

ESF Series

Waterproof Safety Light Curtain



Product Introduction

ESF series safety light curtain with IP68 protection rate, can work well under water. Good ability against interference of strong light and electromagnet, low capacity, quick response for high safety performance.

Product Feature

- IP68 protection rate (dustproof and waterproof) ;
- Long sensing distance up to 4m;
- Independent dual loop with self-diagnosis for high safety performance;
- Quick response time;
- Good performance to against electromagnetic interference of various machine motor;
- Wire-syn anti-interference of light;
- Optional brackets support various mounting method.

Safety Light Curtain

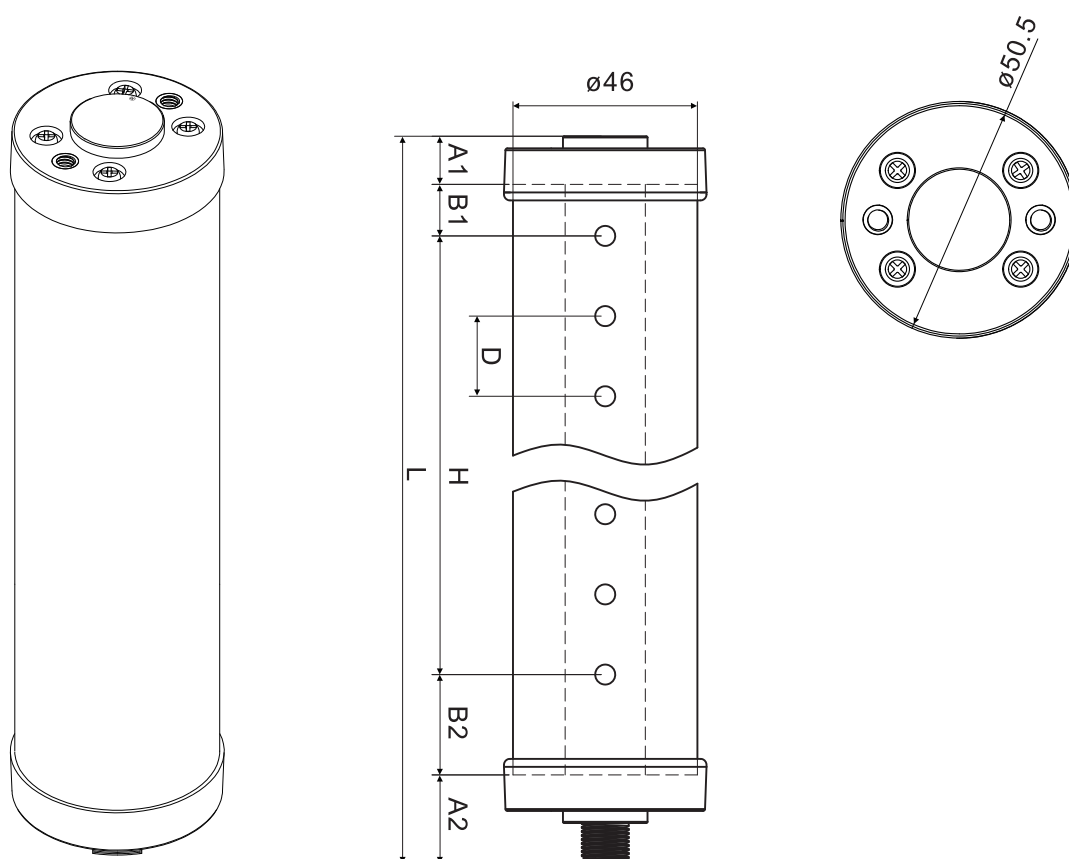
Product Parameter

Power Supply	DC24V±20%
Capacity	<5W
Beam Space	10mm, 20mm, 40mm
Resolution	15mm, 25mm, 45mm
Beams	10mm: 8, 12, 16,... 144
	20mm: 4, 6, 8,... 72
	40mm: 4, 6, 8,... 36
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 ≤ 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	0.1~0.5m, 0.1~2m, 0.1~4m (Remark: please let us know when with reflectivity)
Against Optical Interference	10000 Lux (angle>5°)
Sensing Method	Thru-beam
Synchronization	Wire-syn
Enclosure Material	Aluminum alloy+PMMA
Enclosure Protection Rate	IP68
Sectional Size	Φ50.5mm
Ambient Operating Temperature	-10℃~55℃ (no freezing)
Storage Temperature	-30℃~60℃ (no freezing)
Ambient Operating Humidity	When temperature 20℃, the humidity max. 85%

Model Selection (e.g.: ESF1020Q1NCC-2)

Product Series	Beams	Beam Space	Bracket	Output	Sensing method	Scanning	Sensing distance
ESF	10	20	Q1	N	C	C	2
	04, 06, 08...	10mm 20mm 40mm	Q1: Q1 bracket	N: NPN P: PNP	Normally close	No mark: parallel scanning C: cross scanning	05: 0.1~0.5m 2: 0.1~2m 4: 0.1~4m (Remark: please let us know when with reflectivity)

Product Size



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

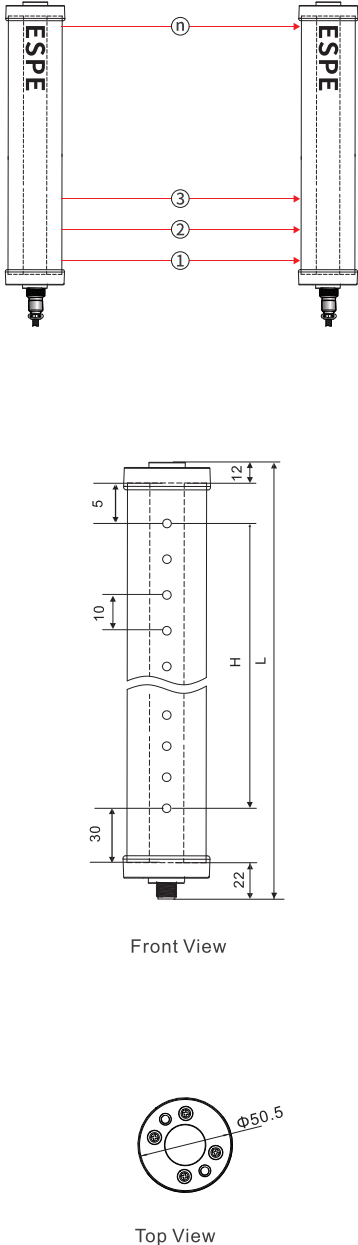
A1 is 12mm, A2 is 22mm
 When D=10mm, B1=5mm, B2=30mm
 When D=20mm, B1=10mm, B2=35mm
 When D=40mm, B1=10mm, B2=35mm

$H = (\text{Beams} - 1) \times \text{beam space}$
 $L = A1 + A2 + B1 + B2 + H$

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ESF Model Selection Table

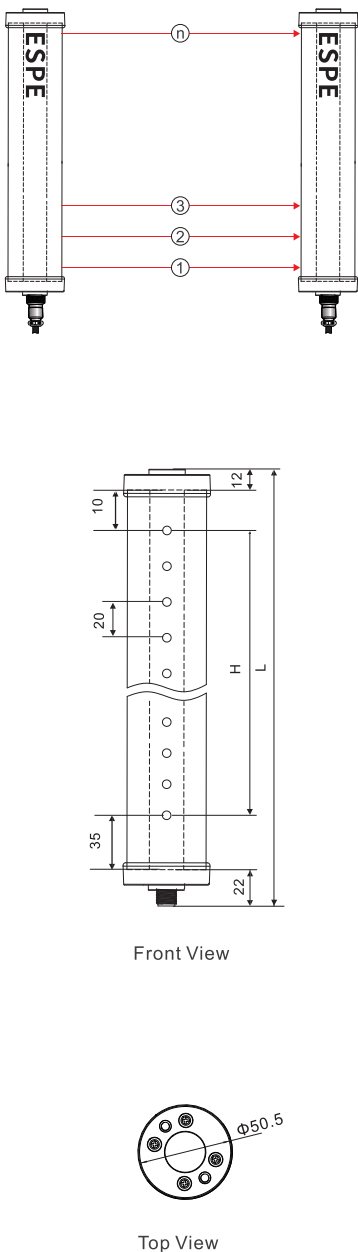
- Beam space 10mm, resolution 20mm

Picture	Beams (n)	Protection Height (mm)	Total Height (mm)	Model
 Front View Top View H is protection height=(beams-1)*beam space L is total height=end covers+ up & bottom blind area + protection height	08	70	139	ESF0810
	12	110	179	ESF1210
	16	150	219	ESF1610
	20	190	259	ESF2010
	24	230	299	ESF2410
	28	270	339	ESF2810
	32	310	379	ESF3210
	36	350	419	ESF3610
	40	390	459	ESF4010
	44	430	499	ESF4410
	48	470	539	ESF4810
	52	510	579	ESF5210
	56	550	619	ESF5610
	60	590	659	ESF6010
	64	630	699	ESF6410
	68	670	739	ESF6810
	72	710	779	ESF7210
	76	750	819	ESF7610
	80	790	859	ESF8010
	84	830	899	ESF8410
	88	870	939	ESF8810
	92	910	979	ESF9210
	96	950	1019	ESF9610
	100	990	1059	ESF10010
	104	1030	1099	ESF10410
	108	1070	1139	ESF10810
	112	1110	1179	ESF11210
	116	1150	1219	ESF11610
	120	1190	1259	ESF12010
	124	1230	1299	ESF12410
	128	1270	1339	ESF12810
				
	144	1430	1499	ESF14410

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

ESF Model Selection Table

- Beam space 20mm, resolution 30mm

Picture	Beams (n)	Protection Height (mm)	Total Height (mm)	Model
 Front View Top View	06	100	179	ESF0620
	08	140	219	ESF0820
	10	180	259	ESF1020
	12	220	299	ESF1220
	14	260	339	ESF1420
	16	300	379	ESF1620
	18	340	419	ESF1820
	20	380	459	ESF2020
	22	420	499	ESF2220
	24	460	539	ESF2420
	26	500	579	ESF2620
	28	540	619	ESF2820
	30	580	659	ESF3020
	32	620	699	ESF3220
	34	660	739	ESF3420
	36	700	779	ESF3620
	38	740	819	ESF3820
	40	780	859	ESF4020
	42	820	899	ESF4220
	44	860	939	ESF4420
	46	900	979	ESF4620
	48	940	1019	ESF4820
	50	980	1059	ESF5020
	52	1020	1099	ESF5220
	54	1060	1139	ESF5420
	56	1100	1179	ESF5620
	58	1140	1219	ESF5820
	60	1180	1259	ESF6020
	62	1220	1299	ESF6220
	64	1260	1339	ESF6420
	66	1300	1379	ESF6620
				
	72	1420	1499	ESF7220

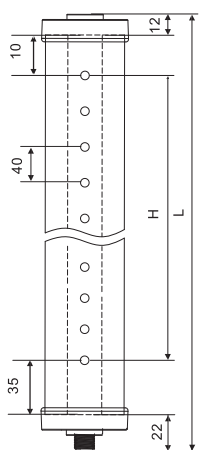
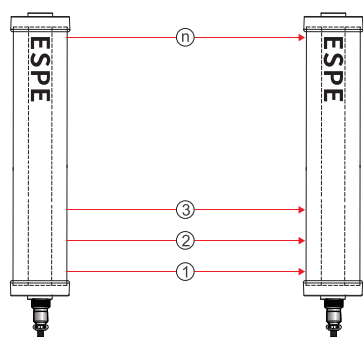
H is protection height=(beams-1)*beam space
 L is total height=end covers+ up & bottom blind area + protection height

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

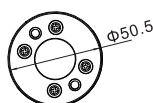
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ESF Model Selection Table

- Beam space 40mm, resolution 50mm



Front View



Top View

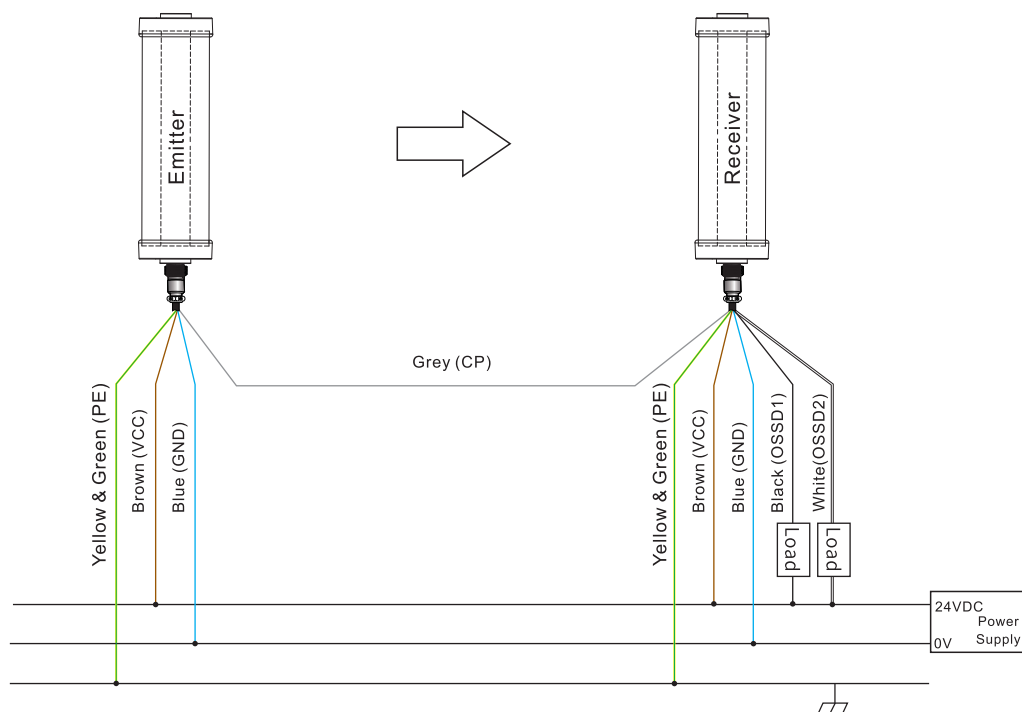
H is protection height=(beams-1)*beam space
L is total height=end covers+ up & bottom
blind area + protection height

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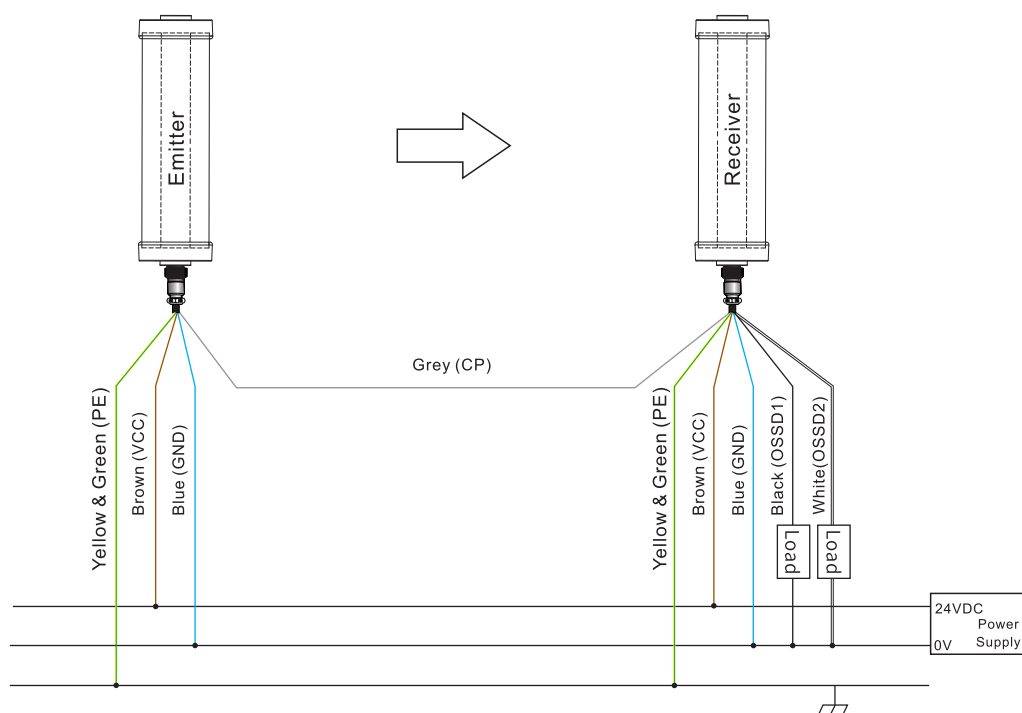
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Wire Diagram

NPN

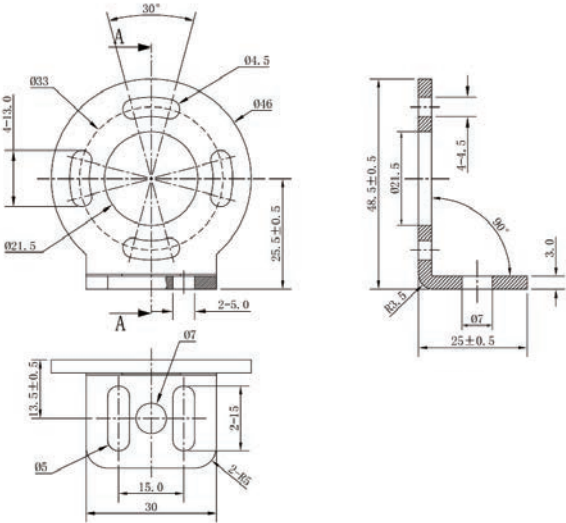


PNP



Safety Light Curtain

Option of Bracket

Picture	Accessories	Size
	Q1 end mounting bracket (4pcs) M6*12 screw (4pcs) N4*8 screw (8pcs)	

Application

