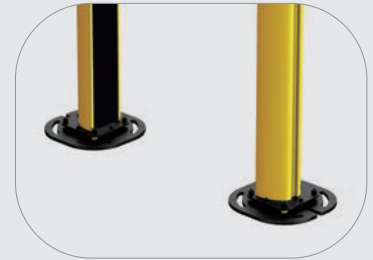
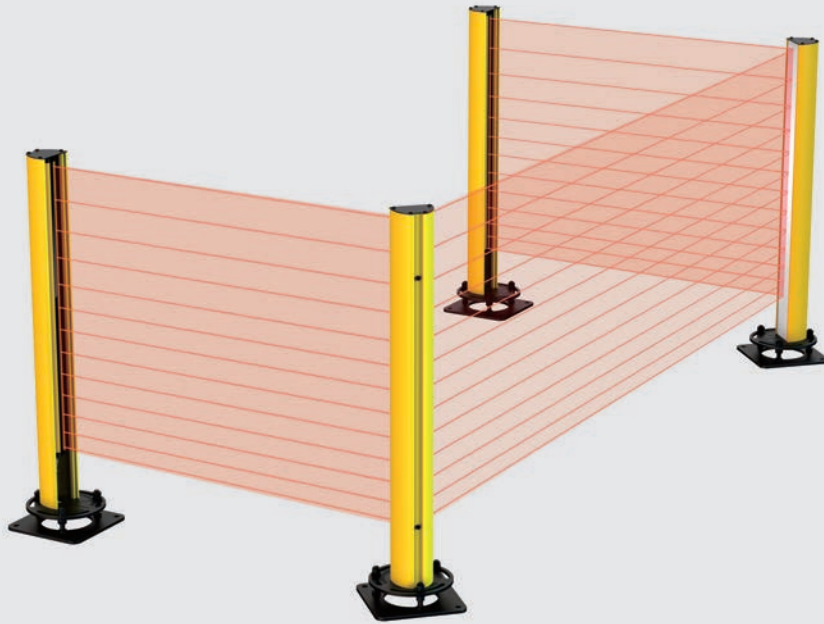
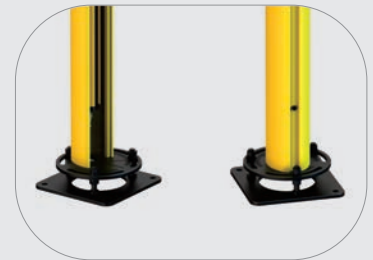


## ESQC Series

# Multiple Side Safety Light Curtain



Standard base



Adjustable base

## Product Introduction

ESQC model is consist of ESN series (or ESE series) curtain and reflector mirrors to form a multiple side protection, major used for automation machine need area protection. The standing column can be installed on the ground directly.

## Product Feature

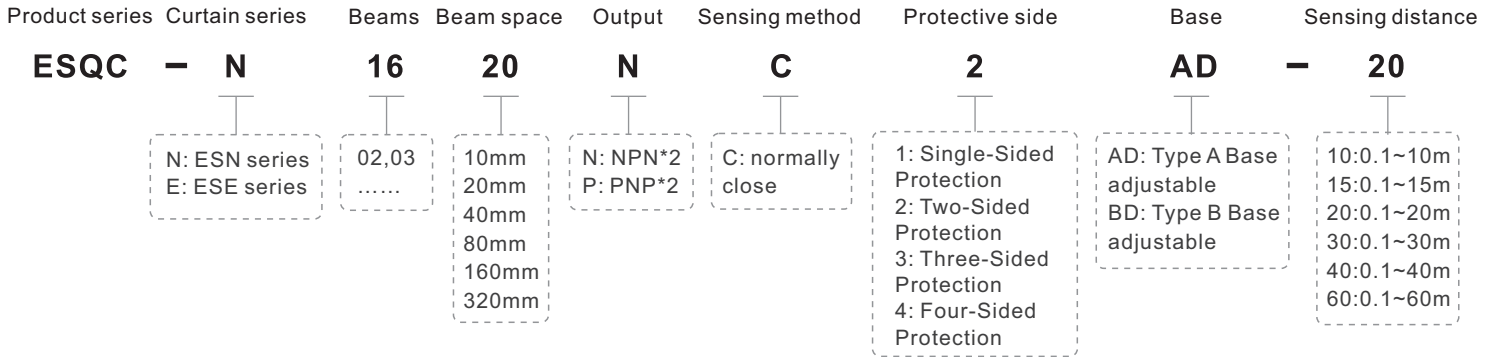
- Multi-sided protection with one pair of safety light curtains;
- Long sensing distance maximum up to 60 meters;
- Independent dual loop with self-diagnosis for high safety performance;
- Optional safety standard: Type 2 and Type 4 can be selected as needed;
- Anti-shock circuit and strong aluminum alloy shell avoid vibration interference;
- Wire-syn technology has strong anti-light interference ability;
- Multiple installation methods for different environment;

## Product Parameter

Power Supply	DC24V±20%	
Capacity	<5W	
Beam Space	10mm, 20mm, 40mm, 80mm, 160mm, 320mm	
Resolution	20mm, 30mm, 50mm, 90mm, 170mm, 330mm	
Beams	ESN series	ESE series
	10mm: 32, 36, 40,...176	40mm: 8, 10,...44
	20mm: 16, 18, 20,...88	80mm: 4, 6,...22
	40mm: 8, 10, 12,...44	160mm: 2, 3,...11
		320mm: 2, 3, 4, 5, 6
Protective Height	Protection height=(N-1)*beam space, (N is beams)	
Light Wavelength	940nm/905nm	
Response Time	ESN series	$N * 0.1ms + 0.4ms$ (N is beams )
	ESE series	$2*(N * 0.1ms + 3.4ms)$ (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	10m, 15m, 20m, 30m, 40m, 60m (it's total distance of all protected side)	
Against Optical Interference	10000 Lux (angle>5°)	
Sensing Method	Thru-beam	
Synchronization	Wire-syn	
Enclosure Material	Aluminum alloy	
Enclosure Protection Rate	IP65	
Sectional Size	99.6*75mm	
Vibration Resistance	Frequency 10Hz-55Hz, amplitude 0.35±0.05mm, 20 times each in 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%	

# Safety Light Curtain

## Model Selection (e.g.: ESQC-N1620NC2AD-20)

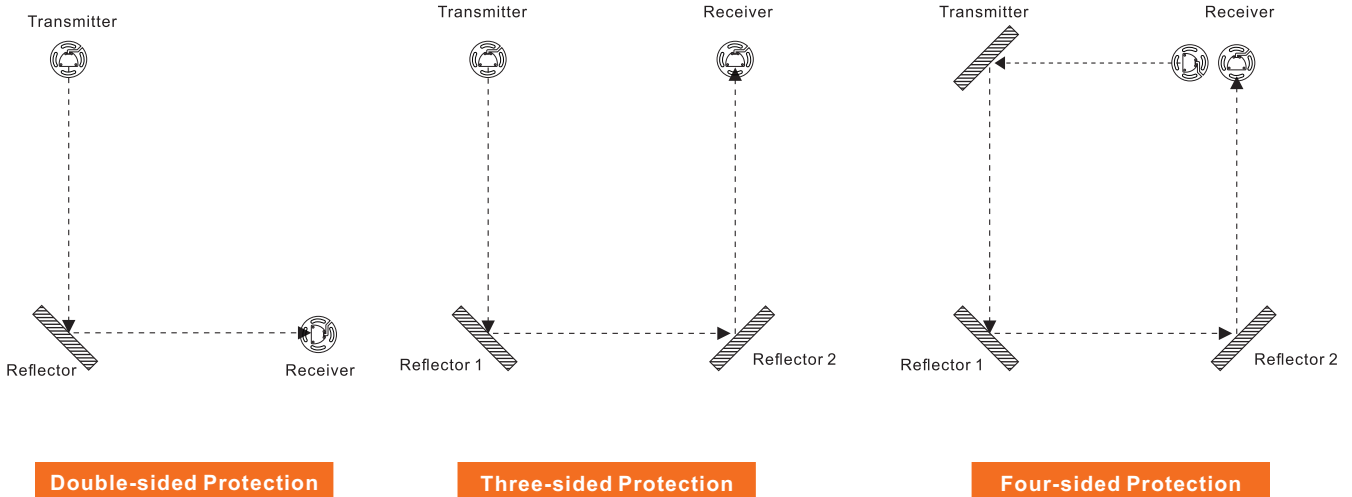


## Sensing Distance Corresponding Table

Maximum Sensing Distance	Single-Sided Protection	Two-Sided Protection	Three-Sided Protection	Four-Sided Protection
Product Series				
ESN	30m	24m	16m	12m
ESE	60m	42m	30m	24m

Note: The model can be selected according to the actual distance, but it cannot exceed the curtain extreme value.

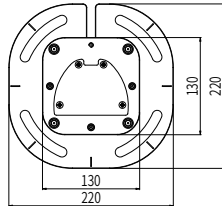
## Planar Graph



## Product Size

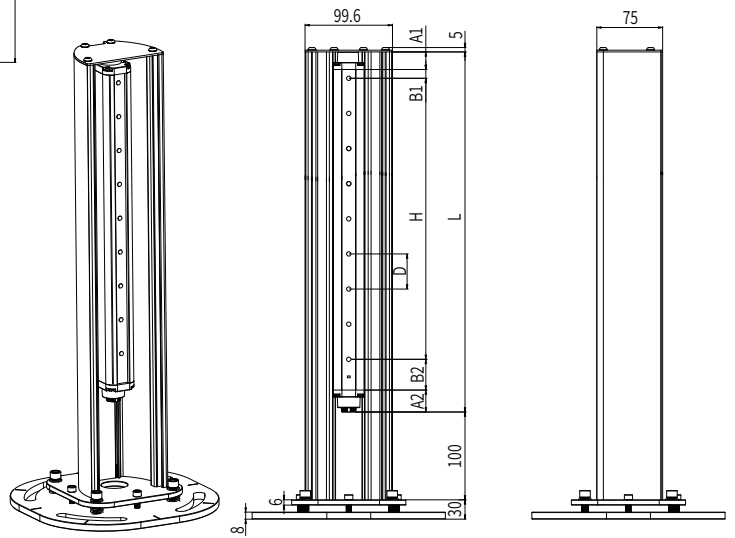
### Diagram of Type A Base

- A1: up cover of curtain
- A2: bottom cover and aviation of curtain
- B1: up blind area
- B2: bottom blind area
- D: beam space of curtain
- H: protective height
- L: total height of curtain



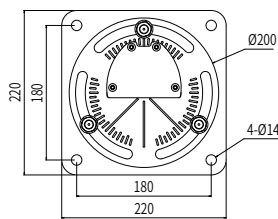
L is total height:  $L = A1 + A2 + B1 + B2 + H$   
 H is protective height:  $H = (\text{beams} - 1) * \text{beam space}$   
 Enclosure height = curtain total height + 100

Total height = enclosure height + 35



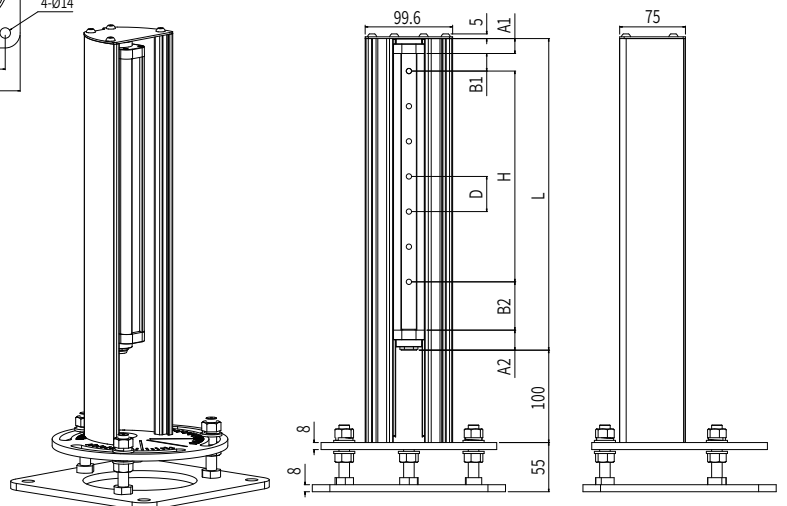
### Diagram of Type B Base

- A1: up cover of curtain
- A2: bottom cover and aviation of curtain
- B1: up blind area
- B2: bottom blind area
- D: beam space of curtain
- H: protective height
- L: total height of curtain



L is total height:  $L = A1 + A2 + B1 + B2 + H$   
 H is protective height:  $H = (\text{beams} - 1) * \text{beam space}$   
 Enclosure height = curtain total height + 100

Total height = enclosure height + 60



# Safety Light Curtain

## Model Selection Table (Type A base)

- 10mm Beam Space

Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
32	310	—	—	ESQC-N3210	525
36	350	—	—	ESQC-N3610	565
40	390	—	—	ESQC-N4010	605
44	430	—	—	ESQC-N4410	645
48	470	—	—	ESQC-N4810	685
52	510	—	—	ESQC-N5210	725
56	550	—	—	ESQC-N5610	765
60	590	—	—	ESQC-N6010	805
64	630	—	—	ESQC-N6410	845
68	670	—	—	ESQC-N6810	885
72	710	—	—	ESQC-N7210	925
76	750	—	—	ESQC-N7610	965
80	790	—	—	ESQC-N8010	1005
84	830	—	—	ESQC-N8410	1045
88	870	—	—	ESQC-N8810	1085
92	910	—	—	ESQC-N9210	1125
96	950	—	—	ESQC-N9610	1165
100	990	—	—	ESQC-N10010	1205
104	1030	—	—	ESQC-N10410	1245
108	1070	—	—	ESQC-N10810	1285
112	1110	—	—	ESQC-N11210	1325
116	1150	—	—	ESQC-N11610	1365
120	1190	—	—	ESQC-N12010	1405
124	1230	—	—	ESQC-N12410	1445
128	1270	—	—	ESQC-N12810	1485
132	1310	—	—	ESQC-N13210	1525
136	1350	—	—	ESQC-N13610	1565
140	1390	—	—	ESQC-N14010	1605
144	1430	—	—	ESQC-N14410	1645
148	1470	—	—	ESQC-N14810	1685
152	1510	—	—	ESQC-N15210	1725
156	1550	—	—	ESQC-N15610	1765

Note: Besides the above models, other size can be customized according to your needs.

## Model Selection Table (Type A base)

- 20mm Beam Space

Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
16	300	—	—	ESQC-N1620	525
18	340	—	—	ESQC-N1820	565
20	380	—	—	ESQC-N2020	605
22	420	—	—	ESQC-N2220	645
24	460	—	—	ESQC-N2420	685
26	500	—	—	ESQC-N2620	725
28	540	—	—	ESQC-N2820	765
30	580	—	—	ESQC-N3020	805
32	620	—	—	ESQC-N3220	845
34	660	—	—	ESQC-N3420	885
36	700	—	—	ESQC-N3620	925
38	740	—	—	ESQC-N3820	965
40	780	—	—	ESQC-N4020	1005
42	820	—	—	ESQC-N4220	1045
44	860	—	—	ESQC-N4420	1085
46	900	—	—	ESQC-N4620	1125
48	940	—	—	ESQC-N4820	1165
50	980	—	—	ESQC-N5020	1205
52	1020	—	—	ESQC-N5220	1245
54	1060	—	—	ESQC-N5420	1285
56	1100	—	—	ESQC-N5620	1325
58	1140	—	—	ESQC-N5820	1365
60	1180	—	—	ESQC-N6020	1405
62	1220	—	—	ESQC-N6220	1445
64	1260	—	—	ESQC-N6420	1485
66	1300	—	—	ESQC-N6620	1525
68	1340	—	—	ESQC-N6820	1565
70	1380	—	—	ESQC-N7020	1605
72	1420	—	—	ESQC-N7220	1645
74	1460	—	—	ESQC-N7420	1685
76	1500	—	—	ESQC-N7620	1725
.....	.....	.....	.....	.....	.....
88	1740	—	—	ESQC-N8820	1965

Note: Besides the above models, other size can be customized according to your needs.

# Safety Light Curtain

## Model Selection Table (Type A base)

- 40mm Beam Space

Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
8	280	ESQC-E0840	525	ESQC-N0840	505
10	360	ESQC-E1040	605	ESQC-N1040	585
12	440	ESQC-E1240	685	ESQC-N1240	665
14	520	ESQC-E1440	765	ESQC-N1440	745
16	600	ESQC-E1640	845	ESQC-N1640	825
18	680	ESQC-E1840	925	ESQC-N1840	905
20	760	ESQC-E2040	1005	ESQC-N2040	985
22	840	ESQC-E2240	1085	ESQC-N2240	1065
24	920	ESQC-E2440	1165	ESQC-N2440	1145
26	1000	ESQC-E2640	1245	ESQC-N2640	1225
28	1080	ESQC-E2840	1325	ESQC-N2840	1305
30	1160	ESQC-E3040	1405	ESQC-N3040	1385
32	1240	ESQC-E3240	1485	ESQC-N3240	1465
34	1320	ESQC-E3440	1565	ESQC-N3440	1545
36	1400	ESQC-E3640	1645	ESQC-N3640	1625
38	1480	ESQC-E3840	1725	ESQC-N3840	1705
40	1560	ESQC-E4040	1805	ESQC-N4040	1785
42	1640	ESQC-E4240	1885	ESQC-N4240	1865
44	1720	ESQC-E4440	1965	ESQC-N4440	1945

Note: Besides the above models, other size can be customized according to your needs.

- 80mm Beam Space

Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
4	240	ESQC-E0480	525	—	—
6	400	ESQC-E0680	685	—	—
8	560	ESQC-E0880	845	—	—
10	720	ESQC-E1080	1005	—	—
12	880	ESQC-E1280	1165	—	—
14	1040	ESQC-E1480	1325	—	—
16	1200	ESQC-E1680	1485	—	—
18	1360	ESQC-E1880	1645	—	—
20	1520	ESQC-E2080	1805	—	—
22	1680	ESQC-E2280	1965	—	—

Note: Besides the above models, other size can be customized according to your needs.

## Model Selection Table (Type A base)

- 160mm Beam Space

Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
2	160	ESQC-E02160	445	—	—
3	320	ESQC-E03160	605	—	—
4	480	ESQC-E04160	765	—	—
4	640	ESQC-E05160	925	—	—
6	800	ESQC-E06160	1085	—	—
7	960	ESQC-E07160	1245	—	—
8	1120	ESQC-E08160	1405	—	—
9	1280	ESQC-E09160	1565	—	—
10	1440	ESQC-E10160	1725	—	—
11	1600	ESQC-E11160	1885	—	—

Note: Besides the above models, other size can be customized according to your needs.

- 320mm Beam Space

Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
2	320	ESQC-E02320	605	—	—
3	640	ESQC-E03320	925	—	—
4	960	ESQC-E04320	1245	—	—
5	1280	ESQC-E05320	1565	—	—
6	1600	ESQC-E06320	1885	—	—

Note: Besides the above models, other size can be customized according to your needs.

# Safety Light Curtain

## Model Selection Table (Type B base)

- 10mm Beam Space

Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
32	310	—	—	ESQC-N3210	550
36	350	—	—	ESQC-N3610	590
40	390	—	—	ESQC-N4010	630
44	430	—	—	ESQC-N4410	670
48	470	—	—	ESQC-N4810	710
52	510	—	—	ESQC-N5210	750
56	550	—	—	ESQC-N5610	790
60	590	—	—	ESQC-N6010	830
64	630	—	—	ESQC-N6410	870
68	670	—	—	ESQC-N6810	910
72	710	—	—	ESQC-N7210	950
76	750	—	—	ESQC-N7610	990
80	790	—	—	ESQC-N8010	1030
84	830	—	—	ESQC-N8410	1070
88	870	—	—	ESQC-N8810	1110
92	910	—	—	ESQC-N9210	1150
96	950	—	—	ESQC-N9610	1190
100	990	—	—	ESQC-N10010	1230
104	1030	—	—	ESQC-N10410	1270
108	1070	—	—	ESQC-N10810	1310
112	1110	—	—	ESQC-N11210	1350
116	1150	—	—	ESQC-N11610	1390
120	1190	—	—	ESQC-N12010	1430
124	1230	—	—	ESQC-N12410	1470
128	1270	—	—	ESQC-N12810	1510
132	1310	—	—	ESQC-N13210	1550
136	1350	—	—	ESQC-N13610	1590
140	1390	—	—	ESQC-N14010	1630
144	1430	—	—	ESQC-N14410	1670
148	1470	—	—	ESQC-N14810	1710
152	1510	—	—	ESQC-N15210	1750
156	1550	—	—	ESQC-N15610	1790

Note: Besides the above models, other size can be customized according to your needs.

## Model Selection Table (Type B base)

- 20mm Beam Space

Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
16	300	—	—	ESQC-N1620	550
18	340	—	—	ESQC-N1820	590
20	380	—	—	ESQC-N2020	630
22	420	—	—	ESQC-N2220	670
24	460	—	—	ESQC-N2420	710
26	500	—	—	ESQC-N2620	750
28	540	—	—	ESQC-N2820	790
30	580	—	—	ESQC-N3020	830
32	620	—	—	ESQC-N3220	870
34	660	—	—	ESQC-N3420	910
36	700	—	—	ESQC-N3620	950
38	740	—	—	ESQC-N3820	990
40	780	—	—	ESQC-N4020	1030
42	820	—	—	ESQC-N4220	1070
44	860	—	—	ESQC-N4420	1110
46	900	—	—	ESQC-N4620	1150
48	940	—	—	ESQC-N4820	1190
50	980	—	—	ESQC-N5020	1230
52	1020	—	—	ESQC-N5220	1270
54	1060	—	—	ESQC-N5420	1310
56	1100	—	—	ESQC-N5620	1350
58	1140	—	—	ESQC-N5820	1390
60	1180	—	—	ESQC-N6020	1430
62	1220	—	—	ESQC-N6220	1470
64	1260	—	—	ESQC-N6420	1510
66	1300	—	—	ESQC-N6620	1550
68	1340	—	—	ESQC-N6820	1590
70	1380	—	—	ESQC-N7020	1630
72	1420	—	—	ESQC-N7220	1670
74	1460	—	—	ESQC-N7420	1710
76	1500	—	—	ESQC-N7620	1750
.....	.....	.....	.....	.....	.....
88	1740	—	—	ESQC-N8820	1990

Note: Besides the above models, other size can be customized according to your needs.

# Safety Light Curtain

## Model Selection Table (Type B base)

- 40mm Beam Space

Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
8	280	ESQC-E0840	550	ESQC-N0840	530
10	360	ESQC-E1040	630	ESQC-N1040	610
12	440	ESQC-E1240	710	ESQC-N1240	690
14	520	ESQC-E1440	790	ESQC-N1440	770
16	600	ESQC-E1640	870	ESQC-N1640	850
18	680	ESQC-E1840	950	ESQC-N1840	930
20	760	ESQC-E2040	1030	ESQC-N2040	1010
22	840	ESQC-E2240	1110	ESQC-N2240	1090
24	920	ESQC-E2440	1190	ESQC-N2440	1170
26	1000	ESQC-E2640	1270	ESQC-N2640	1250
28	1080	ESQC-E2840	1350	ESQC-N2840	1330
30	1160	ESQC-E3040	1430	ESQC-N3040	1410
32	1240	ESQC-E3240	1510	ESQC-N3240	1490
34	1320	ESQC-E3440	1590	ESQC-N3440	1570
36	1400	ESQC-E3640	1670	ESQC-N3640	1650
38	1480	ESQC-E3840	1750	ESQC-N3840	1730
40	1560	ESQC-E4040	1830	ESQC-N4040	1810
42	1640	ESQC-E4240	1910	ESQC-N4240	1890
44	1720	ESQC-E4440	1990	ESQC-N4440	1970

Note: Besides the above models, other size can be customized according to your needs.

- 80mm Beam Space

Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
4	240	ESQC-E0480	550	—	—
6	400	ESQC-E0680	710	—	—
8	560	ESQC-E0880	870	—	—
10	720	ESQC-E1080	1030	—	—
12	880	ESQC-E1280	1190	—	—
14	1040	ESQC-E1480	1350	—	—
16	1200	ESQC-E1680	1510	—	—
18	1360	ESQC-E1880	1670	—	—
20	1520	ESQC-E2080	1830	—	—
22	1680	ESQC-E2280	1990	—	—

Note: Besides the above models, other size can be customized according to your needs.

## Model Selection Table (Type B base)

- 160mm Beam Space

Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
2	160	ESQC-E02160	470	—	—
3	320	ESQC-E03160	630	—	—
4	480	ESQC-E04160	790	—	—
4	640	ESQC-E05160	950	—	—
6	800	ESQC-E06160	1110	—	—
7	960	ESQC-E07160	1270	—	—
8	1120	ESQC-E08160	1430	—	—
9	1280	ESQC-E09160	1590	—	—
10	1440	ESQC-E10160	1750	—	—
11	1600	ESQC-E11160	1910	—	—

Note: Besides the above models, other size can be customized according to your needs.

- 320mm Beam Space

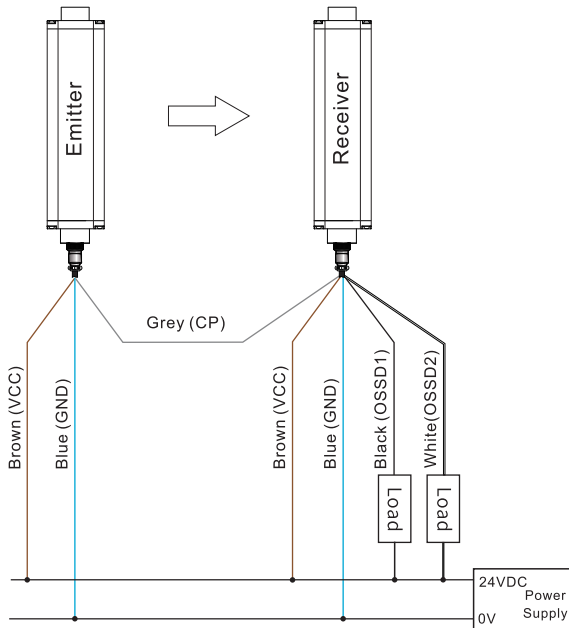
Beams	Protective Height	Model (Type 4)	Total Height (Type 4)	Model (Type 2)	Total Height (Type 2)
2	320	ESQC-E02320	630	—	—
3	640	ESQC-E03320	950	—	—
4	960	ESQC-E04320	1270	—	—
5	1280	ESQC-E05320	1590	—	—
6	1600	ESQC-E06320	1910	—	—

Note: Besides the above models, other size can be customized according to your needs.

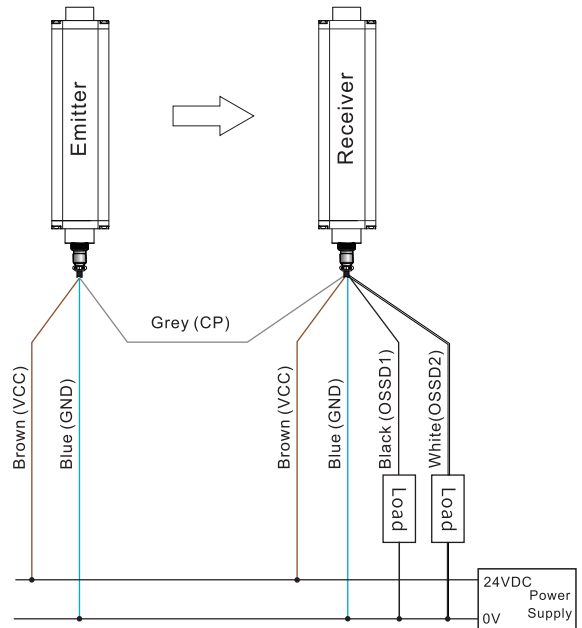
# Safety Light Curtain

## Wiring

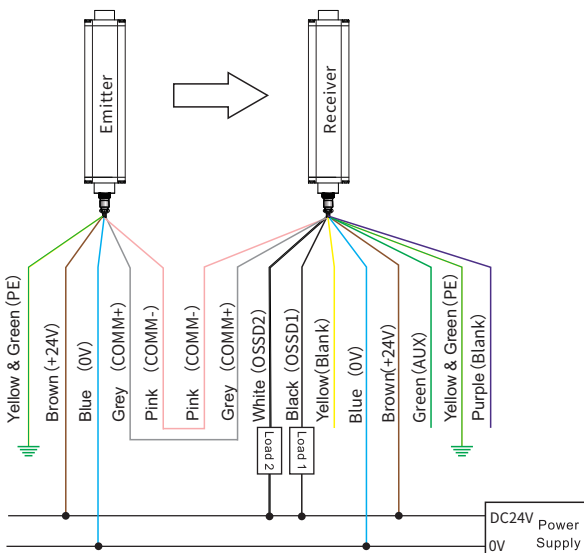
ESQC-N Series NPN Wiring



ESQC-N Series PNP Wiring



ESQC-E Series NPN Wiring diagram



ESQC-E Series PNP Wiring diagram

