

# SF2-A SERIES

Related Information

- General terms and conditions..... P.1
- Sensor selection guide.....P.11~ / P.479~
- SF-C10** ..... P.551~
- Glossary of terms / General precautions .....P.983~ / P.986~



SUNX website <http://www.sunx.com>

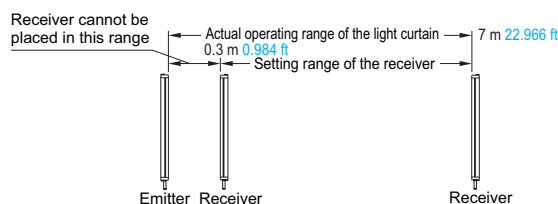
## Bringing world-class safety standards even closer to you Type 2 standard type

### ORDER GUIDE

**Light curtains** Mating cable is not supplied with the light curtain. Please order it separately.

Type	Appearance	Operating range (Note 1)	Model No. (Note 2)		Number of beam channels	Protective height (mm in) (Note 3)			
			NPN output type	PNP output type					
Normal case 20 mm 0.787 in beam pitch		0.3 to 7 m 0.984 to 22.966 ft	SF2-AH8	SF2-AH8-PN	8	190 7.480			
			SF2-AH12	SF2-AH12-PN	12	270 10.630			
			SF2-AH16	SF2-AH16-PN	16	350 13.780			
			SF2-AH20	SF2-AH20-PN	20	430 16.929			
			SF2-AH24	SF2-AH24-PN	24	510 20.079			
			SF2-AH28	SF2-AH28-PN	28	590 23.228			
			SF2-AH32	SF2-AH32-PN	32	670 26.378			
			SF2-AH36	SF2-AH36-PN	36	750 29.528			
			SF2-AH40	SF2-AH40-PN	40	830 32.677			
			SF2-AH48	SF2-AH48-PN	48	990 38.976			
			SF2-AH56	SF2-AH56-PN	56	1,150 45.276			
			SF2-AH64	SF2-AH64-PN	64	1,310 51.575			
			SF2-AH72	SF2-AH72-PN	72	1,470 57.874			
			SF2-AH80	SF2-AH80-PN	80	1,630 64.173			
			SF2-AH88	SF2-AH88-PN	88	1,790 70.472			
			SF2-AH96	SF2-AH96-PN	96	1,950 76.772			
			Normal case 40 mm 1.575 in beam pitch		0.3 to 7 m 0.984 to 22.966 ft	SF2-AA4	SF2-AA4-PN	4	190 7.480
						SF2-AA6	SF2-AA6-PN	6	270 10.630
SF2-AA8	SF2-AA8-PN	8				350 13.780			
SF2-AA10	SF2-AA10-PN	10				430 16.929			
SF2-AA12	SF2-AA12-PN	12				510 20.079			
SF2-AA14	SF2-AA14-PN	14				590 23.228			
SF2-AA16	SF2-AA16-PN	16				670 26.378			
SF2-AA18	SF2-AA18-PN	18				750 29.528			
SF2-AA20	SF2-AA20-PN	20				830 32.677			
SF2-AA24	SF2-AA24-PN	24				990 38.976			
SF2-AA28	SF2-AA28-PN	28				1,150 45.276			
SF2-AA32	SF2-AA32-PN	32				1,310 51.575			
SF2-AA36	SF2-AA36-PN	36	1,470 57.874						
SF2-AA40	SF2-AA40-PN	40	1,630 64.173						
SF2-AA44	SF2-AA44-PN	44	1,790 70.472						
SF2-AA48	SF2-AA48-PN	48	1,950 76.772						

- Notes: 1) The operating range is the possible setting distance between the emitter and the receiver.  
The light curtain can detect an object less than 0.3 m 0.984 ft away.
- 2) The model No. with suffix "P" shown on the label affixed to the product is the emitter, "D" shown on the label is the receiver.  
(e.g.) Emitter of SF2-AH8-PN: SF2-AH8P-PN  
Receiver of SF2-AH8-PN: SF2-AH8D-PN
- 3) Refer to the "Definition of light curtain and area sensor sensing heights" (p.589) for the definition of the protective height.



- FIBER SENSORS
- LASER SENSORS
- PHOTOELECTRIC SENSORS
- MICRO PHOTOELECTRIC SENSORS
- AREA SENSORS
- SAFETY COMPONENTS
- PRESSURE SENSORS
- INDUCTIVE PROXIMITY SENSORS
- PARTICULAR USE SENSORS
- SENSOR OPTIONS
- WIRE-SAVING SYSTEMS
- MEASUREMENT SENSORS
- STATIC CONTROL DEVICES
- LASER MARKERS

- Selection Guide
- Light Curtains
- SF4B
- SF2B
- BSF4-AH80
- Control Units
- SF-C10
- Optical Touch Switch
- SW-101
- Other Products
- Definition of Sensing Heights

**ORDER GUIDE**

FIBER SENSORS

LASER SENSORS

PHOTO-ELECTRIC SENSORS

MICRO PHOTO-ELECTRIC SENSORS

AREA SENSORS

SAFETY COMPONENTS

PRESSURE SENSORS

INDUCTIVE PROXIMITY SENSORS

PARTICULAR USE SENSORS

SENSOR OPTIONS

WIRE- SAVING SYSTEMS

MEASURE- MENT SENSORS

STATIC CONTROL DEVICES

LASER MARKERS

Selection Guide Light Curtains

SF4B

SF2B

BSF4-AH80

Control Units

SF-C10

Optical Touch Switch

SW-101

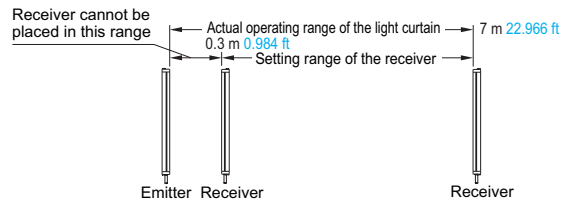
Other Products

Definition of Sensing Heights

**Light curtains** Mating cable is not supplied with the light curtain. Please order it separately.

Type	Appearance	Operating range (Note 1)	Model No. (Note 2)		Number of beam channels	Protective height (mm in) (Note 3)
			NPN output type	PNP output type		
With spatter protection hood 20 mm 0.787 in beam pitch		0.3 to 7 m 0.984 to 22.966 ft	SF2-AH8-H	SF2-AH8-PN-H	8	190 7.480
			SF2-AH12-H	SF2-AH12-PN-H	12	270 10.630
			SF2-AH16-H	SF2-AH16-PN-H	16	350 13.780
			SF2-AH20-H	SF2-AH20-PN-H	20	430 16.929
			SF2-AH24-H	SF2-AH24-PN-H	24	510 20.079
			SF2-AH28-H	SF2-AH28-PN-H	28	590 23.228
			SF2-AH32-H	SF2-AH32-PN-H	32	670 26.378
			SF2-AH36-H	SF2-AH36-PN-H	36	750 29.528
			SF2-AH40-H	SF2-AH40-PN-H	40	830 32.677
			SF2-AH48-H	SF2-AH48-PN-H	48	990 38.976
			SF2-AH56-H	SF2-AH56-PN-H	56	1,150 45.276
			SF2-AH64-H	SF2-AH64-PN-H	64	1,310 51.575
			SF2-AH72-H	SF2-AH72-PN-H	72	1,470 57.874
			SF2-AH80-H	SF2-AH80-PN-H	80	1,630 64.173
			SF2-AH88-H	SF2-AH88-PN-H	88	1,790 70.472
			With spatter protection hood 40 mm 1.575 in beam pitch		0.3 to 7 m 0.984 to 22.966 ft	SF2-AA4-H
SF2-AA6-H	SF2-AA6-PN-H	6				270 10.630
SF2-AA8-H	SF2-AA8-PN-H	8				350 13.780
SF2-AA10-H	SF2-AA10-PN-H	10				430 16.929
SF2-AA12-H	SF2-AA12-PN-H	12				510 20.079
SF2-AA14-H	SF2-AA14-PN-H	14				590 23.228
SF2-AA16-H	SF2-AA16-PN-H	16				670 26.378
SF2-AA18-H	SF2-AA18-PN-H	18				750 29.528
SF2-AA20-H	SF2-AA20-PN-H	20				830 32.677
SF2-AA24-H	SF2-AA24-PN-H	24				990 38.976
SF2-AA28-H	SF2-AA28-PN-H	28				1,150 45.276
SF2-AA32-H	SF2-AA32-PN-H	32				1,310 51.575
SF2-AA36-H	SF2-AA36-PN-H	36	1,470 57.874			
SF2-AA40-H	SF2-AA40-PN-H	40	1,630 64.173			
SF2-AA44-H	SF2-AA44-PN-H	44	1,790 70.472			
SF2-AA48-H	SF2-AA48-PN-H	48	1,950 76.772			

- Notes: 1) The operating range is the possible setting distance between the emitter and the receiver.  
The light curtain can detect an object less than 0.3 m 0.984 ft away.
- 2) The model No. with suffix "P" shown on the label affixed to the product is the emitter, "D" shown on the label is the receiver.  
(e.g.) Emitter of SF2-AH8-PN-H: SF2-AH8P-PN-H  
Receiver of SF2-AH8-PN-H: SF2-AH8D-PN-H
- 3) Refer to the "Definition of light curtain and area sensor sensing heights" (p.589) for the definition of the protective height.



**Mating cables** Mating cable is not supplied with the sensor. Please order it separately.

Designation	Appearance	Model No.	Description
Cable with connector on one end		SF2N-CC3	Length: 3 m 9.843 ft Net weight: 400 g approx. (two cables) These cables are used for wiring. 7-core (6-core for emitter) shielded cable, with connector on one end, two cables per set Cable outer diameter: ø6 mm ø0.236 in Connector outer diameter: ø14 mm ø0.551 in max. Cable color: Gray (for emitter) Gray with black line (for receiver) Connector color: Gray (for emitter) Black (for receiver) The min. bending radius: R30 mm 1.181 in
		SF2N-CC7	Length: 7 m 22.966 ft Net weight: 870 g approx. (two cables)
		SF2N-CC10	Length: 10 m 32.808 ft Net weight: 1,200 g approx. (two cables)
Cable with connector on both ends		SF2N-CCJ10	Length: 10 m 32.808 ft Net weight: 1,200 g approx. (two cables) This cable is used for cable extension. Shielded cable, with connector on both ends, two cables per set Cable outer diameter: ø6 mm ø0.236 in Connector outer diameter: ø14 mm ø0.551 in max. Cable color: Gray (for emitter) Gray with black line (for receiver) Connector color: Gray (for emitter), Black (for receiver) The min. bending radius: R30 mm 1.181 in



ORDER GUIDE  
P.574~

SPECIFICATIONS  
P.578

PRECAUTIONS FOR PROPER USE  
P.578

## ORDER GUIDE

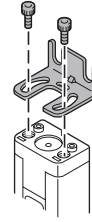
### Spare parts (Accessories for light curtain)

Designation	Model No.	Description	
Rear mounting bracket	<b>MS-SF2N-1</b>	Used to mount the light curtain on the rear surface (1 set for emitter and receiver)	
U-shaped rear mounting intermediate supporting bracket (Note)	<b>MS-SF2N-2</b>	For <b>SF2-A□(-PN)</b>	Used to hold the light curtain at the intermediate position for protection against vibration (for rear surface mounting) (1 set for emitter and receiver)
	<b>MS-SF4A-H2</b>	For <b>SF2-A□(-PN)-H</b>	
L-shaped intermediate supporting bracket (Note)	<b>MS-SF2N-L</b>	Used to install the U-shaped intermediate supporting bracket on the wall side, etc. (1 set for emitter and receiver)	
Test rod	<b>SF2-NH-TR</b>	Used for standard sensing to detect the smallest objects (ø30 mm 0.1181 in), with 20 mm 0.787 in beam pitch	

Note: The number of sets required varies depending on the product. Refer to "SPECIFICATIONS" on p.578 for further details.

### Rear mounting bracket

#### • MS-SF2N-1



Four bracket set (Eight M3 (length 5 mm 0.197 in) hexagon-socket-head bolts are attached.)

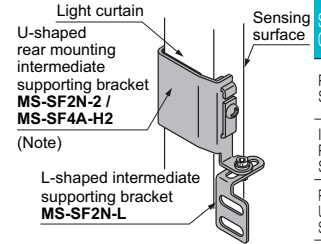
### U-shaped rear mounting intermediate supporting bracket

### L-shaped intermediate supporting bracket

#### • MS-SF2N-2

#### • MS-SF4A-H2

#### • MS-SF2N-L



Note: The above figure is only applicable to the MS-SF2N-2. The MS-SF4A-H2 has a different shape.

#### • MS-SF2N-2 / MS-SF4A-H2

Set of 2 pcs. each of U-shaped rear supporting bracket and retaining plate

#### • MS-SF2N-L

Two L-shaped bracket set

Two M3 (length 10 mm 0.394 in) pan head screws, two M4 (length 10 mm 0.394 in) hexagon-socket-head bolts and two nuts are attached.

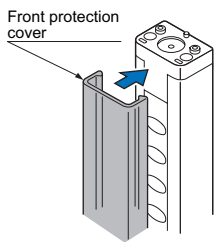
## OPTIONS

Applicable beam channels	20 mm 0.787 in beam pitch	8 beam channels	12 beam channels	16 beam channels	20 beam channels	24 beam channels	28 beam channels	32 beam channels	36 beam channels	40 beam channels	48 beam channels	56 beam channels	64 beam channels	72 beam channels	80 beam channels	88 beam channels	96 beam channels	
	40 mm 1.575 in beam pitch	4 beam channels	6 beam channels	8 beam channels	10 beam channels	12 beam channels	14 beam channels	16 beam channels	18 beam channels	20 beam channels	24 beam channels	28 beam channels	32 beam channels	36 beam channels	40 beam channels	44 beam channels	48 beam channels	
Front protection cover	For SF2-A□(-PN)	Model No.	FC-SF4A-H8	FC-SF4A-H12	FC-SF4A-H16	FC-SF4A-H20	FC-SF4A-H24	FC-SF4A-H28	FC-SF4A-H32	FC-SF4A-H36	FC-SF4A-H40	FC-SF4A-H48	FC-SF4A-H56	FC-SF4A-H64	FC-SF4A-H72	FC-SF4A-H80	FC-SF4A-H88	FC-SF4A-H96
	For SF2-A□(-PN)-H	Model No.	FC-SF4A-H8-H	FC-SF4A-H12-H	FC-SF4A-H16-H	FC-SF4A-H20-H	FC-SF4A-H24-H	FC-SF4A-H28-H	FC-SF4A-H32-H	FC-SF4A-H36-H	FC-SF4A-H40-H	FC-SF4A-H48-H	FC-SF4A-H56-H	FC-SF4A-H64-H	FC-SF4A-H72-H	FC-SF4A-H80-H	FC-SF4A-H88-H	FC-SF4A-H96-H
Slit mask	For SF2-A□(-PN)	Model No.	OS-SF4A-H8	OS-SF4A-H12	OS-SF4A-H16	OS-SF4A-H20	OS-SF4A-H24	OS-SF4A-H28	OS-SF4A-H32	OS-SF4A-H36	OS-SF4A-H40	OS-SF4A-H48	OS-SF4A-H56	OS-SF4A-H64	OS-SF4A-H72	OS-SF4A-H80	OS-SF4A-H88	OS-SF4A-H96
	For SF2-A□(-PN)-H	Model No.	OS-SF4A-H8-H	OS-SF4A-H12-H	OS-SF4A-H16-H	OS-SF4A-H20-H	OS-SF4A-H24-H	OS-SF4A-H28-H	OS-SF4A-H32-H	OS-SF4A-H36-H	OS-SF4A-H40-H	OS-SF4A-H48-H	OS-SF4A-H56-H	OS-SF4A-H64-H	OS-SF4A-H72-H	OS-SF4A-H80-H	OS-SF4A-H88-H	OS-SF4A-H96-H

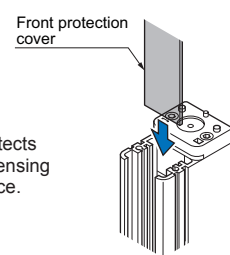
Note: The model Nos. given above denote a single unit, not a pair of units. 2 pcs. (2 sets) are required to mount the emitter / receiver.

### Front protection cover

#### • FC-SF4A-H□



#### • FC-SF4A-H□-H



It protects the sensing surface.

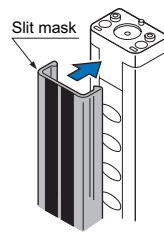
### Operating range

#### < FC-SF4A-H□ / FC-SF4A-H□-H >

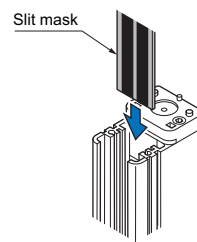
- Front protection cover on the emitter side: 7 m 22.966 ft
- Front protection cover on the receiver side: 6 m 19.685 ft
- Front protection cover on both sides: 5 m 16.404 ft

### Slit mask

#### • OS-SF4A-H□



#### • OS-SF4A-H□-H



The slit mask restrains the amount of beam emitted or received and hence reduces the interference between neighboring light curtains. However, the operating range reduces when the slit mask is used.

### Operating range

- < OS-SF4A-H□ / OS-SF4A-H□-H >
- Slit on the emitter side: 2.6 m 8.530 ft
  - Slit on the receiver side: 2.6 m 8.530 ft
  - Slit on both sides: 1.2 m 3.937 ft

FIBER SENSORS

LASER SENSORS

PHOTO-ELECTRIC SENSORS

MICRO PHOTO-ELECTRIC SENSORS

AREA SENSORS

SAFETY COMPONENTS

PRESSURE SENSORS

INDUCTIVE PROXIMITY SENSORS

PARTICULAR USE SENSORS

SENSOR OPTIONS

WIRE-SAVING SYSTEMS

MEASUREMENT SENSORS

STATIC CONTROL DEVICES

LASER MARKERS

Selection Guide

Light Curtains

SF4B

SF2B

BSF4-AH80

Control Units

SF-C10

Optical Touch Switch

SW-101

Other Products

Definition of Sensing Heights

**OPTIONS**

- FIBER SENSORS
- LASER SENSORS
- PHOTO-ELECTRIC SENSORS
- MICRO PHOTO-ELECTRIC SENSORS
- AREA SENSORS
- SAFETY COMPONENTS**
- PRESSURE SENSORS
- INDUCTIVE PROXIMITY SENSORS
- PARTICULAR USE SENSORS
- SENSOR OPTIONS
- WIRE-SAVING SYSTEMS
- MEASUREMENT SENSORS
- STATIC CONTROL DEVICES
- LASER MARKERS

- Selection Guide
- Light Curtains
- SF4B**
- SF2B**
- BSF4-AH80
- Control Units
- SF-C10**
- Optical Touch Switch
- SW-101**
- Other Products
- Definition of Sensing Heights

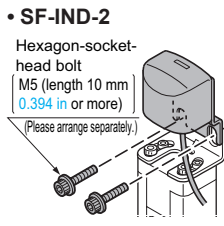
Designation	Model No.	Description
Large display unit for light curtain	<b>SF-IND-2</b>	<p>With the large display unit put on the light curtain, the operation is easily observable from various directions.</p> <p><b>Specifications</b></p> <ul style="list-style-type: none"> <li>Supply voltage: 24 V DC ± 15 %</li> <li>Current consumption: 12 mA or less</li> <li>Indicators: Orange LED (8 pcs.used) [Light up when external contact is ON]</li> <li>Ambient temperature: -10 to +55 °C +14 to +131 °F (No dew condensation or icing allowed)</li> <li>Material: POM (Case) Polycarbonate (Cover) Cold rolled carbon steel (SPCC)(Bracket)</li> <li>Cable: 0.3 mm<sup>2</sup> 2-core cabtyre cable, 3 m <b>9.843 ft</b> long</li> <li>Net weight: 70 g approx. (including bracket)</li> </ul> <p><b>I/O circuit diagrams</b></p> <p>&lt;With NPN output type&gt;</p> <p>&lt;With PNP output type&gt;</p>
		Side mounting bracket
U-shaped side mounting intermediate supporting bracket (Note 1)	<b>MS-SF2N-4</b>	For <b>SF2-A□(-PN)</b> Used to hold the light curtain at the intermediate position for protection against vibration (for side mounting) (1 set for emitter and receiver)
	<b>MS-SF4A-H4</b>	For <b>SF2-A□(-PN)-H</b>
Center sensor mounting bracket (Note 2)	<b>MS-SF2N-5</b>	Used for one-point rear mounting Convenient for mounting on an aluminum frame (four bracket set for emitter and receiver)
Test rod	<b>SF2-NA-TR</b>	Used for standard sensing to detect the smallest objects (ø50 mm <b>ø1.969 in</b> ), with 40 mm <b>1.575 in</b> beam pitch
Laser alignment tool (Note 3)	<b>SF-LAT-2N</b>	Easy to align the beam axis with the visible laser beam

Notes: 1) The number of sets required varies depending on the product. Refer to the "Note 2" on the right side of the chart above for details.

2) Multiple beam channel light curtains requiring the intermediate supporting bracket (20 mm **0.787 in** beam pitch type : 36 beam channels or more, 40 mm **1.575 in** beam pitch type: 18 beam channels or more) cannot be mounted on an aluminum frame with the center sensor mounting bracket.

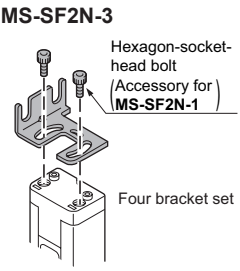
3) Refer to "SF4B series" on p.494 / p.513 for further details about the laser alignment tool.

**Large display unit for light curtain**



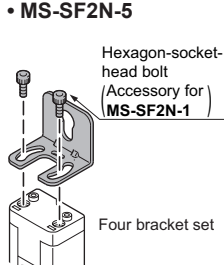
Attaches to upper edge of light curtain. Tighten together the mounting bracket provided with the light curtain and the mounting bracket of **SF-IND-2**.

**Side mounting bracket**



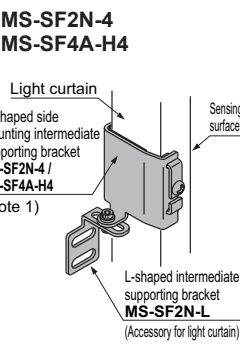
Hexagon-socket-head bolt (Accessory for **MS-SF2N-1**)  
Four bracket set

**Center sensor mounting bracket**



Hexagon-socket-head bolt (Accessory for **MS-SF2N-1**)  
Four bracket set

**U-shaped side mounting intermediate supporting bracket**



Hexagon-socket-head bolt (Accessory for **MS-SF2N-1**)  
Light curtain  
U-shaped side mounting intermediate supporting bracket **MS-SF2N-4 / MS-SF4A-H4** (Note 1)  
Sensing surface  
L-shaped intermediate supporting bracket **MS-SF2N-L** (Accessory for light curtain)

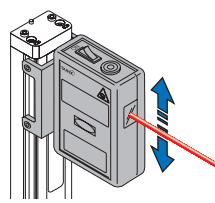
**MS-SF2N-4 / MS-SF4A-H4**  
Set of 2 pcs. each of U-shaped side supporting bracket and retaining plate

Notes: 1) The above figure is only applicable to the **MS-SF2N-4**. The **MS-SF4A-H4** has a different shape.  
2) The number of attached U-shaped side mounting intermediate supporting brackets is different depending on the light curtain as follows.

- For **MS-SF2N-4**  
**SF2-AH36(-PN)**, **SF2-AH40(-PN)**, **SF2-AA18(-PN)**, **SF2-AA20(-PN)**: 1 set  
**SF2-AH48(-PN)**, **SF2-AA24(-PN)**: 2 sets  
**SF2-AH56(-PN)**, **SF2-AH64(-PN)**, **SF2-AH72(-PN)**, **SF2-AA28(-PN)**, **SF2-AA32(-PN)**, **SF2-AA36(-PN)**: 3 sets  
**SF2-AH80(-PN)**, **SF2-AA40(-PN)**: 4 sets  
**SF2-AH88(-PN)**, **SF2-AH96(-PN)**, **SF2-AA44(-PN)**, **SF2-AA48(-PN)**: 5 sets
- For **MS-SF4A-H4**  
**SF2-AH36(-PN)-H**, **SF2-AH40(-PN)-H**, **SF2-AA18(-PN)-H**, **SF2-AA20(-PN)-H**: 1 set  
**SF2-AH48(-PN)-H**, **SF2-AA24(-PN)-H**: 2 sets  
**SF2-AH56(-PN)-H**, **SF2-AH64(-PN)-H**, **SF2-AH72(-PN)-H**, **SF2-AA28(-PN)-H**, **SF2-AA32(-PN)-H**, **SF2-AA36(-PN)-H**: 3 sets  
**SF2-AH80(-PN)-H**, **SF2-AA40(-PN)-H**: 4 sets  
**SF2-AH88(-PN)-H**, **SF2-AH96(-PN)-H**, **SF2-AA44(-PN)-H**, **SF2-AA48(-PN)-H**: 5 sets

**Laser alignment tool**

• **SF-LAT-2N**



**SPECIFICATIONS**The CAD data in the dimensions can be downloaded from the SUNX website: <http://www.sunx.com>**Common specifications**

Item	Model No.	20 mm <b>0.787 in</b> beam pitch		40 mm <b>1.575 in</b> beam pitch	
		NPN output	PNP output	NPN output	PNP output
		<b>SF2-AH□(-H)</b>	<b>SF2-AH□(-PN)(-H)</b>	<b>SF2-AA□(-H)</b>	<b>SF2-AA□(-PN)(-H)</b>
Applicable standards	Category 2 based on EN 954-1 (Type 2 based on IEC 61496-1/2)				
Operating range	0.3 to 7 m <b>0.984 to 22.966 ft</b> (Note 2)				
Detection capability	ø30 mm <b>ø1.181 in</b> opaque object		ø50 mm <b>ø1.969 in</b> opaque object		
Effective aperture angle	±5° or less for a operating range exceeding 3 m <b>9.843 ft</b> (conforming to IEC 61496-2 / UL 61496-2)				
Supply voltage	24 V DC ± 15 % Ripple P-P 10 % or less				
Control output (OSSD)	<NPN output type> NPN open-collector transistor		<PNP output type> PNP open-collector transistor		
	<ul style="list-style-type: none"> <li>Maximum sink current: 200 mA</li> <li>Applied voltage: Same as supply voltage (between control output and 0 V)</li> <li>Residual voltage: 2.0 V or less (at 200 mA sink current)</li> </ul>		<ul style="list-style-type: none"> <li>Maximum source current: 200 mA</li> <li>Applied voltage: Same as supply voltage (between control output and +V)</li> <li>Residual voltage: 2.5 V or less (at 200 mA source current)</li> </ul>		
	Utilization category	DC-12 or DC-13			
Operation mode	ON when all beam channels are received, OFF when one or more beam channels are interrupted (OFF also in case of any malfunction in the light curtain or the synchronization signal)				
Response time	OFF response: 15 ms or less, ON response: 40 to 60 ms or less (under stable light received condition)				
Alarm output	<NPN output type> NPN open-collector transistor		<PNP output type> PNP open-collector transistor		
	<ul style="list-style-type: none"> <li>Maximum sink current: 60 mA</li> <li>Applied voltage: Same as supply voltage (between alarm output and 0 V)</li> <li>Residual voltage: 2.0 V or less (at 60 mA sink current)</li> </ul>		<ul style="list-style-type: none"> <li>Maximum source current: 60 mA</li> <li>Applied voltage: Same as supply voltage (between alarm output and +V)</li> <li>Residual voltage: 2.5 V or less (at 60 mA source current)</li> </ul>		
Operation mode	Normal operation: Alarm output ON, Failure resulting in emission halt, or when test input is applied: Alarm output OFF				
Test input (emission halt) function	Incorporated				
Pollution degree	3 (Industrial environment)				
Degree of protection	IP65 (IEC) (Refer to p.984 for details of standards)				
Ambient temperature	-10 to +55 °C <b>+14 to +131 °F</b> (No dew condensation or icing allowed), Storage: -25 to +70 °C <b>-13 to +158 °F</b>				
Emitting element	Infrared LED (Peak emission wavelength: 870 nm <b>0.034 mil</b> )				
Material	Enclosure: Aluminium, Resin case: ABS, Lens: Polycarbonate, Cap: PBT				
Dimensions	Normal case type: W28 × H (protective height + 12) × D19 mm <b>W1.102 × H (protective height + 0.472) × D0.748 in</b> , With spatter protection hood type: W28 × H (protective height + 12) × D39 mm <b>W1.102 × H (protective height + 0.472) × D1.535 in</b>				
Accessories	<b>MS-SF2N-1</b> (Rear mounting bracket): 1 set for emitter and receiver <b>MS-SF2N-2</b> (U-shaped rear mounting intermediate supporting bracket, <b>MS-SF4A-H2</b> for “-H” type): (Note 3) <b>MS-SF2N-L</b> (L-shaped intermediate supporting bracket): (Note 3) <b>SF2-NH-TR</b> (Test rod): 1 pc. [ <b>SF2-AH□(-PN)(-H)</b> only]				

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C **+68 °F**.

2) The operating range is the possible setting distance between the emitter and the receiver.

The light curtain can detect an object less than 0.3 m **0.984 ft** away.3) U-shaped rear mounting intermediate supporting bracket (**MS-SF2N-2** or **MS-SF4A-H2**) and L-shaped intermediate supporting bracket (**MS-SF2N-L**) are attached with the following light curtains. The number of attached U-shaped rear mounting intermediate supporting bracket and L-shaped intermediate supporting bracket are different depending on the light curtain as follows.**SF2-AH36(-PN)(-H)**, **SF2-AH40(-PN)(-H)**, **SF2-AA18(-PN)(-H)**, **SF2-AA20(-PN)(-H)**: 1 set**SF2-AH48(-PN)(-H)**, **SF2-AA24(-PN)(-H)**: 2 sets**SF2-AH56(-PN)(-H)**, **SF2-AH64(-PN)(-H)**, **SF2-AH72(-PN)(-H)**, **SF2-AA28(-PN)(-H)**, **SF2-AA32(-PN)(-H)**, **SF2-AA36(-PN)(-H)**: 3 sets**SF2-AH80(-PN)(-H)**, **SF2-AA40(-PN)(-H)**: 4 sets**SF2-AH88(-PN)(-H)**, **SF2-AH96(-PN)(-H)**, **SF2-AA44(-PN)(-H)**, **SF2-AA48(-PN)(-H)**: 5 sets**PRECAUTIONS FOR PROPER USE**

Refer to P.986~ for general precaution.



- Do not utilize this light curtain in “PSDI Mode”, in which the light curtain is utilized as an activator for machinery.
- To use this product in the U.S.A., refer to OSHA 1910. 212 and OSHA 1910. 217 for installation, and in Europe, refer to EN 999 as well. Observe your national and local requirements before installing this product.
- This light curtain is a Type 2 electro-sensitive protective equipment. It is specified that this light curtain be utilized only within systems implementing control categories 2, 1 and B (safety-related categories for control systems), as determined by European Standard EN 954-1. This light curtain must never be utilized in any system that requires the usage of category 4 equipment, such as press machines; nor for systems requiring category 3 equipment.

- This catalog is a guide to select a suitable product. Be sure to read the instruction manual attached to the product prior to its use.

FIBER SENSORS

LASER SENSORS

PHOTO-ELECTRIC SENSORS

MICRO PHOTO-ELECTRIC SENSORS

AREA SENSORS

SAFETY COMPONENTS

PRESSURE SENSORS

INDUCTIVE PROXIMITY SENSORS

PARTICULAR USE SENSORS

SENSOR OPTIONS

WIRE-SAVING SYSTEMS

MEASUREMENT SENSORS

STATIC CONTROL DEVICES

LASER MARKERS

Selection Guide

Light Curtains

**SF4B****SF2B****BSF4-AH80**

Control Units

**SF-C10**

Optical Touch Switch

**SW-101**

Other Products

Definition of Sensing Heights