

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 $DC24V \pm 20\%$;
- 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 ≤ 200mA, residual voltage ≤ 1V (except for voltage drop caused by cable extension) and leakage current ≤ 1mA.
Protective Circuit	Overvoltage protection, power supply reverse protection and overcurrent protection.
Sensing Distance	0.1-5m, 0.1-10m (if any light reflecting, please contact us).
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
Vibration Resistance	Frequency 10Hz-55Hz, amplitude 0.35±0.05mm, 20 times 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%

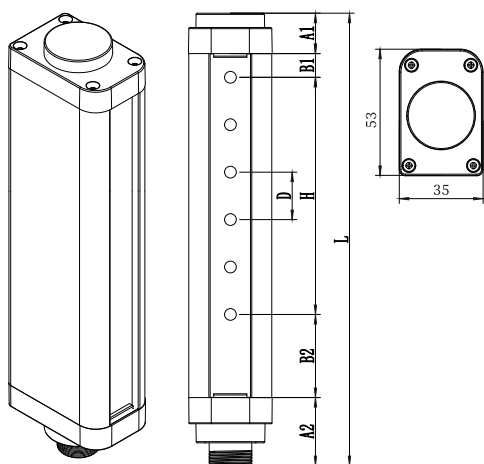
Model Selection (e.g.: 20ESE300-16PR-5)

Beam Space	Series	Protection Area	Beams	Output	Barrier	Bracket	Sensing Distance
20	ESE	300	16	P	X	L1	5
10mm 20mm 40mm		Effective detection range	04,06,08.....	N: NPN*2 P: PNP*2	E:Emitter R:Receiver No mark: Pair	L1:L1 bracket JZ:JZ bracket P3:P3 bracket	5: 0.1~5m 10: 0.1~10m (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



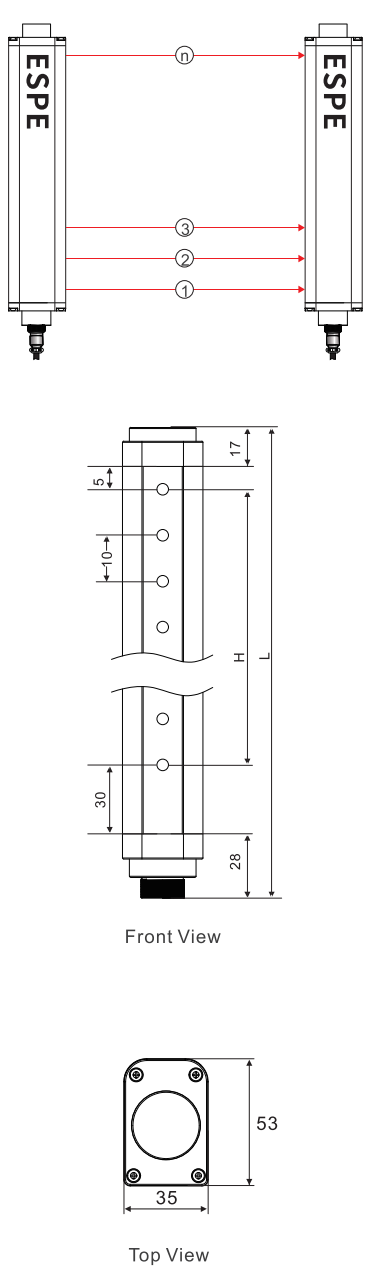
A1: Up cover
 A2: Bottom cover + aviation plug
 B1: Up blind area
 B2: Bottom blind area
 D: Beam space
 H: Protection height
 L: Total Height

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

Type 4 Safety Light Curtain

ESE Model Selection Table

- Beam space 10mm, resolution 20mm

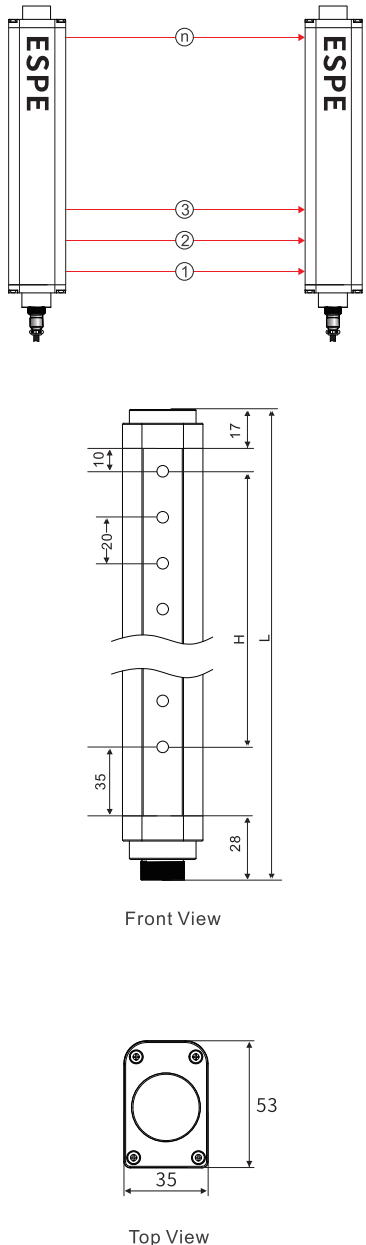
Picture	Beams (n)	Protection Height (mm)	Total Height (mm)	Model (NPN)	Model (PNP)
 Side View: Two vertical units labeled 'ESPE' with 'n' beams between them. Beams are numbered 1, 2, 3 from bottom to top. Front View: Dimensions include 5, 10, 17, H, L, 30, 28. Top View: Dimensions include 53, 35.	16	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
	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

H is protection height=(beams-1)*beam space
L is total height=end covers+ up & bottom blind area + protection height

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

ESE Model Selection Table

- Beam space 20mm, resolution 30mm

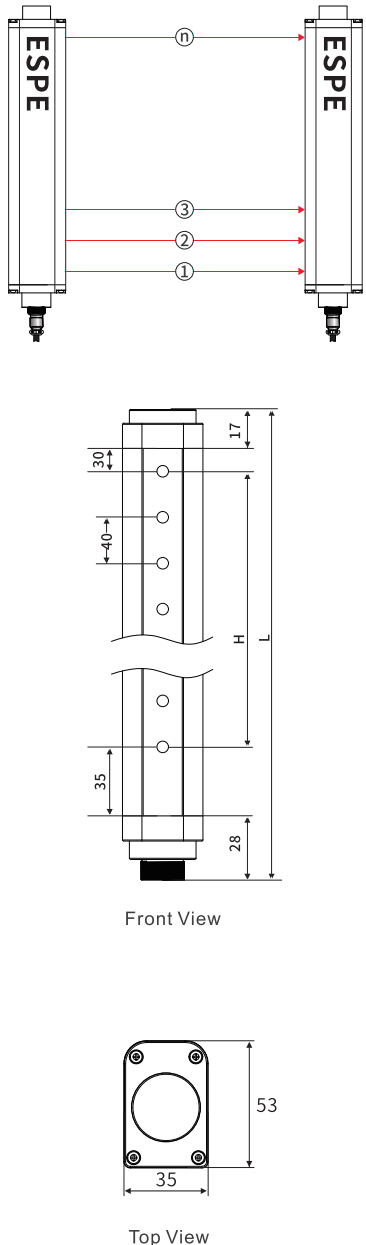
Picture	Beams (n)	Protection Height (mm)	Total Height (mm)	Model (NPN)	Model (PNP)
 Front View Top View H is protection height=(beams-1)*beam space L is total height=end covers+ up & bottom blind area + protection height	8	140	230	20ESE140-08N	20ESE140-08P
	10	180	270	20ESE180-10N	20ESE180-10P
	12	220	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.

Type 4 Safety Light Curtain

ESE Model Selection Table

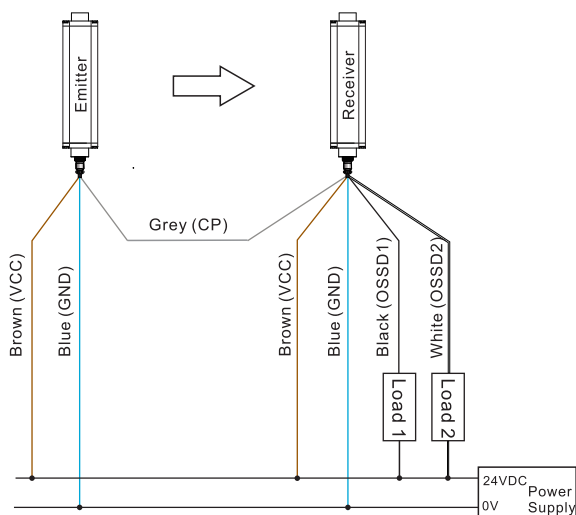
- Beam space 40mm, resolution 50mm

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	4	120	230	40ESE120-04N	40ESE120-04P
	6	200	310	40ESE200-06N	40ESE200-06P
	8	280	390	40ESE280-08N	40ESE280-08P
	10	360	470	40ESE360-10N	40ESE360-10P
	12	440	550	40ESE440-12N	40ESE440-12P
	14	520	630	40ESE520-14N	40ESE520-14P
	16	600	710	40ESE600-16N	40ESE600-16P
	18	680	790	40ESE680-18N	40ESE680-18P
	20	760	870	40ESE760-20N	40ESE760-20P
	22	840	950	40ESE840-22N	40ESE840-22P
	24	920	1030	40ESE920-24N	40ESE920-24P
	26	1000	1110	40ESE1000-26N	40ESE1000-26P
	28	1080	1190	40ESE1080-28N	40ESE1080-28P
	30	1160	1270	40ESE1160-30N	40ESE1160-30P
	32	1240	1350	40ESE1240-32N	40ESE1240-32P
	34	1320	1430	40ESE1320-34N	40ESE1320-34P
	36	1400	1510	40ESE1400-36N	40ESE1400-36P

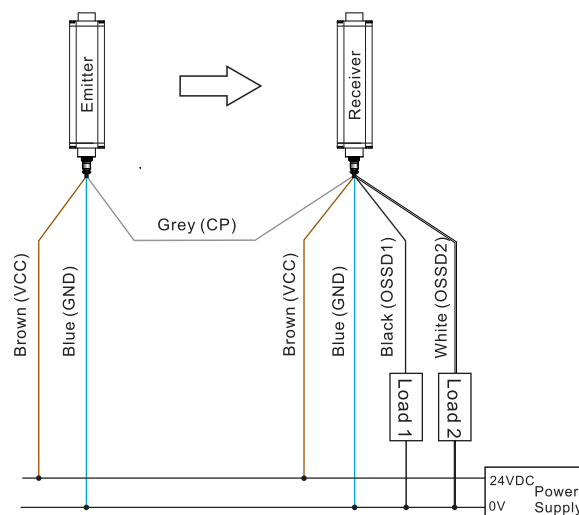
Remark: Besides above model, other curtains can be customized.

Wire Diagram

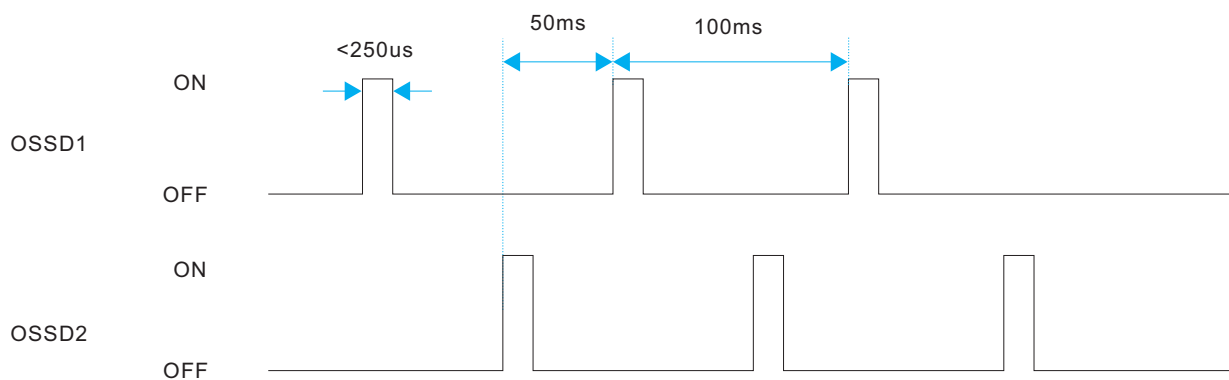
NPN



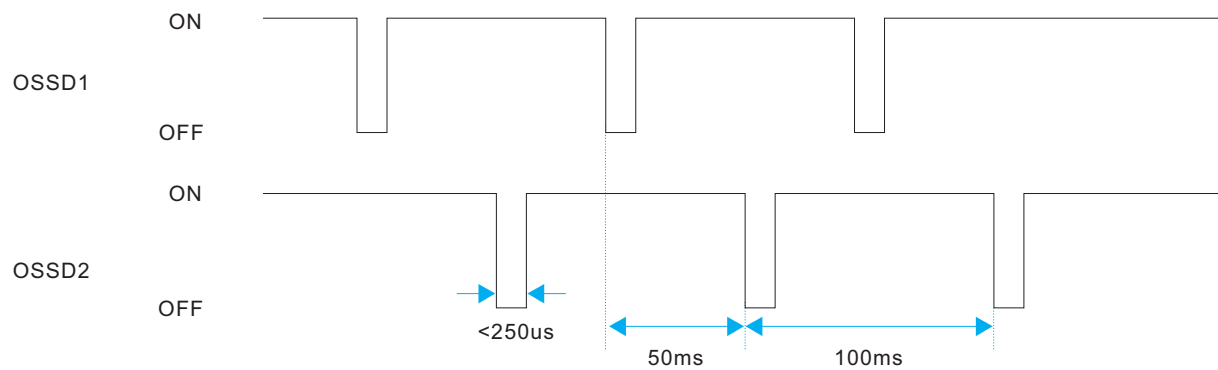
PNP



NPN output timing chart

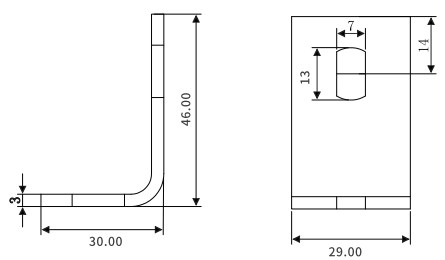
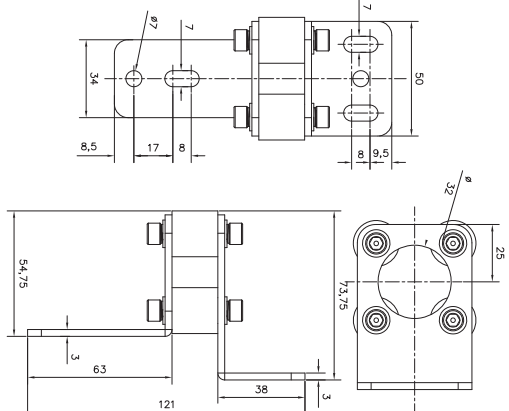
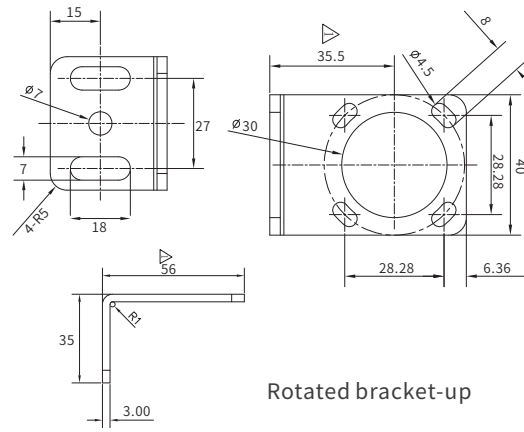
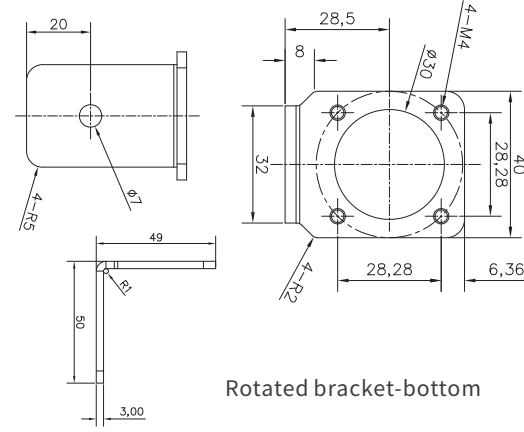


PNP output timing chart



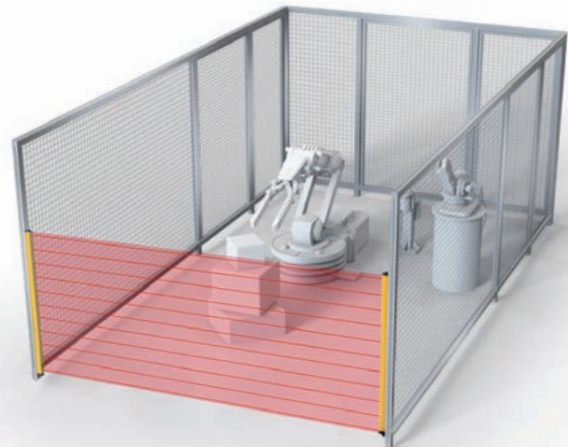
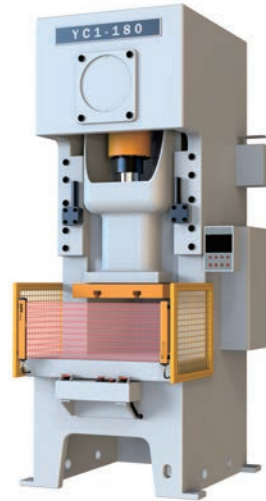
Type 4 Safety Light Curtain

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)	
	P3 rotated bracket	Rotated bracket-up (4PCS) Rotated bracket-bottom (4PCS) M4*8 Screw(16PCS) Slider (4PCS) M6*8 Screw (4PCS) M6 Pad (8PCS) M6 spring washer (8PCS) M6*16 Screw (8PCS)	 Rotated bracket-up  Rotated bracket-bottom

Type 4 Safety Light Curtain

Application



Certificate

