

Photoelectric Switch Manual--PQ20D(2) BG
Background Suppression Diffuse Reflection

characteristic

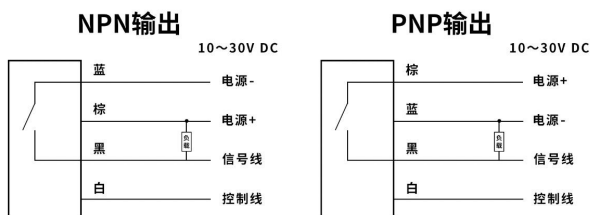
- Resistant to color interference of the tested object and capable of effective background shielding
- The red light source is visible, facilitating installation and debugging.
- Strong anti-interference capability, suitable for complex environments
- Smaller spots for more precise detection

parameter declaration

Model	PQ20D(2)BGPD100
	PQ20D(2)BGND100
Detection distance	5 ~ 100mm ^{*1}
Minimum detectable distance	5 ~ 25mm ^{*1}
Maximum detection range	5 ~ 100mm ^{*1}
Adjustable detection range	25 ~ 100mm ^{*1}
Black-white contrast (6%/90%)	<6% (at 100 mm)
Distance adjustment	5 Adjust with the ring knob
Illuminant	Glow LED
Spot diameter	Approximately 6 mm at a detection distance of 100 mm
Angle of divergence	Approximately 4 °
Working voltage	10-30VDC
No-load current	≤ 15mA
Load current	≤ 100mA
Reaction time	< 2ms
Power-on delay	200ms
Output instruction	Green light indicates power supply status, red light indicates output status
Defensive function	Short-circuit protection, Power supply reverse polarity protection
Working temperature	-25 ~ 55°C
Levels of protection	IP67
Material quality	Shell: ABS; Lenses: PMMA
Mode of connection	2M cable
Fittings of a machine	1 screwdriver, 1 metal bracket, 2 sets of screw and nut

Note: *1 Reference object: Standard whiteboard, 100*100 mm

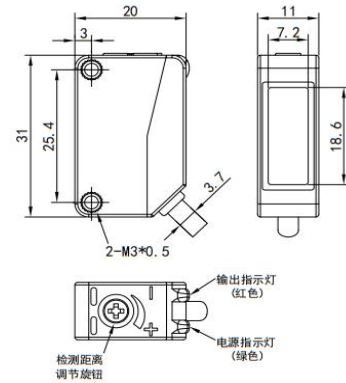
hookup



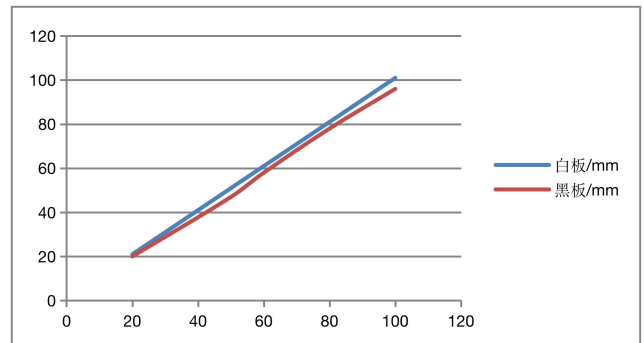
The control line is normally closed when connected to the power supply's negative terminal.

The control line is connected to the positive terminal of the power supply or left unconnected as normally open.

Mechanical dimension drawing (Unit: mm)



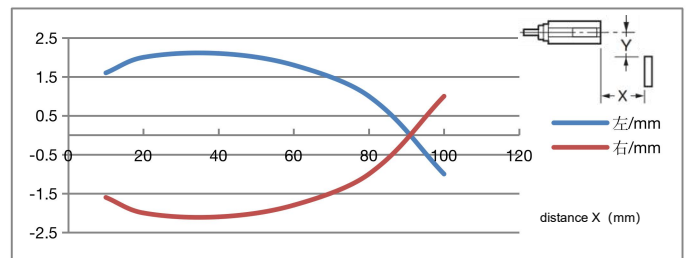
Detection Range Difference Curve



The closer two lines are, the smaller the difference in black-and-white detection becomes.

characteristic curve

distance Y (mm)



matters need attention

- This product must not be used during the initial power-on phase (within 200ms).
- Ensure proper connection when wiring to avoid product damage.

Maintenance and Repair

To ensure long-term stable operation of the photoelectric switch, perform the following periodic inspections as with standard controllers:

- Inspect the installation position of the detection object and photoelectric switch for any displacement, loosening, or deformation;
- Inspect the wiring and connection points for looseness, poor contact, or wire breaks;
- Inspect the inspection surface for accumulation of adherent metal dust or other debris;
- Check whether the operating temperature and surrounding environmental conditions are abnormal.