

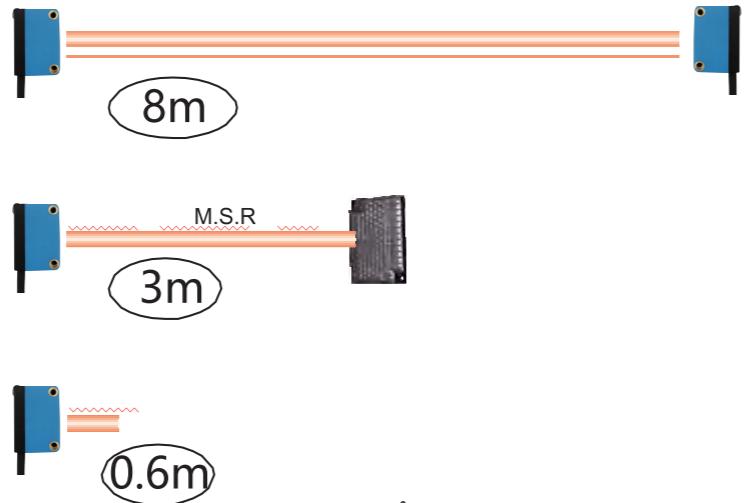
EZ NORMAL SQUARE PHOTOELECTRIC SENSOR



Square photoelectric sensor

Amplifier built-in type with industry top class detection distance

Through-beam type (red light source type, detection distance 8m) product is equipped with a filters to prevent mutual interference. Various reflective products (2 units) are equipped with a function to prevent mutual interference. A long-range through-beam type with a detection distance of 30 meters (response time 2ms) is also available.

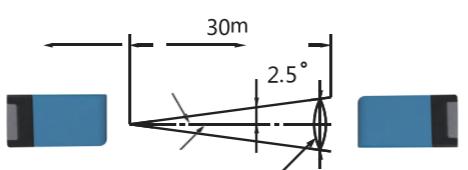


Guaranteed low-temperature performance, even in refrigerated warehouses

Extended ambient temperature range of -40 to +55 degrees Celsius

Improved consistency between optical axis and mechanical shafts

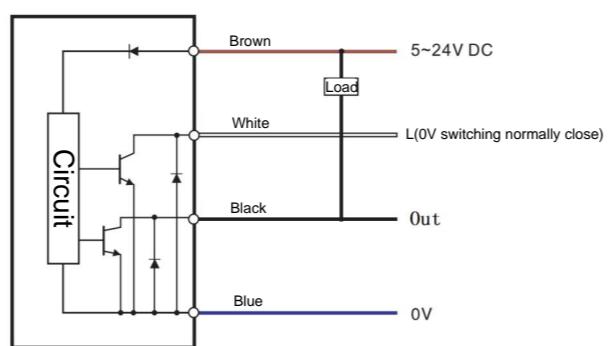
The deviation between the optical axis and mechanical axis is controlled within ± 2.5 degrees, and only needs to be mounted in conjunction with the mechanical shafts to achieve high-precision alignment with the optical axis. Longer detection distances are realized (through-beam type, regression reflection type).



It protects sensors even if wiring is wrong

Equipped with output reverse connection protection function. (Diodes for reverse connection protection added to output lines)

Wiring diagram



Square photoelectric sensor

Category

Detection method	Shape	Detection distance	Light source	Model	
				NPN output	PNP output
Through-beam type (light projector + light receiver)		8m	Red light (640nm)	EZ-T61	EZ-T61P
			Infrared light (950nm)	EZ-T51	EZ-T51P
Regression reflection type (specular type)		3m	Red light (640nm)	EZ-R61	EZ-R61P
			EZ-R61S	EZ-R61PS	
Diffuse reflection type		10CM	Red light (640nm)	EZ-D61	EZ-D61P
			Infrared light (950nm)	EZ-D51	EZ-D51P
Diffuse reflection type		30CM	Red light (640nm)	EZ-D62	EZ-D62P
			Infrared light (950nm)	EZ-D52	EZ-D52P

Rated specification and performance

Detection method Through-beam type				Regression reflection type	Diffuse reflection type			
Model	NPN output	Wire lead	EZ-T61	EZ-R61 EZ-R61S	EZ-D61 EZ-D62			
Detecting objects		Opaque objects 12mm in diameter		Opaque objects 5mm in diameter	100X100 white drawing paper			
Light source (wavelength)				640nm red light				
Power supply voltage				DC12-24V pulsation (p-p) 10% or below (DC10-30)				
Current consumption			25mA	45mA				
Control output			Load power supply current 100mA or below (residual voltage 1V or below)					
Circuit protection			Surge protection, short circuit protection, reverse polarity protection					
Response time			Action/reply under 1.0ms each					
Indicator light			Action indicator light (red)					
Ambient temperature	In action: -25 ~+55 (no icing, non-frosting) In storage: -40 ~+70 (no icing, non-frosting)							
Ambient illumination effect	Daylight: 10000LX or below Incandescent light: 3000Lx or below							
Service ambient humidity	In action - 45% to 85% (no icing) RH In storage: 35% to 85% (no icing) RH							
Voltage effect	When the rated power supply voltage fluctuates within $\pm 15\%$, the detection distance changes within $\pm 1\%$							
Insulation resistance	20M or above (DC500 megohmmeter) between the charging part and housing							
Dielectric strength	AC1000V or above at 50/60Hz for 1min between the charging part and housing							
Vibration (durable)	10-50Hz,1.5mm double amplitude, reaches 1h in each direction of X, Y, Z							
Impact (durable)	500m/s ² double amplitude, 3 times in each direction of X, Y, Z							
Protection structure	IP65							
Connection method	Wire lead type (standard 2m)							
Housing material	PC							

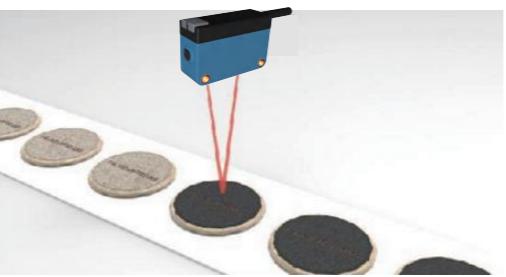
EZ-BG BACKGROUND SUPPRESSION PHOTOELECTRIC SENSOR



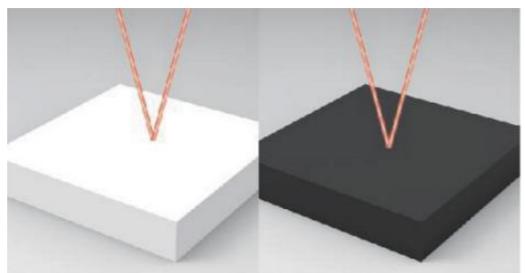
Background suppression photoelectric sensor

Perfect application of BGS function

Black and white workpieces can be detected at almost equal distances. There is no need to adjust the detection distance even when changing production on a line where different-colored workpieces are circulating.

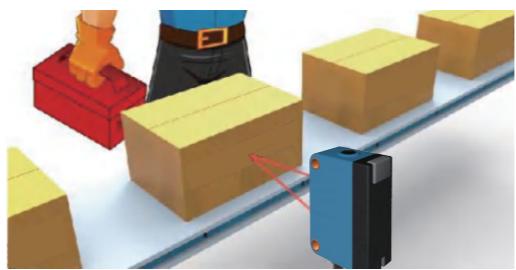


Hardly affected by changes in the color of the object to be detected, both black and white can be detected at almost the same distance.



When no background

When the workpiece is separated from the background object



Interference resistant

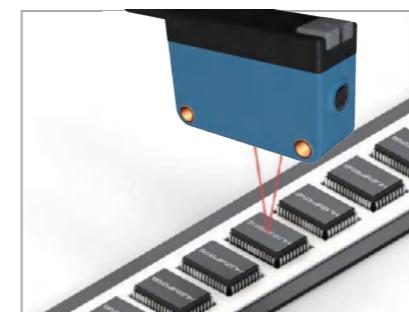
According to the unique external anti-light interference avoidance algorithm, it can effectively avoid the same-frequency light interference, and can also be resistant to variable frequency fluorescent lights.

High precision

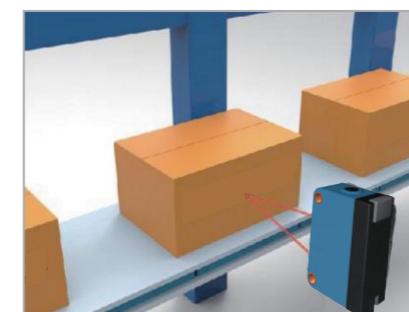
Small laser spot, high repeat accuracy

Background suppression photoelectric sensor

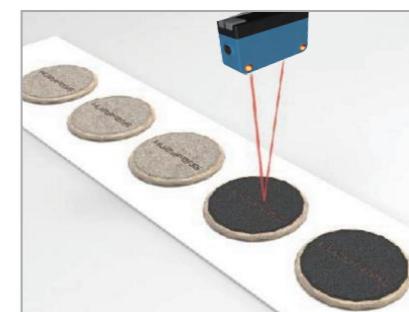
Application Examples



Detection of IC production



Detection of workpieces on production line without background



Detection of different color cookie production line

Category

Detection method	Light source	Shape (mm)	Detection range	NPN type	PNP type
Distance detection type	Laser		120mm	EZ-L61-BG	EZ-L61P-BG
			300mm	EZ-L62-BG	EZ-L62P-BG
	Red light LED		100mm	EZ-D61-BG	EZ-D61P-BG
			300mm	EZ-D62-BG	EZ-D62P-BG
			500mm	EZ-D66-BG	EZ-D66P-BG

Technical parameters

Model Item	Category NPN output	Outgoing wire type				
		EZ-L61-BG Laser light spot 2mm	EZ-L62-BG Laser light spot 2mm	EZ-D61-BG Min. light spot 1mm	EZ-D62-BG Light spot 8-12mm	EZ-D66-BG Collimated light spot 8mm
Detection distance		10-120mm	30-300mm	5-100mm	10-600mm (Within 300mm of BG function)	10-1500mm (Within 500mm of BG function)
Output mode		NPN/PNP open integrated electrode, 100mA/30V DC				
Switching mode		L.on(light-input action)/D.on(light-darkening action) can be switched				
Indicator light		Operating indicator: green, output indicator: orange				
Response time		<2ms				
Sensitivity adjustment		Multi-turn potentiometers				
Light source		Laser, red light LED (660nm)				
Operating voltage		10-30V DC±10%				
Current consumption		30mA				
Ambient light		Daylight: 10000LX or below Incandescent light: 3000LX or below				
Ambient temperature		-25 ~ +55				
Environmental humidity		-35% 85% no icing				
Protection level		IP65				
Material		ABS (Housing); PC (Lens)				

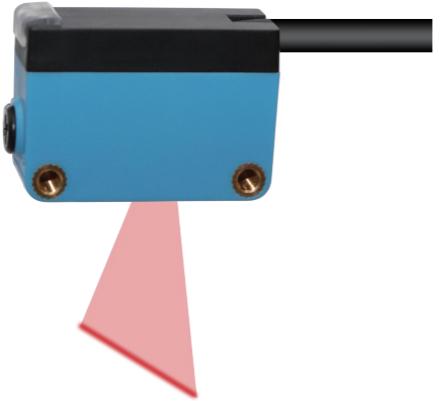
EZ DIFFUSE STRIP PHOTOELECTRIC SENSOR



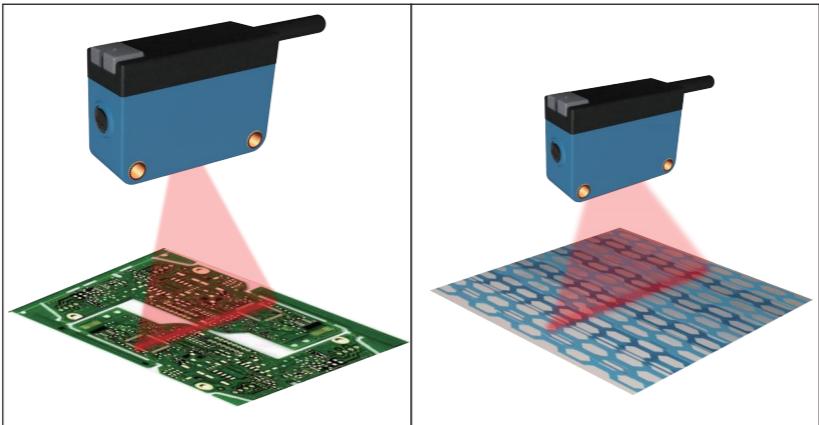
Diffuse strip photoelectric sensor

Characteristics

Stabilized detection light spot of 5x30mm with strip light design
Comes with BG function, especially suitable for detection of products with hollow or concave-convex surfaces
Intuitive high brightness red light high speed response
Default outgoing line of 2 meters, supports customization



Application scenario



Detection of hollow circuit boards

Detecting irregular hardware

Diffuse strip photoelectric sensor

Product parameters

Limited reflection type (diffused light type)

Diffuse strip photoelectric sensor			
Category	NPN signal output	EZ-D461	EZ-D561
	PNP signal output	EZ-D461P	EZ-D561P
Detection distance	5Mm~200mm, light spot 4mm	5Mm ~ 100mm, light spot 1mm	
Light source	640nm red light	640nm laser	
Min. detected object	2mm copper wire (setting distance 100mm), can filter up to 5mm gap or perforation		
Repeated accuracy	1mm or below		
Power supply voltage	12-24V DC±10%		
Pulsation	P-P 10% or below		
Current consumption	13mA or below		
Output	· Default NPN signal, Max. inflow current: 50mA		
	· Impressed voltage: 30V DC or below (between output and OV)		
	· Residual voltage: 2V or below (inflow current 50mA)		
Short circuit protection	Equipped		
Response time	0.5ms or below		
Working status indicator light	Power-on green LED, sensing orange LED (light on when output is ON)		
Environmental performance	Protection structure	IP67(IEC)	
	Service ambient temperature	-25~+55 (Note: no condensation or icing), in storage: -30~+70	
	Service ambient humidity	35~85%RH, in storage: 35-85%RH	
	Service ambient luminance	Incandescent light: lighted surface luminance 3000R or below	
Light projection component	640nm red LED		
Material	Housing: PC		
Cable	Rubber cable outer diameter 2.8mm, length 2m, customized extensions available		
Weight	Body weight: about 50g		

- Slotted sensor
- Optical fiber sensor
- Displacement sensor
- Safety sensor
- Photoelectric sensor
- Proximity sensor
- Specialized sensor

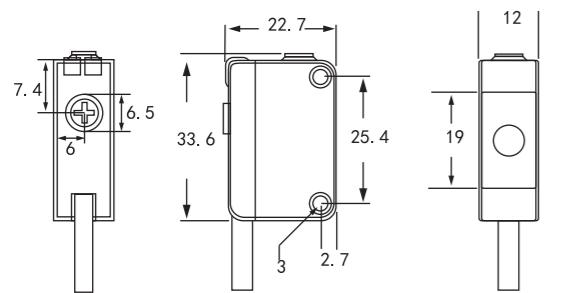
Diffuse strip photoelectric sensor

Diffuse strip photoelectric sensor

Dimension diagram (unit: mm)

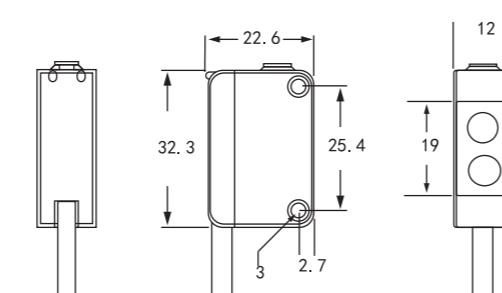
EZ-R61/T61

Wiring sequence	Specification
Brown	+24V
White	0V switching normally open
Blue	0V
Black	Normally close output (ON when light-input)

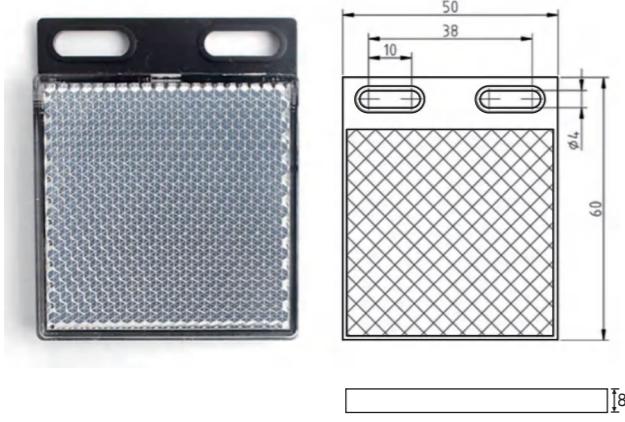


EZ-D62/D62-BG

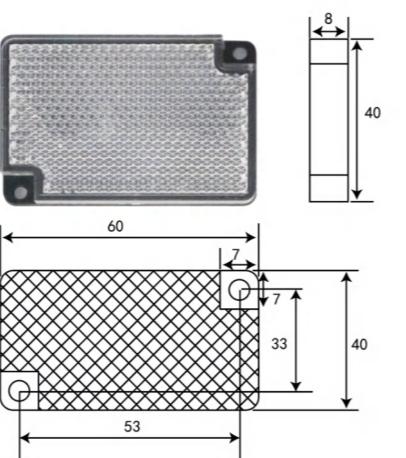
Wiring sequence	Specification
Brown	+24V
White	0V switching normally close
Blue	0V
Black	Normally open output (ON when light-input)



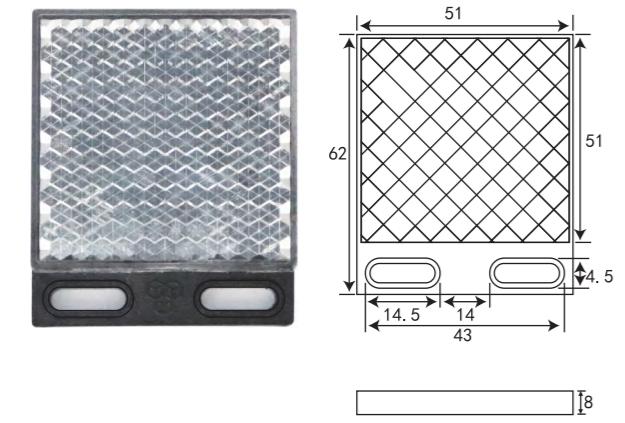
EZ-TD08



EZ-TD09



EZ-TD08B (large honeycomb)



EZ LASER PHOTOELECTRIC SENSOR



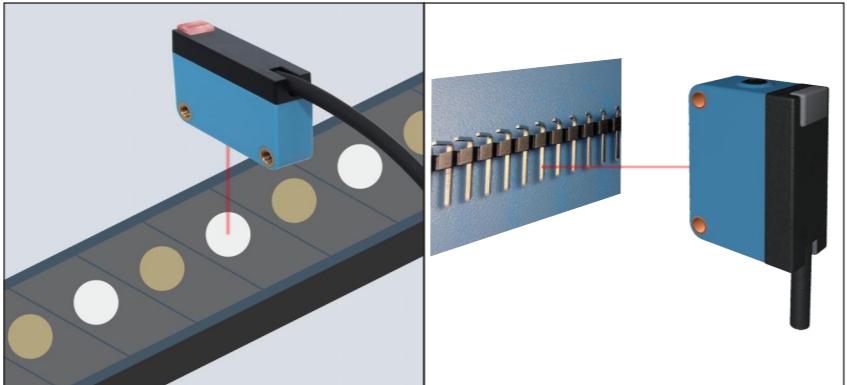
Laser photoelectric sensor

Characteristics

Advantage: fast response, high precision, suitable for detecting fine objects.
Light spot: 1~2mm light point
Light source: visible red laser light source (660nm)



Application scenario



Detection of fine objects in high-speed assembly lines

Electronics product counting

Laser photoelectric sensor

Category

Detection method	Shape	Detection distance	Light source	Model	
				NPN output	PNP output
Through-beam type		Wire lead type (2m)	30m	EZ-LT61	EZ-LT61P
Specular reflection type		Wire lead type (2m)	5m	EZ-LR61	EZ-LR61P
Diffuse reflection type		Wire lead type (2m)	300mm	EZ-LD61	EZ-LD61P

Product parameters

Model	Output	Through-beam type	Specular reflection type	Diffuse reflection type
	NPN	EZ-LT61	EZ-LR61	EZ-LD61
	PNP	EZ-LT61P	EZ-LR61P	EZ-LD61P
Detecting objects		10x10mm white drawing paper	10x10mm white drawing paper	Opaque objects 2mm in diameter
Light source (wavelength)				660nm red laser
Power supply voltage				DC12-24V pulsation (p-p) 10% or below (DC10-30)
Current consumption		55mA		45mA
Control output				Load power supply current 150mA or below (residual voltage 1V or below)
Circuit protection				Surge protection, short circuit protection, reverse polarity protection
Response time				Action/reply under 1.0ms each
Indicator light				Action indicator light (red)
Ambient temperature				-25 ~+55
Ambient illumination effect				Incandescent: 3000Lx or below
Service ambient humidity				In action - 45% to 85% (no icing) RH In storage: 35% to 85% (no icing) RH
Voltage effect				When the rated power supply voltage fluctuates within ±15%, the detection distance changes within ±1%
Insulation resistance				20M or above (DC500 megohmmeter) between the charging part and housing
Dielectric strength				AC1000V or above at 50/60Hz for 1min between the charging part and housing
Vibration (durable)				10~50Hz, 1.5mm double amplitude, reaches 1h in each direction of X, Y, Z
Impact (durable)				500m/s² double amplitude, 3 times in each direction of X, Y, Z
Protection structure				IP65
Connection method				Wire lead type (standard 2m)
Housing material				ABS

- Slotted sensor
- Optical fiber sensor
- Displacement sensor
- Safety sensor
- Photoelectric sensor
- Proximity sensor
- Specialized sensor