

Type 4 Safety Light Curtain

SL-R Series



Ask SENPUM

+86-755-83330055

Fast Delivery Standard Models



Most products are in stock. Upon receiving your order, we will arrange prompt shipment to minimize your downtime-related costs and losses.



WeChat



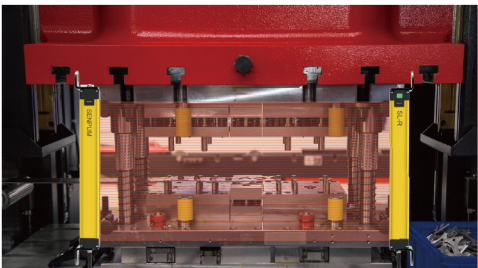
WhatsApp



LINE

Safety protection for various hazardous environments

Safety protection for hazardous environments in the automation field, mechanical presses, hydraulic presses, shearing machines, bending machines, etc.



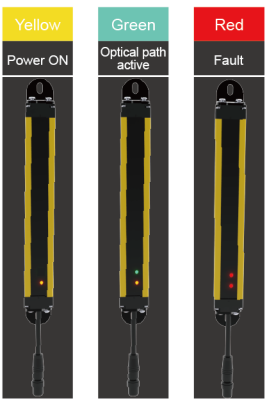
High protection rating

High safety, TUV Level 4 safety rating, performance up to PLe level, IP65/IP67 protection rating.



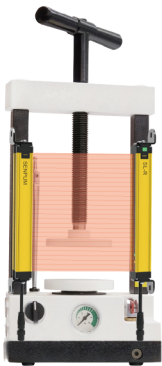
The indicator light is clearly visible and can be easily distinguished even from a long distance

The status indicator light is clearly visible, making it easy to identify the operating status and whether it is aligned.



Supports both optical and wired synchronous communication

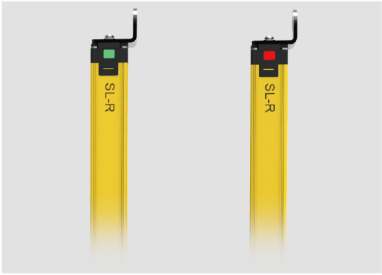
Excellent performance, suitable for protection in hazardous environments such as automation fields, hydraulic presses, bending machines, etc.



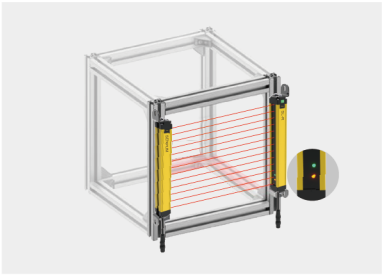
More Features

- Dual synchronization methods (optical/wired) simplify cabling and enhance installation efficiency.
- Comprehensive status indication - End-cap LEDs enable long-range visibility of light curtain status.
- Extra-large protection height of up to 2827 mm and stable optical alignment distance >15 m.
- Unique internal vibration reduction design, excellent vibration resistance.
- Strong resistance to light interference and electromagnetic interference, stable performance.

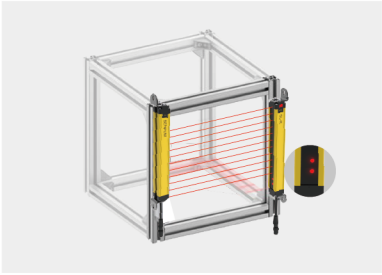
Status indicator light at a glance



End cap indicator light:
When in NO state, the green light is on;
when in OFF state, the red light is on.



Receiver indicator light:
When the position is aligned, the green light turns on.



Receiver indicator light:
When the position is offset, the red light turns on.

Safety Light Curtain Selection Guide

Please use the following steps to help you select the best SL-R Series model for your situation.

Step 1

▶

Step 2

▶

Step 3

▶

Step 4

▶

Step 5

Select the main unit

Select the optical axis spacing

Select the mounting bracket

Select the cable

Select the mounting method as required

Step 1 Step 2 ↓	Optical axis spacing 8 mm	Optical axis spacing 24 mm	Optical axis spacing 40 mm
Step 3 ↓	Front/Side mounting bracket OW-SLR001 (standard equipment)	T-type mounting bracket OW-SLR002	Tube mounting bracket OW-SLR003
Step 4 ↓	OW-SLR-5M (standard equipment)	OW-SLR-10M	OW-SLR-20M
Step 5	Front/Side mounting	T-type mounting	Tube mounting

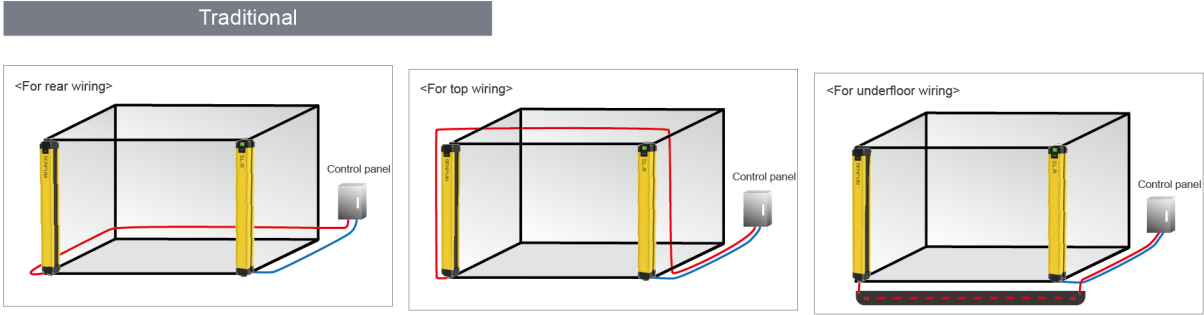


Features

Optical Synchronization System

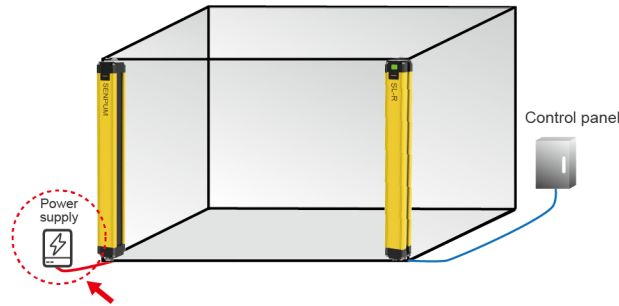
- No need to install synchronization cables
- Cable assembly is simple and easy
- The transmitter and receiver can be operated using different power sources

Advantages of the optical synchronization system



Optical Synchronization System

<When using optical sync system>



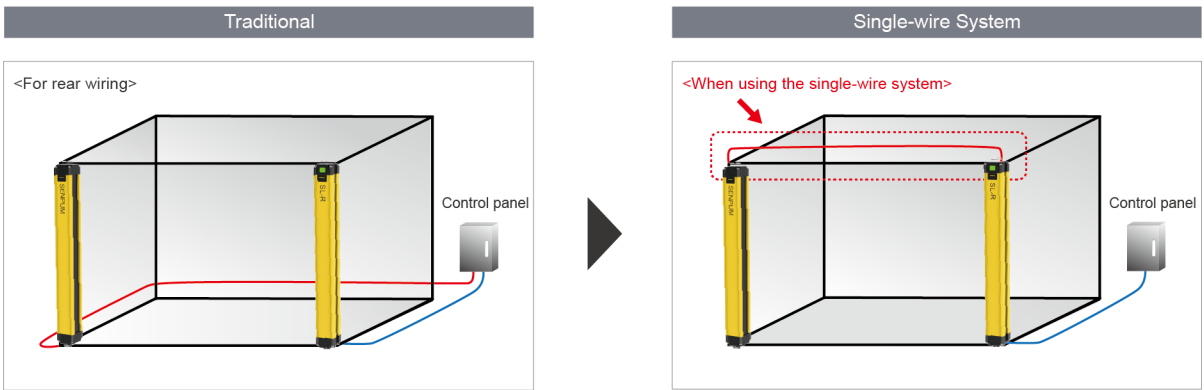
Cable assembly is simple and easy

- Reduces risk of wire breakage
- Wiring that avoids power (noise) sources
- Shortens operation inspection time

Single-wire System

Advantages of single-wire systems

- The transmitter and receiver are connected by a connector, which reduces the risk of wiring errors
- The width of the terminal board on the control panel has also been reduced due to the reduction in the number of wiring connections



Selection Process

Please follow the selection steps 2–4 to select the model and parameters and then order.

Model(SL-R150-08-08-*)

- ① Series name
- ② Total length of the light curtain (mm)
- ③ Optical axis spacing (mm)
- ④ Detection distance (m)
- ⑤ Output signal (N: NPN / P: PNP)

Note: Note: PNP output is recommended for safety types.

All safety light curtain products are normally closed output.

Selection List

Optical axis spacing 8 mm Selection List



Model	A Overall length	Number of optical axes	B Detection height
SL-R150-8-*	150	15	112
SL-R190-8-*	190	20	152
SL-R230-8-*	230	25	192
SL-R270-8-*	270	30	232
SL-R310-8-*	310	35	272
SL-R350-8-*	350	40	312
SL-R390-8-*	390	45	352
SL-R430-8-*	430	50	392
SL-R470-8-*	470	55	432
SL-R510-8-*	510	60	472
SL-R550-8-*	550	65	512
SL-R590-8-*	590	70	552
SL-R630-8-*	630	75	592
SL-R670-8-*	670	80	632
SL-R710-8-*	710	85	672
SL-R750-8-*	750	90	712
SL-R790-8-*	790	95	752
SL-R830-8-*	830	100	792
SL-R870-8-*	870	105	832
SL-R910-8-*	910	110	872
SL-R950-8-*	950	115	912
SL-R990-8-*	990	120	952
SL-R1030-8-*	1030	125	992
SL-R1070-8-*	1070	130	1032
SL-R1110-8-*	1110	135	1072
SL-R1150-8-*	1150	140	1112
SL-R1190-8-*	1190	145	1152
SL-R1230-8-*	1230	150	1192
SL-R1270-8-*	1270	155	1232
SL-R1310-8-*	1310	160	1272
SL-R1350-8-*	1350	165	1312
SL-R1390-8-*	1390	170	1352
SL-R1430-8-*	1430	175	1392
SL-R1470-8-*	1470	180	1432
SL-R1510-8-*	1510	185	1472
SL-R1550-8-*	1550	190	1512
SL-R1590-8-*	1590	195	1552
SL-R1630-8-*	1630	200	1592
SL-R1670-8-*	1670	205	1632
SL-R1710-8-*	1710	210	1672
SL-R1950-8-*	1950	240	1912
SL-R2190-8-*	2190	270	2152
SL-R2430-8-*	2430	300	2392
SL-R2910-8-*	2910	360	2872

Optical axis spacing 24 mm Selection List



Unit: mm

Model	A Overall length	Number of optical axes	B Detection height
SL-R150-24-*	150	5	112
SL-R190-24-*	190	7	152
SL-R230-24-*	230	9	192
SL-R270-24-*	270	11	232
SL-R310-24-*	310	13	272
SL-R350-24-*	350	15	312
SL-R390-24-*	390	16	352
SL-R430-24-*	430	18	392
SL-R470-24-*	470	20	432
SL-R510-24-*	510	21	472
SL-R550-24-*	550	23	512
SL-R590-24-*	590	25	552
SL-R630-24-*	630	26	592
SL-R670-24-*	670	28	632
SL-R710-24-*	710	30	672
SL-R750-24-*	750	31	712
SL-R790-24-*	790	33	752
SL-R830-24-*	830	35	792
SL-R870-24-*	870	36	832
SL-R910-24-*	910	38	872
SL-R950-24-*	950	40	912
SL-R990-24-*	990	41	952
SL-R1030-24-*	1030	43	992
SL-R1070-24-*	1070	45	1032
SL-R1110-24-*	1110	46	1072
SL-R1150-24-*	1150	48	1112
SL-R1190-24-*	1190	50	1152
SL-R1230-24-*	1230	51	1192
SL-R1270-24-*	1270	53	1232
SL-R1310-24-*	1310	55	1272
SL-R1350-24-*	1350	56	1312
SL-R1390-24-*	1390	58	1352
SL-R1430-24-*	1430	60	1392
SL-R1470-24-*	1470	61	1432
SL-R1510-24-*	1510	63	1472
SL-R1550-24-*	1550	65	1512
SL-R1590-24-*	1590	66	1552
SL-R1630-24-*	1630	68	1592
SL-R1670-24-*	1670	70	1632
SL-R1710-24-*	1710	71	1672
SL-R1950-24-*	1950	81	1912
SL-R2190-24-*	2190	91	2152
SL-R2430-24-*	2430	101	2392
SL-R2910-24-*	2910	121	2872



SA-V

SA-M

SA-H

SA2A

SL-R

SA-T

DS-M

Area Sensors/Safety Light Curtains/
Safety Interlock Switches

Fiber Optic Sensors

Photoelectric Sensors

Color Sensors

Laser Sensors

Proximity Sensors

Precision Contact
Sensors

Area Sensors/
Safety Light Curtains

Laser Scanners

Digital Contact Sensors

Laser Displacemen
Sensors

Laser Micrometers

Confocal Displacement
Sensors

Barcode Readers

AI Vision Sensors

RFID

Infrared Temperature
Sensors

Pressure Sensors

Flow Sensors

Magnetic Sensors

Ultrasonic Sensors

Magnetic Scales

Static Eliminators



SENPUM
0871

SL-R

Type 4 Safety Light Curtain

Selection List			
Optical axis spacing 40 mm Selection List  Unit: mm			
Model	A Overall length	Number of optical axes	B Detection height
SL-R150-40-*.*	150	4	112
SL-R190-40-*.*	190	5	152
SL-R230-40-*.*	230	6	192
SL-R270-40-*.*	270	7	232
SL-R310-40-*.*	310	8	272
SL-R350-40-*.*	350	9	312
SL-R390-40-*.*	390	10	352
SL-R430-40-*.*	430	11	392
SL-R470-40-*.*	470	12	432
SL-R510-40-*.*	510	13	472
SL-R550-40-*.*	550	14	512
SL-R590-40-*.*	590	15	552
SL-R630-40-*.*	630	16	592
SL-R670-40-*.*	670	17	632
SL-R710-40-*.*	710	18	672
SL-R750-40-*.*	750	19	712
SL-R790-40-*.*	790	20	752
SL-R830-40-*.*	830	21	792
SL-R870-40-*.*	870	22	832
SL-R910-40-*.*	910	23	872
SL-R950-40-*.*	950	24	912
SL-R990-40-*.*	990	25	952
SL-R1030-40-*.*	1030	26	992
SL-R1070-40-*.*	1070	27	1032
SL-R1110-40-*.*	1110	28	1072
SL-R1150-40-*.*	1150	29	1112
SL-R1190-40-*.*	1190	30	1152
SL-R1230-40-*.*	1230	31	1192
SL-R1270-40-*.*	1270	32	1232
SL-R1310-40-*.*	1310	33	1272
SL-R1350-40-*.*	1350	34	1312
SL-R1390-40-*.*	1390	35	1352
SL-R1430-40-*.*	1430	36	1392
SL-R1470-40-*.*	1470	37	1432
SL-R1510-40-*.*	1510	38	1472
SL-R1550-40-*.*	1550	39	1512
SL-R1590-40-*.*	1590	40	1552
SL-R1630-40-*.*	1630	41	1592
SL-R1670-40-*.*	1670	42	1632
SL-R1710-40-*.*	1710	43	1672
SL-R1950-40-*.*	1950	49	1912
SL-R2190-40-*.*	2190	55	2152
SL-R2430-40-*.*	2430	61	2392
SL-R2910-40-*.*	2910	73	2872

Note:
*1 The maximum number of optical axes is related to the spacing.
*2 Special requirements can be customized, please consult with SENPUM sales engineers.

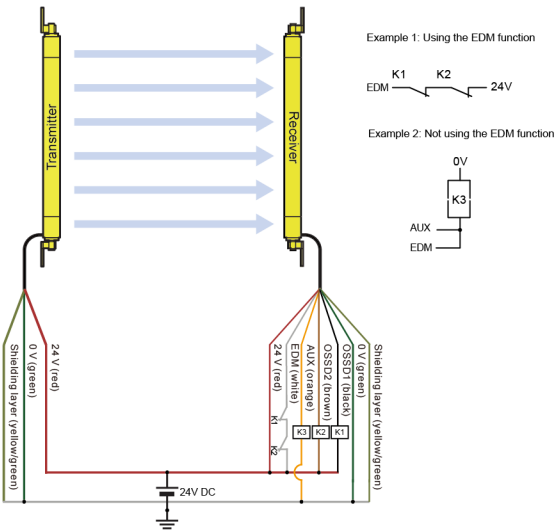


In order to use the product safely, please be sure to read the Instruction Manual carefully before use and confirm with us in advance whether the application is suitable.

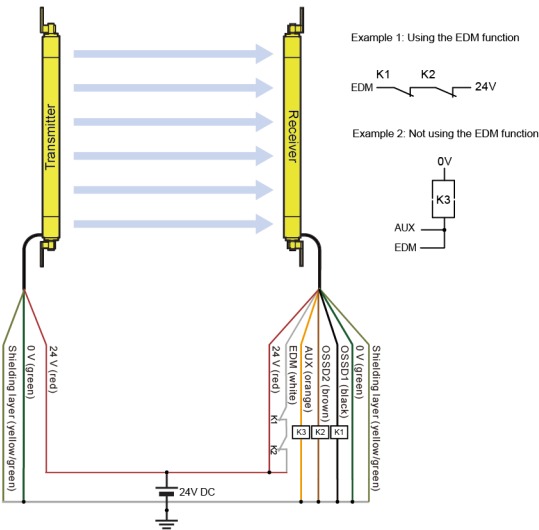
Product List			
Connection Cable			
Appearance	Model	Cable specification	Length
	OW-SLR-5M	UL2464 (8×24AWG)	5 m
	OW-SLR-10M		10 m
	OW-SLR-20M		20 m
Mounting Accessories			
Appearance	Model	Mounting method	
	OW-SLR001	Front/Side mounting bracket	
	OW-SLR002	T-type mounting bracket	
	OW-SLR003	Tube mounting bracket	
Specifications			
Model	SL-R		
Safety rating	Optical axis		
Detection distance	0 to 8 m; 0 to 15 m		
Detection height	232 to 2872 mm		
Light source	Infrared LED (wavelength 850 nm)		
Ambient temperature	Operating: -10 to +55 °C (no frost or condensation); Storage: -30 to +70 °C		
Ambient humidity	Operating: 35 to 85% RH; Storage: 35 to 95% RH		
Light interference resistance	Incandescent light: ≥3,000 lux; Fluorescent light: ≥3,000 lux; Sunlight: ≥10,000 lux		
Homologous optical interference	Interfering light from emitting elements of the same design will not cause dangerous failures of the safety light curtain		
Vibration resistance	10 to 55 Hz, Amplitude 0.35±0.05 mm, 20 times in each of the X, Y, and Z directions		
Shock resistance	Acceleration 10 g, pulse duration 16 ms, 1000 times in each of the X, Y, and Z directions		
Protection class	IP65/IP67		
Dimensions	33×28×A (A is the length of the transmitter and receiver)		
Power voltage	24 VDC ± 20%		
Current consumption (without load)	Transmitter: <200 mA; Receiver: <200 mA		
Response time	13 to 140 ms		
Synchronization method	Optical synchronization compatible with line synchronization		
Safety output	PNP transistor output ×2; In the ON state, the load current is ≤300 mA, and the output voltage is ≥Vcc-2 V; In the OFF state, the leakage current is ≤1 mA, and the residual voltage is ≤1 V (excluding the effect of wire extension); Capacitive load: 0.9 uF; Inductive load: 2 H		
	NPN transistor output ×2; In the ON state, the load current is ≤300 mA, and the output voltage is ≤2 V; In the OFF state, the leakage current is ≤1 mA, and the residual voltage is ≤2 V (excluding the effect of wire extension); Capacitive load: 0.9 uF; Inductive load: 2 H		
Start-up time	< 2 s		
Detection function	Power-on self-test, real-time self-test during operation		
Protection circuit	Overvoltage and overcurrent protection, output short-circuit protection		
Mutual interference prevention function	When using optical synchronization, adjacent machines employ different optical communication codes to prevent interference		
Auxiliary output (AUX)	The non-safety output features a single-channel PNP output that is inverted from the OSSD signal, delivering ≤300 mA current and ≥(Vcc-2 V) voltage in beam-blocked state, while maintaining <2 mA current and <2 V voltage in clear-beam state		
External monitoring (EDM)	When connecting external relays or contactor loads, monitor the status of the normally closed contacts of the load; ON state input voltage: 0 to 7 V or open circuit; OFF state output voltage: 9 to 24 V; During optical synchronization: Optical communication code 1 is the same as line synchronization; During optical communication code 2, ON state input voltage: 9 to 24 V; OFF state input voltage: 0 to 7 V or open circuit		
Manual reset	When line synchronization occurs, a set of normally open contacts is inserted into the EDM circuit to enable manual reset functionality		
Connection type	Relay-type connector M12-8PIN		
Cable	OW-SLR-5M		
Mounting bracket	OW-SLR001		

I/O Circuit Diagrams

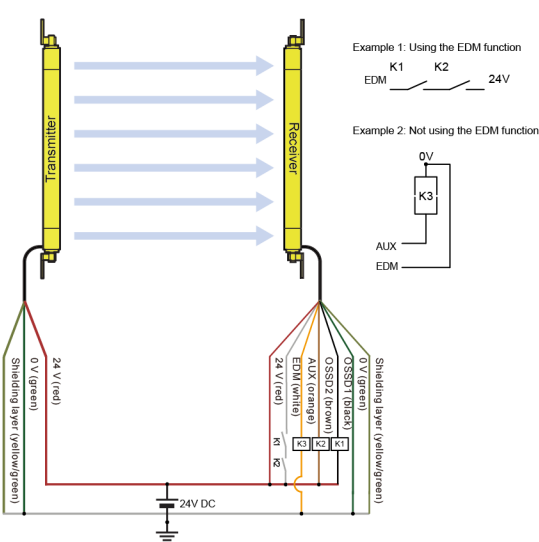
NPN, optical synchronization, optical communication coding 1



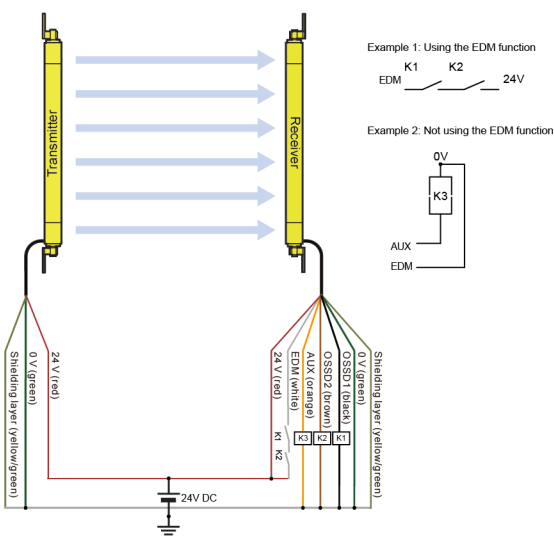
PNP, optical synchronization, optical communication coding 1



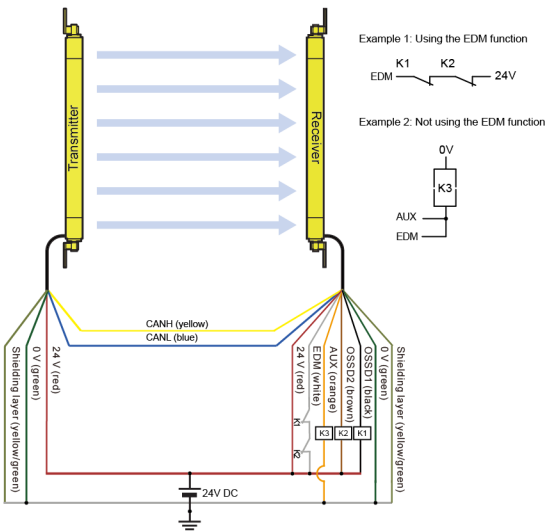
NPN, optical synchronization, optical communication coding 2



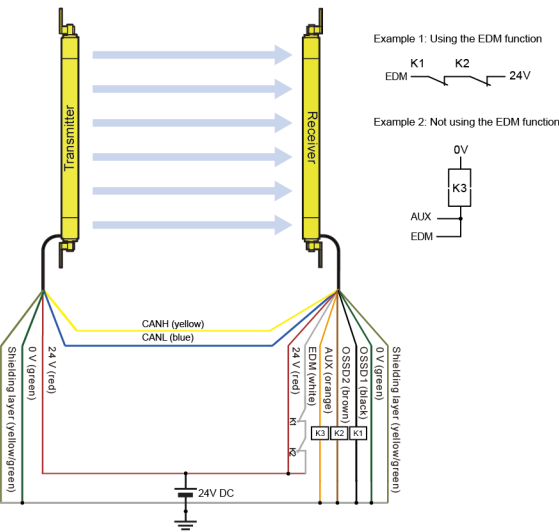
PNP, optical synchronization, optical communication coding 2



NPN, line synchronization



PNP, line synchronization



K1, K2: Relays or other devices that control dangerous parts of the machine;
K3: Load or PLC (for monitoring). When load 3 is not used, the light curtain
can operate normally, and AUX is left floating.

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K3: Load or PLC (for monitoring). When load 3 is not used, the light curtain
can operate normally, and AUX is left floating.

Area Sensors/Safety Light Curtains/
Safety Interlock Switches

SA-V
SA-M
SA-H
SA2A
SL-R
SA-T
DS-M

Fiber Optic Sensors

Photoelectric Sensors

Color Sensors

Laser Sensors

Proximity Sensors

Precision Contact
Sensors

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Static Eliminators



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Static Eliminators

SL-R

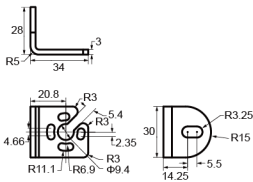
Type 4 Safety Light Curtain

Dimensions

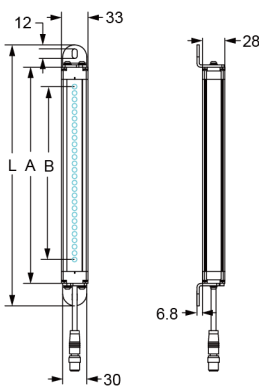
Unit: mm

Front/Side mounting bracket

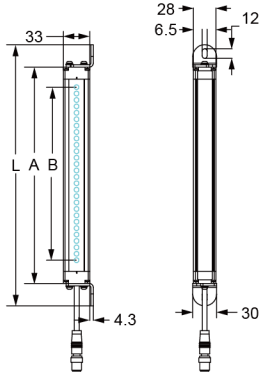
OW-SLR001



Front mounting

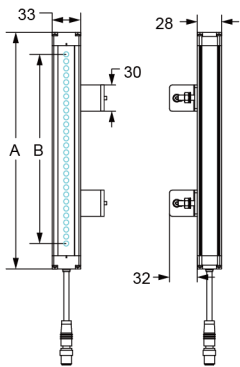
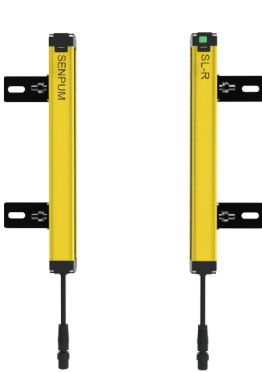
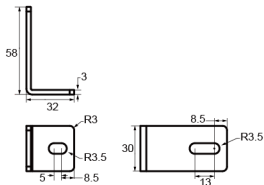


Side mounting



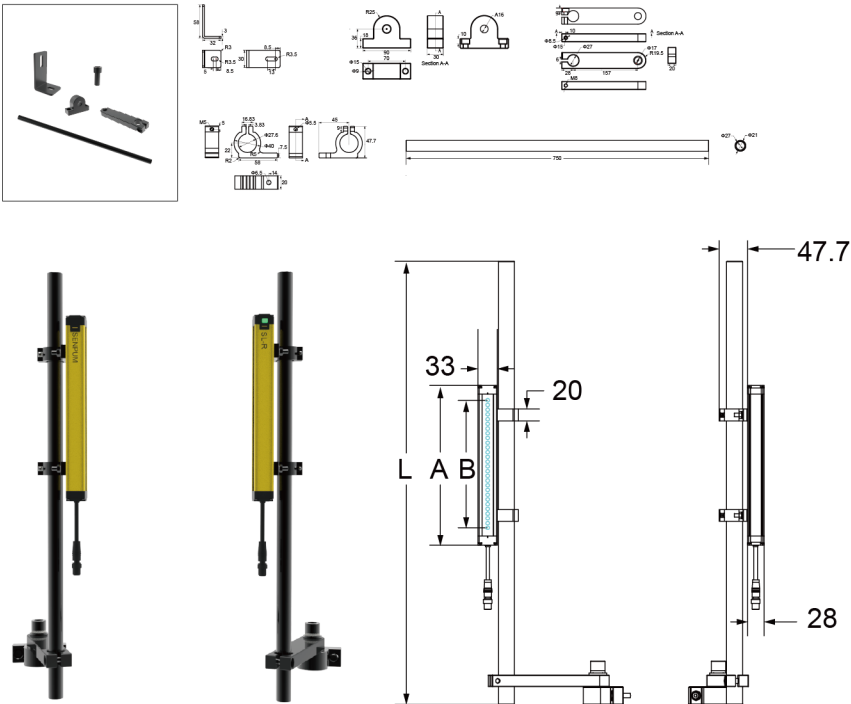
T-type mounting bracket

OW-SLR002



Dimensions

Tube mounting bracket
OW-SLR003



Area Sensors/Safety Light Curtains/
Safety Interlock Switches

- SA-V
- SA-M
- SA-H
- SA2A
- SL-R
- SA-T
- DS-M

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