

## ESP Series

# Anti-light (Strong) Safety Light Curtain



## Product Introduction

ESP series is specially designed for environment with strong light or even under sunshine. Independent dual output with selfdiagnosis and overcurrent protection, Special optical lens ensure its long sensing distance up to 20m; Transistor output can be connected with PLC directly; Double-sided chute enclosure support diverse mounting.

## Product Feature

- Great performance against strong light and sunlight;
- Long sensing distance up to 20m;
- Dual output with self-diagnosis achieve high safety performance;
- Good ability against electromagnetic interference of various machine motor;
- Anti-shock circuit and strong aluminum alloy avoid vibration influence;
- Wire-syn against light interference well;
- Multiple mounting for more environment installation.

## Product Parameter

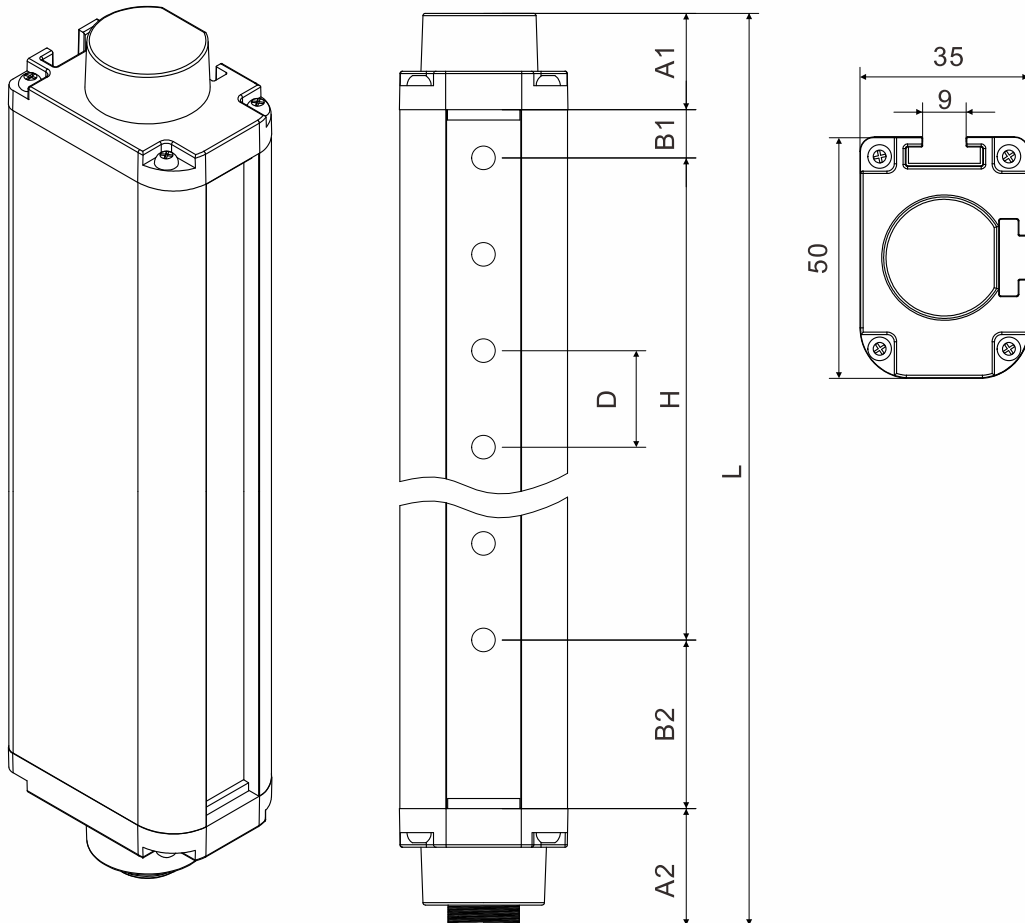
Power Supply	DC24V±20%
Capacity	<5W
Beam Space	20mm, 40mm
Resolution	30mm, 50mm
Beams	20mm: 8, 16, 24,...160
	40mm: 8, 16, 24,...80
Protective Height	Protection height=(N-1)*beam space, N is beams
Light Wavelength	940nm
Response Time	Response Time= (N * 0.1ms) + 0.4ms N is beams
Safety Output (OSSD)	PNP or NPN Load current≤500mA (Temperature exceed 40℃≤400 mA), residual voltage≤1V (any voltage drop caused by cable extension is excepted.), voltage leakage≤0.1mA.
Protective Circuit	Overvoltage protection, power supply reverse protection and overcurrent protection.
Sensing Distance	0.1~2m, 0.1~5m, 0.1~10m, 0.1~20m (Remark: please let us know when with reflectivity)
Against Optical Interference	10000 Lux (angle>2.5°)
Sensing Method	Thru-beam
Synchronization	Wire-syn
Enclosure Material	Aluminum alloy
Enclosure Protection Rate	IP65
Sectional Size	35*50mm
Vibration Resistance	Frequency 10Hz-55Hz, amplitude 0.35±0.05mm, 20time each X, Y and Z direction.
Ambient Operating Temperature	-10℃~55℃ (no freezing)
Storage Temperature	-30℃~70℃ (no freezing)
Ambient Operating Humidity	When temperature 20℃, the humidity max. 85%

## Model Selection (e.g.: ESP1620L1NCC-5)

Product Series	Beams	Beam Space	Installation	Output	Sensing Method	Scanning Mode	Sensing Distance
<b>ESP</b>	<b>16</b>	<b>20</b>	<b>L1</b>	<b>N</b>	<b>C</b>	<b>C</b>	<b>5</b>
	08, 16, 24...	20mm 40mm	L1: L1 side mounting bracket H1: H1 bracket JZ: JZ vibration absorbing bracket	N: NPN P: PNP	C: normally close	None: parallel scanning C: cross scanning	2: 0.1~2m 5: 0.1~5m 10: 0.1~10m 20: 0.1~20m (Remark: please let us know when with reflectivity)

# Safety Light Curtain

## Product Size

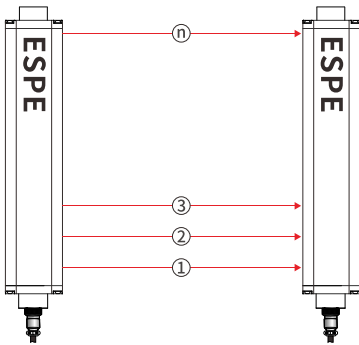
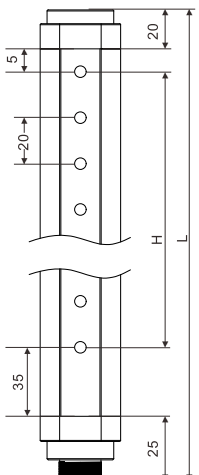
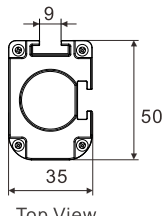


A1: Upper end cover  
 A2: Lower end cover + aviation terminal  
 B1: Up blind area  
 B2: Bottom blind area  
 D: Beam space (20mm/40mm)  
 H: Protection height  
 L: Total height

A1 is 20mm, A2 is 25mm  
 When D=20mm, B1=10mm, B2=35mm  
 When D=40mm, B1=10mm, B2=35mm  
  
 $H = (\text{Beams} - 1) \times \text{beam space}$   
 $L = A1 + B1 + B2 + H$

## ESP Model Selection Table

- Beam space 20mm, resolution 30mm

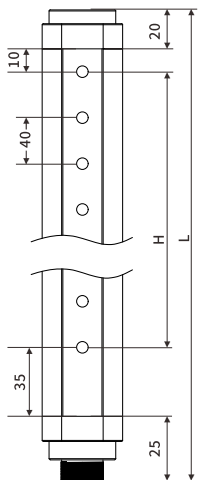
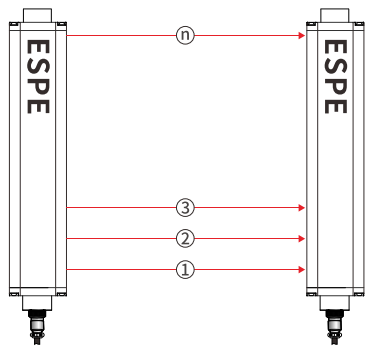
Picture	Beams (n)	Protection Height (mm)	Total Height (mm)	Model
  Front View  Top View	08	140	230	ESP0820
	16	300	390	ESP1620
	24	460	550	ESP2420
	32	620	710	ESP3220
	40	780	870	ESP4020
	48	940	1030	ESP4820
	56	1100	1190	ESP5620
	64	1260	1350	ESP6420
	72	1420	1510	ESP7220
	80	1580	1670	ESP8020
	88	1740	1830	ESP8820
	96	1900	1990	ESP9620
	104	2060	2150	ESP10420
	112	2220	2310	ESP11220
	120	2380	2470	ESP12020
	128	2540	2630	ESP12820
<p>H is protection height=(beams-1)*beam space                      L is total height=end covers+ up &amp; bottom                      blind area + protection height</p>	136	2700	2790	ESP13620
	144	2860	2950	ESP14420
	152	3020	3110	ESP15220
	160	3180	3270	ESP16020

Remark: Beside above models, other light curtains can be customized

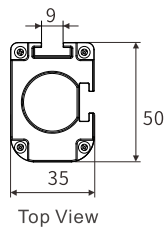
# Safety Light Curtain

## ESP Model Selection Table

- Beam space 40mm, resolution 50mm



Front View



Top View

H is protection height=(beams-1)\*beam space

L is total height=end covers+ up & bottom

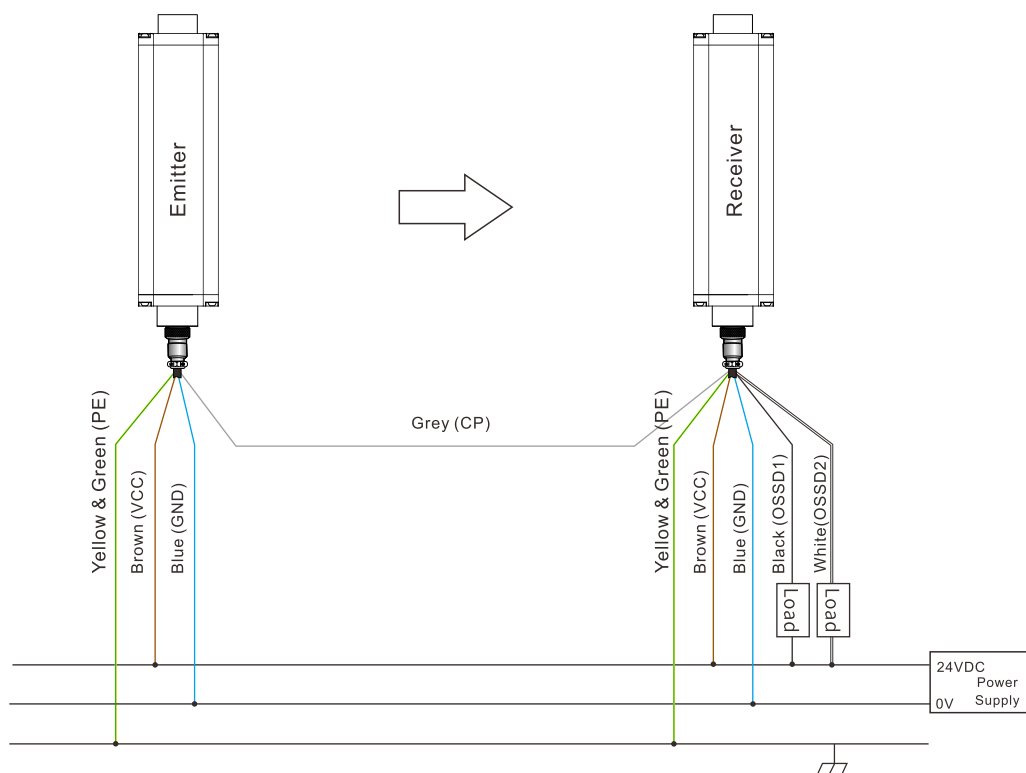
blind area + protection height

[illegible]

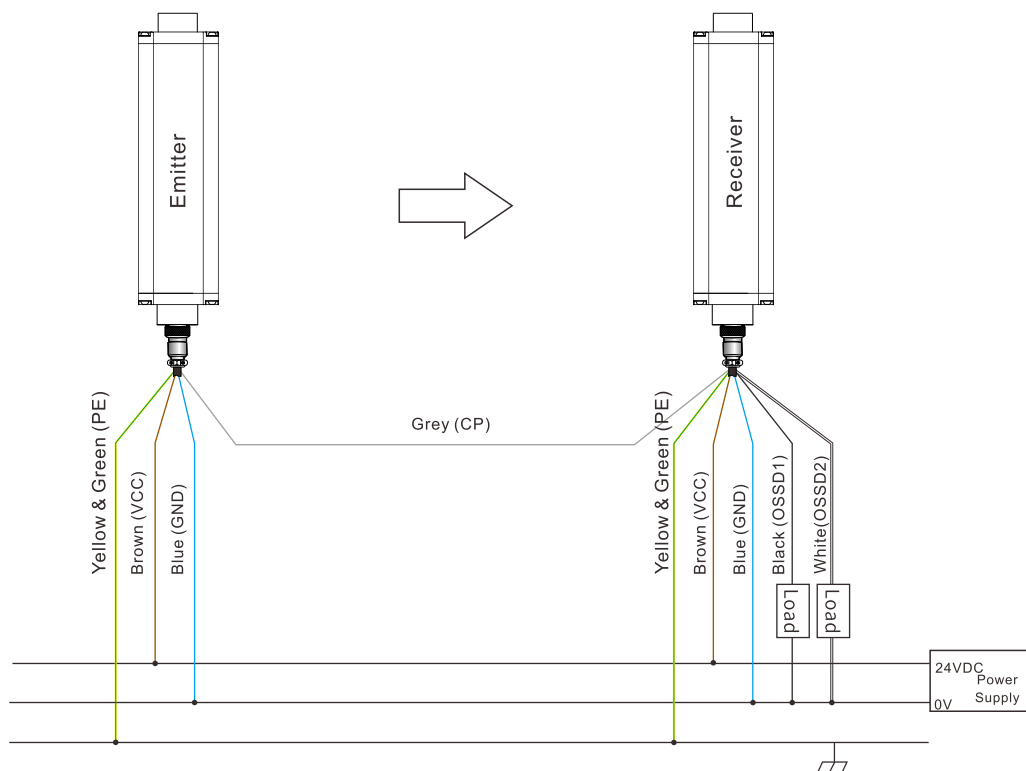
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## Wire Diagram

### NPN


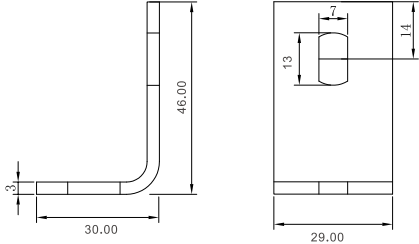

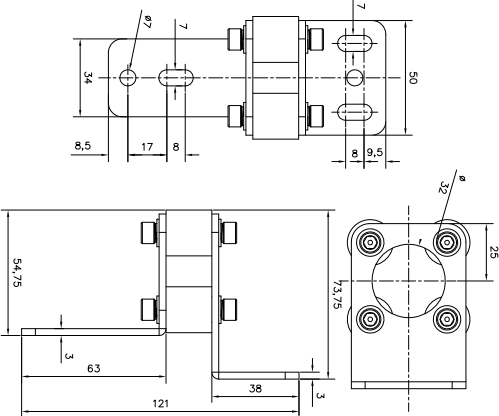

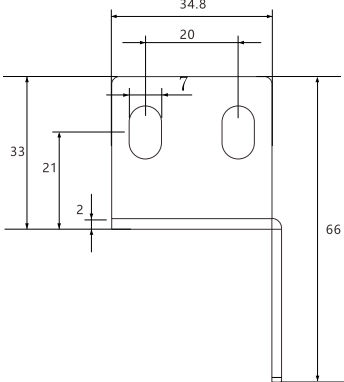


### PNP



# Safety Light Curtain

## Option of Bracket

Picture	Name	Accessories	Size
	L1 bracket	L1 bracket (4pcs) Slider (4pcs) M6 gasket (4pcs) M6 spring washer (4pcs) M6*16 screw (4pcs) M6*8 screw (4pcs)	
	JZ vibration absorbing bracket	Assembled bracket (4pcs) Slider (8pcs) M6 pad (8pcs) M6 spring washer (8pcs) M6*16 screw (8pcs) M6*8 screw (8pcs)	
	H1 end mounting	L bracket (4pcs) Slider (4pcs) M6 pad (4pcs) M6 spring washer (4pcs) M6*16 screw (4pcs) M6*8 screw (4pcs)	

## Application

