



Easy type for simple ON/OFF detection applications

The F3SG-RE easy safety light curtain provides simplicity in mounting, operation and maintenance.

- Torsion-resistant for fast and simple alignment
- Smart-click cable connection for fast set-up and correct torque to ensure IP67
- QR code indication for easy online troubleshooting

Ordering information

Sensors

Application	Type	Detection capability	Operating range	Protective height	Order code
Finger detection	Type 4 / Type 2	14 mm	0.3 to 10 m	160 to 2,080 mm	F3SG-RE__-14
Hand detection	Type 4 / Type 2	30 mm	0.3 to 20 m	190 to 2,510 mm	F3SG-RE__-30

F3SG-RE_P14 models (PNP and 14 mm detection capability)

Protective height	Number of beams	Order code	
		Type 4	Type 2
160 mm	15	F3SG-4RE0160P14	F3SG-2RE0160P14
240 mm	23	F3SG-4RE0240P14	F3SG-2RE0240P14
320 mm	31	F3SG-4RE0320P14	F3SG-2RE0320P14
400 mm	39	F3SG-4RE0400P14	F3SG-2RE0400P14
480 mm	47	F3SG-4RE0480P14	F3SG-2RE0480P14
560 mm	55	F3SG-4RE0560P14	F3SG-2RE0560P14
640 mm	62	F3SG-4RE0640P14	F3SG-2RE0640P14
720 mm	71	F3SG-4RE0720P14	F3SG-2RE0720P14
800 mm	79	F3SG-4RE0800P14	F3SG-2RE0800P14
880 mm	87	F3SG-4RE0880P14	F3SG-2RE0880P14
960 mm	95	F3SG-4RE0960P14	F3SG-2RE0960P14
1040 mm	103	F3SG-4RE1040P14	F3SG-2RE1040P14
1120 mm	111	F3SG-4RE1120P14	F3SG-2RE1120P14
1200 mm	119	F3SG-4RE1200P14	F3SG-2RE1200P14
1280 mm	127	F3SG-4RE1280P14	F3SG-2RE1280P14
1360 mm	135	F3SG-4RE1360P14	F3SG-2RE1360P14
1440 mm	143	F3SG-4RE1440P14	F3SG-2RE1440P14
1520 mm	151	F3SG-4RE1520P14	F3SG-2RE1520P14
1600 mm	159	F3SG-4RE1600P14	F3SG-2RE1600P14
1680 mm	167	F3SG-4RE1680P14	F3SG-2RE1680P14
1760 mm	175	F3SG-4RE1760P14	F3SG-2RE1760P14
1840 mm	183	F3SG-4RE1840P14	F3SG-2RE1840P14
1920 mm	191	F3SG-4RE1920P14	F3SG-2RE1920P14
2000 mm	199	F3SG-4RE2000P14	F3SG-2RE2000P14
2080 mm	207	F3SG-4RE2080P14	F3SG-2RE2080P14



F3SG-RE_P30 models (PNP and 30 mm detection capability)

Protective height	Number of beams	Order code	
		Type 4	Type 2
190 mm	8	F3SG-4RE0190P30	F3SG-2RE0190P30
270 mm	12	F3SG-4RE0270P30	F3SG-2RE0270P30
350 mm	16	F3SG-4RE0350P30	F3SG-2RE0350P30
430 mm	20	F3SG-4RE0430P30	F3SG-2RE0430P30
510 mm	24	F3SG-4RE0510P30	F3SG-2RE0510P30
590 mm	28	F3SG-4RE0590P30	F3SG-2RE0590P30
670 mm	32	F3SG-4RE0670P30	F3SG-2RE0670P30
750 mm	36	F3SG-4RE0750P30	F3SG-2RE0750P30
830 mm	40	F3SG-4RE0830P30	F3SG-2RE0830P30
910 mm	44	F3SG-4RE0910P30	F3SG-2RE0910P30
990 mm	48	F3SG-4RE0990P30	F3SG-2RE0990P30
1070 mm	52	F3SG-4RE1070P30	F3SG-2RE1070P30
1150 mm	56	F3SG-4RE1150P30	F3SG-2RE1150P30
1230 mm	60	F3SG-4RE1230P30	F3SG-2RE1230P30
1310 mm	64	F3SG-4RE1310P30	F3SG-2RE1310P30
1390 mm	68	F3SG-4RE1390P30	F3SG-2RE1390P30
1470 mm	72	F3SG-4RE1470P30	F3SG-2RE1470P30
1550 mm	76	F3SG-4RE1550P30	F3SG-2RE1550P30
1630 mm	80	F3SG-4RE1630P30	F3SG-2RE1630P30
1710 mm	84	F3SG-4RE1710P30	F3SG-2RE1710P30
1790 mm	88	F3SG-4RE1790P30	F3SG-2RE1790P30
1870 mm	92	F3SG-4RE1870P30	F3SG-2RE1870P30
1950 mm	96	F3SG-4RE1950P30	F3SG-2RE1950P30
2030 mm	100	F3SG-4RE2030P30	F3SG-2RE2030P30
2110 mm	104	F3SG-4RE2110P30	F3SG-2RE2110P30
2190 mm	108	F3SG-4RE2190P30	F3SG-2RE2190P30
2270 mm	112	F3SG-4RE2270P30	F3SG-2RE2270P30
2350 mm	116	F3SG-4RE2350P30	F3SG-2RE2350P30
2420 mm	120	F3SG-4RE2430P30	F3SG-2RE2430P30
2510 mm	124	F3SG-4RE2510P30	F3SG-2RE2510P30


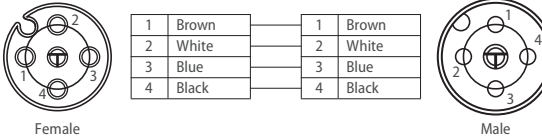
Note: Optional NPN models are available for the F3SG-RE easy types. Please contact your OMRON representative.

Accessories (Sold separately)


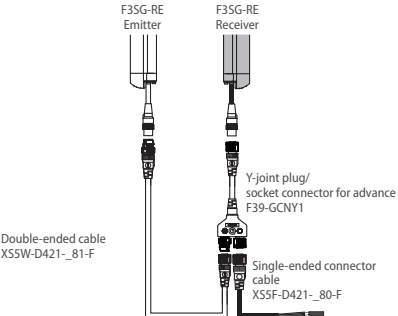
Single-end connector cable

Appearance	Type	Specification	Cable length	Order code																				
	Emitter/receiver cable M12 connector 4-Pin Color: Gray	 <p>Female</p> <table border="1"> <thead> <tr> <th>PIN</th> <th>Emitter</th> <th>Receiver</th> <th>Color</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+24 VDC</td> <td>+24 VDC</td> <td>Brown</td> </tr> <tr> <td>2</td> <td>Range setting</td> <td>OSSD 2</td> <td>White</td> </tr> <tr> <td>3</td> <td>0 VDC</td> <td>0 VDC</td> <td>Blue</td> </tr> <tr> <td>4</td> <td>Not used</td> <td>OSSD 1</td> <td>Black</td> </tr> </tbody> </table>	PIN	Emitter	Receiver	Color	1	+24 VDC	+24 VDC	Brown	2	Range setting	OSSD 2	White	3	0 VDC	0 VDC	Blue	4	Not used	OSSD 1	Black	1 m	XS5F-D421-C80-F
			PIN	Emitter	Receiver	Color																		
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			2	Range setting	OSSD 2	White																		
			3	0 VDC	0 VDC	Blue																		
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3 m	XS5F-D421-E80-F																							
5 m	XS5F-D421-G80-F																							
10 m	XS5F-D421-J80-F																							
20 m	XS5F-D421-L80-F																							




Double-end connector cable

Appearance	Type	Specification	Cable length	Order code																
	Emitter/receiver cable M12 connector 4-Pin Color: Gray	 <p>Female Male</p> <table border="1"> <thead> <tr> <th>1</th> <th>Brown</th> <th>1</th> <th>Brown</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>White</td> <td>2</td> <td>White</td> </tr> <tr> <td>3</td> <td>Blue</td> <td>3</td> <td>Blue</td> </tr> <tr> <td>4</td> <td>Black</td> <td>4</td> <td>Black</td> </tr> </tbody> </table>	1	Brown	1	Brown	2	White	2	White	3	Blue	3	Blue	4	Black	4	Black	1 m	XS5W-D421-C81-F
			1	Brown	1	Brown														
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20 m	XS5W-D421-L81-F																			

Y-joint Plug/Socket Connector



Appearance	Type	Specification	Cable length	Order code
	M12 connector (4-pin) on both ends	 <p>Double-ended cable XS5W-D421-81-F</p> <p>F3SG-RE Emitter</p> <p>F3SG-RE Receiver</p> <p>Y-joint plug/ socket connector for advance F39-GCNY1</p> <p>Single-ended connector cable XS5F-D421-80-F</p> <p>Using the Y-joint connector the F3SG-RE is set to long operation mode</p>	0.5 m	F39-GCNY1

Mounting brackets

Appearance	Type	Specification	Order code
	Standard fixed bracket set (Two brackets per set)	Bracket to mount the F3SG-R. Side mounting and backside mounting possible. (Included in the F3SG-R product package *1)	F39-LGF
	Standard adjustable bracket set (Two brackets per set)	Bracket to mount the F3SG-R. Beam alignment after mounting possible. The angle adjustment range is $\pm 15^\circ$. Side mounting and backside mounting possible.	F39-LGA
	Top/Bottom adjustable bracket set*2 (Four brackets per set)	Bracket to mount the F3SG-R at the top and bottom position. Beam alignment after mounting possible. The angle adjustment range is $\pm 22.5^\circ$. Can be used in combination with the standard adjustable brackets.	F39-LGTB

*1 F3SG-RA___-14: Protective height of 0160 to 1200: 2 sets, protective height of 1280 to 2080: 3 sets
 F3SG-RA___-30: Protective height of 0190 to 1230: 2 sets, protective height of 1310 to 2270: 3 sets, protective height of 2350 to 2510: 4 sets
 *2 Optional available F39-LGTB-1 Top/Bottom adjustable bracket set (4 pcs.) without angle bracket to mount to the wall.


Miscellaneous

Appearance	Type	Specification	Order code
	Test rod	14 mm diameter	F39-TRD14
		30 mm diameter	F39-TRD30
	Laser pointer for F3SG-R	Laser pointer attachment to support alignment of the safety light curtain	F39-PTG

Spatter protection cover (Two covers per set, for emitter and receiver)

Spatter protection covers include mounting brackets.

For safety light curtain models of the protective height of 2,000 mm or longer, use two spatter protection covers of different lengths.

Appearance	Safety light curtain model		Order code
	Finger protection	Hand and arm protection	
	F3SG-_RE0160-14	F3SG-_RE0190-30	F39-HGB0180
	F3SG-_RE0240-14	F3SG-_RE0270-30	F39-HGB0260
	F3SG-_RE0320-14	F3SG-_RE0350-30	F39-HGB0340
	F3SG-_RE0400-14	F3SG-_RE0430-30	F39-HGB0420
	F3SG-_RE0480-14	F3SG-_RE0510-30	F39-HGB0500
	F3SG-_RE0560-14	F3SG-_RE0590-30	F39-HGB0580
	F3SG-_RE0640-14	F3SG-_RE0670-30	F39-HGB0660
	F3SG-_RE0720-14	F3SG-_RE0750-30	F39-HGB0740
	F3SG-_RE0800-14	F3SG-_RE0830-30	F39-HGB0820
	F3SG-_RE0880-14	F3SG-_RE0910-30	F39-HGB0900
	F3SG-_RE0960-14	F3SG-_RE0990-30	F39-HGB0980
	F3SG-_RE1040-14	F3SG-_RE1070-30	F39-HGB1060
	F3SG-_RE1120-14	F3SG-_RE1150-30	F39-HGB1140
	F3SG-_RE1200-14	F3SG-_RE1230-30	F39-HGB1220
	F3SG-_RE1280-14	F3SG-_RE1310-30	F39-HGB1300
	F3SG-_RE1360-14	F3SG-_RE1390-30	F39-HGB1380
	F3SG-_RE1440-14	F3SG-_RE1470-30	F39-HGB1460
	F3SG-_RE1520-14	F3SG-_RE1550-30	F39-HGB1540
	F3SG-_RE1600-14	F3SG-_RE1630-30	F39-HGB1620
	F3SG-_RE1680-14	F3SG-_RE1710-30	F39-HGB1700
	F3SG-_RE1760-14	F3SG-_RE1790-30	F39-HGB1780
	F3SG-_RE1840-14	F3SG-_RE1870-30	F39-HGB1860
	F3SG-_RE1920-14	F3SG-_RE1950-30	F39-HGB1940
	F3SG-_RE2000-14	F3SG-_RE2030-30	F39-HGB1460
	F3SG-_RE2080-14	F3SG-_RE2110-30	F39-HGA0550
	-	F3SG-_RE2190-30	F39-HGB1540
	-	F3SG-_RE2270-30	F39-HGB1620
	-	F3SG-_RE2350-30	F39-HGB1700
	-	F3SG-_RE2430-30	F39-HGB1780
	-	F3SG-_RE2510-30	F39-HGB1860
-	-	F39-HGB1940	
-	-	F39-HGA0550	

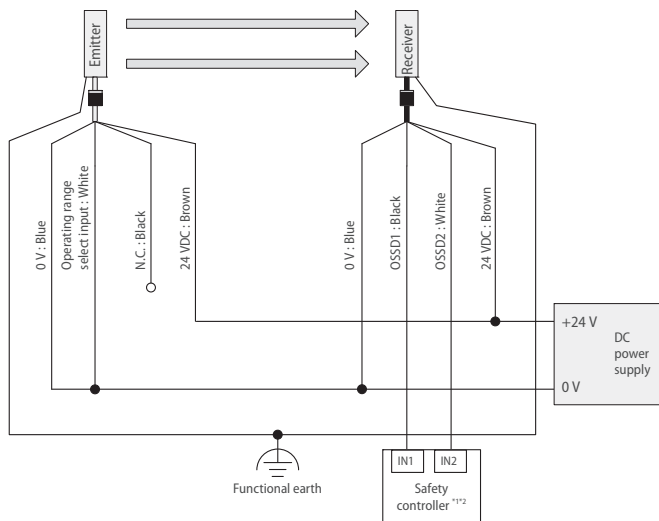
Specifications

Item		F3SG-4RE____-14 F3SG-2RE____-14	F3SG-4RE____-30 F3SG-2RE____-30
Type of ESPE (IEC 61496-1)	Type 4	F3SG-4RE____-14/30	
	Type 2	F3SG-2RE____-14/30	
Detection capability (Opaque objects)		14 mm dia.	30-mm dia.
Protective height		160 to 2080 mm	190 to 2510 mm
Operating range (Wiring connection option)		0.3 to 3.0 m or 0.3 to 10.0 m	0.3 to 7.0 m or 0.3 to 20.0 m
Effective aperture angle (EAA) (IEC 61496-2)	Type 4	±2.5° max., emitter and receiver at operating range of 3 m or greater	
	Type 2	±5.0° max., emitter and receiver at operating range of 3 m or greater	
Light source		Infrared LEDs, Wavelength: 870 nm	
Power supply voltage (Vs)		SELV/PELV 24 VDC±20% (ripple p-p 10% max.)	
Safety outputs (OSSD)		F3SG-RE____P____: 2 PNP transistor outputs, load current of 300 mA max. F3SG-RE____N____: 2 NPN transistor outputs, load current of 300 mA max.	
Test function		Self-test (at power-on, and during operation)	
Response time		ON to OFF (normal mode): 5 to 15ms, OFF to ON: 25 to 75ms	
Ambient temperature	Operating	-10 to 55°C (non-icing)	
	Storage	-25 to 70°C	
Ambient humidity	Operating	35% to 85% (non-condensing)	
	Storage	35% to 95%	
Degree of protection (IEC 60529)		IP65 and IP67	
Material		Housing: Aluminum, Cap: PBT, Front window: PMMA, Cable: Oil resistant PVC, Mounting bracket: ZDC2, FE plate: SUS	
Performance level (PL)/ Safety category	Type 4	PLe/Category 4 (EN ISO 13849-1:2008)	
	Type 2	PLc/Category 2 (EN ISO 13849-1:2008)	
PFHd		≤ 9.9 × 10 ⁻⁸ (IEC 61508)	
Proof test interval T _M		Every 20 years (IEC 61508)	

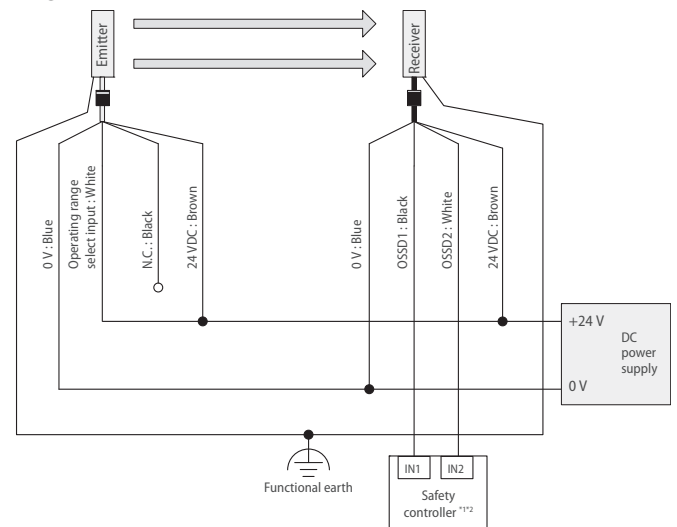
Note: For more information, please check the user manual Z352-E1

Connections (Basic wiring diagram)

Short mode



Long mode



*1 Refer to user's manual Z352-E1 for more information.

*2 The safety controller and the F3SG-R must share the power supply or be connected to the common terminal of the power supply.