ESCF series

spraying coating light curtain

The coordinate positioning light screen can accurately measure the specific position of the object through the light screen. It can be used in the education industry to measure the distance thrown by the long jump or the shot put. It can also be applied to workpiece spraying detection, coordinate positioning detection, etc. The output data of the light curtain is the corresponding light spot occlusion state data of the light curtain, which can be collected for secondary development and application.

The light curtain has high accuracy. Even 2.5mm size product can be detected; With RS485/ 232, analog quantity (voltage, current), switch quantity and so on output method, stable performance. As strong anti-electromagnetic interference ability, it can work in various servo motors and environments with large interference.

Product feature

- High accuracy to detect project even 2.5mm size;
- Quick response time, adopt special algorithm to shorten the entire scan cycle;
- Multiple output method, RS485, Rs232
- Standard communication protocol, using Modbus-RTU communication protocol.
- Strong ability in resisting electromagnetic interference can effectively resist influence of various electromagnetic interference of motor equipment;
- Wire synchronization technology to resist light interference effectively;

Technical parameter

Parameter of safety light curtain	
Power supply	DC12V~30V
Capacity	<5W
Detection precision	2.5mm, 5mm, 10mm, 20mm, 40mm
Beam space	2.5mm:32, 64, 96……480 5mm:16, 24, 32……640 10mm:16, 24, 32……400 20mm:16, 24, 32……240 40mm:8, 16, 24……120
Detection height	Detection height= (N-1)* beam space, N is beam quantity
Wave length	940nm
Wave length	Switch quantity: NPN, PNP; 0-5V,0-10V, 4-20mA
Anti-optical interference	10000Lux(angle>5°)
Communication	Communication mode: RS485, RS232 Baud Rate:9600bps, 19200bps, 38400bps, 57600bps, 115200bps Protocol:Modbus-RTU Data mode Active mode/ passive mode
Light screen form	Through-beam type
Sensing distance	2.5mm space: 0.1~2m 5mm space: 0.1~4m 10mm space: 0.1~20m 20mm space: 0.1~20m 40mm space: 0.1~20m
Synchronization	Wire synchronization
Enclosure material	Aluminum alloy
Enclosure rating	IP65
Sectional size	35.8*45mm
Ambient operating temperature	-10℃~55℃(without frozen)
Storage temperature	-30℃~70℃(without frozen)
Ambient operating humidity	Whentemperatureis20℃, humidity max 85%

Explanation of model number (For example: ESCF16 20L1NRY NL-2)

ESCF	16	20	L1	N	RY	L	–	2
Model	Beams	Beam space	Bracket	Output signal	Communication method	Shell selection		Sensing distance
ESCF series	08, 16, 24 32……	2.5mm 5mm 10mm 20mm 40mm	L1 side mounting bracket, L2 upper-bottom mounting bracket	N: NPN P: PNP	RY: RS485 active mode RZ: RS485 passive mode SY: RS232 active mode SZ: RS232 passive mode	L: 35.8*45mm N: 35*50mm G: 35*27mm		2: 0.1~2M 4: 0.1~4M 20: 0.1~20M

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ESE Series
ESN Series
ESQC Series
ELG Series
EB13 Series
EB15 Series
ESA Series
ESP Series
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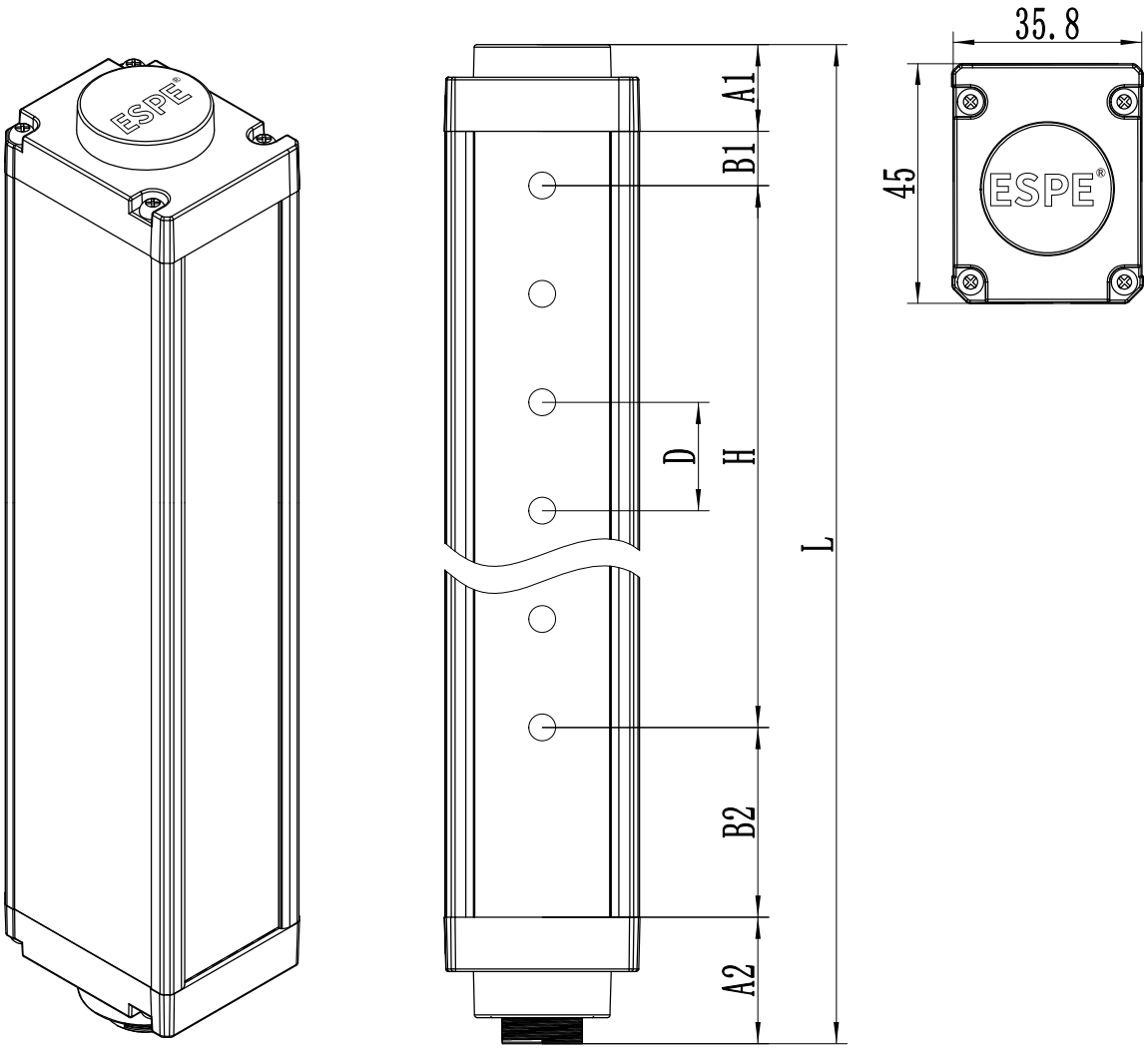
ESCL Series
ESCF Series
ESCH Series
ESCC Series
ESR Series
EDL-R1 Series
EPL Series
EPS Series
EPC Series
EPM Series
EPK Series
EDS-R Series
EDS-L Series
EMB-M01
F27X Series

Product size



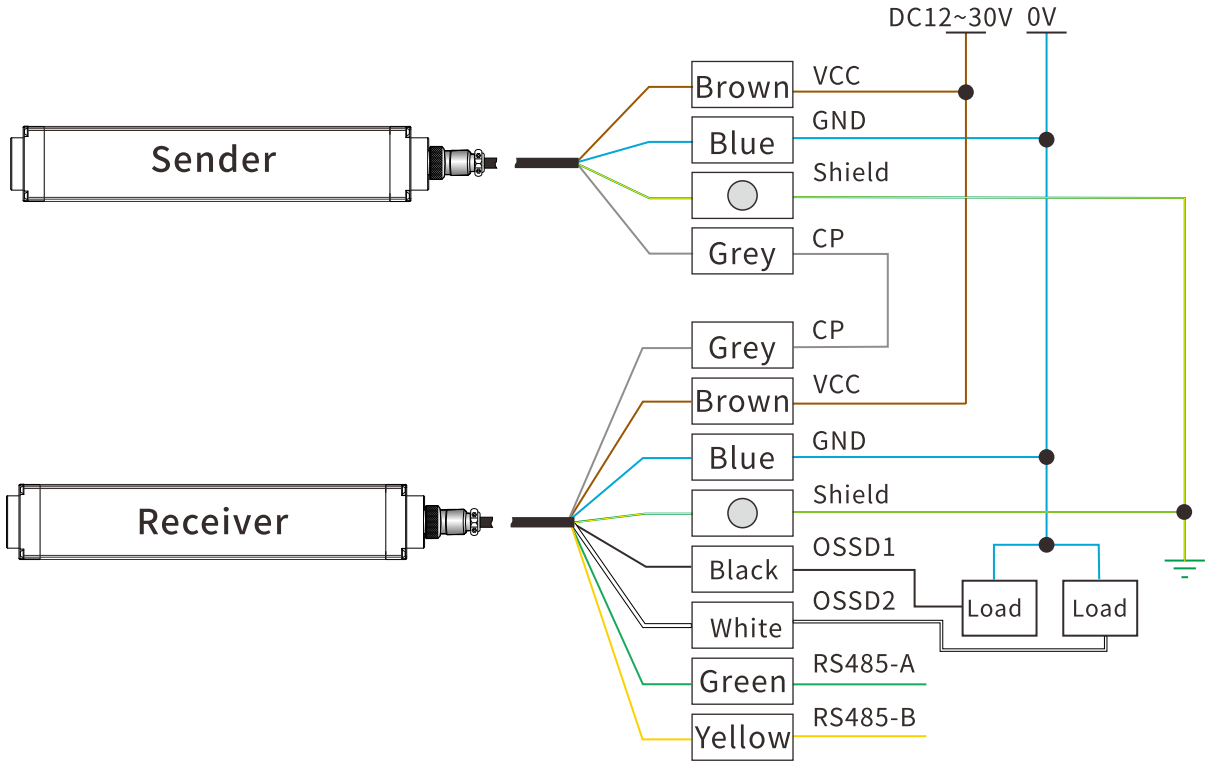
A1: Upper cover
A2: Bottom cover +aviation cap
B1: Upper stop-work range
B2: Bottom stop-work range
D: Beam space
H: Protective height
L: Total height

A1=16mm; A2=24mm
When D=2.5mm, B1=6.25mm, B2=81.25mm
When D=5mm, B1=7.5mm, B2=42.5mm
When D=10mm, B1=5mm, B2=30mm
When D=20/40mm, B1=10mm, B2=30mm
H is protective height: H=(beams-1) * beam space
L is total height: L=A1+A2+B1+B2+H

Wire connection

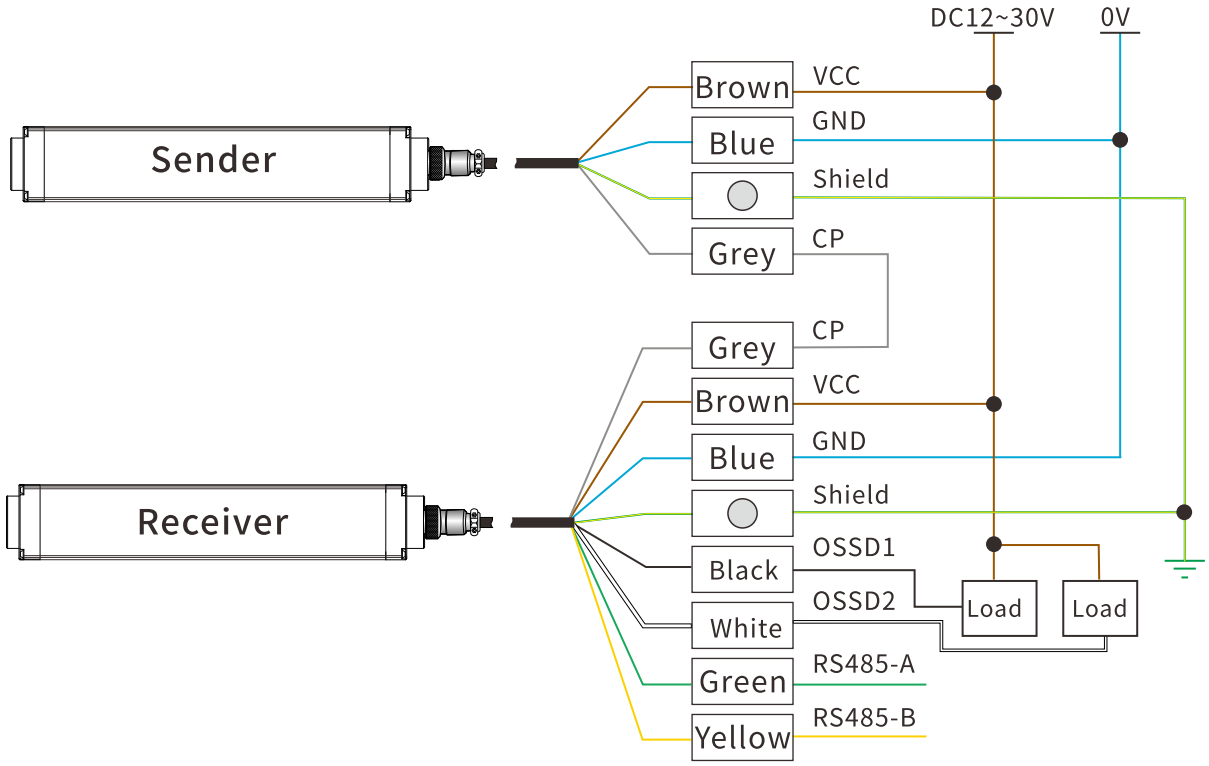
Connection of Rs485

PNP Switching quantiy output mode



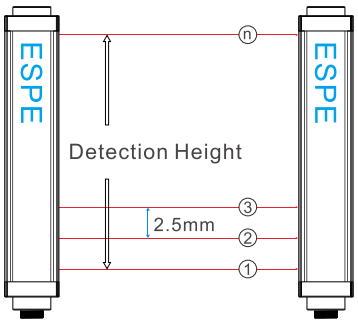
Connection of Rs485

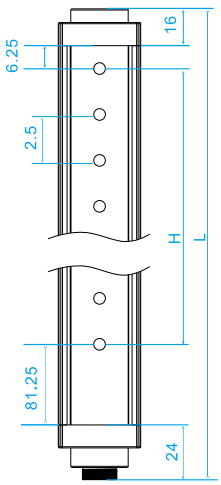
NPN Switching quantiy output mode



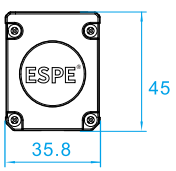
ESCF selection sheet

- Beam space 2.5mm

Picture	Beams	Detection Height(mm)	Total Height (mm)	Model	Size L*W*H(mm)
	32	77.50	205	ESCL32025	35.8*45*205
	64	157.50	285	ESCL64025	35.8*45*285
	96	237.50	365	ESCL96025	35.8*45*365
	128	317.50	445	ESCL128025	35.8*45*445
	160	397.50	525	ESCL160025	35.8*45*525
	192	477.50	605	ESCL192025	35.8*45*605
	224	557.50	685	ESCL224025	35.8*45*685
	256	637.50	765	ESCL256025	35.8*45*765
	288	717.50	845	ESCL288025	35.8*45*845
	320	797.50	925	ESCL320025	35.8*45*925
	352	877.50	1005	ESCL352025	35.8*45*1005
	384	957.50	1085	ESCL384025	35.8*45*1085
	416	1037.50	1165	ESCL416025	35.8*45*1165
	448	1117.50	1245	ESCL448025	35.8*45*1245
	480	1197.50	1325	ESCL480025	35.8*45*1325



Front view



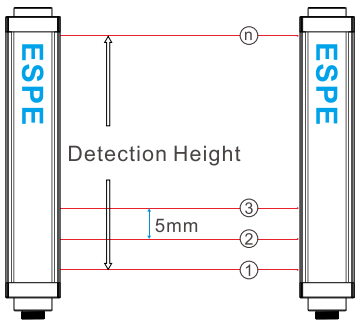
Top-view

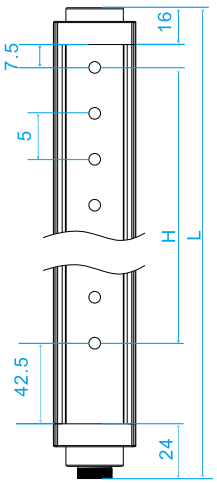
H is protective height:
H=(beams-1) * beam space
L is total height: L=A1+A2+B1+B2+H

Remark: Size can be customized according to real application.

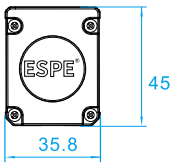
ESCF selection sheet

- Beam space 5mm





Front view



Top-view

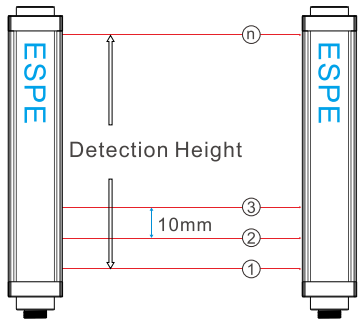
H is protective height:
H=(beams-1) * beam space
L is total height: L=A1+A2+B1+B2+H

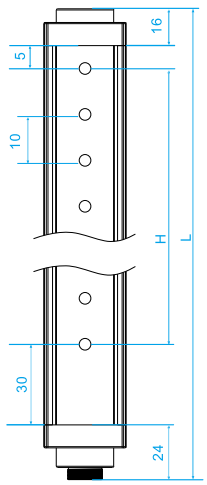
Picture	Beams	Detection Height(mm)	Total Height (mm)	Model	Size L*W*H(mm)
	16	75	165	ESCL1605	35.8*45*165
	24	115	205	ESCL2405	35.8*45*205
	32	155	245	ESCL3205	35.8*45*245
	40	195	285	ESCL4005	35.8*45*285
	48	235	325	ESCL4805	35.8*45*325
	56	275	365	ESCL5605	35.8*45*365
	64	315	405	ESCL6405	35.8*45*405
	72	355	445	ESCL7205	35.8*45*445
	80	395	485	ESCL8005	35.8*45*485
	88	435	525	ESCL8805	35.8*45*525
	96	475	565	ESCL9605	35.8*45*565
	104	515	605	ESCL10405	35.8*45*605
	112	555	645	ESCL11205	35.8*45*645
	120	595	685	ESCL12005	35.8*45*685
	128	635	725	ESCL12805	35.8*45*725
	136	675	765	ESCL13605	35.8*45*765
	144	715	805	ESCL14405	35.8*45*805
	152	755	845	ESCL15205	35.8*45*845
	160	795	885	ESCL16005	35.8*45*885
	168	835	925	ESCL16805	35.8*45*925
	176	875	965	ESCL17605	35.8*45*965
	184	915	1005	ESCL18405	35.8*45*1005
	192	955	1045	ESCL19205	35.8*45*1045
	200	995	1085	ESCL20005	35.8*45*1085
	208	1035	1125	ESCL20805	35.8*45*1125
	216	1075	1165	ESCL21605	35.8*45*1165
	224	1115	1205	ESCL22405	35.8*45*1205
	232	1155	1245	ESCL23205	35.8*45*1245
	240	1195	1285	ESCL24005	35.8*45*1285
	248	1235	1325	ESCL24805	35.8*45*1325
	256	1275	1365	ESCL25605	35.8*45*1365
	.....	.....	.....	.....	.....
	640	3195	3285	ESCL64005	35.8*45*3285

Remark: Size can be customized according to real application.

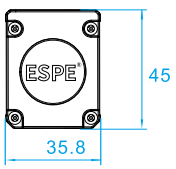
ESCF selection sheet

- Beam space 10mm





Front view



Top-view

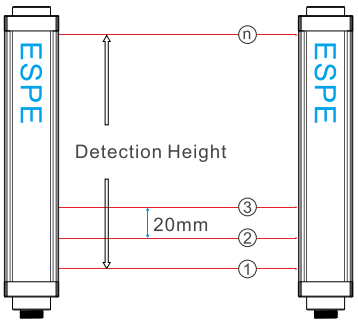
H is protective height:
H=(beams-1) * beam space
L is total height: L=A1+A2+B1+B2+H

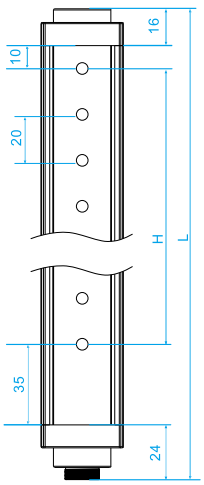
Picture	Beams	Detection Height(mm)	Total Height (mm)	Model	Size L*W*H(mm)
	16	150	225	ESCL1610	35.8*45*225
	24	230	305	ESCL2410	35.8*45*305
	32	310	385	ESCL3210	35.8*45*385
	40	390	465	ESCL4010	35.8*45*465
	48	470	545	ESCL4810	35.8*45*545
	56	550	625	ESCL5610	35.8*45*625
	64	630	705	ESCL6410	35.8*45*705
	72	710	785	ESCL7210	35.8*45*785
	80	790	865	ESCL8010	35.8*45*865
	88	870	945	ESCL8810	35.8*45*945
	96	950	1025	ESCL9610	35.8*45*1025
	104	1030	1105	ESCL10410	35.8*45*1105
	112	1110	1185	ESCL11210	35.8*45*1185
	120	1190	1265	ESCL12010	35.8*45*1265
	128	1270	1345	ESCL12810	35.8*45*1345
	136	1350	1425	ESCL13610	35.8*45*1425
	144	1430	1505	ESCL14410	35.8*45*1505
	152	1510	1585	ESCL15210	35.8*45*1585
	160	1590	1665	ESCL16010	35.8*45*1665
	168	1670	1745	ESCL16810	35.8*45*1745
	176	1750	1825	ESCL17610	35.8*45*1825
	184	1830	1905	ESCL18410	35.8*45*1905
	192	1910	1985	ESCL19210	35.8*45*1985
	200	1990	2065	ESCL20010	35.8*45*2065
	208	2070	2145	ESCL20810	35.8*45*2145
	216	2150	2225	ESCL21610	35.8*45*2225
	224	2230	2305	ESCL22410	35.8*45*2305
	232	2310	2385	ESCL23210	35.8*45*2385
	240	2390	2465	ESCL24010	35.8*45*2465
	248	2470	2545	ESCL24810	35.8*45*2545
	256	2550	2625	ESCL25610	35.8*45*2625
	.....	.....	.....	.....	.....
	400	3990	4065	ESCL40010	35.8*45*4065

Remark: Size can be customized according to real application.

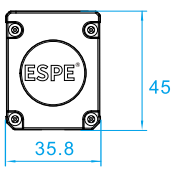
ESCF selection sheet

- Beam space 20mm





Front view



Top-view

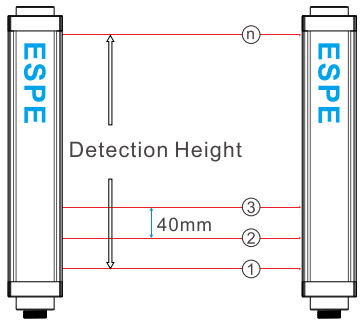
H is protective height:
H=(beams-1) * beam space
L is total height: L=A1+A2+B1+B2+H

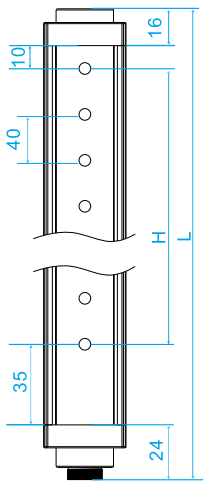
Picture	Beams	Detection Height(mm)	Total Height (mm)	Model	Size L*W*H(mm)
	16	300	385	ESCL1620	35.8*45*385
	24	460	545	ESCL2420	35.8*45*545
	32	620	705	ESCL3220	35.8*45*705
	40	780	865	ESCL4020	35.8*45*865
	48	940	1025	ESCL4820	35.8*45*1025
	56	1100	1185	ESCL5620	35.8*45*1185
	64	1260	1345	ESCL6420	35.8*45*1345
	72	1420	1505	ESCL7220	35.8*45*1505
	80	1580	1665	ESCL8020	35.8*45*1665
	88	1740	1825	ESCL8820	35.8*45*1825
	96	1900	1985	ESCL9620	35.8*45*1985
	104	2060	2145	ESCL10420	35.8*45*2145
	112	2220	2305	ESCL11220	35.8*45*2305
	120	2380	2465	ESCL12020	35.8*45*2465
	128	2540	2625	ESCL12820	35.8*45*2625
	136	2700	2785	ESCL13620	35.8*45*2785
	144	2860	2945	ESCL14420	35.8*45*2945
	152	3020	3105	ESCL15220	35.8*45*3105
	160	3180	3265	ESCL16020	35.8*45*3265
	168	3340	3425	ESCL16820	35.8*45*3425
	176	3500	3585	ESCL17620	35.8*45*3585
	184	3660	3745	ESCL18420	35.8*45*3745
	192	3820	3905	ESCL19220	35.8*45*3905
	200	3980	4065	ESCL20020	35.8*45*4065
	208	4140	4225	ESCL20820	35.8*45*4225
	216	4300	4385	ESCL21620	35.8*45*4385
	224	4460	4545	ESCL22420	35.8*45*4545
	232	4620	4705	ESCL23220	35.8*45*4705
	240	4780	4865	ESCL24020	35.8*45*4865

Remark: Size can be customized according to real application.

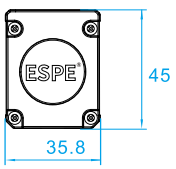
ESCF selection sheet

- Beam space 40mm





Front view



Top-view

H is protective height:
H=(beams-1) * beam space
L is total height: L=A1+A2+B1+B2+H

Picture	Beams	Detection Height(mm)	Total Height (mm)	Model	Size L*W*H(mm)
	08	280	365	ESCL0840	35.8*45*365
	12	440	525	ESCL1240	35.8*45*525
	16	600	685	ESCL1640	35.8*45*685
	20	760	845	ESCL2040	35.8*45*845
	24	920	1005	ESCL2440	35.8*45*1005
	28	1080	1165	ESCL2840	35.8*45*1165
	32	1240	1325	ESCL3240	35.8*45*1325
	36	1400	1485	ESCL3640	35.8*45*1485
	40	1560	1645	ESCL4040	35.8*45*1645
	44	1720	1805	ESCL4440	35.8*45*1805
	48	1880	1965	ESCL4840	35.8*45*1965
	52	2040	2125	ESCL5240	35.8*45*2125
	56	2200	2285	ESCL5640	35.8*45*2285
	60	2360	2445	ESCL6040	35.8*45*2445
	64	2520	2605	ESCL6440	35.8*45*2605
	68	2680	2765	ESCL6840	35.8*45*2765
	72	2840	2925	ESCL7240	35.8*45*2925
	76	3000	3085	ESCL7640	35.8*45*3085
	80	3160	3245	ESCL8040	35.8*45*3245
	84	3320	3405	ESCL8440	35.8*45*3405
	88	3480	3565	ESCL8840	35.8*45*3565
	92	3640	3725	ESCL9240	35.8*45*3725
	96	3800	3885	ESCL9640	35.8*45*3885
	100	3960	4045	ESCL10040	35.8*45*4045
	104	4120	4205	ESCL10440	35.8*45*4205
	108	4280	4365	ESCL10840	35.8*45*4365
	112	4440	4525	ESCL11240	35.8*45*4525
	116	4600	4685	ESCL11640	35.8*45*4685
	120	4760	4845	ESCL12040	35.8*45*4845

Remark: Size can be customized according to real application.

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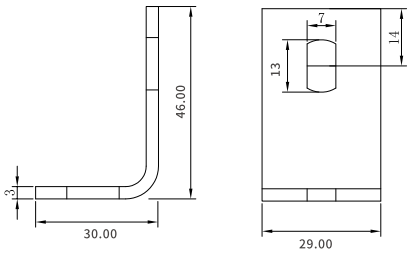
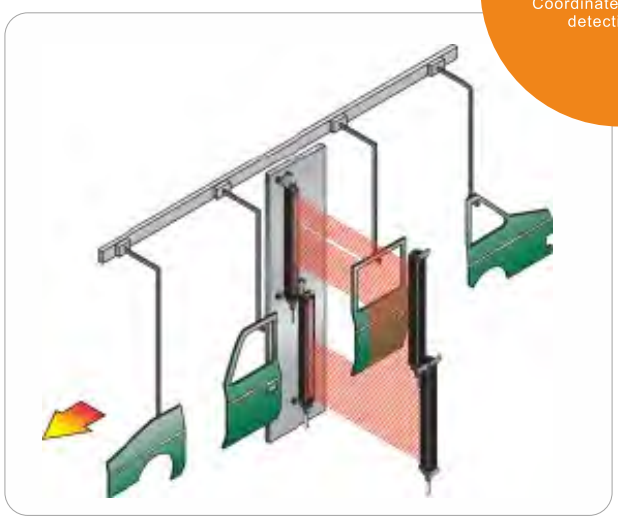
ESR Series
EDL-R1 Series
EPL Series
EPS Series
EPC Series
EPM Series
EPK Series
EDS-R Series
EDS-L Series
EMB-M01
F27X Series

Option of brackets

Picture	Brackets	Accessories	Size
	L1 back mounting brackets	1. L type brackets(4 pcs) 2. Slide block (4pcs) 3. M6 grommet (4 pcs) 4. M6 pad(4 pcs) 5. M6*16 screw(4 pcs) 6. M6*8 screw(4 pcs)	

Application case

Measuring the distance of the long jump or shot put, Workpiece spray detection, Coordinate positioning detection, etc



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F27X Series