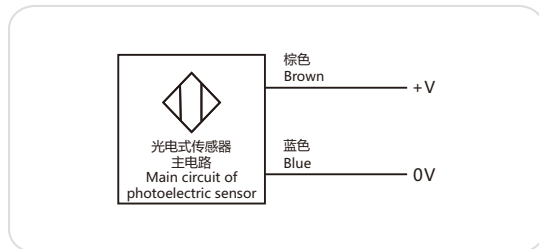
NPN集电极开路输出
NPN open collector output



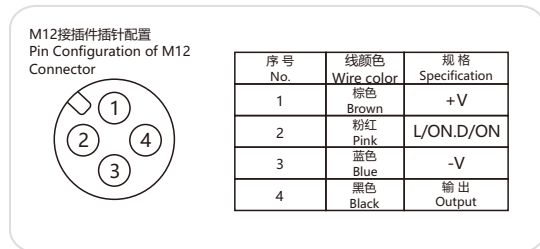
PNP集电极开路输出
PNP open collector output



对射型发光器
Through-beam light emitter

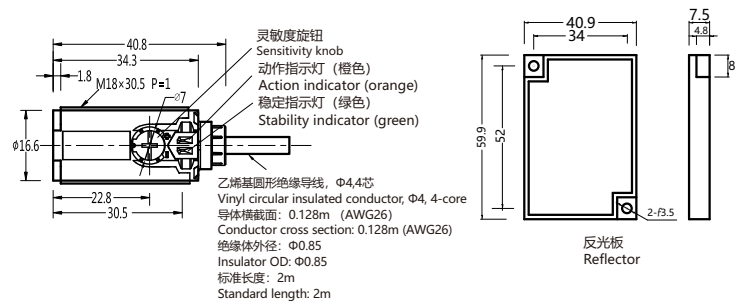
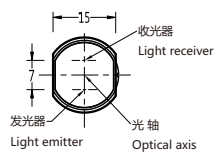


接插件插针配置
Pin configuration of connector

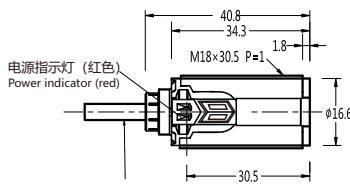


CPA外形尺寸图 CPA Outline Drawing

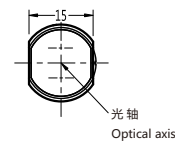
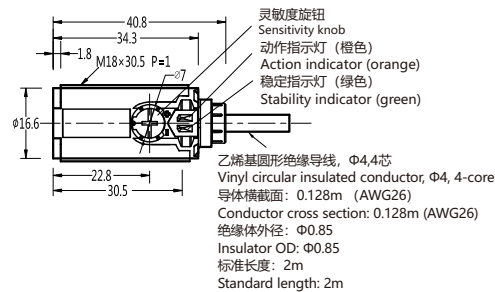
●CPA-RM□□□□3/CPA-D□□□□3



●CPA-T□□□□□



乙烯基圆形绝缘导线, Φ4.2芯
Vinyl circular insulated conductor, Φ4, 2-core
导体横截面: 0.128m (AWG26)
Conductor cross section: 0.128m (AWG26)
绝缘体外径: Φ0.85
Insulator OD: Φ0.85
标准长度: 2m
Standard length: 2m



CPK方形AC/DC电源通用型光电式传感器(红色光) CPK Square General Photoelectric Sensor for AC/DC Power Supply (Red Light)

- 抗干扰能力强
Strong anti-interference capability
- 防护等级: IP67
Protection level: IP67
- 动作模式: Dark ON/Light ON 可自由切换
Action mode: Free switching of Dark ON / Light ON
- 检测距离长度: 对射长达50米, 漫反射长达2.5米
Long detection distance: through-beam distance up to 50m, and diffuse reflection distance up to 2.5m
- 性能稳定可靠, 一致性好, 性价比高
Stable and reliable performance, good consistency, and high cost performance



额定规格/性能 Specifications/Performance

传感器类型 Sensor type		对射型 Through-beam			偏振光镜面反射型 Polarized light specular reflection			漫反射型 Diffuse reflection	
型号 Model	继电器输出 Relay output	CPK-TR20MR3	CPK-TR40MR3	CPK-TR50MR3	CPK-RMR6MR3	CPK-RMR8MR3	CPK-RMR12MR3*	CPK-DR1MR3	CPK-DR2.5MR3
检测距离 Detection distance		20m	40m	50m	0.1-6m	0.1-8m	0.1-12m	1m	2.5m
标准检测物体 Standard detected object		Φ17mm以上的不透明物体 Opaque objects above Φ17mm			Φ75mm以上的不透明物体 Opaque objects above Φ75mm			白色绘图纸: 100x100mm White drawing paper: 100x100mm	白色绘图纸: 300x300mm White drawing paper: 300x300mm
回差 Return difference								检测距离的20%以下 Less than 20% of the detection distance	
指向角 Angle of spread		发、接收器: 各3°以上 Transmitter and receiver: above 3° each			1.5°以上 Above 1.5°				
光源(波长) Light source (wavelength)					红色发光二极管(617nm) Red LED (617nm)				
电源电压 Supply voltage		DC24~240V±10%			纹波(p-p)10%以下 Ripple (p-p): below 10%			AC24~240V±10%/50/60Hz	
功率 power		3W以下(发射器1.5W以下 收光器1.5W以下) Below 3W (transmitter: below 1.5W, light receiver: below 1.5W)			2W以下 Below 2W				
控制输出 Control output					继电器输出: 1c触点AC250V3A(cosΦ=1)以下, DCSV10mA以上 Relay output: 1c contact, AC250V 3A (cosΦ=1) or below, DCSV 10mA or above				
动作模式 Action mode					DarkON/LightOn自由切换 Free switching of DarkON / LightOn				
指示灯 Indicator					动作指示灯(橙色) Action indicator (orange) 稳定指示灯(绿色) Stability indicator (green) 电源指示灯(绿色): 仅对射型的发射器 Power indicator (green): for through-beam emitter only				
保护回路 Protection circuit					电源逆接保护 Supply power reverse protection				
寿命(继电器输出) Life (relay output)	机械 Electrical				5,000万次以上(开关频率18,000次/h) More than 50 million times (switching frequency: 18,000 times/h)				
响应时间 Response time					10万次以上(开关频率1,800次/h) More than 100,000 times (switching frequency: 1,800 times/h)				
灵敏度调节 Sensitivity adjustment					20ms以下 Below 20ms				
使用环境照度(接收器侧) Ambient illuminance (receiver side)					单圈旋钮仅接收器 Single-turn knob, for only receiver				
使用环境温度 Ambient temperature					收光面照度白炽灯: 3,000lx以下, 太阳光: 11,000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 11,000lx				
使用环境湿度 Ambient humidity					工作时: -25~+55°C/保存时: -40~+70°C(无结冰、无结露) -25~+55°C during operation / -40~+70°C during storage (no icing, no condensation)				
绝缘电阻 Insulation resistance					工作时: 35~85%RH/保存时: 35~95%RH(无结冰、无结露) 35~85%RH during operation / 35~95%RH during storage (no icing, no condensation)				
耐电压 Withstand voltage					20MΩ以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)				
耐震动 Shock resistance					AC1,500V, 50/60Hz, 1min, between whole charging part and shell				
耐冲击 Impact resistance					10~55Hz上下振幅1.5mX、Y、Z各方向2h 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions				
防护等级 Protection level					300m/s² X、Y、Z各方向3次 300m/s², respectively 3 times in X, Y and Z directions				
连接方式 Connection mode					IEC标准IP65(注不带旋钮默认IP67) IEC standard: IP65 (Note: IP67 by default for products without knob)				
重量/长度 Weight/length		约255g/2m About 255g/2m			成型电缆(标准电缆长2m)/M12中继型 Formed cable (standard cable length: 2m)/M12 trunk type			约132g/2m About 132g/2m	
材质 Material	外壳 透视镜/显示窗 电缆				ABS PMMA				
附件 Accessories		使用说明书、安装支架、合格证 Operating manual, mounting bracket, certificate			PVC电缆弯曲半径: R18mm Bending radius of PVC cable: R18mm			使用说明书、安装支架、合格证 Operating manual, mounting bracket, certificate	

注: *产品标准性能为镜面反射8m, 搭配反光板CP2-R7检测距离为12m;

Note: * The standard performance of the product is 8m mirror reflection, and the detection distance of CP2-R7 with the reflector is 12m.

对射产品由发射端与接收端组成, 发射产品型号为表内型号加上L, 接收产品型号为表内型号加上D.

如: CPK-TR20MR3-L, CPK-TR20MR3-D, CPK-TR40MR3-L, CPK-TR40MR3-D

The through-beam product consists of the transmitting terminal and the receiving terminal. The model of the transmitting product is the model in the table plus L, and the model of the receiving product is the model in the table plus D.

For example: CPK-TR20MR3-L, CPK-TR20MR3-D, CPK-TR40MR3-L, and CPK-TR40MR3-D.

CPK方形AC/DC电源通用型光电式传感器 (红外光) CPK Square General Photoelectric Sensor for AC/DC Power Supply (Infrared Light)

- ◆检测距离长,对射长达40米,漫反射长达2.5米
 Long detection distance, through-beam distance up to 40 m, and diffuse reflection distance up to 2.5 m
- ◆动作模式:Dark ON / Light ON可自由切换
 Action mode: Free switching of Dark ON / Light ON
- ◆抗干扰能力强
 Strong anti-interference capability
- ◆防护等级: IP67
 Protection level: IP67
- ◆性能稳定可靠,一致性好,性价比高
 Stable and reliable performance, good consistency, and high cost performance



额定规格/性能 Specifications/Performance

传感器类型 Sensor type		对射型 Through-beam		偏振光镜面反射型 Polarized light specular reflection		漫反射型 Diffuse reflection	
型号 Model	继电器输出 Relay output	CPK-TF40MR3	CPK-TF20MR3	CPK-RMF6MR3	CPK-RMF8MR3	CPK-DF1MR3	CPK-DF2.5MR3
检测距离 Detection distance		40m	20m	0.1~6m	0.1-8m	1m	2.5m
标准检测物体 Standard detected object		Φ17mm以上的不透明物体 Opaque objects above Φ17mm		Φ75mm以上的不透明物体 Opaque objects above Φ75mm		白色绘图纸: 100x100mm White drawing paper: 100x100mm	白色绘图纸: 300x300mm White drawing paper: 300x300mm
回差 Return difference		-		-		检测距离的20%以下 Less than 20% of the detection distance	
指向角 Angle of spread		发、接收器: 各3°以上 Transmitter and receiver: above 3° each		1.5°以上 Above 1.5°		-	
光源 (波长) Light source (wavelength)				红外发光二极管(850nm) Infrared LED (850nm)			
电源电压 Supply voltage				DC24~240V±10%	纹波(p-p)10%以下 Ripple (p-p): below 10%	AC24~240V±10% 50/60Hz	AC24~240V±10% 50/60Hz
功率 power		3W以下 (发射器1.5W以下 接收器1.5W以下) Below 3W (transmitter: below 1.5W, light receiver: below 1.5W)				2W以下 Below 2W	
控制输出 Control output				继电器输出: 1c触点AC250V3A(cosφ=1)以下、DC5V10mA以上 Relay output: 1c contact, AC250V 3A (cosφ=1) or below, DC5V 10mA or above			
动作模式 Action mode				DarkOn/LightOn自由切换 Free switching of DarkOn / LightOn			
指示灯 Indicator				动作指示灯 (橙色) Action indicator (orange)		稳定指示灯 (绿色) Stability indicator (green)	
保护回路 Protection circuit		-		电源指示灯 (绿色): 仅对射型的发射器 Power indicator (green): for through-beam emitter only		电源逆接保护 Supply power reverse protection	
寿命 (继电器输出) Life (relay output)	机械 Mechanical 电气 Electrical			5,000万次以上 (开关频率18,000次/h) More than 50 million times (switching frequency: 18,000 times/h)		10万次以上 (开关频率1,800次/h) More than 100,000 times (switching frequency: 1,800 times/h)	
响应时间 Response time				20ms以下 Below 20ms			
灵敏度调节 Sensitivity adjustment				单圈旋钮仅接收器 Single-turn knob, for only receiver			
使用环境照度 (接收器侧) Ambient illuminance (receiver side)				收光面照度白炽灯: 3,000lx以下、太阳光: 11,000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 11,000lx			
使用环境温度 Ambient temperature				工作时: -25~+55°C / 保存时: -40~+70°C (无结冰、无结露) -25~+55°C during operation / -40~+70°C during storage (no icing, no condensation)			
使用环境湿度 Ambient humidity				工作时: 35~85%RH / 保存时: 35~95%RH (无结冰、无结露) 35~85%RH during operation / 35~95%RH during storage (no icing, no condensation)			
绝缘电阻 Insulation resistance				20MΩ以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)			
耐电压 Withstand voltage				AC1,500V/50/60Hz, 1min, between whole charging part and shell			
耐震动 Shock resistance				10~55Hz上下振幅1.5mX、Y、Z各方向2h 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions			
耐冲击 Impact resistance				300m/s² X、Y、Z各方向3次 300m/s², respectively 3 times in X, Y and Z directions			
防护等级 Protection level				IEC标准IP65(注: 不带旋钮默认IP67) IEC standard: IP65 (Note: IP67 by default for products without knob)			
连接方式 Connection mode				成型电缆 (标准电缆长2m)/M12中继型 Formed cable (standard cable length: 2m)/M12 trunk type			
重量/长度 Weight/length		约255g/2m About 255g/2m		约146g/2m About 146g/2m		约132g/2m About 132g/2m	
材质 Material	外壳 Shell 透镜/显示窗 Lens/display window 电缆 Cable			ABS		PMMA	
附件 Accessories		使用说明书、安装支架、合格证 Operating manual, mounting bracket, certificate		使用说明书, 安装支架, 反光板、合格证 Operating manual, mounting bracket, reflector, certificate		使用说明书、安装支架、合格证 Operating manual, mounting bracket, certificate	

注: 对射产品由发射端与接收端组成, 发射产品型号为表内型号加上L, 接收产品型号为表内型号加上D;

Notes: The through-beam product consists of the transmitting terminal and the receiving terminal. The model of the transmitting product is the model in the table plus L, and the model of the receiving product is the model in the table plus D.

如: CPK-TF40MR3-L, CPK-TF40MR3-D, CPK-TF20MR3-L, CPK-TF20MR3-D

For example: CPK-TF40MR3-L, CPK-TF40MR3-D, CPK-TF20MR3-L, and CPK-TF20MR3-D.

CPK方形AC/DC电源通用型光电式传感器 (粉尘环境专用) CPK Square General Photoelectric Sensor for AC/DC Power Supply (Special for Dust Environment)

- ◆检测距离长
Long detection distance
- ◆采用先进红外光技术
Advanced infrared light technology
- ◆动作模式: Dark ON/Light ON可自由切换
Action mode: Free switching of Dark ON / Light ON
- ◆防护等级: IP67
Protection level: IP67
- ◆采用定制程序, 减小产品受到的粉尘影响
Custom procedures are used to reduce the impact of dust on the product



额定规格/性能 Specifications/Performance

传感器类型 Sensor type		偏振光镜面反射型 Polarized light specular reflection
型号 Model	继电器输出 Relay output	CPK-RMF6MR3-(MG)
检测距离 Detection distance		0.1-6m
标准检测物体 Standard detected object		Φ75mm以上不透明物体 Opaque objects above Φ75mm
回差 Return difference		/
指向角 Angle of spread		1.5以上 Above 1.5°
光源 (波长) Light source (wavelength)		红外发光二极管(850nm) Infrared LED (850nm)
电源电压 Supply voltage		DC24-240V±10%纹波(p-p)10%以下AC24-240V±10%50/60Hz DC24-240V±10% Ripple (p-p): below 10% AC24-240V±10%50/60Hz
功率 power		2W以下 Below 2W
控制输出 Control output		继电器输出: 1c触点AC250V3A(cosφ=1)以下, DC5V10mA以上 Relay output: 1c contact, AC250V 3A (cosφ=1) or below, DC5V 10mA or above
动作模式 Action mode		DarkON/LightON自由切换 Free switching of DarkON / LightOn
指示灯 Indicator		动作指示灯: 橙色 Action indicator: orange 稳定指示灯: 绿色 Stability indicator: green
保护回路 Protection circuit		电源逆接保护 Supply power reverse protection
寿命 (继电器输出) Life (relay output)	机械 Mechanical 电气 Electrical	5000万次以上 (开关频率18,000次/h) More than 50 million times (switching frequency: 18,000 times/h) 10万次以上 (开关频率1,800次/h) More than 100,000 times (switching frequency: 1,800 times/h)
响应时间 Response time		20ms以下 Below 20ms
灵敏度调节 Sensitivity adjustment		单圈旋钮 Single-turn knob
使用环境照度 (接收器侧) Ambient illuminance (receiver side)		收光面照度白炽灯: 3,000lx以下, 太阳光: 11,000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 11,000lx
使用环境温度 Ambient temperature		工作时: -25~+55°C/保存时: -40~+70°C (无结冰, 无结露) -25~+55°C during operation / -40~+70°C during storage (no icing, no condensation)
使用环境湿度 Ambient humidity		工作时: 35-85%RH/保存时: 35-95%RH(无结冰, 无结露) 35~85%RH during operation / 35~95%RH during storage (no icing, no condensation)
绝缘电阻 Insulation resistance		20M以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)
耐电压 Withstand voltage		AC1,500V/50/60Hz, 1min, between whole charging part and shell
耐震动 Shock resistance		10-55Hz上下振幅1.5mmX、Y、Z各方向2h 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions
耐冲击 Impact resistance		300m/s² X、Y、Z各方向三次 300m/s², respectively 3 times in X, Y and Z directions
防护等级 Protection level		IEC标准IP65(注: 不带旋钮默认IP67) IEC standard: IP65 (Note: IP67 by default for products without knob)
连接方式 Connection mode		成型电缆 (标准电缆长2m)/M12中继型 Formed cable (standard cable length: 2m)/M12 trunk type
重量/长度 Weight/length		约146g/2m About 146g/2m
材质 Material	外壳 Shell 透镜/显示窗 Lens/display window 电缆 Cable	ABS PMMA PVC电缆弯曲半径: R18mm Bending radius of PVC cable: R18mm
附件 Accessories		使用说明书、安装支架、反光板、合格证 Operating manual, mounting bracket, reflector, certificate

CPK方形晶体管输出光电式传感器 (红色光) /CPK Square Transistor Output Photoelectric Sensor (Red Light)

- ◆检测距离长,漫反射长达2.5米
Long detection distance, and diffuse reflection distance up to 2.5 m
- ◆动作模式: Dark ON / Light ON可自由切换
Action mode: Free switching of Dark ON / Light ON
- ◆抗干扰能力强
Strong anti-interference capability
- ◆防护等级: IP67
Protection level: IP67



额定规格/性能 Specifications/Performance

传感器类型 Sensor type		偏振光镜面反射型 Polarized light specular reflection	漫反射型 Diffuse reflection		
型号 Model	成型电缆 Formed cable	PNP+NPN型 PNP-NPN型 推挽输出型 推挽输出型	CPK-RMR6ME3	CPK-DR1ME3	CPK-DR2.5ME3
	M12中继型 M12 trunk type	PNP-NPN型 PNP-NPN型 推挽输出型 推挽输出型	CPK-RMR6MT3	CPK-DR1MT3	CPK-DR2.5MT3
	M12中继型 M12 trunk type	PNP-NPN型 PNP-NPN型 推挽输出型 推挽输出型	CPK-RMR6ME3-A	CPK-DR1ME3-A	CPK-DR2.5ME3-A
	M12中继型 M12 trunk type	PNP-NPN型 PNP-NPN型 推挽输出型 推挽输出型	CPK-RMR6MT3-A	CPK-DR1MT3-A	CPK-DR2.5MT3-A
检测距离 Detection distance		0.1~6m	1m	2.5m	
标准检测物体 Standard detected object		Φ75mm以上的不透明物体 Opaque objects above Φ75mm	白色绘画纸: 300x300mm White drawing paper: 300x300mm 检测距离的20%以下 Less than 20% of the detection distance		
回差 Return difference		-	-		
指向角 Angle of spread		<1.5°	-		
光源 (波长) Light source (wavelength)		红色发光二极管(617nm) Red LED (617nm)			
电源电压 Supply voltage		DC12-24V纹波(P-P)10%以下(DC10-30V) DC12~24V, ripple (p-p): below 10% (DC10~30V)			
消耗电流 Current consumption		25mA以下 Below 25mA			
控制输出 Control output		NPN或PNP晶体管集电极开路输出负载电流100mA以下 (电缆线2m时残留电压3V以下) NPN or PNP transistor collector open output, load current: below 100mA (residual voltage: below 3V at 2m cable)			
动作模式 Action mode		Light on(入光动作)/Dark on(遮光动作)自由切换 Free switching of Dark on / Light on			
指示灯 Indicator		输出指示灯 (橙色) Output indicator (orange) 稳定指示灯 (绿色) Stability indicator (green)			
保护回路 Protection circuit		电源逆接保护、输出短路保护、输出逆接保护 Power reverse connection protection, output short-circuit protection, output reverse connection protection			
响应时间 Response time		0.5ms			
使用环境照度 (接收器侧) Ambient illuminance (receiver side)		收光面照度白炽灯: 3000lx以下, 太阳光: 10000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx			
使用环境温度 Ambient temperature		工作时: -25~+55°C, 保存时: -40~+65°C (无结冰、无结露) -25~+55°C during operation / -40~+65°C during storage (no icing, no condensation)			
使用环境湿度 Ambient humidity		工作时: 35~85%RH, 保存时: 35~95%RH(无结冰、无结露) 35~85%RH during operation / 35~95%RH during storage (no icing, no condensation)			
绝缘电阻 Insulation resistance		20M以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)			
耐电压 Withstand voltage		AC1500V/60Hz1min充电部整体与外壳间 AC1500V, 50/60Hz, 1min, between whole charging part and shell			
耐震动 Shock resistance		10~55Hz上下振幅1.5mmX、Y、Z各方向2h 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions			
耐冲击 Impact resistance		300m/s² X、Y、Z各方向10次 300m/s², respectively 10 times in X, Y and Z directions			
防护等级 Protection level		IEC标准IP65(注不带旋钮默认IP67) IEC standard: IP65 (Note: IP67 by default for products without knob)			
重量/长度 Weight/length		约146g/2m About 146g/2m		约132g/2m About 132g/2m	
材质 Material	外壳 Shell	ABS			
	透镜/显示窗 Lens/display window	PMMA			
	电缆 Cable	2米PVC电缆弯曲半径: R18 Bending radius of 2m PVC cable: R18			
附件 Accessories		使用说明书、安装支架、反光板、合格证 Operating manual, mounting bracket, reflector, certificate		使用说明书、安装支架、合格证 Operating manual, mounting bracket, certificate	

CPK方形光电传感器(红外光)/CPK Square Photoelectric Sensor (Infrared Light)

- ◆检测距离长,漫反射长达2.5米
Long detection distance, and diffuse reflection distance up to 2.5 m
- ◆动作模式: Dark on / Light on可自由切换
Action mode: Free switching of Dark on / Light on
- ◆抗干扰能力强
Strong anti-interference capability
- ◆防护等级: IP67
Protection level: IP67

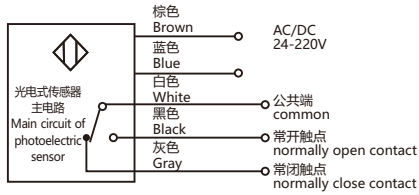


额定规格/性能 Specifications/Performance

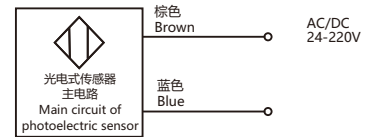
传感器类型 Sensor type		偏振光镜面反射型 Polarized light specular reflection	漫反射型 Diffuse reflection		
型号 Model	成型电缆 Formed cable	PNP+NPN型 PNP+NPN 推挽输出型 Push-pull output	CPK-RMF6ME3	CPK-DF1ME3	CPK-DF2.5ME3
	M12中继型 M12 trunk type	PNP-NPN型 PNP-NPN 推挽输出型 Push-pull output	CPK-RMF6ME3-A	CPK-DF1MT3	CPK-DF2.5MT3
	M12中继型 M12 trunk type	PNP-NPN型 PNP-NPN 推挽输出型 Push-pull output	CPK-RMF6ME3-A	CPK-DF1MT3-A	CPK-DF2.5MT3-A
	M12中继型 M12 trunk type	PNP-NPN型 PNP-NPN 推挽输出型 Push-pull output	CPK-RMF6MT3-A	CPK-DF1MT3-A	CPK-DF2.5MT3-A
检测距离 Detection distance		0.1~6m	1m	2.5m	
标准检测物体 Standard detected object		Φ75mm以上的不透明物体 Opaque objects above Φ75mm	白色绘图纸: 300x300mm White drawing paper: 300x300mm		
回差 Return difference		-	检测距离的20%以下 Less than 20% of the detection distance		
指向角 Angle of spread		<1.5°	-		
光源(波长) Light source (wavelength)		红外发光二极管(850nm) Infrared LED (850nm)			
电源电压 Supply voltage		DC12~24V纹波(P-P)10%以下(DC10~30V) DC12~24V, ripple (p-p): below 10% (DC10~30V)			
消耗电流 Current consumption		25mA以下 Below 25mA			
控制输出 Control output		NPN+PNP晶体管集电极开路输出负载电流100mA以下(电缆线2m时残留电压3V以下) NPN+PNP transistor collector open output, load current: below 100mA (residual voltage: below 3V at 2m cable)			
动作模式 Action mode		LightON(入光动作)/DarkON(避光动作)自由切换 Free switching of LightON / DarkON			
指示灯 Indicator		输出指示灯(橙色) Output indicator (orange) 稳定指示灯(绿色) Stability indicator (green)			
保护回路 Protection circuit		电源逆接保护、输出短路保护、输出逆接保护 Power reverse connection protection, output short-circuit protection, output reverse connection protection			
响应时间 Response time		0.5ms			
使用环境照度(接收器侧) Ambient illuminance (receiver side)		收光面照度白炽灯: 3000lx以下, 太阳光: 10000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx			
使用环境温度 Ambient temperature		工作时: -25~+55°C, 保存时: -40~+65°C (无结冰、无结露) -25~+55°C during operation / -40~+65°C during storage (no icing, no condensation)			
使用环境湿度 Ambient humidity		工作时: 35~85%RH, 保存时: 35~95%RH(无结冰、无结露) 35~85%RH during operation / 35~95%RH during storage (no icing, no condensation)			
绝缘电阻 Insulation resistance		20M以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)			
耐电压 Withstand voltage		AC1500V/50/60Hz, 1min, between whole charging part and shell AC1500V/50/60Hz 1min between whole charging part and shell			
耐震动 Shock resistance		10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions			
耐冲击 Impact resistance		300m/s ² , respectively 10 times in X, Y and Z directions 300m/s ² , respectively 10 times in X, Y and Z directions			
防护等级 Protection level		IEC标准IP65(注不带旋钮款默认IP67) IEC standard: IP65 (Note: IP67 by default for products without knob)			
重量/长度 Weight/length		约146g/2m About 146g/2m	约132g/2m About 132g/2m		
材质 Material	外壳 Shell	ABS			
	透镜/显示窗 Lens/display window	PMMA			
电缆 Cable		2米PVC电缆弯曲半径: R18 Bending radius of 2m PVC cable: R18			
附件 Accessories		使用说明书、安装支架、反光板、合格证 Operating manual, mounting bracket, reflector, Certificate		使用说明书、安装支架、合格证 Operating manual, mounting bracket, certificate	

CPK控制输出图 CPK Control Output Diagram

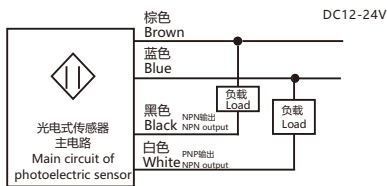
CPK控制输出图
CPK Control Output Diagram



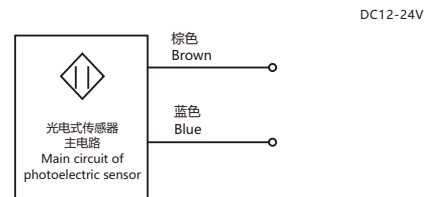
对射型发光器 (继电器输出)
Through-beam light emitter (relay output)



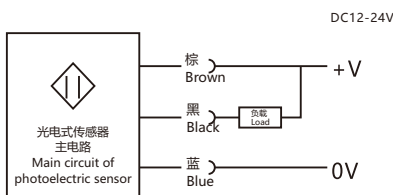
NPN+PNP集电极输出
NPN+PNP collector output



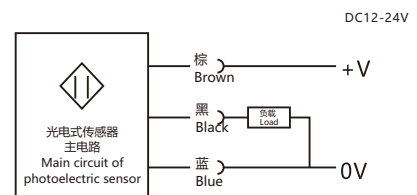
对射型发光器(NPN+PNP输出)
Through-beam light emitter (NPN+PNP output)



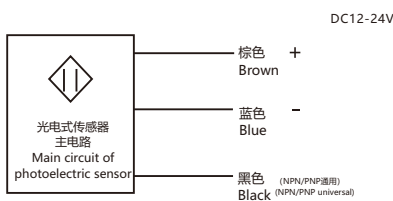
NPN集电极开路输出
NPN open collector output



PNP集电极开路输出
PNP open collector output

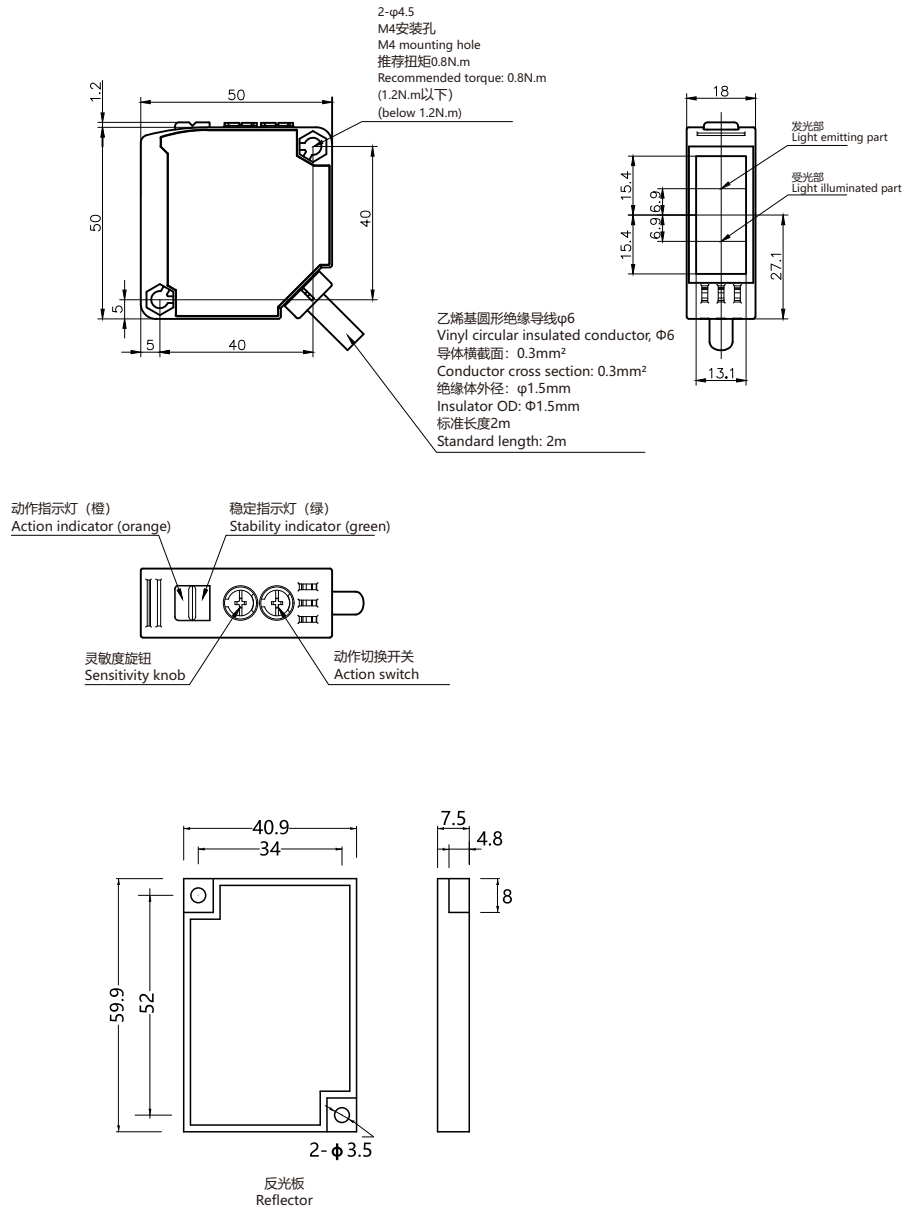


推挽输出
Push-pull output



CPK外形尺寸图
CPK Outline Drawing

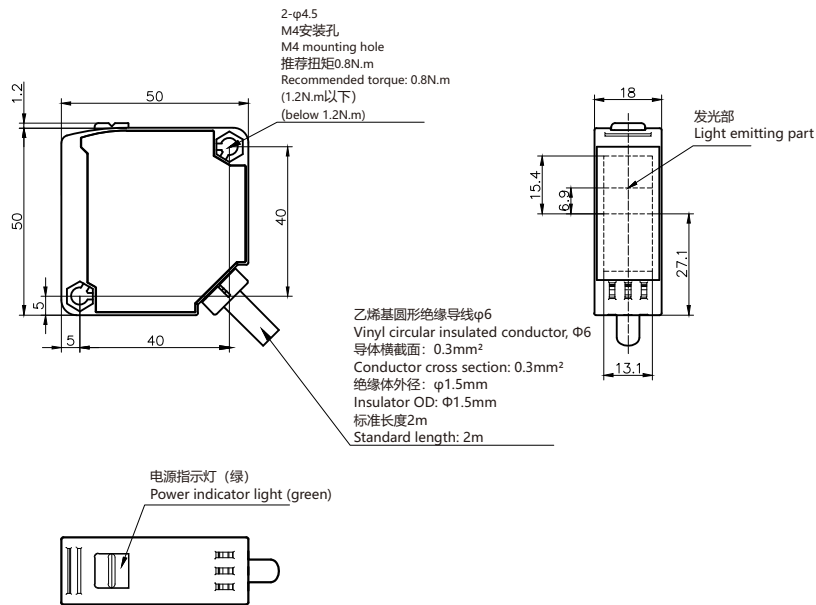
•CPK-RM□□□□/CPK-D□□□□



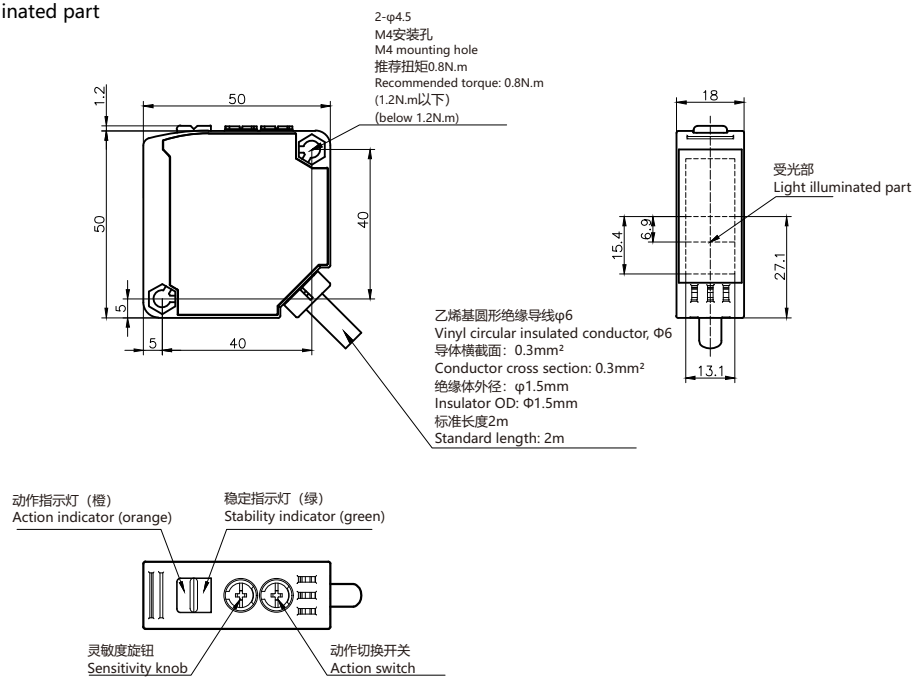
CPK外形尺寸图 CPK Outline Drawing

•CPK-T□□□□

发光部
Light emitting part



受光部
Light illuminated part



CPY小方形光电式传感器/CPY Small Square Photoelectric Sensor

- ◆抗干扰能力强
Strong anti-interference capability
- ◆多种保护电路
Multiple circuits
- ◆动作模式: Dark ON/Light ON可自由切换
Action mode: Free switching of Dark ON / Light ON
- ◆防护等级: IP65
Protection level: IP65



额定规格/性能 Specifications/Performance

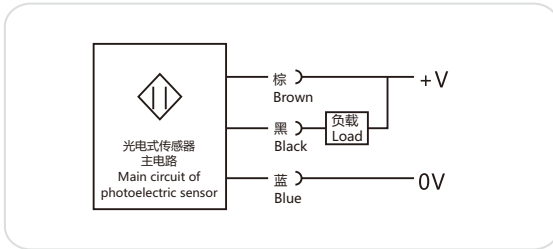
传感器类型 Sensor type		对射型 Through-beam	偏振光镜面反射型 Polarized light specular reflection			漫反射型 Diffuse reflection		
型号 Model	成型电缆 Formed cable	NPN型 NPN type	CPY-TR20MN3	CPY-RMR2MN3	CPY-RMR4MN3	CPY-DR100N3	CPY-DR300N3	CPY-DR1MN3
		PNP型 PNP type	CPY-TR20MP3	CPY-RMR2MP3	CPY-RMR4MP3	CPY-DR100P3	CPY-DR300P3	CPY-DR1MP3
	M12中继型 M12 trunk type	NPN型 NPN type	CPY-TR20MN3-A	CPY-RMR2MN3-A	CPY-RMR4MN3-A	CPY-DR100N3-A	CPY-DR300N3-A	CPY-DR1MN3-A
		PNP型 PNP type	CPY-TR20MP3-A	CPY-RMR2MP3-A	CPY-RMR4MP3-A	CPY-DR100P3-A	CPY-DR300P3-A	CPY-DR1MP3-A
检测距离 Detection distance		20m	0.1-2m	0.1-4m	100mm	300mm	1m	
光斑直径 Spot Diameter		1m距离光斑直径100mm 1m distance, spot diameter: 100mm						
标准检测物体 Standard detected object		Φ10mm以上不透明物体 Opaque objects above Φ10mm	Φ75mm以上不透明物体 Opaque objects above Φ75mm			白色绘画纸: 300x300mm White drawing paper: 300x300mm		
回差 Return difference		检测距离的20%以下 Less than 20% of the detection distance						
指向角 Angle of spread		最小2° Minimum 2 degrees						
光源 (波长) Light source (wavelength)		红色发光二极管(617nm) Red LED (617nm)						
电源电压 Supply voltage		DC12-24V纹波(p-p)10%以下(DC10-30V) DC12~24V, ripple (p-p): below 10% (DC10-30V)						
消耗电流 Current consumption		发光器20mA/收光器25mA以下 Light projection 20mA/light receiving below 25mA			25mA以下 Below 25mA			
控制输出 Control output		NPN或PNP晶体管集电极开路输出负载电流100mA以下 (电缆线2m时残留电压3V以下) NPN or PNP transistor collector open output, load current: below 100mA (residual voltage: below 3V at 2m cable)						
动作模式 Action mode		LightON(入光动作)/DarkON(避光动作)通过旋钮选择 LightOn / DarkON, selected by knob						
指示灯 Indicator		动作指示灯 (红色), 稳定指示灯 (绿色) Action indicator (red), stability indicator (green)						
保护回路 Protection circuit		电源逆接保护, 输出过流保护, 输出短路保护 Supply power reverse protection, output overcurrent protection, output short circuit protection						
响应时间 Response time		1ms						
灵敏度调节 Sensitivity adjustment		单圈旋钮 Single-turn knob						
使用环境照度 (收光器侧) Ambient illuminance (light receiver side)		收光面照度白炽灯: 3000lx以下, 太阳光: 10000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx						
使用环境温度 Ambient temperature		工作时: -25~+55°C, 保存时: -25~+65°C (无结冰, 无结露) -25~+55°C during operation / -25~+65°C during storage (no icing, no condensation)						
使用环境湿度 Ambient humidity		工作时: 35~85%RH, 保存时: 35~95%RH(无结露) 35~85%RH during operation / 35~95%RH during storage (no condensation)						
绝缘电阻 Insulation resistance		20M以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)						
耐电压 Withstand voltage		AC1000V50/60Hz1min充电部整体与外壳间 AC1,000V, 50/60Hz, 1min, between whole charging part and shell						
耐振动 Vibration resistance		10-55Hz上下振幅1.5mmX、Y、Z各方向2h 10-55Hz上下振幅1.5mmX、Y、Z各方向2h						
耐冲击 Impact resistance		300m/s² XY、Z各方向10次 300m/s², respectively 10 times in X, Y and Z directions						
防护等级 Protection level		IEC标准IP65 IEC standard: IP65						
产品重量 Product weight		约65g/2m About 65g/2m				约35g/2m About 35g/2m		
材质 Material	外壳 Shell	ABS						
	透镜/显示窗 Lens/display window	PC						
	电缆 Cable	PVC						
附件 Accessories		产品说明书、反光板(镜面反射型)、安装支架、安装螺丝、调节螺丝刀、合格证 Product manual, reflector (Mirror reflection type), mounting bracket, mounting screw, adjusting screwdriver, certificate						

注: 对射产品由发射端与接收端组成, 发射产品型号为表内型号加上L, 接收产品型号为表内型号加上D, 4m镜面反射为小光斑, 距离400mm处光斑直径11mm;
Notes: The through-beam product consists of the transmitting terminal and the receiving terminal. The model of the transmitting product is the model in the table plus L, and the model of the receiving product is the model in the table plus D. 4m mirror reflection type forms small light spots, with a spot diameter of 11mm at a distance of 400mm.

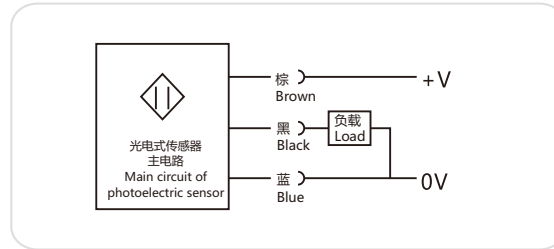
如: CPY-TR20MN3-L, CPY-TR20MN3-D, CPY-TR20MP3-L, CPY-TR20MP3-D
For example: CPY-TR20MN3-L, CPY-TR20MN3-D, CPY-TR20MP3-L, and CPY-TR20MP3-D.

CPY控制输出图 CPY Control Output Diagram

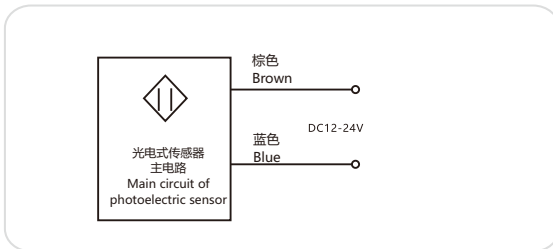
NPN集电极开路输出
NPN open collector output



PNP集电极开路输出
PNP open collector output

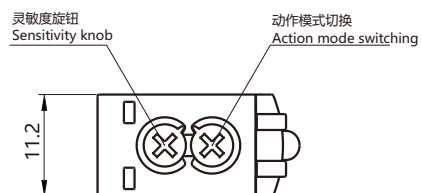
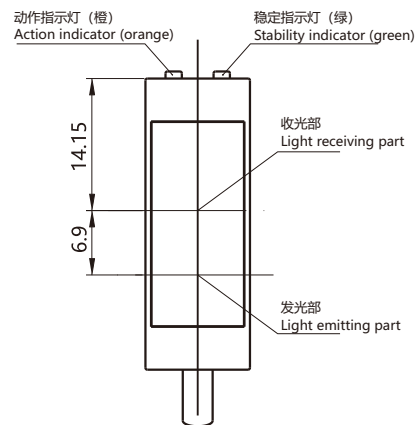
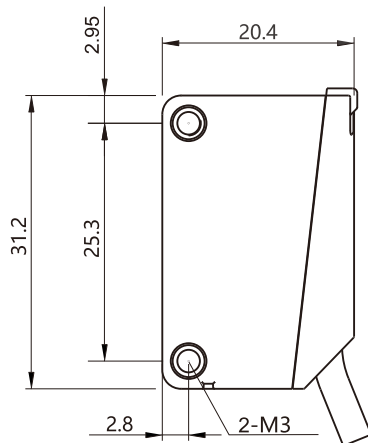


对射型发光器
Through-beam light emitter



CPY外形尺寸图 CPY Outline Drawing

•CPY-RM□□□□/CPY-DR□□□□



CPY背景抑制光电式传感器/CPY Background Suppression Photoelectric Sensor

- 可设定距离
Distance can be set
- 忽略物体颜色差异点(只检测设定范围内物体, 与检测物颜色无关)
Ignore object color difference points (Only objects within the set range are detected, regardless of the color of the detected object)
- 防护等级:IP65
Protection level of IP65

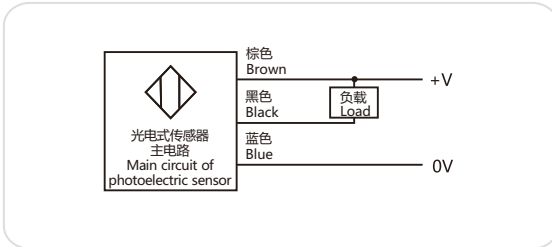


额定规格/性能 Specifications/Performance

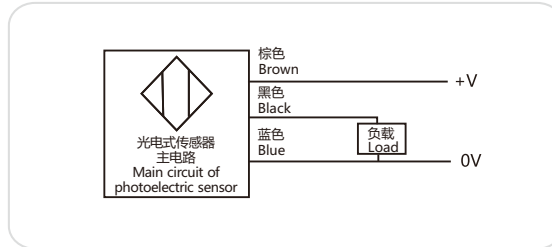
传感器类型 Sensor type		背景抑制 (成型电缆) Background suppression (formed cable)		背景抑制(M12中继型) Background suppression (M12 trunk type)	
型号 Model	NPN型 NPN type	CPY-DBR60N3	CPY-DBR250N3	CPY-DBR60N3-A	CPY-DBR250N3-A
	PNP型 PNP type	CPY-DBR60P3	CPY-DBR250P3	CPY-DBR60P3-A	CPY-DBR250P3-A
距离设定范围 Distance setting range		20-60mm	35-250mm	20-60mm	35-250mm
检测距离 Detection distance		15-60mm	20-250mm	15-60mm	20-250mm
光斑直径 Spot Diameter			约8mm(距离为50mm), 约20mm(距离为250mm) Approx. 8mm (distance of 50mm), Approx. 20mm (distance of 250mm)		
标准检测物体 Standard detected object			白色绘图纸: 300x300mm White drawing paper: 300x300mm		
回差 Return difference			检测距离的10%以下 Less than 10% of the detection distance		
指向角 Angle of spread			-		
光源 (波长) Light source (wavelength)			红色发光二极管(640nm) Red LED (640nm)		
电源电压 Supply voltage			DC12-24V纹波(P-P)10%以下(DC10-30V) DC12~24V, ripple (p-p): below 10% (DC10~30V)		
消耗电流 Current consumption			25mA以下 Below 25mA		
控制输出 Control output			NPN或PNP晶体管集电极开路输出负载电流100mA以下 (电缆线2m时残留电压3V以下) NPN or PNP transistor collector open output, load current: below 100mA (residual voltage: below 3V at 2m cable)		
动作模式 Action mode			60mm: 通过换线选择/250mm: 通过旋钮选择 60mm: Select by wire change / 250mm: Select by knob		
指示灯 Indicator			动作指示灯 (橙色), 稳定指示灯 (绿色) Action indicator (orange), stability indicator (green)		
保护回路 Protection circuit			电源逆接保护, 输出过流保护, 输出短路保护 Supply power reverse protection, output overcurrent protection, output short circuit protection		
响应时间 Response time			1ms以下 Below 1ms		
距离设定调节 Distance setting regulator			配备机械5圈调节器 Mechanical 5-turn regulator		
使用环境照度 (收光器侧) Ambient illuminance (light receiver side)			收光面照度白炽灯: 3000lx以下, 太阳光: 10000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx		
使用环境温度 Ambient temperature			工作时: -25~+55°C, 保存时: -25~+70°C (无结冰, 无结露) -25~+55°C during operation / -25~+70°C during storage (no icing, no condensation)		
使用环境湿度 Ambient humidity			工作时: 35~85%RH, 保存时: 35~85%RH(无结露) 35~85%RH during operation / 35~85%RH during storage (no condensation)		
绝缘电阻 Insulation resistance			20M以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)		
耐压 Withstand voltage			AC1,000V, 50/60Hz, 1min, between whole charging part and shell AC1,000V, 50/60Hz, 1min, between whole charging part and shell		
耐振动 Vibration resistance			10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y, Z各方向2h		
耐冲击 Impact resistance			300m/s ² , respectively 10 times in X, Y and Z directions 300m/s ² , respectively 10 times in X, Y and Z directions		
防护等级 Protection level			IEC标准IP65 IEC standard: IP65		
产品重量 Product weight			约35g/2m About 35g/2m		
材质 Material	外壳 Shell		ABS		
	透镜/显示窗 Lens/display window		PC		
	电缆 Cable		PVC		
附件 Accessories			产品说明书, 安装支架, 安装螺丝, 调节螺丝刀, 合格证 Product manual, mounting bracket, mounting screw, adjusting screwdriver, certificate		

CPY背景抑制控制输出图 CPY Background Suppression Control Output Diagram

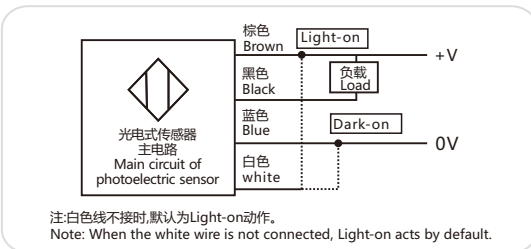
CPY-DBR250 NPN输出
CPY-DBR250 NPN output



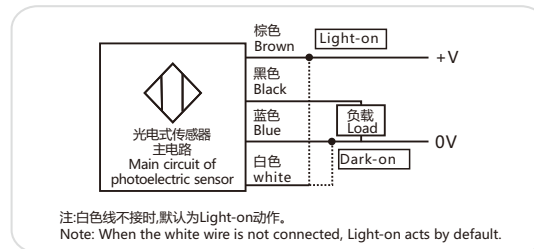
CPY-DBR250 PNP输出
CPY-DBR250 PNP output



CPY-DBR60 NPN输出
CPY-DBR60 NPN output

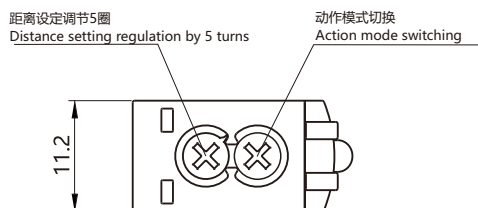
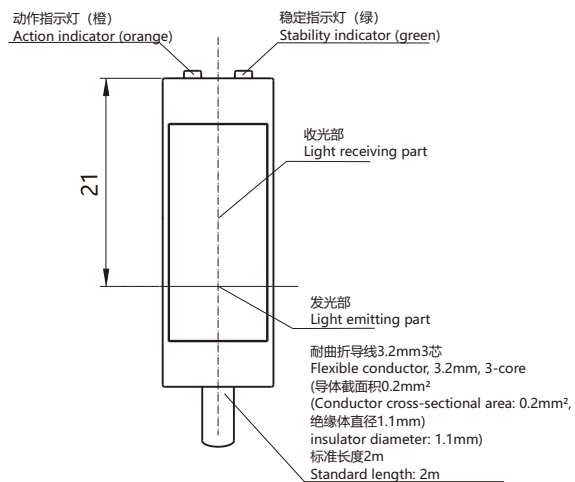
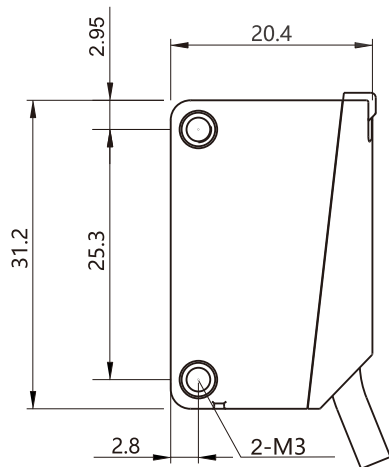


CPY-DBR60 PNP输出
CPY-DBR60 PNP output



CPY背景抑制外形尺寸图 CPY Background Suppression Outline Drawing

•CPY-DB□□□3/□



CPY背景抑制光电式传感器 (红光小光斑) CPY Background Suppression Photoelectric Sensor (Red small light spot)

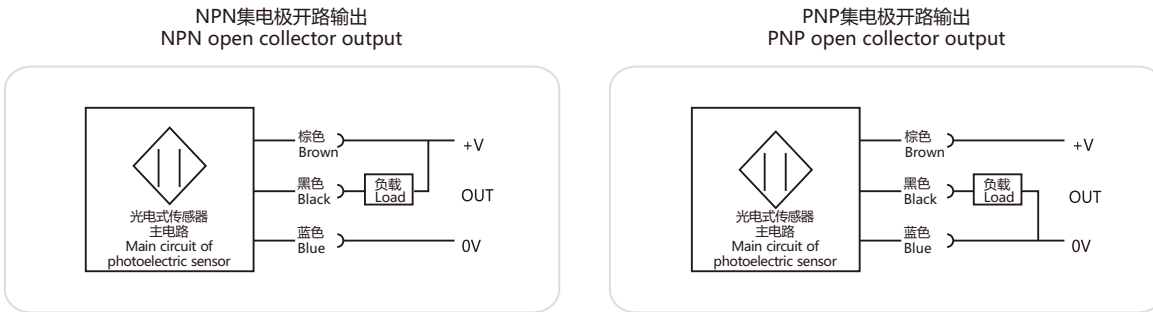
- ◆ 光斑小
Small spot
- ◆ 可设定距离
Distance can be set
- ◆ 忽略物体颜色差异点(只检测设定范围内物体, 与检测物颜色无关)
Ignore object color difference points (Only objects within the set range are detected, regardless of the color of the detected object)
- ◆ 防护等级: IP65
Protection level: IP65



额定规格/性能 Specifications/Performance

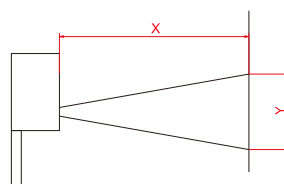
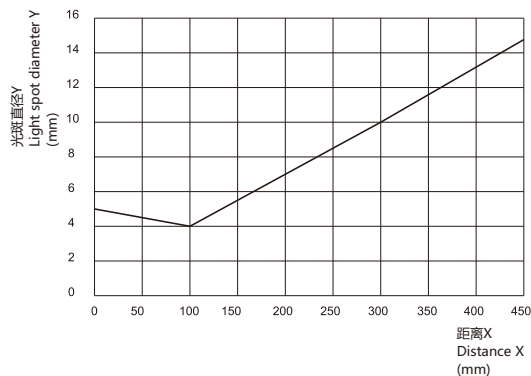
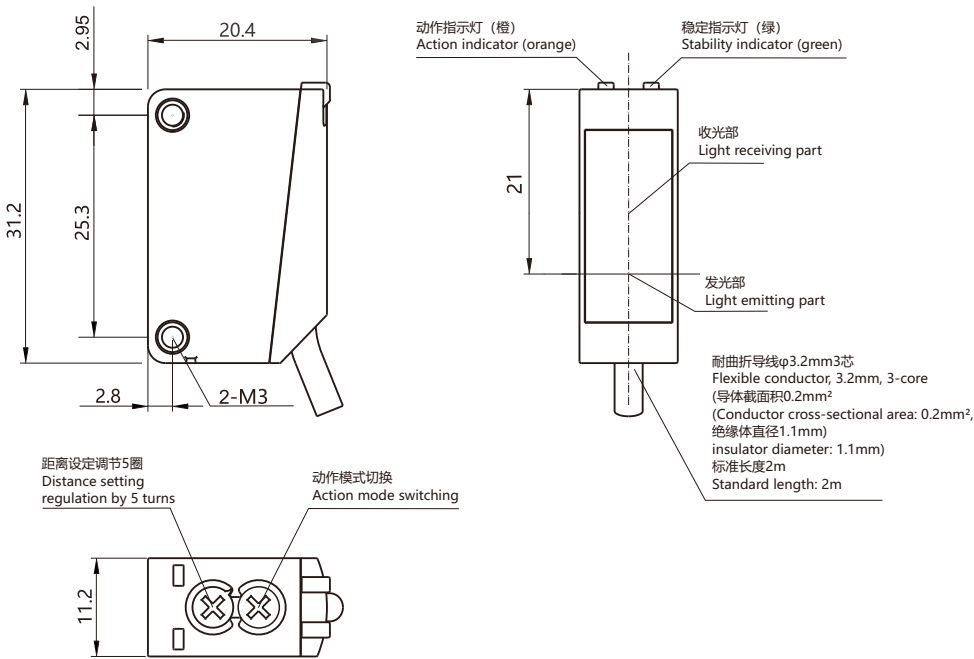
传感器类型 Sensor type		背景抑制 (红光小光斑) Background Suppression (Red small light spot)					
型号 Model	NPN型 NPN type	CPY-DBR300N3/X	CPY-DBF300N3	CPY-DBR100N3/X	CPY-DBR300N3-A/X	CPY-DBF300N3-A	CPY-DBR100N3-A/X
	PNP型 PNP type	CPY-DBR300P3/X	CPY-DBF300P3	CPY-DBR100P3/X	CPY-DBR300P3-A/X	CPY-DBF300P3-A	CPY-DBR100P3-A/X
距离设定范围 Setting Distance		25-300mm		25-100mm	25-300mm		25-100mm
检测距离(白色无光译纸) Detection Distance (White matt paper)		20-300mm		5-100mm	20-300mm		5-100mm
回差 Return Difference		动作距离的5%以下(使用白色无光译纸) Action distance < 5% (use white matt paper)					
重复精度 Repeat Precision		沿检测轴: 1mm以下, 垂直于检测轴: 0.2mm以下(使用白色无光译纸) Along the detection axis: less than 1mm, perpendicular to the detection axis: less than 0.2mm (use white matt paper)					
电源电压 Supply Voltage		DC12-24V 纹波(P-P) 10%以下 (DC10-30V)					
消耗电流 Consumed Current		DC12-24V Pulsation (P-P) is less than 10% (DC10-30V) 25mA以下 Less than 25mA					
输出 Output		NPN或PNP晶体管集电极开路输出 负载电流100mA以下(电缆线2m时残留电压3V以下) NPN or PNP transistor collector open output, load current: below 100mA (residual voltage: below 3V at 2m cable)					
输出动作 Output Action		LightON(入光动作)/DarkON(遮光动作)通过旋钮选择 LightOn / DarkOn, selected by knob					
短路保护 Short Circuit Protection		电源逆接保护, 输出过流保护, 输出短路保护 Supply power reverse protection, output overcurrent protection, output short circuit protection					
反应时间 Response Time		3ms以下 Below 3ms					
工作状态指示灯 Working Indicator		红色LED(输出ON时亮起) Red LED (Light on when output is ON)					
信号稳定指示灯 Signal stabilization indicator light		绿色LED(通电时亮起) Green LED (ON when energized)					
距离设定调节器 Distance Setting Adjuster		配备机械式5圈调节器 Equipped with mechanical 5-turn regulator					
检测模式 Detection mode		可用检测模式BGS功能 Available detection mode BGS function					
保护构造 IP Grade		IP65					
使用环境温度 Ambient Temperature		工作时: -25~+55°C(注意不可结露、结冰), 存储时:-30~+70°C during operation:-25 ~ +55 °C (no freeze, no dew), Storing:-30 ~ +70 °C					
使用环境湿度 Ambient Humidity		工作时: 35~+85%RH, 存储时: 35~+85%RH during operation:35~85%RH, Storing: 35~85%RH					
使用环境照度 Ambient Illumination		收光面照度白炽灯: 3000lx以下, 太阳光: 10000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx					
耐压 Withstand Voltage		AC 1,000V 1分钟所有电源连接端子与外壳之间 AC 1,000V 1min between all power connection terminals and the shell					
绝缘电阻 Insulation Resistance		所有电源连接端子与外壳之间, 20MΩ以上, 基于DC250V的高阻表 Between all power connection terminals and the shell, above 20MΩ, based on DC250V megger					
耐振动 Vibration resistance		频率10~500HZ 双振幅3mm(MAX.50G)X,Y和Z方向各2小时 Double amplitude 3mm (MAX.50G) at 10~500Hz for 2 hours in X / Y / Z directions					
耐冲击 Impact resistance		加速度500m/s ² (约50G)X, Y和Z方向各2小时 Acceleration 500m/s ² (about 50G) for 2 hours in X / Y / Z directions					
投光元件 Beam element		红色LED(投光波峰波长: 650nm, 调制式)、红外发光二极管(850nm) Red LED(peak wavelength: 650nm, modulation), Infrared LED (850nm)					
光点直径 Light spot diameter		约中φ10mm(在300mm处) About φ10mm(at 300mm)	约中φ4mm(在100mm处) About φ4mm(at 100mm)	约中φ10mm(在300mm处) About φ10mm(at 300mm)	约中φ10mm(在300mm处) About φ10mm(at 300mm)	约中φ4mm(在100mm处) About φ4mm(at 100mm)	约中φ4mm(在100mm处) About φ4mm(at 100mm)
材质 Material	外壳 Shell	ABS					
	透镜/显示窗 Lens/display window	PC					
附件 Accessories		产品说明书、安装支架、安装螺丝、调节螺丝刀、合格证 Product manual, mounting bracket, mounting screw, adjusting screwdriver, certificate					

CPY背景抑制控制输出图 CPY Background Suppression Control Output Diagram



CPY背景抑制外形尺寸图/光斑大小 CPY Background Suppression Outline Drawing / light spot size

• CPY-DB□□□3/□



CPY小方形光电式传感器—检测透明物体型 CPY Small Square Photoelectric Sensor - Transparent Object Detection Type

- ◆透明物体检测专用型
Dedicated for Transparent Object Detection
- ◆抗干扰能力强
Strong anti-interference capability
- ◆动作模式: Dark ON / Light ON 可自由切换
Action mode: Free switching of Dark ON / Light ON



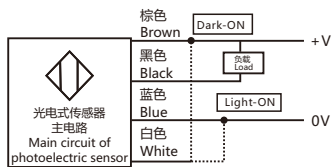
额定规格/性能 Specifications/Performance

传感器类型 Sensor type		偏振光镜面反射型 Polarized light specular reflection
型号 Model	成型电缆 Formed cable	NPN CPY-RMR2MN3-S
		PNP CPY-RMR2MP3-S
	M12中继型 M12 trunk type	NPN CPY-RMR2MN3-A/S
		PNP CPY-RMR2MP3-A/S
检测距离 Detection distance		2m
光斑直径 Spot diameter		1m距离, 光斑直径: 120mm 1m distance, spot diameter: 120mm
标准检测物体 Standard detected object		Φ75mm以上透明或不透明物体 Transparent or opaque objects above Φ75mm
指向角 Angle of spread		≤2°
光源 (波长) Light source (wavelength)		红色发光二极管(617nm) Red LED (617nm)
电源/电压 Power supply/voltage		DC12~24V纹波(p-p):10%以下(DC10~30V) DC12~24V, ripple (p-p): below 10% (DC10~30V)
消耗电流 Current consumption		25mA以下 Below 25mA
控制输出 Control output		NPN或PNP晶体管集电极开路输出负载电流100mA以下 NPN or PNP transistor collector open output, load current: below 100mA (电缆线2m时残留电压3V以下) (residual voltage, below 3V at 2m cable)
动作模式 Action mode		LightON或DarkON通过接线选择 LightOn / DarkON, selected by wiring
指示灯 Indicator		黄绿: 电源指示灯 橙色: 动作指示灯&距离设定指示灯 Yellow green: Power indicator Orange: Action indicator & distance setting indicator
保护回路 Protection circuit		电源逆接保护、输出短路保护、输出逆接保护、输出过流保护 Power reverse connection protection, output short-circuit protection, output reverse connection protection, output overcurrent protection
响应时间 Response time		60ms
环境照度 Ambient illuminance		收光面照度白炽灯: 3500lx以下、太阳光: 10000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx
环境温度 Ambient temperature		工作时: -25~+55°C、保存时: -25~+65°C (无结冰、无结露) -25~+55°C during operation, -25~+65°C during storage (no icing, no condensation)
环境湿度 Ambient humidity		工作时: 35~85%RH、保存时: 35~95%RH(无结露) 35~85%RH during operation, 35~95%RH during storage (no condensation)
绝缘电阻 Insulation resistance		20M以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)
耐电压 Withstand voltage		AC1000V50/60Hz1min充电部整体与外壳间 AC1,000V, 50/60Hz, 1min, between whole charging part and shell
耐振动 Vibration resistance		10~55Hz上下振幅1.5mmX、Y、Z各方向2h 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions
耐冲击 Impact resistance		150m/s2X、Y、Z各方向10次 150m/s ² , respectively 10 times in X, Y and Z directions
防护等级 Protection level		IEC标准IP64 IEC standard IP64
产品重量 Product weight		约35g About 35g
长度 Length		PVC导线2米 PVC conductor 2m
材质 Material		外壳ABS、透镜PC Shell: ABS, lens PC
附件 Accessories		安装支架、螺丝、反光板(镜面反射型)、说明书、合格证 Mounting bracket, screw, reflector (Mirror reflection type), manual, certificate

CPY控制输出图

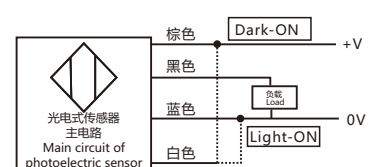
CPY Control Output Diagram

NPN集电极开路输出
NPN open collector output



注:白色线不接时,默认为Dark-ON(常开)动作。
Note: When the white wire is not connected, Dark-ON acts by default.

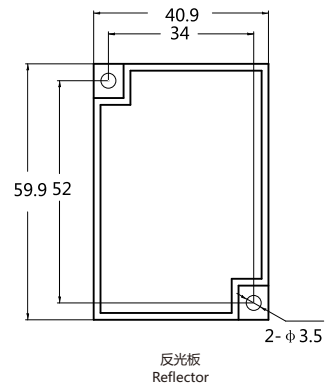
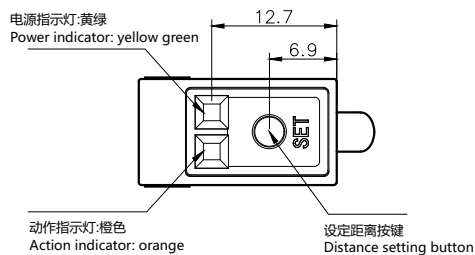
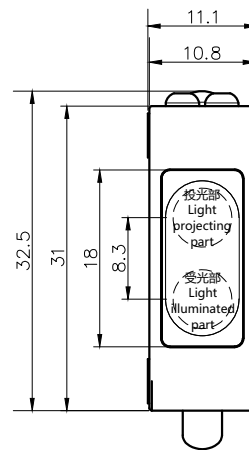
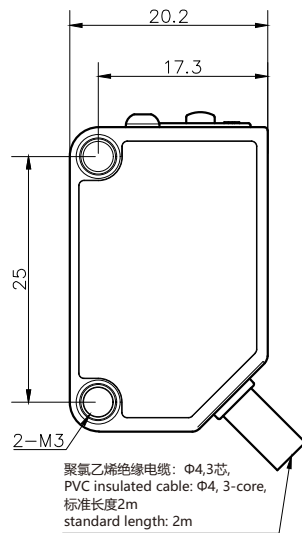
PNP集电极开路输出
PNP open collector output



注:白色线不接时,默认为Dark-ON(常开)动作。
Note: When the white wire is not connected, Dark-ON acts by default.

CPY外形尺寸图

CPY Outline Drawing



CPH小方形激光式传感器/CPH Small Square Laser Sensor

- ◆可设定检测距离
Detection distance can be set
- ◆多种保护电路
Multiple protection circuits
- ◆动作模式: Dark ON/Light ON可自由切换
Action mode: Free switching of Dark ON / Light ON
- ◆激光光源
Laser light source



额定规格/性能

Specifications/Performance

传感器类型 Sensor type		对射型 Through-beam		漫反射型 Diffuse reflection		
型号 Model	成型电缆 Formed cable	NPN	CPH-TE30MN3	CPH-TE10MN3	CPH-DE100N3	CPH-DE300N3
		PNP	CPH-TE30MP3	CPH-TE10MP3	CPH-DE100P3	CPH-DE300P3
	M12中继型 M12 trunk type	NPN	CPH-TE30MN3-A	CPH-TE10MN3-A	CPH-DE100N3-A	CPH-DE300N3-A
		PNP	CPH-TE30MP3-A	CPH-TE10MP3-A	CPH-DE100P3-A	CPH-DE300P3-A
检测距离 Detection distance		30m	10m	100mm	300mm	
光斑直径 Spot Diameter		1*2mm		1m距离光斑直径: 1*2mm		
标准检测物 Standard detected object		Φ10mm以上的不透明物体 Opaque objects above Φ10mm		1m距离, spot diameter: 1*2mm 白色绘图纸300x300mm White drawing paper: 300x300mm		
回差 Return difference		—		检测距离20%以下 Less than 20% of the detection distance		
指向角 Angle of spread		2°		—		
光源 (波长) Light source (wavelength)		红色半导体激光2级(655nm) Red semiconductor laser level 2 (655nm)				
电源/电压 Power supply/voltage		DC12~24V纹波(p-p): 10%以下(DC10-30V) DC12~24V, ripple (p-p): below 10% (DC10-30V)				
消耗电流 Current consumption		发光器20mA/收光器25mA Light emitting 20mA/light receiving 25mA		25mA以下 Below 25mA		
控制输出 Control output		NPN或PNP晶体管集电极开路输出负载电流100mA以下 (电缆线2m时残留电压3V以下) NPN or PNP transistor collector open output, load current: below 100mA (residual voltage: below 3V at 2m cable)				
动作模式 Action mode		LightON(光动作)/DarkON(光动作)通过旋钮选择 LightOn / DarkON, selected by knob 动作指示灯 (红色), 稳定指示灯 (绿色) Action indicator (red), stability indicator (green)				
指示灯 Indicator		电源指示灯 (绿色) 仅发光器 Power indicator (green), for light projector only		—		
保护回路 Protection circuit		逆接保护, 浪涌保护, 输出短路保护 Reverse connection protection, surge absorption, output short-circuit protection				
响应时间 Response time		0.5ms				
环境照度 Ambient illuminance		收光面照度白炽灯: 3000lx以下 太阳光: 10000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx				
环境温度 Ambient temperature		工作时: -25~+55°C during operation / -25~+65°C during storage (no icing, no condensation) -25~+55°C during operation / -25~+65°C during storage (no icing, no condensation)				
环境湿度 Ambient humidity		工作时: 35~85%RH、保存时: 35~95%RH(无结露) 工作时: 35~85%RH during operation / 35~95%RH during storage (no condensation)				
绝缘电阻 Insulation resistance		20M以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)				
耐电压 Withstand voltage		AC1000V/50/60Hz 1min 充电部整体与外壳间 AC1,000V, 50/60Hz, 1min, between whole charging part and shell				
耐振动 Vibration resistance		10~55Hz 上下振幅1.5mm X、Y、Z各方向2h 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions				
耐冲击 Impact resistance		300m/s ² X、Y、Z各方向10次 300m/s ² , respectively 10 times in X, Y and Z directions				
防护等级 Protection level		IEC标准IP65 IEC standard IP65				
重量/电缆线长度 Weight/cable length		约44g/2m About 44g/2m				
材质 Material	外壳 Shell	ABS				
	透镜/显示窗 Lens/display window	PC				
	电缆 Cable	PVC				
附件 Accessories		产品说明书、反光板 (镜面反射型)、调节螺丝刀、安装支架、安装螺丝、合格证 Product manual, reflector (Mirror reflection type), adjusting screwdriver, mounting bracket, mounting screw, certificate				

注:对射产品由发射端与接收端组成, 发射产品型号为表内型号加上L, 接收产品型号为表内型号加上D;

Notes: The through-beam product consists of the transmitting terminal and the receiving terminal. The model of the transmitting product is the model in the table plus L, and the model of the receiving product is the model in the table plus D;

如: CPH-TE30MN3-L, CPH-TE30MN3-D, CPH-TE30MP3-L, CPH-TE30MP3-D

For example: CPH-TE30MN3-L, CPH-TE30MN3-D, CPH-TE30MP3-L, CPH-TE30MP3-D.

CPH背景抑制激光传感器/CPH Background Suppression Laser Sensor

- ◆可设定检测距离
Detection distance can be set
- ◆检测不同颜色衰减较小
Small attenuation when detecting different colors
- ◆多种保护电路
Multiple protection circuits
- ◆动作模式: Dark ON/Light ON可自由切换
Action mode: Free switching of Dark ON / Light ON
- ◆激光光源
Laser light source

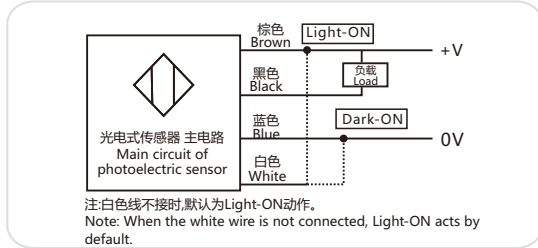


额定规格/性能 Specifications/Performance

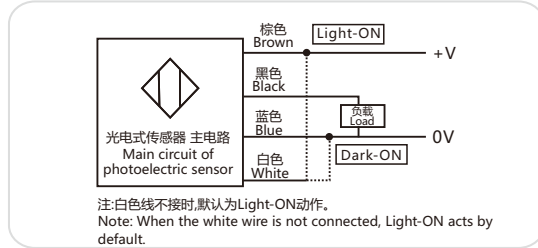
型号 Model	NPN	CPH-DBE300N3
	PNP	CPH-DBE300P3
距离设定范围 Distance setting range		150~300mm
检测距离 (白色无光泽纸) Detection distance (White matte paper)		20~300mm
光斑直径 Spot Diameter		2*3mm
应差 Difference		动作距离的2%以下 (使用白色无光泽纸) Less than 2% of the action distance (using white matte paper)
重复精度 Repeatability precision		沿检测轴: 1mm以下, 垂直于检测轴: 0.2mm以下 (使用白色无光泽纸) Along the detection axis: less than 1mm; perpendicular to the detection axis: less than 0.2mm (using white matte paper)
电源电压 Supply voltage		DC12-24V纹波(P-P): 10%以下(DC10-30V)
消耗电流 Current consumption		DC12~24V, ripple (p-p): below 10% (DC10-30V) 25mA以下 Below 25mA
输出 Output	<NPN输出型> <NPN output type> NPN晶体管集电极开路输出 NPN transistor collector open output ●最大流入电流: 100mA Maximum inflow current: 100mA ●外加电压: 30VDC以下 (输出和OV之间) Applied voltage: below 30VDC (between output and OV) ●剩余电压: 2V以下 (流入电流为100mA时) Residual voltage: below 2V (at the inflow current of 100mA) ●剩余电压: 1V以下 (流入电流为16mA时) Residual voltage: Below 1V (at the inflow current of 16mA)	<PNP输出型> <PNP output type> PNP晶体管集电极开路输出 PNP transistor collector open output ●最大流入电流: 100mA Maximum inflow current: 100mA ●外加电压: 30VDC以下 (输出和+V之间) Applied voltage: below 30VDC (between output and +V) ●剩余电压: 2V以下 (流入电流为100mA时) Residual voltage: below 2V (at the inflow current of 100mA) ●剩余电压: 1V以下 (流入电流为16mA时) Residual voltage: Below 1V (at the inflow current of 16mA)
输出动作 Output action		检测时ON/非检测时ON装备2种输出 2 outputs are equipped for ON during detection / ON during non-detection
短路保护 Short-circuit protection		配备 Equipped
反应时间 Response time		1ms以下 Below 1ms
工作状态指示灯 Operating status indicator		红色LED(输出ON时亮起) Red LED (ON when output is ON)
电源指示灯 Power indicator		绿色LED(通电时亮起) Green LED (ON when energized)
距离设定调节器 Distance setting regulator		配备机械式5圈调节器 Mechanical 5-turn regulator
检测模式 Detection mode		可用检测模式BGS功能 Available detection mode: BGS function
防护等级 Protection level		IP65
使用环境温度 Ambient temperature		工作时: -25~+55°C (注意不可结露、结冰), 存储时: -30~+70°C -25~+55°C (no condensation and icing allowed) during operation, -30~+70°C during storage
使用环境湿度 Ambient humidity		工作时: 35~+85%RH, 存储时: 35~+85%RH
使用环境照度 Ambient illuminance		35%~85%RH during operation, 35%~85%RH during storage 收光面照度白炽灯: 3000x以下 太阳光: 10000x以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx
耐电压 Withstand voltage		AC1000V 1分钟, 基于DC250V的高阻表 AC1000V 1 min, based on DC250V high-resistance meter
绝缘电阻 Insulation resistance		所有电源连接端子与外壳之间, 20M以上, 基于DC250V的高阻表 Between all power connection terminals and shell, above 20M, DC250V based megger
耐振动 Vibration resistance		频率10~500HZ 双振幅3mm(MAX.50G), X、Y、Z方向各2小时 Frequency: 10~500HZ Double-amplitude: 3mm (MAX.50G), respectively 2h in X, Y and Z directions
耐冲击 Impact resistance		加速度500m/s ² (约50G), X、Y、Z方向各2小时 Acceleration: 500m/s ² (about 50G), 2h in X, Y and Z directions
投光元件 Light projecting element		红色半导体激光655nm(<1mW)2级 Red semiconductor laser: 655nm (<1mW), level 2
光点直径 Spot diameter	约1.5mm(距离50mm时) About 1.5mm (at a distance of 50mm)	约2mm(距离300mm时) About 2mm (at a distance of 300mm)
材质 Material		外壳: PC透镜: PC电缆: PVC Housing: PC Lens: PC cable: PVC
电缆 Cable		Φ3.8电缆, 4芯, 长2m Φ3.8 cable, 4-core, 2m long
附件 Accessories		产品说明书, 安装支架, 安装螺丝, 调节螺丝刀、合格证 Product manual, mounting bracket, mounting screw, adjusting screwdriver, certificate

CPH控制输出图 CPH Control Output Diagram

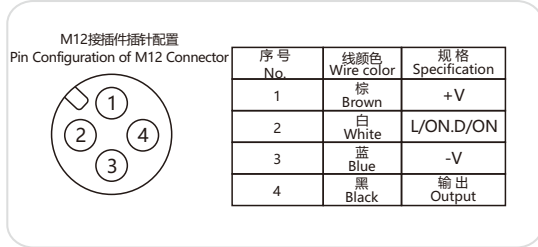
NPN集电极开路输出
NPN open collector output



PNP集电极开路输出
PNP open collector output

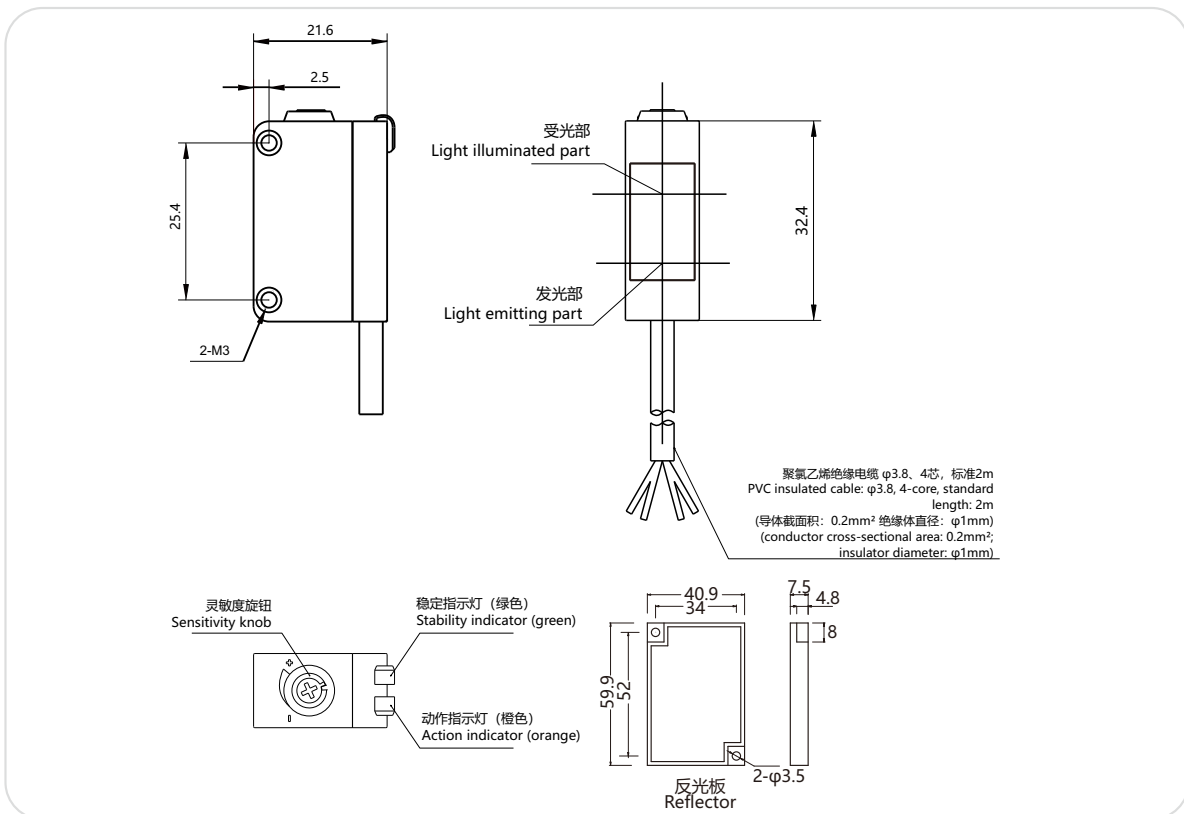


接插件插针配置
Pin Configuration of Connector

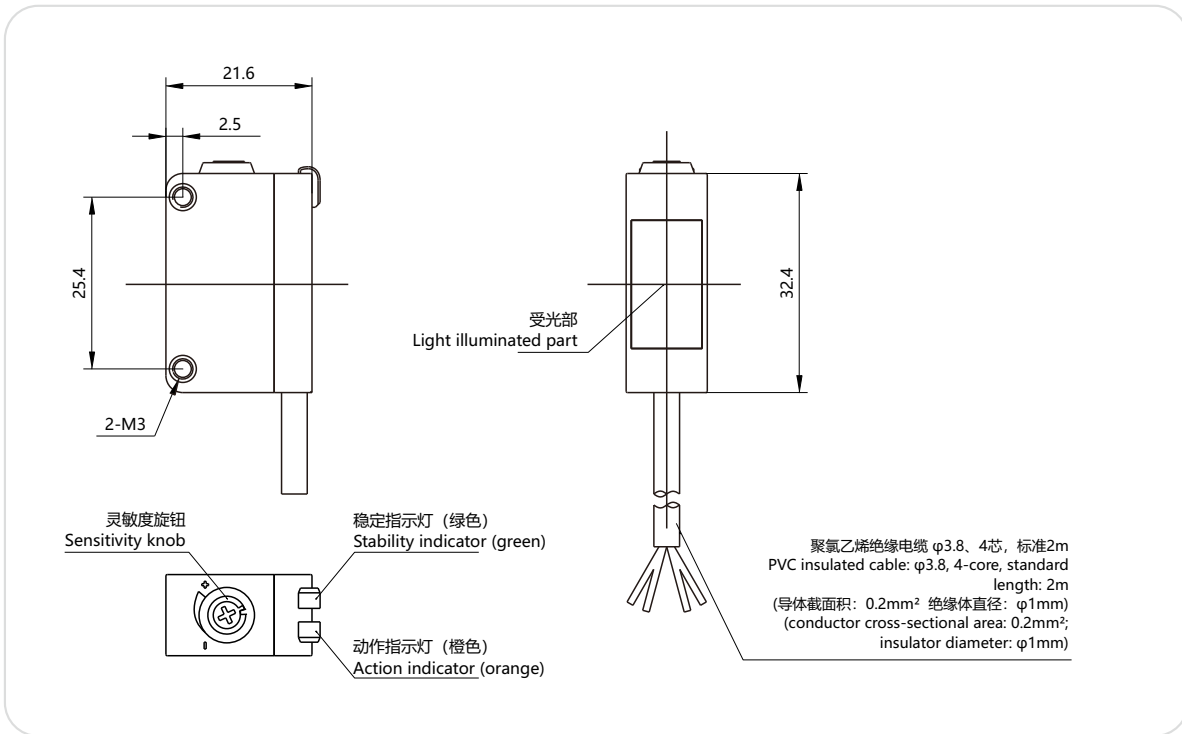


CPH外形尺寸图 CPH Outline Drawing

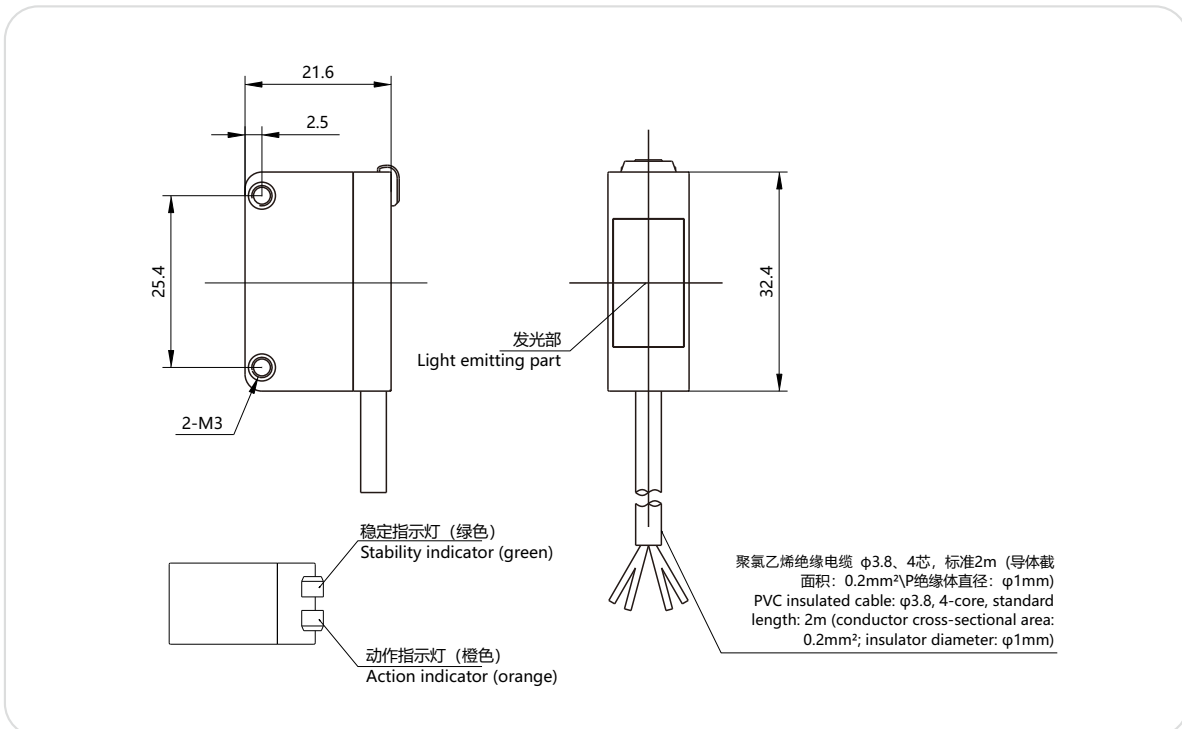
CPH漫反射/镜面反射/背景抑制外形尺寸图
CPH Diffuse Reflection/Specular Reflection/Background Suppression Outline Drawing



CPH对射外接收端外形尺寸图
Outline Drawing for CPH Through-beam External Receiving Terminal



CPH对射外发射端外形尺寸图
Outline Drawing for CPH Through-beam External Transmitting Terminal



CPQ红外外型光电传感器/CPQ Infrared Photoelectric Sensor

- ◆ 小体积M12红外对射传感器
Small size M12 infrared through beam sensor
- ◆ 防护等级: IP67
Protection level: IP67
- ◆ 耐低温-40°C
Low temperature resistance -40 °C
- ◆ 搭配外部输入停止发光功能
Paired with external input stop light function

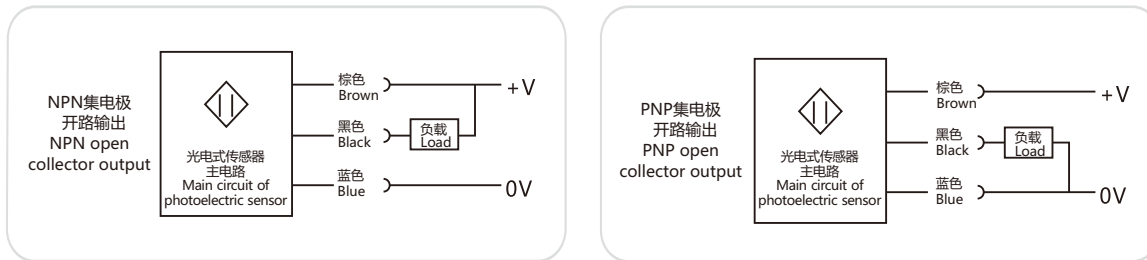


额定规格/性能 Specifications/Performance

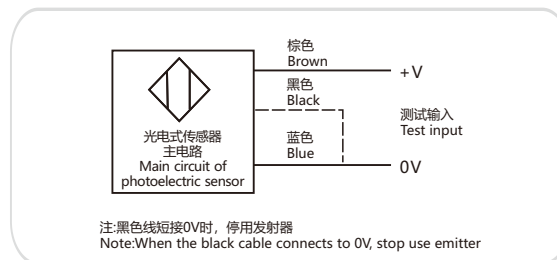
传感器类型 Sensor Type		对射型/Through Beam Reflection
NPN	Dark ON常开	CPQ-TF4MN1
	Dark ON NO	
	Light ON常闭	CPQ-TF4MN2
PNP	Light ON NC	
	Dark ON常开	CPQ-TF4MP1
	Dark ON NO	
PNP	Light ON常闭	CPQ-TF4MP2
	Light ON NC	
	Light ON NC	
检测距离 Sensing Distance		0.1~4m
检测标准物体 Standard Detection Object		φ5mm以上的不透明物体 > φ5mm Opaque objects
光源(波长) Light Source (wavelength)		红外发光二极管(850nm) Infrared emitting diode (850nm)
电源/电压 Power / Voltage		DC12~24V 纹波(P-P) 10%以下 (DC10~30V) DC12-24V Ripple (P-P) is less than 10% (DC10-30V)
指示灯 Indicator		接收器: 动作指示灯 (红色) 发射器: 电源指示灯 (红色) Receiver: Action indicator (Red) Emitter: Power indicator (Red)
控制输出 Control Output		NPN或PNP晶体管集电极开路输出负载电流100mA以下 (电缆线2m时残留电压3V以下) NPN/PNP, load current below 100mA (residual voltage below 3V when the cable is 2m)
动作模式 Action Mode		Light ON或Dark ON Light ON or Dark ON
测试输入 Test Input		发射器黑线接入0V时, 停用发射器 When the black cable of emitter connects to 0V, stop use emitter
响应时间 Response Time		≥5ms
保护回路 Protection Circuit		电源逆接保护, 输出短路保护, 输出逆接保护 Power reverse protection, output short-circuit protection, output reverse protection
耐电压 Withstand Voltage		AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V 50/60Hz 1min between the whole charging part and the shell
耐震动 Vibration resistance		10~55Hz上下振幅1.5mm X,Y,Z各方向2h Up and down 1.5mm at 10~55Hz for 2 hours in X / Y / Z directions
耐冲击 Impact resistance		300m/s ² X, Y, Z各方向 300m/s ² in X / Y / Z directions
环境温度范围 Ambient Temperature		工作时: -40~+60°C/保存时: 各-40~+70°C(无结冰、无结露) Working: -40 ~ +60 °C / Storing: -40 ~ +70 °C (no freeze, no dew)
环境湿度范围 Ambient Humidity		工作时: 35~85%RH/保存时: 各35~95%RH(无结露) Working: 35~85%RH / Storing: 35~95%RH (no dew)
使用环境照度 Ambient Illumination		收光面照度 白炽灯: 10,000Lx以下, 太阳光: 8,000Lx以下 Lighting collecting surface illumination incandescent lamp: below 10000Lx Sunlight: below 8000Lx
防护等级 Protection Level		IEC标准IP67
材质 Material	外壳 Case	ABS
	透镜 Lens	PC
	电缆 Cable	PVC (发射器黑色、接收器灰色) PVC (emitter black, receiver grey)
附件 Accessory		产品说明书、合格证 Instructions, certificate

CPQ控制输出图 CPQ Control Output Diagram

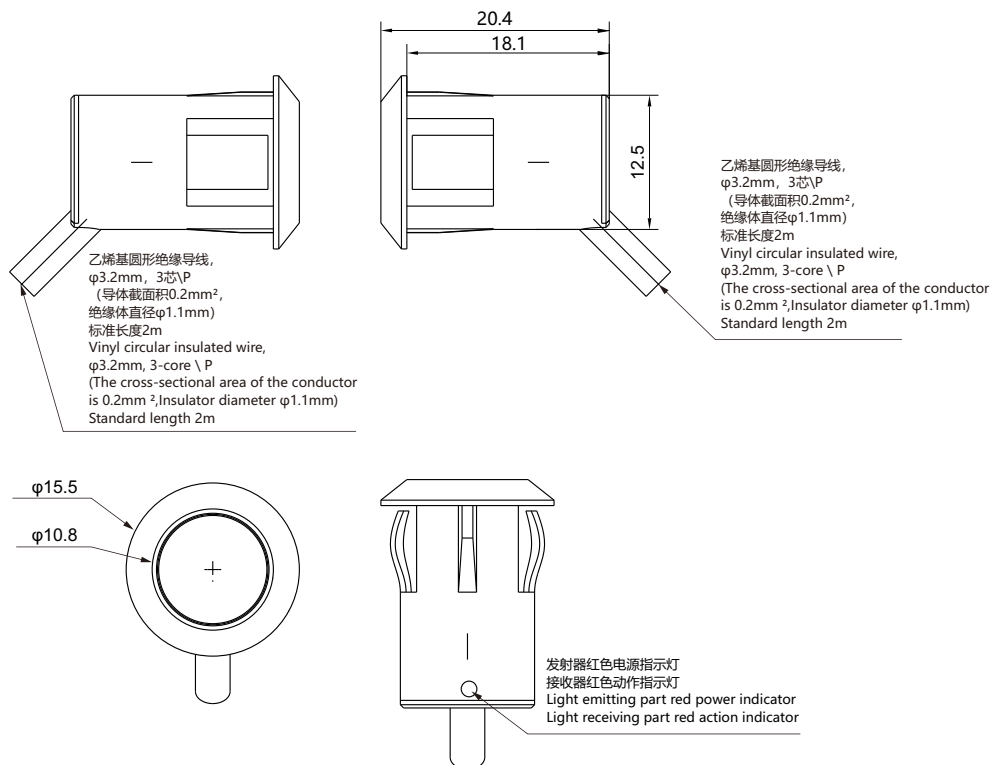
对射型收光器 Through Beam Receiver



对射型发光器 Through Beam Emitter



CPQ外形尺寸图 CPQ Outline Drawing



CPE方形三色色标传感器/CPE Square Tri-color Mark Sensor

- ◆ 采用红绿蓝复合光源
Red, green and blue composite light source
- ◆ 能识别多种颜色，区分微小差别
Capable of identifying a variety of colors and distinguishing small differences
- ◆ 调试方便，可切换彩色与色标模式
Easy debugging, switching between color and color mark modes
- ◆ 完善的保护电路
Perfect protection circuit



额定规格/性能 Specifications/Performance

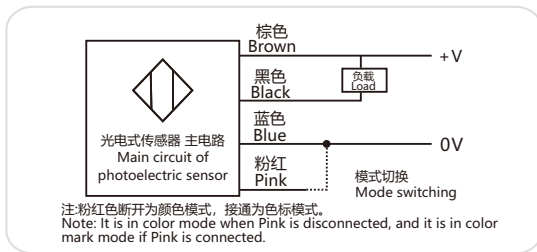
类型 Type		电缆型 Cable	
型号 Model		NPN CPE-DR30N3/1	PNP CPE-DR30P3/1
检测距离 Detection distance		18-28mm	
电源电压 Supply voltage		DC24V纹波(P-P)10%以下(DC10-30V) DC24V ripple (p-p), below 10% (DC10-30V)	
消耗电量 Power consumption		功率850mW以下(电源电压24V时,消耗电流35mA以下) Power: below 850mW (current consumption: below 35mA at supply voltage of 24V)	
模式切换 Mode switching 输入 Input	色标模式 Color mark mode	Low(ON)0~0.6V DC 流出电流 0.5mA以下 Outflow current: below 0.5mA 输入阻抗 约10k Input impedance: about 10kΩ	Low (OFF)0~0.6V DC 或开放 or open
	彩色模式 Color mode	High(OFF)12+V DC 或开放 or open	High(ON)12+VDC 流出电流 3mA以下 Outflow current: below 3mA 输入阻抗约10kΩ Input impedance: about 10kΩ
输出 Output		<ul style="list-style-type: none"> ● NPN晶体管集电极开路输出 NPN transistor collector open output ● 最大流入电流 50mA Maximum inflow current: 50mA ● 外加电压 30VDC以下(输出和0V之间) Applied voltage: below 30VDC (between output and 0V) ● 剩余电压 1.5V以下(流入电流50mA时)* Residual voltage: below 1.5V (at the inflow current of 50mA)* 	<ul style="list-style-type: none"> ● PNP晶体管集电极开路输出 PNP transistor collector open output ● 最大流出电流 50mA Maximum outflow current: 50mA ● 外加电压 30VDC以下(输出和+V之间) Applied voltage: below 30VDC (between output and +V) ● 剩余电压 1.5V以下(流出电流50mA时)* Residual voltage: below 1.5V (at the outflow current of 50mA)*
输出操作 Output operation	色标模式 Color mark mode	色标检出时ON ON when color mark is detected	
	彩色模式 Color mode	一致时ON ON when being consistent	
短路保护 Short-circuit protection		配备(自动恢复) Equipped (automatic recovery)	
反应时间 Response time		200μs以下 Below 200μs	
环境温度 Ambient temperature		工作时: +10~+55°C(无结冰、无结露)、保存时: +20~+70°C +10~+55°C during operation(no icing, no condensation) / +20~+70°C during storage	
环境湿度 Ambient humidity		工作时: 35~85%RH、保存时: 35~85%RH(无结露) 35~85%RH during operation / 35~85%RH during storage (no condensation)	
防护等级 Protection level		IP65	
投光元件 Light projecting element		红色/绿色/蓝色复合LED(投光波峰波长: 640nm/525nm/470nm)* *Red/green/Blue composite LED (peak wavelength: 640nm/525nm/470nm)*	
材质 Material		外壳PBT操作面板PC操作按钮硅胶透镜PC Shell: PBT Operation panel: PC Operation button: silicone Lens: PC	
电缆 Cable		0.2mm4芯橡皮电缆标准长2m 0.2mm 4-core rubber cable Standard length: 2m	
重量 Weight		约110g About 110g	
附件 Accessories		说明书、合格证 Manual, certificate	

*指定的测量条件: 周围使用温度+23°C

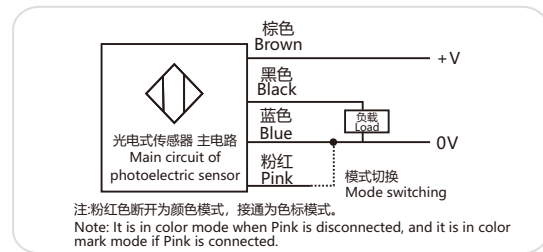
* Specified measurement conditions: ambient operating temperature: +23 °C

CPE控制输出图 CPE Control Output Diagram

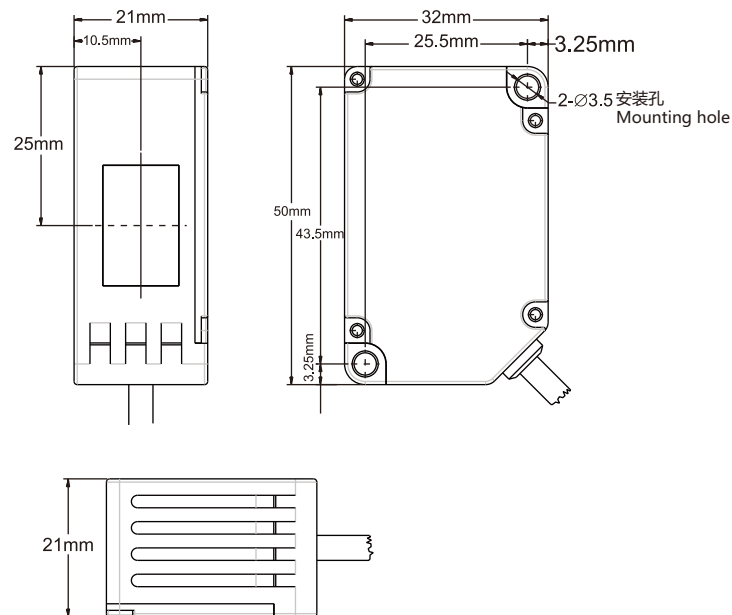
NPN集电极开路输出
NPN open collector output



PNP集电极开路输出
PNP open collector output



CPE外形尺寸图 CPE Outline Drawing



CPL标签传感器/CPL Label Sensor

- ◆ 检测速度快，每秒可检测10000次
Fast detection speed, up to 10000 times per second
- ◆ 调试方便，一个按键即可完成设定
Easy debugging, one-button setting
- ◆ 完善的保护电路
Perfect protection circuit
- ◆ 可调安装孔位，适应更多工作环境
Adjustable mounting holes for more operating environments

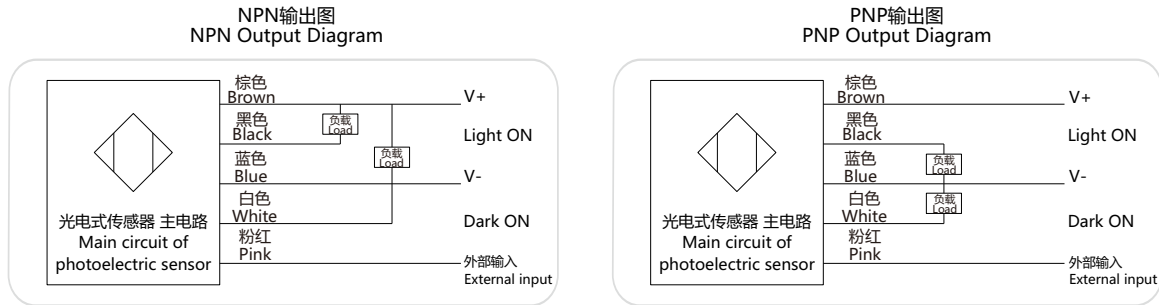


额定规格/性能

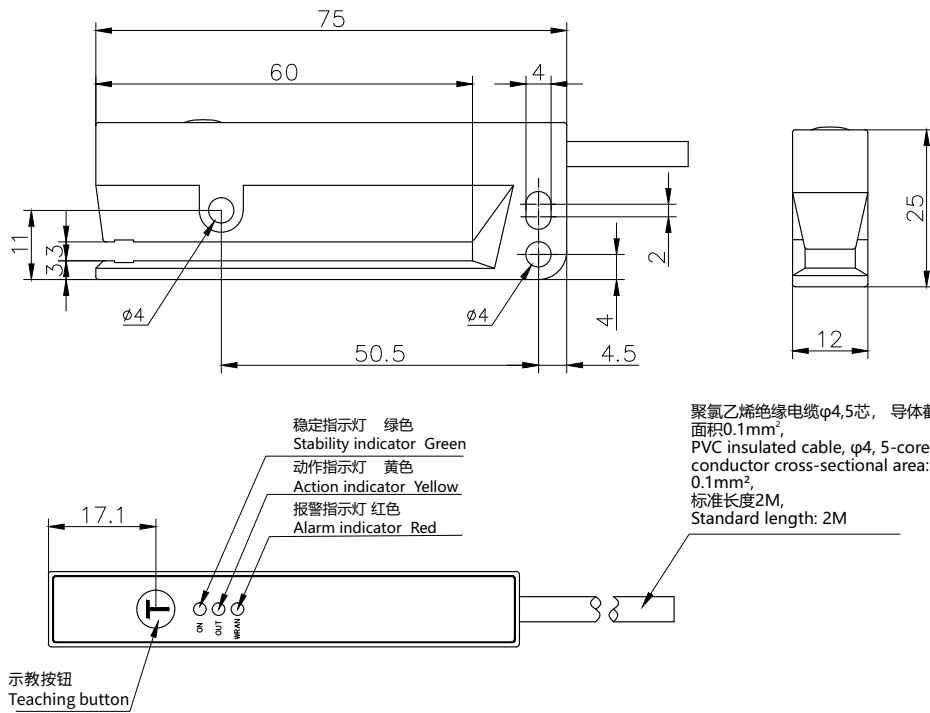
Specifications/Performance

类型 Type	NPN	PNP
型号 Model	CPL-TF3DN3 CPL-TF3DN3-A	CPL-TF3DP3 CPL-TF3DP3-A
检测距离 Detection distance	槽宽3mm,深度60mm Slot width: 3mm, depth: 60mm	
电源电压 Supply voltage	DC12-24V,纹波(p-p)10%以下, 最大范围DC10-30V DC12-24V, ripple (p-p): below 10%, maximum range: DC10-30V	
响应频率 Response frequency	≥10KHz	
响应时间 Response time	≤50us	
消耗电流 Current consumption	≤30mA	
示教期间端带速度 Taping speed during teaching	20m/min(0.33m/s)	
动作模式 Action mode	DarkON/LightON通过示教钮切换 DarkON/Light ON, switched by teaching button	
控制输出 Control output	NPN晶体管集电极开路输出 NPN transistor collector open output	PNP晶体管集电极开路输出 PNP transistor collector open output
逻辑电平 Logic level	高电平≥8V, 低电平≤2V High level: ≥8V, low level: ≤2V	
输入电阻 Input resistance	典型值1515k Typical value: 1,515 kΩ	
保护电路 Protection circuit	电源逆接保护, 负载短路保护, 输出逆接保护 Power reverse connection protection, load short-circuit protection, output reverse connection protection	
耐电压 Withstand voltage	AC1000V 50/60Hz1min	
环境温度 Ambient temperature	工作时: -25~+55°C/保存时: -25°C~+70°C (无结冰、无结露) -25~+55°C during operation / -25~+70°C during storage (no icing, no condensation)	
环境湿度 Ambient humidity	工作时: 35%~85%RH 保存时: 35%~95%RH 35%~85%RH during operation, 35%~95%RH during storage	
防护等级 Protection level	IEC标准: IP65 IEC standard: IP65	
振动冲击 Vibratory shock	10~55Hz上下振幅1.5mmX、Y、Z方向2h 300m/s ² X、Y、Z方向2h 10~55Hz, amplitude: 1.5mm, 2h in X, Y and Z directions, 300m/s ² , 2h in X, Y and Z directions	
材质 Material	外壳PA6+GF30% Shell: PA6+GF30%	
电缆 Cable	聚氯乙烯绝缘电缆5芯导体截面积0.2mm ² 棕色: +V 蓝色: 0V 黑色: 常开输出 白色: 常闭输出 粉红色: 外部输出 PVC insulated cable, 5-core, conductor cross-sectional area: 0.2mm ² Brown: +V Blue: 0V Black: normally open output White: normally closed output Pink: external output	
重量 Weight	约65g About 65g	
附件 Accessories	说明书, 合格证, 安装支架, 螺丝 Manual, certificate, mounting bracket, screw	

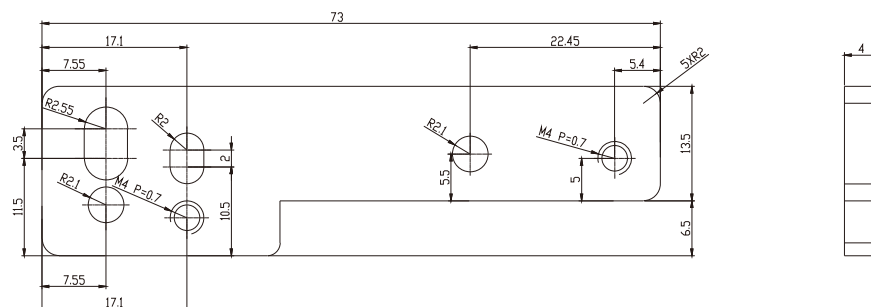
CPL控制输出图 CPL Control Output Diagram



CPL外形尺寸图 CPL Outline Drawing



CPL系列安装支架尺寸图 Dimension Drawing for Mounting Bracket of CPL Series



CPG槽形光电式传感器/CPG Slot Type Photoelectric Sensor

- ◆ 响应速度快: 1ms
Fast response speed :1ms
- ◆ 抗干扰能力强
Strong anti-interference capability
- ◆ 防护等级: IP65
Protection level: IP65



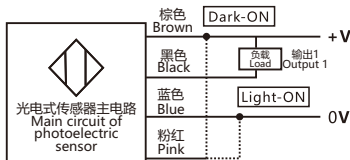
额定规格/性能 Specifications/Performance

对射型 Through-beam	光轴数 Number of optical axes	1光轴 1 optical axis	1光轴(19mm安装孔距) 1 optical axis (mounting hole distance of 19mm)	2光轴 2 optical axes	2光轴(19mm安装孔距) 2 optical axes (mounting hole distance of 19mm)
型号 Model	NPN输出成型电缆 NPN output Formed cable	CPG-TF25N3-1	CPG-TF25N3-1 (G)	CPG-TF25N3-2	CPG-TF25N3-2 (G)
	NPN输出M12中继型 NPN output M12 trunk type	CPG-TF25N3-1/A	CPG-TF25N3-1/A (G)	CPG-TF25N3-2/A	CPG-TF25N3-2/A (G)
	PNP输出成型电缆 PNP output Formed cable	CPG-TF25P3-1	CPG-TF25P3-1 (G)	CPG-TF25P3-2	CPG-TF25P3-2 (G)
	PNP输出M12中继型 PNP output M12 trunk type	CPG-TF25P3-1/A	CPG-TF25P3-1/A (G)	CPG-TF25P3-2/A	CPG-TF25P3-2/A (G)
检测距离 (槽宽) Detection distance (groove width)	25mm				
标准检测物体 Standard detected object	Φ1.5mm以上的不透明物体 Opaque objects above Φ1.5mm				
光源 (波长) Light source (wavelength)	红外发光二极管(940nm) Infrared LED (940nm)				
电源电压 Supply voltage	DC12~24V纹波(p-p)10%以下(DC10-30V) DC12~24V, ripple (p-p): below 10% (DC10-30V)				
消耗电流 Current consumption	25mA以下 Below 25mA		40mA以下 Below 40mA		
控制输出 Control output	NPN或PNP晶体管集电极开路输出负载电流100mA以下 (电缆线2m时残留电压3V以下) NPN or PNP transistor collector open output, load current: below 100mA (residual voltage: below 3V at 2m cable)				
动作模式 Action mode	DarkON/LightON通过接线选择 DarkON/Light ON, selected by wiring				
保护回路 Protection circuit	电源逆接保护、浪涌吸收、负载短路保护 Power reverse connection protection, surge absorption, load short-circuit protection				
响应时间 Response time	≥1ms				
使用环境照度 Ambient illuminance	收光面照度白炽灯: 3,000lx以下、太阳光: 10,000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx				
使用环境温度 Ambient temperature	工作时: -25~+55°C/保存时: -40~+70°C (无结冰、无结露) -25~+55°C during operation / -40~+70°C during storage (no icing, no condensation)				
使用环境湿度 Ambient humidity	工作时: 35~85%RH/保存时: 35~95%RH(无结露) 35~85%RH during operation / 35~95%RH during storage (no condensation)				
绝缘电阻 Insulation resistance	20M以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)				
耐电压 Withstand voltage	AC1,000V50/60Hz1min充电部整体与外壳间 AC1,000V, 50/60Hz, 1min, between whole charging part and shell				
耐震动 Shock resistance	10~55Hz上下振幅1.5mmX、Y、Z各方向2h 10~55Hz, amplitude: 1.5mmX, Y, Z各方向2h				
耐冲击 Impact resistance	300m/s2X、Y、Z各方向3次 300m/s2, respectively 3 times in X, Y and Z directions				
防护等级 Protection level	IEC标准IP65 IEC standard: IP65				
指示灯 Indicator	动作显示灯 (橙色) Action indicator (orange)				
重量/长度 Weight/length	成型电缆 Formed cable	约52g/2m About 52g/2m			
	M12中继型 M12 trunk type	约50g/0.5m About 50g/0.5m			
材质 Material	外壳 Shell	外壳: PC Shell: PC			
	电缆 Cable	成型电缆: PVC Formed cable: PVC			
附件 Accessories	使用说明书、合格证 Operating manual, certificate				

CPG控制输出图 CPG Control Output Diagram

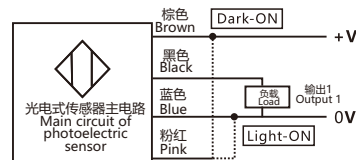
CPG-TF25N3-1/CPG-TF25P3-1(1个光轴)
CPG-TF25N3-1/CPG-TF25P3-1 (1 optical axis)

NPN集电极开路输出
NPN open collector output



注：粉红色线不接时，默认为Dark-ON动作，接插件型号粉线变为白线
Note: When the pink wire is not connected, Dark-ON acts by default.
The model of connector change from pink to white

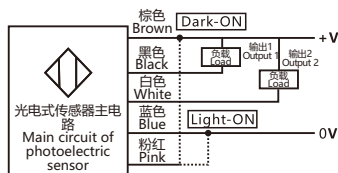
PNP集电极开路输出
PNP open collector output



注：粉红色线不接时，默认为Dark-ON动作，接插件型号粉线变为白线
Note: When the pink wire is not connected, Dark-ON acts by default.
The model of connector change from pink to white

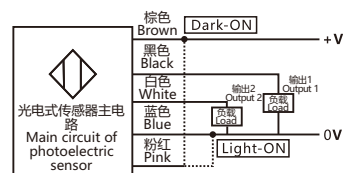
CPG-TF25N3-2/CPG-TF25P3-2(2个光轴)
CPG-TF25N3-2/CPG-TF25P3-2 (2 optical axes)

NPN集电极开路输出
NPN open collector output



注：粉红色线不接时，默认为Dark-ON动作，接插件型号粉线变为灰线
Note: When the pink wire is not connected, Dark-ON acts by default.
The model of connector change from pink to grey

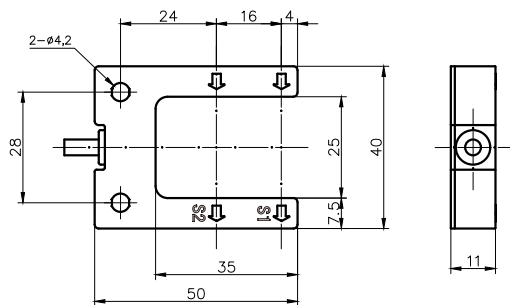
PNP集电极开路输出
PNP open collector output



注：粉红色线不接时，默认为Dark-ON动作，接插件型号粉线变为灰线
Note: When the pink wire is not connected, Dark-ON acts by default.
The model of connector change from pink to grey

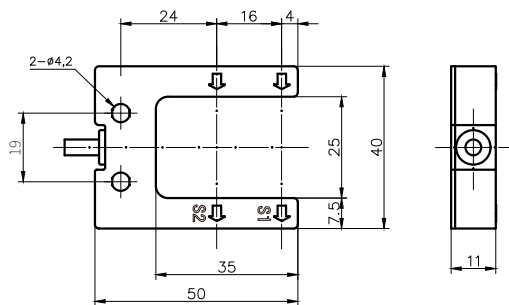
CPG25传感器外形尺寸图 CPG25 Sensor Outline Drawing

CPG-TF25□3-□



PVC绝缘导线 φ4/4芯
PVC insulated conductor: φ4/4-core,
导体截面积: 0.2mm²
conductor cross-sectional area: 0.2mm²;
绝缘直径: φ1.1mm
insulation diameter: φ1.1mm

CPG-TF25□3-□(G)



PVC绝缘导线 φ4/4芯
PVC insulated conductor: φ4/4-core,
导体截面积: 0.2mm²
conductor cross-sectional area: 0.2mm²;
绝缘直径: φ1.1mm
insulation diameter: φ1.1mm

CPG小槽形光电式传感器/CPG Small Groove Type Photoelectric Sensor

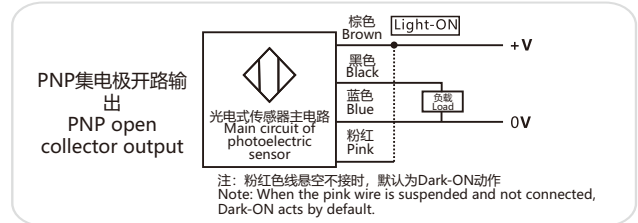
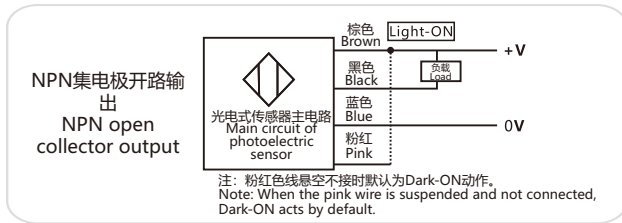
- 体积小, 节省空间
Small volume, saving space
- 多种外形, 应用广泛
A variety of appearances, wide application
- 安装方便, 可用M3螺钉固定安装
Easy to install, capable of being fixed with M3 screws



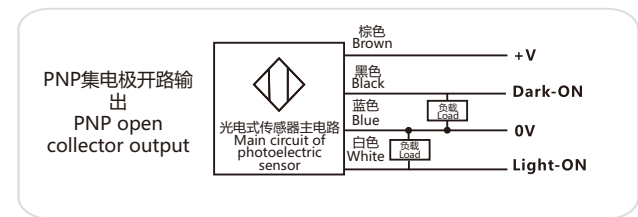
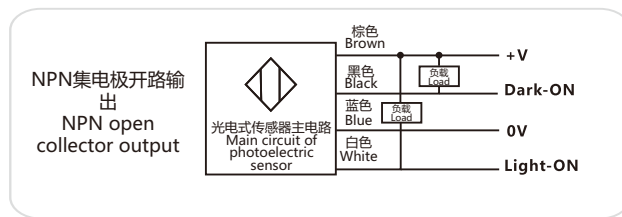
额定规格/性能 Specifications/Performance

产品外形 Product appearance	输出方式 Output mode	NPN输出 NPN output	PNP输出 PNP output
K型 K type	成型电缆 Formed cable	CPG-TF05N3K	CPG-TF05P3K
	接插件 Connector	CPG-TF05N3K-A	CPG-TF05P3K-A
L型 L type	成型电缆 Formed cable	CPG-TF05N3L	CPG-TF05P3L
	接插件 Connector	CPG-TF05N3L-A	CPG-TF05P3L-A
T型 T type	成型电缆 Formed cable	CPG-TF05N3T	CPG-TF05P3T
	接插件 Connector	CPG-TF05N3T-A	CPG-TF05P3T-A
Y型 Y type	成型电缆 Formed cable	CPG-TF05N3Y	CPG-TF05P3Y
	接插件 Connector	CPG-TF05N3Y-A	CPG-TF05P3Y-A
检测距离 Detection distance	5mm(检测凹槽宽度) 5mm (width of detection groove)		
标准检测物体 Standard detected object	2x0.8mm以上的不透明物体 Opaque objects below 2x0.8mm		
应差距离 Distance difference	0.025mm以下 Below 0.025mm		
光源 Light source	红外发光二极管 (940nm) Infrared LED (940nm)		
指示灯 Indicator	红色(入光时亮灯) Red (ON when light is incident)		
电源电压 Supply voltage	DC5~24V±10% 纹波 (p-p)10%以下 DC5~24V±10%, ripple (p-p): below 10%		
消耗电流 Current consumption	12mA以下 (接插件型、L端子开放时)、导线式35mA以下 Below 12mA (for connector type, with L terminal open), below 35mA (for conductor type)		
控制输出 Control output	NPN晶体管集电极开路输出 DC5~24V 100mA以下 残留电压0.8V以下 (负载 电流100mA时)、残留电压0.4V以下 (负载电流40mA时) NPN transistor collector open output, DC5~24V, below 100mA, residual voltage: below 0.8V (at load current of 100mA), residual voltage: below 0.4V (at load current of 40mA)		
动作模式 Action mode	PNP晶体管集电极开路输出 DC5~24V 50mA以下 残留电压0.8V以下 (负载 电流50mA时) PNP transistor collector open output, DC5~24V, below 50mA, residual voltage: below 0.8V (at load current of 50mA)		
保护回路 Protection circuit	Dark ON/Light ON通过接线选择 Dark ON/Light ON, selected by wiring		
响应频率 Response frequency	负载短路保护, 无逆接保护 Load short-circuit protection, no reverse connection protection		
使用环境照度 Ambient illuminance	1kHz以上 Above 1kHz		
使用环境温度 Ambient temperature	收光面照度 白炽灯: 1000lx以下 Receiving surface illuminance: incandescent lamp: below 1,000lx		
使用环境湿度 Ambient humidity	工作时: -25~+55°C 保存时: -30~+80°C (无结露, 无结冰) -25~+55°C during operation, -30~+80°C during storage (no icing, no condensation)		
耐振动 Vibration resistance	工作时: 5~85%RH 保存时: 5~95%RH(无结露, 无结冰) 5~85%RH during operation, 5~95%RH during storage (no condensation, no icing)		
耐冲击 Impact resistance	20~2000Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions (cycle of 4min)		
防护等级 Protection level	300m/s ² , respectively 3 times in X, Y and Z directions 300m/s ² , respectively 3 times in X, Y and Z directions		
重量 Weight	IEC标准 1p50 IEC standard: 1p50		
长度 length	成型电缆 Formed cable 约20g/电缆长度2m About 20g / Cable length: 2m		
附件 Accessories	接插件 Connector 约3g About 3g		
	外壳:PBT 透灯件、投光部、收光部;聚碳酸酯 电缆:PVC Shell: PBT Light transmitting part, light projecting part, light receiving part: polycarbonate (PC) Cable: PVC		
	使用说明书、合格证 Operating manual, certificate		

CPG控制输出图 (成型电缆) CPG Control Output Diagram (Formed Cable)

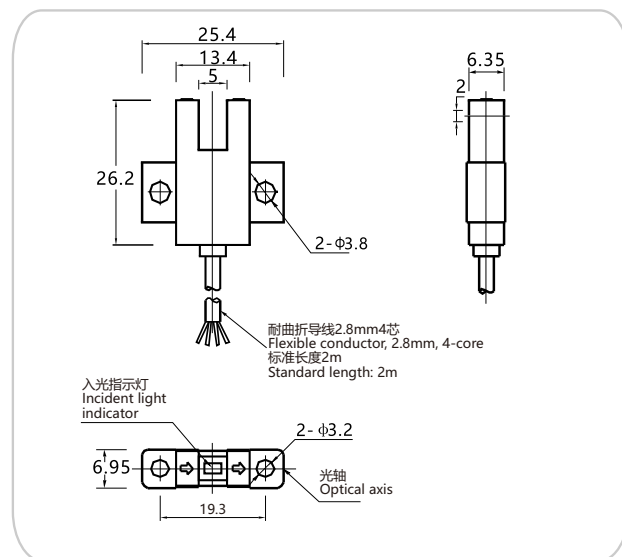


CPG控制输出图 (接插件) CPG Control Output Diagram (Connector)

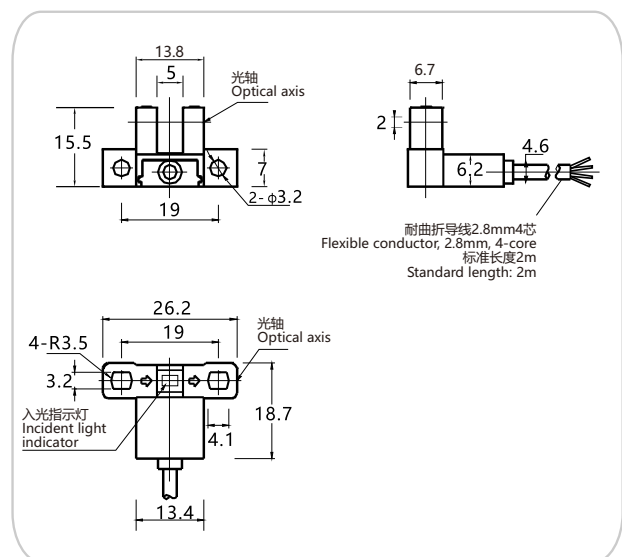


CPG外形尺寸图 (成型电缆) CPG Outline Drawing (Formed Cable)

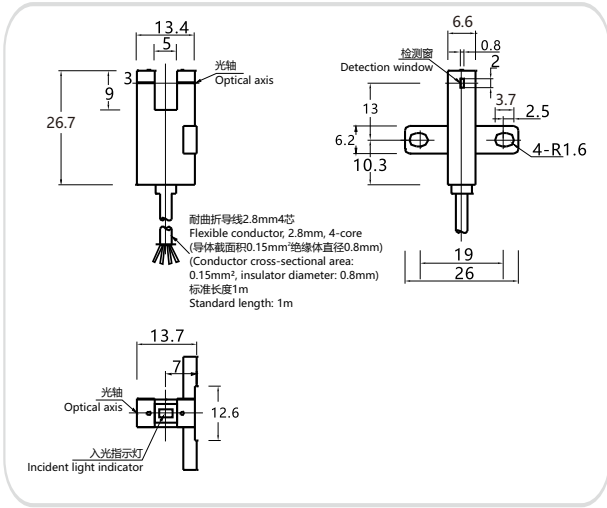
K型
K type



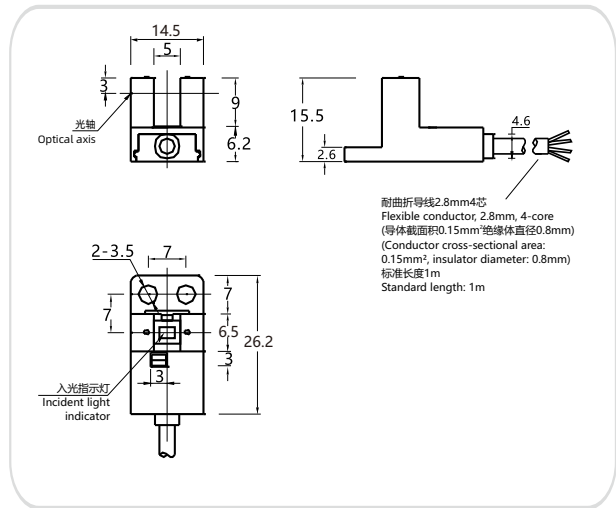
L型
L type



T型
T type

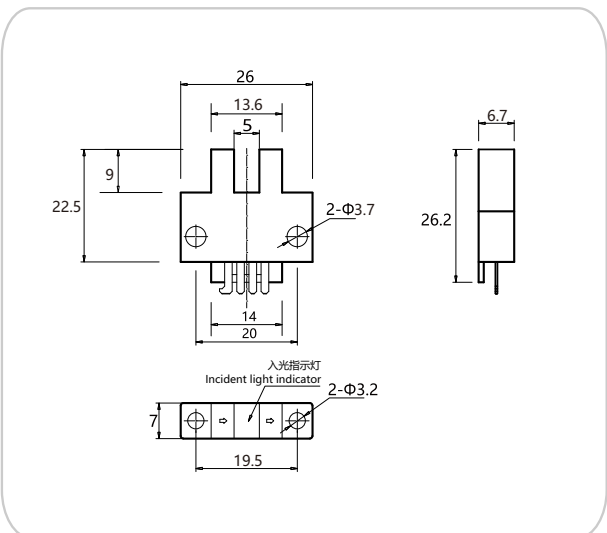


Y型
Y type

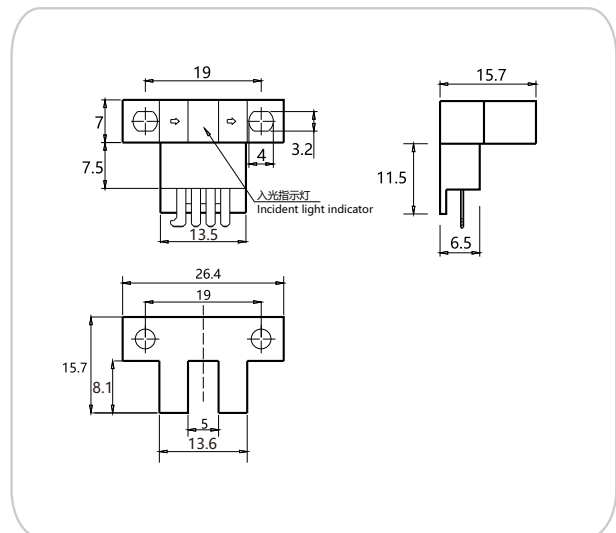


CPG外形尺寸图 (接插件)
CPG Outline Drawing (Connector)

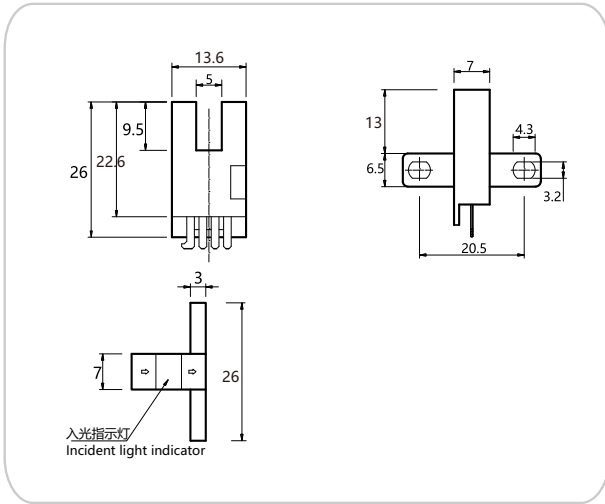
K型
K type



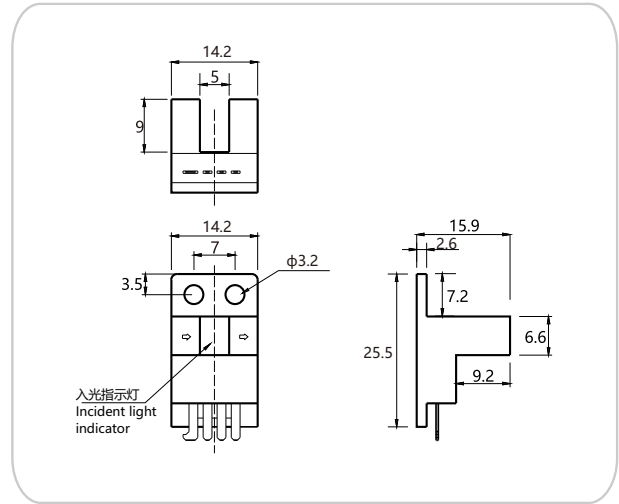
L型
L type



T型
T type



Y型
Y type



CPG小槽形光电式传感器/CPG Small Slot Type Photoelectric Sensor

- ◆ 体积更小, 节省空间
Smaller volume, saving space
- ◆ 多种外型, 应用广泛
A variety of appearances, wide application
- ◆ 安装方便, 可用M3螺钉固定安装
Easy to install, capable of being fixed with M3 screws

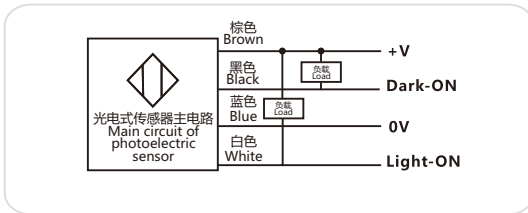


额定规格/性能 Specifications/Performance

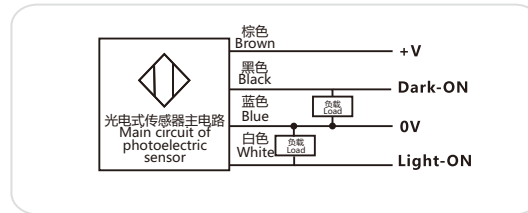
NPN	K型 K type	CPG-TF05N3K1	CPG-TF05N3K2	CPG-TF05N3K1-A
	L型 L type	CPG-TF05N3L1	CPG-TF05N3L2	CPG-TF05N3L1-A
	T型 T type	CPG-TF05N3T1		CPG-TF05N3T1-A
	Y型 Y type	CPG-TF05N3Y1		CPG-TF05N3Y1-A
	R型 R type	CPG-TF05N3R1		CPG-TF05N3R
	F型 F type	CPG-TF05N3F1		CPG-TF05N3F2
	U型 U type		CPG-TF05N3U	
	PNP	K型 K type	CPG-TF05P3K1	CPG-TF05P3K2
L型 L type		CPG-TF05P3L1	CPG-TF05P3L2	CPG-TF05P3L1-A
T型 T type		CPG-TF05P3T1		CPG-TF05P3T1-A
Y型 Y type		CPG-TF05P3Y1		CPG-TF05P3Y1-A
R型 R type		CPG-TF05P3R1		CPG-TF05P3R
F型 F type		CPG-TF05P3F1		CPG-TF05P3F2
U型 U type			CPG-TF05P3U	
检测距离 Detection distance		5mm (检测凹槽宽度) 5mm (width of detection groove)		
标准检测物体 Standard detected object	2x0.8mm以上的不透明物体 Opaque objects below 2x0.8mm			
应差距离 Distance difference	0.025mm以下 Below 0.025mm			
光源 Light source	红外发光二极管 (940nm) Infrared LED (940nm)			
指示灯 Indicator	红色 (入光时亮灯) Red (ON when light is incident)			
电源电压 Supply voltage	DC5~24V±10% 纹波 (p-p) 10%以下 DC5~24V±10% ripple (p-p), below 10%			
消耗电流 Current consumption	12mA以下 (接插件型)、导线式35mA以下 Below 12mA (for connector type), below 35mA (for conductor type)			
控制输出 Control output	NPN晶体管集电极开路输出 DC5~24V 100mA以下 残留电压0.8V以下 (负载电流100mA时)、残留电压0.4V以下 (负载电流40mA时) NPN transistor collector open output, DC5~24V, below 100mA, residual voltage: below 0.8V (at load current of 100mA), residual voltage: below 0.4V (at load current of 40mA)			
动作模式 Action mode	Dark ON/Light ON通过接线选择 Dark ON/Light ON, selected by wiring			
保护回路 Protection circuit	负载短路保护, 无逆接保护 Load short-circuit protection, no reverse connection protection			
响应频率 Response frequency	1.5kHz以上 Above 1.5kHz			
使用环境照度 Ambient illuminance	收光面照度 白炽灯: 1000lx以下 Receiving surface illuminance: incandescent lamp: below 1,000lx			
使用环境温度 Ambient temperature	工作时: -25~+55°C 保存时: -30~+80°C (无结露, 无结冰) -25~+55°C during operation, -30~+80°C during storage (no icing, no condensation)			
使用环境湿度 Ambient humidity	工作时: 5~85%RH 保存时: 5~95%RH(无结露, 无结冰) 5~85%RH during operation, 5~95%RH during storage (no condensation, no icing)			
耐振动 Vibration resistance	20~2000Hz 上下振幅1.5mm X、Y、Z各方向2h (4min周期) 20~2000Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions (cycle of 4min)			
耐冲击 Impact resistance	300m/s ² X、Y、Z各方向3次 300m/s ² , respectively 3 times in X, Y and Z directions			
防护等级 Protection level	IEC标准 IP50 IEC standard: IP50			
重量 Weight	成型电缆 Formed cable	约19g/电缆长度2m About 19g / Cable length: 2m		
长度 length	接插件 Connector	约3g About 3g		
材质 Material	外壳:PBT 透灯件、投光部、收光部:聚碳酸酯 电缆:PVC Shell: PBT Light transmitting part, light projecting part, light receiving part: polycarbonate (PC) Cable: PVC			
附件 Accessories	使用说明书、合格证 Operating manual, certificate			

CPG控制输出图 CPG Control Output Diagram

NPN集电极开路输出
NPN open collector output

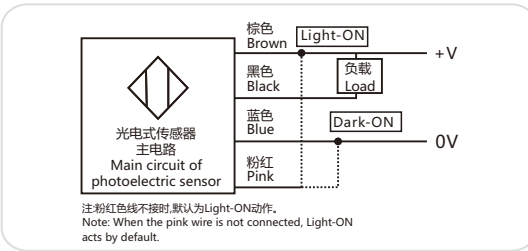


PNP集电极开路输出
PNP open collector output

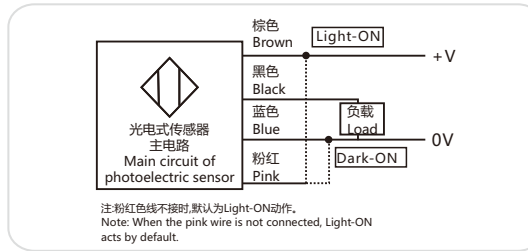


CPG控制输出图(接插件) CPG Control Output Diagram (Connector)

NPN集电极开路输出
NPN open collector output

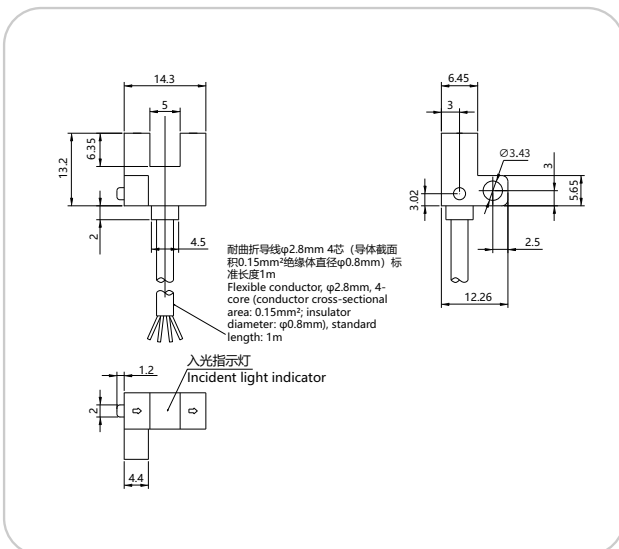


PNP集电极开路输出
PNP open collector output

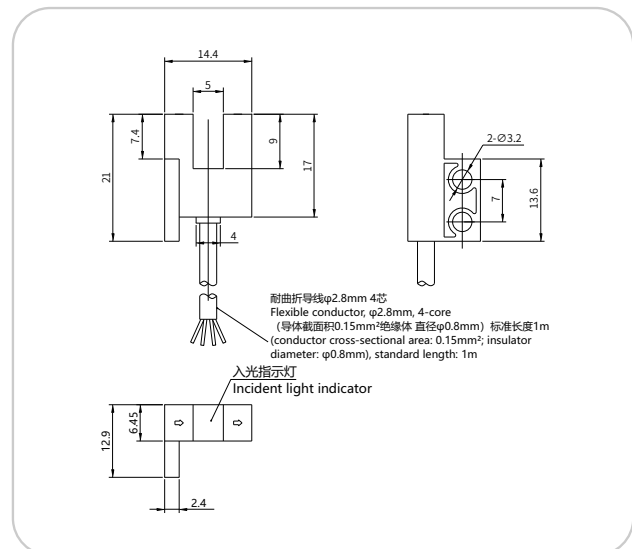


CPG外形尺寸图(成型电缆) CPG Outline Drawing (Formed Cable)

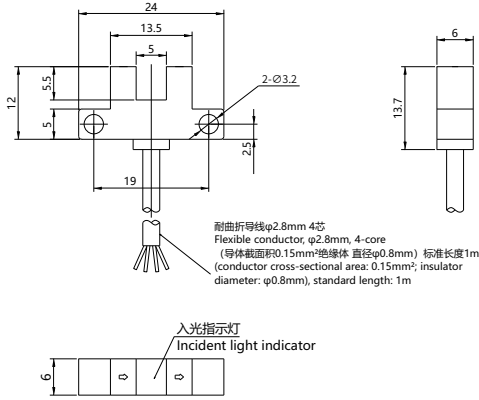
CPG-TF05□3F1



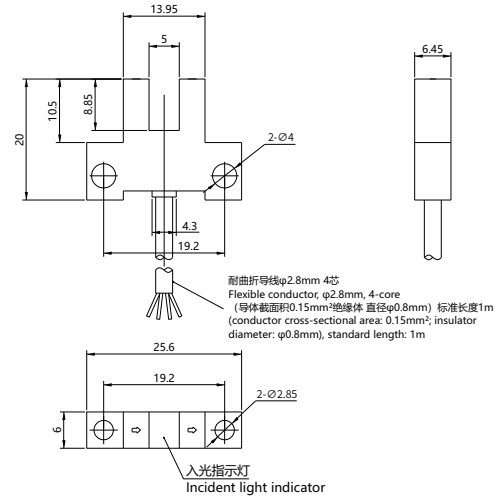
CPG-TF05□3F2



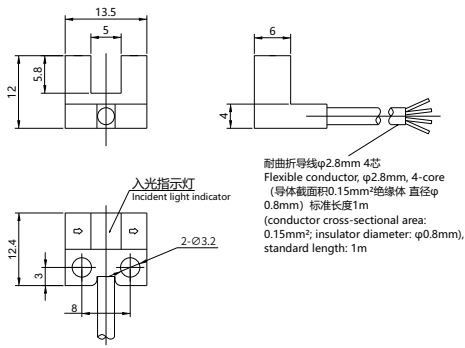
CPG-TF05□3K1



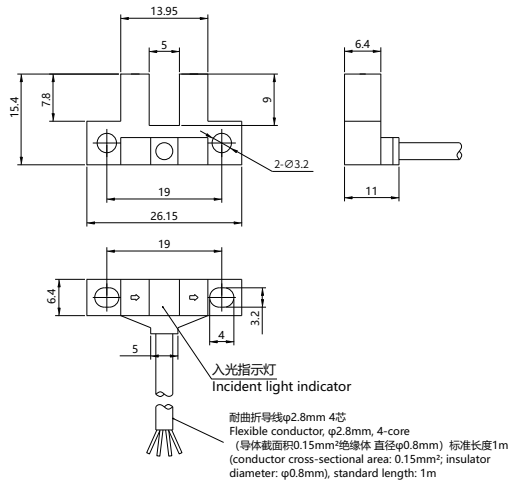
CPG-TF05□3K2



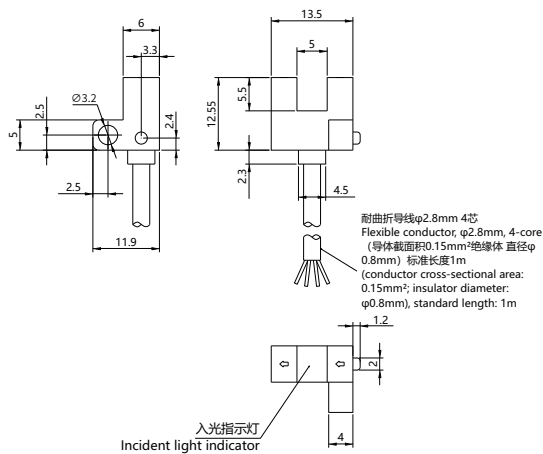
CPG-TF05□3L1



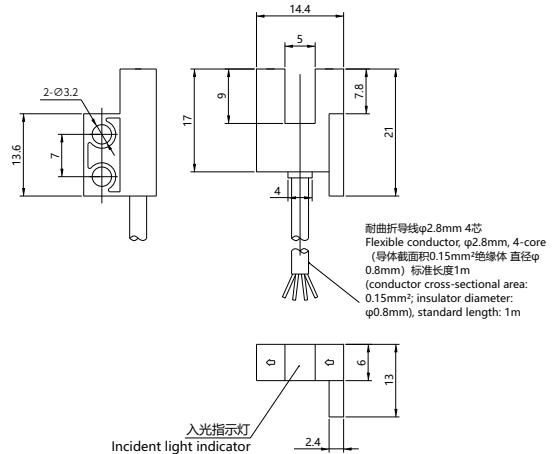
CPG-TF05□3L2

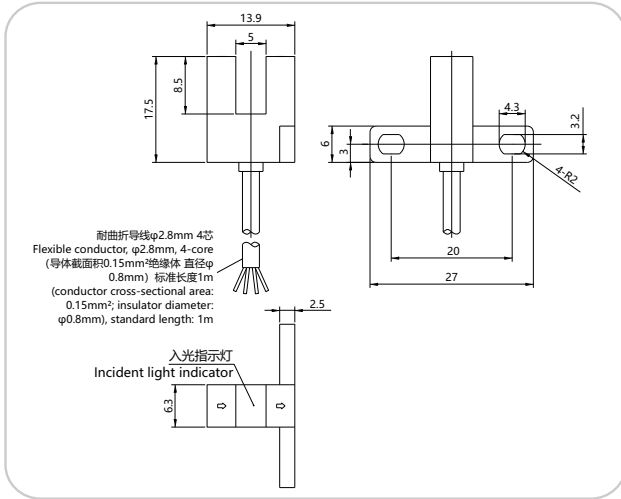
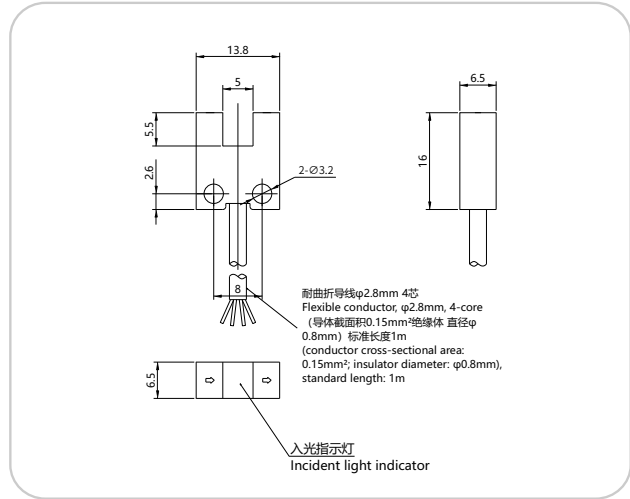
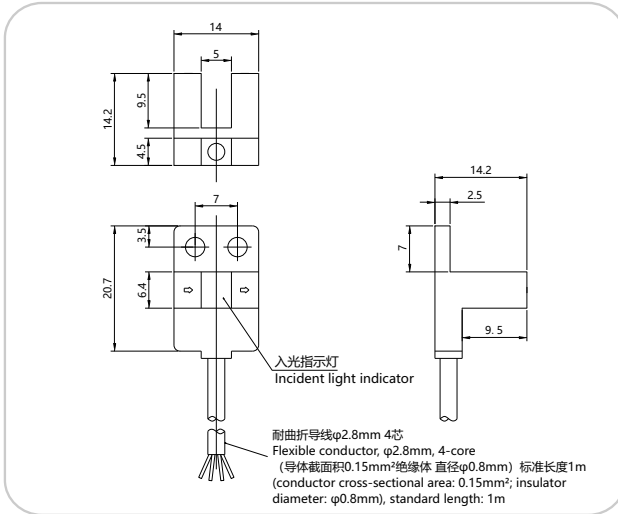
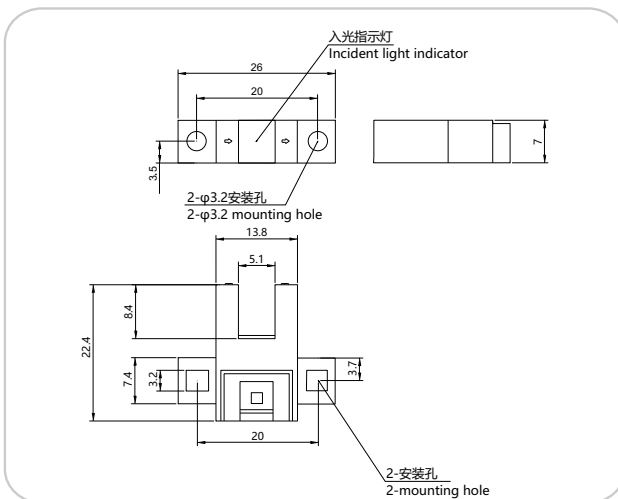
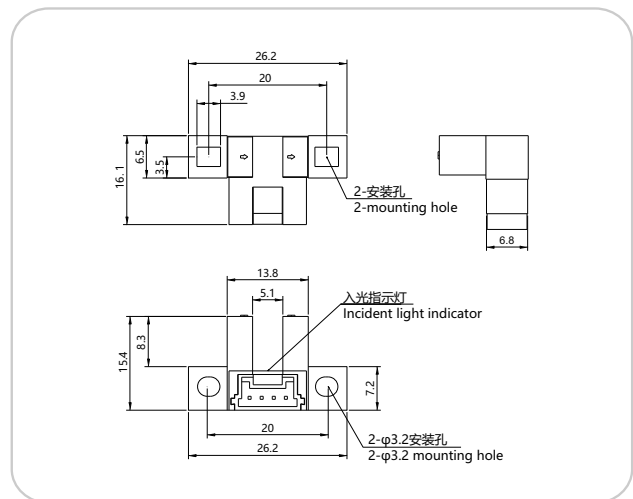


CPG-TF05□3R

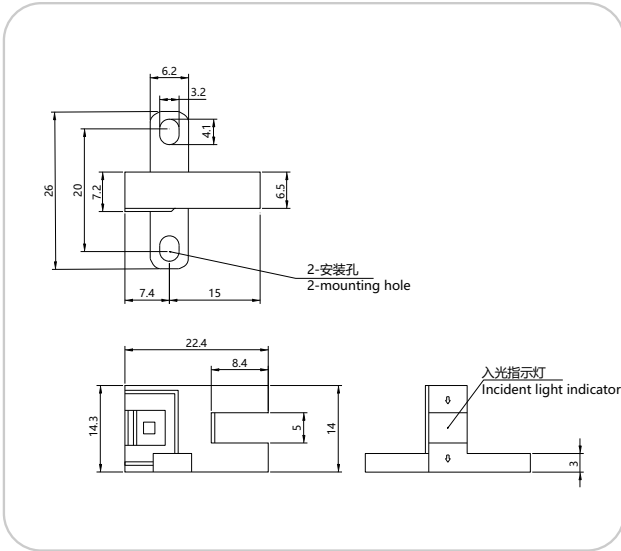


CPG-TF05□3R1

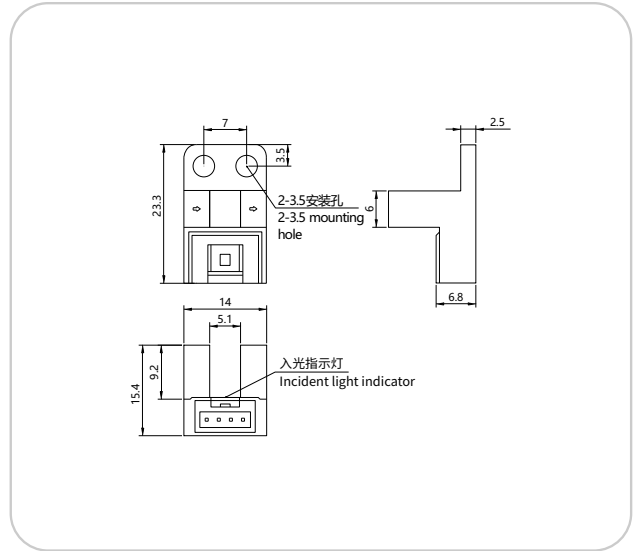


CPG-TF05□3T1

CPG-TF05□3U

CPG-TF05□3Y1

CPG 外形尺寸图 (接插件)
CPG Outline Drawing (Connector)
K1-A

L1-A


T1-A

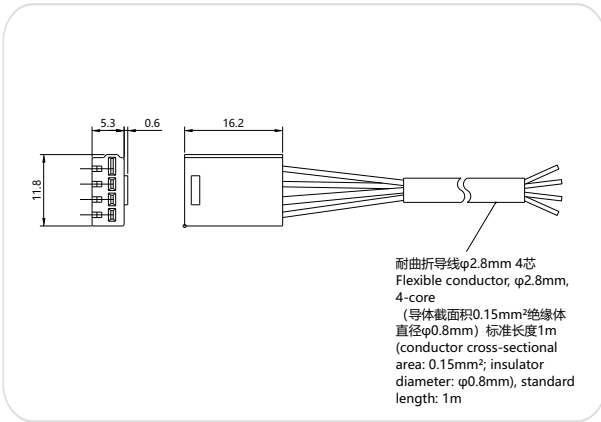


Y1-A

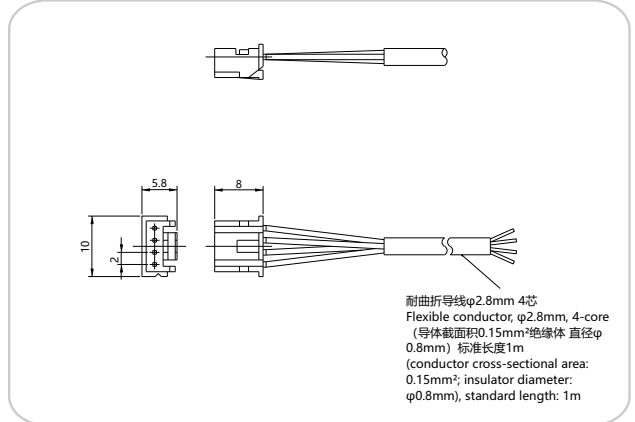


CPG-L21/CPG-L22母座线外形尺寸图
CPG-L21/CPG-L22 Connector Outline Drawing

CPG-L21



CPG-L22



CPD超薄型光电式传感器/CPD Ultra-thin Photoelectric Sensor

- ◆ 超薄型、超小型
Ultra-thin, ultra-small
- ◆ 体积细小、安装自如、最小厚度仅3.5mm
Small volume, easy installation, minimum thickness of only 3.5mm
- ◆ 性能稳定可靠，一致性好，性价比高
Stable and reliable performance, good consistency, and high cost performance

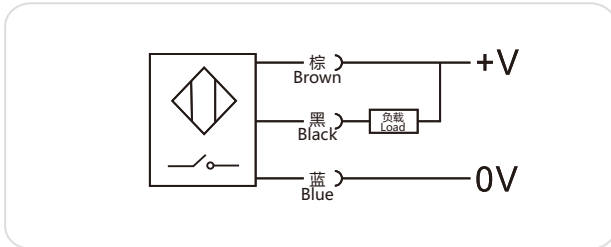


额定规格/性能 Specifications/Performance

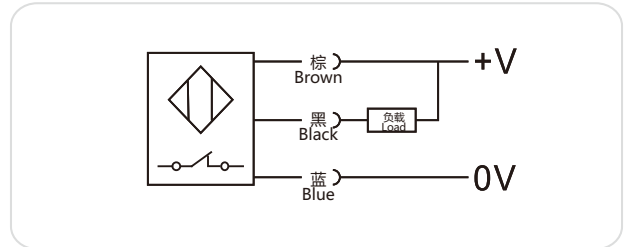
感应类型 Sensing type	正面检测 Front detection		侧面检测 Side detection	
对射NPN Through-beam NPN	CPD-TRP150N1	CPD-TRP150N2	CPD-TRF150N1	CPD-TRF150N2
	CPD-TRP300N1	CPD-TRP300N2	CPD-TRF300N1	CPD-TRF300N2
	CPD-TRP1MN1	CPD-TRP1MN2	CPD-TRF1MN1	CPD-TRF1MN2
漫反射NPN Diffuse reflection NPN	CPD-DRP30N1	CPD-DRP30N2	—	—
漫反射PNP Diffuse reflection PNP	CPD-DRP30P1	CPD-DRP30P2	—	—
标准检测 物体 Standard detected object	白色绘画纸50×50mm或>φ10mm的不透明物体 White drawing paper, 50×50mm or >φ10mm opaque objects			
回差 Return difference	< 20% (仅漫反射) < 20% (for diffuse reflection only)			
光源 (波长) Light source (wavelength)	红外发光二极管 (850nm) 与红色发光二极管 (617nm) 可选 Infrared LED (850nm) and red LED (617nm), optional			
电源/电压 Power supply/voltage	DC12-24V 纹波 (p-p) 10%以下 (DC10-30V) DC12-24V ripple (p-p), below 10% (DC10-30V)			
消耗电流 Current consumption	< 15mA			
控制输出 Control output	NPN或PNP晶体管集电极开路输出 负载电流100mA以下 NPN or PNP transistor collector open output, load current: below 100mA (电缆线2m时残留电压3V以下) (residual voltage: below 3V at 2m cable)			
动作模式 Action mode	Light ON (入光动作) 或 Dark ON (遮光动作) Light ON or Dark ON			
指示灯 Indicator	红色动作指示灯(入光时亮灯), 绿色稳定指示灯 (稳定时亮灯) Red action indicator (ON when light is incident), green stability indicator (ON in stable state)			
保护回路 Protection circuit	电源逆接保护、输出短路保护、输出逆接保护 Power reverse connection protection, output short-circuit protection, output reverse connection protection			
响应频率 Response frequency	600Hz			
环境照度 Ambient illuminance	收光面照度 白炽灯: 3500lx以下、太阳光: 10000lx以下 Receiving surface illuminance: incandescent lamp: below 3,500lx, sunlight: below 10,000lx			
环境温度 Ambient temperature	工作时:-10~+55°C、保存时:-25~+65°C (无结冰、无结露) 工作时:35~85%RH、保存时:35~95%RH (无结露)			
环境湿度 Ambient humidity	35~85%RH during operation, 35~95%RH during storage (no condensation)			
绝缘电阻 Insulation resistance	20MΩ以上 (DC500V兆欧表) More than 20MΩ (DC500V megohmmeter)			
耐电压 Withstand voltage	AC1000V 50/60Hz 1min 充电部整体与外壳间 AC1,000V, 50/60Hz, 1min, between whole charging part and shell			
耐振动 Vibration resistance	10~55Hz 上下振幅1.5mm X、Y、Z各方向 2h 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions			
耐冲击 Impact resistance	150m/s ² X、Y、Z各方向 10次 150m/s ² , respectively times in X, Y and Z directions			
防护等级 Protection level	IEC标准 IP65 IEC standard: IP65			
产品重量 Product weight	对射约40g、漫反射约20g 40g for through-beam, 20g for diffuse reflection			
长度 Length	PVC导线2米 PVC conductor: 2m			
外壳材质 Shell material	改性聚芳香脂 Modified polyarylester			
附件 Accessories	M2*8螺丝、弹簧垫片、平垫圈、说明书、合格证 M2*8 screws, spring gaskets, flat washers, manual, certificate			

CPD控制输出图
CPD Control Output Diagram

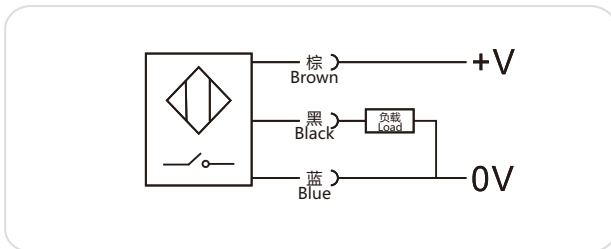
NPN常开 (NO) 输出型
NPN Normally open (NO) output type



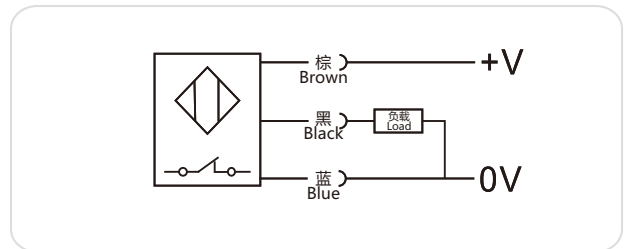
NPN常闭 (NC) 输出型
NPN Normally closed (NC) output type



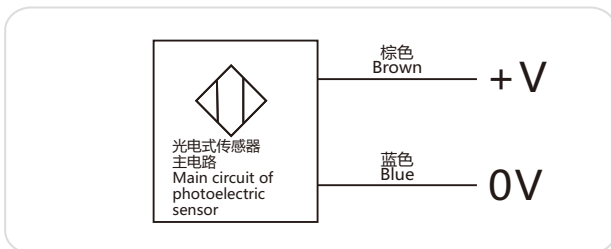
PNP常开(NO)输出型
PNP normally open (NO) output type



PNP常闭 (NC) 输出型
PNP normally closed (NC) output type

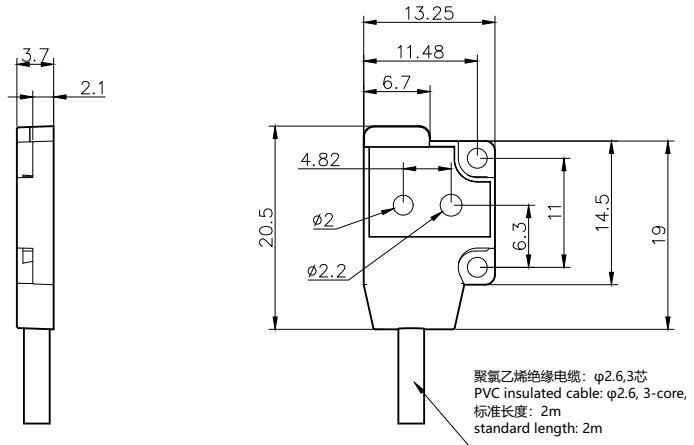


对射型发光器
Through-beam light emitter

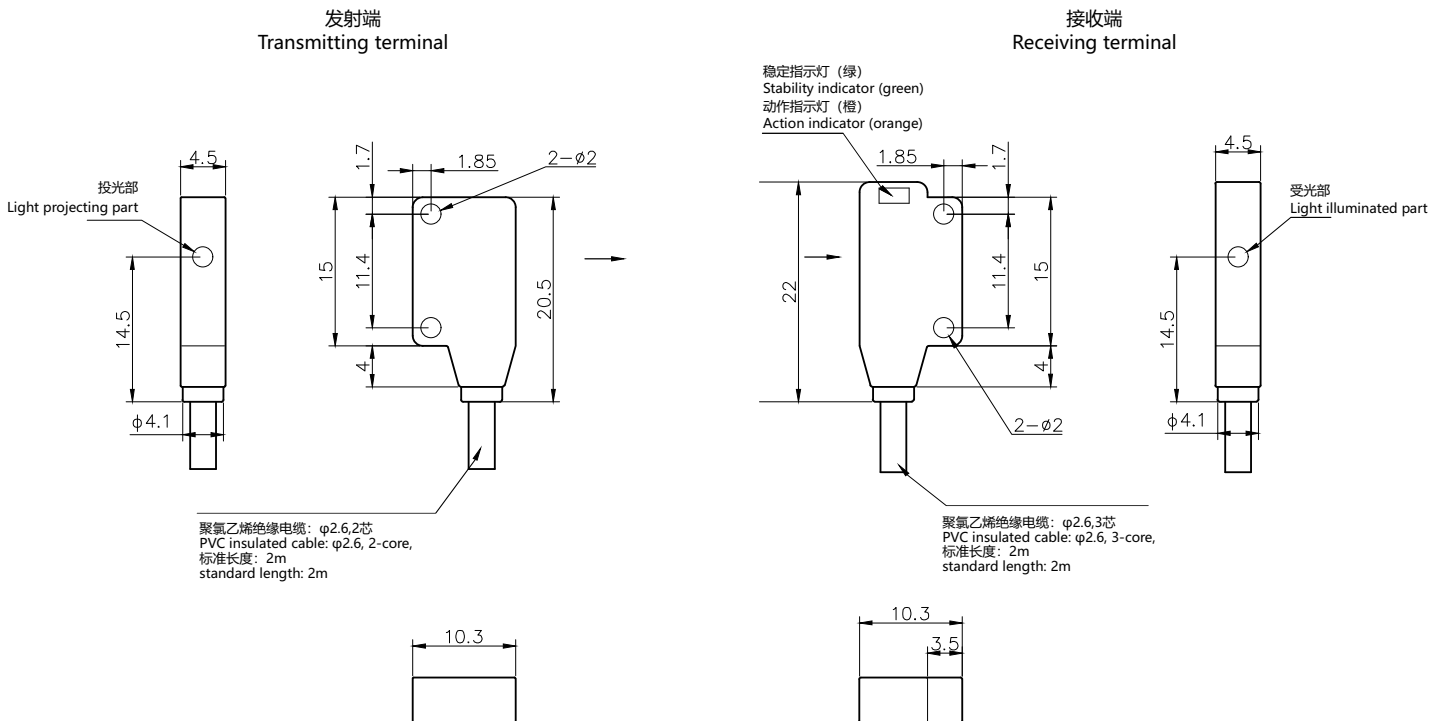


CPD外形尺寸图 CPD Outline Drawing

● CPD-DRP30□□

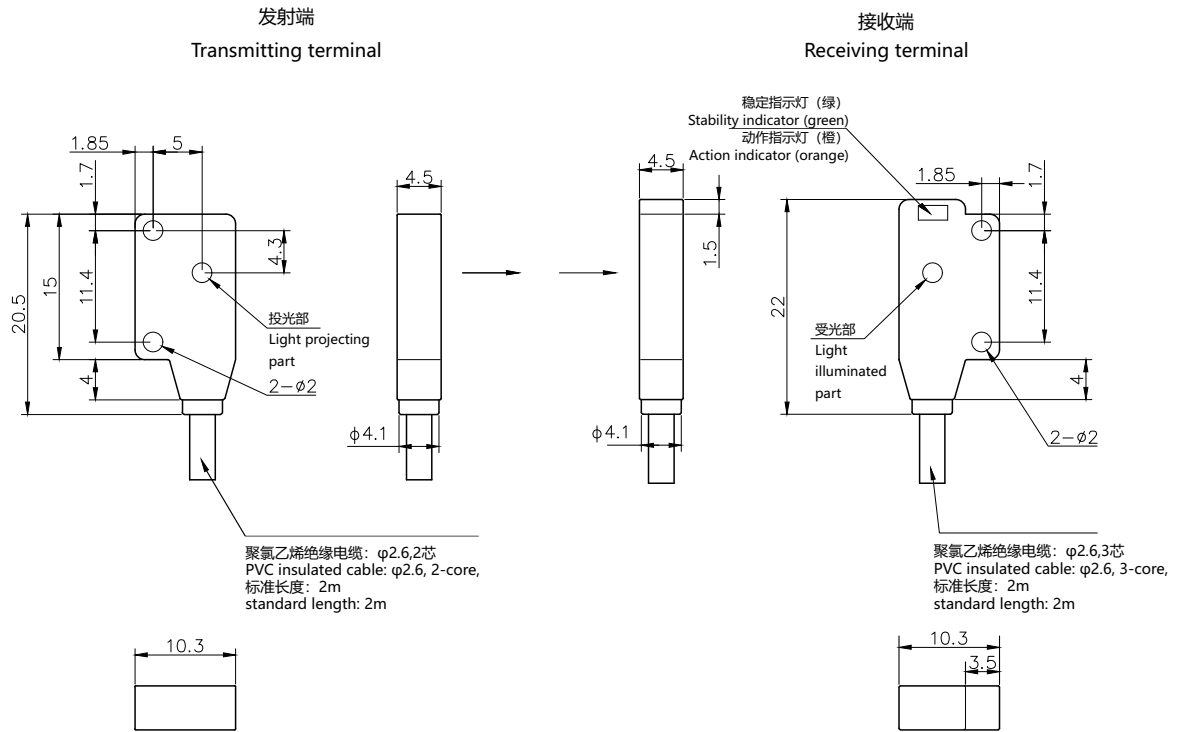


● CPD-TRF□□□□□



CPD外形尺寸图
CPD Outline Drawing

● CPD-TRP□□□



CPF短距离光电式传感器/CPF Short-range Photoelectric Sensor

- ◆ 扁平型光电、节省安装空间
Flat photoelectric sensor, saving installation space
- ◆ 配有两种检测方式
Two detection modes
- ◆ 导线式、接插件式可选
Conductor type and connector type are optional
- ◆ 性能稳定可靠，一致性好，性价比高
Stable and reliable performance, good consistency, and high cost performance

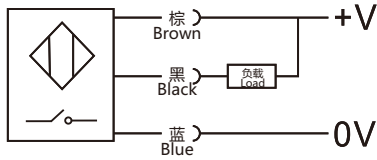


额定规格/性能 Specifications/Performance

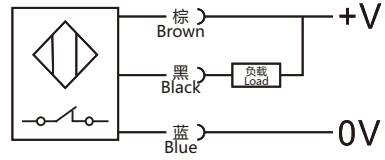
感应类型 Sensing type	正面检测 Front detection		前端检测 Front-end detection	
		CPF-DP5N1	CPF-DP5N2	CPF-DF5N1
漫反射 Diffuse reflection	CPF-DP5N1-A	CPF-DP5N2-A	CPF-DF5N1-A	CPF-DF5N2-A
	CPF-DP35N1	CPF-DP35N2	---	---
	CPF-DP35N1-A	CPF-DP35N2-A	---	---
限定反射 Limited reflection	CPF-DBP5N1	CPF-DBP5N2	CPF-DBF5N1	CPF-DBF5N2
可调漫反射 Adjustable diffuse reflection	CPF-DBP5N1-A1	CPF-DBP5N2-A1	CPF-DBF5N1-A1	CPF-DBF5N2-A1
	CPF-DTP30N1	CPF-DTP30N2	CPF-DTF30N1	CPF-DTF30N2
标准检测物体 Standard detected object	白色绘画纸50×50mm White drawing paper: 50×50mm			
回差 Return difference	< 20%			
光源 (波长) Light source (wavelength)	红外发光二极管(850nm) Infrared LED (850nm)			
电源/电压 Power supply/voltage	DC12-24V纹波(p-p)10%以下(DC10-30V) DC12~24V, ripple (p-p): below 10% (DC10~30V)			
消耗电流 Current consumption	< 15mA			
控制输出 Control output	NPN晶体管集电极开路输出负载电流100mA以下 NPN transistor collector open output, load current: below 100mA (电缆线2m时残留电压3V以下) (residual voltage: below 3V at 2m cable)			
动作模式 Action mode	LightON(亮通)或DarkON(暗通) LightOn / DarkON			
指示灯 Indicator	红色 (入光时亮灯) Red (ON when light is incident)			
保护回路 Protection circuit	电源逆接保护、输出短路保护、输出逆接保护 Power reverse connection protection, output short-circuit protection, output reverse connection protection			
响应频率 Response frequency	200Hz			
环境照度 Ambient illuminance	收光面照度白炽灯: 3500lx以下, 太阳光: 10000lx以下 Receiving surface illuminance: incandescent lamp: below 3,500lx, sunlight: below 10,000lx			
环境温度 Ambient temperature	工作时: -10~+55°C, 保存时: -25~+65°C (无结冰、无结露) -10~+55°C during operation, -25~+65°C during storage (no icing, no condensation)			
环境湿度 Ambient humidity	工作时: 35~85%RH, 保存时: 35~95%RH(无结露) 35~85%RH during operation, 35~95%RH during storage (no condensation)			
绝缘电阻 Insulation resistance	20MΩ以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)			
耐电压 Withstand voltage	AC1000V/50/60Hz1min, between whole charging part and shell AC1,000V, 50/60Hz, 1min, between whole charging part and shell			
耐振动 Vibration resistance	10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions			
耐冲击 Impact resistance	150m/s ² X、Y、Z各方向10次 150m/s ² , respectively 10 times in X, Y and Z directions			
防护等级 Protection level	IEC标准IP50 IEC standard: IP50			
产品重量 Product weight	约20g About 20g			
长度 Length	PVC导线2米/接插件式 PVC conductor: 2m/connector type			
外壳材质 Shell material	聚碳酸酯(PC) Polycarbonate (PC)			
附件 Accessories	说明书、合格证 Manual, certificate			

CPF控制输出图
CPF Control Output Diagram

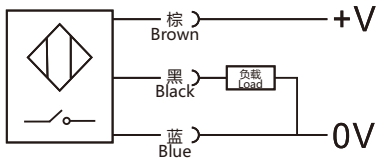
NPN常开 (NO) 输出型
NPN Normally open (NO) output type



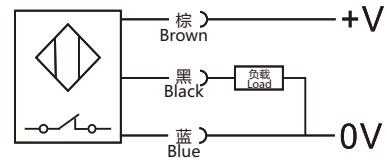
NPN常闭 (NC) 输出型
NPN Normally closed (NC) output type



PNP常开(NO)输出型
PNP normally open (NO) output type

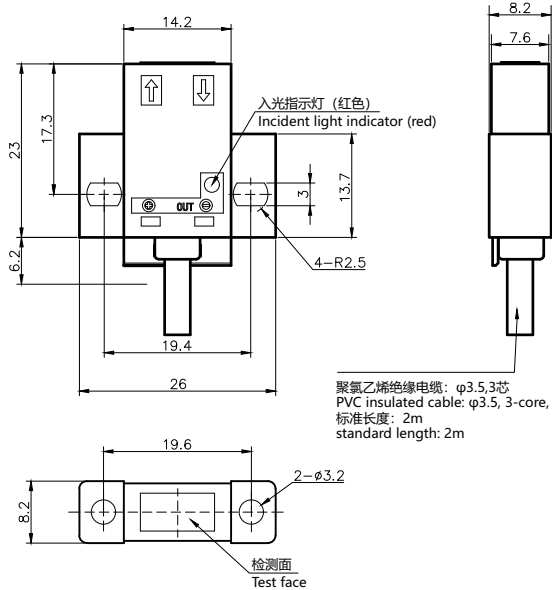


PNP常闭 (NC) 输出型
PNP normally closed (NC) output type

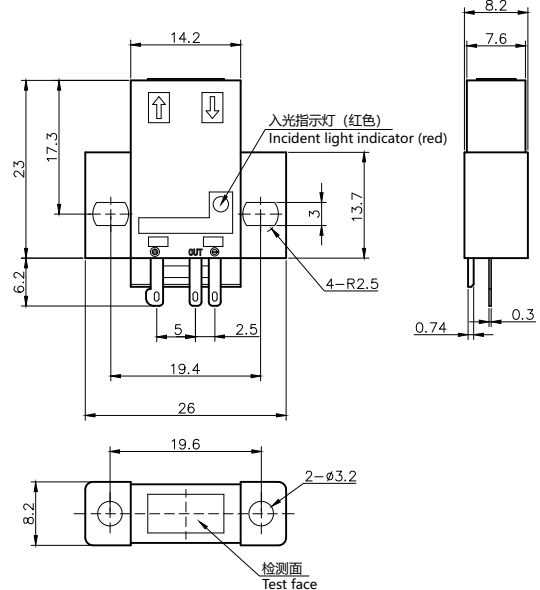


CPF外形尺寸图
CPF Outline Drawing

CPF-DBF5□□

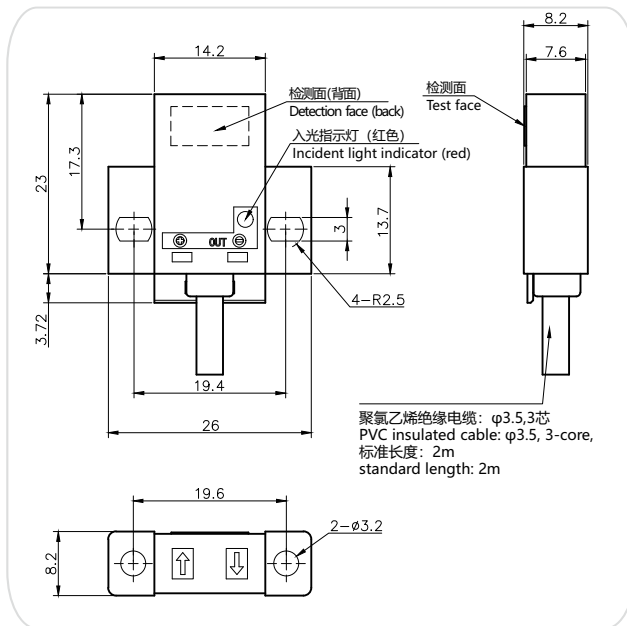


CPF-DBF5□□-A

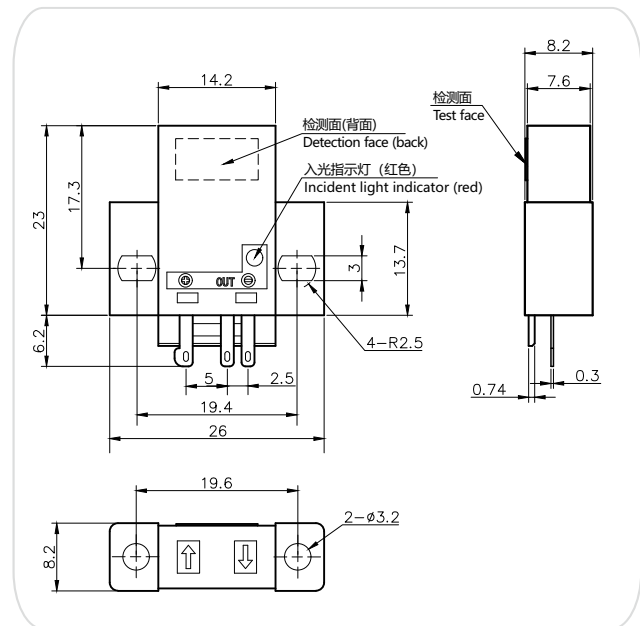


CPF外形尺寸图 CPF Outline Drawing

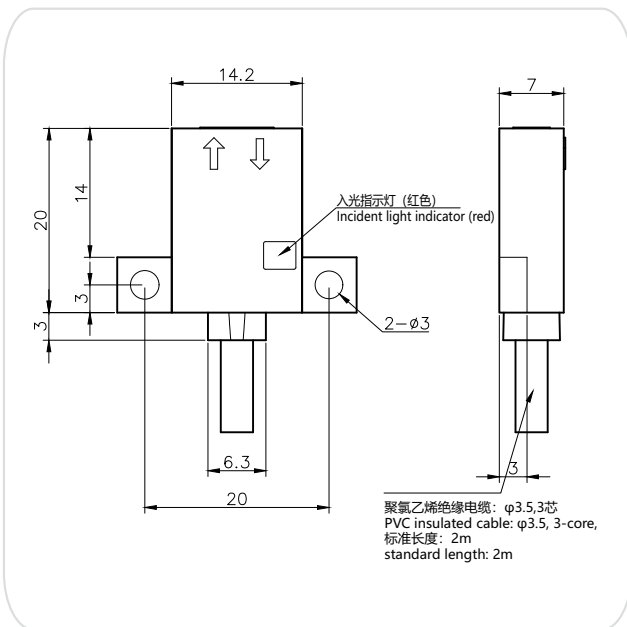
CPF-DBP5□□



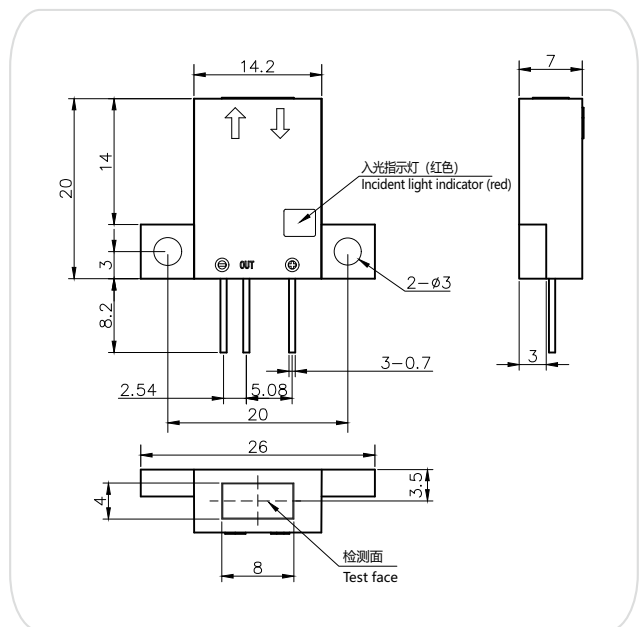
CPF-DBP5□□-A



CPF-DF5□□

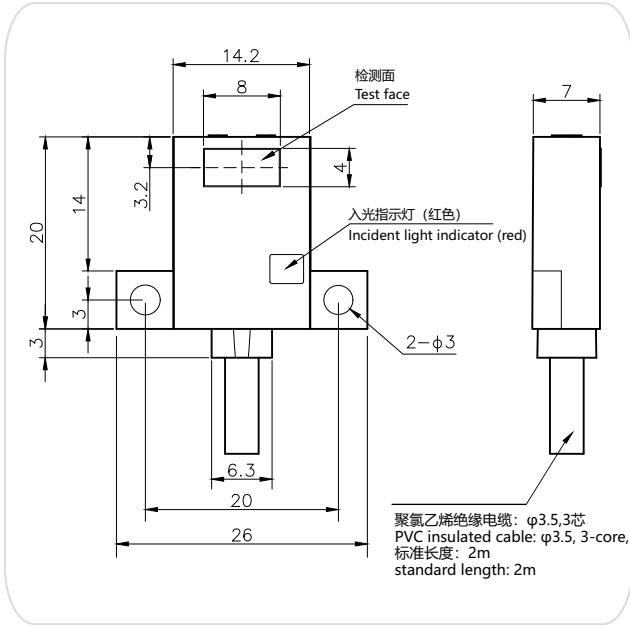


CPF-DF5□□-A

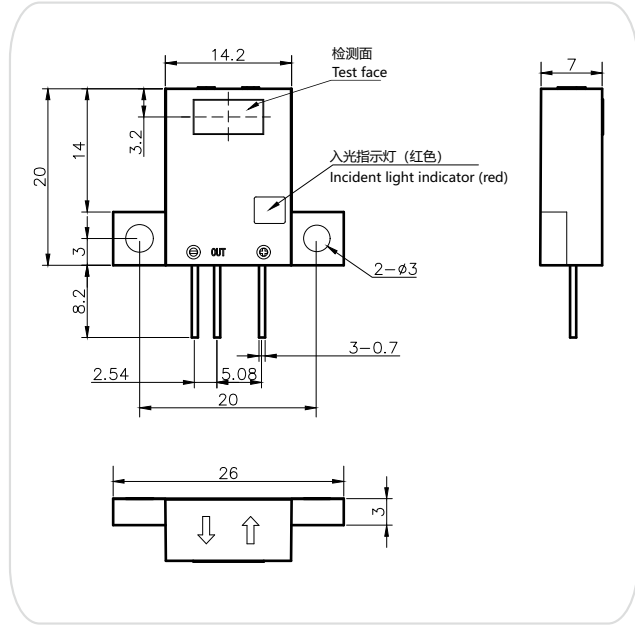


CPF外形尺寸图
CPF Outline Drawing

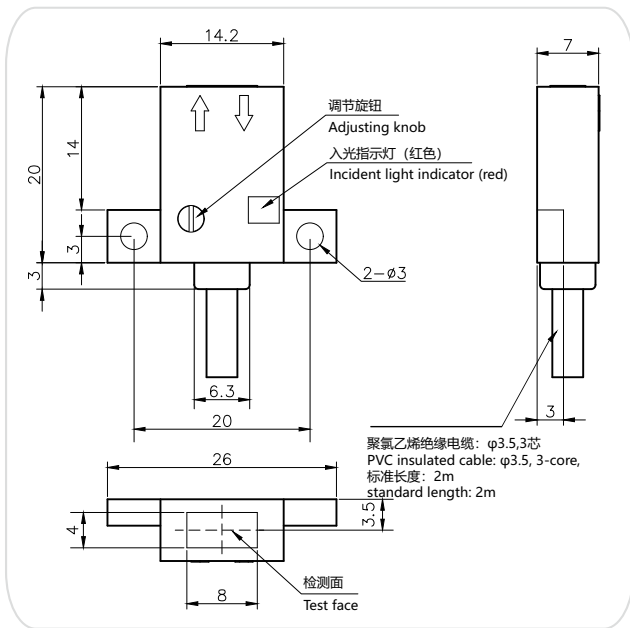
CPF-DP□□□□



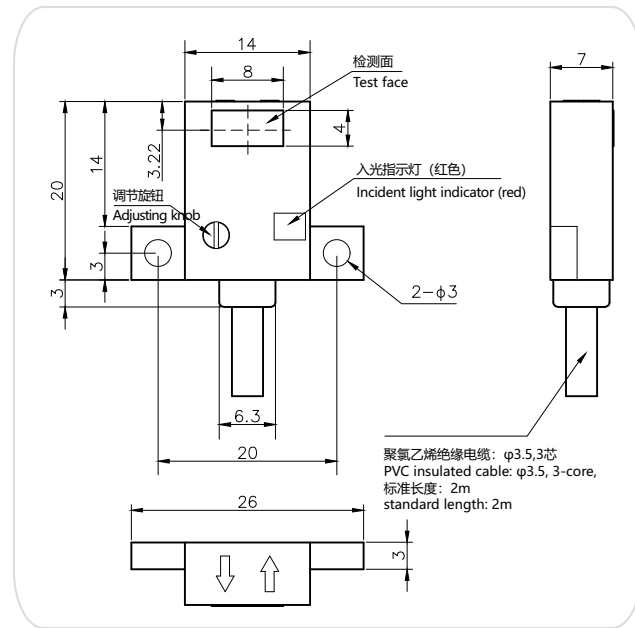
CPF-DP□□□□-A



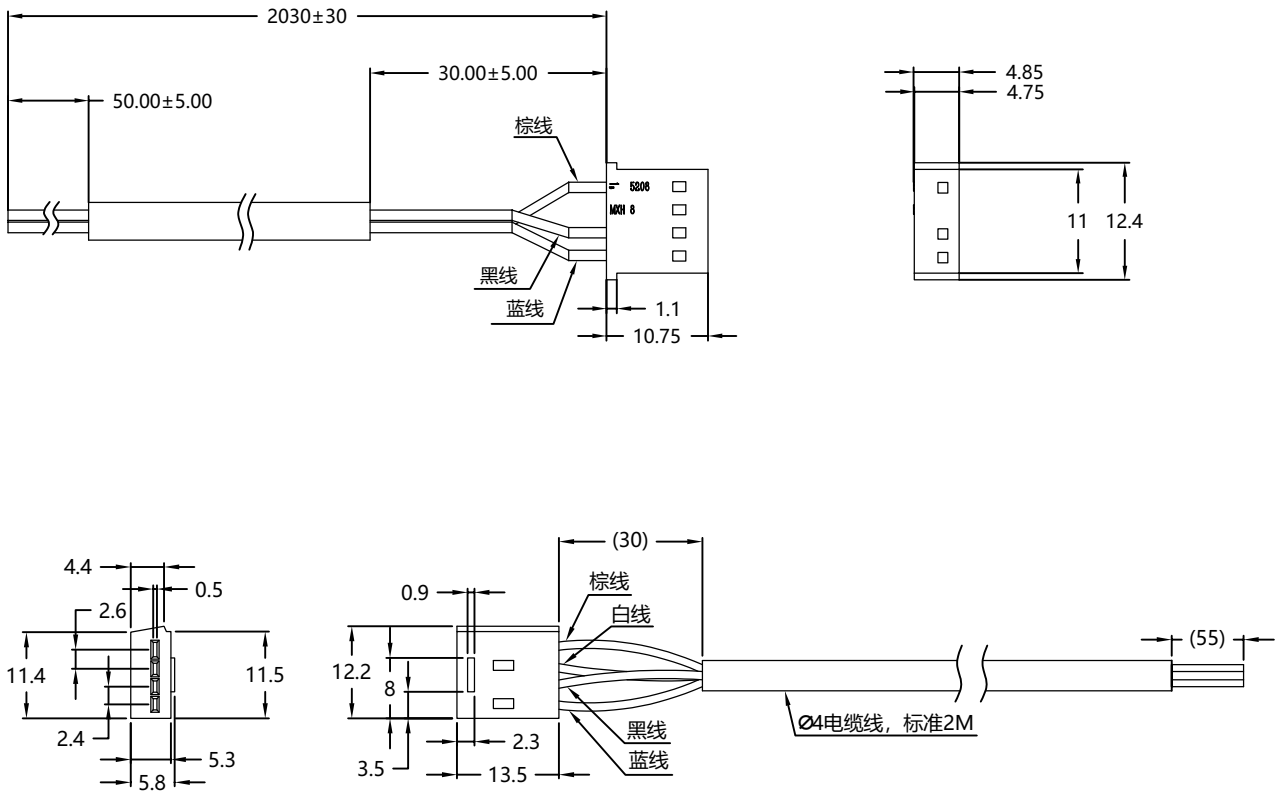
CPF-DTF30□□



CPF-DTP30□□



CPF母座线外形尺寸图
CPF Socket Outline Drawing



CPJ长条形光电式传感器/CPJ Strip Photoelectric Sensor

- ◆ 指尖般的外形尺寸
Fingertip-like dimensions
- ◆ 良好的长距离检测特性
Good long-distance detection characteristics
- ◆ 抗干扰能力强
Strong anti-interference capability



额定规格/性能 Specifications/Performance

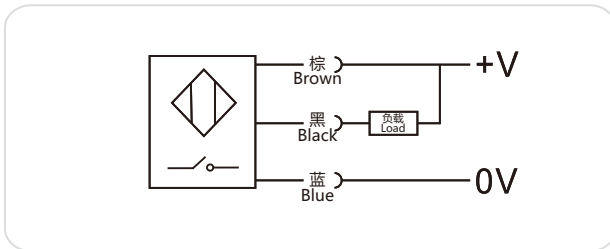
感应类型 Sensing type	漫反射 Diffuse reflection		对射 Through-beam	
NPN输出 NPN output	CPJ-DF150N1	CPJ-DF150N2	CPJ-TF1.5MN1 CPJ-TF2MN1 CPJ-TF3MN1	CPJ-TF1.5MN2 CPJ-TF2MN2 CPJ-TF3MN2
PNP输出 PNP output	CPJ-DF150P1	—	CPJ-TF3MP1	—
标准检测物体 Standard detected object	白色绘画纸50×50mm或>10mm的不透明物体 White drawing paper, 50×50mm or >10mm opaque objects			
回差 Return difference	<20%(仅漫反射) <20% (for diffuse reflection only)			
光源(波长) Light source (wavelength)	红外发光二极管(850nm) Infrared LRD (850nm)			
电源/电压 Power supply/voltage	DC12~24V纹波(p-p)10%以下(DC10~30V) DC12~24V, ripple (p-p): below 10% (DC10~30V)			
消耗电流 Current consumption	<15mA			
控制输出 Control output	NPN或PNP晶体管集电极开路输出负载电流100mA以下 NPN or PNP transistor collector open output, load current: below 100mA (电缆线2m时残留电压3V以下) (residual voltage: below 3V at 2m cable)			
动作模式 Action mode	LightON(亮通)或DarkON(暗通) LightON/DarkON			
指示灯 Indicator	红色(入光时亮灯) Red (ON when light is incident)			
保护回路 Protection circuit	电源逆接保护、输出短路保护、输出逆接保护 Power reverse connection protection, output short-circuit protection, output reverse connection protection			
响应频率 Response frequency	50Hz			
环境照度 Ambient illuminance	收光面照度白炽灯: 3500lx以下, 太阳光: 10000lx以下 Receiving surface illuminance: incandescent lamp: below 3,500lx, sunlight: below 10,000lx			
环境温度 Ambient temperature	工作时: -10~+55°C, 保存时: -25~+65°C (无结冰、无结露) -10~+55°C during operation, -25~+65°C during storage (no icing, no condensation)			
环境湿度 Ambient humidity	工作时: 35~85%RH, 保存时: 35~95%RH(无结露) 35~85%RH during operation, 35~95%RH during storage (no condensation)			
绝缘电阻 Insulation resistance	20MΩ以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)			
耐电压 Withstand voltage	AC1000V/50/60Hz 1min 充电部整体与外壳间 AC1,000V, 50/60Hz, 1 min, between whole charging part and shell			
耐振动 Vibration resistance	10~55Hz上下振幅1.5mm X、Y、Z各方向2h 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions			
耐冲击 Impact resistance	150m/s ² X、Y、Z各方向10次 150m/s ² , respectively 10 times in X, Y and Z directions			
防护等级 Protection level	IEC标准IP60 IEC standard: IP60			
产品重量 Product weight	对射约44g、漫反射约22g 44g for through-beam, 22g for diffuse reflection			
长度 Length	PVC导线2米 PVC conductor: 2m			
外壳材质 Shell material	聚碳酸酯(PC) Polycarbonate (PC)			
附件 Accessories	安装支架、螺丝、螺母、说明书、合格证 Mounting bracket, screw, nut, manual, certificate			

注: 对射产品由发射端与接收端组成, 发射产品型号为表内型号加上L, 接收产品型号为表内型号加上D;
如: CPJ-TF1.5MN1-L, CPJ-TF1.5MN1-D, CPJ-TF2MN1-L, CPJ-TF2MN1-D

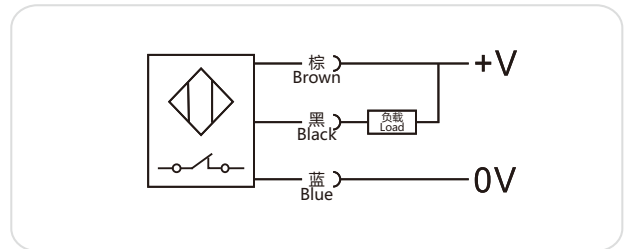
Notes: The through-beam product consists of the transmitting terminal and the receiving terminal. The model of the transmitting product is the model in the table plus L, and the model of the receiving product is the model in the table plus D; for example, CPJ-TF1.5MN1-L, CPJ-TF1.5MN1-D, CPJ-TF2MN1-L, and CPJ-TF2MN1-D.

CPJ控制输出图 CPJ Control Output Diagram

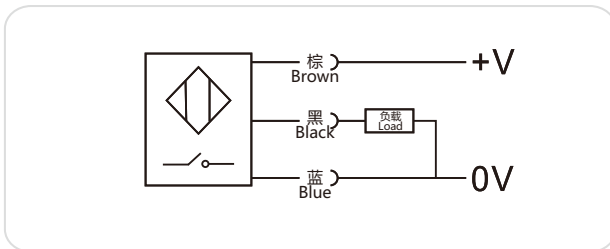
NPN常开 (NO) 输出型
NPN Normally open (NO) output type



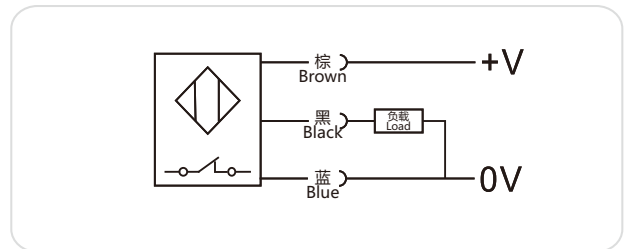
NPN常闭 (NC) 输出型
NPN Normally closed (NC) output type



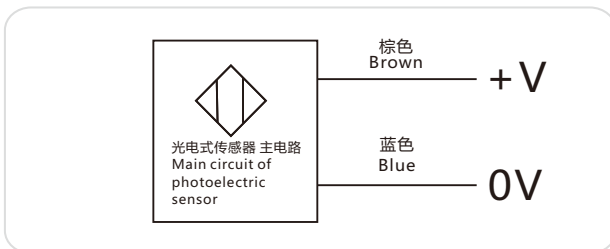
PNP常开(NO)输出型
PNP normally open (NO) output type



PNP常闭 (NC) 输出型
PNP normally closed (NC) output type

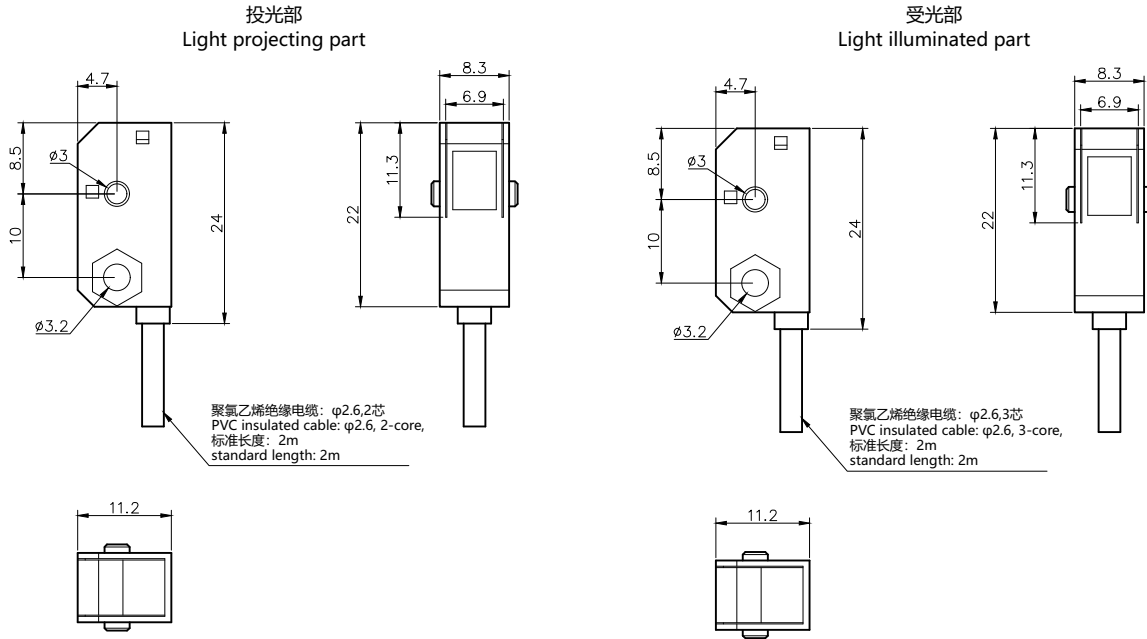


对射型发光器
Through-beam light emitter

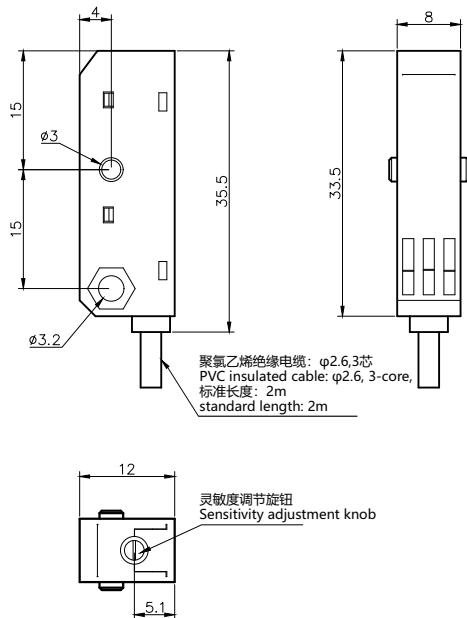


CPJ外形尺寸图
CPJ Outline Drawing

• CPJ-TF□□□

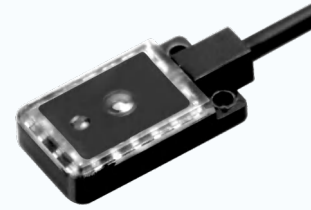


• CPJ-DF□□□



CPI扁平形光电式传感器/CPI Flat Photoelectric Sensor

- ◆ 检测盲区小
Small non-detection zone
- ◆ 多种保护电路, 性能稳定可靠
Multiple protection circuits, stable and reliable performance
- ◆ 性能稳定可靠, 一致性好, 性价比高
Stable and reliable performance, good consistency, and high cost performance

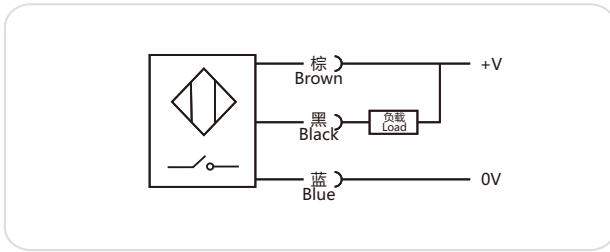


额定规格/性能 Specifications/Performance

感应类型 Sensing type	漫反射 Diffuse reflection
NPN	CPI-DR30N1
标准检测物体 Standard detected object	白色绘画纸50×50mm White drawing paper: 50×50mm
回差 Return difference	<20%(仅漫反射) <20% (for diffuse reflection only)
光源 (波长) Light source (wavelength)	红色发光二极管(617nm) Red LED (617nm)
电源电压 Supply voltage	DC12-24V纹波(p-p)10%以下(DC10-30V) DC12~24V, ripple (p-p): below 10% (DC10~30V)
消耗电流 Current consumption	< 15mA
控制输出 Control output	NPN 晶体管集电极开路输出负载电流100mA以下 NPN transistor collector open output, load current: below 100mA (电缆线2m时残留电压3V以下) (residual voltage: below 3V at 2m cable)
动作模式 Action mode	Light ON (入光动作)
指示灯 Indicator	红色 (入光时亮灯) Red (ON when light is incident)
保护回路 Protection circuit	电源逆接保护、输出短路保护、输出逆接保护 Power reverse connection protection, output short-circuit protection, output reverse connection protection
响应频率 Response frequency	25Hz
环境照度 Ambient illuminance	收光面照度白炽灯: 3500lx以下、太阳光: 10000lx以下 Receiving surface illuminance: incandescent lamp: below 3,000lx, sunlight: below 10,000lx
环境温度 Ambient temperature	工作时: -10~+55°C、保存时: -25~+65°C (无结冰、无结露) -10~+55°C during operation, -25~+65°C during storage (no icing, no condensation)
环境湿度 Ambient humidity	工作时: 35~85%RH、保存时: 35~95%RH(无结露) 35~85%RH during operation, 35~95%RH during storage (no condensation)
绝缘电阻 Insulation resistance	20MΩ以上(DC500V兆欧表) Above 20MΩ (DC500V megohmmeter)
耐电压 Withstand voltage	AC1000V50/60Hz1min充电部整体与外壳间 AC1,000V, 50/60Hz, 1min, between whole charging part and shell
耐振动 Vibration resistance	10~55Hz上下振幅1.5mmX、Y、Z各方向2h 10~55Hz, amplitude: 1.5mm, respectively 2h in X, Y and Z directions
耐冲击 Impact resistance	150m/s ² X、Y、Z各方向10次 150m/s ² , respectively 10 times in X, Y and Z directions
防护等级 Protection level	IEC标准IP65 IEC standard: IP65
产品重量 Product weight	约21g About 21g
长度 Length	PVC导线2米 PVC conductor: 2m
外壳材质 Shell material	外壳: PBT检测面: 改性聚芳香酯 Shell: PBT Detection face: Modified polyarylester
附件 Accessories	说明书、合格证 Manual, certificate

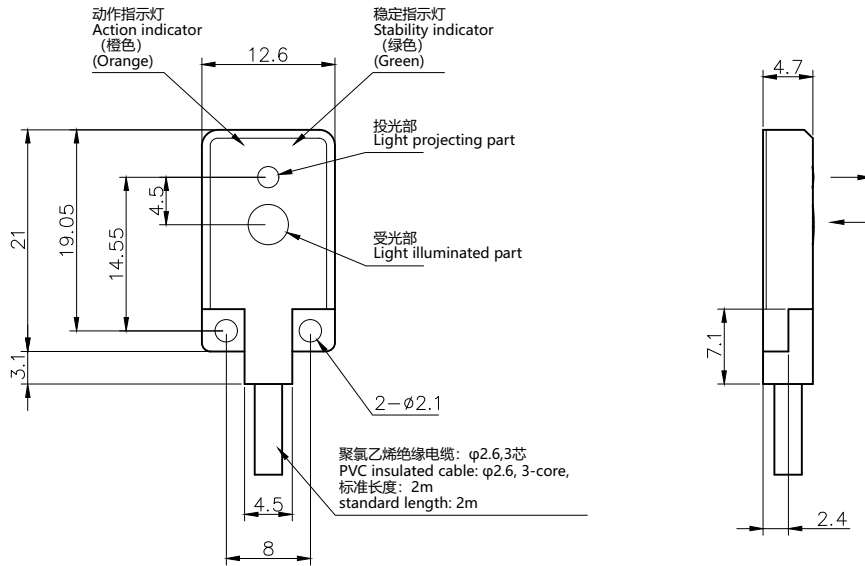
CPI控制输出图 CPI Control Output Diagram

NPN常开 (NO) 输出型
NPN Normally open (NO) output type



PNP常闭 (NC) 输出型 PNP normally closed (NC) output type

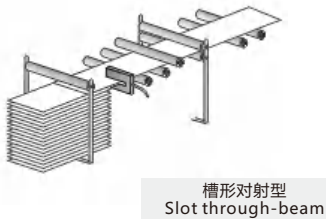
CPI-DR30N1



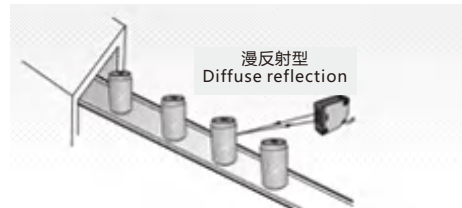
产品应用案例 Product Application Cases

我司产品广泛应用在包装机械、输送设备、纺织机械、半导体、印刷机械、制药机械、物流行业、医疗器械、电梯等领域。
Our products are widely used in packaging machinery, conveying equipment, textile machinery, semiconductor, printing machinery, pharmaceutical machinery, logistics industry, medical equipment, elevator and other fields.

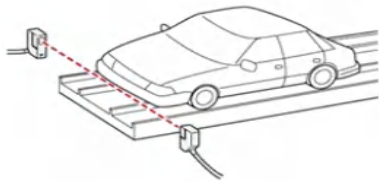
检测纸板的有无
Detect cardboard



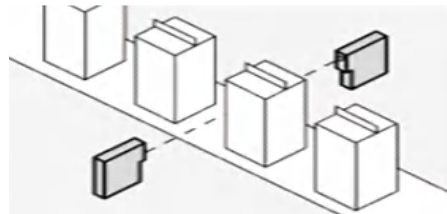
检测传送带上瓶子有无
Detect bottles on conveyor belt



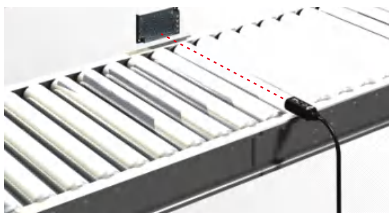
检测是否有车通过
Detect whether vehicles pass



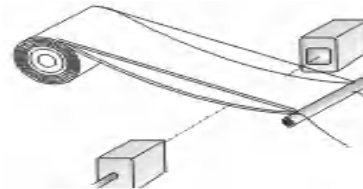
检测牛奶盒
Detect milk boxes



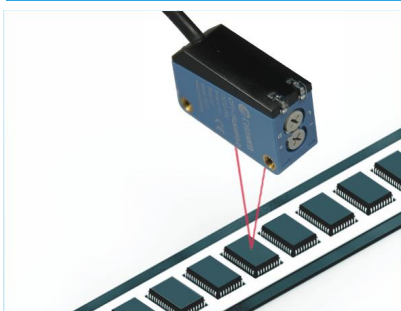
输送线检测有无
Detect conveyor lines



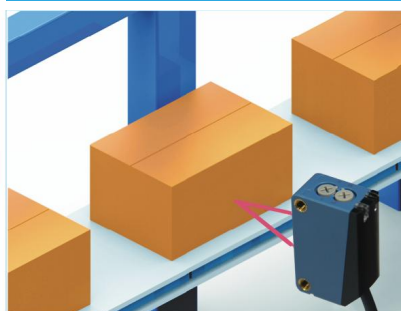
检测物体是否拉直
Detect whether objects are straightened



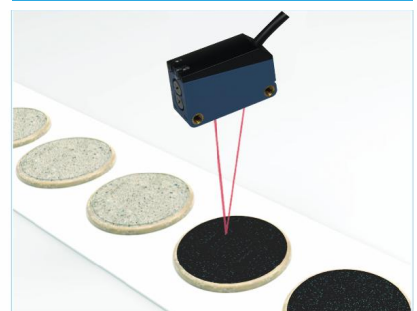
检测金属部件
Detect electronic components



检测薄板
Detect cardboard boxes



检测快速移动的物体
Detect fast moving objects



接近传感器系列 Proximity Sensor Series

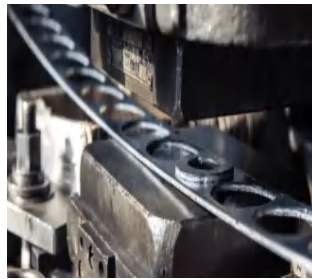


CL系列电感式传感器专为检测金属物体设计，通过CCC、CE、CMA、CNAS等国际认证，具有上科所检测报告。拥有圆柱形、方形、扁平形多种结构，可适配不同的安装空间及检测环境。产品简单易用，信号输出稳定可靠。具有温漂控制低、重复精度高、抗干扰能力强等特点，被广泛应用于包装行业、机械加工、食品加工、饮料产线等。

CL series inductive sensors are specially designed for detecting metal objects. They have passed CCC, CE, CMA, CNAS and other international certifications, and have been awarded the test report from Shanghai Electrical Equipment Testing Institute. They adopt cylindrical, square and flat structures, and can be adapted to different installation spaces and detection environments. The product is simple and easy to use, and the signal output is stable and reliable. They have the characteristics of low temperature drift control, high repetition accuracy, strong anti-interference capability, etc., and are widely used in packaging industry, mechanical processing, food processing, beverage production line, etc.



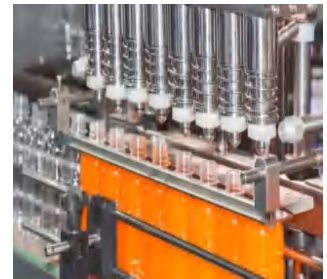
包装行业
Packaging industry



机械加工
Machining



食品加工
Food processing



饮料产线
Beverage production line

接近传感器概述 Overview of Proximity Sensors

电感式\电容式传感器都是接近传感器
Both inductive and capacitive sensors are proximity sensors.

接近传感器概念 Concept of Proximity Sensor

接近传感器是利用传感器对接近物体的敏感特性，达到在非接触状态下、检测物体的接近、控制开关的目的。在常用的接近传感器中，根据感应发生的原理不同，可将接近传感器分为高频振荡型、磁感应型、静电电容型。

The proximity sensor is used to detect the proximity of the object and control the switch in the non-contact state by using the sensitivity characteristic to the approaching objects. Among the commonly used proximity sensors, proximity sensors can be divided into high-frequency oscillation type, magnetic induction type and electrostatic capacitance type according to different induction principles .

接近传感器的特点 Features of Proximity Sensor

- ◆ 检测时无机械接触，功耗低、寿命长
No mechanical contact during detection, low power consumption and long life
- ◆ 适用恶劣工作环境，工作可靠
Suitable for harsh operating environments and reliable
- ◆ 检测的重复精度高，能准确判断物体的定位
High detection repeated accuracy, accurately judging the position of objects
- ◆ 响应频率高，适应快速移动物体的检测
High response frequency, suitable for the detection of fast moving objects

电感式传感器的基本原理 Basic Principle of Inductive Sensor

前端检测线圈中产生高频交变磁场，当金属物体靠近磁场时，由于电磁感应，金属物体内部产生涡电流导致磁场能量衰减，称之为涡流损耗。当接近传感器感应面不断地靠近金属物体时，金属物体对磁场能量的衰减不断加大，当衰减到一定程度时，传感器触发开关输出信号，从而达到检测物体的有无。

High frequency alternating magnetic field is generated in the front-end detection coil. When a metal object comes close to the magnetic field, eddy currents are produced inside the metal object due to the electromagnetic induction, leading to a decay in the magnetic field energy, which is called eddy current loss. When the induction surface of the proximity sensor is constantly close to the metal object, the attenuation of the magnetic field energy of the metal object continues to increase. When the attenuation reaches a certain degree, the sensor triggers the output signal of the switch to detect the presence of the object.

电容式传感器的基本原理 Basic Principle of Capacitive Sensor

电容式传感器的感应面由两个同轴金属电极构成，该两个电极构成电容，串联在RC振动回路中。电源接通时，RC振荡器不振荡，当一目标朝着传感器感应面靠近时，电容容量增加，振荡器开始振荡。通过后级电路处理转换成开关信号，从而起到了检测物体有无的目的。电容式传感器能检测金属物体也能检测非金属物体。对于非金属物体的动作距离取决于材质的介电常数，材质介电常数越大，检测的动作距离越大。

The induction surface of the capacitive sensor is composed of two coaxial metal electrodes, which form a capacitor and are connected in series in the RC vibration circuit. When the power supply is turned on, the RC oscillator does not oscillate. When a target approaches the induction surface of the sensor, the capacitance increases and the oscillator begins to oscillate. It is converted into a switching signal through the processing of the post-amplifier circuit, achieving the purpose of detecting the presence of object. The capacitive sensor can detect both metallic and non-metallic objects. The operating distance of non-metallic objects depends on the dielectric constant of the material. The greater the dielectric constant of the material is, the larger the detection operating distance is.

应差距离 Sensing distance difference

接近开关动作时的感应距离与复位时产生距离之差，是应差距离，接近开关的应差距离是使用标准检测物体时测出的应差距离。

Sensing distance difference refers to the difference between the sensing distance when the proximity switch acts and the distance generated when resetting, and the sensing distance difference of the proximity switch is measured when the standard detected object is used.

标准检测物体 Standard detected object

实际检测物体的大小不应小于标准检测物体的尺寸，否则影响实际检测距离。

The size of the actual detected object should not be smaller than that of the standard detected object, otherwise the actual detection distance will be affected.

消耗电流 Current consumption

传感器工作状态下所需的电流。

The current required when the sensor is working.

漏电流 Leakage current

传感器没有接通时，在其负载中残留的电流，称作漏电流。

When the sensor is not switched on, the current remaining in its load is called leakage current.

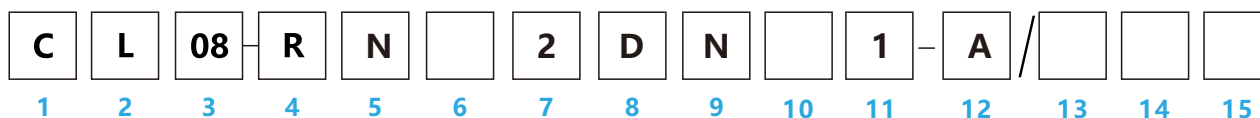
响应频率 Response frequency

响应频率是指传感器每秒钟动作的最大的次数。

Response frequency refers to the maximum number of times the sensor acts per second.

接近传感器概述 Overview of Proximity Sensors

型号命名规则 Model Naming Rule



1. 上海长江传感器 CHANKO

2. 检测方式

Detection mode
L: 电感式 C: 电容式
L: Inductive type C: Capacitive type

3. 外形尺寸

Overall dimensions
08表示8mm 12表示12mm 以此类推
08 represents 8mm, 12 represents 12mm and so on

4. 外形代号

Appearance code
R: 圆柱螺纹形 Q: 方形 F: 扁平形
R: Cylindrical thread Q: Square F: Flat

5. 安装方式

Installation mode
F: 埋入式 N: 非埋入式
F: Embedded type N: Non-embedded type

6. 检测面方向

Direction of detection surface
P: 正面 F: 顶面 无: 标准外形
P: Front F: Top None: Standard appearance

7. 检测距离

Detection distance
2表示2mm 4表示4mm 依次类推
2 represents 2mm, 4 represents 4mm and so on

8. 额定工作电压

Rated operating voltage
D: DC12-24V D1: DC5-24V D2: DC10-24V D3: DC12-48V
A: AC24-240 S: AC/DC24-240V

9. 输出方式

Output mode
N: NPN P: PNP L: DC2线 K: AC2线
N: NPN P: PNP L: DC2 wire K: AC2 wire
A: 4-20mA电流输出 V: 0-10V电压输出
A: 4-20mA current output V: 0-10V voltage output

10. 涂层材料

Coating material
无: 无特殊处理常规型号 F: 特氟龙涂层
None: No special treatment, conventional model F: Teflon coating
C: 特氟龙涂层+抗磁场干扰
C: Teflon coating + anti-interference from magnetic field

11. 输出状态

Output state
1: NO常开 2: NC常闭 3: NO+NC常开+常闭
1: NO normally open 2: NC normally closed
3: NO + NC normally open + normally closed

12. 连接方式

Connection Type
无: 成型电缆¹ A: 接插件²
None: Molded cable¹ A: Connector²

13. 工作温度

Operating temperature
无: -25~70°C H: 0~120°C
None: -25 to 70°C H: 0-120°C
H1: 0-150C S: -40-80C
S1: -50~70°C

14. 铜管长度

Length of copper tube
数字(mm)
Digit (mm)

15. 特殊需求

Special requirements
M: 全金属外壳
M: Metal shell
Y: 耐油导线
Y: Oil resistant wire
B: 防爆型
B: Explosion-proof
K: 可变检测面
K: Variable detection surface

*默认为2米成型电缆 (标准型) ; *默认为接插件产品需要另外采购转接线。

*1 2m Molded cable (standard type) by default; *2 Connector product by default, and separate adapter cable needs to be purchased for the connector product.

电感式传感器—圆柱形标准型/Inductive Sensor - Cylindrical, Standard Type

- ◆重复精度高
High repeated accuracy
- ◆温漂极低
Extremely low temperature drift
- ◆响应频率高
High response frequency
- ◆防护等级IP67
Protection level is IP67

直流三线式 DC three-wire type

类型 Type	埋入式 Embedded type				非埋入式 Non-embedded type				
外观 Appearance	 <p>成型电缆2米 2m Molded cable</p> <p>接插件式 Connector type</p>				 <p>成型电缆2米 2m Molded cable</p> <p>接插件式 Connector type</p>				
尺寸 Dimension	M8	M12	M18	M30	M8	M12	M18	M30	
型号 Model	NPN NO	CL08-RF1.5DN1	CL12-RF2DN1	CL18-RF5DN1	CL30-RF10DN1	CL08-RN2DN1	CL12-RN4DN1	CL18-RN8DN1	CL30-RN15DN1
	NPN NC	CL08-RF1.5DN2	CL12-RF2DN2	CL18-RF5DN2	CL30-RF10DN2	CL08-RN2DN2	CL12-RN4DN2	CL18-RN8DN2	CL30-RN15DN2
	PNP NO	CL08-RF1.5DP1	CL12-RF2DP1	CL18-RF5DP1	CL30-RF10DP1	CL08-RN2DP1	CL12-RN4DP1	CL18-RN8DP1	CL30-RN15DP1
	PNP NC	CL08-RF1.5DP2	CL12-RF2DP2	CL18-RF5DP2	CL30-RF10DP2	CL08-RN2DP2	CL12-RN4DP2	CL18-RN8DP2	CL30-RN15DP2
检测距离 Detection distance	1.5mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm	
设定距离 Set distance	0-1.2mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	
响应频率 Response frequency	1000Hz	600Hz	600Hz	500Hz	800Hz	500Hz	500Hz	500Hz	
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance								
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%								
消耗电流 Current consumption	35mA以下 Below 35mA								
输出电流 Output current	200mA以下 Below 200mA								
指示灯 Indicator	红色输出指示灯 Red output indicator								
控制输出 Control output	NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output								
动作模式 Action mode	NO/NC								
保护回路 Protection circuit	电源逆接保护, 输出短路保护, 电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection								
温度影响 Temperature influence	-25 ~ +70°C温度范围内, 参考+23°C时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C								
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage								
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell								
耐电压 Withstand voltage	AC1,000V/50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell								
耐振动 Vibration resistance	10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions								
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions								
防护等级 Protection level	IEC标准IP67 IEC standard IP67								
材质 Material	外壳: 黄铜镀镍; 检测面: 耐热ABS; 电缆: PVC Shell: nickel plated brass; detection surface: heat-resistant ABS; cable: PVC								
重量 Weight	约32g About 32g	约54g About 54g	约93g About 93g	约156g About 156g	约31g About 31g	约52g About 52g	约93g About 93g	约152g About 152g	
附件 Accessories	螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate								

注: 所有接插件式型号请在成型电缆型号尾部加-A,如CL08-RF1.5DN1-A.
Note: For all connector types, please add -A to the end of the molded cable model, e.g. CL08-RF1.5DN1-A.

直流两线式

DC two-wire type

类型 Type		埋入式 Embedded type				非埋入式 Non-embedded type			
尺寸 Dimension		M8	M12	M18	M30	M8	M12	M18	M30
型号 Model	NO	CL08-RF1.5DL1	CL12-RF2DL1	CL18-RF5DL1	CL30-RF10DL1	CL08-RN2DL1	CL12-RN4DL1	CL18-RN8DL1	CL30-RN15DL1
	NC	CL08-RF1.5DL2	CL12-RF2DL2	CL18-RF5DL2	CL30-RF10DL2	CL08-RN2DL2	CL12-RN4DL2	CL18-RN8DL2	CL30-RN15DL2
检测距离 Detection distance		1.5mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm
设定距离 Set distance		0-1.2mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm
标准检测物 Standard detected object		铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm
响应频率 Response frequency		1200Hz	1200Hz	600Hz	600Hz	1000Hz	1000Hz	500Hz	500Hz
应差距离 Distance difference		检测距离的10%以内 Within 10% of the detection distance							
电源电压 Supply voltage		DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%							
漏电流 Leakage current		0.8mA以下 Below 0.8mA							
开关容量 Switching capacity		3-100mA							
残留电压 Residual voltage		有极性3V以下, 无极性5V以下, (负载电流100mA, 导线长2m时) Below 3V in the case of polarity, below 5V in the case of non-polarity, (at load current of 100mA and wire length of 2m)							
指示灯 Indicator		红色输出指示灯 Red output indicator							
动作模式 Action mode		NO/NC							
保护回路 Protection circuit		电源逆接保护, 电源浪涌保护, 输出过流保护 Power reverse connection protection, power surge protection, Output overcurrent protection							
温度影响 Temperature influence		-25~+70°C温度范围内, 参考+23°C时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C							
电压影响 Voltage influence		在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage							
绝缘电阻 Insulation resistance		50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell							
耐电压 Withstand voltage		AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell							
耐振动 Vibration resistance		10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions							
耐冲击 Impact resistance		500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions							
防护等级 Protection level		IEC标准 IP67 IEC standard IP67							
材质 Material		外壳: 黄铜镀镍; 检测面: 耐热ABS; 电缆: PVC Shell: nickel plated brass; detection surface: heat-resistant ABS; cable: PVC							
重量 Weight		约28g About 28g	约50g About 50g	约91g About 91g	约154g About 154g	约27g About 27g	约49g About 49g	约88g About 88g	约145g About 145g
附件 Accessories		螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate							

交流两线式
AC two-wire type

类型 Type	埋入式 Embedded type			非埋入式 Non-embedded type			
尺寸 Dimension	M12	M18	M30	M12	M18	M30	
型号 Model	NO	CL12-RF2AK1	CL18-RF5AK1	CL30-RF10AK1	CL12-RN4AK1	CL18-RN8AK1	CL30-RN15AK1
	NC	CL12-RF2AK2	CL18-RF5AK2	CL30-RF10AK2	CL12-RN4AK2	CL18-RN8AK2	CL30-RN15AK2
检测距离 Detection distance	2mm	5mm	10mm	4mm	8mm	15mm	
设定距离 Set distance	0-1.6mm	0-4mm	0-8mm	0-3.2mm	0-6.4mm	0-12mm	
标准检测物 Standard detected object	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	
响应频率 Response frequency	25Hz						
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance						
电源电压 Supply voltage	AC 24-240V 50/60Hz (AC20-264V)						
漏电流 Leakage current	1.7mA以下 Below 1.7mA						
开关容量 Switching capacity	5-200mA						
残留电压 Residual voltage	7V以下, (负载电流100mA, 导线长2m时) Below 7V, (at load current of 100mA and wire length of 2m)						
指示灯 Indicator	红色输出指示灯 Red output indicator						
动作模式 Action mode	NO/NC						
保护回路 Protection circuit	电源浪涌保护 Power surge protection						
温度影响 Temperature influence	-25~+70°C温度范围内, 参考+23°C时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C						
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage						
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell						
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1 min, between entire charging part and shell						
耐振动 Vibration resistance	10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions						
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions						
防护等级 Protection level	IEC标准 IP67 IEC standard IP67						
材质 Material	外壳: 黄铜镀镍; 检测面: 耐热ABS; 电缆: PVC Shell: nickel plated brass; detection surface: heat-resistant ABS; cable: PVC						
重量 Weight	约50g About 50g	约90g About 90g	约152g About 152g	约48g About 48g	约88g About 88g	约148g About 148g	
附件 Accessories	螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate						

注: 所有接插件式型号请在成型电缆型号尾部加-A, 如CL08-RF1.5DL1 -A。

Note: For all connector types, please add -A to the end of the molded cable model, e.g. CL08-RF1.5DL1 -A.

电感式传感器—圆柱形.增强距离型/Inductive Sensor - Cylindrical, Enhanced Distance Type

- 检测精度高
High detection accuracy
- 超长检测距离
Ultra-long detection distance
- 防护等级IP67
Protection level is IP67
- 通过EMC全部测试
Passed all EMC tests

直流三线式 DC three-wire type

类型 Type	埋入式 Embedded type				非埋入式 Non-embedded type				
外观 Appearance									
	成型电缆2米 2m Molded cable		接插件式 Connector type		成型电缆2米 2m Molded cable		接插件式 Connector type		
尺寸 Dimension	M8	M12	M18	M30	M8	M12	M18	M30	
型号 Model	NPN NO	CL08-RF2DN1	CL12-RF4DN1	CL18-RF8DN1	CL30-RF15DN1	CL08-RN4DN1	CL12-RN8DN1	CL18-RN16DN1	CL30-RN30DN1
	NPN NC	CL08-RF2DN2	CL12-RF4DN2	CL18-RF8DN2	CL30-RF15DN2	CL08-RN4DN2	CL12-RN8DN2	CL18-RN16DN2	CL30-RN30DN2
	PNP NO	CL08-RF2DP1	CL12-RF4DP1	CL18-RF8DP1	CL30-RF15DP1	CL08-RN4DP1	CL12-RN8DP1	CL18-RN16DP1	CL30-RN30DP1
	PNP NC	CL08-RF2DP2	CL12-RF4DP2	CL18-RF8DP2	CL30-RF15DP2	CL08-RN4DP2	CL12-RN8DP2	CL18-RN16DP2	CL30-RN30DP2
检测距离 Detection distance	2mm	4mm	8mm	15mm	4mm	8mm	16mm	30mm	
设定距离 Set distance	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	0-3.2mm	0-6.4mm	0-12.8mm	0-24mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁48*48*1mm Iron 48*48*1mm	铁90*90*1mm Iron 90*90*1mm	
响应频率 Response frequency	2000Hz	1000Hz	500Hz	150Hz	1000Hz	500Hz	150Hz	100Hz	
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance								
电源电压 Supply voltage	DC12-24V±10%纹波(P-P)10%以下 DC 12-24V, ±10% ripple (P-P), below 10%								
消耗电流 Current consumption	13mA以下 Below 13mA								
输出电流 Output current	200mA以下 Below 200mA								
指示灯 Indicator	红色输出指示灯 Red output indicator								
控制输出 Control output	NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output								
动作模式 Action mode	NO/NC								
保护回路 Protection circuit	电源逆接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection								
温度影响 Temperature influence	-25~+70℃温度范围内, 参考+23℃时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C								
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage								
绝缘电阻 Insulation resistance	50MΩ以上(DC500V兆欧表)充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell								
耐电压 Withstand voltage	AC1,000V/50/60Hz1min充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell								
耐振动 Vibration resistance	10-55Hz双振幅1.5mmX、Y、Z各方向2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions								
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向3次 500m/s ² , 3 times each in X, Y and Z directions								
防护等级 Protection level	IEC标准IP67 IEC standard IP67								
材质 Material	外壳: 黄铜镀镍; 检测面: 耐热ABS; 电缆: PVC Shell: nickel plated brass; detection surface: heat-resistant ABS; cable: PVC								
重量 Weight	约40g About 40g	约67g About 67g	约153g About 153g	约217g About 217g	约40g About 40g	约65g About 65g	约144g About 144g	约207g About 207g	
附件 Accessories	螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate								

注: 所有接插件式型号请在成型电缆型号尾部加-A, 如CL08-RF2DN1-A。

Note: For all connector types, please add -A to the end of the molded cable model, e.g. CL08-RF2DN1-A.

直流两线式
DC two-wire type

类型 Type	埋入式 Embedded type				非埋入式 Non-embedded type				
尺寸 Dimension	M8	M12	M18	M30	M8	M12	M18	M30	
型号 Model	NO	CL08-RF2DL1	CL12-RF4DL1	CL18-RF8DL1	CL30-RF15DL1	CL08-RN4DL1	CL12-RN8DL1	CL18-RN16DL1	CL30-RN30DL1
	NC	CL08-RF2DL2	CL12-RF4DL2	CL18-RF8DL2	CL30-RF15DL2	CL08-RN4DL2	CL12-RN8DL2	CL18-RN16DL2	CL30-RN30DL2
检测距离 Detection distance	2mm	4mm	8mm	15mm	4mm	8mm	16mm	30mm	
设定距离 Set distance	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	0-3.2mm	0-6.4mm	0-12.8mm	0-24mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁48*48*1mm Iron 48*48*1mm	铁90*90*1mm Iron 90*90*1mm	
响应频率 Response frequency	1200Hz	1200Hz	600Hz	600Hz	1000Hz	1000Hz	500Hz	500Hz	
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance								
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%								
漏电流 Leakage current	0.8mA以下 Below 0.8mA								
开关容量 Switching capacity	3-100mA								
残留电压 Residual voltage	有极性6V以下, 无极性8V以下, (负载电流100mA, 导线长2m时) Below 6V in the case of polarity, below 8V in the case of non-polarity, (at load current of 100mA and wire length of 2m)								
指示灯 Indicator	红色输出指示灯 Red output indicator								
动作模式 Action mode	NO/NC								
保护回路 Protection circuit	电源逆接保护、电源浪涌保护 Power reverse connection protection, power surge protection								
温度影响 Temperature influence	-25~+70°C温度范围内, 参考+23°C时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C								
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage								
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell								
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell								
耐振动 Vibration resistance	10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm X, Y and Z directions								
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions								
防护等级 Protection level	IEC标准IP67 IEC standard IP67								
材质 Material	外壳: 黄铜镀镍; 检测面: 耐热ABS; 电缆: PVC Shell: nickel plated brass; detection surface: heat-resistant ABS; cable: PVC								
重量 Weight	约40g About 40g	约67g About 67g	约153g About 153g	约217g About 217g	约40g About 40g	约65g About 65g	约144g About 144g	约207g About 207g	
附件 Accessories	螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate								

交流两线式 AC two-wire type

类型 Type		埋入式 Embedded type			非埋入式 Non-embedded type		
尺寸 Dimension		M12	M18	M30	M12	M18	M30
型号 Model	NO	CL12-RF4AK1	CL18-RF8AK1	CL30-RF15AK1	CL12-RN6AK1	CL18-RN12AK1	CL30-RN22AK1
	NC	CL12-RF4AK2	CL18-RF8AK2	CL30-RF15AK2	CL12-RN6AK2	CL18-RN12AK2	CL30-RN22AK2
检测距离 Detection distance		4mm	8mm	15mm	6mm	12mm	22mm
设定距离 Set distance		0-3.2mm	0-6.4mm	0-12mm	0-4.8mm	0-9.6mm	0-17.6mm
标准检测物 Standard detected object		铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	铁18*18*1mm Iron 18*18*1mm	铁36*36*1mm Iron 36*36*1mm	铁66*66*1mm Iron 66*66*1mm
响应频率 Response frequency		25Hz					
应差距离 Distance difference		检测距离的10%以内 Within 10% of the detection distance					
电源电压 Supply voltage		AC 24-240V 50/60Hz (AC20-264V)					
漏电流 Leakage current		1.7 mA以下 Below 1.7 mA					
开关容量 Switching capacity		5-200mA					
残留电压 Residual voltage		8V以下, (负载电流100mA,导线长2m时) Below 8V, (at load current of 100mA and wire length of 2m)					
指示灯 Indicator		红色输出指示灯 Red output indicator					
动作模式 Action mode		NO/NC					
保护回路 Protection circuit		电源浪涌保护 Power surge protection					
温度影响 Temperature influence		-25~+70℃温度范围内, 参考+23℃时, 检测距离变化在±10%以内 In the temperature range of -25 to +70℃, the detection distance changes within ±10% at +23℃					
电压影响 Voltage influence		在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage					
绝缘电阻 Insulation resistance		50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell					
耐电压 Withstand voltage		AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60HZ, 1min, between entire charging part and shell					
耐振动 Vibration resistance		10~55Hz双振幅1.5mm X、Y、Z各方向2h 10-55HZ, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions					
耐冲击 Impact resistance		500m/s ² X、Y、Z各方向3次 500m/s ² , 3 times each in X, Y and Z directions					
防护等级 Protection level		IEC标准 IP67 IEC standard IP67					
材质 Material		外壳: 黄铜镀镍; 检测面: 耐热ABS; 电缆: PVC Shell: nickel plated brass; detection surface: heat-resistant ABS; cable: PVC					
重量 Weight		约77g About 77g	约161g About 161g	约247g About 247g	约76g About 76g	约160g About 160g	约237g About 237g
附件 Accessories		螺母*2, 内齿垫*1,合格证 Nut * 2, internal teeth pad * 1, certificate					


注: 所有接插件式型号请在成型电缆型号尾部加-A,如CL08-RF2DL1-A。

Note: For all connector types, please add -A to the end of the molded cable model, e.g. CL08-RF2DL1-A.

电感式传感器—CL05小型/Inductive Sensor - CL05 Small

- ◆ 体型小巧
Small size
- ◆ 检测精度高
High detection accuracy
- ◆ 防护等级IP67
Protection level is IP67
- ◆ 通过EMC全部测试
Passed all EMC tests

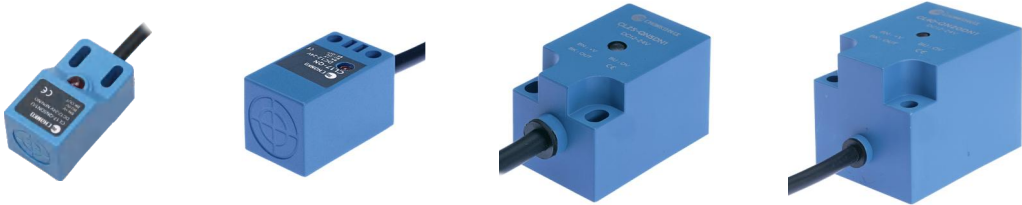
直流三线式 DC three-wire type

类型 Type	埋入式 Embedded type			
外观 Appearance				
尺寸 Dimension	M5	M5	M5	
型号 Model	NPN NO	CL05-RF1DN1	CL05-RF1.2DN1	CL05-RF1.5DN1
	NPN NC	CL05-RF1DN2	CL05-RF1.2DN2	CL05-RF1.5DN2
	PNP NO	CL05-RF1DP1	CL05-RF1.2DP1	CL05-RF1.5DP1
	PNP NC	CL05-RF1DP2	CL05-RF1.2DP2	CL05-RF1.5DP2
检测距离 Detection distance	1mm	1.2mm	1.5mm	
设定距离 Set distance	0-0.8mm	0-1mm	0-1.2mm	
标准检测物 Standard detected object	铁5*5*1mm Iron 5*5*1mm			
响应频率 Response frequency	500Hz			
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance			
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%			
消耗电流 Current consumption	13 mA以下 Below 13 mA			
输出电流 Output current	200mA以下 Below 200mA			
指示灯 Indicator	红色输出指示灯 Red output indicator			
控制输出 Control output	NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output			
动作模式 Action mode	NO/NC			
保护回路 Protection circuit	电源逆接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection			
温度影响 Temperature influence	-25~+70°C温度范围内, 参考+23°C时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C			
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage			
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell			
耐压 Withstand voltage	AC 1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V 50/60Hz, 1min, between entire charging part and shell			
耐振动 Vibration resistance	10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions			
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions			
防护等级 Protection level	IEC标准 IP67 IEC standard IP67			
材质 Material	外壳: 黄铜镀镍; 检测面: 耐热ABS; 电缆: PVC Shell: nickel plated brass; detection surface: heat-resistant ABS; cable: PVC			
重量 Weight	21g			
附件 Accessories	螺母*2, 合格证 Nut * 2, certificate			

电感式传感器—方形/Inductive Sensor - Square

- ◆ 抗干扰能力强
Strong anti-interference capability
- ◆ 防护等级IP67
Protection level is IP67
- ◆ 温度稳定性极高
High temperature stability
- ◆ 通过EMC全部测试
Passed all EMC tests

直流三线式 DC three-wire type

类型 Type	非埋入式 Non-embedded type						
外观 Appearance							
规格尺寸 Specifications and dimensions	17*17*30mm	17*17*34.5mm	17*17*30mm	25*25*43mm	30*30*57mm	40*40*57mm	
型号 Model	NPN NO	CL17-QN5DN1	CL17-QN8DN1	CL17-QN5DN1/U	CL25-QN5DN1	CL30-QN10DN1	CL40-QN20DN1
	NPN NC	CL17-QN5DN2	CL17-QN8DN2	CL17-QN5DN2/U	CL25-QN5DN2	CL30-QN10DN2	CL40-QN20DN2
	PNP NO	CL17-QN5DP1	CL17-QN8DP1	CL17-QN5DP1/U	CL25-QN5DP1	CL30-QN10DP1	CL40-QN20DP1
	PNP NC	CL17-QN5DP2	CL17-QN8DP2	CL17-QN5DP2/U	CL25-QN5DP2	CL30-QN10DP2	CL40-QN20DP2
检测距离 Detection distance	5mm	8mm	5mm	5mm	10mm	20mm	
设定距离 Set distance	0-4mm	0-6.4mm	0-4mm	0-4mm	0-8mm	0-16mm	
标准检测物 Standard detected object	铁17*17*1mm Iron 17*17*1mm	铁24*24*1mm Iron 24*24*1mm	铁17*17*1mm Iron 17*17*1mm	铁25*25*1mm Iron 25*25*1mm	铁30*30*1mm Iron 30*30*1mm	铁60*60*1mm Iron 60*60*1mm	
响应频率 Response frequency	500Hz			500Hz	500Hz	160Hz	
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance						
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%						
消耗电流 Current consumption	15mA以下 Below 15 mA						
输出电流 Output current	100mA以下 Below 100 mA						
指示灯 Indicator	红色输出指示灯 Red output indicator						
控制输出 Control output	NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output						
动作模式 Action mode	NO/NC						
保护回路 Protection circuit	电源反接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection						
温度影响 Temperature influence	-25~+70℃温度范围内, 参考+23℃时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C						
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage						
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell						
耐电压 Withstand voltage	AC1,000V, 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell						
耐振动 Vibration resistance	10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions						
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions						
防护等级 Protection level	IEC标准 IP67 IEC standard IP67						
材质 Material	外壳: 耐热ABS; 电缆: PVC Shell: Heat-resistant ABS; cable: PVC						
重量 Weight	约58g About 58g	约58g About 58g	约60g About 60g	约99g About 99g	约136g About 136g	约198g About 198g	
附件 Accessories	合格证 certificate						

电感式传感器—扁平小型/Inductive Sensor - Flat Small

- ◆ 体型小巧
Small size
- ◆ 检测精度高
High detection accuracy
- ◆ 防护等级IP67
Protection level is IP67
- ◆ 通过EMC全部测试
Passed all EMC tests

直流三线式 DC three-wire type

类型 Type	非嵌入式 Non-embedded type					
外观 Appearance						
尺寸 Dimension	8*8*24mm	8*9*26mm	8*5.5*28mm	10*6*30mm	12*8*33mm	
检测方向 Detection direction	顶部 Top	前部 Front	顶部 Top	顶部 Top	顶部 Top	
型号 Model	NPN NO	CL08-FNF2.5DN1	CL08-FNP2.5DN1	CL08-FNF1.5DN1	CL10-FNF3DN1	CL12-FNF4DN1
	NPN NC	CL08-FNF2.5DN2	CL08-FNP2.5DN2	CL08-FNF1.5DN2	CL10-FNF3DN2	CL12-FNF4DN2
	PNP NO	CL08-FNF2.5DP1	CL08-FNP2.5DP1	CL08-FNF1.5DP1	CL10-FNF3DP1	CL12-FNF4DP1
	PNP NC	CL08-FNF2.5DP2	CL08-FNP2.5DP2	CL08-FNF1.5DP2	CL10-FNF3DP2	CL12-FNF4DP2
检测距离 Detection distance	2.5mm±20%	2.5mm±20%	1.5mm±10%	3mm±10%	4mm±20%	
设定距离 Set distance	0~2mm	0~2mm	0~1.2mm	0~2.4mm	0~3.2mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁8*8*1mm Iron 8*8*1mm	铁8*8*1mm Iron 8*8*1mm	铁10*10*1mm Iron 10*10*1mm	铁12*12*1mm Iron 12*12*1mm	
响应频率 Response frequency	1.3KHz	1.3KHz	1.3KHz	600Hz	1KHz	
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance					
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%					
消耗电流 Current consumption	15 mA以下 Below 15 mA					
输出电流 Output current	100mA以下 Below 100 mA					
指示灯 Indicator	红色输出指示灯 Red output indicator					
控制输出 Control output	NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output					
动作模式 Action mode	NO/NC					
保护回路 Protection circuit	电源逆接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection					
温度影响 Temperature influence	-25~+70°C温度范围内, 参考+23°C时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C					
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage					
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell					
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell					
耐振动 Vibration resistance	10~55Hz双振幅1.5mmX、Y、Z各方向2h 10-55HZ, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions					
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向3次 500m/s ² , 3 times each in X, Y and Z directions					
防护等级 Protection level	IEC标准 IP67 IEC standard IP67					
材质 Material	外壳: 耐热ABS; 电缆: PVC Shell: Heat-resistant ABS; cable: PVC					
重量 Weight	13g	13g	25.5g	26.5g	14.5g	
附件 Accessories	合格证 certificate					

电感式传感器—扁平形/Inductive Sensor - Slat Square

- ◆ 狭小空间方便安装
Suitable for easy installation in small space
- ◆ 重复精度高
High repeated accuracy
- ◆ 防护等级IP67
Protection level is IP67
- ◆ 通过EMC全部测试
Passed all EMC tests


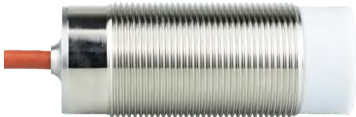
直流三线式 DC three-wire type

类型 Type	非埋入式 Non-embedded type		
外观 Appearance			
规格尺寸 Specifications and dimensions	30.4*18*10.6mm		30.4*18*10.6mm
型号 Model	NPN NO	CL18-FN5DN1	CL18-FN8DN1
	NPN NC	CL18-FN5DN2	CL18-FN8DN2
	PNP NO	CL18-FN5DP1	CL18-FN8DP1
	PNP NC	CL18-FN5DP2	CL18-FN8DP2
检测距离 Detection distance	5mm		8mm
设定距离 Set distance	0-4mm		0-6.4mm
标准检测物 Standard detected object	铁18*18*1mm Iron 18*18*1mm		铁24*24*1mm Iron 24*24*1mm
响应频率 Response frequency	500Hz		
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance		
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%		
消耗电流 Current consumption	10 mA以下 Below 10 mA		
输出电流 Output current	100mA以下 Below 100 mA		
指示灯 Indicator	红色输出指示灯 Red output indicator		
控制输出 Control output	NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output		
动作模式 Action mode	NO/NC		
保护回路 Protection circuit	电源逆接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection		
温度影响 Temperature influence	-25~+70°C温度范围内, 参考+23°C时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C		
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage		
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell		
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell		
耐振动 Vibration resistance	10-55Hz双振幅1.5mm X、Y、Z各方向2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions		
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向3次 500m/s ² 3 times each in X, Y and Z directions		
防护等级 Protection level	IEC标准 IP67 IEC standard IP67		
材质 Material	外壳: 耐热ABS; 电缆: PVC Shell: Heat-resistant ABS; cable: PVC		
重量 Weight	约50g About 50g		
附件 Accessories	合格证 certificate		

电感式传感器—耐高温120°C型/Inductive Sensor - 120°C High Temperature Resistant

- ◆ 产品采用耐高温设计，在0-120°C稳定性不会下降，也不会造成产品故障
The product adopts high temperature resistant design, and the stability will not decrease at 0-120°C, and product failure will not be caused
- ◆ 三种输出方式，两种安装结构，满足多种安装需要
Three output modes, two installation structures, meeting various installation requirements
- ◆ 耐高温线缆，高温环境中使用不易老化
High temperature resistant cable, not easy to age in high temperature environment
- ◆ 感应面采用特氟龙材质，可抵抗酸碱、高低温等极端环境
The induction surface is made of Teflon, which can resist extreme environment such as acid, alkali, high and low temperatures

直流三线式 DC three-wire type

类型 Type		埋入式 Embedded type				非埋入式 Non-embedded type			
外观 Appearance									
尺寸 Dimension		M8	M12	M18	M30	M8	M12	M18	M30
型号 Model	NPN NO	CL08-RF1DN1/H	CL12-RF2DN1/H	CL18-RF5DN1/H	CL30-RF10DN1/H	CL08-RN2DN1/H	CL12-RN4DN1/H	CL18-RN8DN1/H	CL30-RN15DN1/H
	NPN NC	CL08-RF1DN2/H	CL12-RF2DN2/H	CL18-RF5DN2/H	CL30-RF10DN2/H	CL08-RN2DN2/H	CL12-RN4DN2/H	CL18-RN8DN2/H	CL30-RN15DN2/H
	PNP NO	CL08-RF1DP1/H	CL12-RF2DP1/H	CL18-RF5DP1/H	CL30-RF10DP1/H	CL08-RN2DP1/H	CL12-RN4DP1/H	CL18-RN8DP1/H	CL30-RN15DP1/H
	PNP NC	CL08-RF1DP2/H	CL12-RF2DP2/H	CL18-RF5DP2/H	CL30-RF10DP2/H	CL08-RN2DP2/H	CL12-RN4DP2/H	CL18-RN8DP2/H	CL30-RN15DP2/H
检测距离 Detection distance		1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm
设定距离 Set distance		0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm
标准检测物 Standard detected object		铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm
响应频率 Response frequency		800Hz	800Hz	800Hz	800Hz	500Hz	500Hz	500Hz	500Hz
应差距离 Distance difference		检测距离的10%以内 Within 10% of the detection distance							
电源电压 Supply voltage		DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%							
消耗电流 Current consumption		15 mA以下 Below 15 mA							
输出电流 Output current		100mA以下 Below 100 mA							
指示灯 Indicator		黄色输出指示灯 Yellow output indicator							
控制输出 Control output		NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output							
动作模式 Action mode		NO/NC							
保护回路 Protection circuit		电源逆接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection							
温度影响 Temperature influence		0~+120°C温度范围内，参考+23°C时，检测距离变化在±15%以内 In the temperature range of 0 to +120°C, the detection distance changes within ±15% at +23°C							
电压影响 Voltage influence		在额定电源电压的±15%范围内，相较于额定电源电压时，检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage							
绝缘电阻 Insulation resistance		50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell							
耐电压 Withstand voltage		AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell							
耐振动 Vibration resistance		10-55Hz双振幅1.5mm X、Y、Z各方向2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions							
耐冲击 Impact resistance		500m/s ² X、Y、Z各方向3次 500m/s ² 3 times each in X, Y and Z directions							
防护等级 Protection level		IEC标准 IP67 IEC standard IP67							
材质 Material		外壳：黄铜镀镍，检测面：特氟龙；电缆：PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC							
重量 Weight		50g	65g	100g	160g	50g	65g	100g	160g
附件 Accessories		螺母*2, 内齿垫*1,合格证 Nut * 2, internal teeth pad * 1, certificate							

直流两线式 DC two-wire type

类型 Type	埋入式 Embedded type				非埋入式 Non-embedded type				
	尺寸 Dimension	M8	M12	M18	M30	M8	M12	M18	M30
型号 Model	NO	CL08-RF1DL1/H	CL12-RF2DL1/H	CL18-RF5DL1/H	CL30-RF10DL1/H	CL08-RN2DL1/H	CL12-RN4DL1/H	CL18-RN8DL1/H	CL30-RN15DL1/H
	NC	CL08-RF1DL2/H	CL12-RF2DL2/H	CL18-RF5DL2/H	CL30-RF10DL2/H	CL08-RN2DL2/H	CL12-RN4DL2/H	CL18-RN8DL2/H	CL30-RN15DL2/H
检测距离 Detection distance	1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm	
设定距离 Set distance	0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	
响应频率 Response frequency	800Hz	800Hz	800Hz	800Hz	500Hz	500Hz	500Hz	500Hz	
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance								
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%								
漏电流 Leakage current	0.8mA以下 Below 0.8mA								
开关容量 Switching capacity	100mA以下 Below 100 mA								
残留电压 Residual voltage	有极性6V以下, 无极性8V以下, (负载电流100mA, 导线长2m时) Below 6V in the case of polarity, below 8V in the case of non-polarity, (at load current of 100mA and wire length of 2m)								
指示灯 Indicator	黄色输出指示灯 Yellow output indicator								
动作模式 Action mode	NO/NC								
保护回路 Protection circuit	电源逆接保护, 电源浪涌保护 Power reverse connection protection, power surge protection								
温度影响 Temperature influence	0~+120℃温度范围内, 参考+23℃时, 检测距离变化在±15%以内 In the temperature range of 0 to +120℃, the detection distance changes within ±15% at +23℃								
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage								
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell								
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell								
耐振动 Vibration resistance	10-55Hz双振幅1.5mm X、Y、Z各方向2h 10-55HZ, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions								
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向3次 500m/s ² 3 times each in X, Y and Z directions								
防护等级 Protection level	IEC标准 IP67 IEC standard IP67								
材质 Material	外壳: 黄铜镀镍; 检测面: 特氟龙; 电缆: PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC								
重量 Weight	50g	65g	100g	160g	50g	65g	100g	160g	
附件 Accessories	螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate								



交流两线式
AC two-wire type

类型 Type	埋入式 Embedded type				非埋入式 Non-embedded type				
	尺寸 Dimension	M8	M12	M18	M30	M8	M12	M18	M30
型号 Model	NO	CL08-RF1AK1/H	CL12-RF2AK1/H	CL18-RF5AK1/H	CL30-RF10AK1/H	CL08-RN2AK1/H	CL12-RN4AK1/H	CL18-RN8AK1/H	CL30-RN15AK1/H
	NC	CL08-RF1AK2/H	CL12-RF2AK2/H	CL18-RF5AK2/H	CL30-RF10AK2/H	CL08-RN2AK2/H	CL12-RN4AK2/H	CL18-RN8AK2/H	CL30-RN15AK2/H
检测距离 Detection distance	1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm	
设定距离 Set distance	0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	
响应频率 Response frequency	25Hz								
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance								
电源电压 Supply voltage	AC 24-240V 50/60Hz (AC20-264V)								
漏电流 Leakage current	1.7mA以下 Below 1.7mA								
开关容量 Switching capacity	5-200mA								
残留电压 Residual voltage	8V以下, (负载电流100mA, 导线长2m时) Below 8V, (at load current of 100mA and wire length of 2m)								
指示灯 Indicator	黄色输出指示灯 Yellow output indicator								
动作模式 Action mode	NO/NC								
保护回路 Protection circuit	电源浪涌保护 Power surge protection								
温度影响 Temperature influence	0~+120°C温度范围内, 参考+23°C时, 检测距离变化在±15%以内 In the temperature range of 0 to +120°C, the detection distance changes within ±15% at +23°C								
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage								
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell								
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell								
耐振动 Vibration resistance	10-55Hz双振幅1.5mm X、Y、Z各方向2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions								
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² 3 times each in X, Y and Z directions								
防护等级 Protection level	IEC标准 IP67 IEC standard IP67								
材质 Material	外壳: 黄铜镀镍; 检测面: 特氟龙; 电缆: PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC								
重量 Weight	50g	65g	100g	160g	50g	65g	100g	160g	
附件 Accessories	螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate								

电感式传感器——耐高温150°C型/Inductive Sensor - 150°C High Temperature Resistant

- ◆ 产品整体采用耐高温设计，0~150°C环境下不会造成产品故障或者稳定性下降
The product adopts a high temperature resistant design, product failure or stability decline cannot be caused at 0-150°C
- ◆ 线缆使用PVC,外壳黄铜镀镍,可有效防止高温环境中老化
The cable is made of PVC, and the shell is made of nickel plated brass, effectively preventing aging in high temperature environments
- ◆ 采用特氟龙感应面,在酸碱、高低温等极端环境也可使用
By using Teflon induction surface, the product can also be used in extreme environments such as acid and alkali, high and low temperatures
- ◆ 多种尺寸提供更多选择: M8、M12、M18、M30,检测距离1mm-15mm
More options in multiple sizes: M8, M12, M18, M30, detection distance: 1mm-15mm

直流三线式 DC three-wire type

类型 Type	埋入式 Embedded type				非埋入式 Non-embedded type				
外观 Appearance									
尺寸 Dimension	M8	M12	M18	M30	M8	M12	M18	M30	
型号 Model	NPN NO	CL08-RF1DN1/H1	CL12-RF2DN1/H1	CL18-RF5DN1/H1	CL30-RF10DN1/H1	CL08-RN2DN1/H1	CL12-RN4DN1/H1	CL18-RN8DN1/H1	CL30-RN15DN1/H1
	NPN NC	CL08-RF1DN2/H1	CL12-RF2DN2/H1	CL18-RF5DN2/H1	CL30-RF10DN2/H1	CL08-RN2DN2/H1	CL12-RN4DN2/H1	CL18-RN8DN2/H1	CL30-RN15DN2/H1
	PNP NO	CL08-RF1DP1/H1	CL12-RF2DP1/H1	CL18-RF5DP1/H1	CL30-RF10DP1/H1	CL08-RN2DP1/H1	CL12-RN4DP1/H1	CL18-RN8DP1/H1	CL30-RN15DP1/H1
	PNP NC	CL08-RF1DP2/H1	CL12-RF2DP2/H1	CL18-RF5DP2/H1	CL30-RF10DP2/H1	CL08-RN2DP2/H1	CL12-RN4DP2/H1	CL18-RN8DP2/H1	CL30-RN15DP2/H1
检测距离 Detection distance	1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm	
设定距离 Set distance	0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	
响应频率 Response frequency	800Hz	800Hz	800Hz	800Hz	500Hz	500Hz	500Hz	500Hz	
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance								
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%								
消耗电流 Current consumption	15 mA以下 Below 15 mA								
输出电流 Output current	100mA以下 Below 100 mA								
指示灯 Indicator	黄色输出指示灯 Yellow output indicator								
控制输出 Control output	NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output								
动作模式 Action mode	NO/NC								
保护回路 Protection circuit	电源逆接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection								
温度影响 Temperature influence	0~+150°C温度范围内,参考+23°C时,检测距离变化在±2.0%以内 In the temperature range of 0 to +150°C, the detection distance changes within ±2.0% at +23°C								
电压影响 Voltage influence	在额定电源电压的±15%范围内,相较额定电源电压时,检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage								
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell								
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1 min, between entire charging part and shell								
耐振动 Vibration resistance	10-55Hz 双振幅1.5mm X、Y、Z各方向2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions								
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向3次 500m/s ² , 3 times each in X, Y and Z directions								
防护等级 Protection level	IEC标准IP67 IEC standard IP67								
材质 Material	外壳: 黄铜镀镍; 检测面: 特氟龙; 电缆: PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC								
重量 Weight	50g	65g	100g	160g	50g	65g	100g	160g	
附件 Accessories	螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate								

直流两线式
DC two-wire type

类型 Type		埋入式 Embedded type				非埋入式 Non-embedded type			
尺寸 Dimension		M8	M12	M18	M30	M8	M12	M18	M30
型号 Model	NO	CL08-RF1DL1/H1	CL12-RF2DL1/H1	CL18-RF5DL1/H1	CL30-RF10DL1/H1	CL08-RN2DL1/H1	CL12-RN4DL1/H1	CL18-RN8DL1/H1	CL30-RN15DL1/H1
	NC	CL08-RF1DL2/H1	CL12-RF2DL2/H1	CL18-RF5DL2/H1	CL30-RF10DL2/H1	CL08-RN2DL2/H1	CL12-RN4DL2/H1	CL18-RN8DL2/H1	CL30-RN15DL2/H1
检测距离 Detection distance		1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm
设定距离 Set distance		0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm
标准检测物 Standard detected object		铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm
响应频率 Response frequency		800Hz	800Hz	800Hz	800Hz	500Hz	500Hz	500Hz	500Hz
应差距离 Distance difference		检测距离的10%以内 Within 10% of the detection distance							
电源电压 Supply voltage		DC 12-24V ±10% 纹波(P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%							
漏电流 Leakage current		0.8mA以下 Below 0.8mA							
开关容量 Switching capacity		100mA以下 Below 100 mA							
残留电压 Residual voltage		有极性6V以下, 无极性8V以下, (负载电流100mA, 导线长2m时) Below 6V in the case of polarity, below 8V in the case of non-polarity, (at load current of 100mA and wire length of 2m)							
指示灯 Indicator		黄色输出指示灯 Yellow output indicator							
动作模式 Action mode		NO/NC							
保护回路 Protection circuit		电源逆接保护, 电源浪涌保护 Power reverse connection protection, power surge protection							
温度影响 Temperature influence		0~+150°C温度范围内, 参考+23°C时, 检测距离变化在±15%以内 In the temperature range of 0 to +150°C, the detection distance changes within ±15% at +23°C							
电压影响 Voltage influence		在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage							
绝缘电阻 Insulation resistance		50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC500V megohmmeter), between entire charging part and shell							
耐电压 Withstand voltage		AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell							
耐振动 Vibration resistance		10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10~55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions							
耐冲击 Impact resistance		500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions							
防护等级 Protection level		IEC标准IP67 IEC standard IP67							
材质 Material		外壳: 黄铜镀镍; 检测面: 特氟龙; 电缆: PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC							
重量 Weight		50g	65g	100g	160g	50g	65g	100g	160g
附件 Accessories		螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate							

交流两线式
AC two-wire type

类型 Type		埋入式 Embedded type				非埋入式 Non-embedded type			
尺寸 Dimension		M8	M12	M18	M30	M8	M12	M18	M30
型号 Model	NO	CL08-RF1AK1/H1	CL12-RF2AK1/H1	CL18-RF5AK1/H1	CL30-RF10AK1/H1	CL08-RN2AK1/H1	CL12-RN4AK1/H1	CL18-RN8AK1/H1	CL30-RN15AK1/H1
	NC	CL08-RF1AK2/H1	CL12-RF2AK2/H1	CL18-RF5AK2/H1	CL30-RF10AK2/H1	CL08-RN2AK2/H1	CL12-RN4AK2/H1	CL18-RN8AK2/H1	CL30-RN15AK2/H1
检测距离 Detection distance		1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm
设定距离 Set distance		0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm
标准检测物 Standard detected object		铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm
响应频率 Response frequency		25Hz							
应差距离 Distance difference		检测距离的10%以内 Within 10% of the detection distance							
电源电压 Supply voltage		AC 24-240V 50/60Hz (AC20-264V)							
漏电流 Leakage current		1.7 mA以下 Below 1.7 mA							
开关容量 Switching capacity		5-200mA							
残留电压 Residual voltage		8V以下, (负载电流100mA,导线长2m时) Below 8V, (at load current of 100mA and wire length of 2m)							
指示灯 Indicator		黄色输出指示灯 Yellow output indicator							
动作模式 Action mode		NO/NC							
保护回路 Protection circuit		电源浪涌保护 Power surge protection							
温度影响 Temperature influence		0~+150°C温度范围内,参考+23°C时,检测距离变化在±20%以内 In the temperature range of 0 to +150°C, the detection distance changes within ±20% at +23°C							
电压影响 Voltage influence		在额定电源电压的±15%范围内,相较额定电源电压时,检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage							
绝缘电阻 Insulation resistance		50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell							
耐电压 Withstand voltage		AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell							
耐振动 Vibration resistance		10-55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions							
耐冲击 Impact resistance		500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions							
防护等级 Protection level		IEC标准IP67 IEC standard IP67							
材质 Material		外壳: 黄铜镀镍; 检测面: 特氟龙; 电缆: PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC							
重量 Weight		50g	65g	100g	160g	50g	65g	100g	160g
附件 Accessories		螺母*2,内齿垫*1,合格证 Nut * 2, internal teeth pad * 1, certificate							

电感式传感器—耐低温-40°C型/Inductive Sensor - -40°C Low Temperature Resistant

- ◆ -40~70°C环境中，产品稳定性不变
The product stability is unchanged at -40 to 70°C
- ◆ 线缆、外壳及感应面采用耐低温材质，可在低温环境中长期使用
The cable, shell and induction surface are made of low-temperature resistant materials, which can be used in low-temperature environments for a long time
- ◆ 抗酸碱、高低温等极端环境
Resistant to acid, alkali, high and low temperatures and other extreme environments

直流三线式 DC three-wire type

类型 Type	埋入式 Embedded type				非埋入式 Non-embedded type				
外观 Appearance									
尺寸 Dimension	M8	M12	M18	M30	M8	M12	M18	M30	
型号 Model	NPN NO	CL08-RF1DN1/S	CL12-RF2DN1/S	CL18-RF5DN1/S	CL30-RF10DN1/S	CL08-RN2DN1/S	CL12-RN4DN1/S	CL18-RN8DN1/S	CL30-RN15DN1/S
	NPN NC	CL08-RF1DN2/S	CL12-RF2DN2/S	CL18-RF5DN2/S	CL30-RF10DN2/S	CL08-RN2DN2/S	CL12-RN4DN2/S	CL18-RN8DN2/S	CL30-RN15DN2/S
	PNP NO	CL08-RF1DP1/S	CL12-RF2DP1/S	CL18-RF5DP1/S	CL30-RF10DP1/S	CL08-RN2DP1/S	CL12-RN4DP1/S	CL18-RN8DP1/S	CL30-RN15DP1/S
	PNP NC	CL08-RF1DP2/S	CL12-RF2DP2/S	CL18-RF5DP2/S	CL30-RF10DP2/S	CL08-RN2DP2/S	CL12-RN4DP2/S	CL18-RN8DP2/S	CL30-RN15DP2/S
检测距离 Detection distance	1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm	
设定距离 Set distance	0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	
响应频率 Response frequency	800Hz	800Hz	800Hz	800Hz	500Hz	500Hz	500Hz	500Hz	
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance								
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%								
消耗电流 Current consumption	15mA以下 Below 15 mA								
输出电流 Output current	100mA以下 Below 100 mA								
指示灯 Indicator	黄色输出指示灯 Yellow output indicator								
控制输出 Control output	NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output								
动作模式 Action mode	NO/NC								
保护回路 Protection circuit	电源逆接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection								
温度影响 Temperature influence	-40~+80°C温度范围内，参考+23°C时，检测距离变化在±15%以内 In the temperature range of -40 to +80°C, the detection distance changes within ±15% at +23°C								
电压影响 Voltage influence	在额定电源电压的±15%范围内，相较于额定电源电压时，检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage								
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell								
耐电压 Withstand voltage	AC1,000V, 50/60Hz, 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell								
耐振动 Vibration resistance	10-55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions								
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² X, Y, Z directions 3 times								
防护等级 Protection level	IEC标准IP67 IEC standard IP67								
材质 Material	外壳: 黄铜镀镍; 检测面: 特氟龙; 电缆: PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC								
重量 Weight	50g	65g	100g	160g	50g	65g	100g	160g	
附件 Accessories	螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate								

直流两线式

DC two-wire type

类型 Type	埋入式 Embedded type				非埋入式 Non-embedded type				
尺寸 Dimension	M8	M12	M18	M30	M8	M12	M18	M30	
型号 Model	NO	CL08-RF1DL1/S	CL12-RF2DL1/S	CL18-RF5DL1/S	CL30-RF10DL1/S	CL08-RN2DL1/S	CL12-RN4DL1/S	CL18-RN8DL1/S	CL30-RN15DL1/S
	NC	CL08-RF1DL2/S	CL12-RF2DL2/S	CL18-RF5DL2/S	CL30-RF10DL2/S	CL08-RN2DL2/S	CL12-RN4DL2/S	CL18-RN8DL2/S	CL30-RN15DL2/S
检测距离 Detection distance	1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm	
设定距离 Set distance	0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	
响应频率 Response frequency	800Hz	800Hz	800Hz	800Hz	500Hz	500Hz	500Hz	500Hz	
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance								
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%								
漏电流 Leakage current	0.8mA以下 Below 0.8mA								
开关容量 Switching capacity	100mA以下 Below 100 mA								
残留电压 Residual voltage	有极性6V以下, 无极性8V以下, (负载电流100mA, 导线长2m时) Below 6V in the case of polarity, below 8V in the case of non-polarity, (at load current of 100mA and wire length of 2m)								
指示灯 Indicator	黄色输出指示灯 Yellow output indicator								
动作模式 Action mode	NO/NC								
保护回路 Protection circuit	电源逆接保护, 电源浪涌保护 Power reverse connection protection, power surge protection								
温度影响 Temperature influence	-40~+80°C温度范围内, 参考+23°C时, 检测距离变化在±15%以内 In the temperature range of -40 to +80°C, the detection distance changes within ±15% at +23°C								
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage								
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell								
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell								
耐振动 Vibration resistance	10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions								
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions								
防护等级 Protection level	IEC标准IP67 IEC standard IP67								
材质 Material	外壳: 黄铜镀镍; 检测面: 特氟龙; 电缆: PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC								
重量 Weight	50g	65g	100g	160g	50g	65g	100g	160g	
附件 Accessories	螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate								

交流两线式
AC two-wire type

类型 Type		埋入式 Embedded type				非埋入式 Non-embedded type			
尺寸 Dimension		M8	M12	M18	M30	M8	M12	M18	M30
型号 Model	NO	CL08-RF1AK1/S	CL12-RF2AK1/S	CL18-RF5AK1/S	CL30-RF10AK1/S	CL08-RN2AK1/S	CL12-RN4AK1/S	CL18-RN8AK1/S	CL30-RN15AK1/S
	NC	CL08-RF1AK2/S	CL12-RF2AK2/S	CL18-RF5AK2/S	CL30-RF10AK2/S	CL08-RN2AK2/S	CL12-RN4AK2/S	CL18-RN8AK2/S	CL30-RN15AK2/S
检测距离 Detection distance		1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm
设定距离 Set distance		0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm
标准检测物 Standard detected object		铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm
响应频率 Response frequency		25Hz							
应差距离 Distance difference		检测距离的10%以内 Within 10% of the detection distance							
电源电压 Supply voltage		AC 24-240V 50/60Hz (AC20-264V)							
漏电流 Leakage current		1.7 mA以下 Below 1.7 mA							
开关容量 Switching capacity		5-200mA							
残留电压 Residual voltage		8V以下, (负载电流100mA,导线长2m时) Below 8V, (at load current of 100mA and wire length of 2m)							
指示灯 Indicator		黄色输出指示灯 Yellow output indicator							
动作模式 Action mode		NO/NC							
保护回路 Protection circuit		电源浪涌保护 Power surge protection							
温度影响 Temperature influence		-40~+80°C温度范围内, 参考+23°C时, 检测距离变化在±15%以内 In the temperature range of -40 to +80°C, the detection distance changes within ±15% at +23°C							
电压影响 Voltage influence		在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage							
绝缘电阻 Insulation resistance		50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell							
耐电压 Withstand voltage		AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell							
耐振动 Vibration resistance		10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10~55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions							
耐冲击 Impact resistance		500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions							
防护等级 Protection level		IEC标准IP67 IEC standard IP67							
材质 Material		外壳: 黄铜镀镍; 检测面: 特氟龙; 电缆: PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC							
重量 Weight		50g	65g	100g	160g	50g	65g	100g	160g
附件 Accessories		螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate							

电感式传感器—耐低温-50°C型/Inductive Sensor — -50°C Low Temperature Resistant

- 在-50-70°C范围内，产品可正常使用
In the range of -50 to 70°C, the product can be used normally
- 产品采用低温设计，可以抵抗酸碱高低温等极端环境
The product adopts a low temperature design, which can resist extreme environment such as acid, alkali and high and low temperatures
- 螺纹直径、检测距离及输出方式均可选择，满足不同场景需求
Thread diameter, detection distance and output mode can be selected to meet the requirements for different scenarios

直流三线式 DC three-wire type

类型 Type	埋入式 Embedded type				非埋入式 Non-embedded type				
外观 Appearance									
尺寸 Dimension	M8	M12	M18	M30	M8	M12	M18	M30	
型号 Model	NPN NO	CL08-RF1DN1/S1	CL12-RF2DN1/S1	CL18-RF5DN1/S1	CL30-RF10DN1/S1	CL08-RN2DN1/S1	CL12-RN4DN1/S1	CL18-RN8DN1/S1	CL30-RN15DN1/S1
	NPN NC	CL08-RF1DN2/S1	CL12-RF2DN2/S1	CL18-RF5DN2/S1	CL30-RF10DN2/S1	CL08-RN2DN2/S1	CL12-RN4DN2/S1	CL18-RN8DN2/S1	CL30-RN15DN2/S1
	PNP NO	CL08-RF1DP1/S1	CL12-RF2DP1/S1	CL18-RF5DP1/S1	CL30-RF10DP1/S1	CL08-RN2DP1/S1	CL12-RN4DP1/S1	CL18-RN8DP1/S1	CL30-RN15DP1/S1
	PNP NC	CL08-RF1DP2/S1	CL12-RF2DP2/S1	CL18-RF5DP2/S1	CL30-RF10DP2/S1	CL08-RN2DP2/S1	CL12-RN4DP2/S1	CL18-RN8DP2/S1	CL30-RN15DP2/S1
检测距离 Detection distance	1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm	
设定距离 Set distance	0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	
响应频率 Response frequency	800Hz	800Hz	800Hz	800Hz	500Hz	500Hz	500Hz	500Hz	
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance								
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%								
消耗电流 Current consumption	15 mA以下 Below 15 mA								
输出电流 Output current	100mA以下 Below 100 mA								
指示灯 Indicator	黄色输出指示灯 Yellow output indicator								
控制输出 Control output	NPN或PN P晶体管集电极开路输出 NPN or PNP transistor open-collector output								
动作模式 Action mode	NO/NC								
保护回路 Protection circuit	电源逆接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection								
温度影响 Temperature influence	-50~+70°C温度范围内，参考+23°C时，检测距离变化在±15%以内 In the temperature range of -50 to +70°C, the detection distance changes within ±15% at +23°C								
电压影响 Voltage influence	在额定电源电压的±15%范围内，相较于额定电源电压时，检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage								
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell								
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell								
耐振动 Vibration resistance	10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10~55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions								
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions								
防护等级 Protection level	IEC标准IP67 IEC standard IP67								
材质 Material	外壳：黄铜镀镍；检测面：特氟龙；电缆：PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC								
重量 Weight	50g	65g	100g	160g	50g	65g	100g	160g	
附件 Accessories	螺母*2，内齿垫*1,合格证 Nut * 2, internal teeth pad * 1, certificate								

直流两线式
DC two-wire type

类型 Type	埋入式 Embedded type				非埋入式 Non-embedded type				
	尺寸 Dimension	M8	M12	M18	M30	M8	M12	M18	M30
型号 Model	NO	CL08-RF1DL1/S1	CL12-RF2DL1/S1	CL18-RF5DL1/S1	CL30-RF10DL1/S1	CL08-RN2DL1/S1	CL12-RN4DL1/S1	CL18-RN8DL1/S1	CL30-RN15DL1/S1
	NC	CL08-RF1DL2/S1	CL12-RF2DL2/S1	CL18-RF5DL2/S1	CL30-RF10DL2/S1	CL08-RN2DL2/S1	CL12-RN4DL2/S1	CL18-RN8DL2/S1	CL30-RN15DL2/S1
检测距离 Detection distance	1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm	
设定距离 Set distance	0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	
响应频率 Response frequency	800Hz	800Hz	800Hz	800Hz	500Hz	500Hz	500Hz	500Hz	
应差距离 Sensing distance difference	检测距离的10%以内 Within 10% of the detection distance								
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%								
漏电流 Leakage current	0.8mA以下 Below 0.8mA								
开关容量 Switching capacity	100mA以下 Below 100 mA								
残留电压 Residual voltage	有极性6 V以下, 无极性8 V以下, (负载电流100mA, 导线长2m时) Below 6V in the case of polarity, below 8V in the case of non-polarity, (at load current of 100mA and wire length of 2m)								
指示灯 Indicator	黄色输出指示灯 Yellow output indicator								
动作模式 Action mode	NO/NC								
保护回路 Protection circuit	电源逆接保护, 电源浪涌保护 Power reverse connection protection, power surge protection								
温度影响 Temperature influence	-50~+70°C温度范围内, 参考+23°C时, 检测距离变化在±15%以内 In the temperature range of -50 to +70°C, the detection distance changes within ±15% at +23°C								
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage								
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell								
耐电压 Withstand voltage	AC 1,000V, 50/60Hz, 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1 min, between entire charging part and shell								
耐振动 Vibration resistance	10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions								
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² 3 times each in X, Y and Z directions								
防护等级 Protection level	IEC标准IP67 IEC standard IP67								
材质 Material	外壳: 黄铜镀镍; 检测面: 特氟龙; 电缆: PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC								
重量 Weight	50g	65g	100g	160g	50g	65g	100g	160g	
附件 Accessories	螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate								


交流两线式
AC two-wire type

类型 Type	埋入式 Embedded type				非埋入式 Non-embedded type				
	M8	M12	M18	M30	M8	M12	M18	M30	
尺寸 Dimension									
型号 Model	NO	CL08-RF1AK1/S1	CL12-RF2AK1/S1	CL18-RF5AK1/S1	CL30-RF10AK1/S1	CL08-RN2AK1/S1	CL12-RN4AK1/S1	CL18-RN8AK1/S1	CL30-RN15AK1/S1
	NC	CL08-RF1AK2/S1	CL12-RF2AK2/S1	CL18-RF5AK2/S1	CL30-RF10AK2/S1	CL08-RN2AK2/S1	CL12-RN4AK2/S1	CL18-RN8AK2/S1	CL30-RN15AK2/S1
检测距离 Detection distance	1mm	2mm	5mm	10mm	2mm	4mm	8mm	15mm	
设定距离 Set distance	0-0.8mm	0-1.6mm	0-4mm	0-8mm	0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	
标准检测物 Standard detected object	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁18*18*1mm Iron 18*18*1mm	铁30*30*1mm Iron 30*30*1mm	铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	
响应频率 Response frequency	25Hz								
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance								
电源电压 Supply voltage	AC 24-240V 50/60Hz (AC20-264V)								
漏电流 Leakage current	1.7mA以下 Below 1.7mA								
开关容量 Switching capacity	5-200mA								
残留电压 Residual voltage	8V以下, (负载电流100mA,导线长2m时) Below 8V, (at load current of 100mA and wire length of 2m)								
指示灯 Indicator	黄色输出指示灯 Yellow output indicator								
动作模式 Action mode	NO/NC								
保护回路 Protection circuit	电源浪涌保护 Power surge protection								
温度影响 Temperature influence	-50~+70°C温度范围内, 参考+23°C时, 检测距离变化在±15%以内 In the temperature range of -50 to +70°C, the detection distance changes within ±15% at +23°C								
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage								
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell								
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell								
耐振动 Vibration resistance	10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions								
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions								
防护等级 Protection level	IEC标准IP67 IEC standard IP67								
材质 Material	外壳: 黄铜镀镍; 检测面: 特氟龙; 电缆: PVC Shell: nickel plated brass; detection surface: Teflon; cable: PVC								
重量 Weight	50g	65g	100g	160g	50g	65g	100g	160g	
附件 Accessories	螺母*2, 内齿垫*1,合格证 Nut * 2, internal teeth pad * 1, certificate								

电感式传感器—可变检测面型/Inductive Sensor - Variable Detection Surface

- ◆ 前端接触面可180°旋转，使正面检测变为顶面检测，有效适应不同工况
The front-end contact surface can be rotated by 180°, so that the front detection becomes the top detection, effectively adapting to different working conditions
- ◆ 采用标准M12接插件连接，安装、拆卸简单便捷
Standard M12 connector is used for connection, being easy to install and disassemble
- ◆ 连接使用快速机械可调式结构，可旋转传感器角度，以实现不同角度的检测
The fast mechanically adjustable structure is used, the sensor can be rotated to achieve detection at different angles
- ◆ 双指示灯显示，多方位观察传感器状态
Dual-indicator display for multi-directional observation of sensor status

直流三线式 DC three-wire type

产品编号 Product No.	CL40	
外观 Appearance		
安装方式 Installation mode	埋入 Embedded	非埋入 Non-embedded
检测距离 Detection distance	15mm±10%	30mm±10%
设定距离 Set distance	0~12mm	0~24mm
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance	
尺寸规格 Dimensions and specifications	40*40*65	40*40*65
型号 Model	NPN	CL40-QF15DN3-A/K
	PNP	CL40-QF15DP3-A/K
标准检测物体 Standard detected object	铁45*45*1mm Iron 45*45*1mm	铁120*120*1mm Iron 120*120*1mm
响应频率 Response frequency	40Hz	
电源电压 Supply voltage	DC 12~24V±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%	
消耗电流 Current consumption	10mA以下 Below 10mA	
负载电流 Load current	200mA	
控制输出 Control output	NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output	
耐电压 Withstand voltage	AC1000V 50/60Hz 1 min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell	
振动 (耐久) Vibration (endurance)	10~55Hz双振幅 1.5mm X、Y、Z各方向2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions	
保护回路 Protection circuit	电源逆接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection	
指示灯 Indicator	黄色输出指示灯 Yellow output indicator	
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell	
冲击 (耐久) Impact (endurance)	500m/s ² X、Y、Z各方向3次 500m/s ² ; 3 times each in X, Y and Z directions	
环境温度范围 Ambient temperature range	工作时、保存时: -25~+70°C (无结冰、无结露) -25 to +70°C during operation and storage (no icing, no condensation)	
环境湿度范围 Ambient humidity range	工作时、保存时: 各35~95%RH (无结露) 35-95%RH during operation and storage (no condensation)	
防护等级 Protection level	IEC等级IP67 IEC standard IP67	
附件 Accessories	合格证 Certificate	

电感式传感器—防焊型/Inductive Sensor - Solder Mask Type

- ◆ 抗直流强磁交流交变磁场
Resistance to DC strong magnetic and AC magnetic field
- ◆ 使用特氟龙涂层, 防止焊渣粘连
Teflon coating is used to prevent slag adhesion
- ◆ 宽使用温度范围
Wide operating temperature range

直流三线式 DC three-wire type

类型 Type		埋入式 Embedded type				非埋入式 Non-embedded type			
外观 Appearance									
尺寸 Dimension		M8	M12	M18	M30	M8	M12	M18	M30
型号 Model	NPN NO	CL08-RF2DNF1	CL12-RF4DNF1	CL18-RF8DNF1	CL30-RF15DNF1	CL08-RN4DNF1	CL12-RN8DNF1	CL18-RN16DNF1	CL30-RN30DNF1
	NPN NC	CL08-RF2DNF2	CL12-RF4DNF2	CL18-RF8DNF2	CL30-RF15DNF2	CL08-RN4DNF2	CL12-RN8DNF2	CL18-RN16DNF2	CL30-RN30DNF2
	PNP NO	CL08-RF2DPF1	CL12-RF4DPF1	CL18-RF8DPF1	CL30-RF15DPF1	CL08-RN4DPF1	CL12-RN8DPF1	CL18-RN16DPF1	CL30-RN30DPF1
	PNP NC	CL08-RF2DPF2	CL12-RF4DPF2	CL18-RF8DPF2	CL30-RF15DPF2	CL08-RN4DPF2	CL12-RN8DPF2	CL18-RN16DPF2	CL30-RN30DPF2
检测距离 Detection distance		2mm	4mm	8mm	15mm	4mm	8mm	16mm	30mm
设定距离 Set distance		0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	0-3.2mm	0-6.4mm	0-12.8mm	0-24mm
标准检测物 Standard detected object		铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁48*48*1mm Iron 48*48*1mm	铁90*90*1mm Iron 90*90*1mm
响应频率 Response frequency		2000Hz	1000Hz	500Hz	150Hz	1000Hz	500Hz	150Hz	100Hz
应差距离 Distance difference		检测距离的10%以内 Within 10% of the detection distance							
电源电压 Supply voltage		DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%							
消耗电流 Current consumption		13 mA以下 Below 13 mA							
输出电流 Output current		200mA以下 Below 200mA							
指示灯 Indicator		红色输出指示灯 Red output indicator							
控制输出 Control output		NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output							
动作模式 Action mode		NO/NC							
保护回路 Protection circuit		电源逆接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection							
温度影响 Temperature influence		-25~+70°C温度范围内, 参考+23°C时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C							
电压影响 Voltage influence		在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage							
绝缘电阻 Insulation resistance		50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell							
耐电压 Withstand voltage		AC1,000V 50/60Hz, 1min, 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1 min, between entire charging part and shell							
耐振动 Vibration resistance		10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10~55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions							
耐冲击 Impact resistance		500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions							
防护等级 Protection level		IEC标准IP67 IEC standard IP67							
材质 Material		外壳: 黄铜镀特氟龙; 检测面: 特氟龙; 电缆: PVC Shell: Teflon plated brass; detection surface: Teflon; cable: PVC							
重量 Weight		约40g About 40g	约67g About 67g	约153g About 153g	约217g About 217g	约40g About 40g	约65g About 65g	约144g About 144g	约207g About 207g
附件 Accessories		螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate							

直流两线式
DC two-wire type

类型 Type		埋入式 Embedded type				非埋入式 Non-embedded type			
尺寸 Dimension		M8	M12	M18	M30	M8	M12	M18	M30
型号 Model	NO	CL08-RF2DLF1	CL12-RF4DLF1	CL18-RF8DLF1	CL30-RF15DLF1	CL08-RN4DLF1	CL12-RN8DLF1	CL18-RN15DLF1	CL30-RN30DLF1
	NC	CL08-RF2DLF2	CL12-RF4DLF2	CL18-RF8DLF2	CL30-RF15DLF2	CL08-RN4DLF2	CL12-RN8DLF2	CL18-RN15DLF2	CL30-RN30DLF2
检测距离 Detection distance		2mm	4mm	8mm	15mm	4mm	8mm	15mm	30mm
设定距离 Set distance		0-1.6mm	0-3.2mm	0-6.4mm	0-12mm	0-3.2mm	0-6.4mm	0-12.8mm	0-24mm
标准检测物 Standard detected object		铁8*8*1mm Iron 8*8*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁48*48*1mm Iron 48*48*1mm	铁90*90*1mm Iron 90*90*1mm
响应频率 Response frequency		1200Hz	1200Hz	600Hz	600Hz	1000Hz	1000Hz	500Hz	500Hz
应差距离 Distance difference		检测距离的10%以内 Within 10% of the detection distance							
电源电压 Supply voltage		DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%							
漏电流 Leakage current		0.8mA以下 Below 0.8mA							
开关容量 Switching capacity		3-100mA							
残留电压 Residual voltage		有极性6V以下, 无极性8V以下, (负载电流100mA, 导线长2m时) Below 6V in the case of polarity, below 8V in the case of non-polarity, (at load current of 100mA and wire length of 2m)							
指示灯 Indicator		红色输出指示灯 Red output indicator							
动作模式 Action mode		NO/NC							
保护回路 Protection circuit		电源逆接保护、电源浪涌保护 Power reverse connection protection, power surge protection							
温度影响 Temperature influence		-25~+70℃温度范围内, 参考+23℃时, 检测距离变化在±10%以内 In the temperature range of -25 to +70℃, the detection distance changes within ±10% at +23℃							
电压影响 Voltage influence		在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage							
绝缘电阻 Insulation resistance		50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell							
耐电压 Withstand voltage		AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell							
耐振动 Vibration resistance		10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions							
耐冲击 Impact resistance		500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions							
防护等级 Protection level		IEC标准IP67 IEC standard IP67							
材质 Material		外壳: 黄铜镀特氟龙; 检测面: 特氟龙; 电缆: PVC Shell: Teflon plated brass; detection surface: Teflon; cable: PVC							
重量 Weight		约40g About 40g	约67g About 67g	约153g About 153g	约217g About 217g	约40g About 40g	约65g About 65g	约144g About 144g	约207g About 207g
附件 Accessories		螺母*2, 内齿垫*1, 合格证 Nut * 2, internal teeth pad * 1, certificate							


交流两线式
AC two-wire type

类型 Type	埋入式 Embedded type			非埋入式 Non-embedded type			
尺寸 Dimension	M12	M18	M30	M12	M18	M30	
型号 Model	NO	CL12-RF4AKF1	CL18-RF8AKF1	CL30-RF15AKF1	CL12-RN6AKF1	CL18-RN12AKF1	CL30-RN22AKF1
	NC	CL12-RF4AKF2	CL18-RF8AKF2	CL30-RF15AKF2	CL12-RN6AKF2	CL18-RN12AKF2	CL30-RN22AKF2
检测距离 Detection distance	4mm	8mm	15mm	6mm	12mm	22mm	
设定距离 Set distance	0-3.2mm	0-6.4mm	0-12mm	0-4.8mm	0-9.6mm	0-17.6mm	
标准检测物 Standard detected object	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁45*45*1mm Iron 45*45*1mm	铁18*18*1mm Iron 18*18*1mm	铁36*36*1mm Iron 36*36*1mm	铁66*66*1mm Iron 66*66*1mm	
响应频率 Response frequency	25Hz						
应差距离 Distance difference	检测距离的10%以内 Within 10% of the detection distance						
电源电压 Supply voltage	AC 24-240V 50/60Hz (AC20-264V)						
漏电流 Leakage current	1.7mA以下 Below 1.7mA						
开关容量 Switching capacity	5-200mA						
残留电压 Residual voltage	8V以下, (负载电流100mA,导线长2m时) Below 8V, (at load current of 100mA and wire length of 2m)						
指示灯 Indicator	红色输出指示灯 Red output indicator						
动作模式 Action mode	NO/NC						
保护回路 Protection circuit	电源浪涌保护 Power surge protection						
温度影响 Temperature influence	-25~+70°C温度范围内, 参考+23°C时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C						
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage						
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell						
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell						
耐振动 Vibration resistance	10? 55Hz双振幅1.5mm X、Y、Z各方向2h 10-55HZ, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions						
耐冲击 Impact resistance	500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions						
防护等级 Protection level	IEC标准 IP67 IEC standard IP67						
材质 Material	外壳: 黄铜镀特氟龙; 检测面: 特氟龙; 电缆: PVC Shell: Teflon plated brass; detection surface: Teflon; cable: PVC						
重量 Weight	约77g About 77g	约161g About 161g	约247g About 247g	约76g About 76g	约160g About 160g	约237g About 237g	
附件 Accessories	螺母*2, 内齿垫*1,合格证 Nut * 2, internal teeth pad * 1, certificate						

电容式传感器—圆柱形/Capacitive Sensor - Cylindrical

- ◆ 检测应用范围广
Wide range of detection applications
- ◆ 重复精度高
High repeated accuracy
- ◆ 多种保护电路
Multiple protection circuits
- ◆ 防护等级:IP67
Protection level is IP67

直流三线式 DC three-wire type

类型 Type	埋入式 Embedded type			非埋入式 Non-embedded type			
外观 Appearance							
尺寸 Dimension	M12	M18	M30	M12	M18	M30	
型号 Model	NPN NO NPN NC PNP NO PNP NC	CC12-RF3DN1 CC12-RF3DN2 CC12-RF3DP1 CC12-RF3DP2	CC18-RF8DN1 CC18-RF8DN2 CC18-RF8DP1 CC18-RF8DP2	CC30-RF20DN1 CC30-RF20DN2 CC30-RF20DP1 CC30-RF20DP2	CC12-RN6DN1 CC12-RN6DN2 CC12-RN6DP1 CC12-RN6DP2	CC18-RN15DN1 CC18-RN15DN2 CC18-RN15DP1 CC18-RN15DP2	CC30-RN30DN1 CC30-RN30DN2 CC30-RN30DP1 CC30-RN30DP2
检测距离 Detection distance	3mm	8mm	20mm	6mm	15mm	30mm	
设定距离 Set distance	0-2.1mm	0-5.6mm	0-14mm	0-4.2mm	0-10.5mm	0-21mm	
标准检测物 Standard detected object	铁12*12*1mm Iron 12*12*1mm	铁24*24*1mm Iron 24*24*1mm	铁60*60*1mm Iron 60*60*1mm	铁18*18*1mm Iron 18*18*1mm	铁45*45*1mm Iron 45*45*1mm	铁90*90*1mm Iron 90*90*1mm	
响应频率 Response frequency	100Hz						
应差距离 Distance difference	检测距离的15%以内 Within 15% of the detection distance						
电源电压 Supply voltage	DC 12-24V ±10% 纹波 (P-P) 10%以下 DC 12-24V ±10% ripple (P-P) Below 10%						
消耗电流 Current consumption	10mA以下 Below 10mA						
输出电流 Output current	200mA以下 Below 200mA						
指示灯 Indicator	红色输出指示灯 Red output indicator						
控制输出 Control output	NPN或PNP晶体管集电极开路输出 NPN or PNP transistor open-collector output						
动作模式 Action mode	NO/NC						
保护回路 Protection circuit	电源逆接保护、输出短路保护、电源浪涌保护 Power reverse connection protection, output short circuit protection, power surge protection						
温度影响 Temperature influence	-25~+70°C温度范围内, 参考+23°C时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C						
电压影响 Voltage influence	在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage						
绝缘电阻 Insulation resistance	50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell						
耐电压 Withstand voltage	AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1min, between entire charging part and shell						
耐振动 Vibration resistance	10~55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions						
耐冲击 Impact resistance	500m/s ² X, Y, Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions						
防护等级 Protection level	IEC标准 IP67 IEC standard IP67						
材质 Material	外壳: PBT; 电缆: PVC Shell: PBT; cable: PVC						
重量 Weight	约60g About 60g	约92g About 92g	约197g About 197g	约55g About 55g	约94g About 94g	约195g About 195g	
附件 Accessories	螺母*2,合格证 Nut * 2, certificate						

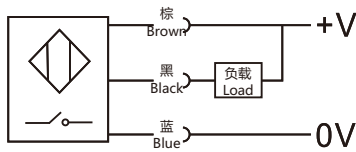
交流两线式
AC two-wire type

类型 Type		埋入式 Embedded type		非埋入式 Non-embedded type	
尺寸 Dimension		M18	M30	M18	M30
型号 Model	NO	CC18-RF8AK1	CC30-RF20AK1	CC18-RN15AK1	CC30-RN30AK1
	NC	CC18-RF8AK2	CC30-RF20AK2	CC18-RN15AK2	CC30-RN30AK2
检测距离 Detection distance		8mm	20mm	15mm	30mm
设定距离 Set distance		0-5.6mm	0-14mm	0-10.5mm	0-21mm
标准检测物 Standard detected object		铁24*24*1mm Iron 24*24*1mm	铁60*60*1mm Iron 60*60*1mm	铁45*45*1mm Iron 45*45*1mm	铁90*90*1mm Iron 90*90*1mm
响应频率 Response frequency		25Hz			
应差距离 Distance difference		检测距离的15%以内 Within 15% of the detection distance			
电源电压 Supply voltage		AC 24-240V 50/60Hz (AC20-264V)			
漏电流 Leakage current		2.5 mA以下 Below 2.5 mA			
开关容量 Switching capacity		5-200mA			
残留电压 Residual voltage		8V以下, (负载电流100mA,导线长2m时) Below 8V, (at load current of 100mA and wire length of 2m)			
指示灯 Indicator		红色输出指示灯 Red output indicator			
动作模式 Action mode		NO/NC			
保护回路 Protection circuit		电源浪涌保护 Power surge protection			
温度影响 Temperature influence		-25~+70°C温度范围内, 参考+23°C时, 检测距离变化在±10%以内 In the temperature range of -25 to +70°C, the detection distance changes within ±10% at +23°C			
电压影响 Voltage influence		在额定电源电压的±15%范围内, 相较额定电源电压时, 检测距离变化在±1%以内 Within the range of ±15% of the rated supply voltage, the detection distance changes within ±1% compared to the rated supply voltage			
绝缘电阻 Insulation resistance		50MΩ以上 (DC500V兆欧表) 充电部整体与外壳间 Above 50MΩ (DC 500V megohmmeter), between entire charging part and shell			
耐电压 Withstand voltage		AC1,000V 50/60Hz 1min 充电部整体与外壳间 AC 1,000V, 50/60Hz, 1 min, between entire charging part and shell			
耐振动 Vibration resistance		10~55Hz 双振幅1.5mm X、Y、Z各方向 2h 10-55Hz, double amplitude of 1.5mm, 2 hours each in X, Y and Z directions			
耐冲击 Impact resistance		500m/s ² X、Y、Z各方向 3次 500m/s ² , 3 times each in X, Y and Z directions			
防护等级 Protection level		IEC标准IP67 IEC standard IP67			
材质 Material		外壳: PBT; 电缆: PVC Shell: PBT; cable: PVC			
重量 Weight		约91g About 91g	约154g About 154g	约88g About 88g	约145g About 145g
附件 Accessories		螺母*2,合格证 Nut * 2,certificate			

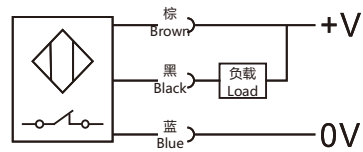
电感式/电容式-成型电缆控制输出图 Control Output Diagram of Inductive/Capacitive Molded Cable

直流三线式 DC three-wire type

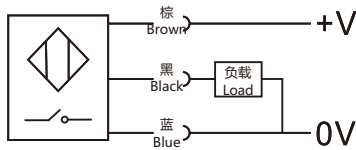
NPN常开(NO)输出型
NPN normally open output type



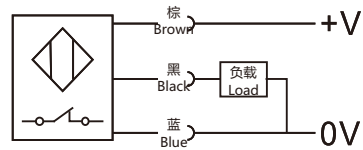
NPN常闭(NC)输出型
NPN normally closed (NC) output type



PNP常开(NO)输出型
PNP normally open (NO) output type

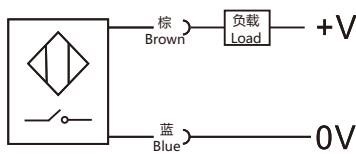


PNP常闭(NC)输出型
PNP normally closed (NC) output type

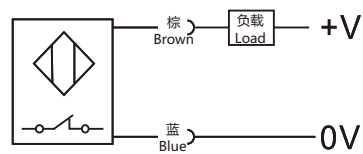


直流两线式 DC two-wire type

常开(NO)
Normally open (NO)

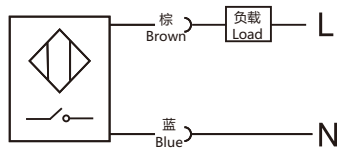


常闭(NC)
Normally closed (NC)

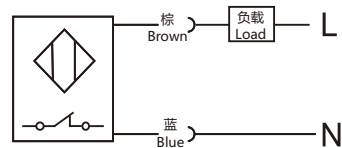


交流两线式 AC two-wire type

常开(NO)
Normally open (NO)



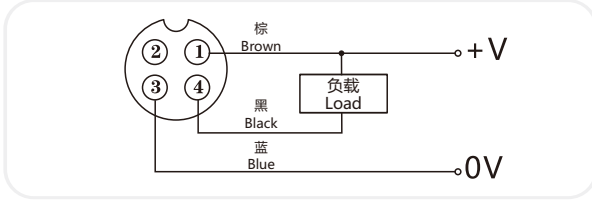
常闭(NC)
Normally closed (NC)



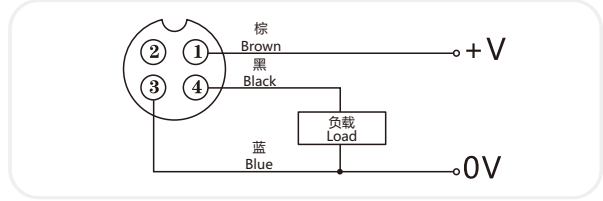
电感式-接插件控制输出图-单倍距离
Control Output Diagram of Inductive Connector Type - Single Distance

直流三线式 (4针)
DC three-wire type (4-pin)

NPN常开(NO)输出型
NPN normally open output type

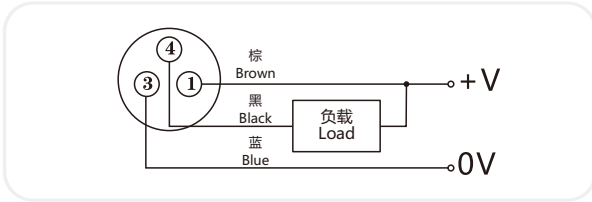


PNP常闭(NO)输出型
PNP normally open (NO) output type

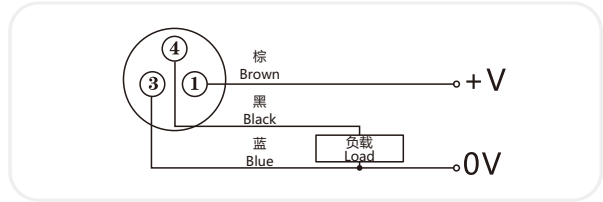


直流三线式 (3针)
DC three-wire type (3-pin)

NPN输出型
NPN output type

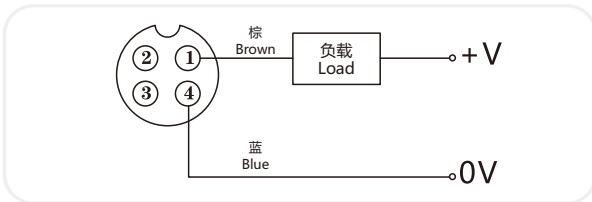


PNP输出型
PNP output type

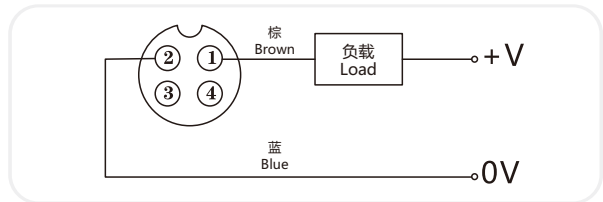


直流两线式
DC two-wire type

常开(NO)
Normally open (NO)

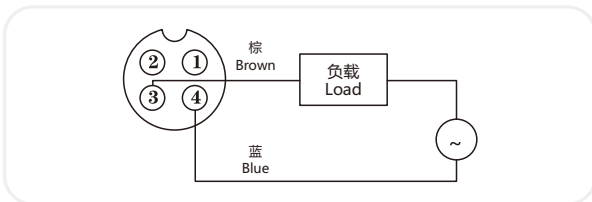


常闭(NC)
Normally closed (NC)

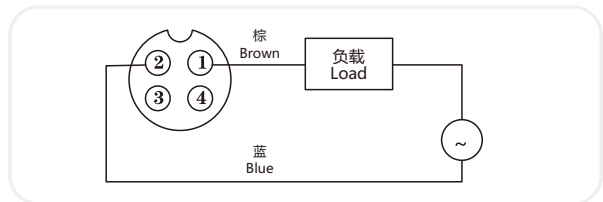


交流两线式
AC two-wire type

常开(NO)
Normally open (NO)



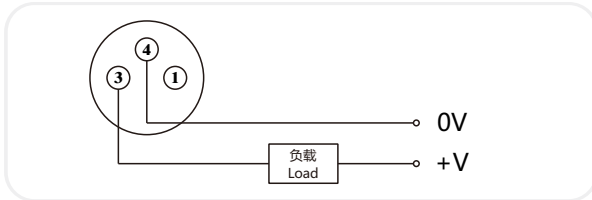
常闭(NC)
Normally closed (NC)



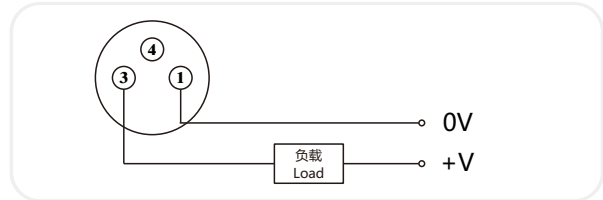
电感式-接插件控制输出图-双倍距离
Control Output Diagram of Inductive Connector Type - Double Distance

3针直流两线
3-pin DC two-wire

常开(NO)
Normally open (NO)

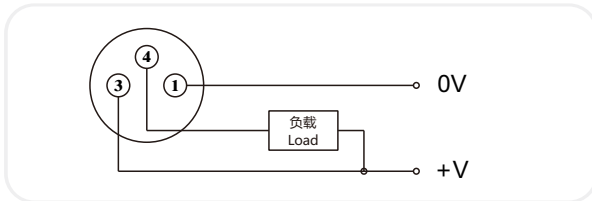


常闭(NC)
Normally closed (NC)

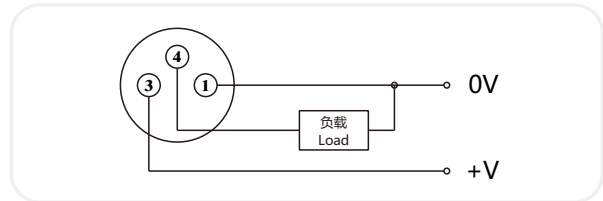


3针直流三线
3-pin DC three-wire

NPN输出型
NPN output type

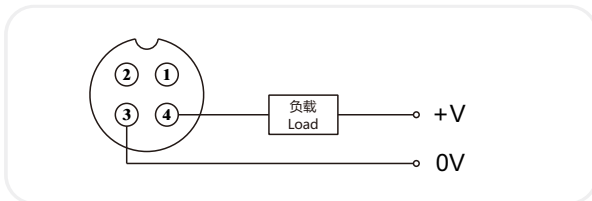


PNP输出型
PNP output type

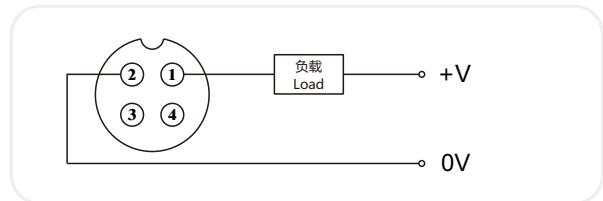


4针直流两线
4-pin DC two-wire

常开(NO)
Normally open (NO)

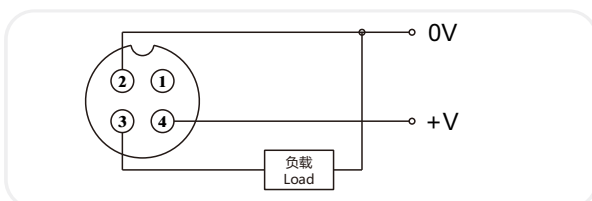


常闭(NC)
Normally closed (NC)

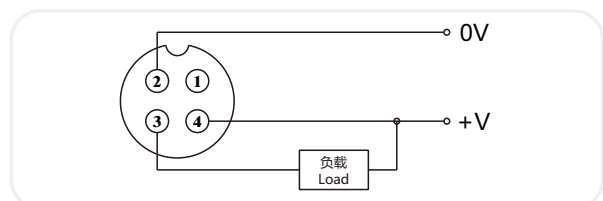


4针直流三线
3-pin DC three-wire

NPN输出型
NPN output type



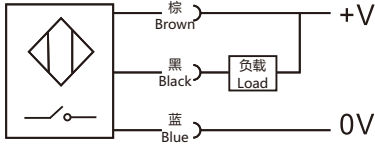
PNP输出型
PNP output type



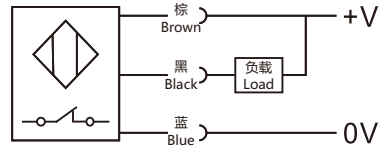
电感式-方形/扁平形控制输出图

Control Output Diagram of Inductive Square/Flat Type

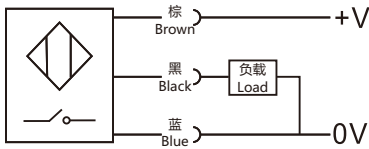
NPN常开(NO)输出型
NPN normally open output type



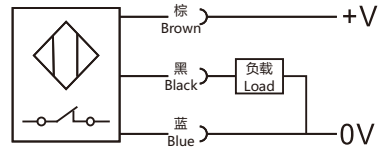
NPN常闭(NC)输出型
NPN normally closed (NC) output type



PNP常开(NO)输出型
PNP normally open (NO) output type



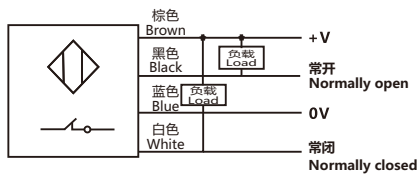
PNP常闭(NC)输出型
PNP normally closed (NC) output type



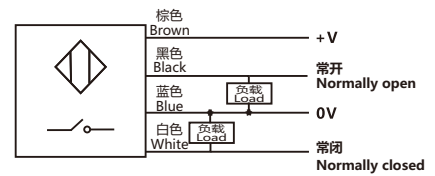
电感式-方形可变检测面控制输出图

Control Output Diagram of Inductive Square Variable Detection Surface

NPN常闭(NC)输出型
NPN normally closed (NC) output type

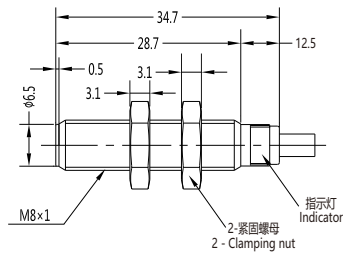


PNP常开(NO)输出型
PNP normally open (NO) output type

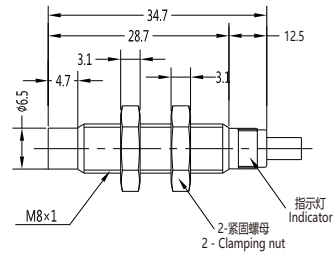


电感式-圆柱成型电缆外形尺寸图
Overall Dimension Drawing of Inductive Cylindrical Molded Cable

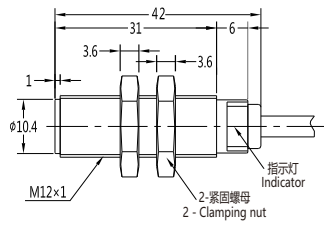
CL08-RF1.5□□□/□



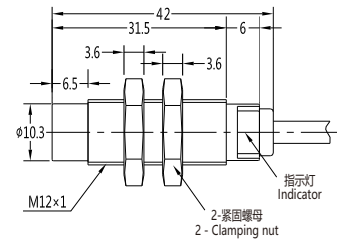
CL08-RN2□□□/□



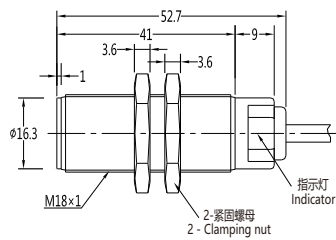
CL12-RF2□□□/□



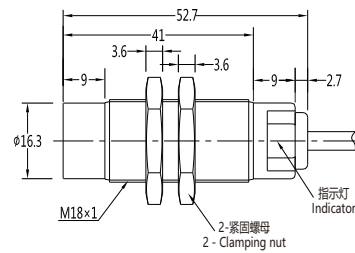
CL12-RN4□□□/□



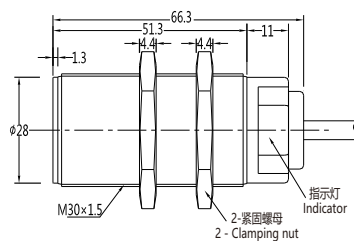
CL18-RF5□□□/□



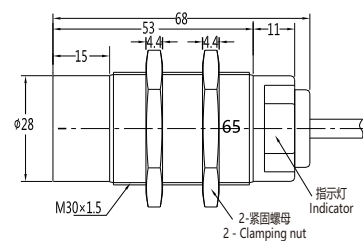
CL18-RN8□□□/□



CL30-RF10□□□/□

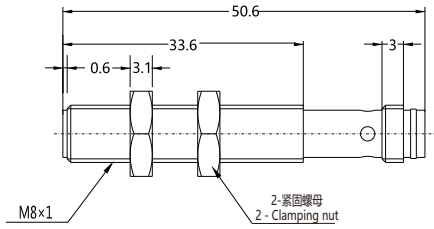


CL30-RN15□□□/□

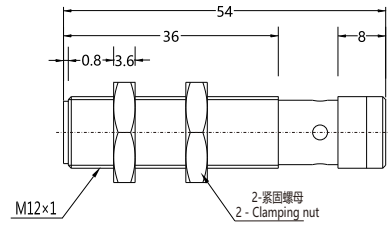


电感式-圆柱形接插件式外形尺寸图
Overall Dimension Drawing of Inductive Cylindrical Connector Type

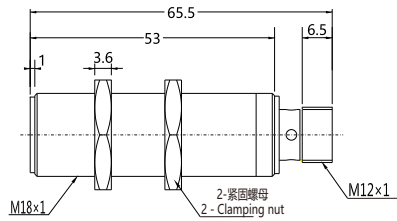
CL08-RF1.5□□□-□/□



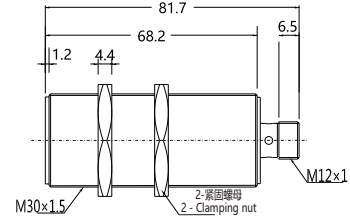
CL12-RF2□□□-□/□



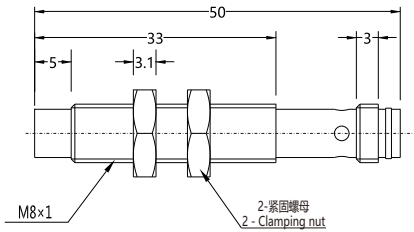
CL18-RF5□□□-□/□



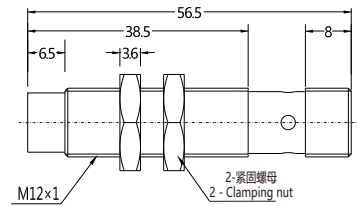
CL30-RF10□□□-□/□



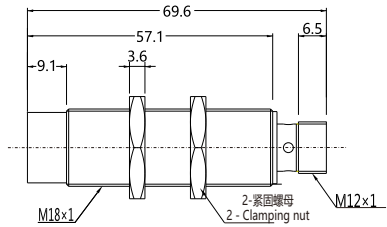
CL08-RN2□□□-□/□



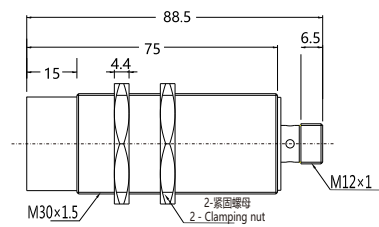
CL12-RN4□□□-□/□



CL18-RN8□□□-□/□



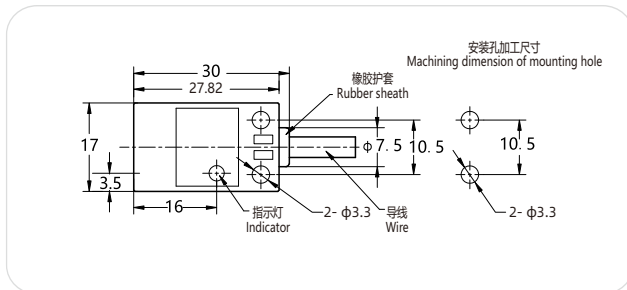
CL30-RN15□□□-□/□



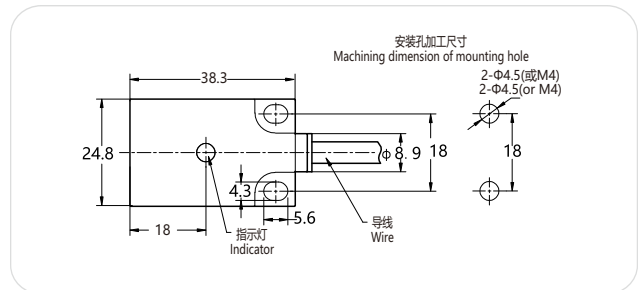
电感式-方形成型电缆 外形尺寸图

Overall Dimension Drawing of Inductive Square Molded Cable

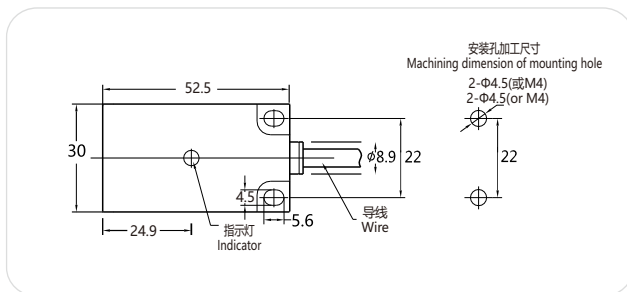
CL17-QN5□□□-□/□



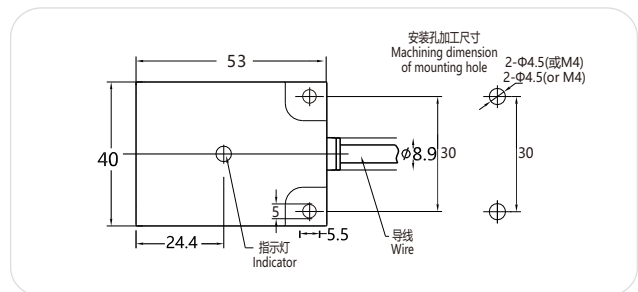
CL25-QN5□□□-□/□



CL30-QN10□□□-□/□



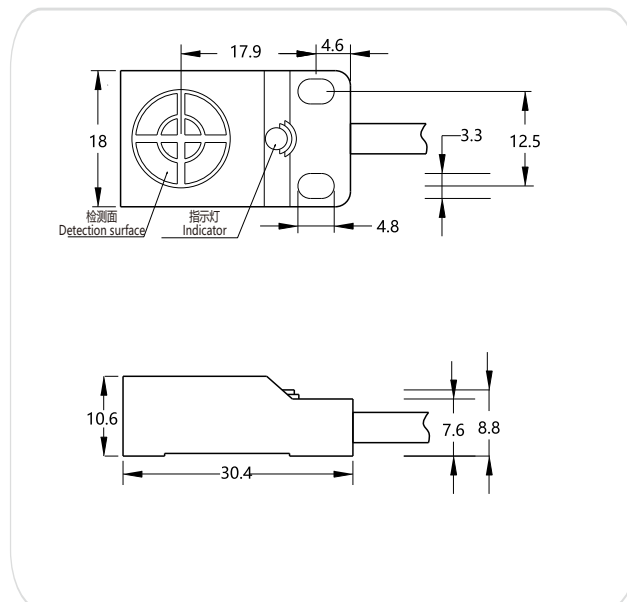
CL40-QN20□□□-□/□



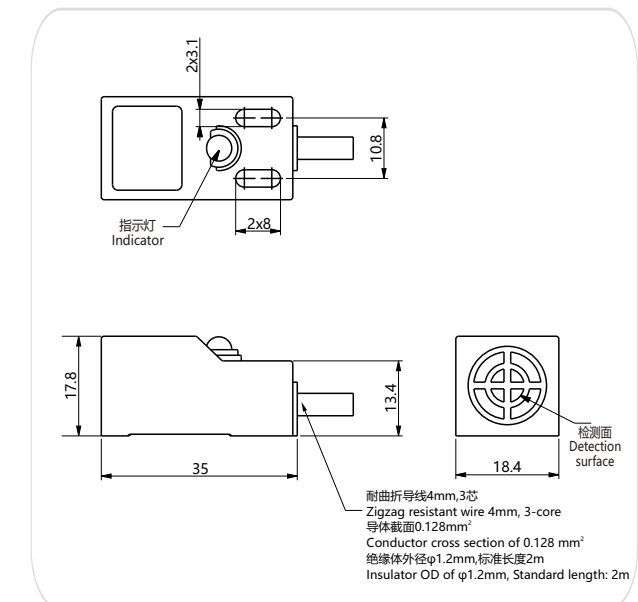
电感式-扁平成型电缆外形尺寸图

Overall Dimension Drawing of Inductive Flat Molded Cable

CL18-FN5□□□-□/□



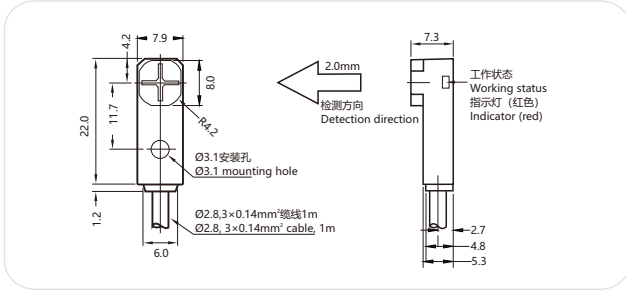
CL17-QN5D□□-U



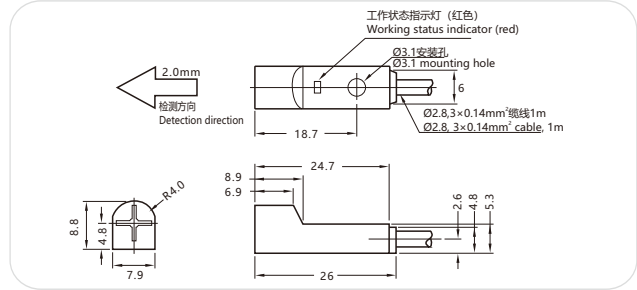
电感式-方形扁平型成型电缆 外形尺寸图

Overall Dimension Drawing of Inductive Square Flat Molded Cable

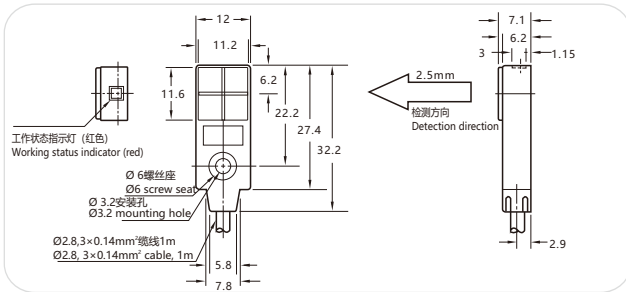
CL08-FNF2.5□□□



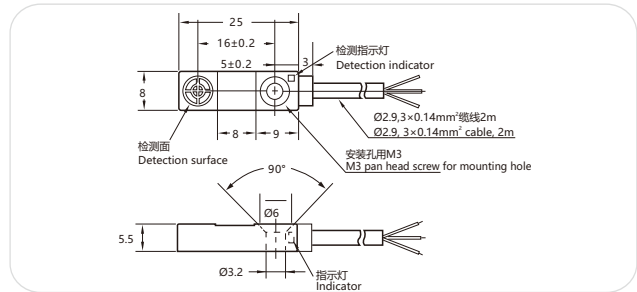
CL08-FNP2.5□□□



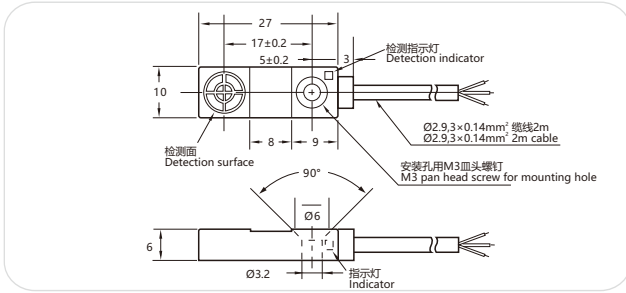
CL12-FNF4□□□



CL08-FNF1.5□□□

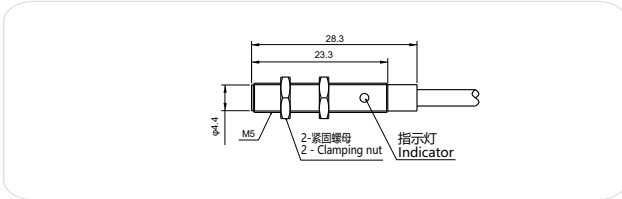


CL10-FNF3□□□

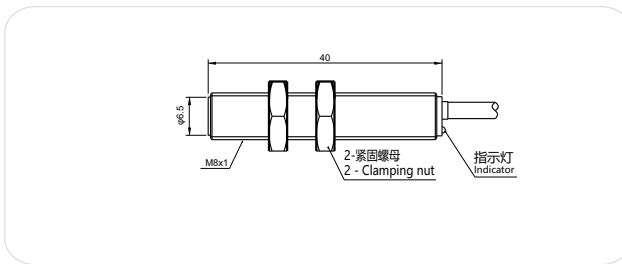


电感式-双倍距离型成型电缆外形尺寸图
Overall Dimension Drawing of Inductive Double-distance Molded Cable

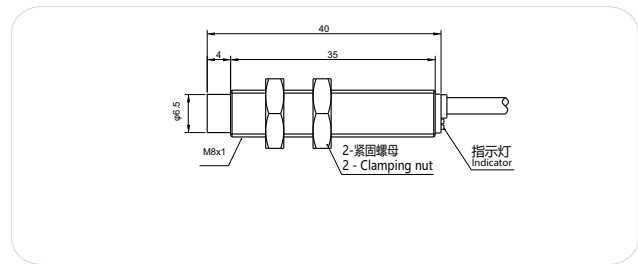
CL05-RF□□□□



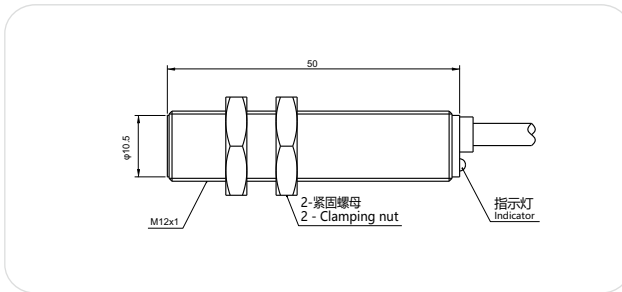
CL08-RF2□□□□



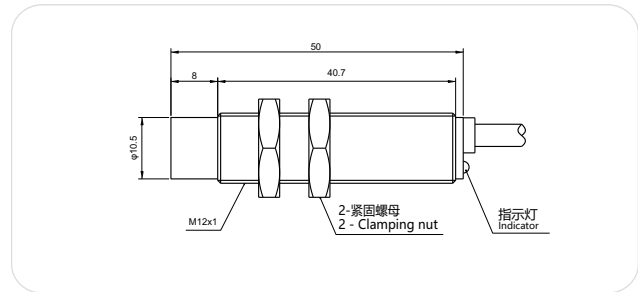
CL08-RN4□□□□



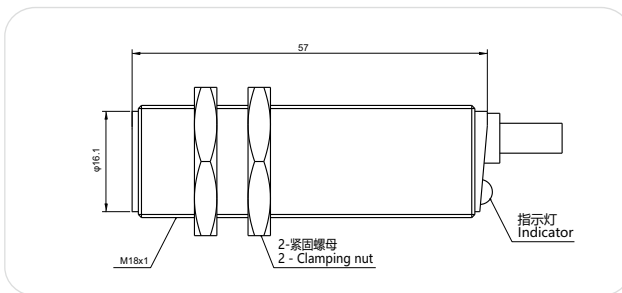
CL12-RF4□□□□



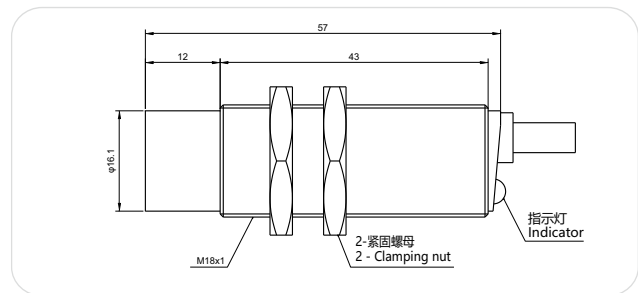
CL12-RN8□□□□



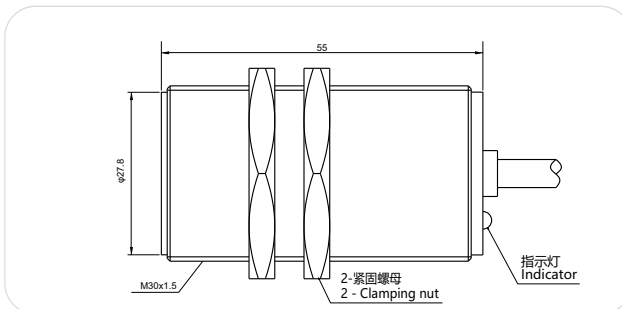
CL18-RF8□□□□



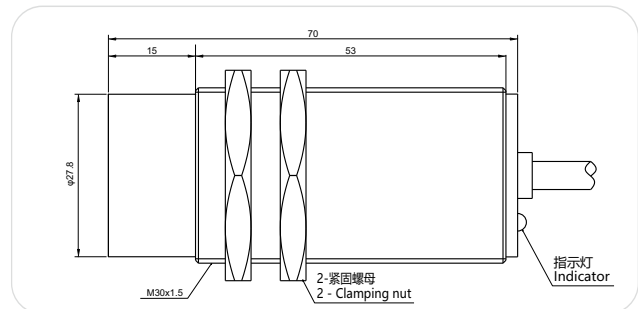
CL18-RN16□□□□



CL30-RF15□□□□



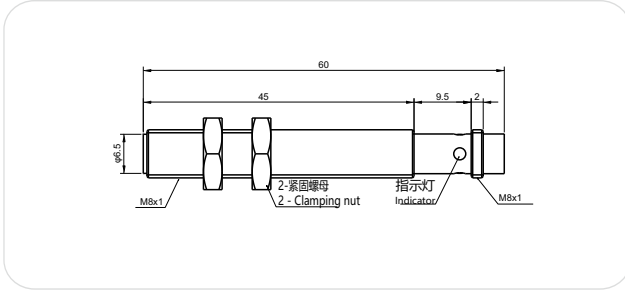
CL30-RN30□□□□



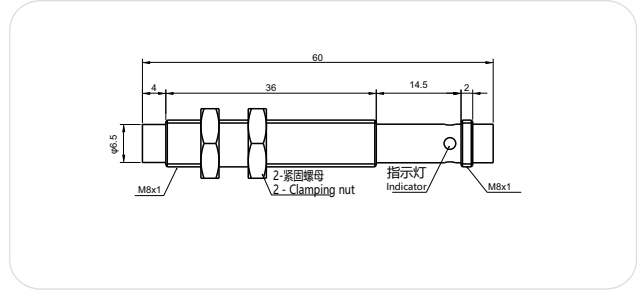
电感式-双倍距离型接插件式 外形尺寸图

Overall Dimension Drawing of Inductive Double-distance Connector Type

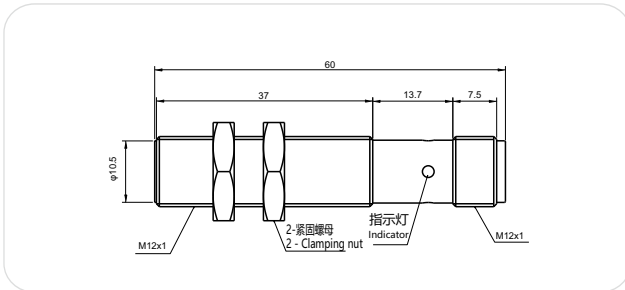
CL08-RF2□□□-A



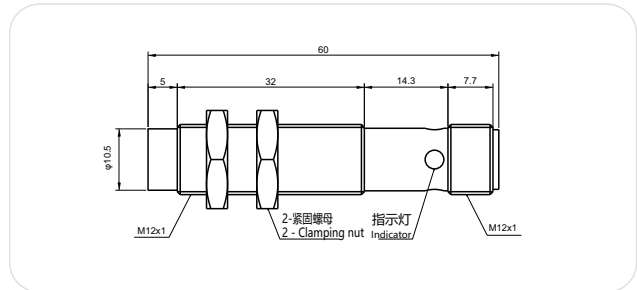
CL08-RN4□□□-A



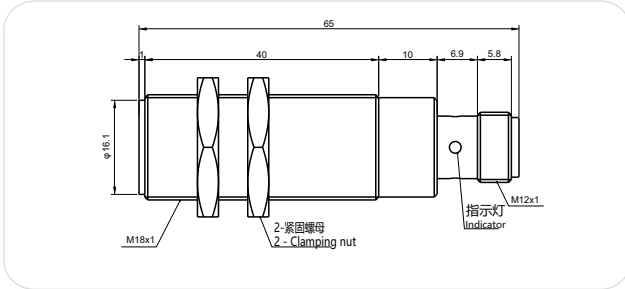
CL12-RF4□□□-A



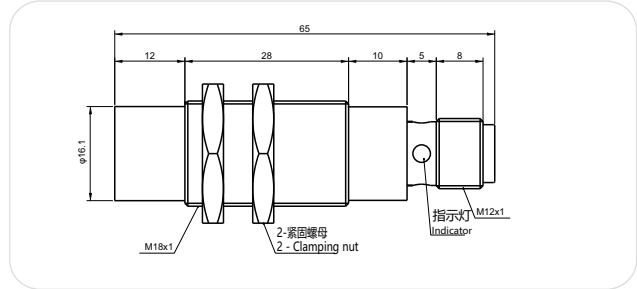
CL12-RN8□□□-A



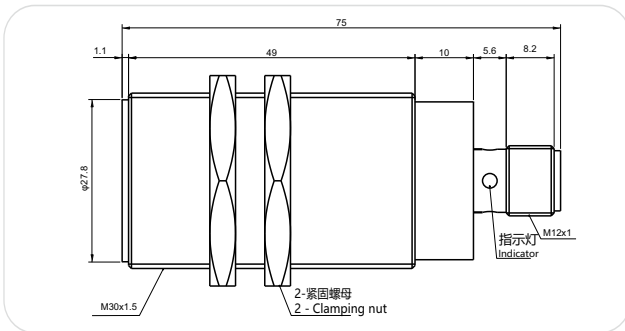
CL18-RF8□□□-A



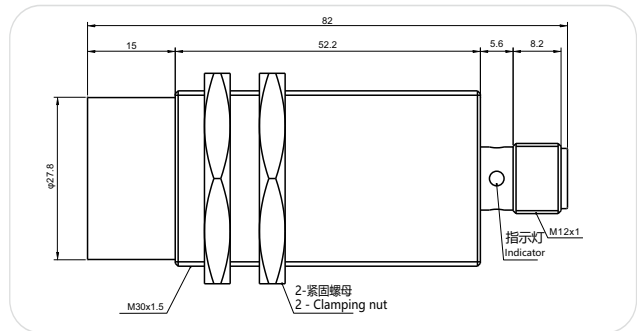
CL18-RN16□□□-A



CL30-RF15□□□-A



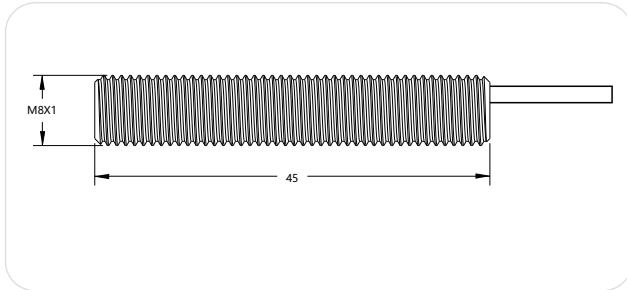
CL30-RN30□□□-A



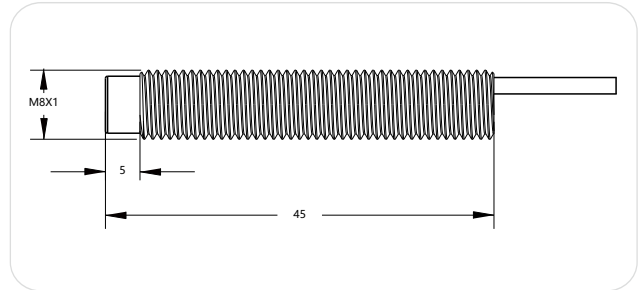
电感式-耐高温型 外形尺寸图

Overall Dimension Drawing of Inductive High Temperature Resistant Type

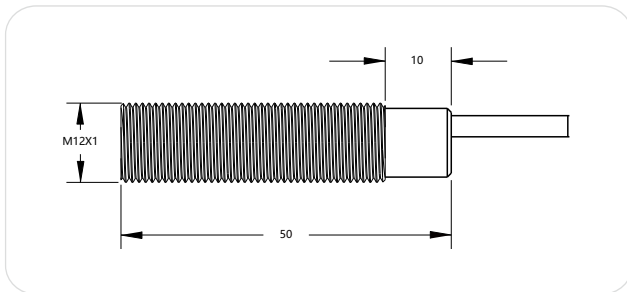
CL08-RF□□□□-H□



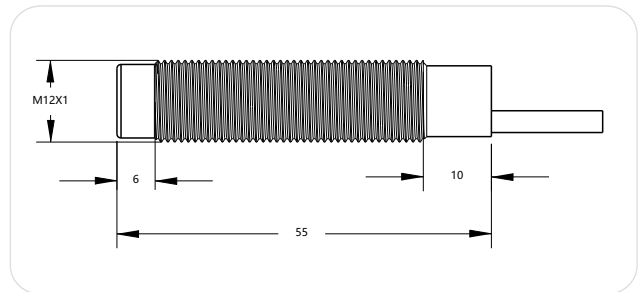
CL08-RN□□□□-H□



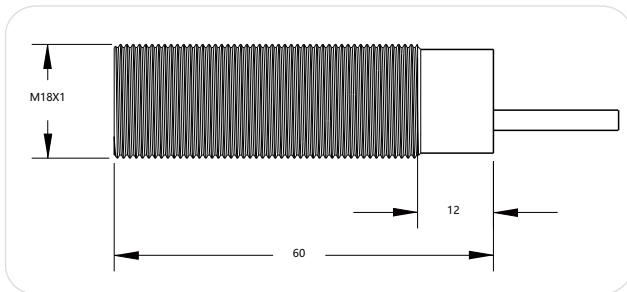
CL12-RF□□□□-H□



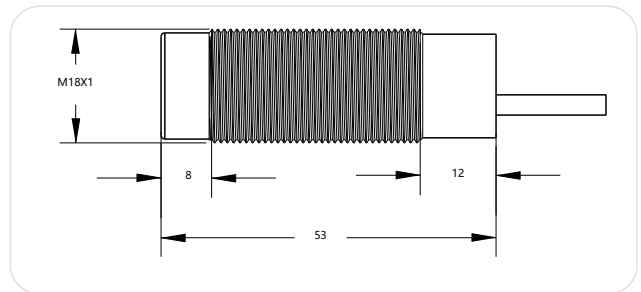
CL12-RN□□□□-H□



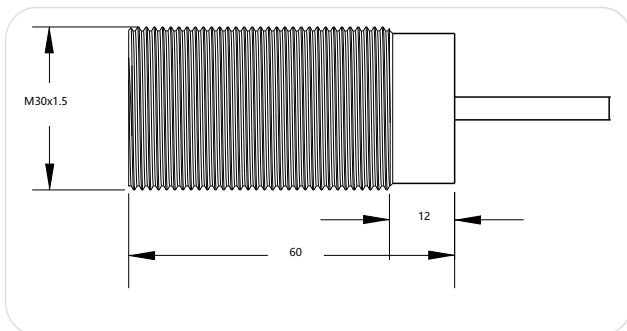
CL18-RF□□□□-H□



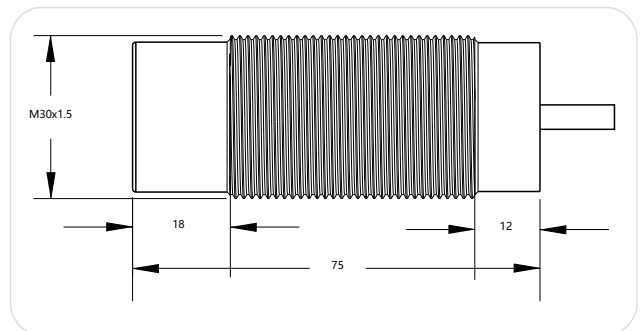
CL18-RN□□□□-H□



CL30-RF□□□□-H□



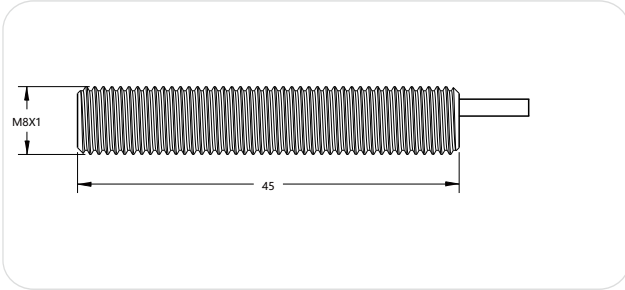
CL30-RN□□□□-H□



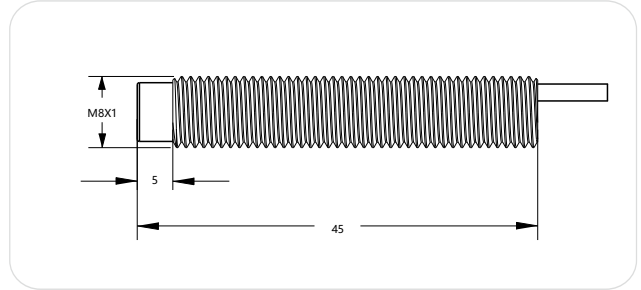
电感式-耐低温型 外形尺寸图

Overall Dimension Drawing of Inductive Low Temperature Resistant Type

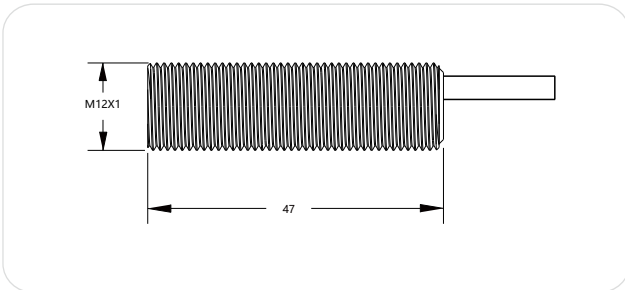
CL08-RF□□□□-S□



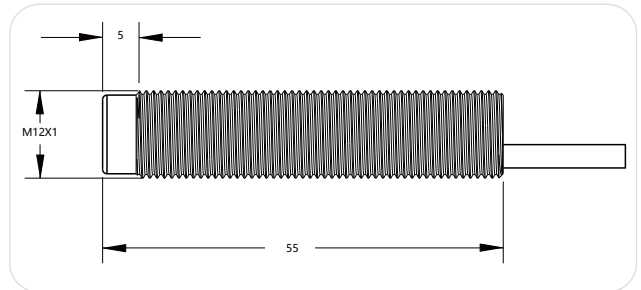
CL08-RN□□□□-S□



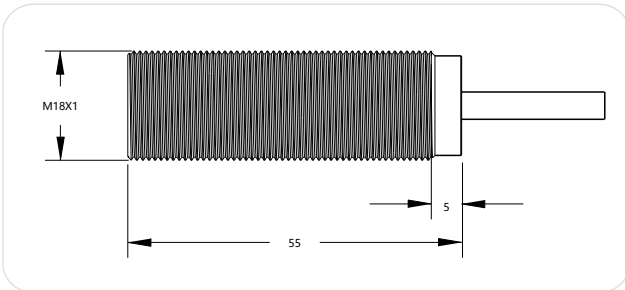
CL12-RF□□□□-S□



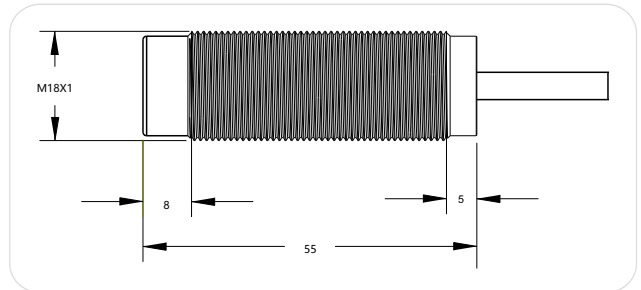
CL12-RN□□□□-S□



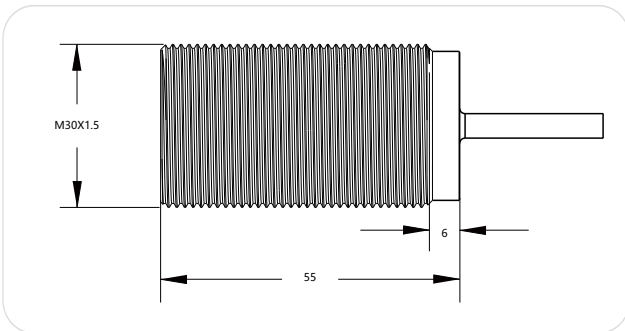
CL18-RF□□□□-S□



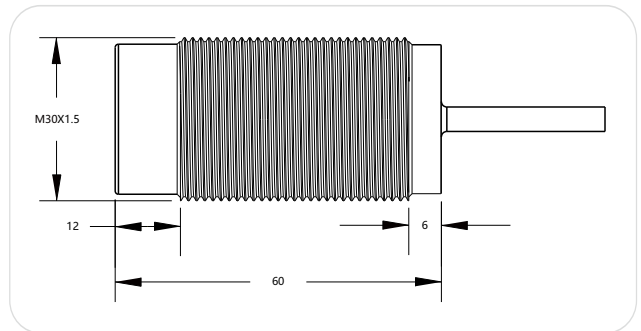
CL18-RN□□□□-S□



CL30-RF□□□□-S□

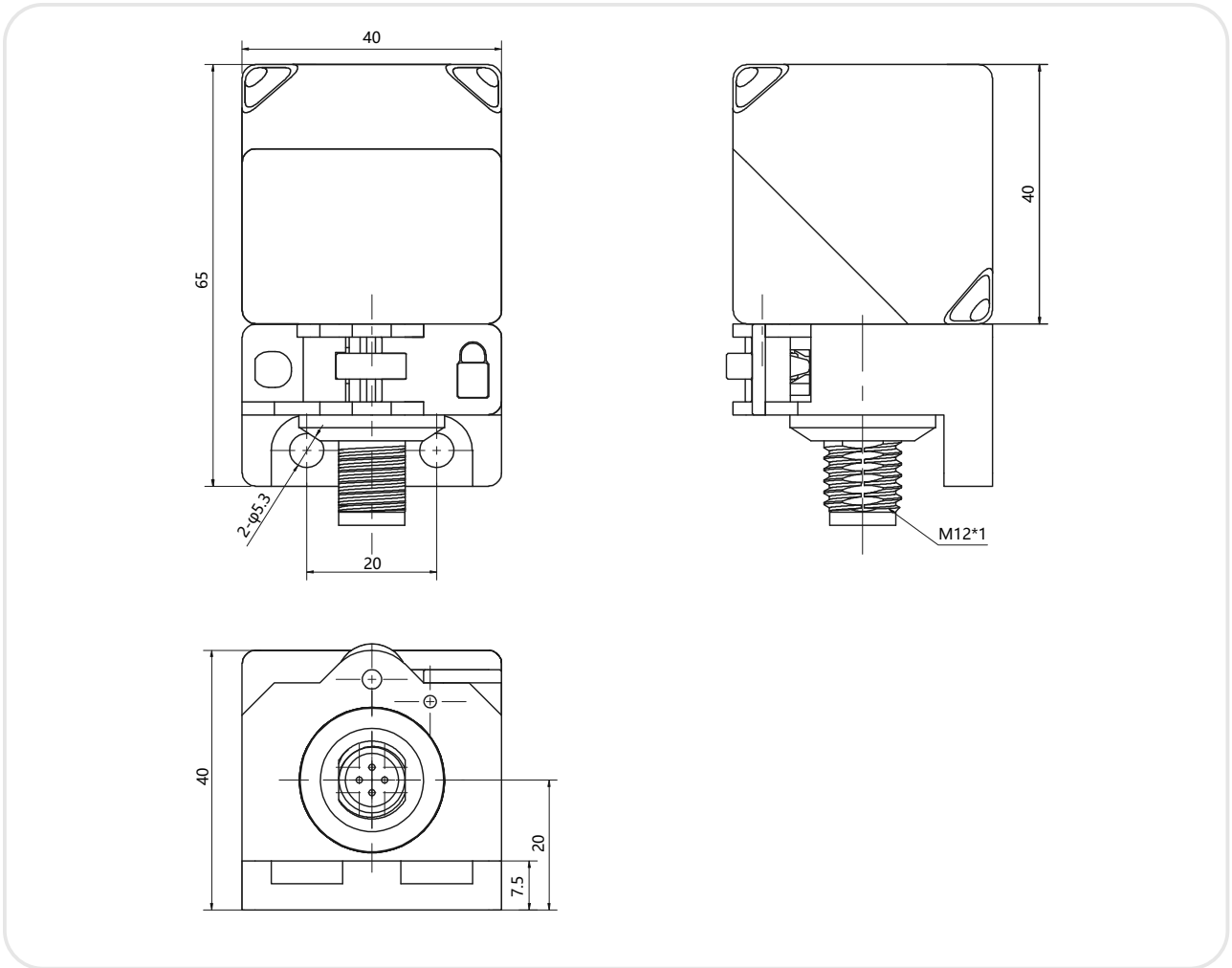


CL30-RN□□□□-S□



电感式-可变检测面型外形尺寸图
Overall Dimension Drawing of Inductive Variable Detection Surface Type

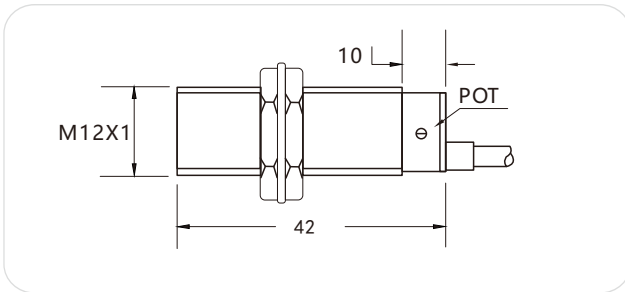
CL40-Q□□□□□□-A/K



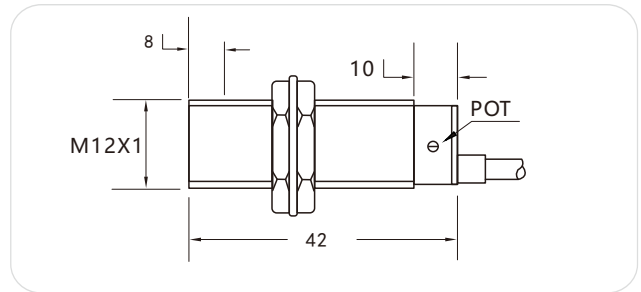
电容式-圆柱形 外形尺寸图

Overall Dimension Drawing of Capacitive Cylindrical Type

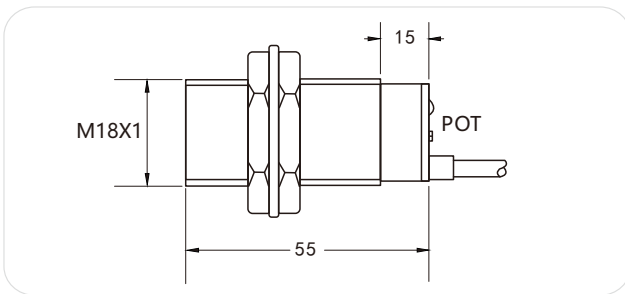
CC12-RF□□□□



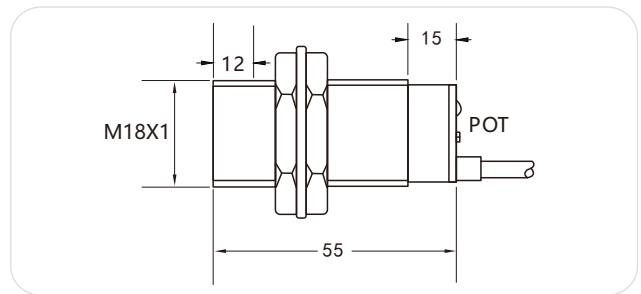
CC12-RN□□□□



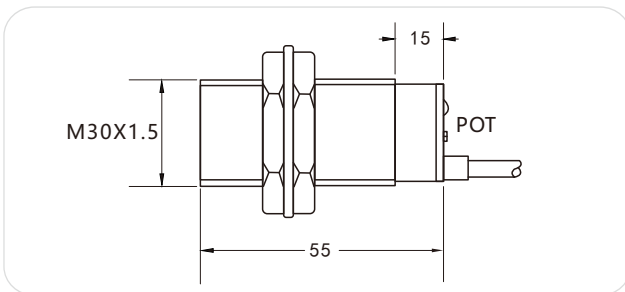
CC18-RF□□□□



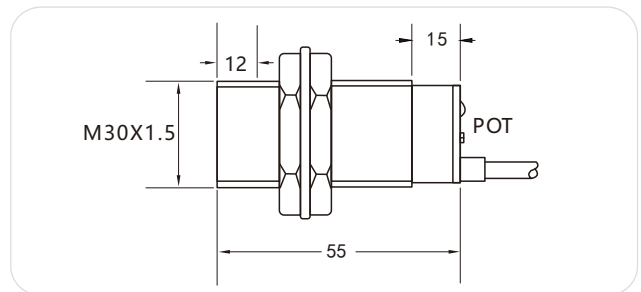
CC18-RN□□□□



CC30-RF□□□□



CC30-RN□□□□

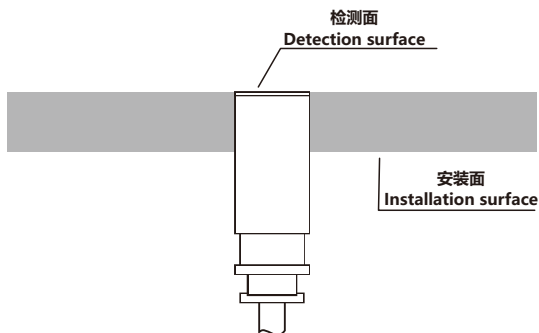


产品安装方式 Production installation mode

传感器埋入式安装方式 Embedded installation mode of sensor

接近开关检测面和金属表面齐平安装时，其它面埋入在金属表面内，不受金属物体的影响，请参考

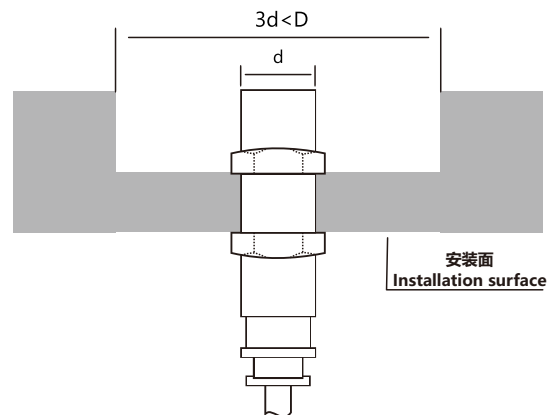
When the detection surface of the proximity switch is installed flush with the metal surface, other surfaces are embedded in the metal surface and are not affected by metal objects, please refer to



传感器非埋入式安装方式 Non-embedded installation mode of sensor

非埋入型接近开关，头部感应表面周围不能埋入在金属表面内，容易受到金属表面的影响，非埋入型电感式传感器检测距离更长，安装时电感式传感器侧面必须要间隔距离为检测头3倍，防止有金属物体干扰。

For the non-embedded proximity switch, the periphery of the head induction surface cannot be embedded in the metal surface; if not, it is easy to be affected by the metal surface. The detection distance of the non-embedded inductive sensor is longer, so that the spacing distance from the inductive sensor side must be 3 times that of the detection head to prevent interference with metal objects.

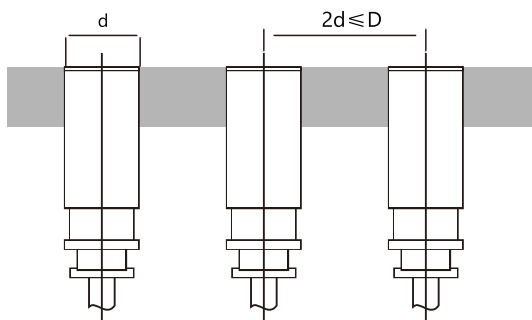


传感器并排安装方式 Side-by-side installation mode of sensor

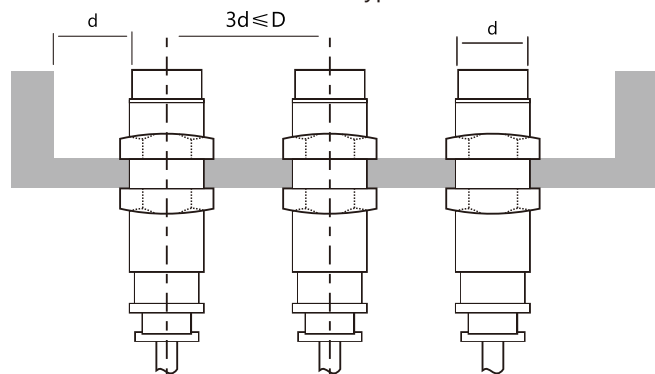
需要同时多个接近开关并排安装时，为了防止接近开关之间相互干扰，请参考下图预留间隔距离。

To prevent interference between proximity switches when multiple proximity switches are to be installed side by side, see the following figure for the reserved distance.

埋入式：
Embedded type:



非埋入式：
Non-embedded type:

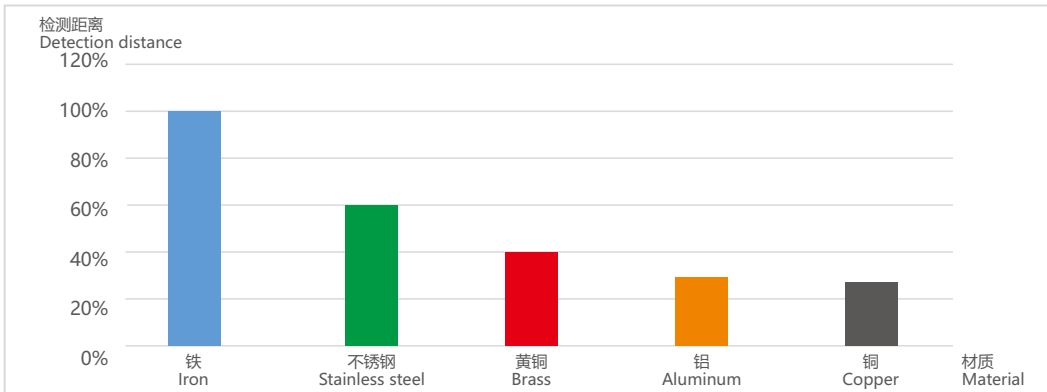


电感式传感器检测物体的材质对于检测距离的影响 (参考值)

Influence of material of object detected by inductive sensor on detection distance (reference value)

检测不同材质的物体时，接近开关的检测距离有相应的变化。

When detecting objects made of different materials, the detection distance of the proximity switch changes accordingly.



电容式传感器的动作距离和介电常数

Action distance and dielectric constant of capacitive sensor

电容式传感器动作距离是取决于检测的材料，不同介电常数的被测物体，获得的动作距离和灵敏度是不一样的，材料介电常数越大，获得动作距离就越大，由下图可以看出材料介电常数区别。

The action distance of the capacitive sensor depends on the detected material. The detected objects with different dielectric constant have different action distances and sensitivities. If the dielectric constant of the material is greater, the action distance will be larger. The following figure shows the difference in dielectric constants of materials.

材料 Material	空气 Air	特氟龙 Teflon	木材 Wood	石蜡 Paraffin	汽油 Gasoline	松节油 Turpentine	变压器油 Transformer oil	纸 Paper	聚乙烯 Polyethylene	聚丙烯 Polypropylene	电缆胶化合物 Cable rubber compound	软橡胶 Soft rubber	硅 Silicon						
介电 Dielectric 常数 constant	1	2	2~7	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.5	2.5	2.8						
材料 Material	聚氯乙烯 Ethylene	聚苯 Polyphenyl	乙烯 Ethylene	赛璐珞 Celluloid	有机 玻璃 Organic glass	环氧树 脂粘合剂 Epoxy resin adhesive	石英 玻璃 Quartz glass	硬橡胶 Hard rubber	油脂 Grease	纸板压 制的碎屑 Chips produced by cardboard pressing	陶瓷 Ceramic	硬纸 Hard paper	石英砂 Quartz sand	玻璃 Glass	聚酰胺 Polyamide	云母 Mica	大理石 Marble	酒精 Alcohol	水 Water
介电 Dielectric 常数 constant	2.9	3	3	3.6	3.6	3.6	3.7	4	4	4	4.4	4.5	4.5	5	5	6	8	25.8	80

IP防护等级说明

Description of IP protection grade

IP



1



2

1. 第一位数字是对固体异物保护

The first digit represents protection against solid foreign body

2. 第二位数字是水入侵的防护

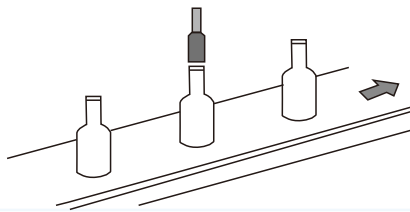
The second digit represents protection against water intrusion

术语 Term	说明 Description			
IP67 保护标准 protection standard	第一位数字表示防护等级 (防尘) The first digit represents the protection class (dustproof)		第二位数字表示防护级别 The second digit represents protection level	
	4	防止直径大于1.0mm的固体侵入产品 Prevent solids greater than 1.0mm in diameter from invading the product	4	不受任何方向飞溅的水滴影响 Unaffected by splashing water drops in any direction
	5	防止操作现场产生的灰尘侵入 Prevent dust generated at the operation site from intruding	5	不受任何方向喷射水的影响 Unaffected by water spray in any direction
	6	防止全部灰尘侵入 Prevent all dust from intruding	6	不受任何方向喷射水的侵入 Protected from water spray in any direction
			7	在规定时间和压力下浸入水中无影响 Intrusion into water at specified time and pressure has no effect
		8	在特定压力下浸在水中仍可使用 The product can still be used when submerged in water at specific pressure	

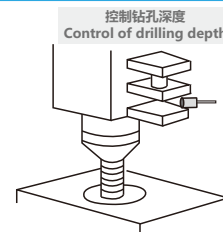
产品应用案例 Product Application Cases

我司产品广泛应用在食品包装、输送设备、纺织机械、半导体、印刷机械、制药机械、物流行业、医疗器械、电梯等领域。
Our products are widely used in food packaging, conveying equipment, textile machinery, semiconductor, printing machinery, pharmaceutical machinery, logistics industry, medical equipment, elevator and other fields.

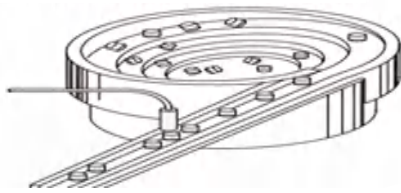
瓶盖的检测
Detection of bottle caps



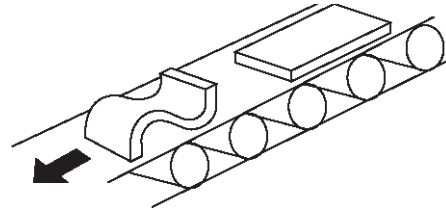
机械手应用
Manipulator application



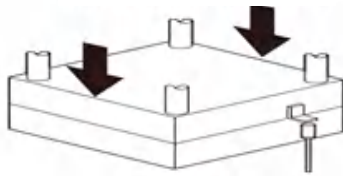
作业盘计数
Counting of operating board



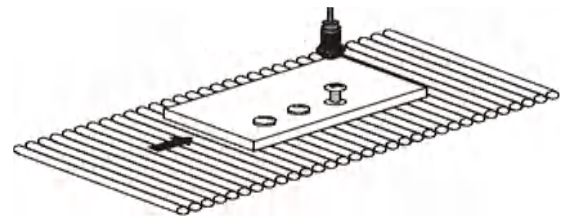
检测产品是否变化
Detect whether the product is changed



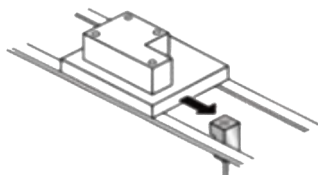
模具定位检测
Mold positioning detection



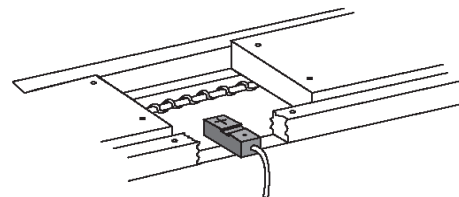
检测螺丝高度
Screw height detection



位置的检测
Position detection



装备生产线的应用
Application of equipment production line



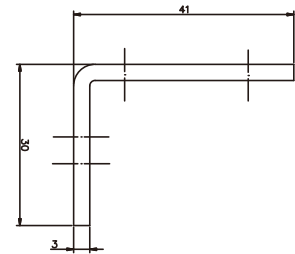
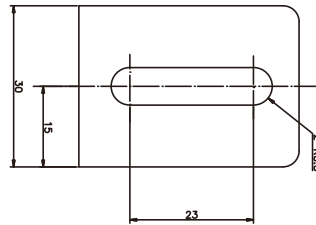
产品附件 (安装支架)
Product accessories (mounting bracket)

CA20安装支架
CA20 mounting bracket



型号: CP2-A1
 Model: CP2-A1
 材质: 铁
 Material: Iron

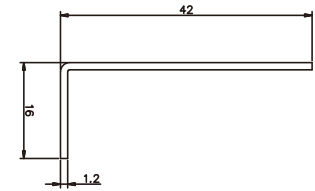
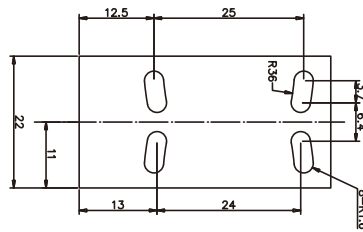
单位: mm
 Unit: mm



CPZ安装支架
CPZ mounting bracket



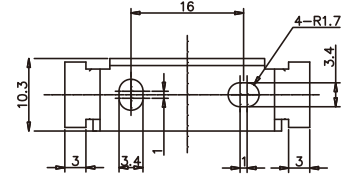
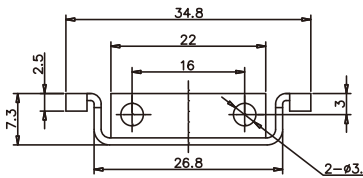
型号: CP2-Z1
 Model: CP2-Z1
 材质: 铁
 Material: Iron



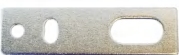
CX6安装支架
CX6 mounting bracket



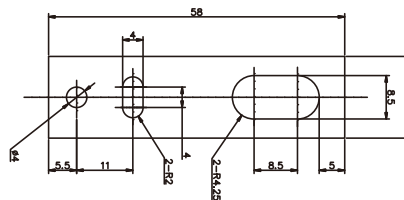
型号: CP2-X1
 Model: CP2-X1
 材质: 铁
 Material: Iron



CL08安装支架
CL08 mounting bracket



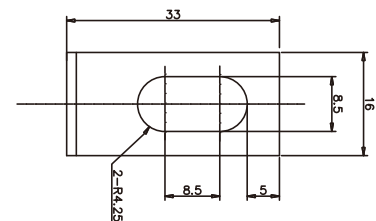
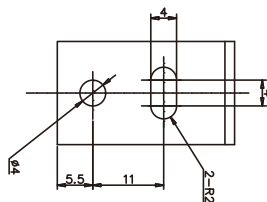
型号: CP2-T08
 Model: CP2-T08
 材质: 铁
 Material: Iron



CL08安装支架
CL08 mounting bracket



型号: CP2-L08
 Model: CP2-L08
 材质: 铁
 Material: Iron

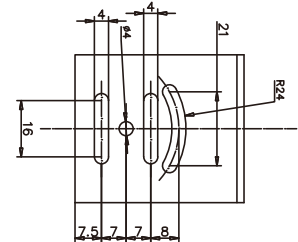
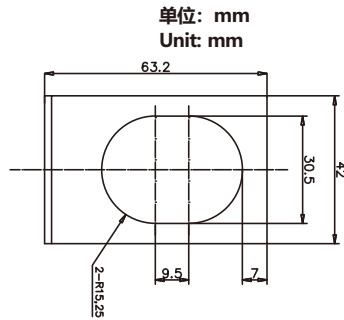


产品附件 (安装支架)
Product accessories (mounting bracket)

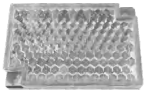
CL30安装支架
CL30 mounting bracket



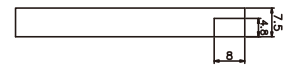
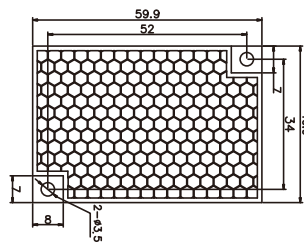
型号: CP2-L30
Model: CP2-L30
材质: 铁
Material: Iron



反光板
Reflector



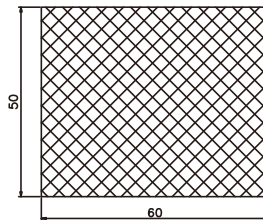
型号: CP2-R1
Model: CP2-R1
材质: 铁
Material: Iron



反光膜
Reflective film



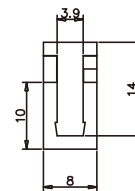
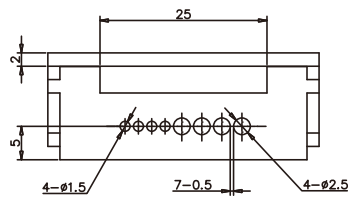
型号: CP2-R2
Model: CP2-R2
材质: 铁
Material: Iron



光纤切刀
Optical fiber cleaver



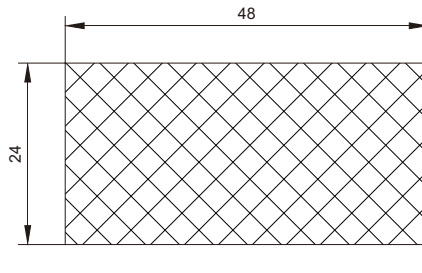
型号: CX2-C1
Model: CX2-C1
材质: 铁
Material: Iron



产品附件 (反光板)
Product accessories (Reflector)

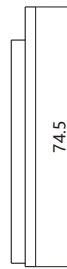
反光板
Reflector

型号: CP2-R3
Model: CP2-R3
材质: 铁
Material: Iron



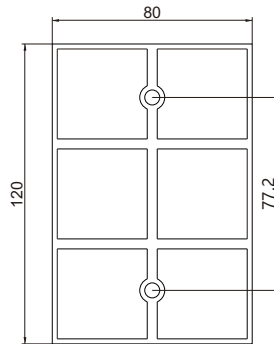
反光板
Reflector

型号: CP2-R6
Model: CP2-R6
材质: 铁
Material: Iron



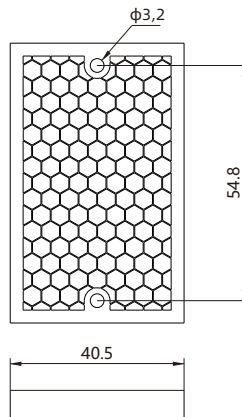
反光板
Reflector

型号: CP2-R8
Model: CP2-R8
材质: 铁
Material: Iron



反光板
Reflector

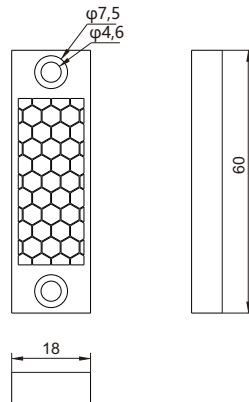
型号: CP2-R11
Model: CP2-R11
材质: 铁
Material: Iron



产品附件 (反光板)
Product accessories (Reflector)

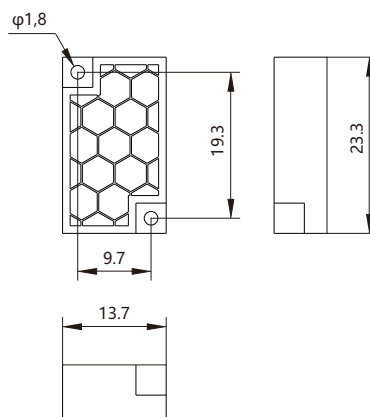
反光板
Reflector

型号: CP2-R12
Model: CP2-R12
材质: 铁
Material: Iron



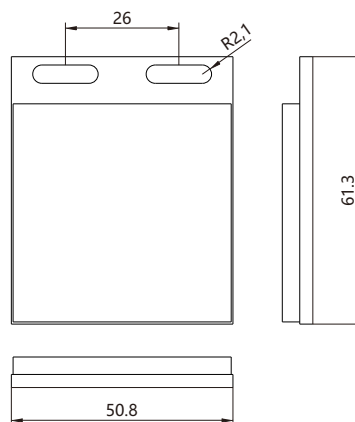
反光板
Reflector

型号: CP2-R13
Model: CP2-R13
材质: 铁
Material: Iron










反光板
Reflector

型号: HL-08
Model: HL-08
材质: 铁
Material: Iron



产品附件 (安装支架)

Product accessories (mounting bracket)

<p>M8连接器 M8 connector</p> 	<p>型号: CL8-03-L2/L5/L10 Model: CL8-03-L2/L5/L10 外形: 直线型 Shape: Linear 针数: 3针 Number of pins: 3 线长: 2m/5m/10m Line length: 2m/5m/10m</p>		
<p>M8连接器 M8 connector</p> 	<p>型号: CL8-03-T2/T5/T10 Model: CL8-03-T2/T5/T10 外形: 直角型 Shape: Right-angle 针数: 3针 Number of pins: 3 线长: 2m/5m/10m Line length: 2m/5m/10m</p>		
<p>M8连接器 M8 connector</p> 	<p>型号: CL8-04-L2/L5/L10 Model: CL8-04-L2/L5/L10 外形: 直线型 Shape: Linear 针数: 4针 Number of pins: 4 线长: 2m/5m/10m Line length: 2m/5m/10m</p>		
<p>M8连接器 M8 connector</p> 	<p>型号: CL8-04-T2/T5/T10 Model: CL8-04-T2/T5/T10 外形: 直角型 Shape: Right-angle 针数: 4针 Number of pins: 4 线长: 2m/5m/10m Line length: 2m/5m/10m</p>		
<p>M12连接器 M12 connector</p> 	<p>型号: CL12-04-L2/L5/L10 Model: CL12-04-L2/L5/L10 外形: 直线型 Shape: Linear 针数: 4针 Number of pins: 4 线长: 2m/5m/10m Line length: 2m/5m/10m</p>		
<p>M12连接器 M12 connector</p> 	<p>型号: CL12-04-T2/T5/T10 Model: CL12-04-T2/T5/T10 外形: 直角型 Shape: Right-angle 针数: 4针 Number of pins: 4 线长: 2m/5m/10m Line length: 2m/5m/10m</p>		
<p>M12连接器 M12 connector</p> 	<p>型号: CL12-05-L2/L3/L5/L10 Model: CL12-05-L2/L3/L5/L10 外形: 直线型 Shape: Linear 针数: 5针 Number of pins: 5 线长: 2m/3m/5m/10m Line length: 2m/3m/5m/10m 注: 区域光幕用, 电线外径6mm Note: Used for area light curtain, with wire diameter of 6mm</p>		



采用生态纸印刷

Adopt ecological paper printing for this manual



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