

SCL Series

Safety Light Curtain

SCL safety light curtains provide safety guarding for automated machinery. Compact and highly precise, with optional beam pitches: 5 mm, 10 mm, 20 mm, 40 mm. Equipped with wire synchronization technology, strong noise immunity and built-in safety self-test.



Product Features:

- Compact design with cross-section dimensions of only 35 × 28 mm
- High detection accuracy, ideal for high-precision applications
- Multiple selectable beam pitches: 5 mm, 10 mm, 20 mm, 40 mm
- Adopts wire synchronization technology for high reliability
- Long sensing range; customized maximum distance up to 6 meters
- Excellent anti-interference capability, effectively resisting interference from motors and electromagnetic equipment
- Flexible for various installation scenarios, suitable for automated machinery and small & medium-sized equipment
- Compliant with Type E safety level, complete self-check function and strong EMC immunity
- Dual-circuit self-check output design for enhanced operational safety
- Multiple mounting options and optional safety brackets to fit diverse installation requirements



Model Explanation

LZ — **SCL** — **04** **20** — **NB** — **W**

Brand

Lorentzzi

Model

Series

Beam Qty

2, 4, 6, 8...

Beam Pitch

5/10/20/40 mm

Output

NA: NPN+NO,
NB: NPN+NC,
NC: NPN+NO&NC,
PA: PNP+NO,
PB: PNP+NC,
PC: PNP+NC&NO.

Controller

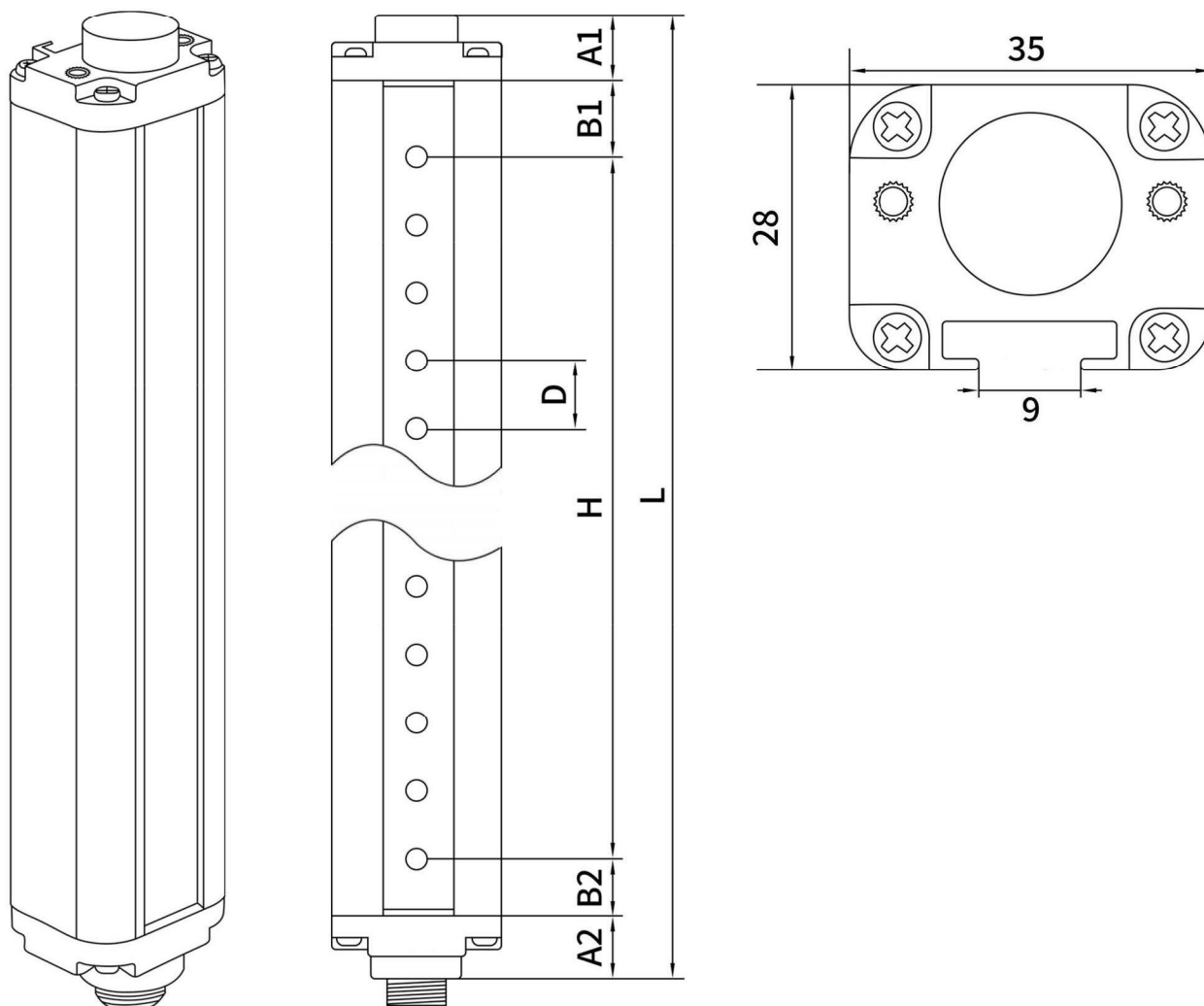
W: External controller
WI: Second-generation
external controller
0: Built-in controller

Parameters:

Protective Height	60~2000 mm (standard)
Beam Pitch	5 mm / 10 mm / 20 mm / 40 mm
Number of Beams	5 mm pitch: 16, 24, 32, 40, 48 128 10 mm pitch: 8, 10, 12, 14, 16 100 20 mm pitch: 4, 6, 8, 10, 12 100 40 mm pitch: 4, 6, 8, 12 100
Resolution	10 mm / 15 mm / 25 mm / 45 mm
Operating Voltage	DC 24 V $\pm 20\%$
Insulation Resistance	$\geq 100 \text{ M}\Omega$
Response Time	$< 10 \text{ ms}$
Protective Distance	0.1~3000 mm
Output Current	$\leq 200 \text{ mA}$
Power Consumption	$< 5 \text{ W}$
Cross-section Dimension	35 × 28 mm
Enclosure Rating	IP65
Housing Material	Aluminum Alloy
Synchronization Mode	Wire Synchronization
Protection Circuit	Overvoltage protection, reverse polarity protection and output overcurrent protection
Output Type	NPN or PNP (standard) / Relay Normally Open / Relay Normally Closed (customizable)
Dielectric Strength	AC 1500 V, 60 s, no breakdown or flashover
Operating Ambient Temperature	-10~55 ° C
Operating Humidity	Relative humidity $< 85\%$ (at 20 ° C)
Light Immunity	10000 Lux (incident angle $> 5^\circ$)

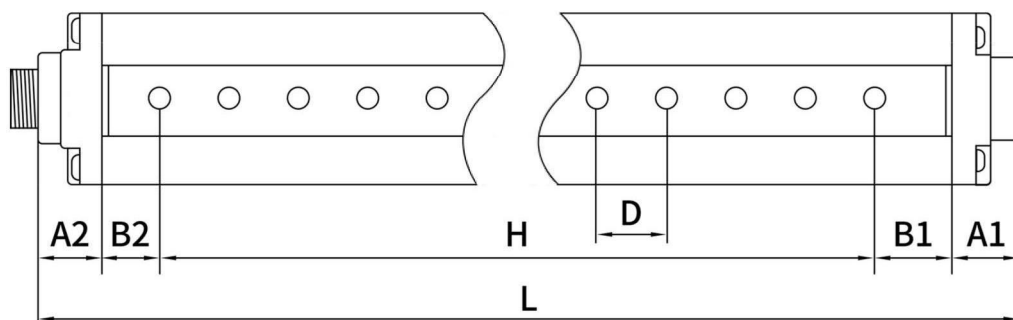
Dimension

Product Dimension



A1: Top end cap	14 mm
A2: Bottom end cap	14 mm
B1: Upper PCB blind zone	When D = 10 mm, B1 = 5 mm; When D = 20 mm / 40 mm, B1 = 10 mm
B2: Lower PCB blind zone	When D = 10 mm, B2 = 30 mm; When D = 20 mm / 40 mm, B2 = 35 mm; When D = 20 mm with 4 beams, B2 = 10 mm
D: Beam pitch	5 mm / 10 mm / 20 mm / 40 mm
H: Protective height	(Number of Beams - 1) × Beam Pitch
L: Total height	Height of top & bottom end caps + upper & lower blind zones + protective height

SCL Selection Table



D=Optical Axis Spacing 5 mm

Beam Qty	Protection height	Total height	Model
16	75	154	LZ-SCL-1605-NB
24	115	194	LZ-SCL-2405-NB
32	155	234	LZ-SCL-3205-NB
40	195	274	LZ-SCL-4005-NB
48	235	314	LZ-SCL-4805-NB
56	275	354	LZ-SCL-5605-NB
64	315	394	LZ-SCL-6405-NB
72	355	434	LZ-SCL-7205-NB
80	395	474	LZ-SCL-8005-NB
88	435	514	LZ-SCL-8805-NB
96	475	554	LZ-SCL-9605-NB
104	515	594	LZ-SCL-10405-NB
...	...	...	...
128	635	714	LZ-SCL-12805-NB

D=Optical Axis Spacing 10 mm

Beam Qty	Protection height	Total height	Model
8	70	133	LZ-SCL-0810-NB
12	110	173	LZ-SCL-1210-NB
16	150	213	LZ-SCL-1610-NB
20	190	253	LZ-SCL-2010-NB
24	230	293	LZ-SCL-2410-NB
28	270	333	LZ-SCL-2810-NB
32	310	373	LZ-SCL-3210-NB
36	350	413	LZ-SCL-3610-NB
40	390	453	LZ-SCL-4010-NB
44	430	493	LZ-SCL-4410-NB
48	470	533	LZ-SCL-4810-NB
52	510	573	LZ-SCL-5210-NB
...	...	...	...
64	630	693	LZ-SCL-6405-NB

D=Optical Axis Spacing 20 mm

Beam Qty	Protection height	Total height	Model
4	60	108	LZ-SCL-0420-NB
6	100	173	LZ-SCL-0620-NB
8	140	213	LZ-SCL-0820-NB
10	180	253	LZ-SCL-1020-NB
12	220	293	LZ-SCL-1220-NB
14	260	333	LZ-SCL-1420-NB
16	300	373	LZ-SCL-1620-NB
18	340	413	LZ-SCL-1820-NB
20	380	453	LZ-SCL-2020-NB
22	420	493	LZ-SCL-2220-NB
24	460	533	LZ-SCL-2420-NB
26	500	573	LZ-SCL-2620-NB
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32	620	693	LZ-SCL-3220-NB

D=Optical Axis Spacing 40 mm

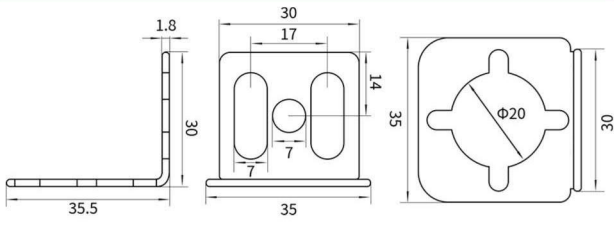
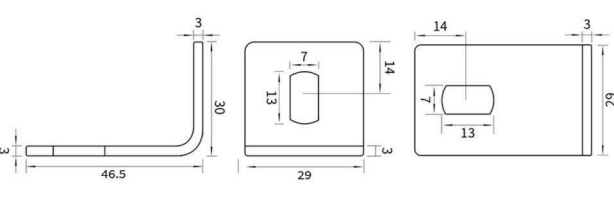
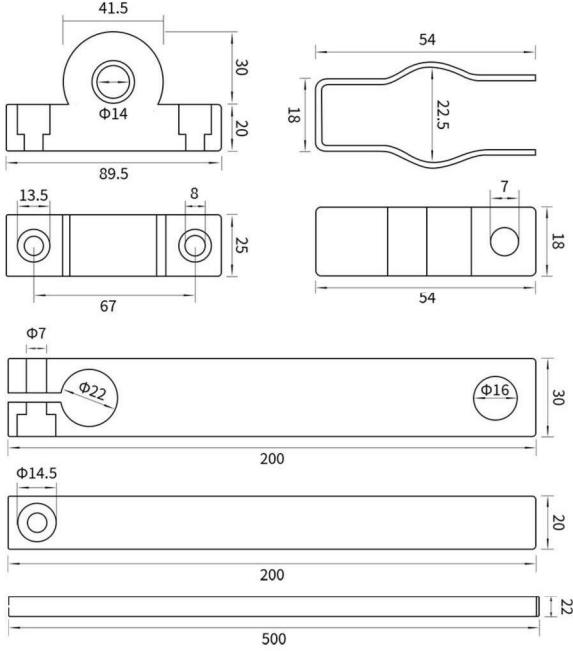
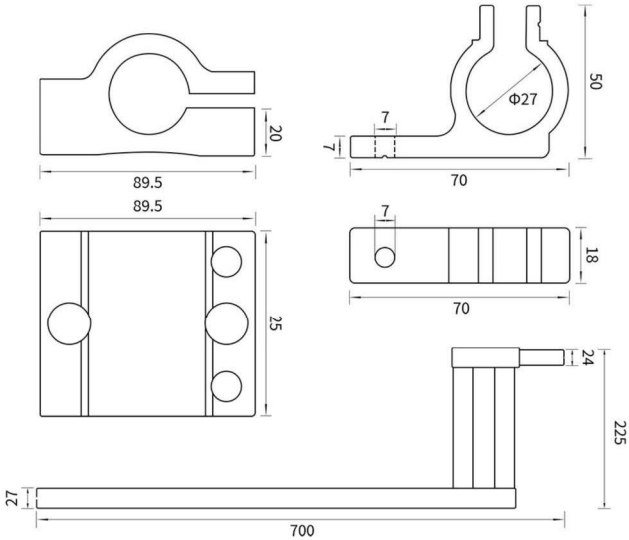
Beam Qty	Protection height	Total height	Model
4	120	193	LZ-SCL-0440-NB
6	200	273	LZ-SCL-0640-NB
8	280	353	LZ-SCL-0840-NB
10	360	433	LZ-SCL-1040-NB
12	440	513	LZ-SCL-1240-NB
14	520	593	LZ-SCL-1440-NB
16	600	673	LZ-SCL-1640-NB
18	680	753	LZ-SCL-1840-NB
20	760	833	LZ-SCL-2040-NB
22	840	913	LZ-SCL-2240-NB
24	920	993	LZ-SCL-2440-NB
26	1000	1073	LZ-SCL-2640-NB
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32	124	1313	LZ-SCL-3240-NB

Product accessories

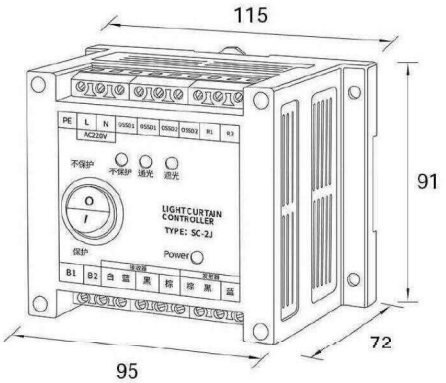
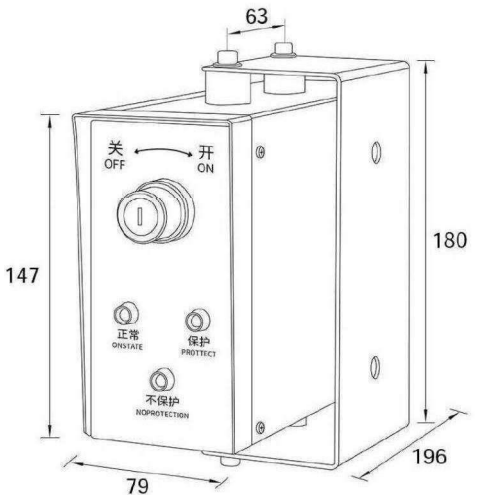
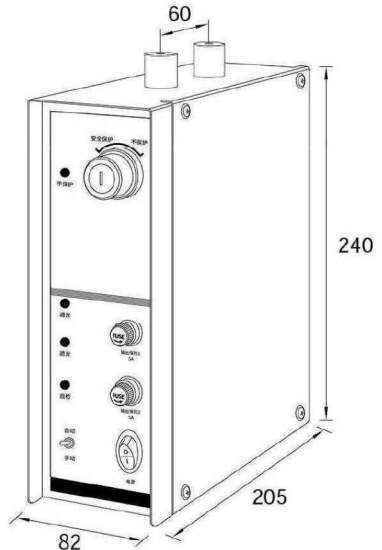


- 1 Safety light curtain X 2
Includes transmitter and receiver
- 2 Signal connection cable X 2
Cable length is approximately 3 meters, with customization available
- 3 Side mounting bracket accessory×1, standard bracket, with optional cantilever bracket available
- 4 User manual × 1
Includes wiring instructions, installation instructions, and usage instructions

Product photo	Name	Accessory	Accessory photo
	Top & bottom mounting bracket (Standard)	1: Side Fixing Bracket ×4 2: M3 Short Screw ×8 3: Washer ×8 4: Spring Washer ×8	
	Side mounting bracket (Optional)	1: Side Fixing Bracket ×4 2: M6 Long Screw ×4 3: M6 Short Screw ×4 4: Spring Washer ×4 5: Washer ×4 6: Nut ×4 7: Slider ×4	
	Cantilever bracket (Optional)	1: Cantilever Base ×2 2: Swivel Arm ×2 3: Cantilever Support Rod ×2 4: Standard Slider ×4 5: M5 Short Screw ×4 6: Shim ×4 7: Spring Washer ×4 8: M5 Long Screw ×4 9: M8 Short Screw ×2 10: Light Curtain Fixing Bracket ×4 11: M5 Nut ×4 12: M8 Screw ×8	
	Integrated steel tube bracket (Optional)	1: Integrated Steel Tube Φ27 ×2 2: Bracket Base ×2 3: M6 Hex Short Screw ×4 4: M6 Phillips Short Screw ×4 5: M6 Long Screw ×4 6: M6 Flat Head Screw ×4 7: Type "b" Clamp ×4 8: M6 Spring Washer ×12 9: M8 Long Screw ×4 10: M8 Spring Washer ×4 11: M6 Washer ×8 12: Vibration Isolation Pad ×4 13: Controller Bracket ×2	

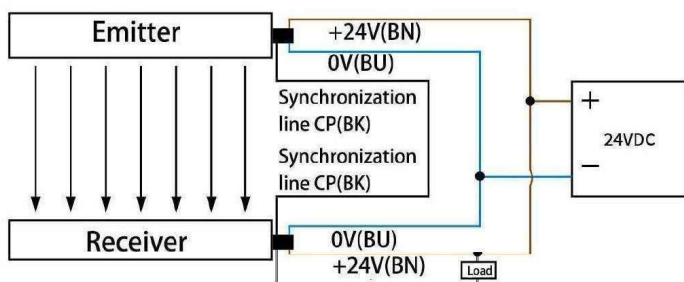
Photo	Name	Dimension
	Top & bottom mounting bracket (Standard)	
	Side mounting bracket (Standard)	
	Cantilever bracket (Optional)	
	Integrated steel tube bracket (Optional)	

Controller selection

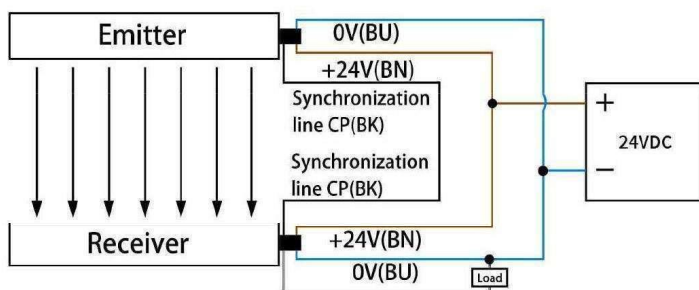
Product photo	Name	Working voltage	Product dimension(Unit: mm)
	Q-type internal DIN rail or screw mounting controller (Optional)	AC110-220V	
	W-type external mounting controller (Optional)	AC110-220V or 380VAC	
	WII-type external mounting controller (Optional)	AC110-220V or 380VAC	

Wiring diagram

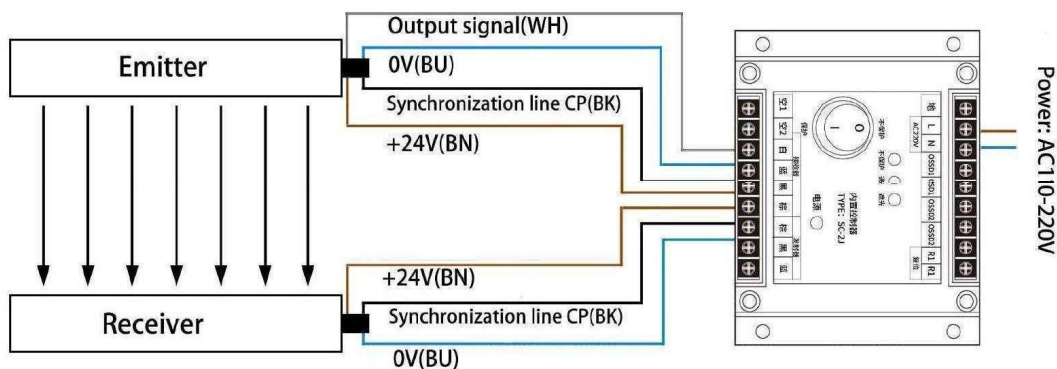
Wiring diagram for 24V voltage with NPN output



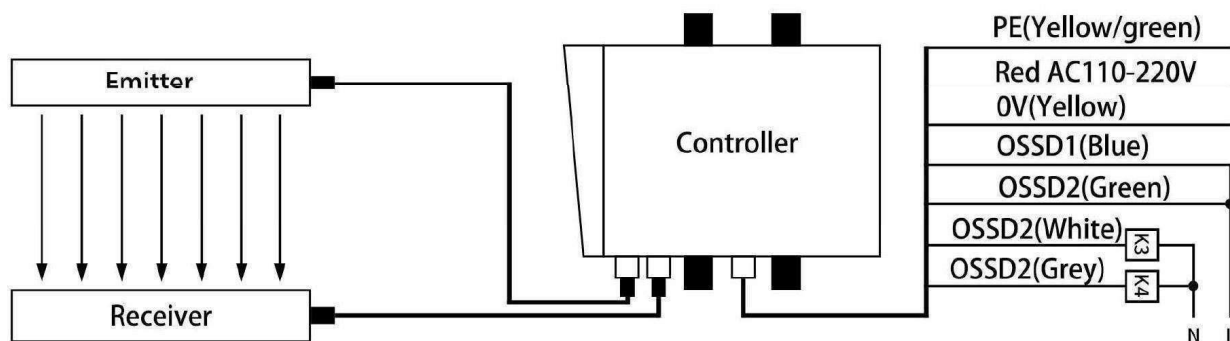
Wiring diagram for 24V voltage with PNP output



Wiring diagram for AC110~220V voltage with built-in (Q) controller



Wiring diagram for AC110~220V voltage with external (W or WII) controller





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