



编码器
传感器

安装操作说明

Installation operation instructions



镜反射式光电传感器

Retro-reflective Photoelectric Sensors

P20P5/P20L3系列

P20P5/P20L3 series

本安装说明全面涵盖以上系列：

请注意，图示可能与实际产品的型号、材料、颜色和接头类型上发生差异。

This installation guide covers all of the above series:

Please note that the illustration may differ from the actual product model, material, color, and connector type.

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P20P5/P20L3 © 2026.7.23

1、受伤风险 Risk of bodily injury

安装前注意事项 Important before mounting begins:



人身伤害危险
Risk of bodily injury



关闭电源
Switch off the power.



确保机器处于停机状态。在运动状态下操作可能导致人身伤害。
Make sure the machine is at a standstill. It may cause bodily injury when in motion.



2、损坏产品的风险 Risk of damage to the product

本产品为精密测量仪器，应由有经验的人员小心操作。
以下警告适用于，产品在超出技术规范极限值情况下使用。

The product is a precision measuring instrument. It should be handled with care, by experienced person-nel.
The warnings below apply in the event of effects outside the limit values stated in the product's data sheet.



产品损坏风险 Risk of damage to the product



极限温度下

If it is exposed to extreme temperatures



遭受敲打，撞击或其他物理损坏。

By impacts or knocks or other physical damage.



短路或供电电压过高

By short-circuits or an excessively high supply voltage



剧烈振动或冲击

If it is exposed to powerful vibrations or shock



电子产品被接触时的静电放电

By ESD discharges if the electronics are touched



潮湿或化学液体腐蚀 (不要竖直安装电缆)

By moisture or chemical fluids (do not install cable pointing upwards)



轴上作用力过大

If the shaft is exposed to high mechanical forces



3、功能与特性 Functions and features

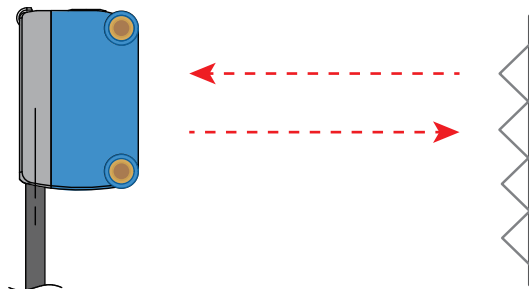
通过使用棱镜反射镜或反光带，镜片反射传感器无需接触即可检测物体和材料，并通过开关信号来指示其存在。

Retro-reflective photoelectric sensors utilize prismatic reflectors or reflective tapes to detect objects and materials without physical contact, and output switching signals to indicate their presence.

4、产品部件 Parts of the product



5、机械安装 Mechanical installation



将棱镜反射镜或反光带固定在检测物体的后面。

Mount the prismatic reflector or reflective tape behind the target object.

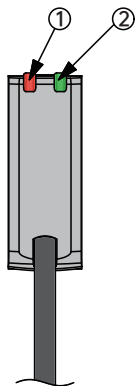
将镜片反射传感器与反射镜或反光带对齐,并将其固定在支架上。

Align the retro-reflective photoelectric sensor with the reflector/reflective tape, then secure the sensor to the bracket.

只有精确对准,才能实现最大的测量范围。

Maximum sensing range can only be achieved with precise alignment.

6、显示元件 Display element



① 红色LED-开关输出处于启用状态

Red LED - Switch output activated

② 绿色LED-电源指示

Green LED - Power indicator



本安装说明仅适用于P20P5 / P20L3系列镜反射式光电传感器产品,如果违反原设计用途使用产品,用户需自行承担风险。如有更改,恕不另行通知。 6

Instructions in these mounting instructions apply to products from P20P5 / P20L3 Retro-reflective Photoelectric Sensors, not for the system as a whole. If products are used in a way for which they are not intended, this is at the user's own risk. Subject to change without notice.

7、电气安装 Electrical mounting



传感器必须由合格的电气人员完成连接。

The sensor must be connected by a qualified electrician.

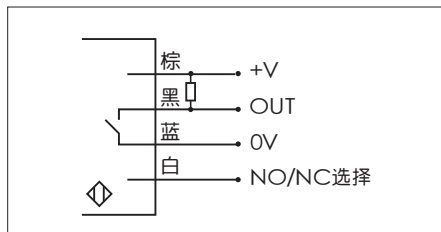
遵守国家和国际有关电气设备安装的规定。

Observe the national and international regulations for the installation of electrical equipment.

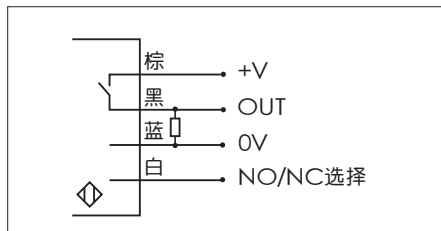
断开电源，按照数据表中规定的方式连接该产品。

Disconnect power. Connect the unit as specified in the data sheet.

NPN



PNP



带有电缆连接的设备的核心颜色

Core colours for units with cable connection:

BN=棕色, BU=蓝色, BK=黑色, WH=白色,
BN = brown, BU = blue, BK = black, WH = white.



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8、操作 Operation

检查传感器是否正常工作。

Check if the sensor works properly.

提供电源电压，绿色 LED 亮起。

Apply supply voltage; the green LED will light up.

白线与蓝线相连时：光路无阻断时，红色 LED 亮起。

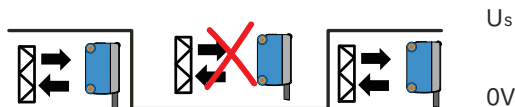
When the white (WH) wire is connected to the blue (BL) wire: The red LED turns on when the light path is unobstructed.

白线与棕线相连或悬空时：光路被阻断时，红色 LED 亮起。

When the white (WH) wire is connected to the brown (BN) wire or left unconnected: The red LED turns on when the light path is obstructed.

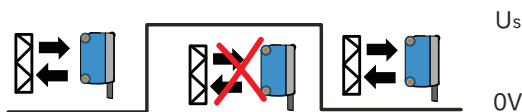
9、设定 Setting

9.1 设定输出功能 Setting of Output Function



白线与棕线相连或悬空时：光路无阻断时，黑线输出高电平；光路被阻断时，黑线输出低电平。

When the white (WH) wire is connected to the brown (BN) wire or left open: The black (BK) wire outputs a high level when the light path is unobstructed; the black (BK) wire outputs a low level when the light path is blocked.



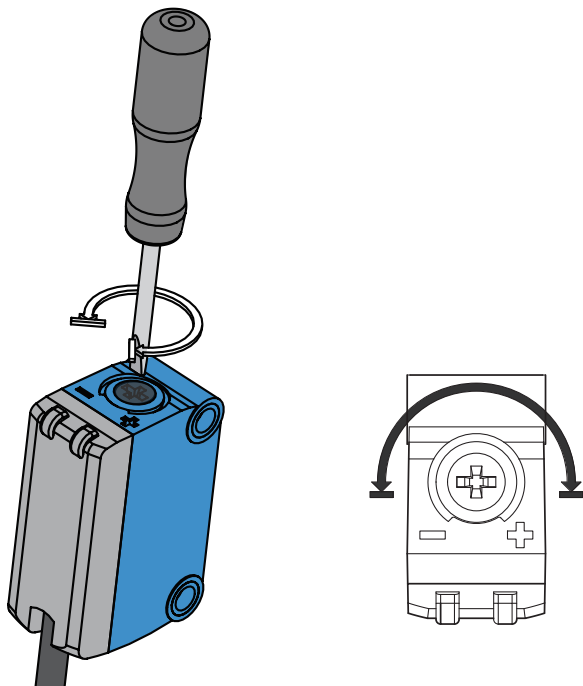
白线与蓝线相连时：光路无阻断时，黑线输出低电平；光路被阻断时，黑线输出高电平。

When the white (WH) wire is connected to the blue (BL) wire: The black (BK) wire outputs a low level when the light path is unobstructed; the black (BK) wire outputs a high level when the light path is blocked.



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9.2 设定灵敏度 Sensitivity Setting



提高灵敏度:顺时针方向旋转电位计设定螺丝。

Increase sensitivity: Turn the potentiometer adjusting screw clockwise.

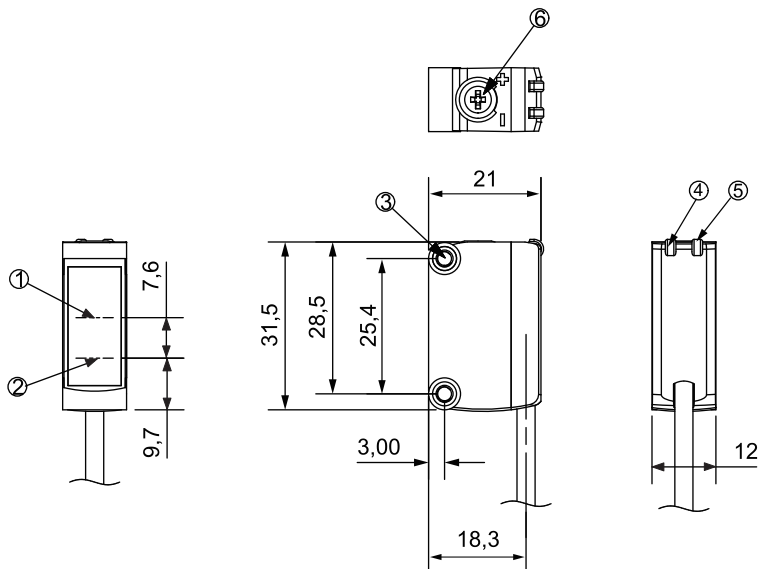
降低灵敏度:逆时针方向旋转电位计设定螺丝。

Decrease sensitivity: Turn the potentiometer adjusting screw counterclockwise.



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10、机械图 Dimensions



①	光轴,接收器 Optical axis, receiver
②	光轴,发射器 Optical axis, transmitter
③	安装孔M3 M3 mounting hole
④	红色LED指示灯: 光接收状态 Red LED indicator: Light reception status
⑤	绿色LED指示灯: 供电电压激活 Green LED indicator: Power supply active
⑥	灵敏度设置: 电位计 Sensitivity adjustment: Potentiometer



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- 通讯手册(软件手册) Software manuals
- CAD (2D) / STEP (3D)
- 证书 Certificates





维护 Maintenance

P20系列镜反射式光电传感器免维护，如损坏，则无维修选项。

P20 series Retro-reflective photoelectric Sensors are maintenance-free, with no repair options if damaged.



废弃处理 Disposal

必须根据当地有效的现行废弃物废弃处理规定，安全环保地废弃处理无法再使用的设备。

Equipment that is no longer usable must be disposed of safely and environmentally in accordance with local waste disposal regulations currently in force.



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传感器

托菲传感技术（上海）股份有限公司

TOFI Sensing Technology (Shanghai) Co.,Ltd

Floor 8th, Building 2, No.1422, Shuidian Road, Hongkou District

Tel: +86 21 65311020

E-mail: tofi@tofi-tech.com

Internet: www.tofi-tech.com

