



#### 特点 Features

- 采用专用IC提高抗干扰能力
- 内置浪涌保护, 电源反接保护和过流保护电路
- 寿命长, 高可靠性, 操作简单, 经济实惠
- 红色LED状态指示灯, 易于识别运行状态
- IP65防护等级(IEC规格)
- 可以代替微动开关或限位开关广泛使用
- Exclusively designed IC for improving anti-jamming capability
- Inside surge protection, reverse polarity protection, overcurrent protection
- Long use-life cycle and high reliability, easy install, economic price
- Red LED status indication, easy to confirm work situation
- Protection structure IP65(IEC standard)
- Replaceable for limit switches



#### 选型说明 Model Designation

**CJ Y 12 □ □ - 04 D N A / M**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

| 序号 No | 项目 Item                     | 代号 Code | 说明 Description                                        |
|-------|-----------------------------|---------|-------------------------------------------------------|
| ①     | 分类代号<br>Classification code | CJ      | 电感式 Inductive type                                    |
| ②     | 外形代号<br>Shape code          | Y       | 圆柱形金属铜管 Cylindrical copper tube of metal              |
|       |                             | YG      | 圆柱形不锈钢管 Cylindrical stainless steel tube              |
|       |                             | YS      | 圆柱形塑料管 Cylindrical plastic pipe                       |
| ③     | 尺寸代码<br>Size code           | 12      | 08=M8、12=M12、18=M18、30=M30                            |
| ④     | 产品类型<br>Product type        | 无 None  | 标准型 Normal form                                       |
| ⑤     | 螺纹长度<br>Thread length       | 无 None  | 标准型 Normal form                                       |
|       |                             | L       | 长螺纹型 Long thread type                                 |
| ⑥     | 检测距离<br>Detection distance  | 04      | 02=2mm、04=4mm、05=5mm、08=8mm、10=10mm、15=15mm           |
| ⑦     | 工作电压<br>Operating voltage   | A       | 90...250VAC                                           |
|       |                             | D       | 10...30VDC                                            |
|       |                             | E       | 20...60VDC                                            |
|       |                             | J       | 5...10VDC                                             |
| ⑧     | 输出方式<br>Output mode         | N       | NPN                                                   |
|       |                             | P       | PNP                                                   |
|       |                             | K       | AC二线 2 wires                                          |
|       |                             | L       | DC 二线 2 wires                                         |
| ⑨     | 输出状态<br>Output state        | A       | NO                                                    |
|       |                             | B       | NC                                                    |
|       |                             | C       | NO+NC                                                 |
| ⑩     | 连接形式<br>Connection form     | M       | M12针式 直头 4芯 A编码 M12 pin straight head 4-core A coding |

## 国际认证规格 International Certification Specifications

| 认证规格<br>Certification specifications | 规格<br>Specifications | 文件No.<br>Document                                         |
|--------------------------------------|----------------------|-----------------------------------------------------------|
| CCC                                  | GB/T 14048.10        | 请咨询昌得代表处<br>Please consult the CNTD Representative Office |
| TUV                                  | EN 60947-5-2         |                                                           |
| CE                                   |                      |                                                           |

## 安全规格认证额定值 Safety Specification Certification Rating

CCC(GB/T 14048.10)、TUV(EN60947-5-2)

| 类型与额定值<br>Type and Rating |
|---------------------------|
| AC-140 24~250VAC 200mA    |
| DC-13 10~30VDC 200mA      |

## 规格 Specifications

直流3线式 DC 3wire type

| 型号名<br>Model                        | CJY12-02DNA/M<br>CJY12-02DNB/M<br>CJY12-02DNC/M<br>CJY12-02DPA/M<br>CJY12-02DPB/M<br>CJY12-02DPC/M                                   | CJY12-04DNA/M<br>CJY12-04DNB/M<br>CJY12-04DNC/M<br>CJY12-04DPA/M<br>CJY12-04DPB/M<br>CJY12-04DPC/M | CJY18-05DNA/M<br>CJY18-05DNB/M<br>CJY18-05DNC/M<br>CJY18-05DPA/M<br>CJY18-05DPB/M<br>CJY18-05DPC/M | CJY18-08DNA/M<br>CJY18-08DNB/M<br>CJY18-08DNC/M<br>CJY18-08DPA/M<br>CJY18-08DPB/M<br>CJY18-08DPC/M | CJY30-10DNA/M<br>CJY30-10DNB/M<br>CJY30-10DNC/M<br>CJY30-10DPA/M<br>CJY30-10DPB/M<br>CJY30-10DPC/M | CJY30-15DNA/M<br>CJY30-15DNB/M<br>CJY30-15DNC/M<br>CJY30-15DPA/M<br>CJY30-15DPB/M<br>CJY30-15DPC/M |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 检测距离<br>Sensing distance            | 2mm                                                                                                                                  | 4mm                                                                                                | 5mm                                                                                                | 8mm                                                                                                | 10mm                                                                                               | 15mm                                                                                               |
| 应差距离<br>Hysteresis                  | 检测距离的10%以下 Max. 10% of sensing distance                                                                                              |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 标准检测物<br>Standard sensing target    | 12×12×1mm<br>(铁 Iron)                                                                                                                |                                                                                                    | 18×18×1mm<br>(铁 Iron)                                                                              | 25×25×1mm<br>(铁 Iron)                                                                              | 30×30×1mm<br>(铁 Iron)                                                                              | 45×45×1mm<br>(铁 Iron)                                                                              |
| 设定距离<br>Setting distance            | 0~1.4mm                                                                                                                              | 0~2.8mm                                                                                            | 0~3.5mm                                                                                            | 0~5.6mm                                                                                            | 0~7mm                                                                                              | 0~10.5mm                                                                                           |
| 工作电压<br>Working voltage             | 10-30VDC                                                                                                                             |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 漏电流<br>Leakage current              | 10mA以下 Max.10mA                                                                                                                      |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 应答频率(※1)<br>Response frequency (※1) | 1000Hz                                                                                                                               | 500Hz                                                                                              | 500Hz                                                                                              | 350Hz                                                                                              | 350Hz(高端)<br>400Hz(标准)                                                                             | 200Hz                                                                                              |
| 残留电压<br>Residual voltage            | 1.0V以下 Max. 1.0V                                                                                                                     |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 温度的影响<br>Affection by Temp          | 在-25~+70℃温度范围内+20℃时的检测距离的±10%以内<br>Max. ±10% for sensing distance at ambient temperature 20℃                                         |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 控制输出<br>Control output              | 200mA以下 Max. 200mA                                                                                                                   |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 绝缘阻抗<br>Insulation resistance       | 50MΩ以上(500VDC为基准) Min. 50MΩ(at 500VDC megger)                                                                                        |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 耐电压<br>Dielectric strength          | 1500VAC 50/60Hz1分钟 1500VAC 50/60Hz for 1minute                                                                                       |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 耐振动<br>Vibration                    | 10~55Hz(周期1分钟) 振幅1mm X, Y, Z各方向2小时<br>1mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 2 hours |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 耐冲击<br>Shock                        | 500m/s <sup>2</sup> (50G) X, Y, Z 各方向3次 500m/s <sup>2</sup> (approx. 50G) X, Y, Z directions for 3 times                             |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 显示灯<br>Indicator                    | 动作指示灯(红色LED)<br>Operation indicator(red LED)                                                                                         |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 使用周围温度<br>Ambient temperature       | -25~+70℃(未结冰状态 No icing)                                                                                                             |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 储存温度<br>Storage temperature         | -30~+80℃(未结冰状态 No icing)                                                                                                             |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 使用周围湿度<br>Ambient humidity          | 35~95%RH (未结露状态 No condensation)                                                                                                     |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 保护电路<br>Protection circuit          | 内置浪涌保护, 电源反接保护电路, 过流保护电路<br>Surge protection circuit, Reverse polarity protection circuit, Overcurrent protection circuit            |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 材质<br>Material                      | 外壳/螺母: 镀镍黄铜, 垫片: 镍镀铁, 检测面: PBT<br>Case/Nut: Nickel plated Brass, Washer: Nickel plated Iron, Sensing surface: PBT                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |
| 防护等级<br>Protection                  | IP65                                                                                                                                 |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |                                                                                                    |

(※1) 开关动作的应答频率为平均值。测定条件使用标准检测物, 检测物的间距为标准检测物的2倍, 设定距离为检测距离的1/2。

(※1): The response frequency is the average value. The standard sensing target is used and the width is set as 2 times of the standard sensing target, 1/2 of the sensing distance for the distance.

## 规格 Specifications

直流2线式 DC 2-wire type

| 型号名<br>Model                       | CJY12-02DLA/M<br>CJY12-02DLB/M                                                                                                       | CJY12-04DLA/M<br>CJY12-04DLB/M | CJY18-05DLA/M<br>CJY18-05DLB/M | CJY18-08DLA/M<br>CJY18-08DLB/M | CJY30-10DLA/M<br>CJY30-10DLB/M | CJY30-15DLA/M<br>CJY30-15DLB/M |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 检测距离<br>Sensing distance           | 2mm                                                                                                                                  | 4mm                            | 5mm                            | 8mm                            | 10mm                           | 15mm                           |
| 应差距离<br>Hysteresis                 | 检测距离的10%以下 Max. 10% of sensing distance                                                                                              |                                |                                |                                |                                |                                |
| 标准检测物<br>Standard sensing target   | 12×12×1mm<br>(铁 Iron)                                                                                                                |                                | 18×18×1mm<br>(铁 Iron)          | 25×25×1mm<br>(铁 Iron)          | 30×30×1mm<br>(铁 Iron)          | 45×45×1mm<br>(铁 Iron)          |
| 设定距离<br>Setting distance           | 0~1.4mm                                                                                                                              | 0~2.8mm                        | 0~3.5mm                        | 0~5.6mm                        | 0~7mm                          | 0~10.5mm                       |
| 工作电压<br>Working voltage            | 10-30VDC                                                                                                                             |                                |                                |                                |                                |                                |
| 漏电流<br>Leakage current             | 0.6mA以下 Max.0.6mA                                                                                                                    |                                |                                |                                |                                |                                |
| 应答频率(※1)<br>Response frequency(※1) | 1000Hz                                                                                                                               | 500Hz                          | 500Hz                          | 350Hz                          | 350Hz                          | 200Hz                          |
| 残留电压<br>Residual voltage           | 3.5V以下 Max. 3.5V                                                                                                                     |                                |                                |                                |                                |                                |
| 温度的影响<br>Affection by Temp         | 在-25~+70°C温度范围内+20°C时的检测距离的±10%以内<br>Max. ±10% for sensing distance at ambient temperature 20°C                                      |                                |                                |                                |                                |                                |
| 控制输出<br>Control output             | 200mA以下 Max. 200mA                                                                                                                   |                                |                                |                                |                                |                                |
| 绝缘阻抗<br>Insulation resistance      | 50MΩ以上(500VDC为基准) Min. 50MΩ(at 500VDC megger)                                                                                        |                                |                                |                                |                                |                                |
| 耐电压<br>Dielectric strength         | 1500VAC 50/60Hz1分钟 1500VAC 50/60Hz for 1minute                                                                                       |                                |                                |                                |                                |                                |
| 耐振动<br>Vibration                   | 10~55Hz(周期1分钟) 振幅1mm X, Y, Z各方向2小时<br>1mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 2 hours |                                |                                |                                |                                |                                |
| 耐冲击<br>Shock                       | 500m/s <sup>2</sup> (50G) X, Y, Z 各方向3次 500m/s <sup>2</sup> (approx. 50G) X, Y, Z directions for 3 times                             |                                |                                |                                |                                |                                |
| 显示灯<br>Indicator                   | 动作指示灯(红色LED) Operation indicator(red LED)                                                                                            |                                |                                |                                |                                |                                |
| 使用周围温度<br>Ambient temperature      | -25~+70°C(未结冰状态 No icing)                                                                                                            |                                |                                |                                |                                |                                |
| 储存温度<br>Storage temperature        | -30~+80°C(未结冰状态 No icing)                                                                                                            |                                |                                |                                |                                |                                |
| 使用周围湿度<br>Ambient humidity         | 35~95%RH (未结露状态 No condensation)                                                                                                     |                                |                                |                                |                                |                                |
| 保护电路<br>Protection circuit         | 浪涌保护电路<br>Surge protection circuit                                                                                                   |                                |                                |                                |                                |                                |
| 材质<br>Material                     | 外壳/螺母: 镀镍黄铜, 垫片: 镀镍铁, 检测面: PBT<br>Case/Nut: Nickel plated Brass, Washer: Nickel plated Iron, Sensing surface: PBT                    |                                |                                |                                |                                |                                |
| 防护等级<br>Protection                 | IP65                                                                                                                                 |                                |                                |                                |                                |                                |

(※1) 开关动作的应答频率为平均值。测定条件使用标准检测物, 检测物的间距为标准检测物的2倍, 设定距离为检测距离的1/2。

(※1): The response frequency is the average value. The standard sensing target is used and the width is set as 2 times of the standard sensing target, 1/2 of the sensing distance for the distance.

## 规格 Specifications

交流2线式 AC 2-wire type

| 型号名<br>Model                       | /                                                                                                                                    | CJY12-04AKA/M<br>CJY12-04AKB/M | CJY18-05AKA/M<br>CJY18-05AKB/M | CJY18-08AKA/M<br>CJY18-08AKB/M | CJY30-10AKA/M<br>CJY30-10AKB/M | CJY30-15AKA/M<br>CJY30-15AKB/M |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 检测距离<br>Sensing distance           | 2mm                                                                                                                                  | 4mm                            | 5mm                            | 8mm                            | 10mm                           | 15mm                           |
| 应差距离<br>Hysteresis                 | 检测距离的10%以下 Max. 10% of sensing distance                                                                                              |                                |                                |                                |                                |                                |
| 标准检测物<br>Standard sensing target   | 12×12×1mm<br>(铁 Iron)                                                                                                                |                                | 18×18×1mm<br>(铁 Iron)          | 25×25×1mm<br>(铁 Iron)          | 30×30×1mm<br>(铁 Iron)          | 45×45×1mm<br>(铁 Iron)          |
| 设定距离<br>Setting distance           | 0~1.4mm                                                                                                                              | 0~2.8mm                        | 0~3.5mm                        | 0~5.6mm                        | 0~7mm                          | 0~10.5mm                       |
| 工作电压<br>Working voltage            | 90-250VAC                                                                                                                            |                                |                                |                                |                                |                                |
| 漏电流<br>Leakage current             | 10mA以下 Max.10mA                                                                                                                      |                                |                                |                                |                                |                                |
| 应答频率(※1)<br>Response frequency(※1) | 20Hz                                                                                                                                 |                                |                                |                                |                                |                                |
| 残留电压<br>Residual voltage           | 10V以下 Max. 10V                                                                                                                       |                                |                                |                                |                                |                                |
| 温度的影响<br>Affection by Temp         | 在-25~+70℃温度范围内+20℃时的检测距离的±10%以内<br>Max. ±10% for sensing distance at ambient temperature 20℃                                         |                                |                                |                                |                                |                                |
| 控制输出<br>Control output             | 200mA以下 Max. 200mA                                                                                                                   |                                |                                |                                |                                |                                |
| 绝缘阻抗<br>Insulation resistance      | 50MΩ以上(500VDC为基准) Min. 50MΩ(at 500VDC megger)                                                                                        |                                |                                |                                |                                |                                |
| 耐电压<br>Dielectric strength         | 1500VAC 50/60Hz1分钟 1500VAC 50/60Hz for 1minute                                                                                       |                                |                                |                                |                                |                                |
| 耐振动<br>Vibration                   | 10~55Hz(周期1分钟) 振幅1mm X, Y, Z各方向2小时<br>1mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 2 hours |                                |                                |                                |                                |                                |
| 耐冲击<br>Shock                       | 500m/s <sup>2</sup> (50G) X, Y, Z 各方向3次 500m/s <sup>2</sup> (approx. 50G) X, Y, Z directions for 3 times                             |                                |                                |                                |                                |                                |
| 显示灯<br>Indicator                   | 动作指示灯(红色LED) Operation indicator(red LED)                                                                                            |                                |                                |                                |                                |                                |
| 使用周围温度<br>Ambient temperature      | -25~+70℃(未结冰状态 No icing)                                                                                                             |                                |                                |                                |                                |                                |
| 储存温度<br>Storage temperature        | -30~+80℃(未结冰状态 No icing)                                                                                                             |                                |                                |                                |                                |                                |
| 使用周围湿度<br>Ambient humidity         | 35~95%RH (未结露状态 No condensation)                                                                                                     |                                |                                |                                |                                |                                |
| 保护电路<br>Protection circuit         | 浪涌保护电路<br>Surge protection current                                                                                                   |                                |                                |                                |                                |                                |
| 材质<br>Material                     | 外壳/螺母: 镀镍黄铜, 垫片: 镍镀铁, 检测面: PBT<br>Case/Nut: Nickel plated Brass, Washer: Nickel plated Iron, Sensing surface: PBT                    |                                |                                |                                |                                |                                |
| 防护等级<br>Protection                 | IP65                                                                                                                                 |                                |                                |                                |                                |                                |

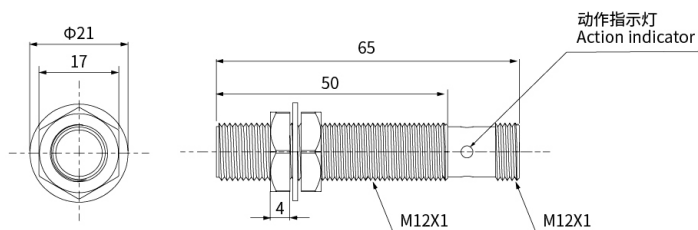
(※1) 开关动作的应答频率为平均值。测定条件使用标准检测物, 检测物的间距为标准检测物的2倍, 设定距离为检测距离的1/2。

(※1): The response frequency is the average value. The standard sensing target is used and the width is set as 2 times of the standard sensing target, 1/2 of the sensing distance for the distance.

## 外观和尺寸 Appearance and Dimension

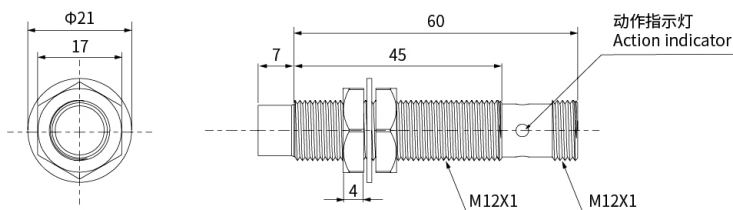
### CJY12-02/M

埋入式  
Embedded type



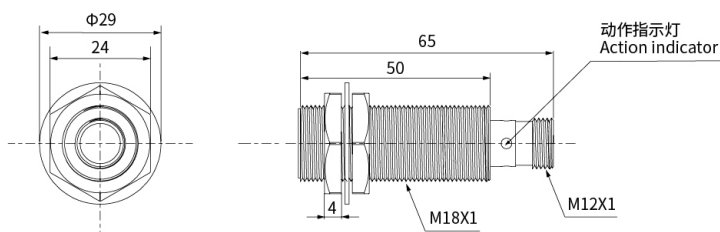
### CJY12-04/M

非埋入式  
Non-embedded



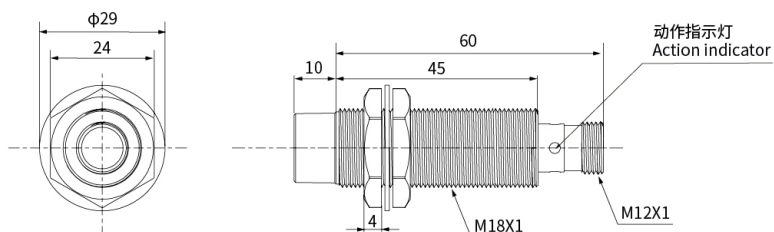
### CJY18-05/M

埋入式  
Embedded type



### CJY18-08/M

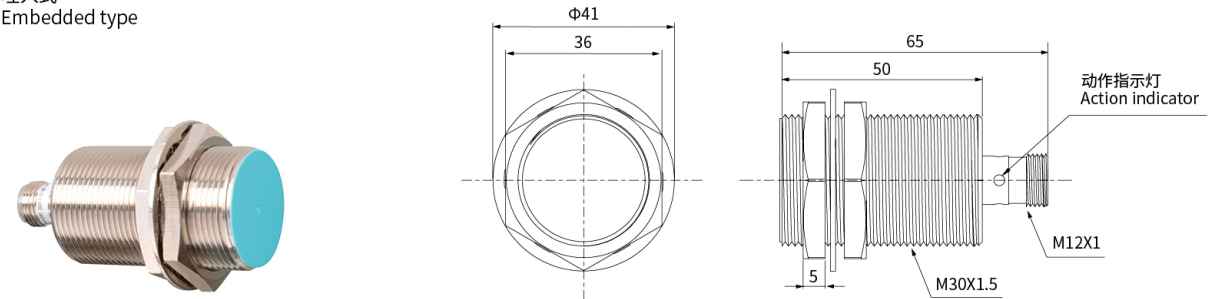
非埋入式  
Non-embedded



外观和尺寸 Appearance and Dimension

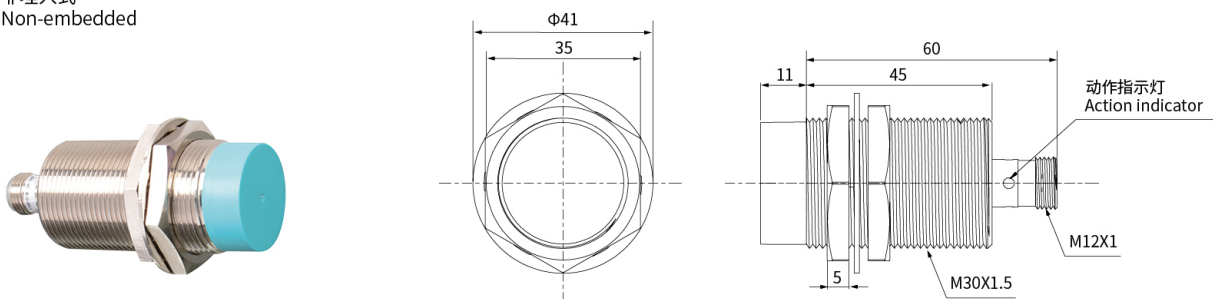
CJY30-10/M

埋入式  
Embedded type



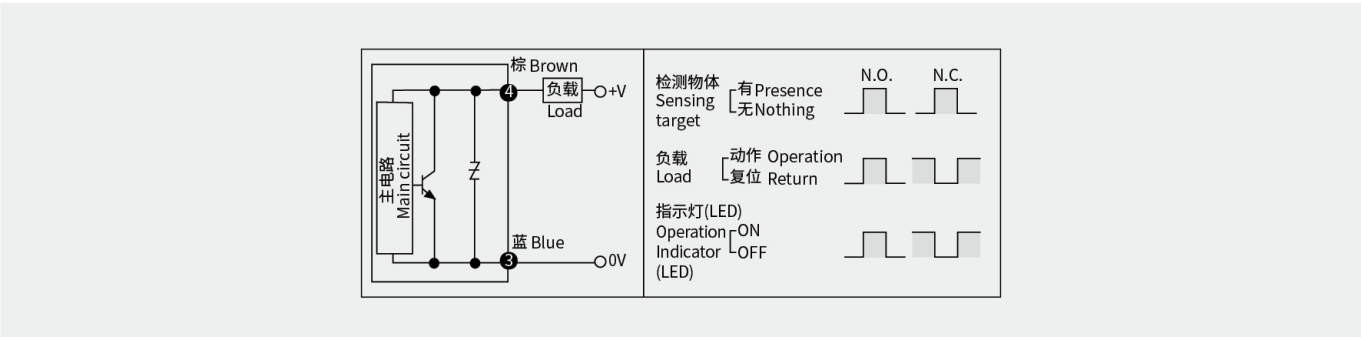
CJY30-15/M

非埋入式  
Non-embedded

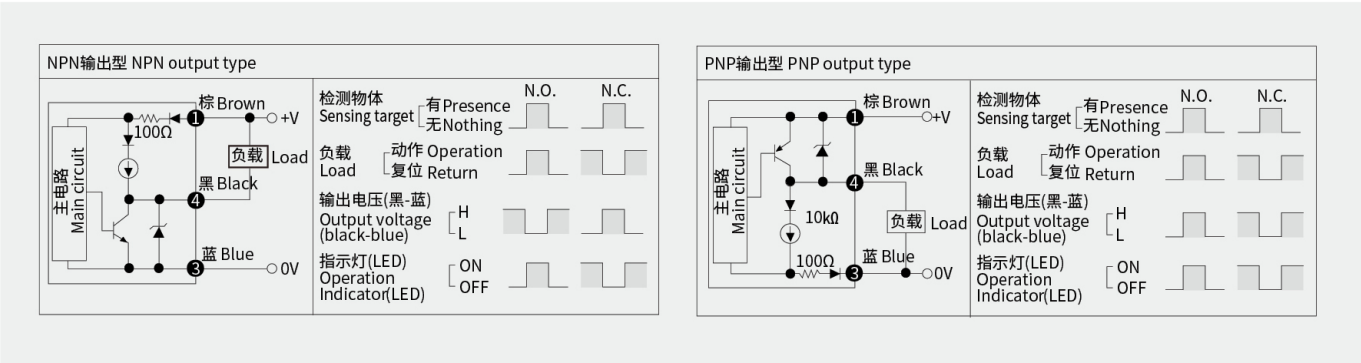


输出电路 Control Output Diagram

直流2线式 DC 2-wire type



直流3线式 DC 3-wire type



The diagram illustrates the main circuit and its corresponding waveforms. The main circuit consists of a power switch, a fuse, a diode, and a Zener diode. The load is connected to the output. The waveforms show the output voltage (V) and current (I) for different load conditions: No Load (N.O.), No Contact (N.C.), and Operation (ON/OFF).

| Load Condition     | Output Voltage (V) | Output Current (I) |
|--------------------|--------------------|--------------------|
| No Load (N.O.)     | High (ON)          | Low (OFF)          |
| No Contact (N.C.)  | Low (OFF)          | High (ON)          |
| Operation (ON/OFF) | High (ON)          | High (ON)          |

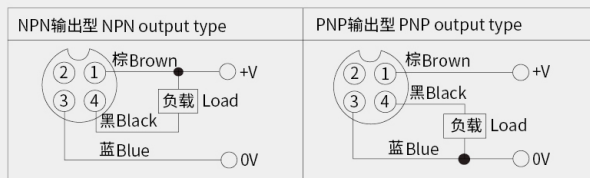
直流2线式(标准型) DC 2-wire type (Standard type)



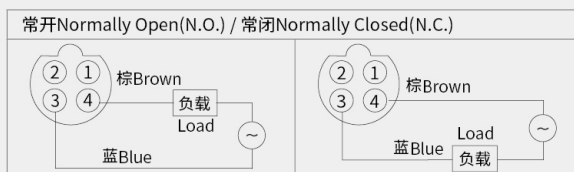
- 直流2线式(IEC规格) DC 2-wire type (IEC standard type)



- 直流3线式 DC 3-wire type



- 交流2线式 AC 2-wire type



- 89

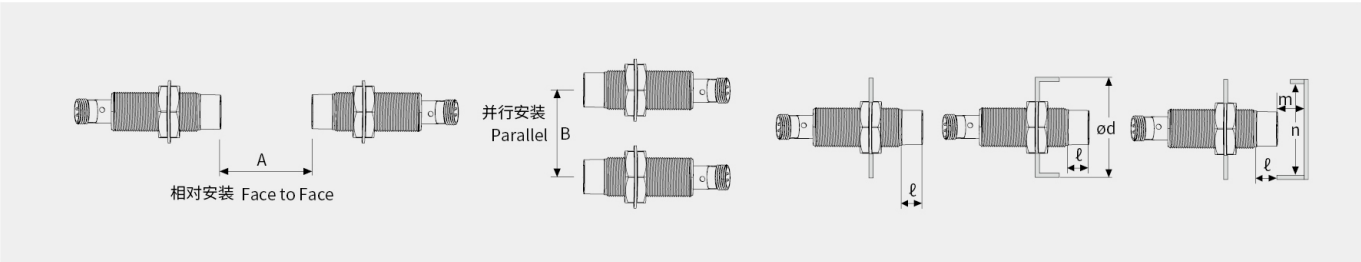
正确使用 Proper Usage

相互干扰 Mutual-interference

当把两个以上的接近开关一起安装使用时，可能会发生相互干扰引起的误动作，在安装时请务必满足下表中所规定的尺寸要求进行安装。  
When several proximity sensors are mounted close to one another a malfunction of the sensor may be caused due to mutual interference. Therefore, be sure to provide a minimum distance between the two sensors as below chart indicates.

周围金属的影响 Influence by surrounding metals

当接近传感器周围有金属存在时，为防止复位不正常等误差发生，安装时请满足下表中所规定的尺寸要求进行安装。  
When sensors are mounted on metallic panel, you must prevent the sensors from being affected by any metallic object except target. Therefore, be sure to provide a minimum distance as below chart indicates.



| 型号名Model | CJY12-02/M | CJY12-04/M | CJY18-05/M | CJY18-08/M | CJY30-10/M | CJY30-15/M |
|----------|------------|------------|------------|------------|------------|------------|
| 项目Item   |            |            |            |            |            |            |
| A        | 12         | 24         | 30         | 48         | 60         | 90         |
| B        | 24         | 36         | 36         | 54         | 60         | 90         |
| n        | 0          | 11         | 0          | 14         | 0          | 15         |
| φd       | 12         | 36         | 18         | 54         | 30         | 90         |
| ℓ        | 6          | 12         | 15         | 24         | 30         | 45         |
| m        | 18         | 36         | 27         | 54         | 45         | 90         |

使用注意事项 Using Precautions

本公司产品是作为工业产品而设计生产，严格遵守工业产品标准。我司明确声明，除非经过特殊设计并得到我司明确书面确认，我司产品不适用于以下应用场合：

- 要求极高可靠性的应用场合，包括核能、燃气、电力等要求长期稳定运行的系统。
- 要求极高安全性的应用场合，涉及人身安全与财产的情况。
- 苛刻条件、严酷环境的应用场合，包括室外、存在化学污染、电磁、振动或冲击影响的环境。
- 有火灾或爆炸风险的应用场合，包括存在易燃易爆性气体、强酸强碱化学品等物质的环境。
- 涉及军工用途、航天航空项目的应用场合。

The company's products are designed and produced as industrial products, in strict compliance with industrial product standards. We expressly declare that, unless specifically designed and expressly confirmed by us in writing, our products are not intended for the following applications:

- Applications that require high reliability, including nuclear, gas, electric and other systems that require long-term stable operation.
- Applications requiring very high security, situations involving personal safety and property.
- Applications in harsh conditions, harsh environments, including outdoor, chemical contamination, electromagnetic, vibration or shock effects.
- Applications where there is a risk of fire or explosion, including environments where flammable and explosive gases, strong acids and alkali chemicals are present.
- Applications involving military use and aerospace projects.