

Световые завесы безопасности типа 4 серии ESE

Технические характеристики

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ESE series

Type 4 safety light curtain

ESE safety light curtains are designed according to safety standards of European Type 4. It's high safety performance for internal MCU redundancy technology, periodic self-inspection and mutual-inspection functions, redundant and independent dual-loop output design.



Product feature

- Designed according to IEC61496 type 4 standard.
- With Type 4 certification.
- MCU redundancy design: adopt dual MCU technology
- Self-inspection and cross-inspection design: periodic double check to improve security.
- Independent and redundant dual-loop output: In case of risk caused by failure signal loop.
- Internal independent dual power supply: dual power supplies to supply power to the internal MCU respectively.
- Great performance in anti-electromagnetic interference: Above 2 KV group pulse interference does not affect normal work.
- Wire synchronization technology: Avoid external infrared light interference effectively.



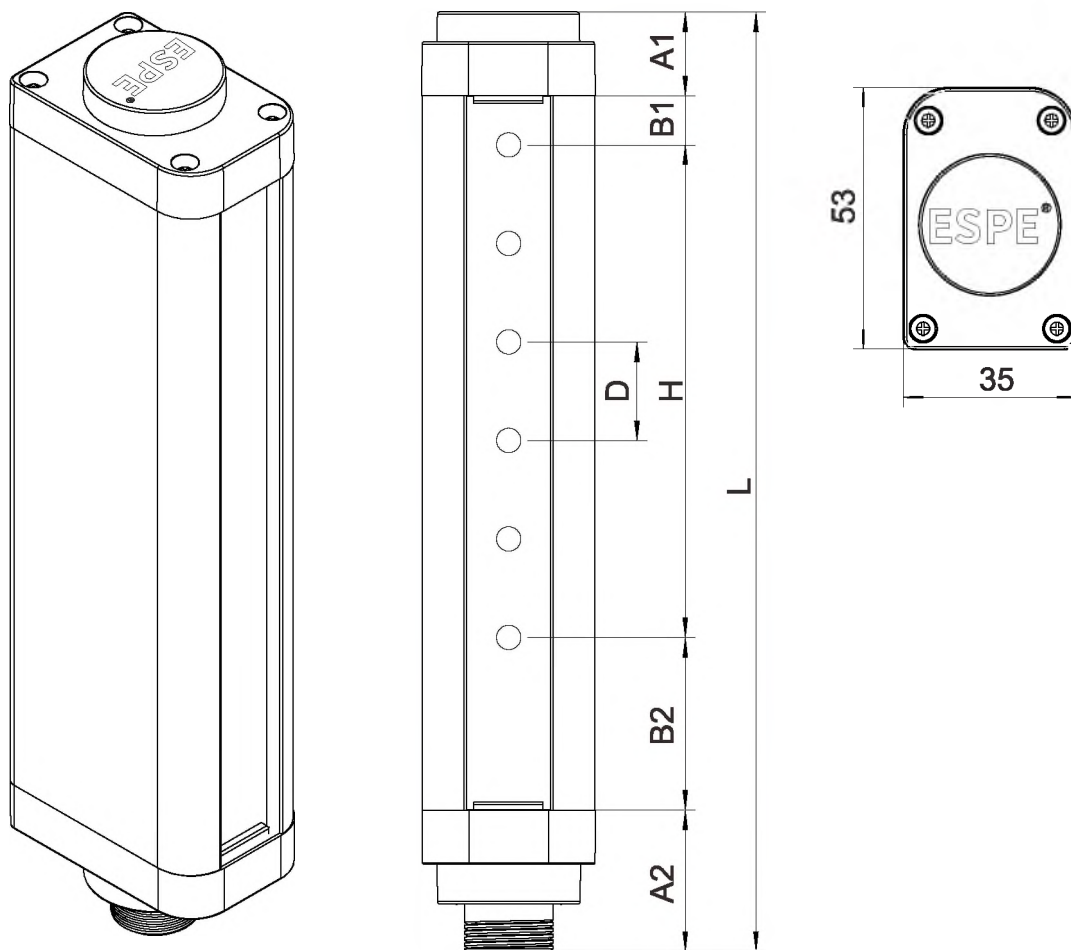
Technical parameter

Parameter of safety light curtain

Reference Standard	EN 61496-1 (Type 4 ESPE) EN 61496-2 (Type 4 AOPD) EN ISO 13849-1 (Category 4, PL e)
Safety level	Type 4
Supply voltage	DC24±20%
Capacity	<5W
Beam space	10mm, 20mm, 40mm
Resolution	20mm, 30mm, 50mm
Beams	10mm beam space: 16, 20, 24.....160 20mm beam space: 8, 10.....72 40mm beam space: 4, 6, 8.....36
Protective height	Protective height=(N-1)*beam gap, N is beam quantity.
Wave length	940nm
Response time	<10ms
Type of output(OSSD)	PNP/ NPN semiconductors, current<200mA, residual voltage: 1V max. leakage current: 1mA max. (Except voltage influenced by lengthen wire).
Protective circuit	Overload voltage protection, power supply reverse polarity protection, over current protection.
Sensing distance	0.1~5m, 0.1~10m (remark: if have light reflection, please let us know)
Anti-optical interference	10000Lux(I >2.5°)
Sensing method	Through-beam type
Synchronization	wire synchronization
Enclosure material	aluminum alloy
Enclosure rating	IP65
Housing cross-section	35*53mm
Vibration resistance	10 Hz ... 55 Hz, double amplitude each in X, Y and Z directions for 20times.
Ambient operating temperature	-10°C~55°C (with no freezing)
Storage temperature	-30°C~70°C (with no freezing)
Ambient operating humidity	when temperature is 20°C, humidity max 85%

Explanation of model number (For example: 20ESE300-16P-5)

20	ESE	300	—	16	L1	P	—	5
▼	▼	▼		▼	▼	▼		▼
Beam space	Model	Protective height		Beams	Mounting brackets	Output type		Sensing distance
10mm 20mm 40mm	ESE Model	300mm		04,06,08, 10.....	L1 Bracket	N: NPN P: PNP		5: 0.1~5M 10: 0.1~10M

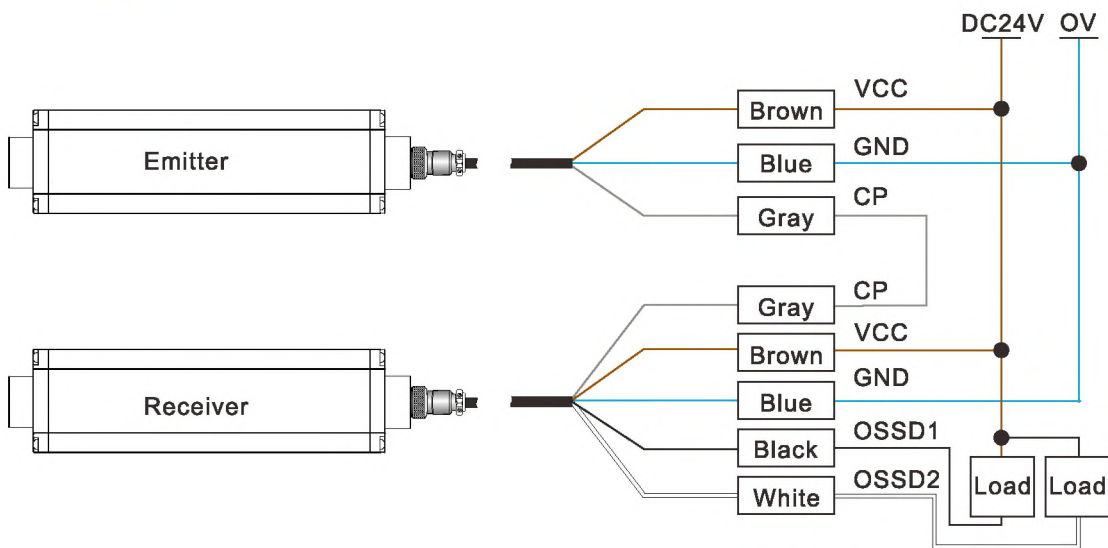


A1: Upper cover
 A2: Bottom cover + aviation plug
 B1: Upper stop-work range
 B2: Bottom stop-work range
 D: Beam space (10mm/ 20mm/40mm)
 H: Protection height
 L: Total height

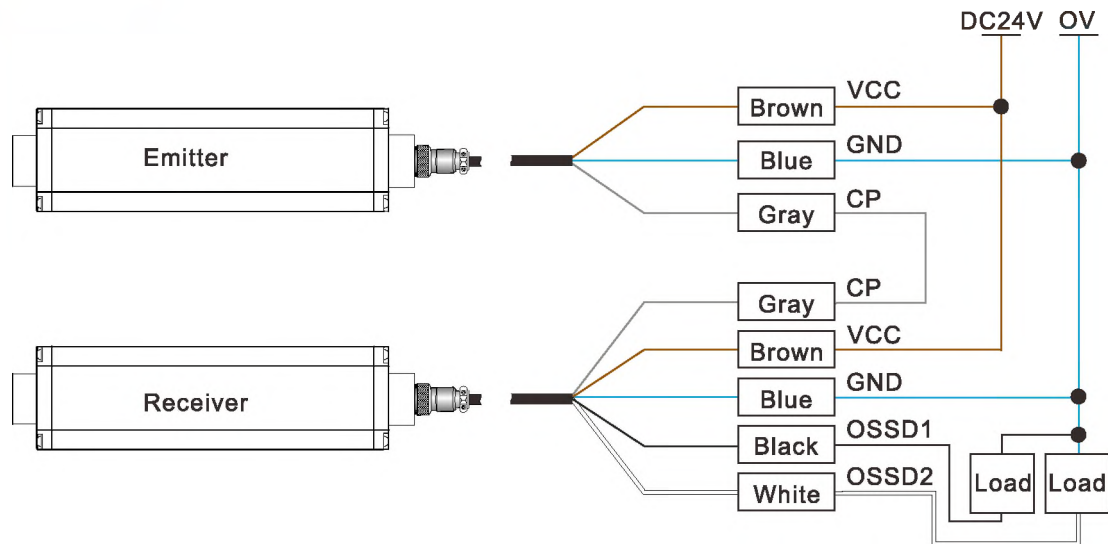
A1=17mm; A2=28mm
 When D=10mm, B1=5mm; B2=30mm
 When D=20mm, B1=10mm; B2=35mm
 When D=40mm, B1=30mm; B2=35mm
 $L \text{ (total height)} = A1 + A2 + B1 + B2 + H$
 $H \text{ (protective height)} = (\text{beams} - 1) * \text{beam space}$

Wire connection

NPN type

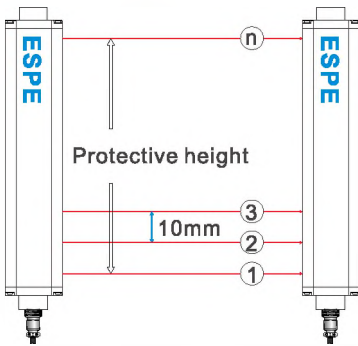
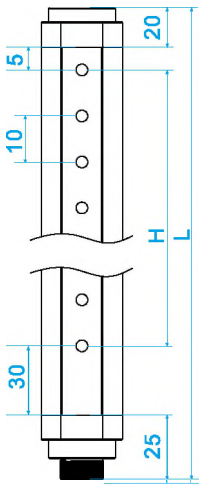
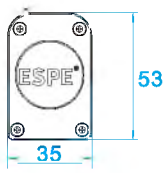


PNP type



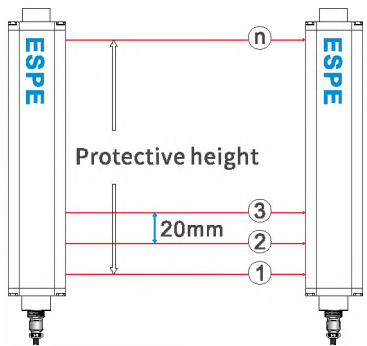
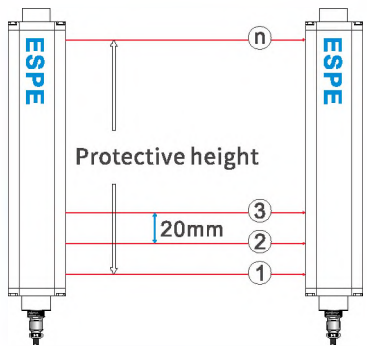
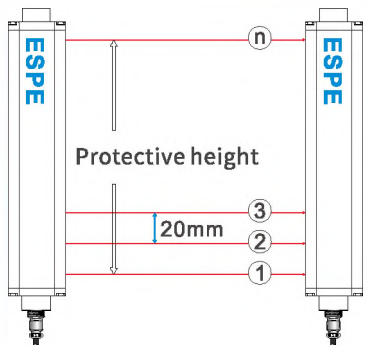
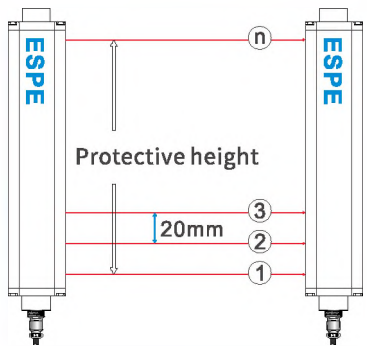
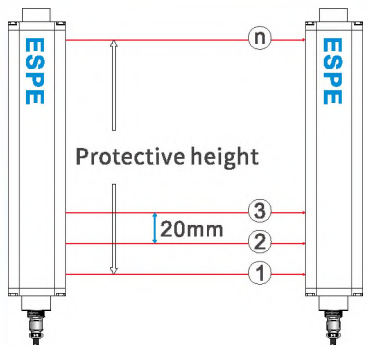
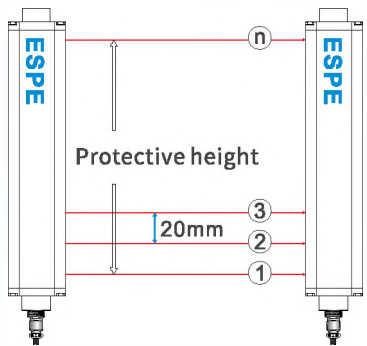
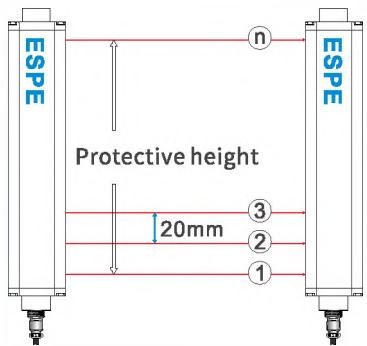
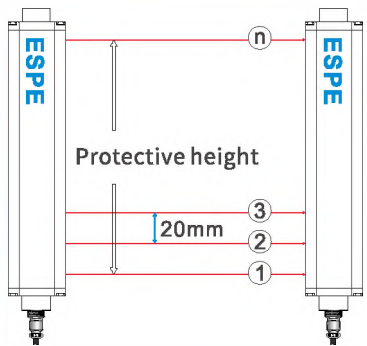
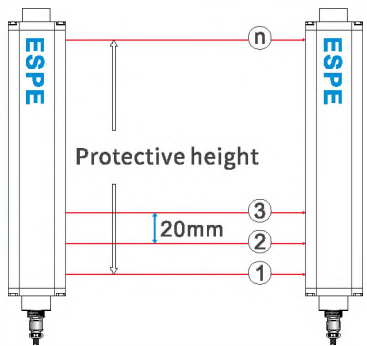
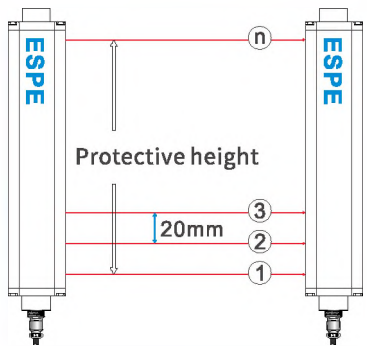
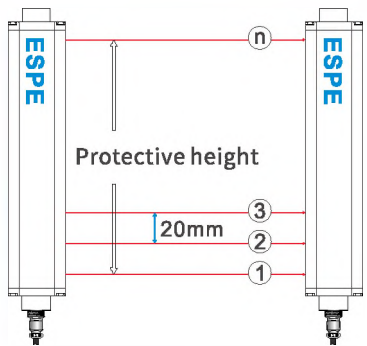
ESE model selection sheet

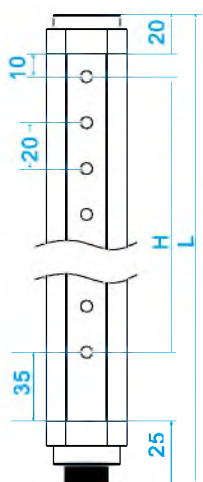
- Beam space 10mm, resolution 20mm

Picture (2D)	Beams	Protective height(mm)	Total height (mm)	NPN output	PNP output
	16	150	240	10ESE15016N	10ESE15016P
	20	190	280	10ESE19020N	10ESE19020P
	24	230	320	10ESE23024N	10ESE23024P
	28	270	360	10ESE27028N	10ESE27028P
	32	310	400	10ESE31032N	10ESE31032P
	36	350	440	10ESE35036N	10ESE35036P
	40	390	480	10ESE39040N	10ESE39040P
	44	430	520	10ESE43044N	10ESE43044P
	48	470	560	10ESE47048N	10ESE47048P
H is protective height: $H = (\text{beams} - 1) * \text{beam space}$ L is total height= A1+A2+B1+B2+H	52	510	600	10ESE51052N	10ESE51052P
	56	550	640	10ESE55056N	10ESE55056P
	60	590	680	10ESE59060N	10ESE59060P
	64	630	720	10ESE63064N	10ESE63064P
	68	670	760	10ESE67068N	10ESE67068P
	72	710	800	10ESE71072N	10ESE71072P
	76	750	840	10ESE75076N	10ESE75076P
	80	790	880	10ESE79080N	10ESE79080P
	84	830	920	10ESE83084N	10ESE83084P
	88	870	960	10ESE87088N	10ESE87088P
	92	910	1000	10ESE91092N	10ESE91092P
	96	950	1040	10ESE95096N	10ESE95096P
	100	990	1080	10ESE990100N	10ESE990100P
	104	1030	1120	10ESE1030104N	10ESE1030104P
	108	1070	1160	10ESE1070108N	10ESE1070108P
	112	1110	1200	10ESE1110112N	10ESE1110112P
	116	1150	1240	10ESE1150116N	10ESE1150116P
	120	1190	1280	10ESE1190120N	10ESE1190120P
	124	1230	1320	10ESE1230124N	10ESE1230124P
	128	1270	1360	10ESE1270128N	10ESE1270128P
	132	1310	1400	10ESE1310132N	10ESE1310132P
	136	1350	1440	10ESE1350136N	10ESE1350136P
					
	160	1590	1680	10ESE1590160N	10ESE1590160P

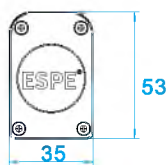
ESE model selection sheet

- Beam space 20mm, resolution 30mm

Picture (2D)	Beams	Protective height(mm)	Total height (mm)	NPN output	PNP output
	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



Front view



Top-view

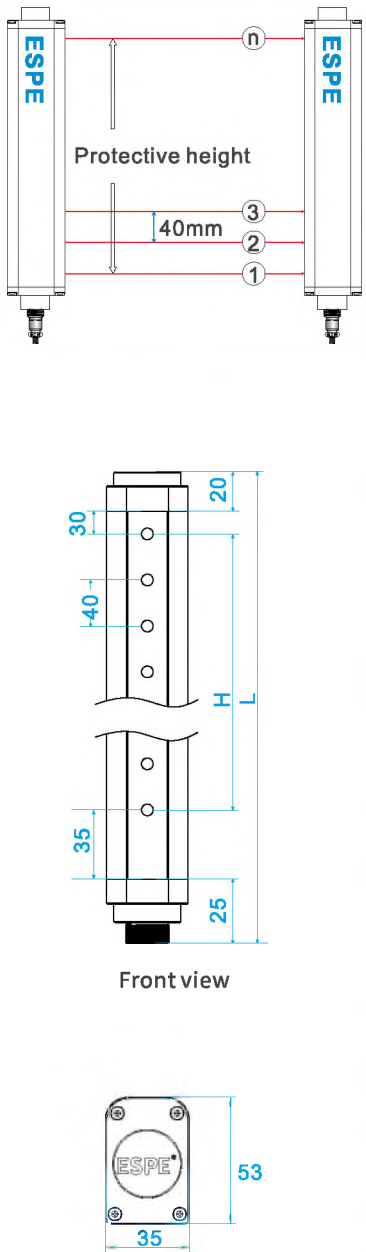
H is protective height:

$H = (\text{beams} - 1) \times \text{beam space}$

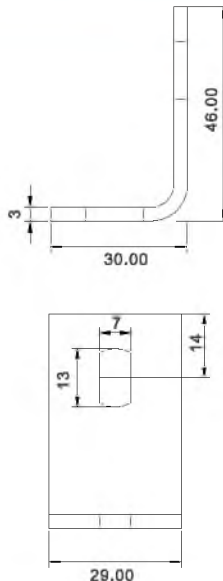
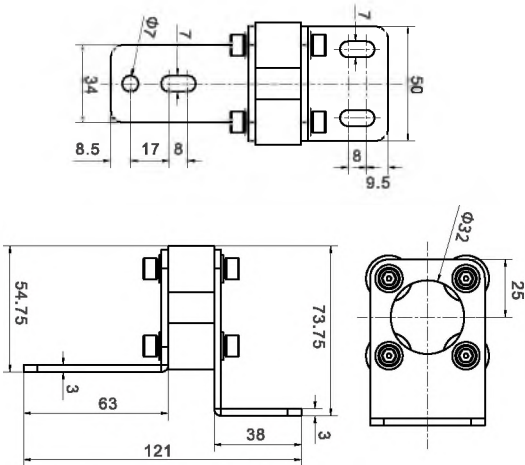
L is total height = $A1 + A2 + B1 + B2 + H$

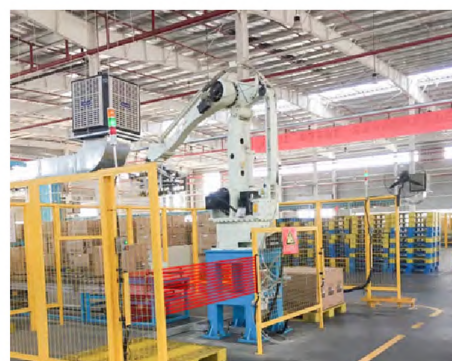
ESE model selection sheet

- Beam space 40mm, resolution 50mm

Picture (2D)	Beams	Protective height(mm)	Total height (mm)	NPN output	PNP output
 Front view Top-view H is protective height: $H = (\text{beams} - 1) * \text{beam space}$ L is total height = $A1 + A2 + B1 + B2 + H$	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

Option for brackets

Picture	Bracket Name	Accessories	Bracket Size
	L1 side-mounting bracket	1. L1 brackets(4 pcs) 2. Slide block (4 pcs) 3. M6 grommet (4 pcs) 4. M6 pad(4 pcs) 5. M6*16 screw(4 pcs) 6. M6*8 screw(4 pcs)	
	Shock-absorbing bracket	1. Bracket body (4 pcs) 2. Slide block (8 pcs) 3. M6 grommet (8 pcs) 4. M6 pad(8 pcs) 5. M6*16 screw (8 pcs) 6. M6*8 screw (8 pcs)	



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