



Z3J — Series

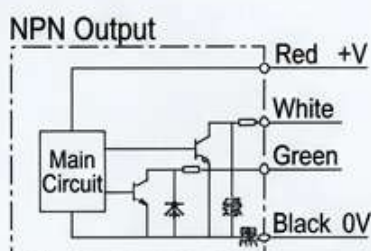
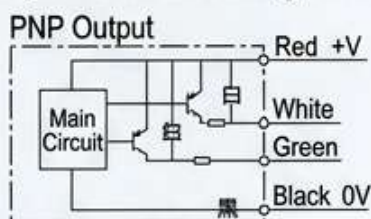
— Infrared Photoelectric Switches, Mark Sensors



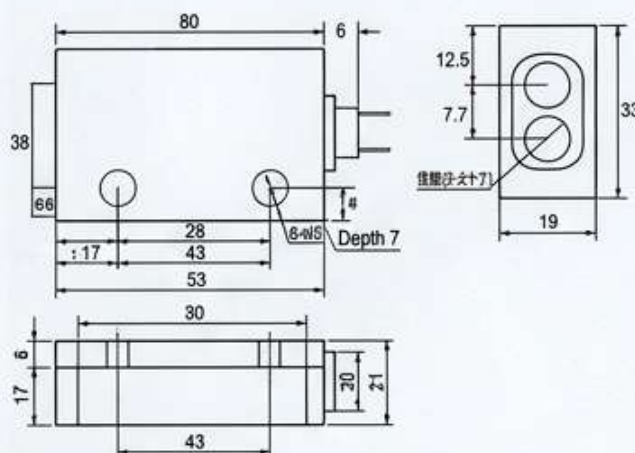
■ Main Technical Parameters

Model Number	Z3J-ZC3	Z3J-Ds15E5	Z3J-Ds30E3	Z3J-Ds50E3	Z3J-Vs2GE3
Detection Distance	2 m	15 cm	30 cm	50 cm	10mm±1mm
Supply Voltage Vs	DC12-24V +/- 10% Ripple <10%				
Current Consumption	below 45mA				
Standard Detected Object	5x5cm White Paper				5x10mm Black Mark
Load Current	100mA				
Output Voltage Drop	1V(max)				
Response Time	2ms				
Sensitivity	Single-turn adjustable				
Action Mode	Light ON, Dark ON				
Action Indicator	Red LED				
Protection Level	IP64				
Housing Material	Metal				
Light Source Spectrum	Infrared Ray				Green(G)/Red(R)
Lead Wire	φ5.4PVC 4-core cable, Standard length 2m				
Ambient Temperature	Operating -25°C~55°C				

■ Output Circuit Diagrams



■ External Dimensions



Note: Custom ordering required for PNP output

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■ Operation Steps

I. Infrared Photoelectric Switch Operation Steps:

Fix the photoelectric switch, adjust the sensitivity knob to match the object to be detected, from low to high, the detection distance can increase from 0mm to the maximum detection distance of this model.

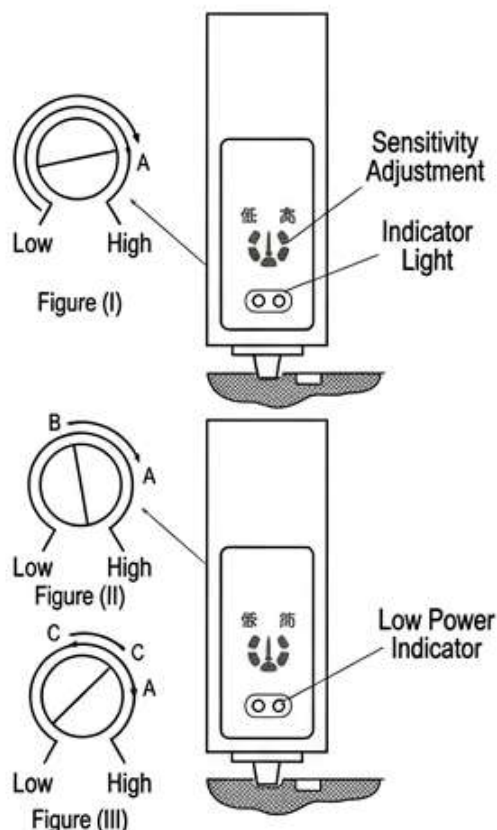
II. Mark Type Photoelectric Switch Operation Steps:

Fix the photoelectric switch so the detection distance is within specification. (Note: Output can be set to Bright-ON or Dark-ON. As an example, the setting process for Bright-ON with a light mark and dark background is given).

(1) Move the packaging paper to position the light spot in the mark background area, outside the mark. Turn the sensitivity knob fully counter-clockwise, then slowly turn it clockwise until the indicator light just turns ON. Remember this position (A).

(2) Move the packaging paper so the light spot falls on the mark, at this point the indicator light should respond. Slowly turn the sensitivity knob counter-clockwise until the indicator light just turns OFF. Remember this knob position (B).

(3) After completing the above two steps, set the knob position midway between A and B, which is position C, as shown in figure (III). The setting is complete. The greater the distance between A and B, the better the mark color differentiation and the more stable the detection. Position A and B must be separated by at least one gradient mark, otherwise, detection will be unstable.



■ Model Table

Type		Green Light Mark					Red Light Mark	
		Through-beam		Diffuse Reflective			Axial	Red
Detection Distance		2m	3m	15cm	30cm	50cm	10cm	10cm
Installation Method	直式	2C3	3C3	DS15E3	DS30E3	DS50E3	Vs2GE3	Vs2RE3
	侧式	2Cs1	3Cs1	Ds15E31	Ds30E31	Ds50E31	Vs2GE31	Vs2RE31

■ Precautions

1. When mark color differentiation is low (e.g. white paper with a light yellow mark) or if high-speed response <2ms is required, it is recommended to use the Z3N or Z3S series.
2. Ensure the power supply matches DC12-24V $\pm 10\%$ before connecting power. Do not exceed 30V, otherwise, the photoelectric switch may be damaged.
3. Handle the sensitivity knob with care. Use a standard flat-blade screwdriver and avoid excessive force prevent damage.
4. When detecting highly reflective objects, install the switch with a 15 degree angle to the surface of the object to ensure optimal performance.
5. For mark detection stability, two points must be met or: The detection distance must match the rated distance for that model; and strictly follow the method sensitivity follow the operation steps to adjust sensitivity. Re-adjust whenever a different packaging paper is used.
6. Install the switch lens away from direct, strong light sources, or use proper shielding measures.
7. Operating environment temperature, humidity, vibration and presence of corrosive gases will all affect switch performance. Pay close attention to these factors.
8. Maintain lens cleanliness. Avoid direct exposure of the lens to high-temperature dust environments.
9. This product is guaranteed for one year for non-human factors. Defective units can be returned to the factory for repair or replacement.

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