

ESE Series

Classic Type 4 Safety Light Curtain



Product Introduction

ESE series is designed according to EU type 4 safety standard, with internal MCU redundancy technology, periodic self-diagnosis & cross-diagnosis, and redundant independent dual loop output to ensure high safety performance.

Product Feature

- CE type 4 certificates;
- Working voltage $Dc24\pm20\%$;
- MCU redundancy for internal inspection;
- Dual OSSD in case any safety hazards caused by single loop failure;
- Against interference caused by over 2KV pulse group (electromagnet);
- Wire-syn to against any interference by external infrared light.

Type 4 Safety Light Curtain

Product Parameter

Safety Standard	Type 4(IEC 61496-1/-2) Cat. 4. PL e(ISO 13849-1)
Power Supply	DC24V±20%
Capacity	<5W
Beam Space	10mm.20mm.40mm
Resolution	20mm.30mm.50mm
Protective Height	Protection height=(N-1)*beam space, N is beams
Light Wavelength	940nm
Response Time	<10ms
Safety Output (OSSD)	PNP or NPN Load current≤500mA (Temperature exceed 40°C≤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	0.1~5m、0.1~10m
Against Optical Interference	10000 Lux (angle>2.5°)
Sensing Method	Thru-beam
Synchronization	Wire synchronization
Enclosure Material	Aluminum alloy
Enclosure Protection Rate	IP65
Sectional Size	35*53mm/35*27mm
Vibration Resistance	Frequency 10Hz-55Hz, amplitude 0.35±0.05mm, 20time each X, Y and Z direction.
Ambient Operating Temperature	-10°C~55°C(no freezing)
Storage Temperature	-30°C~70°C(no freezing)
Ambient Operating Humidity	When temperature 20°C, the humidity max. 85%

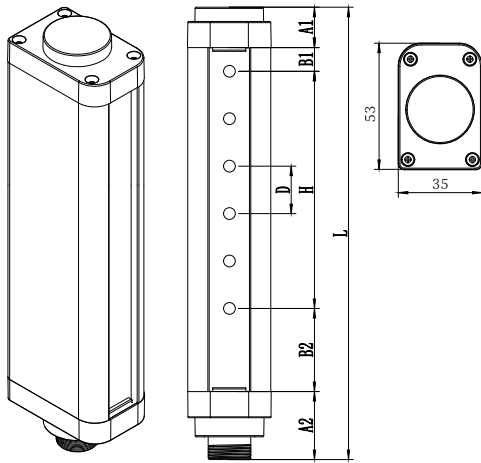
Model Selection (e.g.: 20ESE300-16PR-5)

Beam Space	Series	Protection Area	Beams	Output	Barrier	Enclosure Size	Sensing Distance
20	ESE	300	16	P	R		5
10mm 20mm 40mm			04.06. 08.....	N: NPN*2 P: PNP*2	E: emitter R: receiver No mark: pair	NO: 35*53mm G: 35*27mm	5: 0.1~5m 10: 0.5~10m (Remark: please let us know when with reflectivity)

Remark: If G enclosure is chosen, the sensing distance is only 5m.

Product Size

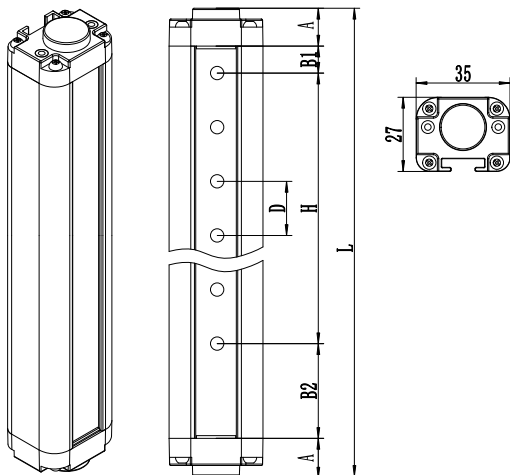
Sectional size: 35*53mm



A1: Up cover
 A2: Bottom cover + aviation plug
 B1: Up blind area
 B2: Bottom blind area
 D: Beam space
 H: Protection height
 L: Total Height

A1= 17mm; A2=28mmWhen
 D=10mm, B1=5mm, B2=30mmWhen
 D=20mm, B1=10mm, B2=35mmWhen
 D=40mm, B1=30mm, B2=35mm
 $H = (\text{Beams} - 1) \times \text{beam space}$
 $L = A + B1 + B2 + H$

Sectional size: 35*27mm



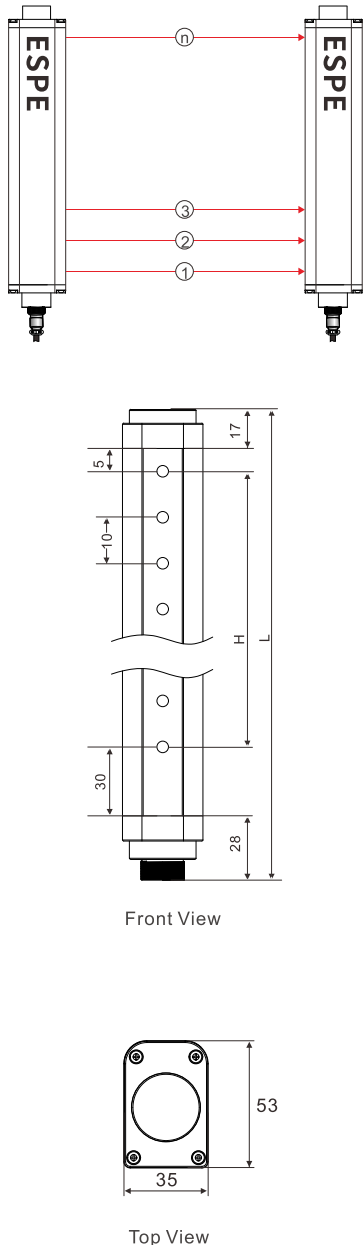
A: Up & bottom cover
 B1: Up blind area
 B2: Bottom blind area
 D: Beam space
 H: Protection height
 L: Total Height

A is 14mm
 When D=10mm, B1=5mm, B2=30mm
 When D=20mm, B1=10mm, B2=35mm
 When D=40mm, B1=30mm, B2=35mm
 $H = (\text{Beams} - 1) \times \text{beam space}$
 $L = A + B1 + B2 + H$

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ESE Model Selection Table

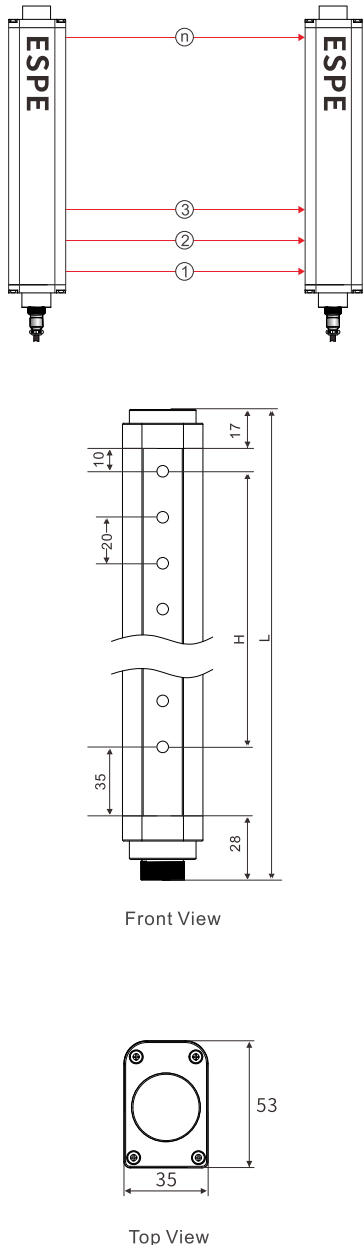
- Beam space 10mm, resolution 20mm

Picture	Beams (n)	Protection Height (mm)	Total Height (mm)	Model (NPN)	Model (PNP)
 Front View Top View	16	150	230	10ESE150-16N	10ESE150-16P
	20	190	270	10ESE190-20N	10ESE190-20P
	24	230	310	10ESE230-24N	10ESE230-24P
	28	270	350	10ESE270-28N	10ESE270-28P
	32	310	390	10ESE310-32N	10ESE310-32P
	36	350	430	10ESE350-36N	10ESE350-36P
	40	390	470	10ESE390-40N	10ESE390-40P
	44	430	510	10ESE430-44N	10ESE430-44P
	48	470	550	10ESE470-48N	10ESE470-48P
	52	510	590	10ESE510-52N	10ESE510-52P
	56	550	630	10ESE550-56N	10ESE550-56P
	60	590	670	10ESE590-60N	10ESE590-60P
	64	630	710	10ESE630-64N	10ESE630-64P
	68	670	750	10ESE670-68N	10ESE670-68P
	72	710	790	10ESE710-72N	10ESE710-72P
	76	750	830	10ESE750-76N	10ESE750-76P
	80	790	870	10ESE790-80N	10ESE790-80P
	84	830	910	10ESE830-84N	10ESE830-84P
	88	870	950	10ESE870-88N	10ESE870-88P
	92	910	990	10ESE910-92N	10ESE910-92P
H is protection height=(beams-1)*beam space L is total height=end covers+ up & bottom blind area + protection height	96	950	1030	10ESE950-96N	10ESE950-96P
	100	990	1070	10ESE990-100N	10ESE990-100P
	104	1030	1110	10ESE1030-104N	10ESE1030-104P
	108	1070	1150	10ESE1070-108N	10ESE1070-108P
	112	1110	1190	10ESE1110-112N	10ESE1110-112P
	116	1150	1230	10ESE1150-116N	10ESE1150-116P
	120	1190	1270	10ESE1190-120N	10ESE1190-120P
	124	1230	1310	10ESE1230-124N	10ESE1230-124P
	128	1270	1350	10ESE1270-128N	10ESE1270-128P
	132	1310	1390	10ESE1310-132N	10ESE1310-132P
.....	136	1350	1430	10ESE1350-136N	10ESE1350-136P
	160	1590	1670	10ESE1590-160N	10ESE1590-160P

Remark: Besides above model, other curtains can be customized.

ESE Model Selection Table

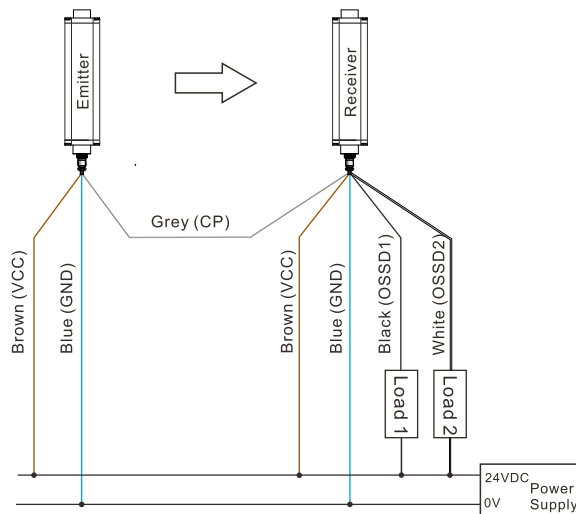
- Beam space 20mm, resolution 30mm

Picture	Beams (n)	Protection Height (mm)	Total Height (mm)	Model (NPN)	Model (PNP)
 Front View Top View H is protection height=(beams-1)*beam space L is total height=end covers+ up & bottom blind area + protection height	8	140	230	20ESE140-08N	20ESE140-08P
	10	180	270	20ESE180-10N	20ESE180-10P
	12	220	310	20ESE220-12N	20ESE220-12P
	14	260	350	20ESE260-14N	20ESE260-14P
	16	300	390	20ESE300-16N	20ESE300-16P
	18	340	430	20ESE340-18N	20ESE340-18P
	20	380	470	20ESE380-20N	20ESE380-20P
	22	420	510	20ESE420-22N	20ESE420-22P
	24	460	550	20ESE460-24N	20ESE460-24P
	26	500	590	20ESE500-26N	20ESE500-26P
	28	540	630	20ESE540-28N	20ESE540-28P
	30	580	670	20ESE580-30N	20ESE580-30P
	32	620	710	20ESE620-32N	20ESE620-32P
	34	660	750	20ESE660-34N	20ESE660-34P
	36	700	790	20ESE700-36N	20ESE700-36P
	38	740	830	20ESE740-38N	20ESE740-38P
	40	780	870	20ESE780-40N	20ESE780-40P
	42	820	910	20ESE820-42N	20ESE820-42P
	44	860	950	20ESE860-44N	20ESE860-44P
	46	900	990	20ESE900-46N	20ESE900-46P
	48	940	1030	20ESE940-48N	20ESE940-48P
	50	980	1070	20ESE980-50N	20ESE980-50P
	52	1020	1110	20ESE1020-52N	20ESE1020-52P
	54	1060	1150	20ESE1060-54N	20ESE1060-54P
	56	1100	1190	20ESE1100-56N	20ESE1100-56P
	58	1140	1230	20ESE1140-58N	20ESE1140-58P
	60	1180	1270	20ESE1180-60N	20ESE1180-60P
	62	1220	1310	20ESE1220-62N	20ESE1220-62P
	64	1260	1350	20ESE1260-64N	20ESE1260-64P
	66	1300	1390	20ESE1300-66N	20ESE1300-66P
	68	1340	1430	20ESE1340-68N	20ESE1340-68P
	70	1380	1470	20ESE1380-70N	20ESE1380-70P
	72	1420	1510	20ESE1420-72N	20ESE1420-72P

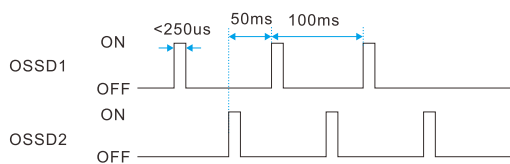
Remark: Besides above model, other curtains can be customized.

Wire Diagram

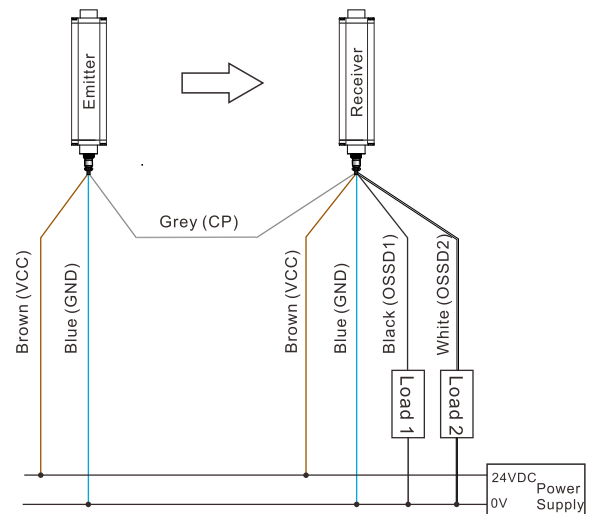
NPN



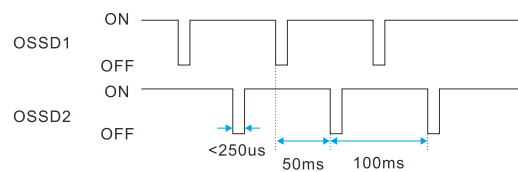
NPN output timing chart



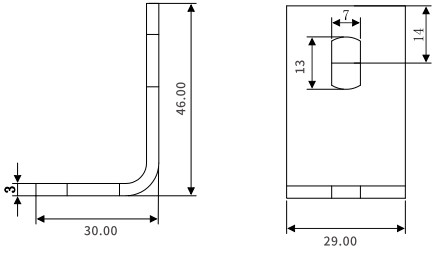
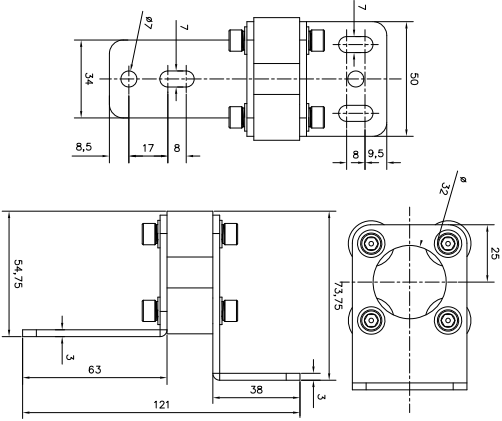
PNP



PNP output timing chart

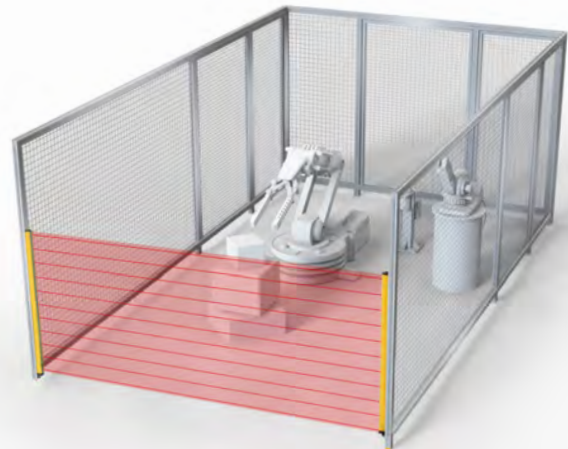
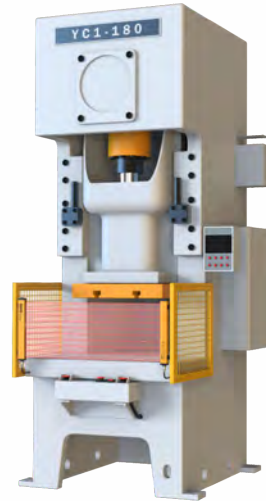


Option of Bracket

Picture	Name	Accessories	Size
	L1 side mounting bracket	L 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 (4pcs) M6 spring washer (8pcs) M6*16 screw (8pcs) M6*8 screw (8pcs)	

Type 4 Safety Light Curtain

Application



Certificate

