

SS80series

Light Curtain Sensors



- Light axis interval 80mm
- Anti Interference feature for adjacent installation (M/S switching)
- Longest -in-class detecting distance of 15 m
- Large indicators

Type

Series	Detection method	Detecting distance	Light axis interval	No. of light axes	Detecting width	Set model No.	Operation mode	Detecting object
<div> SS80 </div>	Through-beam type	3~15m	80mm	2	80mm	SS80-T2	<ul style="list-style-type: none"> • A (activated when beams of all axes are received)/O (activated when beam of any axis is received) switching • M/S switching M: master S: slave (For prevention of interference between adjacently installed units) 	Opaque object of $\phi 92$ mm min
				4	240mm	SS80-T4		
				6	400mm	SS80-T6		
				8	560mm	SS80-T8		
				10	720mm	SS80-T10		
				12	880mm	SS80-T12		
				14	1040mm	SS80-T14		
				16	1200mm	SS80-T16		
				18	1360mm	SS80-T18		
				20	1520mm	SS80-T20		
				22	1680mm	SS80-T22		
				24	1840mm	SS80-T24		

Optional Parts

Set model No.	Discrete model No.	Length	Description
SS-H5 (Accessory)	SS-H5L (for transmitter)	5m	Cord with connector (6.8mm outer diameter, four 0.5mm ² cores, gray (transmitter) or black (receiver) covering)
	SS-H5R (for receiver)		
SS-H10	SS-H10L (for transmitter)	10m	
	SS-H10R (for receiver)		

Rating/Performance/Specification

Rating/performance	Series	SS80 series
	Detection method	Through-beam type
	Detecting distance	3-15m max.
	Detecting object	Opaque object of ϕ 92 min.
	Light axis interval	80mm
	Power supply	12-24V DC \pm 10%
	Output mode	NPN open collector output Rating: sink current 100mA (30VDC) max. (PNP output type (model No. ending with "-PN") is separately available)
	Operation mode	A/O mode switching A mode: activated when beams of all axes are received (deactivated when beam of any axis is blocked) O mode: activated when beam of any axis is received (deactivated when beams of all axes are blocked)
	Response time	15ms max.
Specification	Light source(wavelength)	Infrared LED (880nm)
	Light-sensitive element	Photo transistor
	Indicator	Transmitter: Power indicator (green LED) / M/S indicator (red LED) / Light axis alignment indicator (green LED) Receiver: Operation indicator (red LED) / Stable light reception indicator (green LED) / Light axis alignment indicator (green LED)
	Switch (SW)	Transmitter: M/S mode switch provided Receiver: A/O mode switch provided
	Auxiliary functions	Anti Interference feature for adjacent installation, output short circuit protection
	Material	Case: aluminum / Front cover/lens: Acrylic
	Connection	Permanently attached cord with connector (cord length: 0.2m) / Cord with connector Cord: with four 0.5mm ² cores (Outer dimension: dia.6.8)
	Accessory	Cord with connector (cord length: 5m), mounting brackets, operation manual
	Notes	(PNP output type is separately available.)

Environmental Specification

Environmental specification	Ambient light	9,000lx max.
	Ambient temperature	-10 - +55°C (non-freezing)
	Ambient humidity	35-85%RH (non-condensing)
	Protective structure	IP66
	Vibration	10 - 55Hz / 1.5mm amplitude / 2 hours each in 3 directions

Indicator Operation

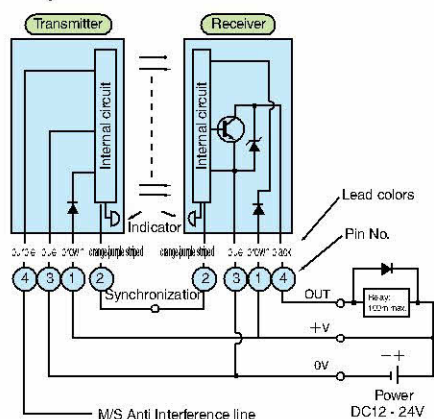
	Name	Color	Description
Transmitter	Power indicator	Green	Illuminated when power is supplied
	M/S indicator	Red	Illuminated to indicate M mode Dis-illuminated to indicate S mode
	Light axis alignment indicator	Green	Illuminated when power is supplied
Receiver	Stable light reception indicator	Green	Illuminated when the receive light intensity exceeds 120% or more of the detection level
	Operation indicator	Red	Illuminated when output transistor is activated A: illuminated when light beams of all axes are received O: illuminated when light beam of any axis is received
	Light axis alignment indicator	Green	Illuminated when power is supplied

• Specification by model

Set model No.	No. of light axes	Detecting width	Current consumption (mA)	Mass (about in g)	
				Transmitter	Receiver
SS80-T2	2	80	50	250g max.	
SS80-T4	4	240	56	350g max.	
SS80-T6	6	400	63	450g max.	
SS80-T8	8	560	69	550g max.	
SS80-T10	10	720	75	650g max.	
SS80-T12	12	880	82	750g max.	
SS80-T14	14	1040	88	850g max.	
SS80-T16	16	1200	95	950g max.	
SS80-T18	18	1360	101	1050g max.	
SS80-T20	20	1520	107	1150g max.	
SS80-T22	22	1680	114	1250g max.	
SS80-T24	24	1840	120	1350g max.	

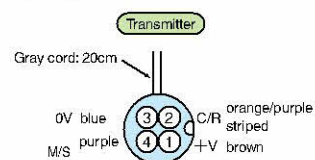
SS80

Input/Output Circuit and Connection

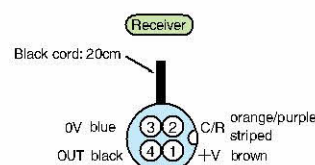


- The output transistor turns off when load short circuit or overload occurs. Check the load and turn the power back on.
- When not using the Anti Mutual Interference feature, leave the M/S Anti Mutual Interference line unconnected and ensure it will not come in contact with any other cord.

Connector pin assignment

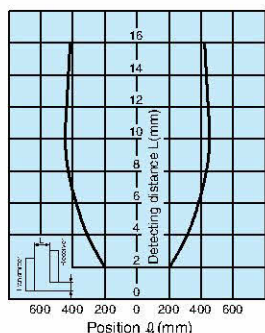


C/R: synchronization line
M/S: Anti Interference line
OUT: output

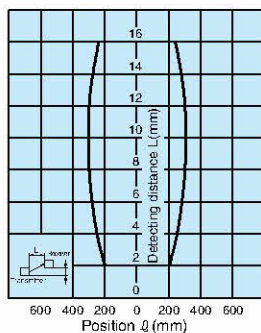


Characteristics (Typical Example)

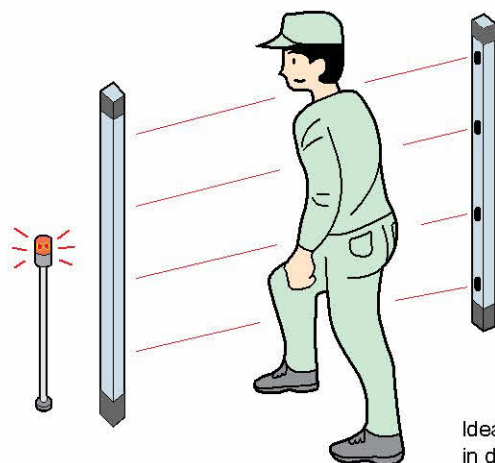
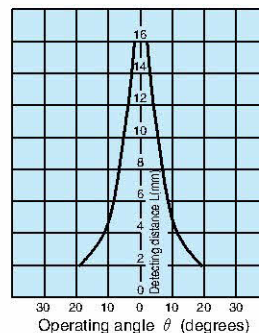
- Parallel displacement characteristics (Longitudinal)



- Parallel displacement characteristics (Horizontal)

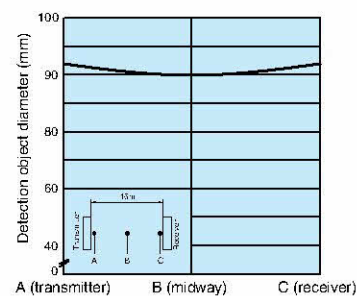


- Operating angle characteristics



Ideal for comparatively large works as in detection of passage or ingress.

- Smallest detectable object diameter characteristics



For Correct Use



- Be sure to follow the instructions in the operation manual provided for correct use of the product.
- This sensor cannot be used as a press safety device or other safety device for protection of human body that requires conformity to domestic or overseas standards or certification concerning protection of human body. Use for such purposes may lead to death or serious injury in the unlikely event of failure.
- This sensor is intended for detection of ingress of human body or object passing through an arbitrary point not involving protection of human body or safety.
- When using this sensor for safety purposes, ensure safe operation of the system as a whole including detection and control.

M/S (master/slave) Switching

This feature is for prevention of interference.
(With the screw on the back of the transmitter removed)



- Set the switch of either transmitter to M (master) and of the other to S (slave) and connect the Anti Interference lines of both (purple (orange) = pin No. 4) to each other. The M/S indicator of the master transmitter is illuminated (when activated) and the M/S indicator of the slave transmitter remains unilluminated.

For standalone use, be sure to set the switch to M to enable the M/S indicator.

Operation Mode Switching

(With the screw on the back of the receiver removed)

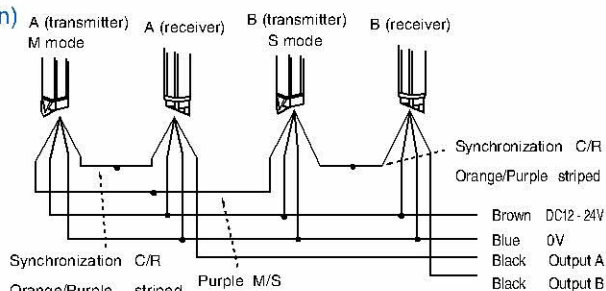


- A: output transistor activated when light beams of all axes are received (all axes reception ON)
 - O: output transistor activated when light beam of any axis is received (any axis reception ON)
- (Factory setting: A)

Anti Interference

- When using two sets of sensors installed adjacently, connect the Anti Interference lines (purple) of Transmitters A and B with each other.
- Connect the 0 V lines of the Transmitters A and B and Receivers A and B together.
- Set the M/S (master/slave) mode switch of Transmitter A to M and of Transmitter B to S.
- When all wiring has been completed, supply power and check the operation of the M/S indicators of the transmitters:
Transmitter A (M mode): M/S indicator illuminated
Transmitter B (S mode): M/S transmitter not illuminated
- When not using Anti Interference, leave the line for this feature unconnected and ensure it will not come in contact with any other cord.

(Connection)

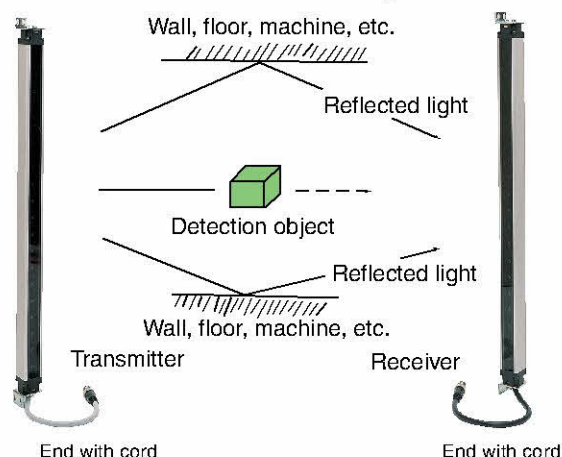


(With more than one power supply)

Connect the 0 V lines of the Transmitters A and B and Receivers A and B together.

Notes on Installation

- Any reflecting object (wall, floor, machine, etc.) within the effective range between the transmitter and receiver may allow the light of the sensor to go around the detection object, which is supposed to block the light, and reach the receiver. Choose the installation location carefully.
- Make sure that the ends of the transmitter and receiver with the cord are oriented either upward or downward. The sensor does not function if the transmitter and receiver are not oriented the same way.



Cord Extension

C/R synchronization line (orange/purple striped)

The total length of the cord between the transmitter and receiver should be within 50m.

M/S Anti Interference line (purple)

The total length of the cord between the transmitters of the two sets of sensors should be within 50m.

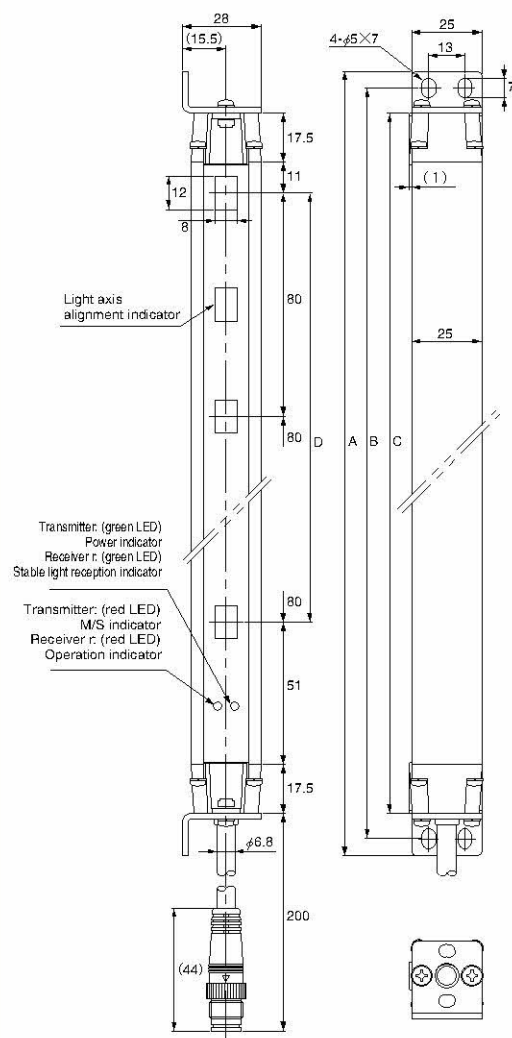
SS80

Dimensions (in mm)(Only receiver is shown in the figure as an example. With transmitter, orientation of mounting bracket is reversed.)

SS800 series

CAD

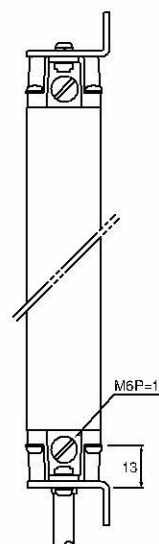
(Only receiver is shown in the figure as an example. With transmitter, orientation of mounting bracket is reversed.)



• Dimensions of portions (in mm)

Model	A	B	C	D
SS80-T2	207	195	177	80
SS80-T4	367	355	337	240
SS80-T6	527	515	497	400
SS80-T8	687	675	657	560
SS80-T10	847	835	817	720
SS80-T12	1007	995	977	880
SS80-T14	1167	1155	1137	1040
SS80-T16	1327	1315	1297	1200
SS80-T18	1487	1475	1457	1360
SS80-T20	1647	1635	1617	1520
SS80-T22	1807	1795	1777	1680
SS80-T24	1967	1955	1937	1840

Back view



Cord with connector (accessory)

