

Safety Light Curtain/Safety Multi-Light Beam

F3SG-SR/PG

Easy to monitor and ready for IoT

- Conforms to major international standards
- Environmental resistance and rugged structure for use in any environment (IP67, IP67G *1, IP69K *2)
- A broad line-up, from finger protection to body protection
- Flexible height model for easy integration into machines and lines
- For diverse applications, from simple protection to data utilization

*1. IEC 60529/JIS C 0920 Annex 1

*2. Available with the F3SG-SR-K IP69K Model.



For the most recent information on models that have been certified for safety standards, refer to your local OMRON website.

Key Features

Feature	Availability						Setting/monitoring by				Factory default setting
	F3SG-SRA	F3SG-SRB	F3SG-PG-A	F3SG-PG-L	F3SG-PG-C	F3SG-SRB-K	Sensor		Intelligent Tap	PC/Smartphone	
							Wiring	End Cap	DIP Switch #1	SD Manager 3/ SD Manger 3 Mobile APP #2	
Mutual interference prevention	X	X	X	X	X	X #6	X #4	X #4	---	---	Code A #4
PNP/NPN selection	X	X	X	X	X	X	X	---	---	---	---
External test	X	X	X	X	X	X	X	---	---	---	---
Interlock	X	X	X	X	X	X	---	---	X	X	Auto reset
Pre-reset	X	X	X	X	X	X	---	---	X	X	Disabled
PSDI	X	X	---	---	---	X	---	---	—	X	Disabled
External Device Monitoring (EDM)	X	X	X	X	X	X	---	---	X	X	Disabled
Auxiliary output	X	X	X	X	X	X	---	---	---	X	Safety output information (Inverted signal output: Enabled)
Muting	X	X	X	X	X	X	---	---	---	X	Enabled (Standard Muting)
Override	X	X	X	X	X	X	---	---	---	X	Enabled
Fixed blanking	X	X	---	---	---	X	---	---	X	X	Disabled
Floating blanking	X	X	---	---	---	X	---	---	X	X	Disabled
Reduced resolution	X	X	---	---	---	X	---	---	---	X	Disabled
Warning zone	X	X	---	---	---	---	---	---	---	X	Disabled
Operating range selection	X	X	---	X	---	X	X	---	X	X	Long #5
Response time adjustment	X	X	X	X	X	X	---	---	---	X	Normal
Area Beam Indicator (ABI)	X	---	X	X	X	---	---	---	---	X	Block/Unblock information
Designated beam output	X	X	X	X	X	X	---	---	---	X	Disabled
Stable light threshold adjustment	X	X	X	X	X	X	---	---	---	X	170%
Light Level Monitoring/ Interference Light Display	X	X	X	X	X	X	---	---	---	X	---
Maintenance information	X	X	X	X	X	X	---	---	---	X	---
Operation status monitoring	X	X	X	X	X	X	---	---	---	X	---
Instantaneous block detection information	X	X #7	X	X	X	---	---	---	---	X	Enabled

*1. DIP Switch is on the F39-SGIT-IL3 Intelligent Tap.

*2. The F39-SGIT-IL3 Intelligent Tap is necessary to use the SD Manager 3 or SD Manager 3 Mobile APP.

*3. Mutual interference can be prevented by Optical Synchronization or Wired Synchronization.

*4. Mutual interference can be prevented by Scan Code Selection.

*5. In the case of setting by DIP Switch or SD Manager 3. For the setting by wiring, it is selectable from the Long and Short modes.

*6. Mutual interference cannot be prevented using the End Cap. The scan code is fixed to Code A.

*7. The F3SG-SRB does not record vibration.

F3SG-SR/PG

System Configuration

Example 1. Basic system: ON-OFF control

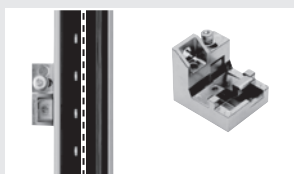
Feature: Easy connection, ON-OFF control
Use in default setting (settings cannot be changed)
Monitoring is unavailable
Optical synchronization

[1] F3SG-SR/PG

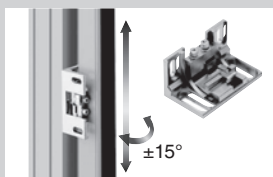
Receiver, Emitter

[2] Bracket (Sold separately)

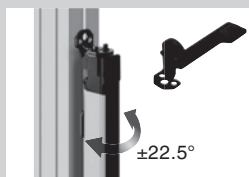
Standard Fixed Bracket (Intermediate Bracket)
F39-LSGF



Adjustable Side-Mount Bracket (Intermediate Bracket)
F39-LSGA



Adjustable Top/Bottom Bracket (Intermediate Bracket)
F39-LSGTB-SJ
F39-LSGTB-RE
F39-LSGTB-MS



[3] Connecting Cable (Sold separately)

- (1) Root-Straight Cable (For emitter)
F39-JG□C-L
Color: Gray, 5 wires
- (2) Root-Straight Cable (For receiver)
F39-JG□C-D
Color: Black, 8 wires

[4] Accessories (Sold separately)

Lamp
F39-SGLP
Receiver Mountable

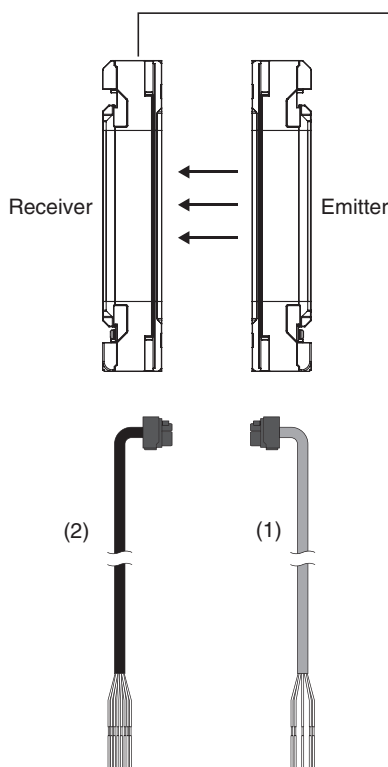
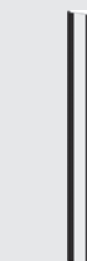


Other Optional Accessories Common

Laser Pointer
F39-PTS
F39-PTG



Spatter Protection Cover (For F3SG-SR)
F39-HSG



Recommended Safety Controllers (Sold separately) *

Safety Control Unit
NX-Series, NX-SL/SI/SO

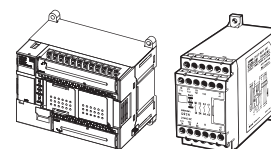
Safety Controller
G9SP-series

Safety Network Controller
NE1A-series

Safety Relay Unit
G9SE, G9SA

Flexible Safety Unit
G9SX-series

Relays with Forcibly Guided Contacts
G7SA, G7S-E



* The recommended safety controller is required to build a safety circuit using emergency stop switches and door switches.

Example 2. Cascading using Intelligent Tap

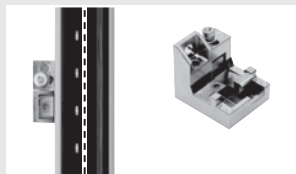
Feature:
Flexible functional setting and monitoring with SD Manager 3
Wired synchronization

[1] F3SG-SR/PG

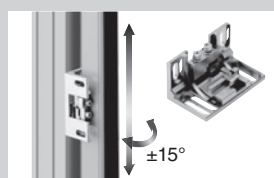
Receiver, Emitter

[2] Bracket (Sold separately)

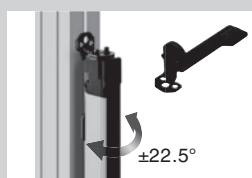
Standard Fixed Bracket (Intermediate Bracket)
F39-LSGF



Adjustable Side-Mount Bracket (Intermediate Bracket)
F39-LSGA



Adjustable Top/Bottom Bracket (Intermediate Bracket)
F39-LSGTB-SJ
F39-LSGTB-RE
F39-LSGTB-MS



[3] Connecting Cable (Sold separately)

- (1) Root-Plug Cable for Extended (For emitter)
F39-JGR3K-L Color: Gray, 5 wires, 0.3 m
- (2) Root-Plug Cable for Extended (For receiver)
F39-JGR3K-D Color: Black, 8 wires, 0.3 m
- (3) Extended Plug-Socket Cable (For emitter)
F39-JG□B-L Color: Gray, 5 wires
- (4) Extended Plug-Socket Cable (For receiver)
F39-JG□B-D Color: Black, 8 wires
- (5) Extended Socket-Straight Cable
F39-JG□A-D Color: Black, 8 wires
- (6) Cascading Cable for Extended
(For emitter and receiver, two cables per set, 0.3 m)
F39-JGR3W

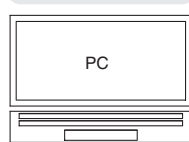
[5] Intelligent Tap (Sold separately)

F39-SGIT-IL3

Safety outputs (OSSD) -
Power Supply (Control panel)

[6] Configuration Tool

SD Manager3



USB Type-C™

[4] Accessories (Sold separately)

Lamp
F39-SGLP
Emitter and Receiver Mountable



Other Optional
Accessories Common

Laser Pointer
F39-PTS
F39-PTG



Spatter Protection Cover (For F3SG-SR)
F39-HSG



Recommended Safety Controllers (Sold separately) *

Safety Control Unit
NX-Series, NX-SL/SI/SO

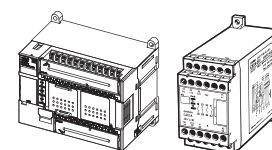
Safety Controller
G9SP-series

Safety Network Controller
NE1A-series

Safety Relay Unit
G9SE, G9SA

Flexible Safety Unit
G9SX-series

Relays with Forcibly Guided Contacts
G7SA, G7S-E



* The recommended safety controller is required to build a safety circuit using emergency stop switches and door switches.

F3SG-SR/PG

F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

Example 3. IO-Link system

Feature:

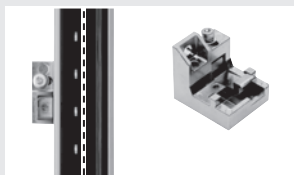
Data collection and status monitoring using open network are available
Wired synchronization

[1] F3SG-SR/PG

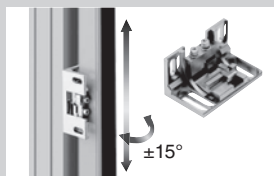
Receiver, Emitter

[2] Bracket (Sold separately)

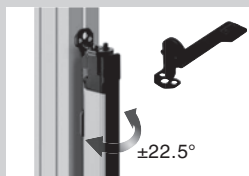
Standard Fixed Bracket (Intermediate Bracket)
F39-LSGF



Adjustable Side-Mount Bracket (Intermediate Bracket)
F39-LSGA



Adjustable Top/Bottom Bracket (Intermediate Bracket)
F39-LSGTB-SJ
F39-LSGTB-RE
F39-LSGTB-MS



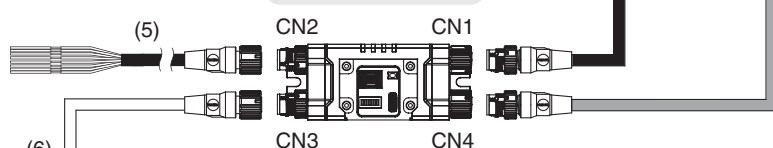
[3] Connecting Cable (Sold separately)

- (1) Root-Plug Cable for Extended (For emitter)
F39-JGR3K-L Color: Gray, 5 wires, 0.3 m
- (2) Root-Plug Cable for Extended (For receiver)
F39-JGR3K-D Color: Black, 8 wires, 0.3 m
- (3) Extended Plug-Socket Cable (For emitter)
F39-JG□B-L Color: Gray, 5 wires
- (4) Extended Plug-Socket Cable (For receiver)
F39-JG□B-D Color: Black, 8 wires
- (5) Extended Socket-Straight Cable
F39-JG□A-D Color: Black, 8 wires
- (6) IO-Link Cable
Plug-Socket F39-JG□B-L
Root-Straight XS5F-D521-DJ0-IL

[5] Intelligent Tap (Sold separately)

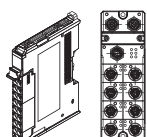
F39-SGIT-IL3

Safety outputs
(OSSD) ·
Power Supply
(Control panel)



IO-Link Master unit (Sold separately)

NX-series
NX-ILM400
GX-series
GX-ILM08C



IO-Link
Master

[4] Accessories (Sold separately)

Lamp
F39-SGLP
Emitter and Receiver
Mountable



Other Optional
Accessories Common

Laser Pointer
F39-PTS
F39-PTG

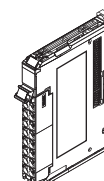


Spatter Protection Cover (For F3SG-SR)
F39-HSG



Recommended Safety Controllers (Sold separately) *

Safety Control Unit
NX-Series
NX-SL/SI/SO



* The recommended safety controller is required to build a safety circuit using emergency stop switches and door switches.

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F3SG-SR-K

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Common to Safety Light Curtain and Safety Multi-Light Beam

Common to F3SG-SR and F3SG-PG

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Model Number Legend

Safety Light Curtain F3SG-SR

F3SG-4SR - -
 (1) (2) (3) (4) (5)

* For details on the IP69K model, refer to page 74.

No.	Classification	Code	Meaning	Remarks
(1)	ESPE	4	Type 4	
(2)	Function	A	Advanced	
		B	Standard	
(3)	Protective height	0160 - 2000	Protective height for finger protection (mm)	
		0160 - 2480	Protective height for hand protection (mm)	
		0240 - 1520	Protective height for arm/leg protection (mm)	
		0280 - 0920	Protective height for body protection (mm)	
(4)	Detection capability	14	Finger protection (Detection capability: 14-mm dia.)	
		25	Hand protection (Detection capability: 25-mm dia.)	
		45	Arm/leg protection (Detection capability: 45-mm dia.)	
		85	Body protection (Detection capability: 85-mm dia.)	
(5)	Option	Blank		Finger protection and hand protection: Protective heights are available in increments of 40 mm up to 1 m
		F	Flexible height model	

Note: 1. The purpose of this model number legend is to provide understanding of the meaning of specifications from the model number.

Models are not available for all combinations of code numbers.

See *Ordering Information* on page 8 for details.

2. The bracket is not included. Order brackets sold separately.

3. Connection cables are not included with the safety light curtain. Order cables sold separately.

Safety Multi-Light Beam F3SG-PG

F3SG-4PG A -

(1) (2) (3) (4) (5)

No.	Classification	Code	Meaning	Remarks
(1)	ESPE	4	Type 4	
(2)	Function	A	Advanced	
(3)	Product length	0670	Product length (mm)	
		0970		
		1070		
		1370		
(4)	Number of beams/ beam gap	2	2 beams/500 mm	Product length: 670 mm
		3 *	3 beams/400 mm	Product length: 970 mm * Not available for Perimeter guarding passive mirror
		4	4 beams/300 or 400 mm	Product length: 1,070 or 1,370 mm
(5)	Application	A	Perimeter access guarding	
		L	Perimeter guarding long range	
		C	Perimeter guarding passive mirror	

- Note:** 1. The purpose of this model number legend is to provide understanding of the meaning of specifications from the model number.
Models are not available for all combinations of code numbers.
See *Ordering Information* on page 10 for details.
2. The bracket is not included. Order brackets sold separately.
3. Connection cables are not included with the safety multi-light beam. Order cables sold separately.

Ordering Information

Main Units

Safety Light Curtain F3SG-SR

Finger protection (Detection capability: 14-mm dia.)

Number of beams	Protective height (mm)	Advanced	Standard
		Model	Model
15	160	F3SG-4SRA0160-14	F3SG-4SRB0160-14
19	200	F3SG-4SRA0200-14-F	F3SG-4SRB0200-14-F
23	240	F3SG-4SRA0240-14	F3SG-4SRB0240-14
27	280	F3SG-4SRA0280-14-F	F3SG-4SRB0280-14-F
31	320	F3SG-4SRA0320-14	F3SG-4SRB0320-14
35	360	F3SG-4SRA0360-14-F	F3SG-4SRB0360-14-F
39	400	F3SG-4SRA0400-14	F3SG-4SRB0400-14
43	440	F3SG-4SRA0440-14-F	F3SG-4SRB0440-14-F
47	480	F3SG-4SRA0480-14	F3SG-4SRB0480-14
51	520	F3SG-4SRA0520-14-F	F3SG-4SRB0520-14-F
55	560	F3SG-4SRA0560-14	F3SG-4SRB0560-14
59	600	F3SG-4SRA0600-14-F	F3SG-4SRB0600-14-F
63	640	F3SG-4SRA0640-14	F3SG-4SRB0640-14
67	680	F3SG-4SRA0680-14-F	F3SG-4SRB0680-14-F
71	720	F3SG-4SRA0720-14-F	F3SG-4SRB0720-14-F
75	760	F3SG-4SRA0760-14-F	F3SG-4SRB0760-14-F
79	800	F3SG-4SRA0800-14	F3SG-4SRB0800-14
83	840	F3SG-4SRA0840-14-F	F3SG-4SRB0840-14-F
87	880	F3SG-4SRA0880-14-F	F3SG-4SRB0880-14-F
91	920	F3SG-4SRA0920-14-F	F3SG-4SRB0920-14-F
95	960	F3SG-4SRA0960-14-F	F3SG-4SRB0960-14-F
99	1,000	F3SG-4SRA1000-14	F3SG-4SRB1000-14
119	1,200	F3SG-4SRA1200-14	F3SG-4SRB1200-14
139	1,400	F3SG-4SRA1400-14	F3SG-4SRB1400-14
159	1,600	F3SG-4SRA1600-14	F3SG-4SRB1600-14
179	1,800	F3SG-4SRA1800-14	F3SG-4SRB1800-14
199	2,000	F3SG-4SRA2000-14	F3SG-4SRB2000-14

Hand protection (Detection capability: 25-mm dia.)

Number of beams	Protective height (mm)	Advanced	Standard
		Model	Model
8	160	F3SG-4SRA0160-25	F3SG-4SRB0160-25
10	200	F3SG-4SRA0200-25-F	F3SG-4SRB0200-25-F
12	240	F3SG-4SRA0240-25	F3SG-4SRB0240-25
14	280	F3SG-4SRA0280-25-F	F3SG-4SRB0280-25-F
16	320	F3SG-4SRA0320-25	F3SG-4SRB0320-25
18	360	F3SG-4SRA0360-25-F	F3SG-4SRB0360-25-F
20	400	F3SG-4SRA0400-25	F3SG-4SRB0400-25
22	440	F3SG-4SRA0440-25-F	F3SG-4SRB0440-25-F
24	480	F3SG-4SRA0480-25	F3SG-4SRB0480-25
26	520	F3SG-4SRA0520-25-F	F3SG-4SRB0520-25-F
28	560	F3SG-4SRA0560-25	F3SG-4SRB0560-25
30	600	F3SG-4SRA0600-25-F	F3SG-4SRB0600-25-F
32	640	F3SG-4SRA0640-25	F3SG-4SRB0640-25
34	680	F3SG-4SRA0680-25-F	F3SG-4SRB0680-25-F
36	720	F3SG-4SRA0720-25	F3SG-4SRB0720-25
38	760	F3SG-4SRA0760-25-F	F3SG-4SRB0760-25-F
40	800	F3SG-4SRA0800-25	F3SG-4SRB0800-25
42	840	F3SG-4SRA0840-25-F	F3SG-4SRB0840-25-F
44	880	F3SG-4SRA0880-25	F3SG-4SRB0880-25
46	920	F3SG-4SRA0920-25-F	F3SG-4SRB0920-25-F
48	960	F3SG-4SRA0960-25	F3SG-4SRB0960-25
50	1,000	F3SG-4SRA1000-25-F	F3SG-4SRB1000-25-F
52	1,040	F3SG-4SRA1040-25	F3SG-4SRB1040-25
56	1,120	F3SG-4SRA1120-25	F3SG-4SRB1120-25
60	1,200	F3SG-4SRA1200-25	F3SG-4SRB1200-25
64	1,280	F3SG-4SRA1280-25	F3SG-4SRB1280-25
68	1,360	F3SG-4SRA1360-25	F3SG-4SRB1360-25
72	1,440	F3SG-4SRA1440-25	F3SG-4SRB1440-25
76	1,520	F3SG-4SRA1520-25	F3SG-4SRB1520-25
80	1,600	F3SG-4SRA1600-25	F3SG-4SRB1600-25
84	1,680	F3SG-4SRA1680-25	F3SG-4SRB1680-25
88	1,760	F3SG-4SRA1760-25	F3SG-4SRB1760-25
92	1,840	F3SG-4SRA1840-25	F3SG-4SRB1840-25
96	1,920	F3SG-4SRA1920-25	F3SG-4SRB1920-25
104	2,080	F3SG-4SRA2080-25	F3SG-4SRB2080-25
114	2,280	F3SG-4SRA2280-25	F3SG-4SRB2280-25
124	2,480	F3SG-4SRA2480-25	F3SG-4SRB2480-25

F3SG-SR/PG

F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

F3SG-SR/PG

Arm/Leg protection (Detection capability: 45-mm dia.)

Number of beams	Protective height (mm)	Advanced	Standard
		Model	Model
6	240	F3SG-4SRA0240-45	F3SG-4SRB0240-45
10	400	F3SG-4SRA0400-45	F3SG-4SRB0400-45
14	560	F3SG-4SRA0560-45	F3SG-4SRB0560-45
18	720	F3SG-4SRA0720-45	F3SG-4SRB0720-45
22	880	F3SG-4SRA0880-45	F3SG-4SRB0880-45
30	1,200	F3SG-4SRA1200-45	F3SG-4SRB1200-45
38	1,520	F3SG-4SRA1520-45	F3SG-4SRB1520-45

Body protection (Detection capability: 85-mm dia.)

Number of beams	Protective height (mm)	Advanced	Standard
		Model	Model
4	280	F3SG-4SRA0280-85	F3SG-4SRB0280-85
6	440	F3SG-4SRA0440-85	F3SG-4SRB0440-85
8	600	F3SG-4SRA0600-85	F3SG-4SRB0600-85
10	760	F3SG-4SRA0760-85	F3SG-4SRB0760-85
12	920	F3SG-4SRA0920-85	F3SG-4SRB0920-85

Safety Multi-Light Beam F3SG-PG

Perimeter access guarding (Beam gap: 300 to 500 mm)

Number of beams	Beam gap (mm)	Product length (mm)	Advanced
			Model
2	500	670	F3SG-4PGA0670-2A
3	400	970	F3SG-4PGA0970-3A
4	300	1,070	F3SG-4PGA1070-4A
4	400	1,370	F3SG-4PGA1370-4A

Perimeter guarding long range (Beam gap: 300 to 500 mm)

Number of beams	Beam gap (mm)	Product length (mm)	Advanced
			Model
2	500	670	F3SG-4PGA0670-2L
3	400	970	F3SG-4PGA0970-3L
4	300	1,070	F3SG-4PGA1070-4L
4	400	1,370	F3SG-4PGA1370-4L

Perimeter guarding passive mirror (Beam gap: 300 to 500 mm)

Number of beams	Beam gap (mm)	Product length (mm)	Advanced
			Model
2	500	670	F3SG-4PGA0670-2C
4	300	1,070	F3SG-4PGA1070-4C
4	400	1,370	F3SG-4PGA1370-4C

Accessories (Sold separately)

Bracket Common to F3SG-SR and F3SG-PG

Side mounting and backside mounting are possible.

For fixed mounting

Application	Appearance	Type	Model
Bracket to mount the F3SG-SR/PG. Side mounting and backside mounting possible. Beam alignment after mounting of F3SG-SR/PG not possible. Two brackets per set (See * below for the number of sets required for each model.)		Standard Bracket (Intermediate Bracket)	F39-LSGF

* Protective height of 0160 to 1440: 2 set (4 brackets), protective height of 1520 to 2480: 3 sets (6 brackets)

The bracket allows beam adjustment after the F3SG-SR/PG is mounted on it.

Application	Appearance	Type	Model
The angle adjustment range is $\pm 15^\circ$. Two brackets per set (See *1 below for the number of sets required for each model.)		Adjustable Side-Mount Bracket (Intermediate Bracket)	F39-LSGA
Use this bracket at the top and bottom positions of the F3SG-SR/PG. The angle adjustment range is $\pm 22.5^\circ$. Use this bracket when replacing an existing F3SJ or F3SN Safety Light Curtain. Two brackets per set (See *2 below for the number of sets required for each model.)		Adjustable Top/Bottom Bracket F3SJ, F3SN Adapter	F39-LSGTB-SJ
Use this bracket at the top and bottom positions of the F3SG-SR/PG. The angle adjustment range is $\pm 22.5^\circ$. Use this bracket when replacing an existing F3SG-RA/RE Safety Light Curtain. Two brackets per set (See *2 below for the number of sets required for each model.)		Adjustable Top/Bottom Bracket F3SG-RA/RE Adapter	F39-LSGTB-RE
Use this bracket at the top and bottom positions of the F3SG-SR/PG. The angle adjustment range is $\pm 22.5^\circ$. Use this bracket when replacing an existing MS4800 or F3SR Safety Light Curtain. Two brackets per set (See *2 below for the number of sets required for each model.)		Adjustable Top/Bottom Bracket MS4800, F3SR Adapter	F39-LSGTB-MS

*1. Protective height of 0160 to 0280: 1 set (2 brackets), protective height of 0320 to 1440: 2 sets (4 brackets), protective height of 1520 to 2480: 3 sets (6 brackets)

*2. Using Adjustable Top/Bottom Brackets with Side-Mount Brackets (Intermediate Brackets) or Adjustable Side-Mount Brackets (Intermediate Brackets)
Protective height of 0840 or less:
The Side-Mount Bracket (Intermediate Bracket) or Adjustable Side-Mount Bracket (Intermediate Bracket) is not required. Use 2 sets of Adjustable Top/Bottom Brackets.
Protective height of 0880 to 1680:
Use 2 sets of Adjustable Top/Bottom Brackets and 1 set of Side-Mount Brackets (Intermediate Brackets) or Adjustable Side-Mount Brackets (Intermediate Brackets).
Protective height of 1760 to 2480:
Use 2 sets of Adjustable Top/Bottom Brackets and 2 sets of Side-Mount Brackets (Intermediate Brackets) or Adjustable Side-Mount Brackets (Intermediate Brackets).
Refer to *Dimensions* on page 41 and following.

F3SG-SR/PG

Connecting Cable Common to F3SG-SR and F3SG-PG

[Root Cable]

Root-Straight Cable

Appearance	Type	Specifications	Cable length	Model
	For emitter To sensors: dedicated connector, To external: open-ended type 5 wires Color: Gray	Brown 24V/0V	3 m	F39-JG3C-L
		Black TEST	7 m	F39-JG7C-L
		Blue 0V/24V	10 m	F39-JG10C-L
	For receiver or emitter/receiver of F3SG-PG Perimeter Guarding Passive Mirror To sensors: dedicated connector, To external: open-ended type 8 wires Color: Black	White COM(+)	3 m	F39-JG3C-D
		Yellow OPERATING RANGE SELECT INPUT/COM(-)	7 m	F39-JG7C-D
		IP67 and IP67G (JIS C 0920 Annex 1) rated when mated.	10 m	F39-JG10C-D
		Yellow RESET/EDM	3 m	F39-JG3C-D
		Brown 24V/0V	7 m	F39-JG7C-D
		Gray MUTE A/PRE-RESET/PSDI/COM(+)	10 m	F39-JG10C-D

Note: Cables are not included with the safety light curtain/safety multi-light beam.

Order the F39-JG□C-□ Root-Straight Cable or F39-JGR3K-L/-D Root-Plug Cable for Extended.

Root-Plug Cable for Extended

Appearance	Type	Specifications	Cable length	Model																								
	For emitter To sensors: dedicated connector, To external: M12 connector type (5-pin) Color: Gray	<table border="1"><tr><td>1</td><td>Brown</td><td>24V/0V</td></tr><tr><td>2</td><td>Black</td><td>TEST</td></tr><tr><td>3</td><td>Blue</td><td>0V/24V</td></tr><tr><td>4</td><td>White</td><td>COM(+)</td></tr><tr><td>5</td><td>Yellow</td><td>OPERATING RANGE SELECT INPUT/COM(-)</td></tr></table> IP67 and IP67G (JIS C 0920 Annex 1) rated when mated.  Male	1	Brown	24V/0V	2	Black	TEST	3	Blue	0V/24V	4	White	COM(+)	5	Yellow	OPERATING RANGE SELECT INPUT/COM(-)	0.3 m	F39-JGR3K-L									
	1	Brown	24V/0V																									
2	Black	TEST																										
3	Blue	0V/24V																										
4	White	COM(+)																										
5	Yellow	OPERATING RANGE SELECT INPUT/COM(-)																										
	For receiver or emitter/receiver of F3SG-PG Perimeter Guarding Passive Mirror To sensors: dedicated connector, To external: M12 connector type (8-pin) Color: Black	<table border="1"><tr><td>1</td><td>Yellow</td><td>RESET/EDM</td></tr><tr><td>2</td><td>Brown</td><td>24V/0V</td></tr><tr><td>3</td><td>Gray</td><td>MUTE A/PRE-RESET/PSDI/COM(+)</td></tr><tr><td>4</td><td>Pink</td><td>MUTE B/COM(-)</td></tr><tr><td>5</td><td>Black</td><td>OSSD 1</td></tr><tr><td>6</td><td>White</td><td>OSSD 2</td></tr><tr><td>7</td><td>Blue</td><td>0V/24V</td></tr><tr><td>8</td><td>Red</td><td>AUX</td></tr></table> IP67 and IP67G (JIS C 0920 Annex 1) rated when mated.  Male	1	Yellow	RESET/EDM	2	Brown	24V/0V	3	Gray	MUTE A/PRE-RESET/PSDI/COM(+)	4	Pink	MUTE B/COM(-)	5	Black	OSSD 1	6	White	OSSD 2	7	Blue	0V/24V	8	Red	AUX	0.3 m	F39-JGR3K-D
1	Yellow	RESET/EDM																										
2	Brown	24V/0V																										
3	Gray	MUTE A/PRE-RESET/PSDI/COM(+)																										
4	Pink	MUTE B/COM(-)																										
5	Black	OSSD 1																										
6	White	OSSD 2																										
7	Blue	0V/24V																										
8	Red	AUX																										

Note: 1. Cables are not included with the safety light curtain/safety multi-light beam.

Order the F39-JG□C-□ Root-Straight Cable or F39-JGR3K-L/-D Root-Plug Cable for Extended.

2. Use with the F39-JG□A-□ Extended Socket-Straight Cable or F39-JG□B-□ Extended Plug-Socket Cable.

[Extension Cable] Extended Socket-Straight Cable

Appearance	Type	Specifications	Cable length	Model
	For emitter M12 connector (5-pin), 5 wires Color: Gray	Connected to root cable or Extended Plug-Socket Cable  Female IP67* rated when mated.	3 m	F39-JG3A-L
			7 m	F39-JG7A-L
			10 m	F39-JG10A-L
			15 m	F39-JG15A-L
			20 m	F39-JG20A-L
	For receiver or emitter/receiver of F3SG-PG Perimeter Guarding Passive Mirror M12 connector (8-pin), 8 wires Color: Black	Connected to root cable or Extended Plug-Socket Cable  Female IP67* rated when mated.	3 m	F39-JG3A-D
			7 m	F39-JG7A-D
			10 m	F39-JG10A-D
			15 m	F39-JG15A-D
			20 m	F39-JG20A-D

* When the accessory is used, protect it from cutting oil.

Note: 1. Use with the F39-JGR3K-L/-D Root-Plug Cable for Extended.

2. To extend the cable length to more than 20 m, connect the F39-JG□B-□ Extended Plug-Socket Cable to the F39-JG□A-□ Extended Socket-Straight Cable.

Extended Plug-Socket Cable

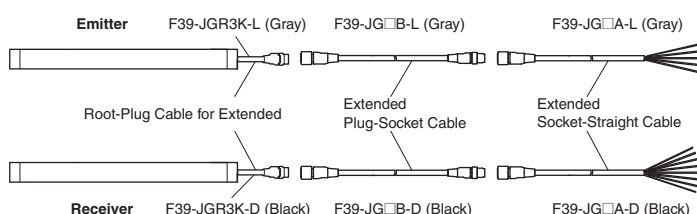
Appearance	Type	Specifications	Cable length	Model
	For emitter M12 connector (5-pin) on both ends Color: Gray	Connected to Root-Plug Cable for Extended or Extended Plug-Socket Cable  Female Connected to Extended Socket-Straight Cable or Extended Plug-Socket Cable  Male Twisted pair wires are brown and blue, and white and yellow. IP67* rated when mated.	0.5 m	F39-JGR5B-L
			1 m	F39-JG1B-L
			3 m	F39-JG3B-L
			5 m	F39-JG5B-L
			7 m	F39-JG7B-L
	For receiver or emitter/receiver of F3SG-PG Perimeter Guarding Passive Mirror M12 connector (8-pin) on both ends Color: Black	Connected to Root-Plug Cable for Extended or Extended Plug-Socket Cable  Female Connected to Extended Socket-Straight Cable or Extended Plug-Socket Cable  Male Twisted pair wires are brown and blue, black and white, yellow and red, and gray and pink. IP67* rated when mated.	10 m	F39-JG10B-L
			15 m	F39-JG15B-L
			20 m	F39-JG20B-L
			0.5 m	F39-JGR5B-D
			1 m	F39-JG1B-D

* When the accessory is used, protect it from cutting oil.

Note: 1. Use with the F39-JGR3K-L/-D Root-Plug Cable for Extended.

2. To extend the cable length to more than 40 m, connect two or more F39-JG□B-□ Extended Plug-Socket Cable to the F39-JG□A-□ Extended Socket-Straight Cable.

Example: To extend the cable length to 50 m, connect two F39-JG20B-□ (20 m) Extended Plug-Socket Cables and one F39-JG10A-□ (10 m) Extended Socket-Straight Cable.



[Cascading Cable]
Side-by-side Cascading Cable (Two cables per set, one for emitter and one for receiver)

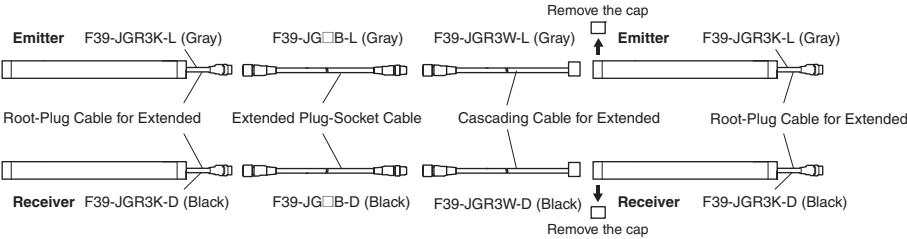
Appearance	Type	Specifications	Cable length	Model
	For emitter To sensors: dedicated connector 1, To cascading sensors: dedicated connector 2 Color: Gray For receiver To sensors: dedicated connector 1, To cascading sensors: dedicated connector 2 Color: Black	Used to series-connect sensors with the minimum cable length of 12 cm. IP67 and IP67G (JIS C 0920 Annex 1) rated when mated.	12 cm	F39-JGR12L

Note: To extend the cable length between the series-connected sensors to more than 12 cm, add the F39-JGR3W Cascading Cable for Extended.

Cascading Cable for Extended (Two cables per set, one for emitter and one for receiver)

Appearance	Type	Specifications	Cable length	Model
	For emitter To sensors: dedicated connector, To cascading sensors: M12 connector type (5 pin) Color: Gray For receiver To sensors: dedicated connector, To cascading sensors: M12 connector type (8 pin) Color: Black	Used together with the F39-JGR3K Root-Plug Cable for Extended to extend the cable length between the series-connected sensors to more than 12 cm. IP67 and IP67G (JIS C 0920 Annex 1) rated when mated.	0.3 m	F39-JGR3W

Note: To extend the cable length between the series-connected sensors to more than 60 cm, connect the F39-JG□B-□ Extended Plug-Socket Cable (up to 10 m: F39-JG10B-□) to the F39-JGR3W Cascading Cable for Extended. Extension cable between sensors: 10 m max. (not including Cascading Cable for Extended (F39-JGR3W) and Root Cable (F39-JGR3K-L/-D).)



[Conversion Cable: Converting Wiring for Existing Light Curtain]

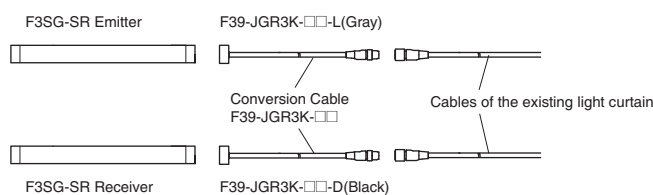
Conversion Cable

Appearance	Specifications	Type	Cable length	Model
	Used to convert the wiring for F3SJ-B/-A, F3SR-B or F3SN Safety Light Curtain to that for the F3SG-SR.	F3SJ-B/A Conversion Cable For emitter To sensor: dedicated connector 1, To wires for F3SJ-B/-A, F3SR or F3SN: M12 connector type (8 pin) Color: Gray	0.3 m	F39-JGR3K-SJ-L
		F3SJ-B/A Conversion Cable For receiver To sensor: dedicated connector 1, To wires for F3SJ-B/-A, F3SR or F3SN: M12 connector type (8 pin) Color: Black		F39-JGR3K-SJ-D
	Used to convert the wiring for F3SG-RE Safety Light Curtain to that for the F3SG-SR.	F3SG-RE Conversion Cable For emitter To sensor: dedicated connector 1, To wires for F3SG-RE: M12 connector type (4 pin) Color: Gray	0.3 m	F39-JGR3K-RE-L
		F3SG-RE Conversion Cable For receiver To sensor: dedicated connector 1, To wires for F3SG-RE: M12 connector type (4 pin) Color: Black		F39-JGR3K-RE-D
	Used to convert the wiring for MS4800 Safety Light Curtain to that for the F3SG-SR.	MS48 Conversion Cable For emitter To sensor: dedicated connector 1, To wires for MS4800: M12 connector type (5 pin) Color: Gray	0.3 m	F39-JGR3K-MS-L
		MS48 Conversion Cable For receiver To sensor: dedicated connector 1, To wires for MS4800: M12 connector type (8 pin) Color: Black		F39-JGR3K-MS-D

Note: 1. Cables are not included with the safety light curtain/safety multi-light beam.

When connecting to the cables of the existing light curtain, order the conversion cables.

Conversion cables are only for PNP connection. To use for NPN, connect the 24 VDC line and the 0 VDC line in reverse. For details, refer to *User's Manual* (Man. No. Z405).



2. Do not connect the Conversion Cable for the following purposes. Failure to do so may result in failure.

1. Connecting with the F39-SGIT-IL3, F39-GCNY2, F39-GCNY3 or F39-GCN5
2. Connecting between the F3SG-SR's

Configuration Tool SD Manager 3 and Intelligent Tap

Configuration tool SD Manager 3

Type	Specifications
SD Manager 3	Configuration tool running on a PC. Use with the Intelligent Tap. (The Bluetooth® communication unit is required to connect using Bluetooth®.) For details, refer to your local Omron website.
SD Manager 3 Mobile APP	Monitoring tool running on a smartphone. Use with the Intelligent Tap and Bluetooth® communication unit. For details, refer to your local Omron website.

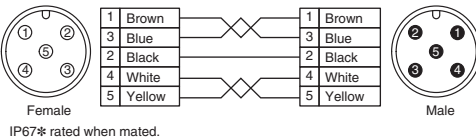
Intelligent Tap *

Appearance	Specifications	Type	Model
	Used to configure the F3SG-SR/PG and connect external devices via IO-Link. The F3SG-SR/PG can be configured on a PC or with the DIP switch on the Intelligent Tap. IP67 and IP67G (JIS C 0920 Annex 1) rated when mated.	Intelligent Tap	F39-SGIT-IL3
	Mounted to the Intelligent Tap to connect with the SD Manager 3 via Bluetooth®. IP67 and IP67G (JIS C 0920 Annex 1) rated when mated. * For the regions where the Bluetooth® Communication Unit can be used, refer to <i>Legislation and Standards</i> on page 110.	Bluetooth® Communication Unit	F39-SGBT
	Bracket to mount the Intelligent Tap on a DIN track.	Intelligent Tap Bracket For DIN in Panel	F39-LITF1

Note: Please contact your OMRON sales representative regarding the IO-Link setup file (IODD file).

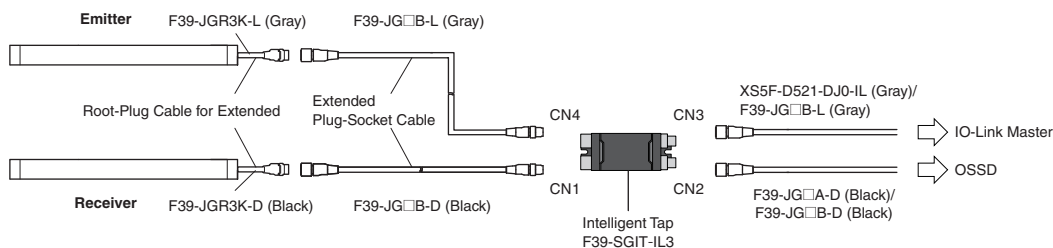
* Use the F39-SGBT Bluetooth® Communication Unit or a commercially available USB Type-C™ cable to connect to a PC.

Intelligent Tap-to-IO-Link Master Cable

Omron IO-Link master unit	Type	Specifications	Cable length	Model
NX-ILM400	Single-ended cable M12 connector (5-pin), 5 wires Color: Gray	 Female IP67* rated when mated.	2 m	XS5F-D521-DJ0-IL
GX-ILM08C	Double-ended cable M12 connector (5-pin), 5 wires Color: Gray	 Female IP67* rated when mated.	3 m	F39-JG3B-L
			10 m	F39-JG10B-L
			20 m	F39-JG20B-L

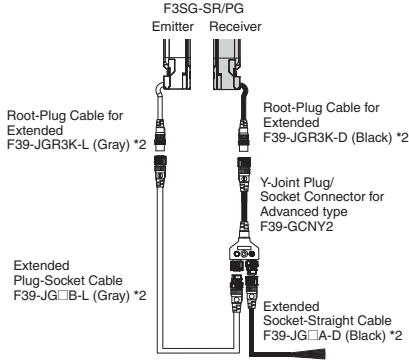
* When the accessory is used, protect it from cutting oil.

Note: Use the F39-JG□A-D Extended Socket-Straight Cable or F39-JG□B-D Extended Plug-Socket Cable for safety output (OSSD).



Reduced Wiring System

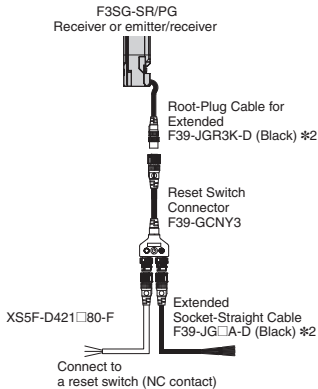
Y-Joint Plug/Socket Connector

Appearance	Type	Specifications	Cable length	Model
	M12 connectors. Used for reduced wiring. IP67*1 rated when mated.	 F3SG-SR/PG Emitter Receiver Root-Plug Cable for Extended F39-JGR3K-L (Gray) *2 Root-Plug Cable for Extended F39-JGR3K-D (Black) *2 Y-Joint Plug/ Socket Connector for Advanced type F39-GCNY2 Extended Plug-Socket Cable F39-JG□B-L (Gray) *2 Extended Socket-Straight Cable F39-JG□A-D (Black) *2	0.5 m	F39-GCNY2

*1. When the accessory is used, protect it from cutting oil.

*2. Order the cable (root-plug cable for extended and extended cable) for emitter (end of model: -L) and the cable for receiver (end of model: -D).

Reset Switch Connector

Appearance	Type	Specifications	Cable length	Model
	M12 connectors. Used for reduced wiring. IP67*1 rated when mated.	 F3SG-SR/PG Receiver or emitter/receiver Root-Plug Cable for Extended F39-JGR3K-D (Black) *2 Reset Switch Connector F39-GCNY3 Extended Socket-Straight Cable F39-JG□A-D (Black) *2 XS5F-D421□80-F Connect to a reset switch (NC contact)	0.5 m	F39-GCNY3

Note: Purchase a reset switch (NC contact) separately.

*1. When the accessory is used, protect it from cutting oil.

*2. Order the extended socket-straight cable for receiver (end of model: -D).

*3. The External Device Monitoring (EDM) function cannot be used with this accessory.

Reset Switch Connector-to-Reset Switch Cable

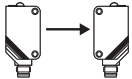
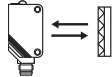
Connector Connected to Cable, Socket on One Cable End

Appearance	Type	Specifications	Cable length	Model												
	M12 connector (4-pin), 4 wires	 Female IP67* rated when mated. <table><tr><td>1</td><td>Brown</td><td>24V/0V</td></tr><tr><td>2</td><td>White</td><td>RESET</td></tr><tr><td>3</td><td>Blue</td><td>0V/24V</td></tr><tr><td>4</td><td>Black</td><td>AUX</td></tr></table>	1	Brown	24V/0V	2	White	RESET	3	Blue	0V/24V	4	Black	AUX	1 m	XS5F-D421-C80-F
			1	Brown	24V/0V											
			2	White	RESET											
			3	Blue	0V/24V											
			4	Black	AUX											
			2 m	XS5F-D421-D80-F												
3 m	XS5F-D421-E80-F															
5 m	XS5F-D421-G80-F															
10 m	XS5F-D421-J80-F															
20 m	XS5F-D421-L80-F															

* When the accessory is used, protect it from cutting oil.

Muting System

Muting Sensor E3Z (M8 Connector)

Sensing method	Sensing distance	Mounter	Output	Model
Through-beam 	10 m (Red light)	F39-FMA□□□T	NPN output	E3Z-T66A
			PNP output	E3Z-T86A
Retro-reflective *1 	4 m *2 (Red light)	F39-FMA□□□R	NPN output	E3Z-R66
			PNP output	E3Z-R86
			Reflectors	E39-R1S

Note: The muting sensor arm mounter is not included with the muting sensor. Order the muting sensor arm mounter.

*1. The reflector is not included with the muting sensor. Order the E39-R1S Reflector when using the E3Z-R□6 Retroreflective Muting Sensor.

*2. The minimum required distance between the E3Z Muting Sensor and reflector is 100 mm.

For details, refer to your local Omron website.

Muting Sensor Arm Mounter (Two mounters per set, for emitter and receiver)

Appearance	Application	Length	Model
	The through-beam muting sensor can be mounted easily.	150 mm	F39-FMA150T
		400 mm	F39-FMA400T
	The retroreflective muting sensor can be mounted easily.	150 mm	F39-FMA150R
		400 mm	F39-FMA400R

Note: 1. The muting sensor is not included with the muting sensor arm mounter. Order the Muting Sensor.

2. When mounting the muting sensor arm mounter to the safety light curtain, order the F39-LMAF1 Muting Sensor Arm Mounter Bracket for SLC. When the muting sensor arm mounter is mounted to the floor mount column, no brackets are required.

Muting Sensor Arm Mounter Bracket for SLC (Two brackets per set, for emitter and receiver) *

Appearance	Application	Model
	For F3SG-SR/PG	F39-LMAF1

Note: The F39-LMAF1 Muting Sensor Arm Mounter Bracket for SLC cannot be used for the F3SG-SR/PG with a product length smaller than 280 mm.

* Order when mounting the muting sensor arm mounter to the safety light curtain. When the muting sensor arm mounter is mounted to the floor mount column, no brackets are required.

Muting Sensor Connection Box

Appearance	Application	Specifications	Cable Length	Model
	Speeds up wiring muting sensors.	PNP/NPN selection Main Unit: M12 socket (5 pin) ×7, M12 socket (8 pin) ×1 Cable: M12 plug (8 pin) ×1 IP67*1 rated when mated.	0.5 m	F39-GCN5

*1. When the accessory is used, protect it from cutting oil.

*2. When using four muting sensors, order the E3Z-R□□ Muting Sensor (Retro-reflective) that can be connected to the F39-GCN5 Muting Sensor Connection Box.

Connection Cable for Muting Sensor Connection Box

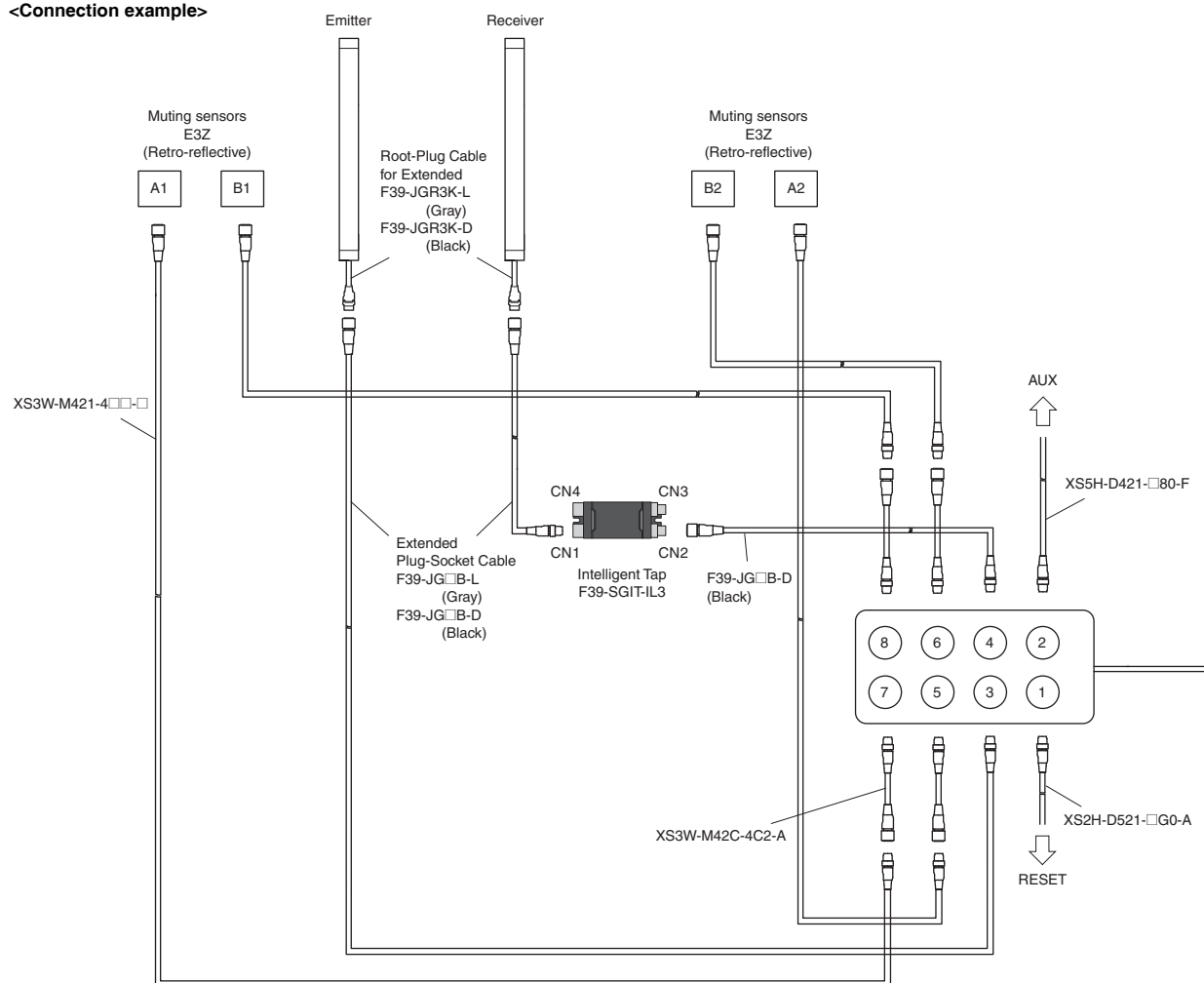
Appearance	Application	Specifications	Cable Length	Model
	Cable to connect the Muting Sensor and F39-GCN5 Muting Sensor Connection Box.	Connectors connected to cable, M8 socket and M12 plug on cable ends (4 pin)	0.2 m	XS3W-M42C-4C2-A
	Sensor I/O Connectors Connectors with Cables, Connectors on Both Cable Ends (Socket/Plug)	Connectors connected to cable, M8 socket and M8 plug on cable ends (4 pin) Straight (socket, plug)	1 m	XS3W-M421-401-R
			2 m	XS3W-M421-402-R
			5 m	XS3W-M421-405-R
			10 m	XS3W-M421-410-R
	Sensor I/O Connectors Connectors with Cables, Connectors on Both Cable Ends (Socket/Plug) Used together with the XS3W-M42C-4C2-A when the space to connect to the connector of the E3Z Muting Sensor is between 40 and 80 mm.	Connectors connected to cable, M8 socket and M8 plug on cable ends (4 pin) Right-angle (socket)/straight (plug)	2 m	XS3W-M424-402-R
			5 m	XS3W-M424-405-R
	Cable to connect the device for auxiliary output and F39-GCN5 Muting Sensor Connection Box	Connector connected to cable, M12 plug on one cable end (4 pin)	0.3 m	XS5H-D421-A80-F
			1 m	XS5H-D421-C80-F
			2 m	XS5H-D421-D80-F
			5 m	XS5H-D421-G80-F
	Cable to connect the device for reset input and F39-GCN5 Muting Sensor Connection Box	Connector connected to cable, M12 plug on one cable end (5 pin)	0.3 m	XS2H-D521-AG0-A
			1 m	XS2H-D521-CG0-A

Note: 1. Select the same output type for both the safety light curtain/safety multi-light beam (PNP/NPN selection by wiring) and muting sensor (PNP or NPN model).

2. For details of the XS3W, XS5H and XS2H cables with connector(s), refer to your local OMRON website.

3. Use the F39-JG□B-D Extended Plug-Socket Cable to connect the muting sensor connection box with the Intelligent Tap. The connection example for optical synchronization is shown below.

<Connection example>



Floor Mount System Floor Mount Column

Appearance	Applicable light curtain		Column height	Model
	F3SG-SR Safety Light Curtain	F3SG-PG Safety Multi-Light Beam		
	Protective height up to 0880	F3SG-4PGA0670-2□	990 mm	F39-ST0990
	Protective height up to 1280	F3SG-4PGA0970-3A/3L F3SG-4PGA1070-4□	1,310 mm	F39-ST1310
	Protective height up to 1520	F3SG-4PGA1370-4□	1,630 mm	F39-ST1630
	Protective height up to 1840	---	1,950 mm	F39-ST1950
	Protective height up to 2080	---	2,270 mm	F39-ST2270

*1. Floor Mount Column, Mirror Column, Mount-Column Adjustable Base: Each model includes one product.

When using for both the emitter and receiver, order two sets.

*2. The mount-column adjustable base is sold separately.

Mirror Column

Appearance	Applicable light curtain		Column height	Model
	F3SG-SR Safety Light Curtain	F3SG-PG Safety Multi-Light Beam		
 (Operating range becomes 15% shorter than the rating)	Protective height up to 0880	F3SG-4PGA0670-2A/2L	990 mm	F39-SML0990
	Protective height up to 1200	F3SG-4PGA0970-3A/3L F3SG-4PGA1070-4A/4L	1,310 mm	F39-SML1310
	Protective height up to 1520	F3SG-4PGA1370-4A/4L	1,630 mm	F39-SML1630
	Protective height up to 1840	---	1,950 mm	F39-SML1950
 (Operating range becomes 10% shorter than the rating)	---	F3SG-4PGA0670-2A/2L	990 mm	F39-PML0990-2
	---	F3SG-4PGA0970-3A/3L	1,310 mm	F39-PML1310-3
	---	F3SG-4PGA1070-4A/4L		F39-PML1310-4
	---	F3SG-4PGA1370-4A/4L	1,630 mm	F39-PML1630-4

Note: The F3SG-SR Safety Light Curtain with the protective height of 1920 or more cannot be used.

*1. Floor Mount Column, Mirror Column, Mount-Column Adjustable Base: Each model includes one product.

When using for both the emitter and receiver, order two sets.

*2. The mount-column adjustable base is sold separately.

Mount-Column Adjustable Base

Appearance	Application	Model
	Mounted to the floor mount column or mirror column. The angle and height of the column can be adjusted.	F39-STB

*1. Floor Mount Column, Mirror Column, Mount-Column Adjustable Base: Each model includes one product.

When using for both the emitter and receiver, order two sets.

*2. The floor mount column and mirror column are sold separately.

Other Optional Accessories Common to F3SG-SR and F3SG-PG

Laser Alignment Pointer

- The laser alignment pointer is attached on the optical surface of the F3SG-SR/PG to help coarse adjustment of beams.

Appearance	Specifications	Model
	The laser alignment pointer can be attached to the front side of the F3SG-SR/PG. It can be used together with F39-ST.	F39-PTS
	The laser alignment pointer can be attached to the F3SG-SR/PG with the spatter protection cover.	F39-PTG

Lamp

Appearance	Specifications	Model
	The lamp can be connected to emitter, receiver, or emitter/receiver and turned ON based on the operation of F3SG-SR/PG. The lamp can indicate red, orange, and green colors, to which three different states can be assigned. IP67 * rated when mated.	F39-SGLP

* When the accessory is used, protect it from cutting oil.

Note: The Lamp does not support Bluetooth® communication.

Optional Accessories for F3SG-SR

Spatter Protection Cover

(2 covers per set, one for emitter and one for receiver)

Appearance	Safety light curtain			Model
	Finger protection	Hand protection	Arm/leg protection and Body protection	
	F3SG-4SR□0160-14	F3SG-4SR□0160-25	---	F39-HSG0160
	F3SG-4SR□0200-14-F	F3SG-4SR□0200-25-F	---	F39-HSG0200
	F3SG-4SR□0240-14	F3SG-4SR□0240-25	F3SG-4SR□0240-45	F39-HSG0240
	F3SG-4SR□0280-14-F	F3SG-4SR□0280-25-F	F3SG-4SR□0280-85	F39-HSG0280
	F3SG-4SR□0320-14	F3SG-4SR□0320-25	---	F39-HSG0320
	F3SG-4SR□0360-14-F	F3SG-4SR□0360-25-F	---	F39-HSG0360
	F3SG-4SR□0400-14	F3SG-4SR□0400-25	F3SG-4SR□0400-45	F39-HSG0400
	F3SG-4SR□0440-14-F	F3SG-4SR□0440-25-F	F3SG-4SR□0440-85	F39-HSG0440
	F3SG-4SR□0480-14	F3SG-4SR□0480-25	---	F39-HSG0480
	F3SG-4SR□0560-14	F3SG-4SR□0560-25	F3SG-4SR□0560-45	F39-HSG0560
	F3SG-4SR□0640-14	F3SG-4SR□0640-25	---	F39-HSG0640
	---	F3SG-4SR□0720-25	F3SG-4SR□0720-45	F39-HSG0720
	F3SG-4SR□0800-14	F3SG-4SR□0800-25	---	F39-HSG0800
	---	F3SG-4SR□0880-25	F3SG-4SR□0880-45	F39-HSG0880
	F3SG-4SR□0960-14-F	F3SG-4SR□0960-25	---	F39-HSG0960
	---	F3SG-4SR□1040-25	---	F39-HSG1040
	---	F3SG-4SR□1120-25	---	F39-HSG1120
	F3SG-4SR□1200-14	F3SG-4SR□1200-25	F3SG-4SR□1200-45	F39-HSG1200
	---	F3SG-4SR□1280-25	---	F39-HSG1280
	---	F3SG-4SR□1360-25	---	F39-HSG1360
	---	F3SG-4SR□1440-25	---	F39-HSG1440
	---	F3SG-4SR□1520-25	F3SG-4SR□1520-45	F39-HSG1520
	F3SG-4SR□1600-14	F3SG-4SR□1600-25	---	F39-HSG1600
	---	F3SG-4SR□1680-25	---	F39-HSG1680
	---	F3SG-4SR□1760-25	---	F39-HSG1760
	---	F3SG-4SR□1840-25	---	F39-HSG1840
	---	F3SG-4SR□1920-25	---	F39-HSG1920

(Operating range becomes 10% shorter than the rating)

Note: Two or more spatter protection covers can be attached to the safety light curtain with a protective height not listed above.

Test Rod *

Appearance	Diameter	Model
---	14 mm	F39-TRD14
	25 mm	F39-TRD25
	30 mm	F39-TRD30

* When you need a test rod larger than 30 mm in diameter, prepare it by yourself.

[illegible]

Ratings and Specifications

Safety Light Curtain/Safety Multi-Light Beam

F3SG-SR/PG Main Unit

□□□□ in the model number indicates the protective height or product length in millimeters.

Model			Safety Light Curtain				
			F3SG-□SRA□□□□-14 F3SG-□SRB□□□□-14	F3SG-□SRA□□□□-25 F3SG-□SRB□□□□-25	F3SG-□SRA□□□□-45 F3SG-□SRB□□□□-45	F3SG-□SRA□□□□-85 F3SG-□SRB□□□□-85	
Performance	Object resolution (Detection capability)		Opaque objects				
			14-mm dia.	25-mm dia.	45-mm dia.	85-mm dia.	
	Beam gap		10 mm	20 mm	40 mm	80 mm	
	Number of beams		15 to 199	8 to 124	6 to 38	4 to 12	
	Lens size		4.4 × 3.4 mm (W × H)		6.7 × 4.5 mm (W × H)		
	Protective height		160 to 2,000 mm		160 to 2,480 mm		
	Product length		---				
	Operating range	Long	0.3 to 10.0 m (Typ. 15.0 m) *		0.3 to 20.0 m (Typ. 30.0 m)		
		Short	0.3 to 3.0 m (Typ. 4.5 m) *		0.3 to 7.0 m (Typ. 10.5 m)		
	* When operating at an ambient temperature of -10 to -30 °C, use the F3SG-SR with the operating range of 0.3 to 5.0 m in Long Mode and 0.3 to 1.5 m in Short Mode.						
	Response time *1	Normal mode	ON to OFF	Optical synchronization: 8 to 18 ms Wired synchronization: 10 to 21 ms	Optical synchronization: 8 to 13 ms Wired synchronization: 10 to 17 ms	Optical synchronization: 8 ms Wired synchronization: 10 ms	
			OFF to ON	Optical synchronization: 40 to 90 ms Wired synchronization: 50 to 105 ms	Optical synchronization: 40 to 65 ms Wired synchronization: 50 to 85 ms	Optical synchronization: 40 ms Wired synchronization: 50 ms	
		×2 Slow mode *2	ON to OFF	Optical synchronization: 16 to 36 ms Wired synchronization: 20 to 42 ms	Optical synchronization: 16 to 26 ms Wired synchronization: 20 to 34 ms	Optical synchronization: 16 ms Wired synchronization: 20 ms	
			OFF to ON	Optical synchronization: 80 to 180 ms Wired synchronization: 100 to 210 ms	Optical synchronization: 80 to 130 ms Wired synchronization: 100 to 170 ms	Optical synchronization: 80 ms Wired synchronization: 100 ms	
		×4 Slow mode *2	ON to OFF	Optical synchronization: 32 to 72 ms Wired synchronization: 40 to 84 ms	Optical synchronization: 32 to 52 ms Wired synchronization: 40 to 68 ms	Optical synchronization: 32 ms Wired synchronization: 40 ms	
			OFF to ON	Optical synchronization: 160 to 360 ms Wired synchronization: 200 to 420 ms	Optical synchronization: 160 to 260 ms Wired synchronization: 200 to 340 ms	Optical synchronization: 160 ms Wired synchronization: 200 ms	
		×8 Slow mode *2	ON to OFF	Optical synchronization: 64 to 144 ms Wired synchronization: 80 to 168 ms	Optical synchronization: 64 to 104 ms Wired synchronization: 80 to 136 ms	Optical synchronization: 64 ms Wired synchronization: 80 ms	
			OFF to ON	Optical synchronization: 320 to 720 ms Wired synchronization: 400 to 840 ms	Optical synchronization: 320 to 520 ms Wired synchronization: 400 to 680 ms	Optical synchronization: 320 ms Wired synchronization: 400 ms	
		*1. Response time when used in one segment system. Refer to page 33. Refer to the User's Manual (Man. No. Z405) for cascaded connection.					
		*2. Selectable by SD Manager 3.					
		Effective aperture angle (EAA) (IEC 61496-2)			±2.5° max. * Emitter and receiver at operating range of 3 m or greater.		
		Light source			Infrared LEDs, Wavelength: 870 nm		
	Startup waiting time			3 s max.			

Safety Multi-Light Beam			Model	
F3SG-4PGA□□□□-□A	F3SG-4PGA□□□□-□L	F3SG-4PGA□□□□-□C		
Opaque objects			Object resolution (Detection capability)	
30-mm dia. * It is the minimum diameter of an object that can be detected on the any optical axes, and the definition of the term is different from that for the F3SG-SR. The minimum diameter that can be detected in any position of the product length is "detection capability (30 mm) + beam gap".				
F3SG-4PGA0670-2□: 500 mm F3SG-4PGA0970-3□: 400 mm F3SG-4PGA1070-4□: 300 mm F3SG-4PGA1370-4□: 400 mm		F3SG-4PGA0670-2C: 500 mm F3SG-4PGA1070-4C: 300 mm F3SG-4PGA1370-4C: 400 mm	Beam gap	
F3SG-4PGA0670-2□: 2 F3SG-4PGA0970-3□: 3 F3SG-4PGA1070-4□: 4 F3SG-4PGA1370-4□: 4		F3SG-4PGA0670-2C: 2 F3SG-4PGA1070-4C: 4 F3SG-4PGA1370-4C: 4	Number of beams	
8.1 × 12.8 mm (W × H)			Lens size	
---			Protective height	
670 mm/970 mm/1070 mm/1370 mm			Product length	
0.5 to 20.0 m (Typ. 30.0 m)	20.0 to 70.0 m (Typ. 110.0 m)	0.5 to 5.0 m (Typ. 8.0 m)	Long	Operating range
---	0.5 to 20.0 m (Typ. 30.0 m)	---	Short	
Optical synchronization: 8 ms Wired synchronization: 10 ms			ON to OFF	Normal mode
Optical synchronization: 40 ms Wired synchronization: 50 ms			OFF to ON	
Optical synchronization: 16 ms Wired synchronization: 20 ms			ON to OFF	*2 Slow mode *2
Optical synchronization: 80 ms Wired synchronization: 100 ms			OFF to ON	
Optical synchronization: 32 ms Wired synchronization: 40 ms			ON to OFF	*4 Slow mode *2
Optical synchronization: 160 ms Wired synchronization: 200 ms			OFF to ON	
Optical synchronization: 64 ms Wired synchronization: 80 ms			ON to OFF	*8 Slow mode *2
Optical synchronization: 320 ms Wired synchronization: 400 ms			OFF to ON	
* Selectable by SD Manager 3.				
±2.5° max. * Emitter, receiver, and Emitter/receiver at operating range of 3 m or greater. Passive mirror not applicable			Effective aperture angle (EAA) (IEC 61496-2)	
Infrared LEDs, Wavelength: 870 nm			Light source	
3 s max.			Startup waiting time	

Perfor
mance

Model			Safety Light Curtain			
			F3SG-□SRA□□□□-14 F3SG-□SRB□□□□-14	F3SG-□SRA□□□□-25 F3SG-□SRB□□□□-25	F3SG-□SRA□□□□-45 F3SG-□SRB□□□□-45	F3SG-□SRA□□□□-85 F3SG-□SRB□□□□-85
Electrical	Power supply voltage (Vs)		SELV/PELV 24 VDC ±20% (ripple p-p 10% max.)			
	Current consumption		 Refer to page 33.			
	Safety outputs (OSSD)		Two PNP or NPN transistor outputs (PNP or NPN is selectable by wiring of power supply.) Load current: 300 mA max., Residual voltage: 2 V max. (except for voltage drop due to cable extension), Capacitive load: 1 µF max., Inductive load: 2.2 H max. *1*2*3 Leakage current: 1 mA max.(PNP), 2 mA max. (NPN) *4 *1. For the F3SG-4SRA, the load current is 150 mA max. in 2-segment cascade and 80 mA max. in 3-segment cascade. *2. The residual voltage is 3 V max. when the Intelligent Tap is connected to the sensor. *3. The load inductance is the maximum value when the safety output frequently repeats ON and OFF. When you use the safety output at 4 Hz or less, the usable load inductance becomes larger. *4. These values must be taken into consideration when connecting elements including a capacitive load such as a capacitor.			
	Auxiliary output		Two PNP or NPN transistor 1 outputs (PNP or NPN is selectable by wiring of power supply.) Load current: 100 mA max., Residual voltage: 2 V max. * * The residual voltage is 3 V max. when the Intelligent Tap is connected to the sensor.			
	Output operation mode	Safety output	Light-ON (Safety outputs are turned to the ON state when the receiver receives an emitting signal.)			
		Auxiliary output	Safety output (Inverted signal output: Enable) (default) (Configurable by SD Manager 3)			
	Input voltage	TEST	Light emission stops when connected to 24 VDC ON voltage: Vs-3 V to Vs (short circuit current: approx. 5.0 mA) * OFF voltage: 0 V to 1/2 Vs, or open (short circuit current: approx. 6.0 mA) * Light emission stops when connected to 0 V ON voltage: 0 to 3 V (short circuit current: approx. 6.0 mA) OFF voltage: 1/2 Vs to Vs, or open (short circuit current: approx. 5.0 mA) *			
			OPERATING RANGE SELECT INPUT Long: 12 V to Vs (short circuit current: approx. 4.2 mA) * or open Short: 0 to 3 V (short circuit current: approx. 4.2 mA)			
		RESET/EDM	PNP ON voltage: Vs-3 V to Vs (short circuit current: approx. 9.5 mA) * OFF voltage: 0 V to 1/2 Vs, or open (short circuit current: approx. 13.0 mA) * NPN ON voltage: 0 to 3 V (short circuit current: approx. 13.0 mA) OFF voltage: 1/2 Vs to Vs, or open (short circuit current: approx. 9.5 mA) *			
			MUTE A/B, RE-RESET, PSDI PNP ON voltage: Vs-3 V to Vs (short circuit current: approx. 4.5 mA) * OFF voltage: 0 V to 1/2 Vs, or open (short circuit current: approx. 7.0mA) * NPN ON voltage: 0 to 3 V (short circuit current: approx. 7.0mA) OFF voltage: 1/2 Vs to Vs, or open (short circuit current: approx. 4.5mA) *			
			* The Vs indicates a supply voltage value in your environment.			
	Overvoltage category (IEC 60664-1)		II			
	Indicators		 Refer to page 96.			
	Protective circuit		Output short-circuit protection			
	Insulation resistance		20 M or higher (500 VDC megger)			
	Dielectric strength		1,000 VAC, 50/60 Hz (1 min)			
Functional	Mutual interference prevention		Optical synchronization by Scan Code: in up to 2 sets Wired synchronization: in up to 3 sets			
	Cascade connection		Number of cascaded segments: 3 max. Total number of beams: 255 max.			
	Test function		Self-test (at power-on, and during operation) External test (light emission stop function by test input)			
	Safety-related functions		Interlock External Device Monitoring (EDM) Pre-Reset PSDI Fixed Blanking/Floating Blanking Reduced Resolution Muting/Override Mutual Interference Prevention PNP/NPN Selection Response Time Adjustment			

Safety Multi-Light Beam				
F3SG-4PGA□□□□-□A	F3SG-4PGA□□□□-□L	F3SG-4PGA□□□□-□C	Model	
SELV/PELV 24 VDC ±20% (ripple p-p 10% max.)			Power supply voltage (Vs)	
 Refer to page 33.			Current consumption	
Two PNP or NPN transistor outputs (PNP or NPN is selectable by wiring of power supply.) Load current: 300 mA max., Residual voltage: 2 V max. (except for voltage drop due to cable extension), Capacitive load: 1 μF max., Inductive load: 2.2 H max. Leakage current: 1 mA max. (PNP), 2 mA max. (NPN) *1. The load current is 150 mA max. when the operating ambient temperature is between 45°C and 55°C. *2. The residual voltage is 3 V max. when the Intelligent Tap is connected to the sensor. *3. The load inductance is the maximum value when the safety output frequently repeats ON and OFF. When you use the safety output at 4 Hz or less, the usable load inductance becomes larger. *4. These values must be taken into consideration when connecting elements including a capacitive load such as a capacitor.			Safety outputs (OSSD)	
Two PNP or NPN transistor 1 outputs (PNP or NPN is selectable by wiring of power supply.) Load current: 100 mA max., Residual voltage: 2 V max. * * The residual voltage is 3 V max. when the Intelligent Tap is connected to the sensor.			Auxiliary output	
Light-ON (Safety outputs are turned to the ON state when the receiver receives an emitting signal.)			Safety output	Output operation mode
Safety output (Inverted signal output: Enable) (default) (Configurable by SD Manager 3)			Auxiliary output	
Light emission stops when connected to 24 VDC ON voltage: Vs-3 V to Vs (short circuit current: approx. 5.0 mA) * OFF voltage: 0 V to 1/2 Vs, or open (short circuit current: approx. 6.0mA) Light emission stops when connected to 0 V ON voltage: 0 to 3 V (short circuit current: approx. 6.0 mA) OFF voltage: 1/2 Vs to Vs, or open (short circuit current: approx. 5.0mA) *		---	TEST	Input voltage
---	Long: 12V to Vs (short circuit current: approx. 4.2 mA) * or open Short: 0 to 3V (short circuit current: approx. 4.2 mA)	---	OPERATING RANGE SELECT INPUT	
PNP	ON voltage: Vs-3 V to Vs (short circuit current: approx. 9.5 mA) * OFF voltage: 0 V to 1/2 Vs, or open (short circuit current: approx. 13.0 mA) *		RESET/EDM	
NPN	ON voltage: 0 to 3 V (short circuit current: approx. 13.0 mA) OFF voltage: 1/2 Vs to Vs, or open (short circuit current: approx. 9.5 mA) *			
PNP	ON voltage: Vs-3 V to Vs (short circuit current: approx. 4.5 mA) * OFF voltage: 0 V to 1/2 Vs, or open (short circuit current: approx. 7.0mA) *		MUTE A/B, RE-RESET, PSDI	
NPN	ON voltage: 0 to 3 V (short circuit current: approx. 7.0mA) OFF voltage: 1/2 Vs to Vs, or open (short circuit current: approx. 4.5mA) *			
* The Vs indicates a supply voltage value in your environment.				
II			Overvoltage category (IEC 60664-1)	
 Refer to page 96.			Indicators	
Output short-circuit protection			Protective circuit	
20 M or higher (500 VDC megger)			Insulation resistance	
1,000 VAC, 50/60 Hz (1 min)			Dielectric strength	
Optical synchronization by Scan Code: in up to 2 sets Wired synchronization: in up to 3 sets			Mutual interference prevention	
---			Cascade connection	
Self-test (at power-on, and during operation) External test (light emission stop function by test input)		Self-test (at power-on, and during operation)	Test function	
Interlock External Device Monitoring (EDM) Pre-Reset Muting/Override Mutual Interference Prevention PNP/NPN Selection Response Time Adjustment			Safety-related functions	
			Functional	

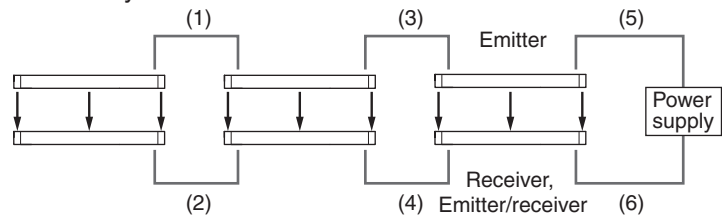
Model			Safety Light Curtain			
			F3SG-□SRA□□□□-14 F3SG-□SRB□□□□-14	F3SG-□SRA□□□□-25 F3SG-□SRB□□□□-25	F3SG-□SRA□□□□-45 F3SG-□SRB□□□□-45	F3SG-□SRA□□□□-85 F3SG-□SRB□□□□-85
Environmental	Ambient temperature	Operating	-30 to 55 °C (non-icing)			
		Storage	-30 to 70 °C			
	Ambient humidity	Operating	35% to 85% (non-condensing)			
		Storage	35% to 95%			
	Ambient illuminance		Incandescent lamp: 3,000 lx max. on receiver surface Sunlight: 10,000 lx max. on receiver surface			
	Degree of protection (IEC 60529)		IEC 60529: IP65 and IP67, JIS C 0920 Annex 1: IP67G			
	Vibration resistance (IEC 61496-1)		10 to 55 Hz, Multiple amplitude of 0.7 mm, 20 sweeps for all 3 axes			
	Shock resistance (IEC 61496-1)		100 m/s ² , 1000 shocks for all 3 axes			
Pollution degree (IEC 60664-1)		3				
Connections	Root cable	Type of connection	To sensors: dedicated connector, To external: M12 connector type (5-pin emitter and 8-pin receiver) or open-ended type IP67 and IP67G (JIS C 0920 Annex 1) * rated when mated. * The F3SG-SR meets the degree of protection when the root cable is correctly connected with the F3SG-SR. The degree of protection is not satisfied with the part where cable wires are uncovered.			
		Number of wires	Emitter: 5, Receiver: 8			
		Cable length	 Refer to page 12.			
		Cable diameter	6 mm			
		Minimum bending radius	R5 mm			
	Cascading cable	Type of connection	To sensors: dedicated connector, To cascading sensors: M12 connector type (5-pin emitter and 8-pin receiver) or dedicated connector IP67 and IP67G (JIS C 0920 Annex 1) * rated when mated. * The F3SG-SR meets the degree of protection when the cascading cable is correctly connected with the F3SG-SR and the root cable. The degree of protection is not satisfied with the part where cable wires are uncovered.			
		Number of wires	Emitter: 5, Receiver: 8			
		Cable length	 Refer to page 14.			
		Cable diameter	6 mm			
		Minimum bending radius	R5 mm			
	Extension cable - Extended Socket-Straight Cable - Extended Plug-Socket Cable	Type of connection	M12 connector type (5-pin emitter and 8-pin receiver), IP67 * rated when mated * The extension cable meets the degree of protection when the root cable is correctly connected with the extension cable. The degree of protection is not satisfied with the part where cable wires are uncovered.			
		Number of wires	Emitter: 5, Receiver: 8			
		Cable length	 Refer to page 13.			
		Cable diameter	6.6 mm			
		Minimum bending radius	R36 mm			
	Cable extension	 Refer to page 30 for restrictions on cable extension.				
		Root cable	In optical synchronization: 100 m max. * between power supply and emitter and between power supply and receiver In wired synchronization: 100 m max. * between power supply and emitter, between power supply and receiver, and between emitter and receiver * When the Intelligent Tap (F39-SGIT-IL3) is connected to the sensor, this applies in the case of the rated power supply of 24 VDC to 24 VDC +20%.			
		Cascade connection	Extension cable between sensors: 10 m max. (not including Cascading Cable for Extended *1 and Root Cable *2.) *1. F39-JGR3W *2. F39-JGR3K			
Material			Housing: Aluminum alloy Cap: PBT resin Front window: Acrylic resin FE plate: Stainless steel			
Weight			 Refer to page 30.			
Included accessories			Instruction Sheet, Quick Installation Manual, Troubleshooting Guide Sticker, Warning Zone Label End Cap (for switching Scan Code Selection function)			
Conformity	Conforming standards		 Refer to page 110.			
	Type of ESPE (IEC 61496-1)		Type 4			
	Performance Level (PL)/ Safety category		PL e/Category 4 (EN ISO 13849-1:2015)			
	PFH _D		1.1×10 ⁻⁸ max. (IEC 61508)			
	Proof test interval T _M		Every 20 years (IEC 61508)			
	SFF		99% (IEC 61508)			
	HFT		1 (IEC 61508)			
	Classification		Type B (IEC 61508-2)			

Safety Multi-Light Beam			Model		
F3SG-4PGA□□□□-□A	F3SG-4PGA□□□□-□L	F3SG-4PGA□□□□-□C			
-30 to 55 °C (non-icing)			Operating	Ambient temperature	Environmental
-30 to 70 °C			Storage		
35% to 85% (non-condensing)			Operating	Ambient humidity	
35% to 95%			Storage		
Incandescent lamp: 3,000 lx max. on receiver surface Sunlight: 10,000 lx max. on receiver surface			Ambient illuminance		
IEC 60529: IP65 and IP67			Degree of protection (IEC 60529)		
10 to 55 Hz, Multiple amplitude of 0.7 mm, 20 sweeps for all 3 axes			Vibration resistance (IEC 61496-1)		
100 m/s ² , 1000 shocks for all 3 axes			Shock resistance (IEC 61496-1)		
3			Pollution degree (IEC 60664-1)		
To sensors: dedicated connector, To external: M12 connector type (5-pin emitter and 8-pin receiver) or open-ended type IP67 and IP67G (JIS C 0920 Annex 1) * rated when mated. * The F3SG-SR meets the degree of protection when the root cable is correctly connected with the F3SG-SR. The degree of protection is not satisfied with the part where cable wires are uncovered.			Type of connection	Root cable	
Emitter: 5, Receiver: 8, Emitter/receiver: 8			Number of wires		
 Refer to page 12.			Cable length		
6 mm			Cable diameter		
R5 mm			Minimum bending radius		
---			Type of connection	Cascading cable	Connections
---			Number of wires		
---			Cable length		
---			Cable diameter		
---			Minimum bending radius		
M12 connector type (5-pin emitter and 8-pin receiver), IP67 * rated when mated * The extension cable meets the degree of protection when the root cable is correctly connected with the extension cable. The degree of protection is not satisfied with the part where cable wires are uncovered.			Type of connection	Extension cable - Extended Socket-Straight Cable - Extended Plug-Socket Cable	
Emitter: 5, Receiver: 8, Emitter/receiver: 8			Number of wires		
 Refer to page 13.			Cable length		
6.6 mm			Cable diameter		
R36 mm			Minimum bending radius		
 Refer to page 30 for restrictions on cable extension.					
In optical synchronization: 100 m max. * between power supply and emitter and between power supply and receiver In wired synchronization: 100 m max. * between power supply and emitter, between power supply and receiver, and between emitter and receiver * When the Intelligent Tap (F39-SGIT-IL3) is connected to the sensor, this applies in the case of the rated power supply of 24 VDC to 24 VDC +20%.			Root cable	Cable extension	
---			Cascade connection		
Housing: Aluminum alloy Cap: PBT resin Front window: Acrylic resin FE plate: Stainless steel			Material		
 Refer to page 30.			Weight		
Instruction Sheet, Quick Installation Manual, Troubleshooting Guide Sticker, End Cap (for switching Scan Code Selection function)			Included accessories		
 Refer to page 110.			Conforming standards		Conformity
Type 4			Type of ESPE (IEC 61496-1)		
PL e/Category 4 (EN ISO 13849-1:2015)			Performance Level (PL)/ Safety category		
1.1×10 ⁻⁸ max. (IEC 61508)			PFH _d		
Every 20 years (IEC 61508)			Proof test interval T _M		
99% (IEC 61508)			SFF		
1 (IEC 61508)			HFT		
Type B (IEC 61508-2)			Classification		

Restrictions on cable extension

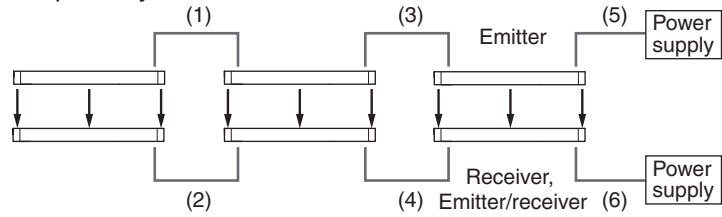
For the cable extension of the F3SG-SR/PG, refer to the following diagrams. For the cable extension of the F3SG-SR/PG with the Intelligent Tap, refer to *User's Manual* (Man. No. Z405).

- Wired synchronization



Maximum extension length
(1) to (4): 10 m each *
(5) to (6): 100 m

- Optical synchronization



Maximum extension length
(1) to (4): 10 m each *
(5) to (6): 100 m each

* Not including the F39-JGR3W Cascading Cable for Extended and F39-JGR3K Root-Plug Cable for Extended.
Cascade connection is not available for the F3SG-PG and F3SG-SR-K Series.

Intelligent Tap F39-SGIT-IL3

Model		F39-SGIT-IL3
Applicable sensor		F3SG-SR/PG
Performance	Response time	Output ON to OFF and OFF to ON: 44 ms max. each * * The response time is the time interval between the changes of the states of the sensor OSSD's and the DO (pin 2).
	Startup waiting time	3 s max.
Electrical	Power supply voltage (Vs)	Supplied from external power source: SELV/PELV 24 VDC±20% (ripple p-p 10% max.) USB bus powered: 5 VDC
	Current consumption	85 mA max. (When connecting 24 VDC power supply and IO-Link Master)
	Safety outputs (OSSD) /Auxiliary output	Refer to the ratings and specifications of the F3SG-SR/PG. The safety outputs and auxiliary output of the Intelligent Tap are directly connected to those of the F3SG-SR/PG.
	Digital output for pin 2 (IO-Link) *	One PNP transistor output Load current: 100 mA max., Residual voltage: 2 V max., Leakage current: 1 mA max. The DO is in the OFF state when the safety outputs are in the ON state. The DO is in the ON state when the safety outputs are in the OFF state. (Regardless of the PNP/NPN setting of the F3SG-SR)
	* For the DO (pin 2) of CN3	
	Input voltage	PNP ON voltage: Vs-3 V to Vs (short circuit current: approx. 9.5 mA) *2 OFF voltage: 0 V to 1/2 Vs, or open (short circuit current: approx. 13.0 mA) *2 NPN ON voltage: 0 to 3 V (short circuit current: approx. 13.0 mA) OFF voltage: 1/2 Vs to Vs, or open (short circuit current: approx. 9.5 mA) *2
		PNP ON voltage: Vs-3 V to Vs (short circuit current: approx. 4.5 mA) *2 OFF voltage: 0 V to 1/2 Vs, or open (short circuit current: approx. 7.0 mA) *2 NPN ON voltage: 0 to 3 V (short circuit current: approx. 7.0 mA) OFF voltage: 1/2 Vs to Vs, or open (short circuit current: approx. 4.5 mA) *2
		*1. PSDI is only available for F3SG-SR. *2. The Vs indicates a supply voltage value in your environment.
	Overvoltage category (IEC 60664-1)	II
	Protective circuit	Output short-circuit protection, Output reverse polarity protection
	Insulation resistance	20 MΩ or higher (500 VDC megger)
	Dielectric strength	1,000 VAC, 50/60 Hz (1 min)
Functional	Maintenance Information	Error Log Power-ON Time
Environmental	Ambient temperature	Operating -30 to 55 °C (non-icing)
		Storage -30 to 70 °C
	Ambient humidity	Operating 35% to 85% (non-condensing)
		Storage 35% to 85%
	Degree of protection (IEC 60529)	IP65, IP67 and IP67G (Covers and cables connected with the Intelligent Tap.)
	Vibration resistance (IEC 61496-1)	10 to 55 Hz, Multiple amplitude of 0.7 mm, 20 sweeps for all 3 axes
	Shock resistance (IEC 61496-1)	100 m/s ² , 1000 shocks for all 3 axes
Connections	Pollution degree (IEC 60664-1)	3
	To sensors, control box and IO-Link	M12 connectors: 8-pin (CN1: receiver and CN2: control box) and 5-pin (CN3: IO-Link and CN4: emitter), IP67 and IP67G (JIS C 0920 Annex 1) * rated when mated. * The F3SG-SR meets the degree of protection when the root cable of the F3SG-SR is correctly connected with the F3SG-SR.
	Connection	USB Type-C
	Cable extension	20 m max. between IO-Link Master and Intelligent Tap, 4 m max.* between PC and Intelligent Tap via USB cable * It is not guaranteed that the Intelligent Tap is connectable to any PC or USB cable. Verify the connection with the USB cable you use.
IO-Link communications	IO-Link version	Version 1.1
	Baud rate	COM3: 230.4 kbps
	Data length	PD: 4 bytes, OD: 32 bytes (M-sequence type: TYPE_2_V)
	Minimum cycle time	22 ms
Material		PBT resin
Weight		F39-SGIT-IL3: 180 g (when packaged), F39-LITF1: 50 g (when packaged)
Included accessories		Instruction Sheet and M12 Connector Cover (2 pcs)

F3SG-SR/PG

F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

Bluetooth® Communication Unit F39-SGBT

Model	F39-SGBT
Applicable sensor	F3SG-SR/PG
Power supply voltage (Vs)	24 VDC $\pm$ 20%, ripple p-p 10% max. (shares power supply of Intelligent Tap)
Current consumption	30 mA max. (shares power supply of Intelligent Tap)
Ambient temperature	Operating: -30 to 55 °C (non-icing) Storage: -30 to 70 °C
Ambient humidity	Operating: 35% to 85% (non-condensing) Storage: 35% to 85%
Degree of protection	IP65, IP67 and IP67G (rated when connected to Intelligent Tap)
Vibration resistance	10 to 55 Hz, Multiple amplitude of 0.7 mm, 20 sweeps for all 3 axes
Shock resistance	100m/s ² , 1000 shocks for all 3 axes
Type of connection	To be connected to Intelligent Tap
Communication system	Bluetooth® Version 3.0
Communication profile	SPP (Serial Port Profile)
Transmission distance	Approx. 10 m max. (Output power: Class 2) *
Material	PBT resin
Weight	70 g (when packaged)

* It depends on use environment conditions.

Models/Response Time/Current Consumption/Weight

F3SG-SR

Finger protection (Detection capability: 14-mm dia.)

Models and Response Times

Model		Number of beams	Protective height [mm]	Response time (Optical synchronization) [ms]			Response time (Wired synchronization) [ms]	
				ON to OFF	OFF (synchronized) to ON	OFF (not synchronized) to ON	ON to OFF	OFF to ON
F3SG-4SR□0160-14	F3SG-2SRB0160-14	15	160	8	40	140	10	50
F3SG-4SR□0200-14-F	---	19	200	8	40	140	10	50
F3SG-4SR□0240-14	F3SG-2SRB0240-14	23	240	8	40	140	10	50
F3SG-4SR□0280-14-F	---	27	280	8	40	140	10	50
F3SG-4SR□0320-14	F3SG-2SRB0320-14	31	320	8	40	140	10	50
F3SG-4SR□0360-14-F	---	35	360	8	40	140	10	50
F3SG-4SR□0400-14	F3SG-2SRB0400-14	39	400	8	40	140	10	50
F3SG-4SR□0440-14-F	---	43	440	13	65	165	17	85
F3SG-4SR□0480-14	F3SG-2SRB0480-14	47	480	13	65	165	17	85
F3SG-4SR□0520-14-F	---	51	520	13	65	165	17	85
F3SG-4SR□0560-14	F3SG-2SRB0560-14	55	560	13	65	165	17	85
F3SG-4SR□0600-14-F	---	59	600	13	65	165	17	85
F3SG-4SR□0640-14	F3SG-2SRB0640-14	63	640	13	65	165	17	85
F3SG-4SR□0680-14-F	---	67	680	13	65	165	17	85
F3SG-4SR□0720-14-F	---	71	720	13	65	165	17	85
F3SG-4SR□0760-14-F	---	75	760	13	65	165	17	85
F3SG-4SR□0800-14	F3SG-2SRB0800-14	79	800	13	65	165	17	85
F3SG-4SR□0840-14-F	---	83	840	13	65	165	17	85
F3SG-4SR□0880-14-F	---	87	880	13	65	165	17	85
F3SG-4SR□0920-14-F	---	91	920	13	65	165	17	85
F3SG-4SR□0960-14-F	---	95	960	13	65	165	17	85
F3SG-4SR□1000-14	F3SG-2SRB1000-14	99	1000	13	65	165	17	85
F3SG-4SR□1200-14	F3SG-2SRB1200-14	119	1200	13	65	165	17	85
F3SG-4SR□1400-14	F3SG-2SRB1400-14	139	1400	13	65	165	17	85
F3SG-4SR□1600-14	F3SG-2SRB1600-14	159	1600	18	90	190	21	105
F3SG-4SR□1800-14	F3SG-2SRB1800-14	179	1800	18	90	190	21	105
F3SG-4SR□2000-14	F3SG-2SRB2000-14	199	2000	18	90	190	21	105

Note: 1. The maximum speed of movement of a test rod up to which the detection capability is maintained is 2.0 m/s.

2. The response times of "Optical synchronization" are values when Scan Code is set at Code B. The response times for Code A are 1 ms shorter than these values.

Models, Current Consumption and Weight

Model	Number of beams	Protective height [mm]	Current consumption [mA]		Weight [kg]	
			Emitter	Receiver	Net	Gross
F3SG-4SRA0160-14	15	160	68	106	0.4	0.8
F3SG-□SRB0160-14	15	160	69	97	0.4	0.8
F3SG-4SRA0200-14-F	19	200	71	108	0.5	0.9
F3SG-4SRB0200-14-F	19	200	70	97	0.5	0.9
F3SG-4SRA0240-14	23	240	74	111	0.6	1
F3SG-□SRB0240-14	23	240	71	98	0.6	1
F3SG-4SRA0280-14-F	27	280	77	114	0.7	1.1
F3SG-4SRB0280-14-F	27	280	73	99	0.7	1.1
F3SG-4SRA0320-14	31	320	81	117	0.8	1.2
F3SG-□SRB0320-14	31	320	74	100	0.8	1.2
F3SG-4SRA0360-14-F	35	360	84	119	0.9	1.4
F3SG-4SRB0360-14-F	35	360	75	100	0.9	1.4
F3SG-4SRA0400-14	39	400	87	122	1	1.5
F3SG-□SRB0400-14	39	400	77	101	1	1.5
F3SG-4SRA0440-14-F	43	440	90	125	1.1	1.6
F3SG-4SRB0440-14-F	43	440	78	102	1.1	1.6
F3SG-4SRA0480-14	47	480	93	128	1.2	1.7
F3SG-□SRB0480-14	47	480	79	103	1.2	1.7
F3SG-4SRA0520-14-F	51	520	96	131	1.3	1.8
F3SG-4SRB0520-14-F	51	520	81	103	1.3	1.8
F3SG-4SRA0560-14	55	560	99	133	1.4	1.9
F3SG-□SRB0560-14	55	560	82	104	1.4	1.9
F3SG-4SRA0600-14-F	59	600	103	136	1.5	2.1
F3SG-4SRB0600-14-F	59	600	83	105	1.5	2.1
F3SG-4SRA0640-14	63	640	106	139	1.6	2.2
F3SG-□SRB0640-14	63	640	85	106	1.6	2.2
F3SG-4SRA0680-14-F	67	680	109	142	1.7	2.3
F3SG-4SRB0680-14-F	67	680	86	106	1.7	2.3
F3SG-4SRA0720-14-F	71	720	112	144	1.8	2.4
F3SG-4SRB0720-14-F	71	720	87	107	1.8	2.4
F3SG-4SRA0760-14-F	75	760	115	147	1.9	2.5
F3SG-4SRB0760-14-F	75	760	89	108	1.9	2.5
F3SG-4SRA0800-14	79	800	118	150	2	2.6
F3SG-□SRB0800-14	79	800	90	109	2	2.6
F3SG-4SRA0840-14-F	83	840	121	153	2.1	2.7
F3SG-4SRB0840-14-F	83	840	91	109	2.1	2.7
F3SG-4SRA0880-14-F	87	880	124	155	2.2	2.8
F3SG-4SRB0880-14-F	87	880	93	110	2.2	2.8
F3SG-4SRA0920-14-F	91	920	128	158	2.3	3
F3SG-4SRB0920-14-F	91	920	94	111	2.3	3
F3SG-4SRA0960-14-F	95	960	131	161	2.4	3.1
F3SG-4SRB0960-14-F	95	960	95	112	2.4	3.1
F3SG-4SRA1000-14	99	1000	134	164	2.5	3.2
F3SG-□SRB1000-14	99	1000	97	112	2.5	3.2
F3SG-4SRA1200-14	119	1200	150	178	3.1	3.8
F3SG-□SRB1200-14	119	1200	103	116	3.1	3.8
F3SG-4SRA1400-14	139	1400	165	191	3.6	4.3
F3SG-□SRB1400-14	139	1400	110	120	3.6	4.3
F3SG-4SRA1600-14	159	1600	181	205	4.1	4.9
F3SG-□SRB1600-14	159	1600	117	124	4.1	4.9
F3SG-4SRA1800-14	179	1800	197	219	4.6	5.5
F3SG-□SRB1800-14	179	1800	124	128	4.6	5.5
F3SG-4SRA2000-14	199	2000	212	233	5.1	6.1
F3SG-□SRB2000-14	199	2000	130	131	5.1	6.1

Note: 1. The net weight is the weight of an emitter and a receiver per set.
2. The gross weight is the weight of an emitter, a receiver, included accessories and a package.

Hand protection (Detection capability: 25-mm dia.)

Models and Response Times

Model		Number of beams	Protective height [mm]	Response time (Optical synchronization) [ms]			Response time (Wired synchronization) [ms]	
				ON to OFF	OFF (synchronized) to ON	OFF (not synchronized) to ON	ON to OFF	OFF to ON
F3SG-4SR□0160-25	F3SG-2SRB0160-25	8	160	8	40	140	10	50
F3SG-4SR□0200-25-F	---	10	200	8	40	140	10	50
F3SG-4SR□0240-25	F3SG-2SRB0240-25	12	240	8	40	140	10	50
F3SG-4SR□0280-25-F	---	14	280	8	40	140	10	50
F3SG-4SR□0320-25	F3SG-2SRB0320-25	16	320	8	40	140	10	50
F3SG-4SR□0360-25-F	---	18	360	8	40	140	10	50
F3SG-4SR□0400-25	F3SG-2SRB0400-25	20	400	8	40	140	10	50
F3SG-4SR□0440-25-F	---	22	440	8	40	140	10	50
F3SG-4SR□0480-25	F3SG-2SRB0480-25	24	480	8	40	140	10	50
F3SG-4SR□0520-25-F	---	26	520	8	40	140	10	50
F3SG-4SR□0560-25	F3SG-2SRB0560-25	28	560	8	40	140	10	50
F3SG-4SR□0600-25-F	---	30	600	8	40	140	10	50
F3SG-4SR□0640-25	F3SG-2SRB0640-25	32	640	8	40	140	10	50
F3SG-4SR□0680-25-F	---	34	680	8	40	140	10	50
F3SG-4SR□0720-25	F3SG-2SRB0720-25	36	720	8	40	140	10	50
F3SG-4SR□0760-25-F	---	38	760	8	40	140	10	50
F3SG-4SR□0800-25	F3SG-2SRB0800-25	40	800	8	40	140	10	50
F3SG-4SR□0840-25-F	---	42	840	13	65	165	17	85
F3SG-4SR□0880-25	F3SG-2SRB0880-25	44	880	13	65	165	17	85
F3SG-4SR□0920-25-F	---	46	920	13	65	165	17	85
F3SG-4SR□0960-25	F3SG-2SRB0960-25	48	960	13	65	165	17	85
F3SG-4SR□1000-25-F	---	50	1000	13	65	165	17	85
F3SG-4SR□1040-25	F3SG-2SRB1040-25	52	1040	13	65	165	17	85
F3SG-4SR□1120-25	F3SG-2SRB1120-25	56	1120	13	65	165	17	85
F3SG-4SR□1200-25	F3SG-2SRB1200-25	60	1200	13	65	165	17	85
F3SG-4SR□1280-25	F3SG-2SRB1280-25	64	1280	13	65	165	17	85
F3SG-4SR□1360-25	F3SG-2SRB1360-25	68	1360	13	65	165	17	85
F3SG-4SR□1440-25	F3SG-2SRB1440-25	72	1440	13	65	165	17	85
F3SG-4SR□1520-25	F3SG-2SRB1520-25	76	1520	13	65	165	17	85
F3SG-4SR□1600-25	F3SG-2SRB1600-25	80	1600	13	65	165	17	85
F3SG-4SR□1680-25	F3SG-2SRB1680-25	84	1680	13	65	165	17	85
F3SG-4SR□1760-25	F3SG-2SRB1760-25	88	1760	13	65	165	17	85
F3SG-4SR□1840-25	F3SG-2SRB1840-25	92	1840	13	65	165	17	85
F3SG-4SR□1920-25	F3SG-2SRB1920-25	96	1920	13	65	165	17	85
F3SG-4SR□2080-25	F3SG-2SRB2080-25	104	2080	13	65	165	17	85
F3SG-4SR□2280-25	F3SG-2SRB2280-25	114	2280	13	65	165	17	85
F3SG-4SR□2480-25	F3SG-2SRB2480-25	124	2480	13	65	165	17	85

Note: 1. The maximum speed of movement of a test rod up to which the detection capability is maintained is 2.0 m/s.

2. The response times of "Optical synchronization" are values when Scan Code is set at Code B. The response times for Code A are 1 ms shorter than these values.

F3SG-SR/PG

F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

Models, Current Consumption and Weight

Model	Number of beams	Protective height [mm]	Current consumption [mA]		Weight [kg]	
			Emitter	Receiver	Net	Gross
F3SG-4SRA0160-25	8	160	63	105	0.4	0.8
F3SG-□SRB0160-25	8	160	61	96	0.4	0.8
F3SG-4SRA0200-25-F	10	200	65	108	0.5	0.9
F3SG-4SRB0200-25-F	10	200	62	96	0.5	0.9
F3SG-4SRA0240-25	12	240	68	110	0.6	1
F3SG-□SRB0240-25	12	240	63	97	0.6	1
F3SG-4SRA0280-25-F	14	280	71	112	0.7	1.1
F3SG-4SRB0280-25-F	14	280	64	97	0.7	1.1
F3SG-4SRA0320-25	16	320	74	115	0.8	1.2
F3SG-□SRB0320-25	16	320	65	97	0.8	1.2
F3SG-4SRA0360-25-F	18	360	76	117	0.9	1.4
F3SG-4SRB0360-25-F	18	360	65	98	0.9	1.4
F3SG-4SRA0400-25	20	400	79	119	1	1.5
F3SG-□SRB0400-25	20	400	66	98	1	1.5
F3SG-4SRA0440-25-F	22	440	82	121	1.1	1.6
F3SG-4SRB0440-25-F	22	440	67	98	1.1	1.6
F3SG-4SRA0480-25	24	480	84	124	1.2	1.7
F3SG-□SRB0480-25	24	480	68	99	1.2	1.7
F3SG-4SRA0520-25-F	26	520	87	126	1.3	1.8
F3SG-4SRB0520-25-F	26	520	69	99	1.3	1.8
F3SG-4SRA0560-25	28	560	90	128	1.4	1.9
F3SG-□SRB0560-25	28	560	70	99	1.4	1.9
F3SG-4SRA0600-25-F	30	600	92	131	1.5	2.1
F3SG-4SRB0600-25-F	30	600	71	100	1.5	2.1
F3SG-4SRA0640-25	32	640	95	133	1.6	2.2
F3SG-□SRB0640-25	32	640	72	100	1.6	2.2
F3SG-4SRA0680-25-F	34	680	98	135	1.7	2.3
F3SG-4SRB0680-25-F	34	680	73	100	1.7	2.3
F3SG-4SRA0720-25	36	720	100	137	1.8	2.4
F3SG-□SRB0720-25	36	720	74	101	1.8	2.4
F3SG-4SRA0760-25-F	38	760	103	140	1.9	2.5
F3SG-4SRB0760-25-F	38	760	75	101	1.9	2.5
F3SG-4SRA0800-25	40	800	106	142	2	2.6
F3SG-□SRB0800-25	40	800	76	101	2	2.6
F3SG-4SRA0840-25-F	42	840	109	144	2.1	2.7
F3SG-4SRB0840-25-F	42	840	77	101	2.1	2.7
F3SG-4SRA0880-25	44	880	111	147	2.2	2.8
F3SG-□SRB0880-25	44	880	78	102	2.2	2.8
F3SG-4SRA0920-25-F	46	920	114	149	2.3	3
F3SG-4SRB0920-25-F	46	920	79	102	2.3	3
F3SG-4SRA0960-25	48	960	117	151	2.4	3.1
F3SG-□SRB0960-25	48	960	80	102	2.4	3.1
F3SG-4SRA1000-25-F	50	1000	119	154	2.5	3.2
F3SG-4SRB1000-25-F	50	1000	81	103	2.5	3.2
F3SG-4SRA1040-25	52	1040	122	156	2.6	3.3
F3SG-□SRB1040-25	52	1040	82	103	2.6	3.3
F3SG-4SRA1120-25	56	1120	127	160	2.9	3.5
F3SG-□SRB1120-25	56	1120	84	104	2.9	3.5
F3SG-4SRA1200-25	60	1200	133	165	3.1	3.8
F3SG-□SRB1200-25	60	1200	86	104	3.1	3.8
F3SG-4SRA1280-25	64	1280	138	170	3.3	4
F3SG-□SRB1280-25	64	1280	88	105	3.3	4
F3SG-4SRA1360-25	68	1360	144	174	3.5	4.2
F3SG-□SRB1360-25	68	1360	90	106	3.5	4.2

Model	Number of beams	Protective height [mm]	Current consumption [mA]		Weight [kg]	
			Emitter	Receiver	Net	Gross
F3SG-4SRA1440-25	72	1440	149	179	3.7	4.4
F3SG-□SRB1440-25	72	1440	92	106	3.7	4.4
F3SG-4SRA1520-25	76	1520	154	183	3.9	4.7
F3SG-□SRB1520-25	76	1520	93	107	3.9	4.7
F3SG-4SRA1600-25	80	1600	160	188	4.1	4.9
F3SG-□SRB1600-25	80	1600	95	107	4.1	4.9
F3SG-4SRA1680-25	84	1680	165	192	4.3	5.2
F3SG-□SRB1680-25	84	1680	97	108	4.3	5.2
F3SG-4SRA1760-25	88	1760	170	197	4.5	5.4
F3SG-□SRB1760-25	88	1760	99	109	4.5	5.4
F3SG-4SRA1840-25	92	1840	176	202	4.7	5.6
F3SG-□SRB1840-25	92	1840	101	109	4.7	5.6
F3SG-4SRA1920-25	96	1920	181	206	4.9	5.8
F3SG-□SRB1920-25	96	1920	103	110	4.9	5.8
F3SG-4SRA2080-25	104	2080	192	215	5.3	6.3
F3SG-□SRB2080-25	104	2080	107	111	5.3	6.3
F3SG-4SRA2280-25	114	2280	205	227	5.8	6.9
F3SG-□SRB2280-25	114	2280	112	113	5.8	6.9
F3SG-4SRA2480-25	124	2480	219	238	6.3	7.4
F3SG-□SRB2480-25	124	2480	117	114	6.3	7.4

Note: 1. The net weight is the weight of an emitter and a receiver per set.

2. The gross weight is the weight of an emitter, a receiver, included accessories and a package.

Arm/leg protection (Detection capability: 45-mm dia.)

Models and Response Times

Model		Number of beams	Protective height [mm]	Response time (Optical synchronization) [ms]			Response time (Wired synchronization) [ms]	
				ON to OFF	OFF (synchronized) to ON	OFF (not synchronized) to ON	ON to OFF	OFF to ON
F3SG-4SR□0240-45	F3SG-2SRB0240-45	6	240	8	40	140	10	50
F3SG-4SR□0400-45	F3SG-2SRB0400-45	10	400	8	40	140	10	50
F3SG-4SR□0560-45	F3SG-2SRB0560-45	14	560	8	40	140	10	50
F3SG-4SR□0720-45	F3SG-2SRB0720-45	18	720	8	40	140	10	50
F3SG-4SR□0880-45	F3SG-2SRB0880-45	22	880	8	40	140	10	50
F3SG-4SR□1200-45	F3SG-2SRB1200-45	30	1200	8	40	140	10	50
F3SG-4SR□1520-45	F3SG-2SRB1520-45	38	1520	8	40	140	10	50

Note: 1. The maximum speed of movement of a test rod up to which the detection capability is maintained is 2.0 m/s.

2. The response times of "Optical synchronization" are values when Scan Code is set at Code B. The response times for Code A are 1 ms shorter than these values.

Models, Current Consumption and Weight

Model	Number of beams	Protective height [mm]	Current consumption [mA]		Weight [kg]	
			Emitter	Receiver	Net	Gross
F3SG-4SRA0240-45	6	240	60	107	0.6	1.0
F3SG-□SRB0240-45	6	240	52	95	0.6	1.0
F3SG-4SRA0400-45	10	400	71	116	1	1.5
F3SG-□SRB0400-45	10	400	56	95	1	1.5
F3SG-4SRA0560-45	14	560	82	124	1.4	1.9
F3SG-□SRB0560-45	14	560	60	96	1.4	1.9
F3SG-4SRA0720-45	18	720	93	133	1.8	2.4
F3SG-□SRB0720-45	18	720	64	96	1.8	2.4
F3SG-4SRA0880-45	22	880	104	141	2.2	2.8
F3SG-□SRB0880-45	22	880	68	97	2.2	2.8
F3SG-4SRA1200-45	30	1200	125	158	3.1	3.8
F3SG-□SRB1200-45	30	1200	75	98	3.1	3.8
F3SG-4SRA1520-45	38	1520	147	175	3.9	4.7
F3SG-□SRB1520-45	38	1520	83	99	3.9	4.7

Note: 1. The net weight is the weight of an emitter and a receiver per set.

2. The gross weight is the weight of an emitter, a receiver, included accessories and a package.

Body protection (Detection capability: 85-mm dia.)

Models and Response Times

Model		Number of beams	Protective height [mm]	Response time (Optical synchronization) [ms]			Response time (Wired synchronization) [ms]	
				ON to OFF	OFF (synchronized) to ON	OFF (not synchronized) to ON	ON to OFF	OFF to ON
F3SG-4SR□0280-85	F3SG-2SRB0280-85	4	280	8	40	140	10	50
F3SG-4SR□0440-85	F3SG-2SRB0440-85	6	440	8	40	140	10	50
F3SG-4SR□0600-85	F3SG-2SRB0600-85	8	600	8	40	140	10	50
F3SG-4SR□0760-85	F3SG-2SRB0760-85	10	760	8	40	140	10	50
F3SG-4SR□0920-85	F3SG-2SRB0920-85	12	920	8	40	140	10	50

Note: 1. The maximum speed of movement of a test rod up to which the detection capability is maintained is 2.0 m/s.

2. The response times of "Optical synchronization" are values when Scan Code is set at Code B. The response times for Code A are 1 ms shorter than these values.

Models, Current Consumption and Weight

Model	Number of beams	Protective height [mm]	Current consumption [mA]		Weight [kg]	
			Emitter	Receiver	Net	Gross
F3SG-4SRA0280-85	4	280	63	111	0.7	1.1
F3SG-□SRB0280-85	4	280	50	95	0.7	1.1
F3SG-4SRA0440-85	6	440	72	120	1.1	1.6
F3SG-□SRB0440-85	6	440	52	95	1.1	1.6
F3SG-4SRA0600-85	8	600	81	128	1.5	2.1
F3SG-□SRB0600-85	8	600	54	96	1.5	2.1
F3SG-4SRA0760-85	10	760	91	136	1.9	2.5
F3SG-□SRB0760-85	10	760	56	96	1.9	2.5
F3SG-4SRA0920-85	12	920	100	145	2.3	3.0
F3SG-□SRB0920-85	12	920	58	96	2.3	3.0

Note: 1. The net weight is the weight of an emitter and a receiver per set.

2. The gross weight is the weight of an emitter, a receiver, included accessories and a package.

F3SG-PG

Perimeter access guarding (Operating range: 20 m)

Models and Response Times

Model	Number of beams	Beam gap [mm]	Response time (Optical synchronization) [ms]			Response time (Wired synchronization) [ms]	
			ON to OFF	OFF (synchronized) to ON	OFF (not synchronized) to ON	ON to OFF	OFF to ON
F3SG-4PGA0670-2A	2	500	8	40	140	10	50
F3SG-4PGA0970-3A	3	400	8	40	140	10	50
F3SG-4PGA1070-4A	4	300	8	40	140	10	50
F3SG-4PGA1370-4A	4	400	8	40	140	10	50

Models, Current Consumption and Weight

Model	Number of beams	Beam gap [mm]	Current consumption [mA]		Weight [kg]	
			Emitter	Receiver	Net	Gross
F3SG-4PGA0670-2A	2	500	45	120	1.7	2.2
F3SG-4PGA0970-3A	3	400	55	130	2.5	3.1
F3SG-4PGA1070-4A	4	300	65	140	2.7	3.3
F3SG-4PGA1370-4A	4	400	65	140	3.5	4.2

Perimeter guarding long range (operating range: 70 m)

Models and Response Times

Model	Number of beams	Beam gap [mm]	Response time (Optical synchronization) [ms]			Response time (Wired synchronization) [ms]	
			ON to OFF	OFF (synchronized) to ON	OFF (not synchronized) to ON	ON to OFF	OFF to ON
F3SG-4PGA0670-2L	2	500	8	40	140	10	50
F3SG-4PGA0970-3L	3	400	8	40	140	10	50
F3SG-4PGA1070-4L	4	300	8	40	140	10	50
F3SG-4PGA1370-4L	4	400	8	40	140	10	50

Models, Current Consumption and Weight

Model	Number of beams	Beam gap [mm]	Current consumption [mA]		Weight [kg]	
			Emitter	Receiver	Net	Gross
F3SG-4PGA0670-2L	2	500	45	120	1.7	2.2
F3SG-4PGA0970-3L	3	400	55	130	2.5	3.1
F3SG-4PGA1070-4L	4	300	65	140	2.7	3.3
F3SG-4PGA1370-4L	4	400	65	140	3.5	4.2

Perimeter guarding passive mirror (operating range: 5 m)

Models and Response Times

Model	Number of beams	Beam gap [mm]	Response time (Optical synchronization) [ms]			Response time (Wired synchronization) [ms]	
			ON to OFF	OFF (synchronized) to ON	OFF (not synchronized) to ON	ON to OFF	OFF to ON
F3SG-4PGA0670-2C	2	500	8	40	140	10	50
F3SG-4PGA1070-4C	4	300	8	40	140	10	50
F3SG-4PGA1370-4C	4	400	8	40	140	10	50

Models, Current Consumption and Weight

Model	Number of beams	Beam gap [mm]	Current consumption [mA]		Weight [kg]	
			Emitter/Receiver		Net	Gross
F3SG-4PGA0670-2C	2	500	140		1.6	2.1
F3SG-4PGA1070-4C	4	300	150		2.6	3.2
F3SG-4PGA1370-4C	4	400	150		3.3	4.0

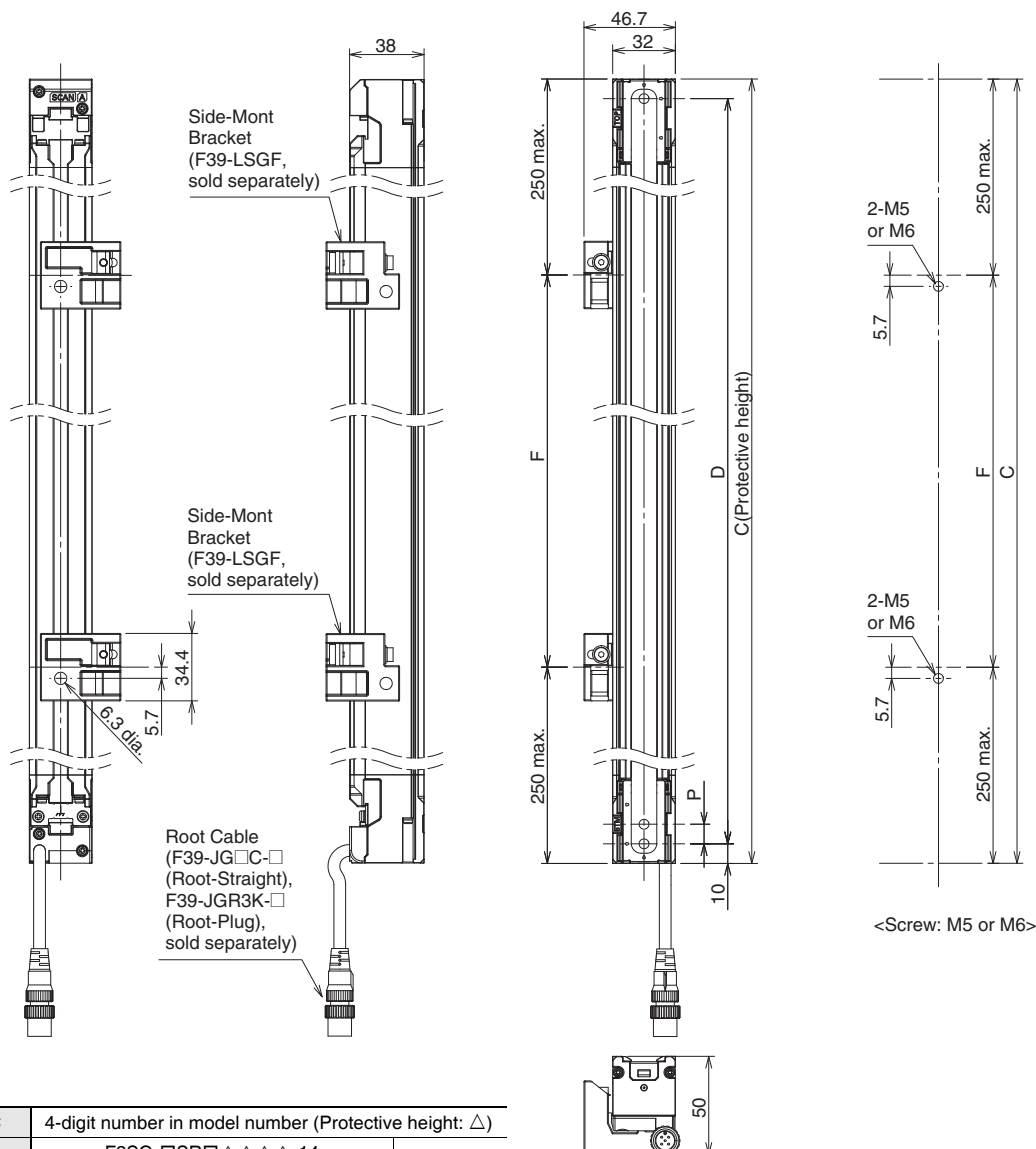
Dimensions

(Unit: mm)

F3SG-SR Main Unit

Mounted with Side-Mount Brackets (Intermediate Brackets) (F39-LSGF)

Backside Mounting



Dimension C	4-digit number in model number (Protective height: △)	
Dimension D	F3SG-□SR□△△△△-14	C-20
	F3SG-□SR□△△△△-25	
	F3SG-□SR□△△△△-45	C-40
	F3SG-□SR□△△△△-85	
Dimension P	F3SG-□SR□△△△△-14	10
	F3SG-□SR□△△△△-25	20
	F3SG-□SR□△△△△-45	40
	F3SG-□SR□△△△△-85	80

Protective height (Dimension C)	Number of Side-Mount Brackets *	Dimension F
0160 to 1440	2	1000 mm max.
1520 to 2480	3	1000 mm max.

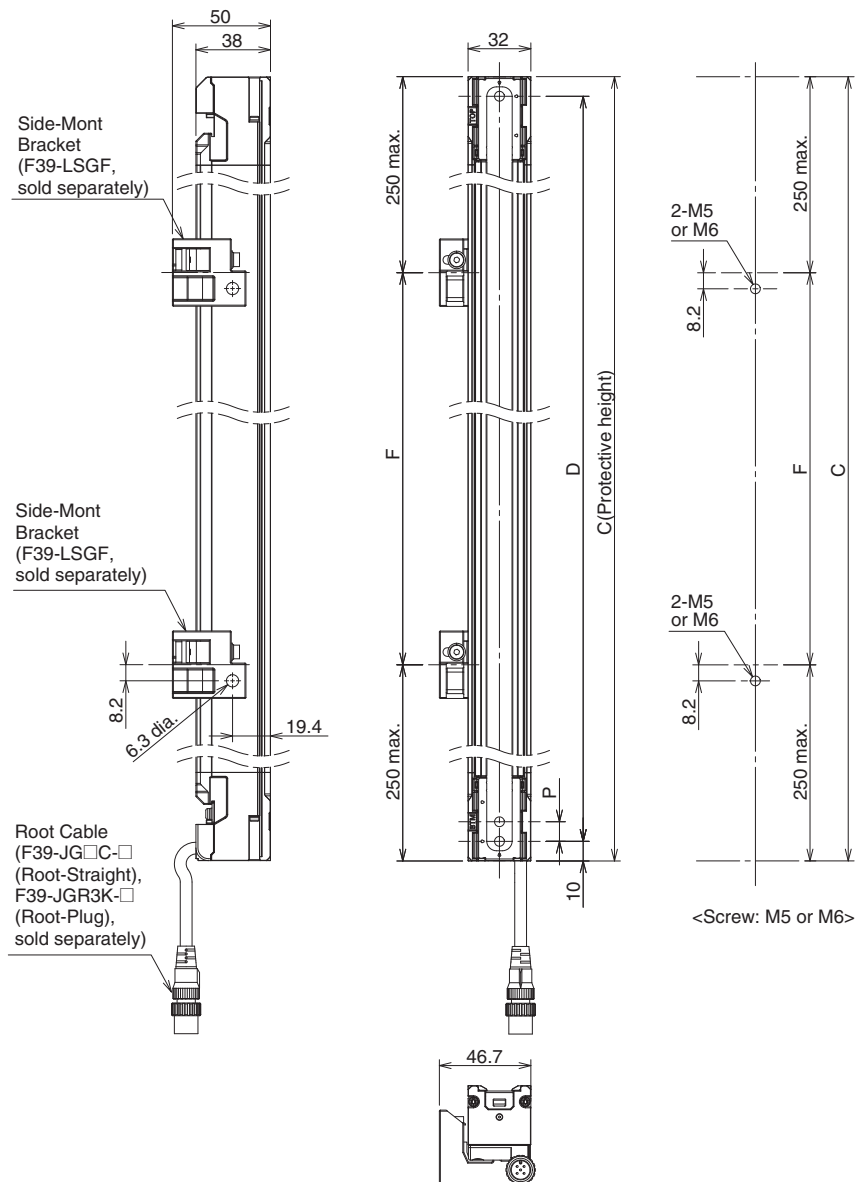
* The number of brackets required to mount each unit (emitter, receiver).

F3SG-SR/PG

F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

Mounted with Side-Mount Brackets (Intermediate Brackets) (F39-LSGF)
Side Mounting

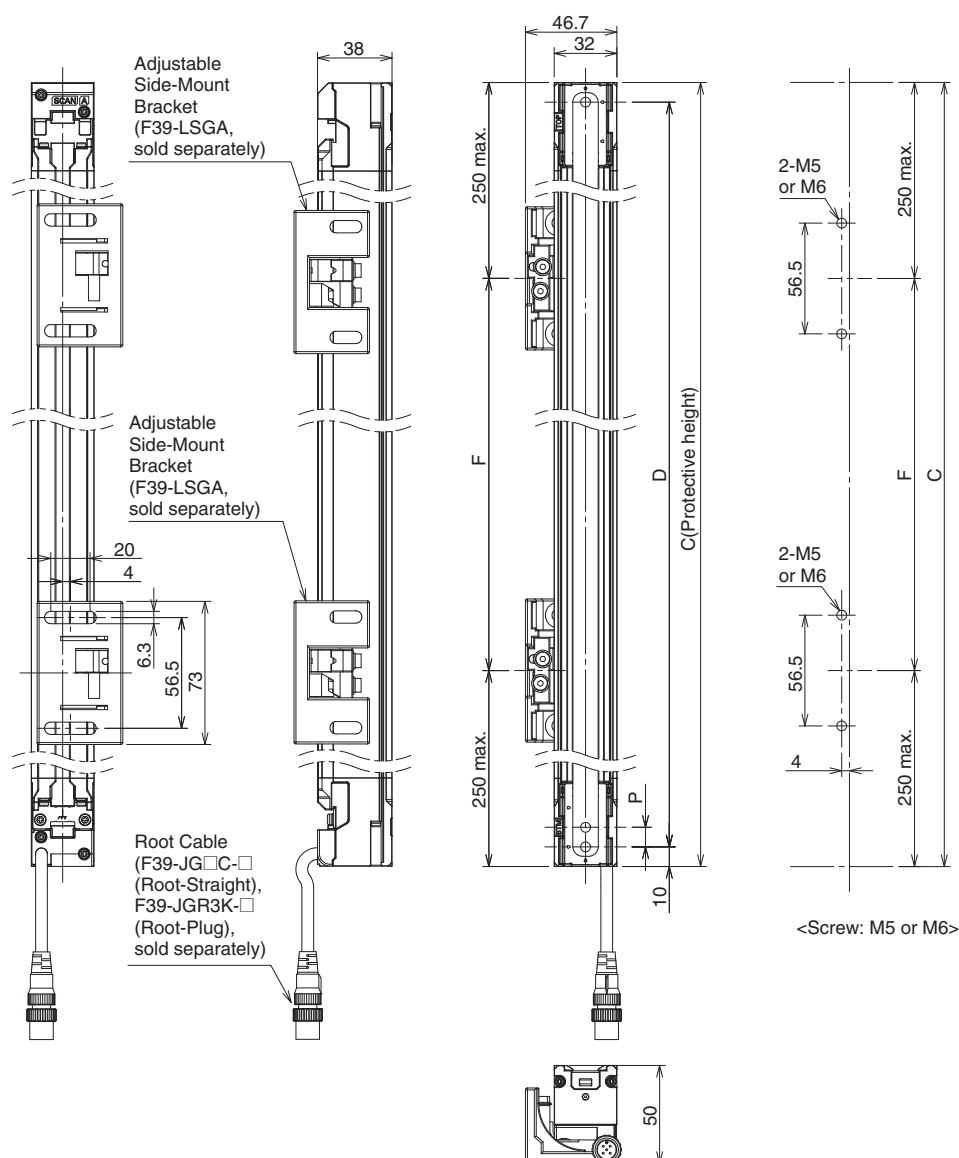


Dimension C	4-digit number in model number (Protective height: △)	
Dimension D	F3SG-□SR□△△△△-14	C-20
	F3SG-□SR□△△△△-25	
	F3SG-□SR□△△△△-45	C-40
	F3SG-□SR□△△△△-85	
Dimension P	F3SG-□SR□△△△△-14	10
	F3SG-□SR□△△△△-25	20
	F3SG-□SR□△△△△-45	40
	F3SG-□SR□△△△△-85	80

Protective height (Dimension C)	Number of Side-Mount Brackets *	Dimension F
0160 to 1440	2	1000 mm max.
1520 to 2480	3	1000 mm max.

* The number of brackets required to mount each unit (emitter, receiver).

Mounted with Adjustable Side-Mount Brackets (Intermediate Brackets) (F39-LSGA) Backside Mounting



Dimension C	4-digit number in model number (Protective height: △)	
Dimension D	F3SG-□SR□△△△△-14	C-20
	F3SG-□SR□△△△△-25	
	F3SG-□SR□△△△△-45	C-40
	F3SG-□SR□△△△△-85	
Dimension P	F3SG-□SR□△△△△-14	10
	F3SG-□SR□△△△△-25	20
	F3SG-□SR□△△△△-45	40
	F3SG-□SR□△△△△-85	80

Protective height (Dimension C)	Number of Adjustable Side-Mount Brackets *	Dimension F
0160 to 0280	1	1000 mm max.
0320 to 1440	2	1000 mm max.
1520 to 2480	3	1000 mm max.

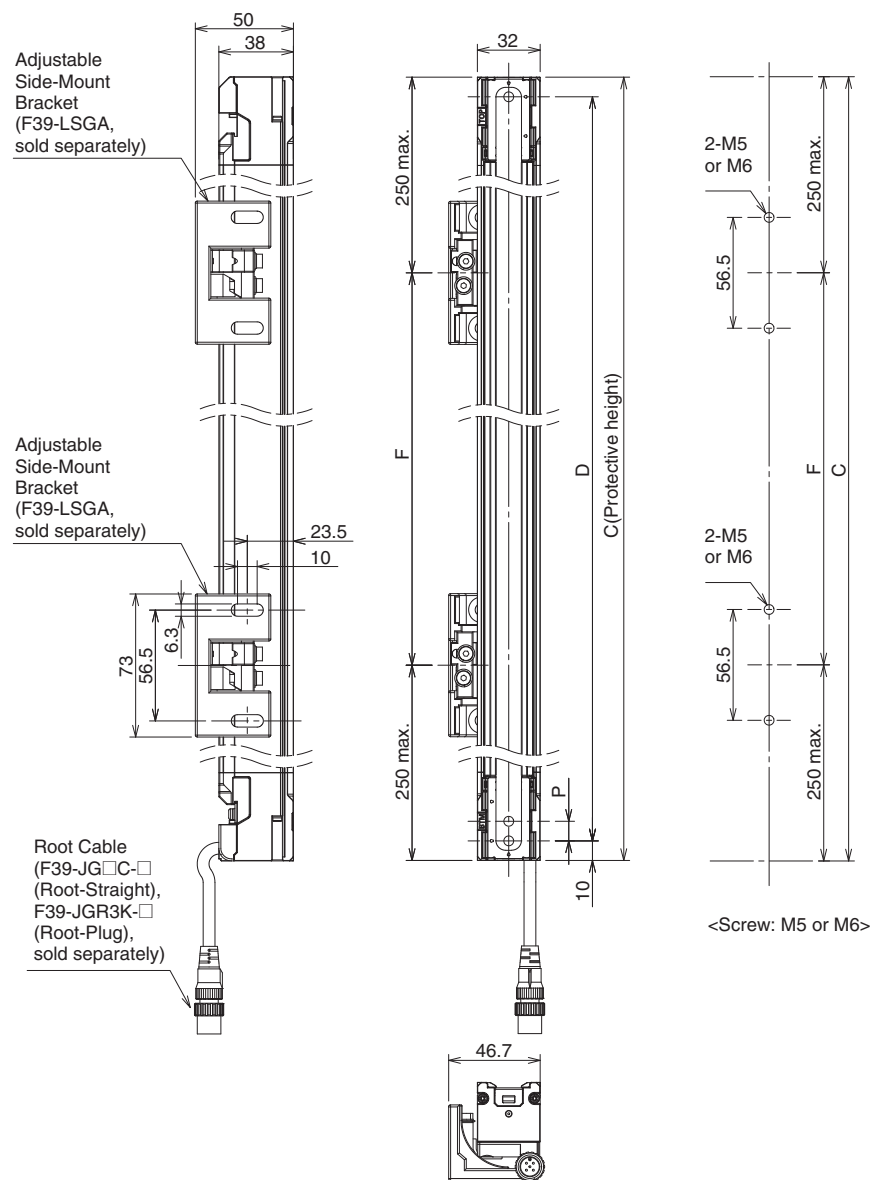
* The number of brackets required to mount each unit (emitter, receiver).

F3SG-SR/PG

F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

Mounted with Adjustable Side-Mount Brackets (Intermediate Brackets) (F39-LSGA)
Side Mounting

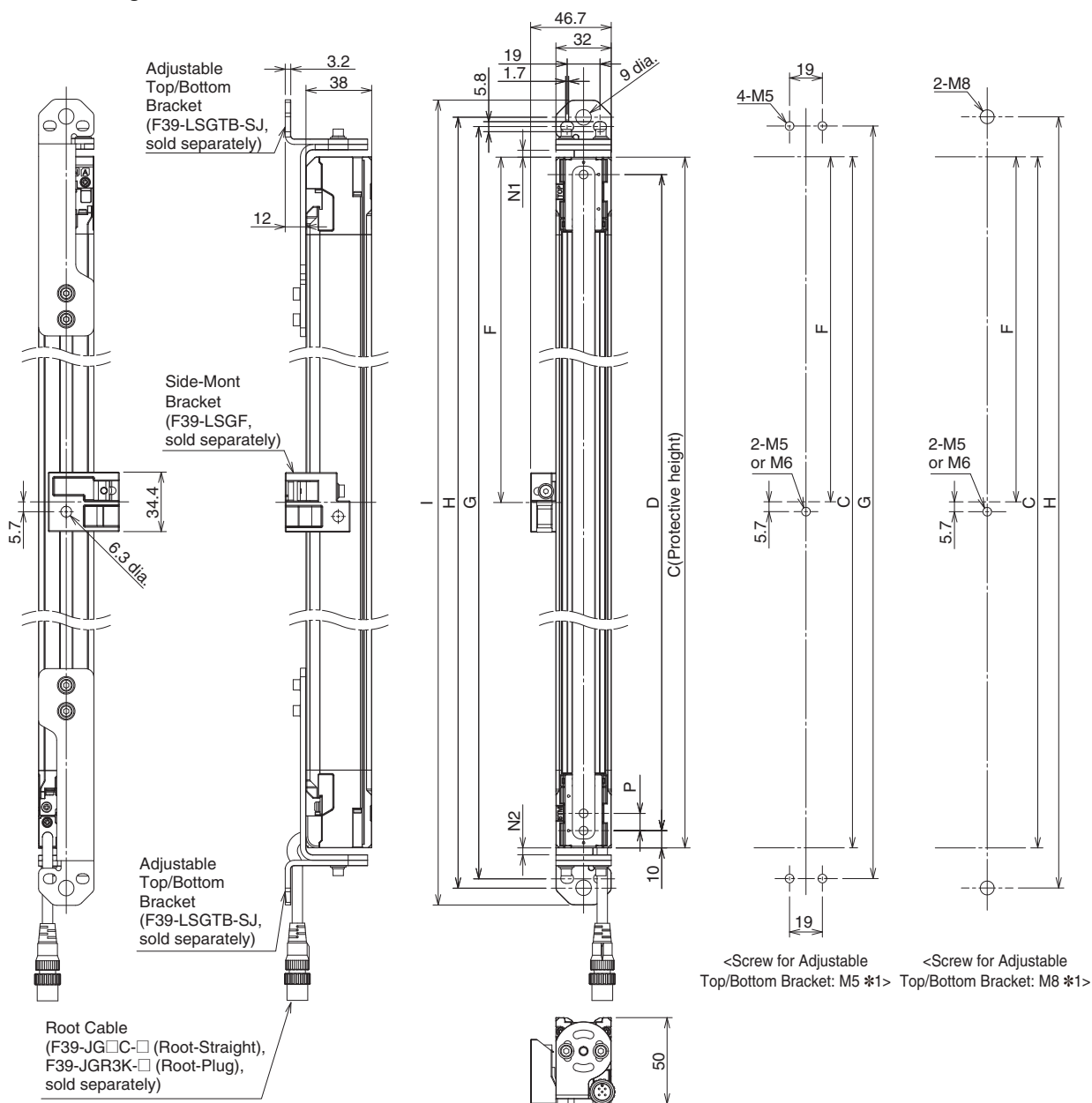


Dimension C	4-digit number in model number (Protective height: △)	
Dimension D	F3SG-□SR□△△△△-14	C-20
	F3SG-□SR□△△△△-25	
	F3SG-□SR□△△△△-45	C-40
	F3SG-□SR□△△△△-85	
Dimension P	F3SG-□SR□△△△△-14	10
	F3SG-□SR□△△△△-25	20
	F3SG-□SR□△△△△-45	40
	F3SG-□SR□△△△△-85	80

Protective height (Dimension C)	Number of Adjustable Side-Mount Brackets *	Dimension F
0160 to 0280	1	1000 mm max.
0320 to 1440	2	1000 mm max.
1520 to 2480	3	1000 mm max.

* The number of brackets required to mount each unit (emitter, receiver).

Mounted with Adjustable Top/Bottom Brackets (F3SJ, F3SN Adapter) (F39-LSGTB-SJ) and Side-Mount Brackets (Intermediate Brackets) (F39-LSGF) Backside Mounting



Dimension C	4-digit number in model number (Protective height: △)	
Dimension D	F3SG-□SR□△△△△-14	C-20
	F3SG-□SR□△△△△25	
	F3SG-□SR□△△△△-45	C-40
	F3SG-□SR□△△△△-85	
Dimension G	C+27.2+N1+N2	
Dimension H	C+38+N1+N2	
Dimension I	C+58+N1+N2	
Dimension N1	0 to 30 *2	
Dimension N2	0 to 30 *2	
Dimension P	F3SG-□SR□△△△△-14	10
	F3SG-□SR□△△△△-25	20
	F3SG-□SR□△△△△-45	40
	F3SG-□SR□△△△△-85	80

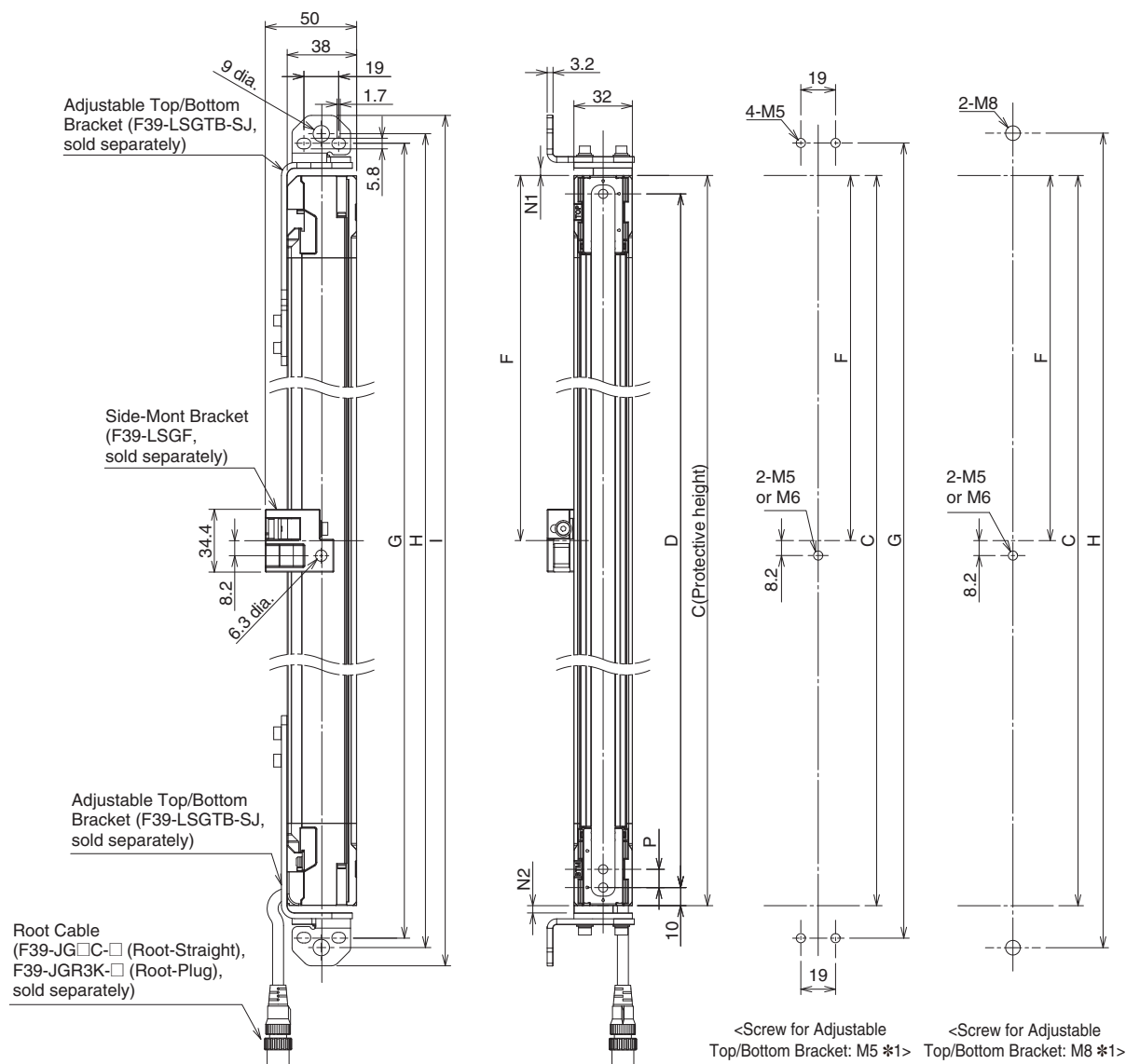
Protective height (Dimension C)	Number of Adjustable Top/Bottom Brackets *3	Number of Intermediate Brackets *3	Dimension F
0160 to 0840	2	0	---
0880 to 1680	2	1	1000 mm max.
1760 to 2480	2	2	1000 mm max.

*1. Side-Mount Bracket: M5 or M6

*2. For the model with a protective height of 0160, the dimensions N1 and N2 are 20 to 30 mm.

*3. The number of brackets required to mount each unit (emitter, receiver).

Mounted with Adjustable Top/Bottom Brackets (F3SJ, F3SN Adapter) (F39-LSGTB-SJ) and Side-Mount Brackets (Intermediate Brackets) (F39-LSGF) Side Mounting



Dimension C	4-digit number in model number (Protective height: △)	
Dimension D	F3SG-□SR□△△△△-14	C-20
	F3SG-□SR□△△△△-25	
	F3SG-□SR□△△△△-45	C-40
	F3SG-□SR□△△△△-85	
Dimension G	C+27.2+N1+N2	
Dimension H	C+38+N1+N2	
Dimension I	C+58+N1+N2	
Dimension N1	0 to 30 *2	
Dimension N2	0 to 30 *2	
Dimension P	F3SG-□SR□△△△△-14	10
	F3SG-□SR□△△△△-25	20
	F3SG-□SR□△△△△-45	40
	F3SG-□SR□△△△△-85	80



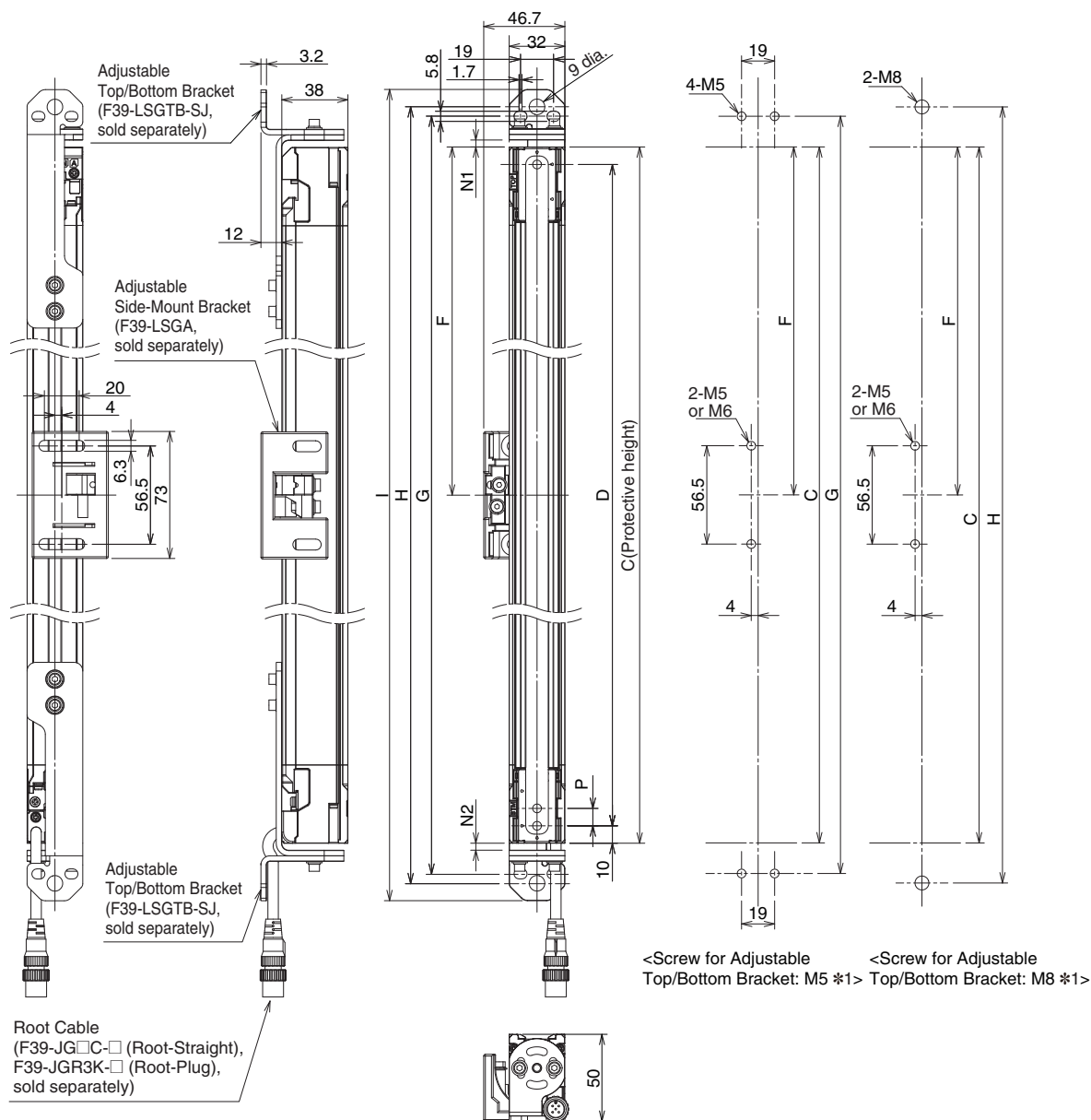
Protective height (Dimension C)	Number of Adjustable Top/Bottom Brackets *3	Number of Intermediate Brackets *3	Dimension F
0160 to 0840	2	0	---
0880 to 1680	2	1	1000 mm max.
1760 to 2480	2	2	1000 mm max.

*1. Side-Mount Bracket: M5 or M6

*2. For the model with a protective height of 0160, the dimensions N1 and N2 are 20 to 30 mm.

*3. The number of brackets required to mount each unit (emitter, receiver).

Mounted with Adjustable Top/Bottom Brackets (F3SJ, F3SN Adapter) (F39-LSGTB-SJ) and Adjustable Side-Mount Brackets (Intermediate Brackets) (F39-LSGA) Backside Mounting



Dimension C	4-digit number in model number (Protective height: △)	
Dimension D	F3SG-□SR□△△△△-14	C-20
	F3SG-□SR□△△△△-25	
	F3SG-□SR□△△△△-45	C-40
	F3SG-□SR□△△△△-85	
Dimension G	C+27.2+N1+N2	
Dimension H	C+38+N1+N2	
Dimension I	C+58+N1+N2	
Dimension N1	0 to 30 *2	
Dimension N2	0 to 30 *2	
Dimension P	F3SG-□SR□△△△△-14	10
	F3SG-□SR□△△△△-25	20
	F3SG-□SR□△△△△-45	40
	F3SG-□SR□△△△△-85	80

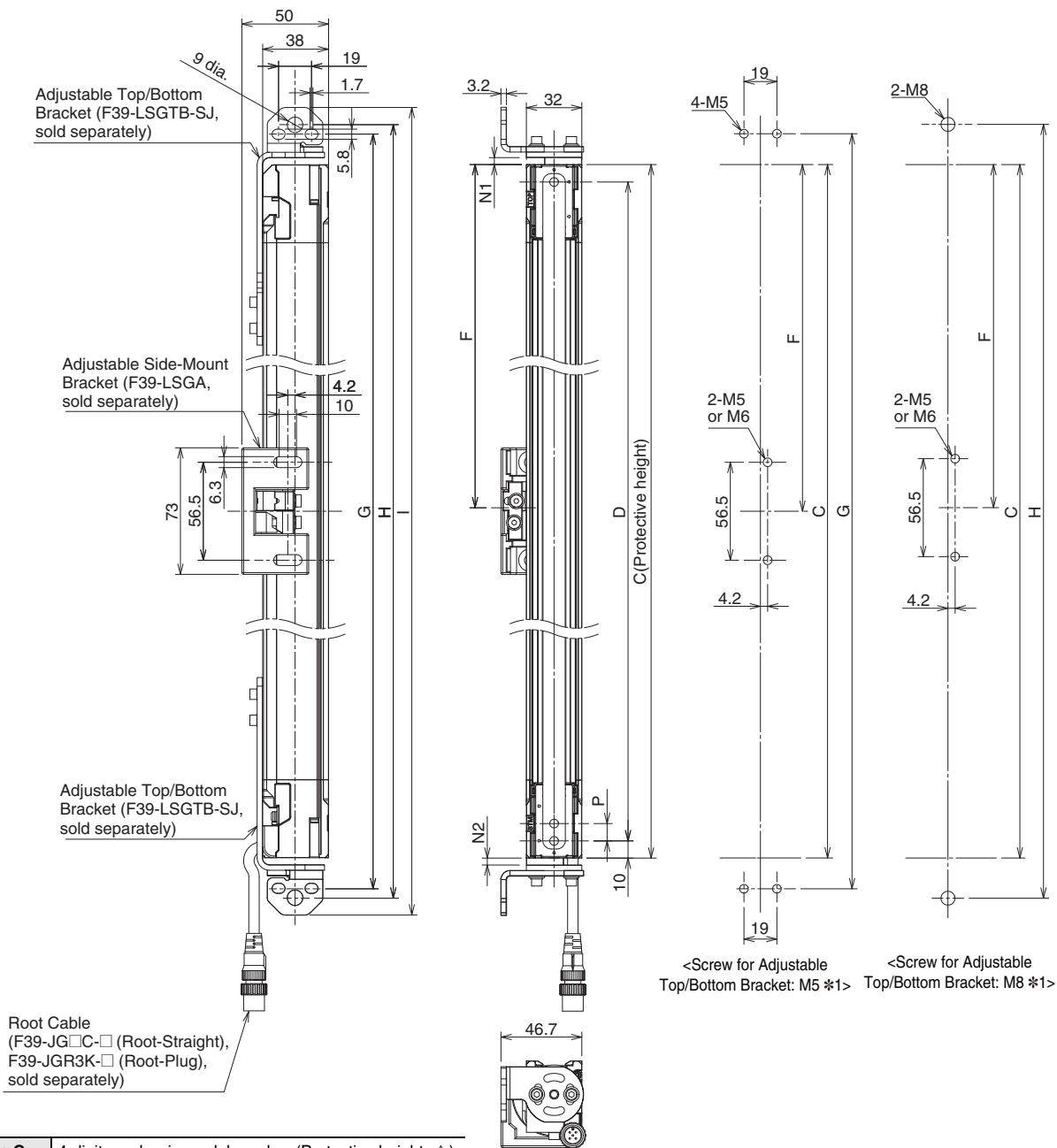
Protective height (Dimension C)	Number of Adjustable Top/Bottom Brackets *3	Number of Intermediate Brackets *3	Dimension F
0160 to 0840	2	0	---
0880 to 1680	2	1	1000 mm max.
1760 to 2480	2	2	1000 mm max.

*1. Adjustable Side-Mount Bracket: M5 or M6

*2. For the model with a protective height of 0160, the dimensions N1 and N2 are 20 to 30 mm.

*3. The number of brackets required to mount each unit (emitter, receiver).

Mounted with Adjustable Top/Bottom Brackets (F3SJ, F3SN Adapter) (F39-LSGTB-SJ) and Adjustable Side-Mount Brackets (Intermediate Brackets) (F39-LSGA) Side Mounting



Dimension C	4-digit number in model number (Protective height: △)	
Dimension D	F3SG-□SR□△△△△-14	C-20
	F3SG-□SR□△△△△-25	C-20
	F3SG-□SR□△△△△-45	C-40
	F3SG-□SR□△△△△-85	C-40
Dimension G	C+27.2+N1+N2	
Dimension H	C+38+N1+N2	
Dimension I	C+58+N1+N2	
Dimension N1	0 to 30 *2	
Dimension N2	0 to 30 *2	
Dimension P	F3SG-□SR□△△△△-14	10
	F3SG-□SR□△△△△-25	20
	F3SG-□SR□△△△△-45	40
	F3SG-□SR□△△△△-85	80

Protective height (Dimension C)	Number of Adjustable Top/Bottom Brackets *3	Number of Intermediate Brackets *3	Dimension F
0160 to 0840	2	0	---
0880 to 1680	2	1	1000 mm max.
1760 to 2480	2	2	1000 mm max.

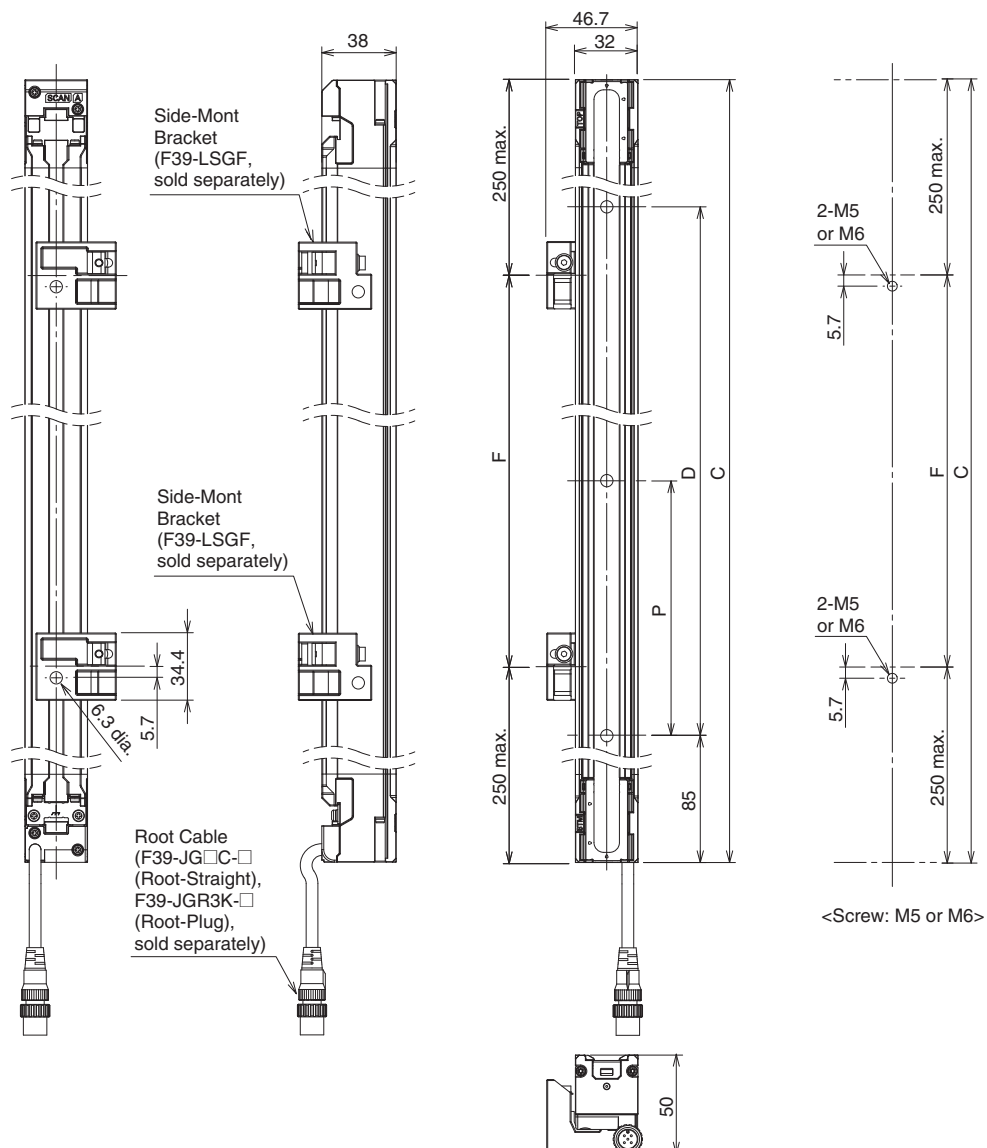
*1. Adjustable Side-Mount Bracket: M5 or M6

*2. For the model with a protective height of 0160, the dimensions N1 and N2 are 20 to 30 mm.

*3. The number of brackets required to mount each unit (emitter, receiver).

F3SG-PG Main Unit

Mounted with Side-Mount Brackets (Intermediate Brackets) (F39-LSGF) Backside Mounting



Dimension C	4-digit number in model number	
Dimension D	C-170	
Dimension P	F3SG-4PGA0670-2□	500
	F3SG-4PGA0970-3□	400
	F3SG-4PGA1070-4□	300
	F3SG-4PGA1370-4□	400

Product length (Dimension C)	Number of Side-Mount Brackets *	Dimension F
0670 to 1370	2	1000 mm max.

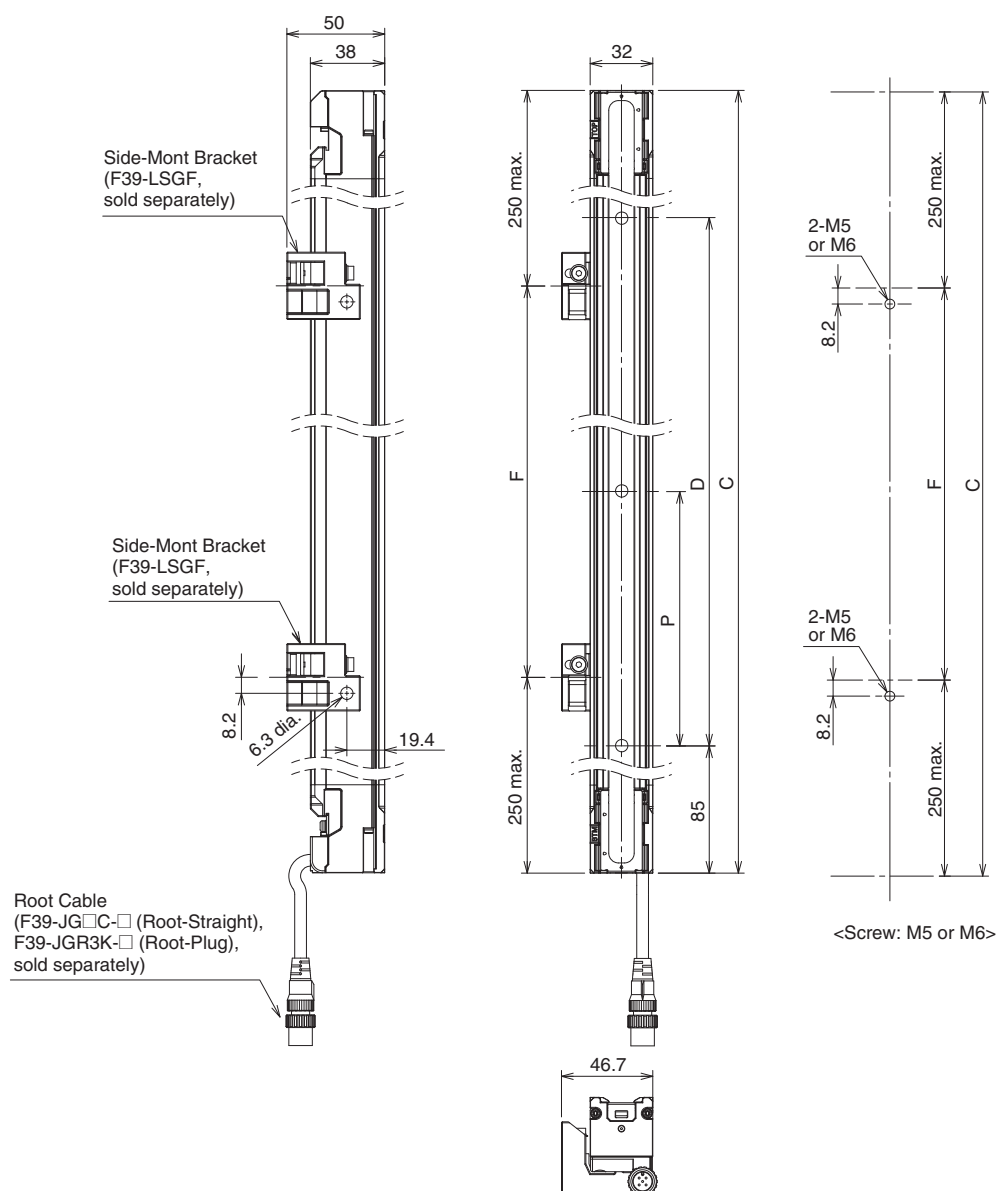
* The number of brackets required to mount each unit (emitter, receiver, emitter/receiver, passive mirror).

F3SG-SR/PG

F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

Mounted with Side-Mount Brackets (Intermediate Brackets) (F39-LSGF)
Side Mounting

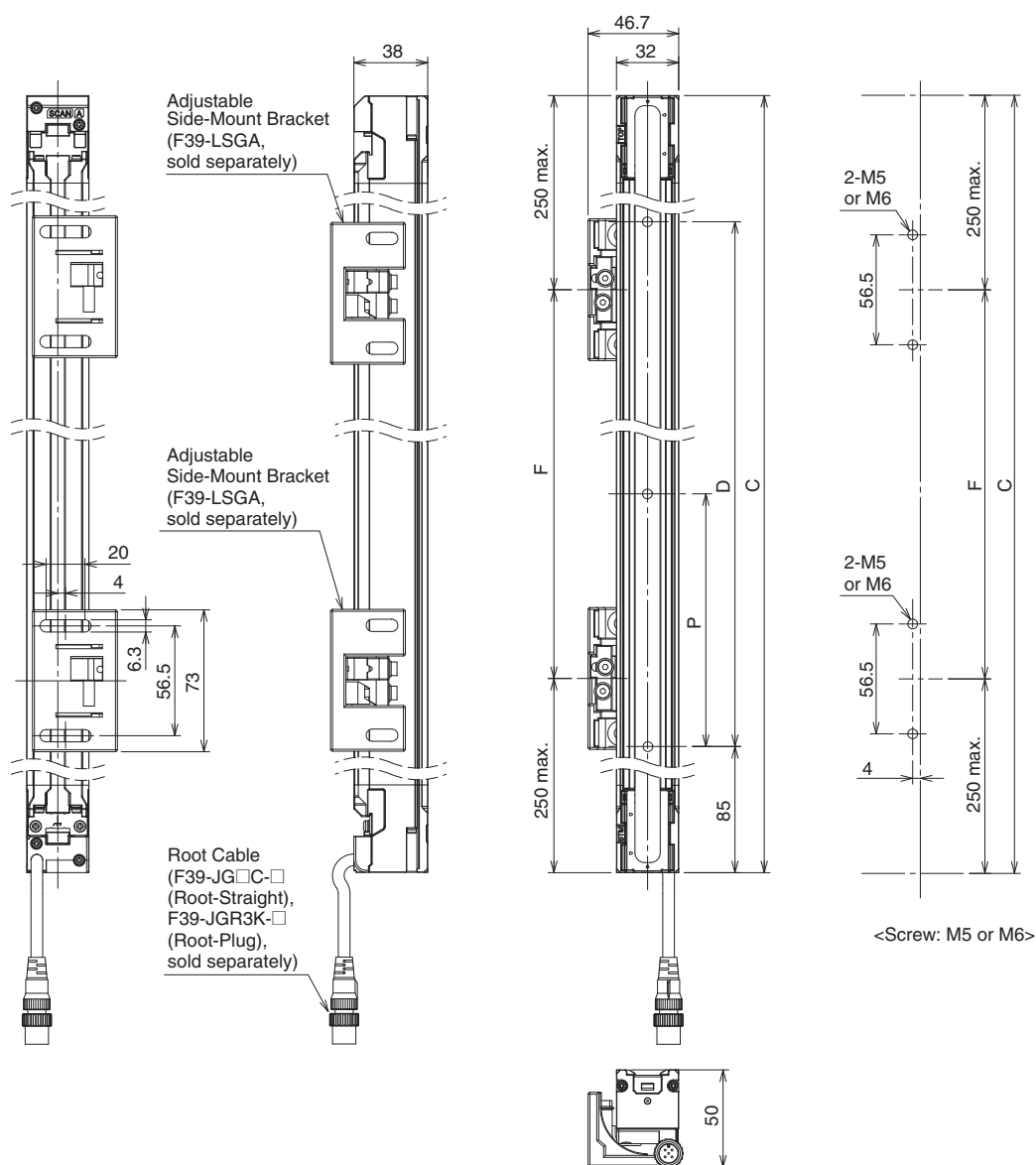


Dimension C	4-digit number in model number	
Dimension D	C-170	
Dimension P	F3SG-4PGA0670-2□	500
	F3SG-4PGA0970-3□	400
	F3SG-4PGA1070-4□	300
	F3SG-4PGA1370-4□	400

Product length (Dimension C)	Number of Side-Mount Brackets *	Dimension F
0670 to 1370	2	1000 mm max.

* The number of brackets required to mount each unit (emitter, receiver, emitter/receiver, passive mirror).

Mounted with Adjustable Side-Mount Brackets (Intermediate Brackets) (F39-LSGA) Backside Mounting

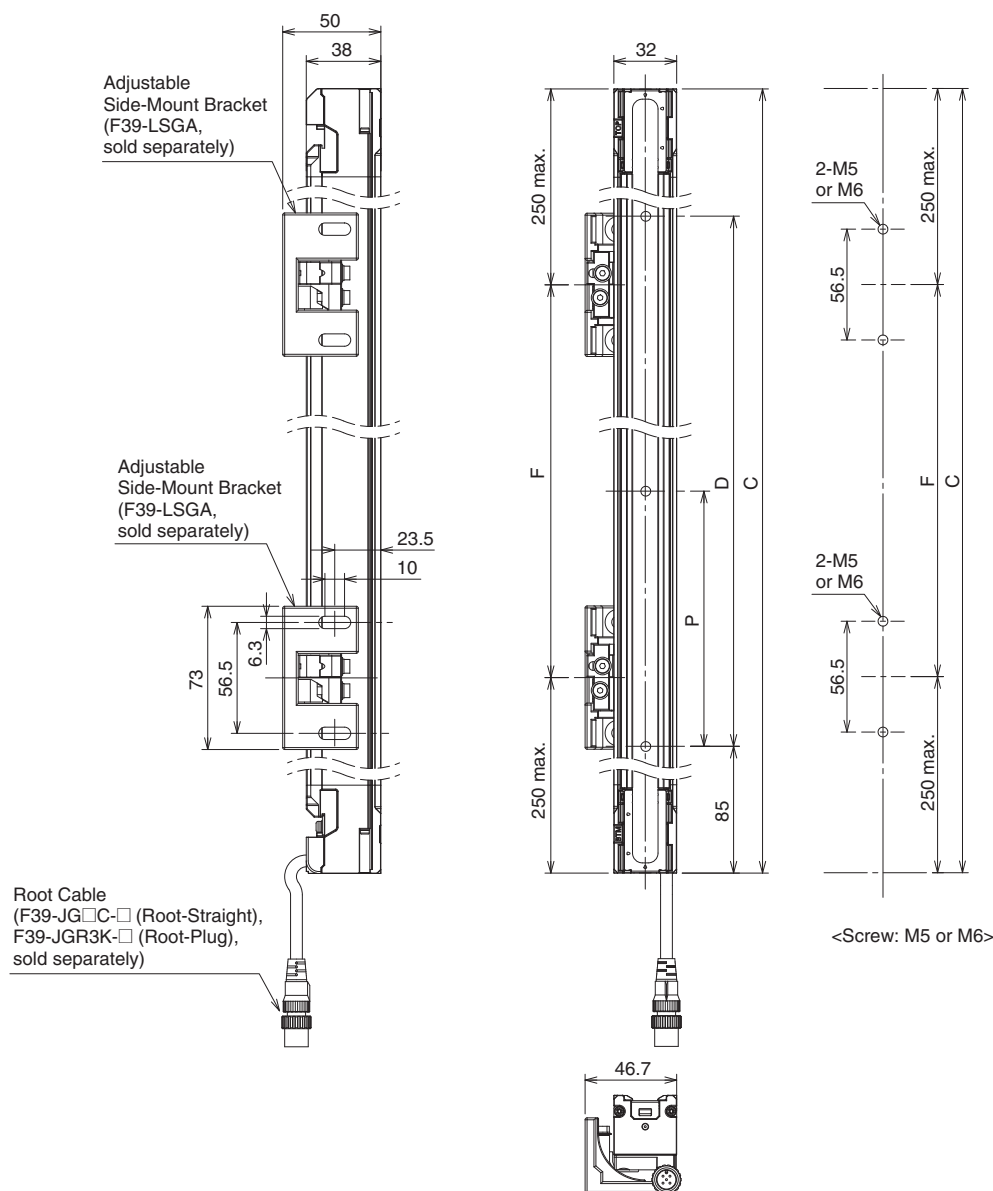


Dimension C	4-digit number in model number	
Dimension D	C-170	
Dimension P	F3SG-4PGA0670-2□	500
	F3SG-4PGA0970-3□	400
	F3SG-4PGA1070-4□	300
	F3SG-4PGA1370-4□	400

Product length (Dimension C)	Number of Adjustable Side-Mount Brackets *	Dimension F
0670 to 1370	2	1000 mm max.

* The number of brackets required to mount each unit (emitter, receiver, emitter/receiver, passive mirror).

Mounted with Adjustable Side-Mount Brackets (Intermediate Brackets) (F39-LSGA)
Side Mounting



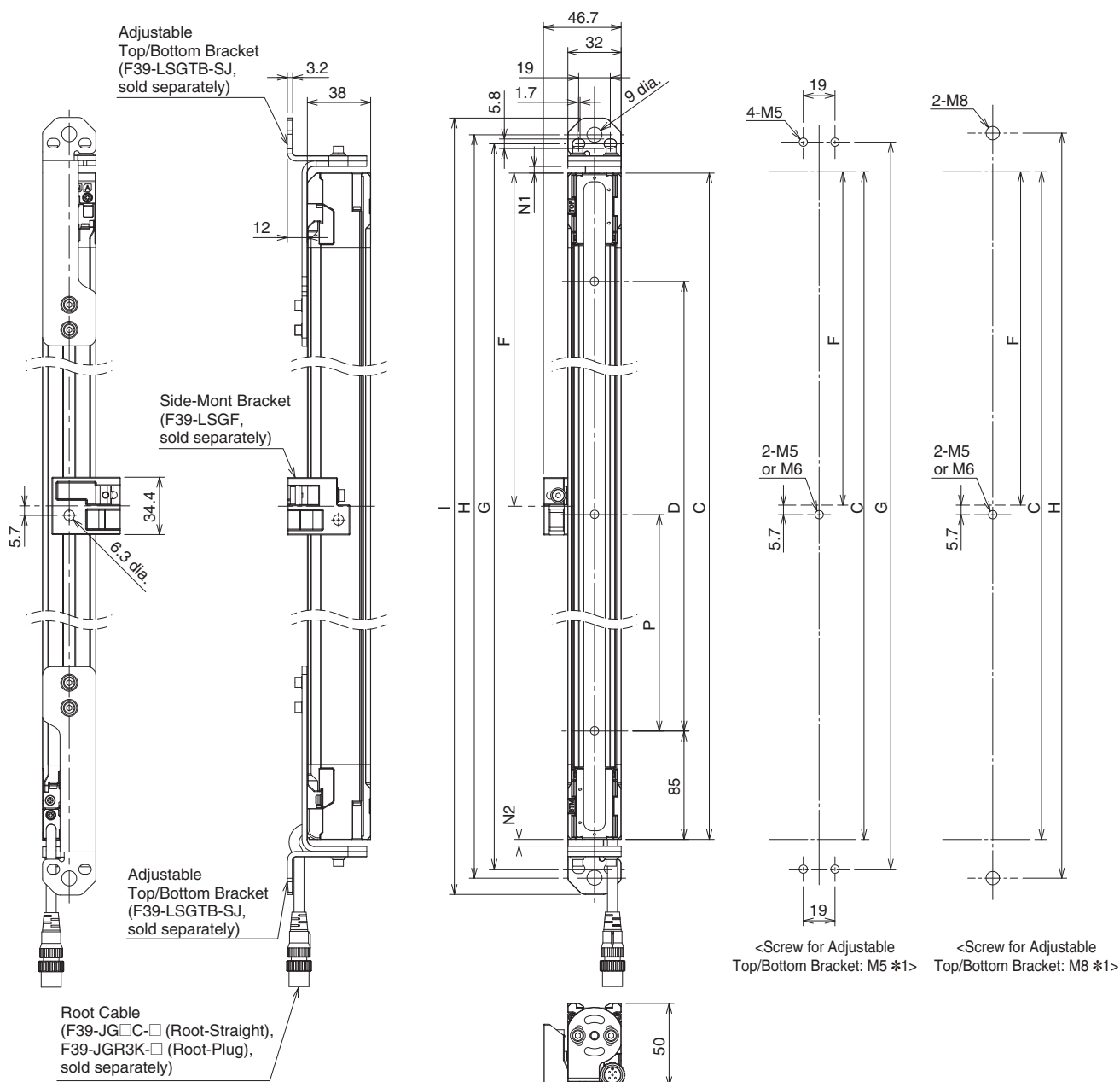
Dimension C	4-digit number in model number				
Dimension D	C-170				
Dimension P	F3SG-4PGA0670-2□	500	Product length (Dimension C)	Number of Adjustable Side-Mount Brackets *	Dimension F
	F3SG-4PGA0970-3□	400			
	F3SG-4PGA1070-4□	300			
	F3SG-4PGA1370-4□	400			
			0670 to 1370	2	1000 mm max.

* The number of brackets required to mount each unit (emitter, receiver, emitter/receiver, passive mirror).

Mounted with Adjustable Top/Bottom Brackets (F3SJ, F3SN Adapter) (F39-LSGTB-SJ) and Side-Mount Brackets (Intermediate Brackets) (F39-LSGF) Backside Mounting

F3SG-SR/PG

F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

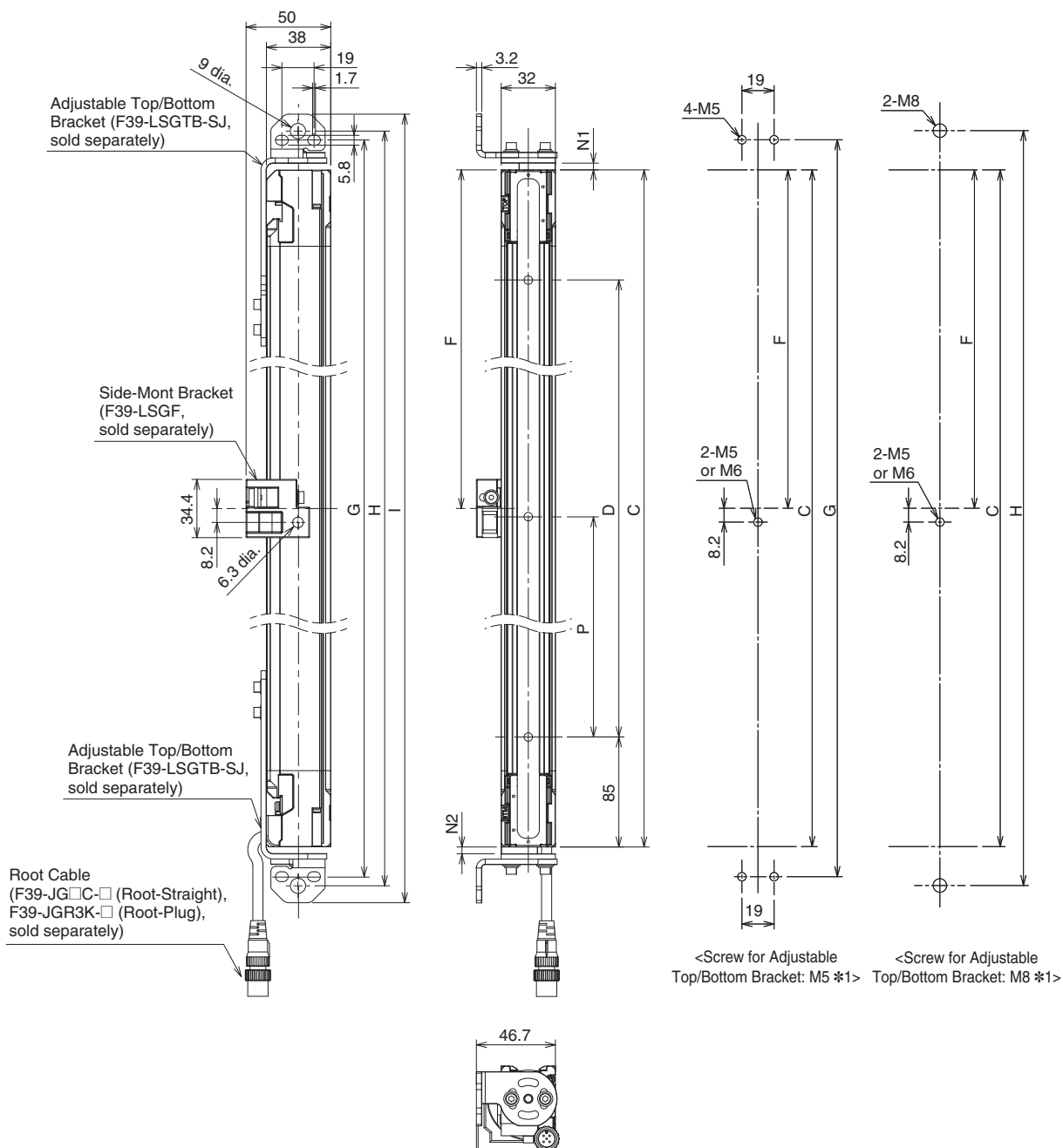
Dimension C	4-digit number in model number	
Dimension D	C-170	
Dimension G	$C+27.2+N1+N2$	
Dimension H	$C+38+N1+N2$	
Dimension I	$C+58+N1+N2$	
Dimension N1	0 to 30	
Dimension N2	0 to 30	
Dimension P	F3SG-4PGA0670-2□	500
	F3SG-4PGA0970-3□	400
	F3SG-4PGA1070-4□	300
	F3SG-4PGA1370-4□	400

Product length (Dimension C)	Number of Adjustable Top/Bottom Brackets *2	Number of Intermediate Brackets *2	Dimension F
0670	2	0	---
0970 to 1370	2	1	1000 mm max.

*1. Side-Mount Bracket: M5 or M6

*2. The number of brackets required to mount each unit (emitter, receiver, emitter/receiver, passive mirror).

Mounted with Adjustable Top/Bottom Brackets (F3SJ, F3SN Adapter) (F39-LSGTB-SJ) and Side-Mount Brackets (Intermediate Brackets) (F39-LSGF) Side Mounting



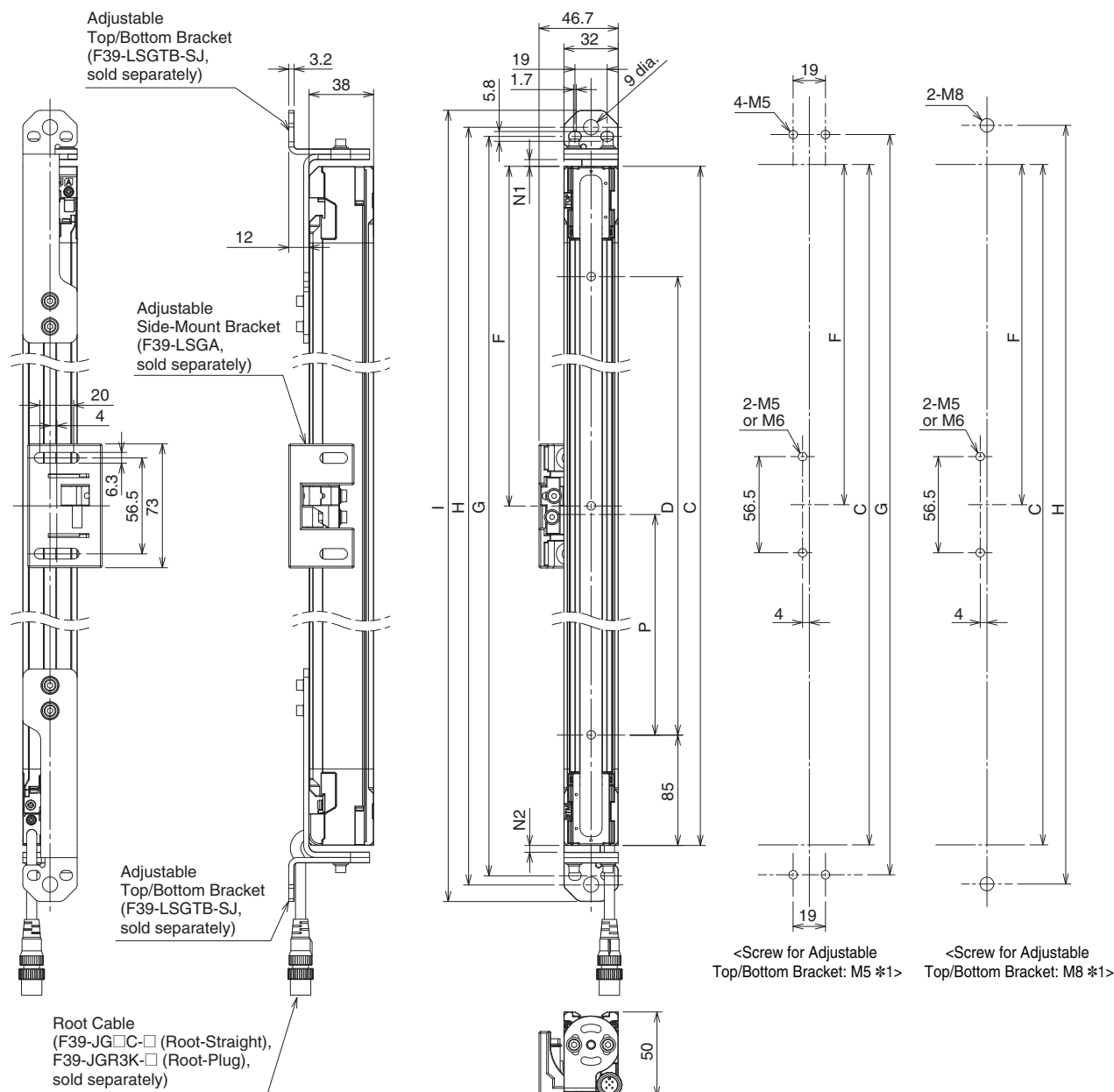
Dimension C	4-digit number in model number	
Dimension D	C-170	
Dimension G	C+27.2+N1+N2	
Dimension H	C+38+N1+N2	
Dimension I	C+58+N1+N2	
Dimension N1	0 to 30	
Dimension N2	0 to 30	
Dimension P	F3SG-4PGA0670-2□	500
	F3SG-4PGA0970-3□	400
	F3SG-4PGA1070-4□	300
	F3SG-4PGA1370-4□	400

Product length (Dimension C)	Number of Adjustable Top/Bottom Brackets *2	Number of Intermediate Brackets *2	Dimension F
0670	2	0	---
0970 to 1370	2	1	1000 mm max.

*1. Side-Mount Bracket: M5 or M6

*2. The number of brackets required to mount each unit (emitter, receiver, emitter/receiver, passive mirror).

Mounted with Adjustable Top/Bottom Brackets (F3SJ, F3SN Adapter) (F39-LSGTB-SJ) and Adjustable Side-Mount Brackets (Intermediate Brackets) (F39-LSGA) Backside Mounting



Dimension C	4-digit number in model number	
Dimension D	C-170	
Dimension G	$C+27.2+N1+N2$	
Dimension H	$C+38+N1+N2$	
Dimension I	$C+58+N1+N2$	
Dimension N1	0 to 30	
Dimension N2	0 to 30	
Dimension P	F3SG-4PGA0670-2□	500
	F3SG-4PGA0970-3□	400
	F3SG-4PGA1070-4□	300
	F3SG-4PGA1370-4□	400

Product length (Dimension C)	Number of Adjustable Top/Bottom Brackets *2	Number of Intermediate Brackets *2	Dimension F
0670	2	0	---
0970 to 1370	2	1	1000 mm max.

*1. Adjustable Side-Mount Bracket: M5 or M6

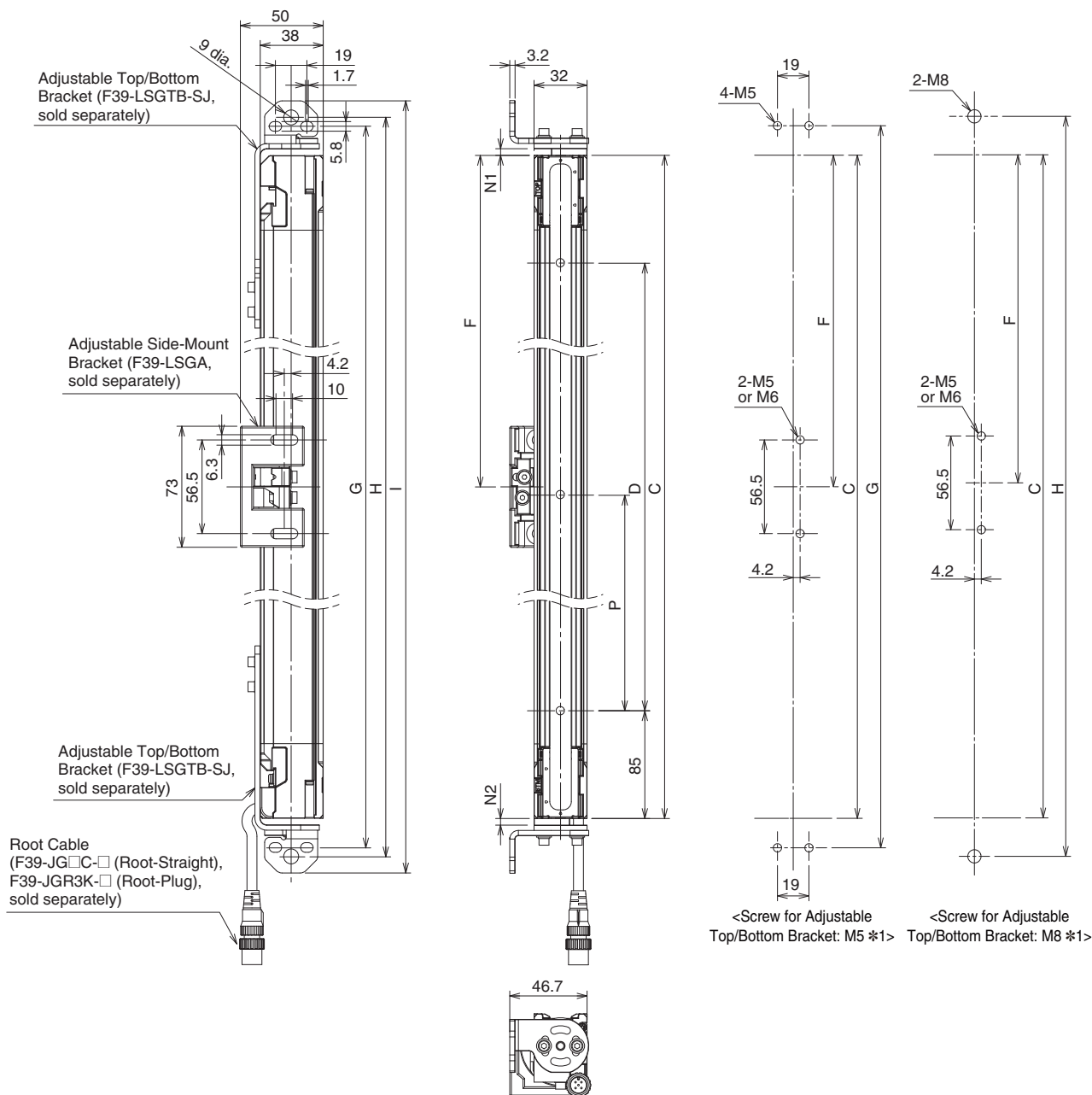
*2. The number of brackets required to mount each unit (emitter, receiver, emitter/receiver, passive mirror).

F3SG-SR/PG

F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

Mounted with Adjustable Top/Bottom Brackets (F3SJ, F3SN Adapter) (F39-LSGTB-SJ) and Adjustable Side-Mount Brackets (Intermediate Brackets) (F39-LSGA) Side Mounting



Dimension C	4-digit number in model number	
Dimension D	C-170	
Dimension G	$C+27.2+N1+N2$	
Dimension H	$C+38+N1+N2$	
Dimension I	$C+58+N1+N2$	
Dimension N1	0 to 30	
Dimension N2	0 to 30	
Dimension P	F3SG-4PGA0670-2□	500
	F3SG-4PGA0970-3□	400
	F3SG-4PGA1070-4□	300
	F3SG-4PGA1370-4□	400

Product length (Dimension C)	Number of Adjustable Top/Bottom Brackets *2	Number of Intermediate Brackets *2	Dimension F
0670	2	0	---
0970 to 1370	2	1	1000 mm max.

*1. Adjustable Side-Mount Bracket: M5 or M6

*2. The number of brackets required to mount each unit (emitter, receiver, emitter/receiver, passive mirror).

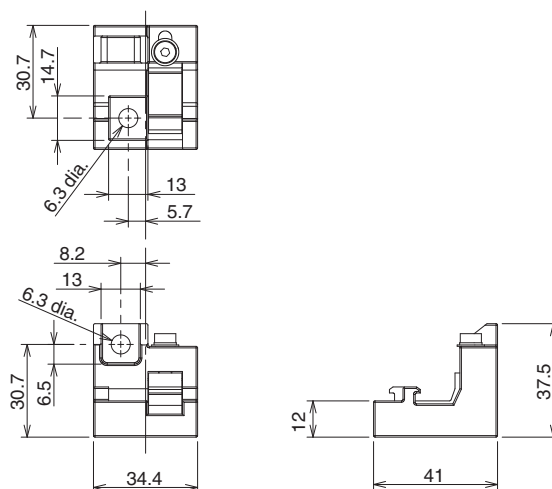
Accessories (Sold separately)

Bracket

Side-Mount Bracket

(Intermediate Bracket)

(F39-LSGF, sold separately)

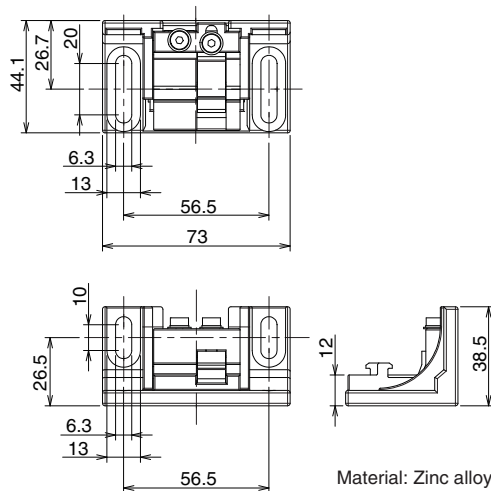


Material: Zinc alloy

Adjustable Side-Mount Bracket

(Intermediate Bracket)

(F39-LSGA, sold separately)



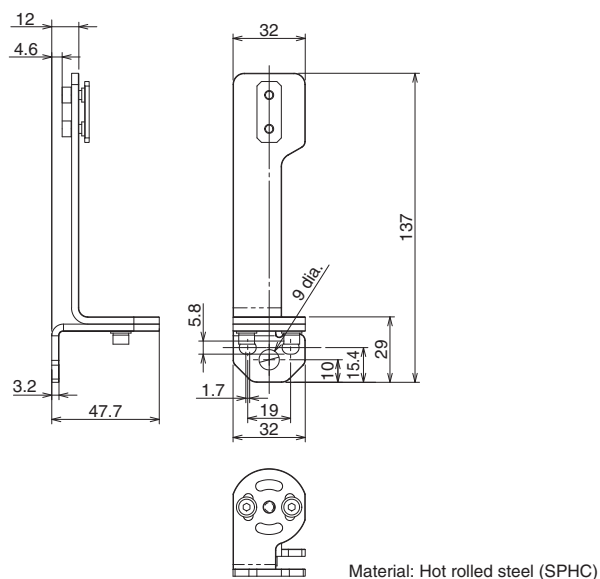
Material: Zinc alloy

F3SG-SR/PG

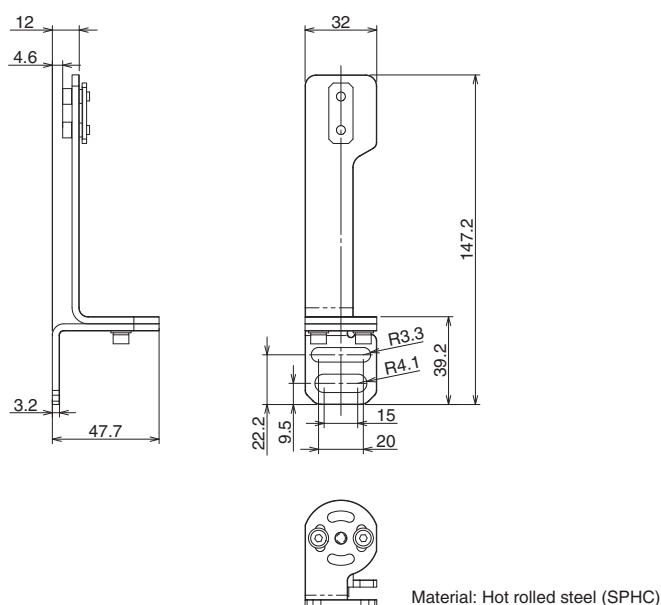
F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

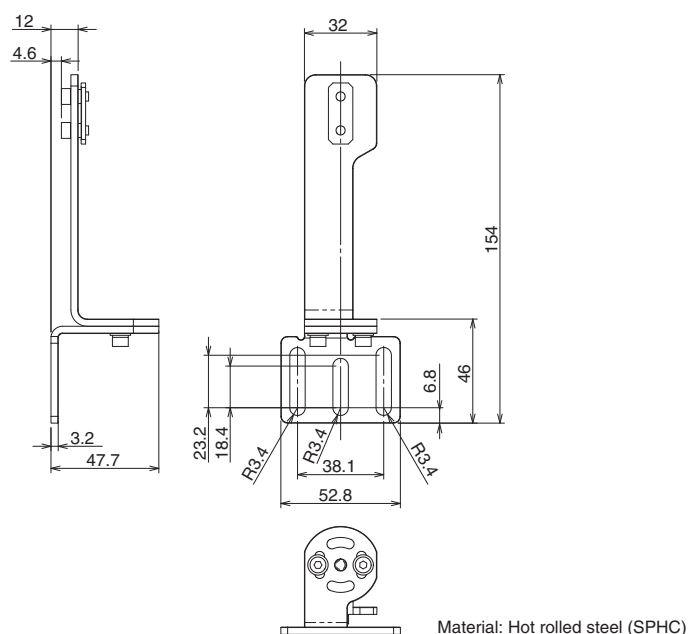
Adjustable Top/Bottom Bracket (F3SJ, F3SN Adapter) (F39-LSGTB-SJ, sold separately)

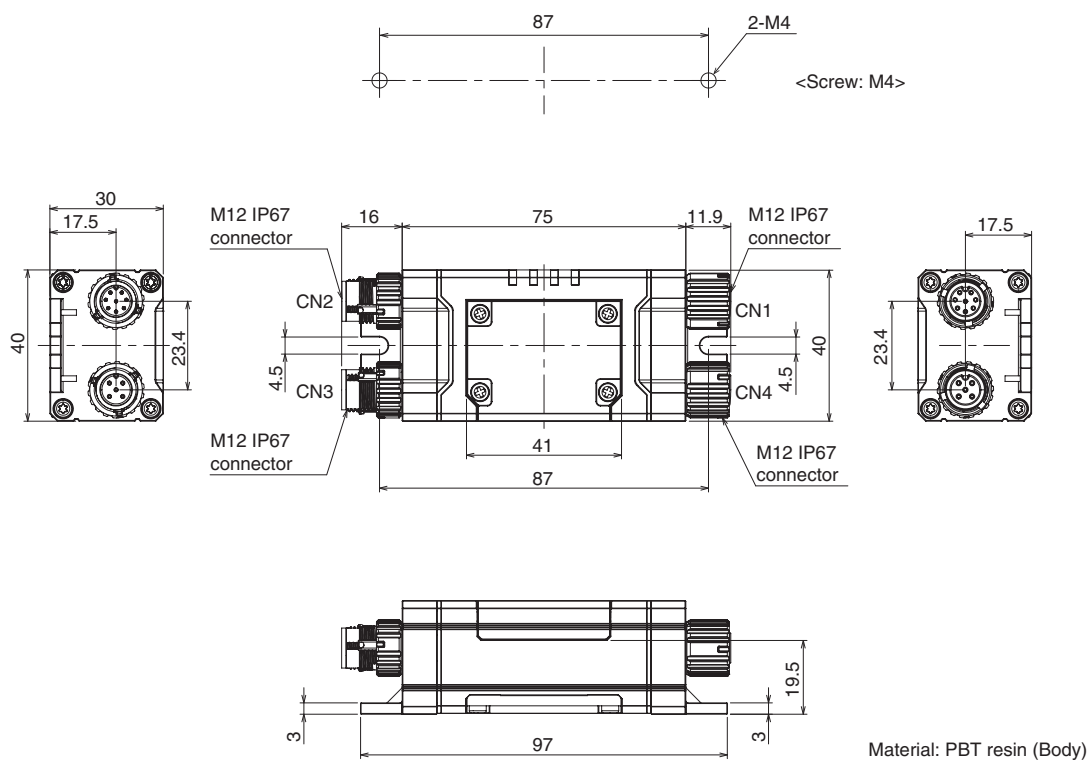


Adjustable Top/Bottom Bracket (F3SG-RA/RE Adapter) (F39-LSGTB-RE, sold separately)



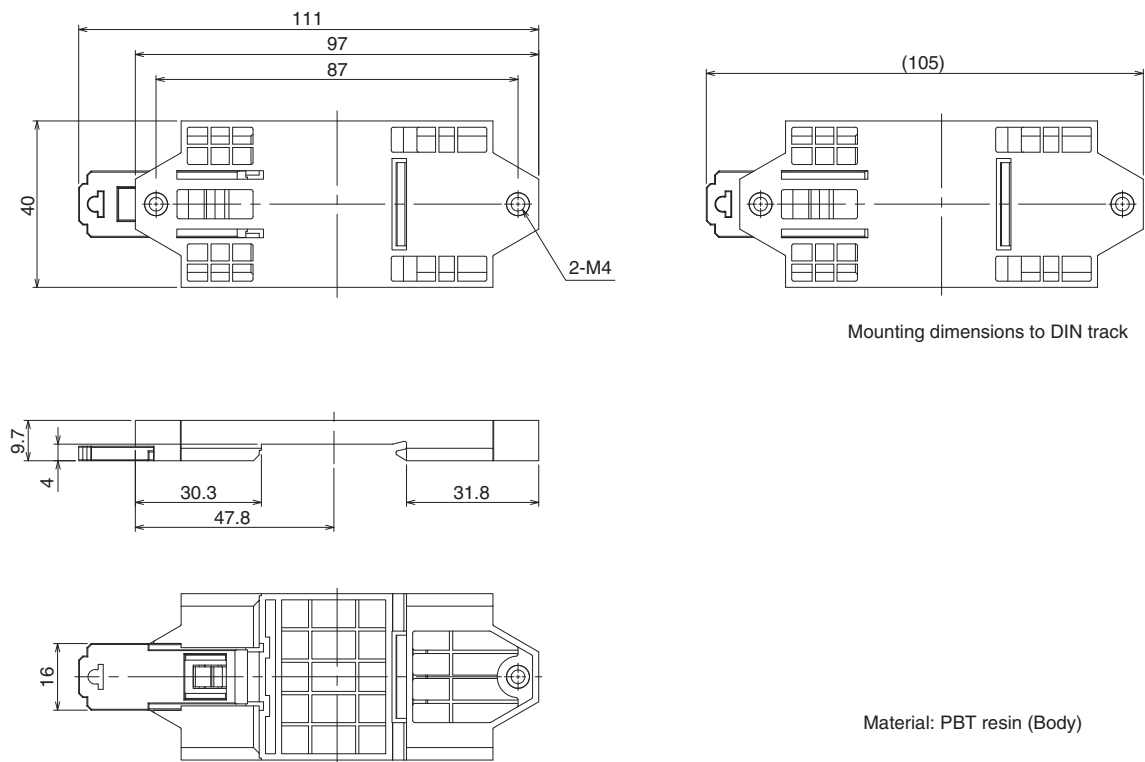
Adjustable Top/Bottom Bracket (MS4800, F3SR Adapter) (F39-LSGTB-MS, sold separately)



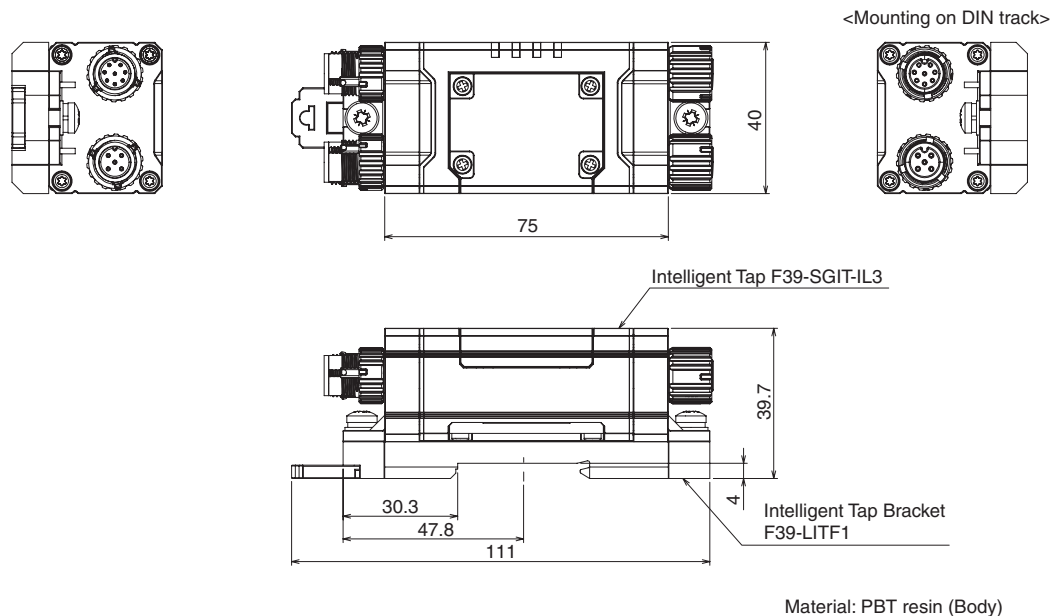
Intelligent Tap**Intelligent Tap (F39-SGIT-IL3, sold separately)**

F3SG-SR/PG

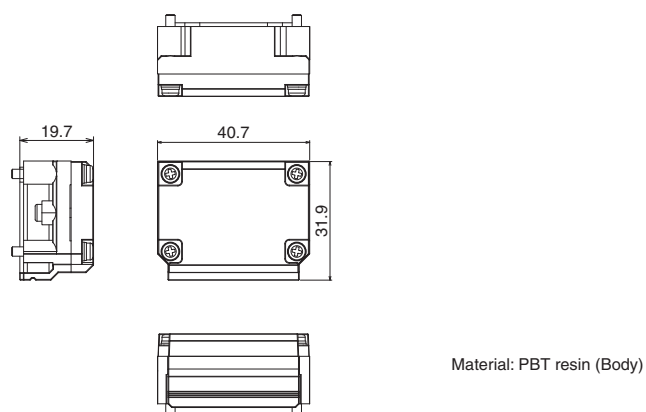
F3SG-SR-K

Common to
F3SG-SR and F3SG-PG**Intelligent Tap Bracket (F39- LITF1, sold separately)**

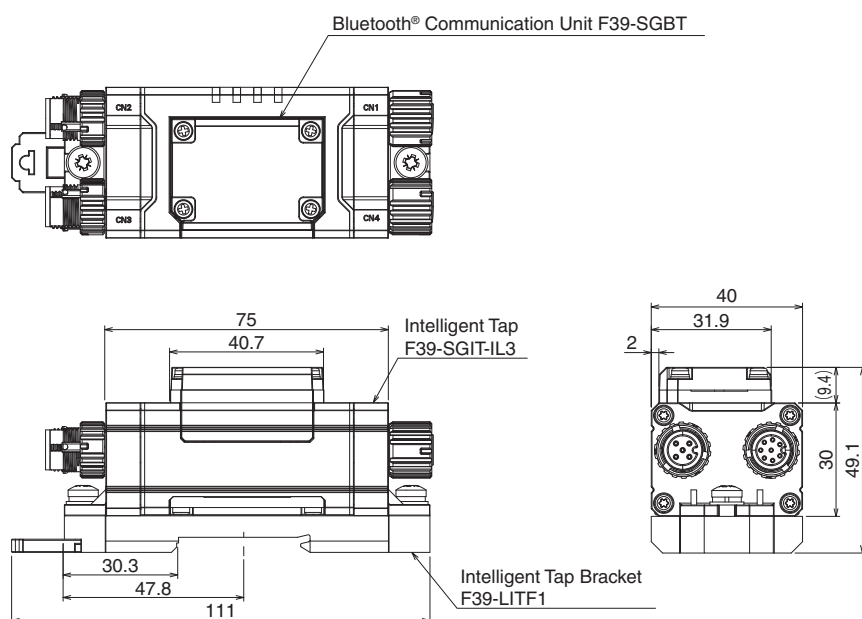
Assembly Dimensions (Intelligent Tap/ Intelligent Tap Bracket)



Bluetooth® Communication Unit (F39-SGBT, sold separately)

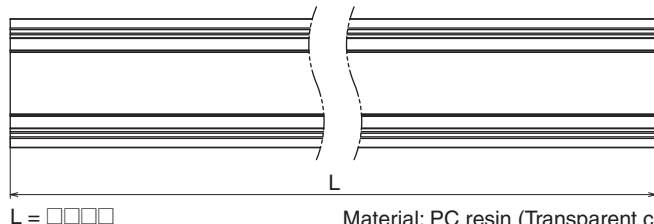
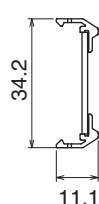


Assembly Dimensions (Intelligent Tap/Bluetooth® Communication Unit/Intelligent Tap Bracket)



Spatter Protection Cover

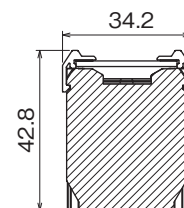
Spatter Protection Cover (F39-HSG□□□□, sold separately)



L = □□□□

Material: PC resin (Transparent cover)
ABS resin (Side)

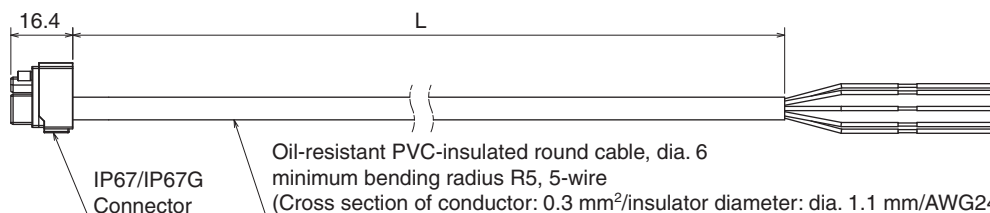
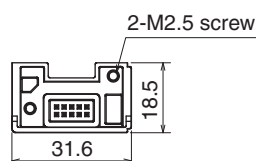
Assembly Dimensions



Connecting Cables

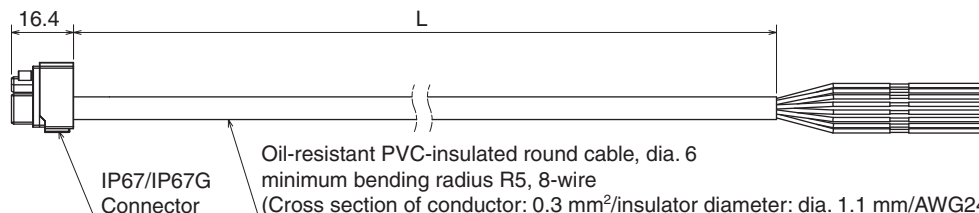
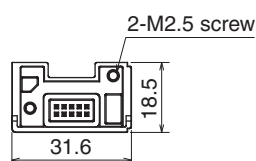
Root-Straight Cable

Root-Straight Cable for Emitter (F39-JG□C-L, sold separately)



Oil-resistant PVC-insulated round cable, dia. 6
minimum bending radius R5, 5-wire
(Cross section of conductor: 0.3 mm²/insulator diameter: dia. 1.1 mm/AWG24)

Root-Straight Cable for receiver or emitter/receiver of F3SG-PG Perimeter Guarding Passive Mirror (F39-JG□C-D, sold separately)

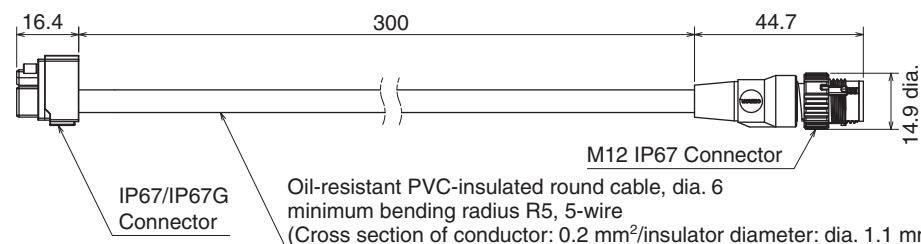
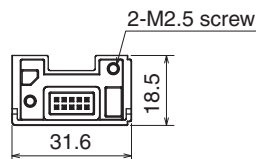


Oil-resistant PVC-insulated round cable, dia. 6
minimum bending radius R5, 8-wire
(Cross section of conductor: 0.3 mm²/insulator diameter: dia. 1.1 mm/AWG24)

Emitter cable (Gray)	Receiver cable (Black)	Length (L)
F39-JG3C-L	F39-JG3C-D	3 m
F39-JG7C-L	F39-JG7C-D	7 m
F39-JG10C-L	F39-JG10C-D	10 m

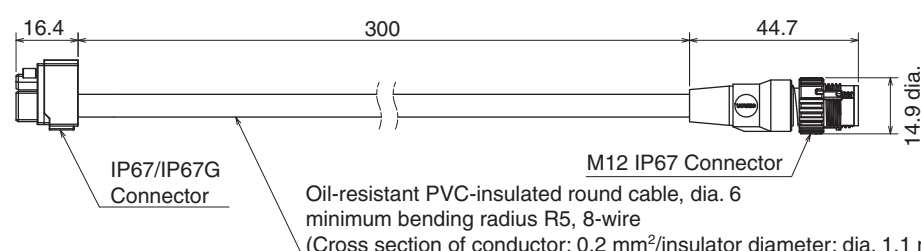
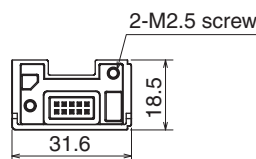
Root-Plug Cable for Extended

Root-Plug Cable for Extended for Emitter (F39-JGR□K-L, sold separately)



Oil-resistant PVC-insulated round cable, dia. 6
minimum bending radius R5, 5-wire
(Cross section of conductor: 0.2 mm²/insulator diameter: dia. 1.1 mm)

Root-Plug Cable for Extended for receiver or emitter/receiver of F3SG-PG Perimeter Guarding Passive Mirror (F39-JGR□K-D, sold separately)



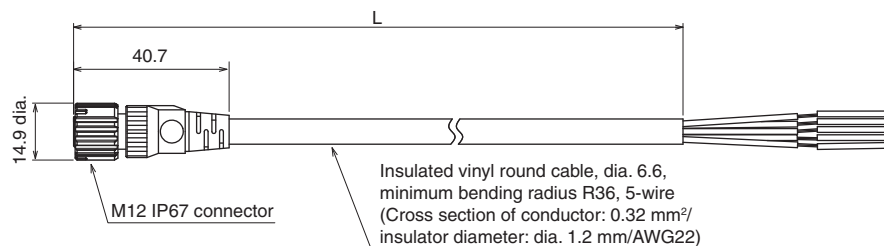
Oil-resistant PVC-insulated round cable, dia. 6
minimum bending radius R5, 8-wire
(Cross section of conductor: 0.2 mm²/insulator diameter: dia. 1.1 mm)

Emitter cable (Gray)	Receiver cable (Black)	Length
F39-JGR3K-L	F39-JGR3K-D	0.3 m

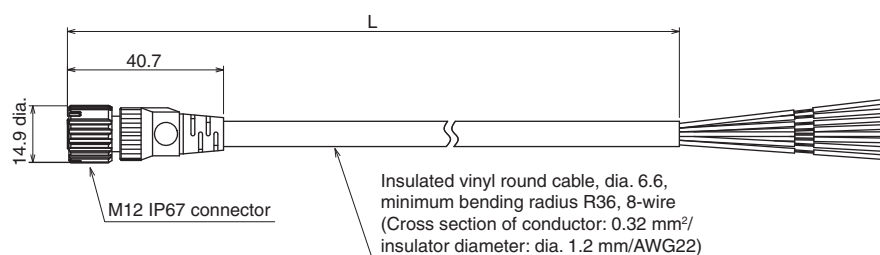
Extended Socket-Straight Cable

Emitter cable (Gray)	Receiver cable (Black)	Length (L)
F39-JG3A-L	F39-JG3A-D	3 m
F39-JG7A-L	F39-JG7A-D	7 m
F39-JG10A-L	F39-JG10A-D	10 m
F39-JG15A-L	F39-JG15A-D	15 m
F39-JG20A-L	F39-JG20A-D	20 m

Extended Socket-Straight Cable for Emitter (F39-JG□A-L, sold separately)



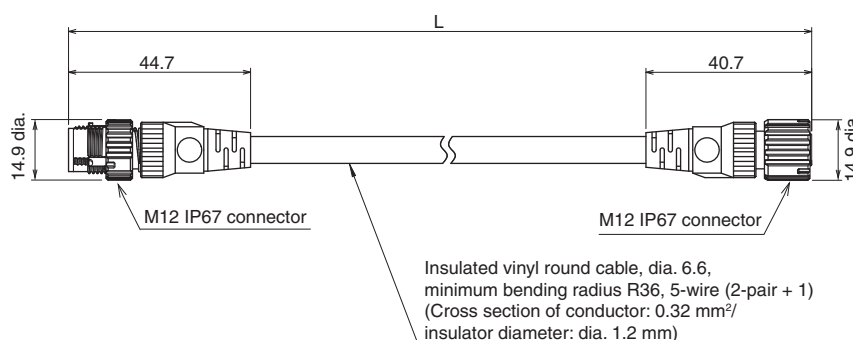
Extended Socket-Straight Cable for receiver or emitter/receiver of F3SG-PG Perimeter Guarding Passive Mirror (F39-JG□A-D, sold separately)



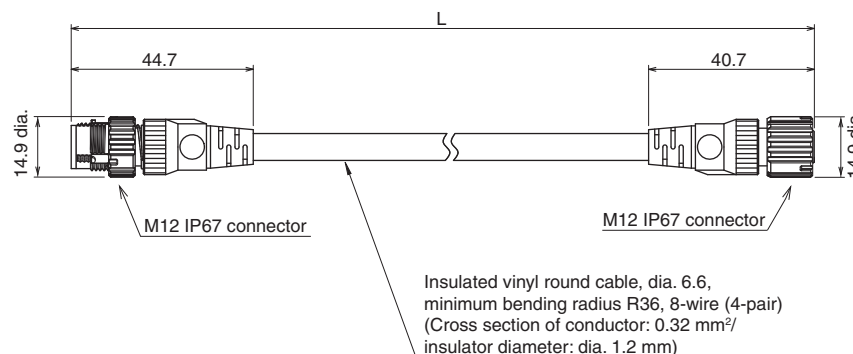
Extended Plug-Socket Cable

Emitter cable (Gray)	Receiver cable (Black)	Length (L)
F39-JGR5B-L	F39-JGR5B-D	0.5 m
F39-JG1B-L	F39-JG1B-D	1 m
F39-JG3B-L	F39-JG3B-D	3 m
F39-JG5B-L	F39-JG5B-D	5 m
F39-JG7B-L	F39-JG7B-D	7 m
F39-JG10B-L	F39-JG10B-D	10 m
F39-JG15B-L	F39-JG15B-D	15 m
F39-JG20B-L	F39-JG20B-D	20 m

Extended Plug-Socket Cable for Emitter: Cable for extension (F39-JG□B-L, sold separately)

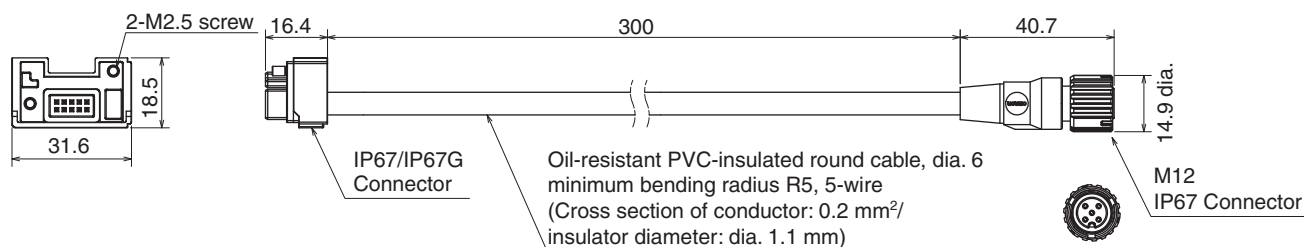


Extended Plug-Socket Cable for receiver or emitter/receiver of F3SG-PG Perimeter Guarding Passive Mirror: Cable for extension (F39-JG□B-D, sold separately)

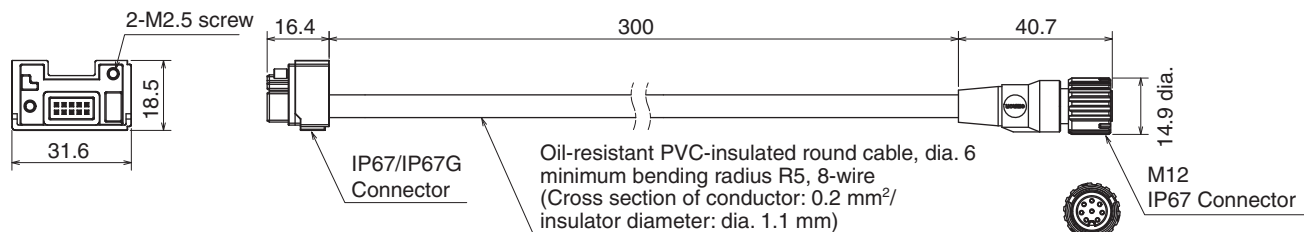


Cascading Cable for Extended (F39-JGR3W, sold separately) (two cables per set, one for emitter and one for receiver)

Emitter Cascading Cable for Extended



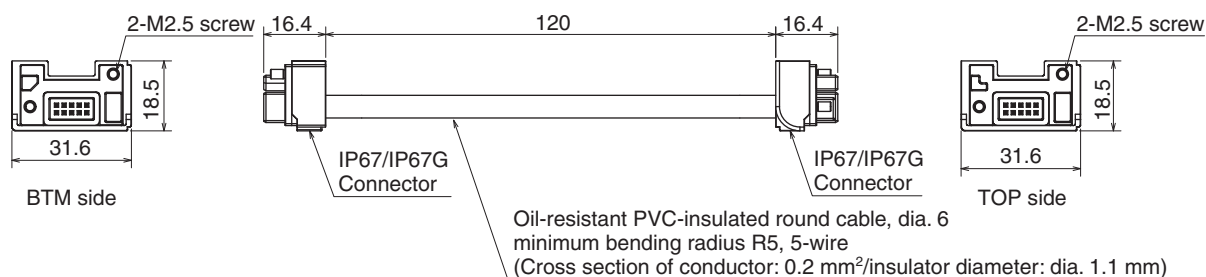
Receiver Cascading Cable for Extended



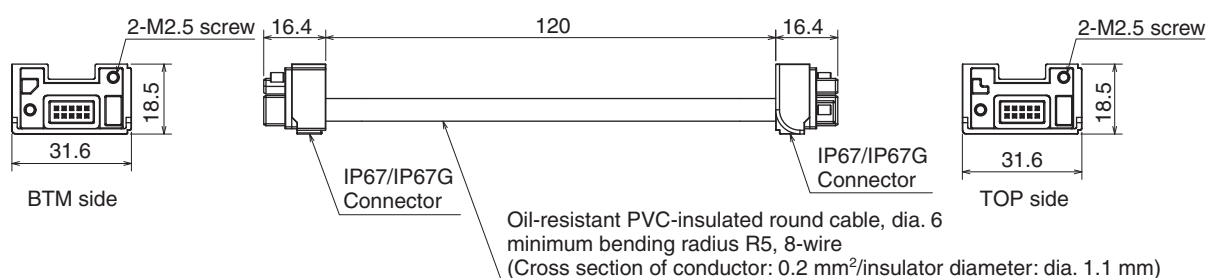
Set model name	Emitter cable (Gray)	Receiver cable (Black)	Length
F39-JGR3W	F39-JGR3W-L	F39-JGR3W-D	0.3 m

Side-by-side Cascading Cable (F39-JGR12L, sold separately) (two cables per set, one for emitter and one for receiver)

Side-by-side Cascading Cable for Emitter



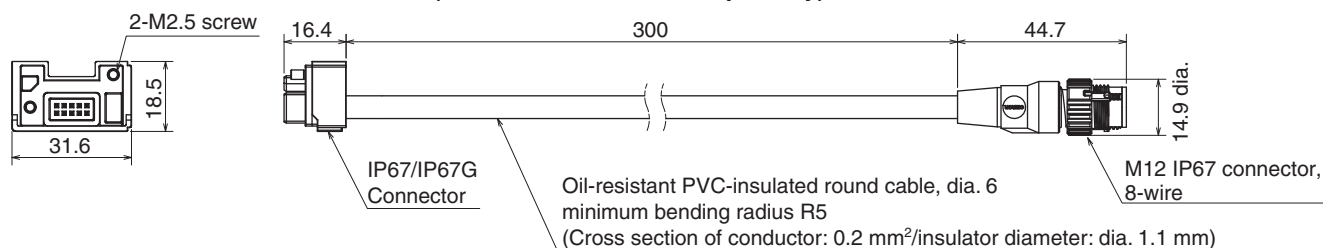
Side-by-side Cascading Cable for Receiver



Set model name	Emitter cable (Gray)	Receiver cable (Black)	Length
F39-JGR12L	F39-JGR12L-L	F39-JGR12L-D	12 cm

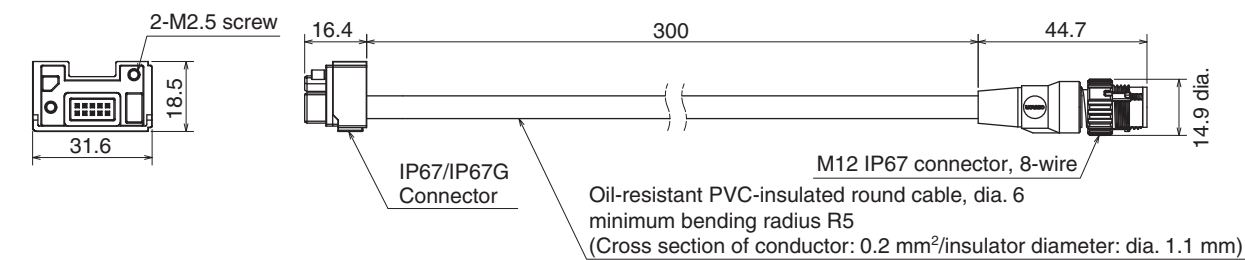
Conversion Cable

F3SJ-B/A Conversion Cable for Emitter (F39-JGR3K-SJ-L, sold separately)



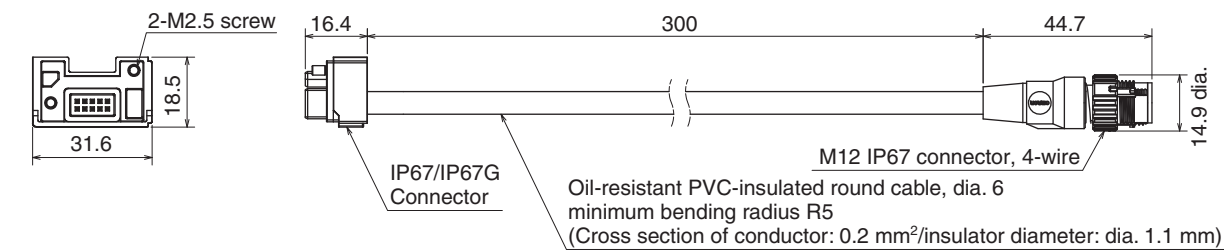
F3SG-SR/PG

F3SJ-B/A Conversion Cable for Receiver (F39-JGR3K-SJ-D, sold separately)

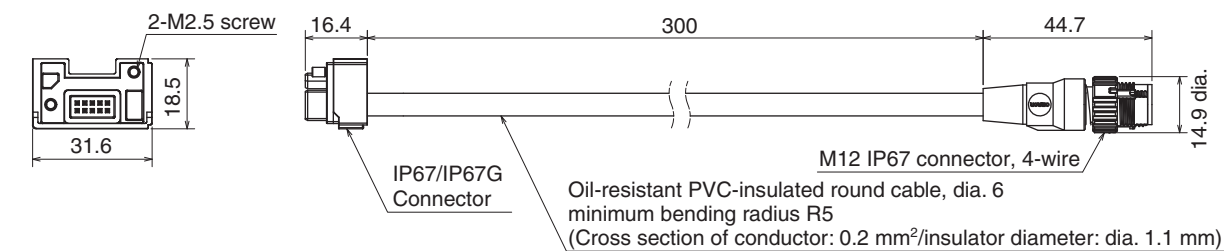


Emitter cable (Gray)	Receiver cable (Black)	Length
F39-JGR3K-SJ-L	F39-JGR3K-SJ-D	0.3 m

F3SG-RE Conversion Cable for Emitter (F39-JGR3K-RE-L, sold separately)

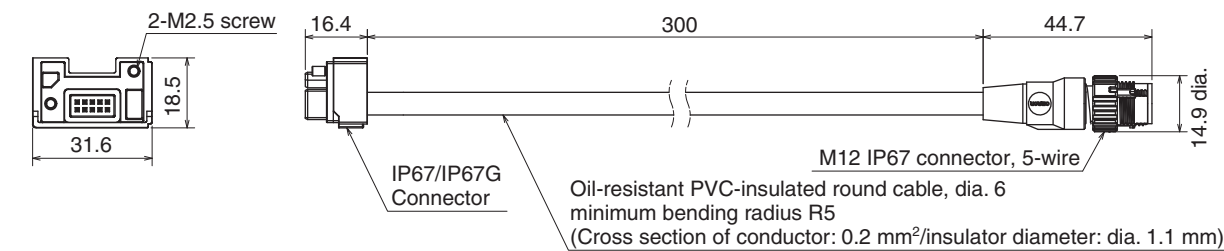


F3SG-RE Conversion Cable for Receiver (F39-JGR3K-RE-D, sold separately)

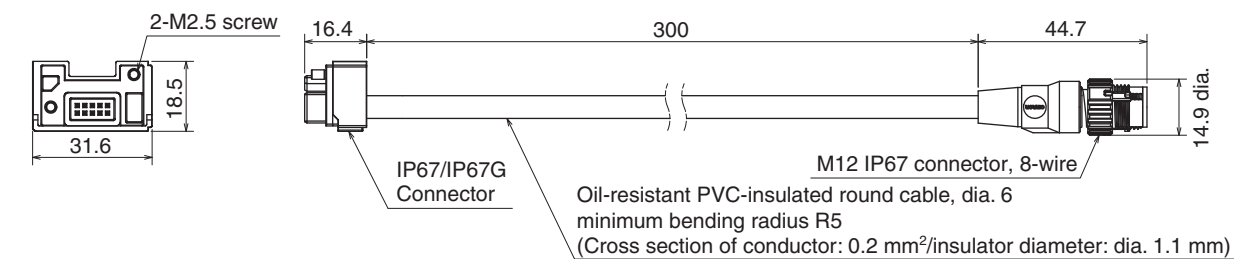


Emitter cable (Gray)	Receiver cable (Black)	Length
F39-JGR3K-RE-L	F39-JGR3K-RE-D	0.3 m

MS48 Conversion Cable for Emitter (F39-JGR3K-MS-L, sold separately)



MS48 Conversion Cable for Receiver (F39-JGR3K-MS-D, sold separately)

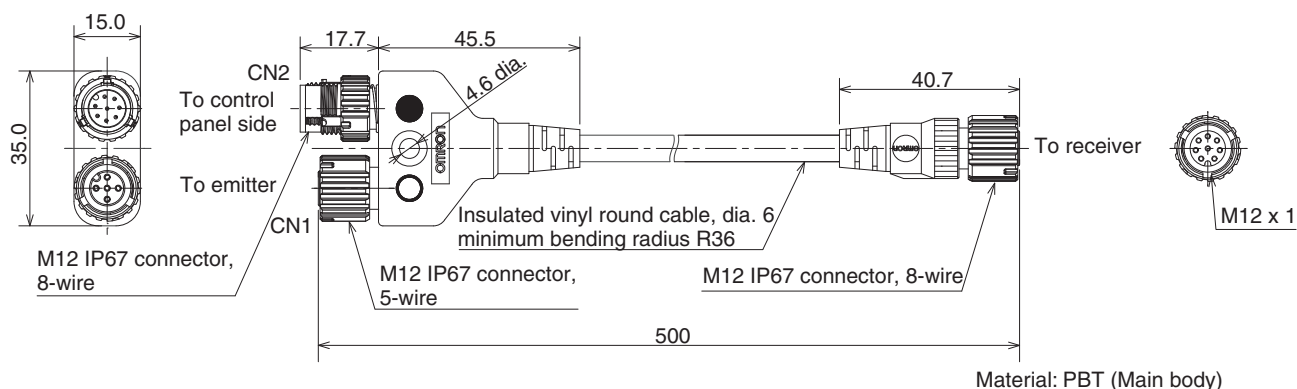


Emitter cable (Gray)	Receiver cable (Black)	Length
F39-JGR3K-MS-L	F39-JGR3K-MS-D	0.3 m

Y-Joint Plug/Socket Connector (F39-GCNY2, sold separately)

Plug marked with ● (blue circle): Connect to control panel side

Socket marked with ○ (open circle): Connect to emitter

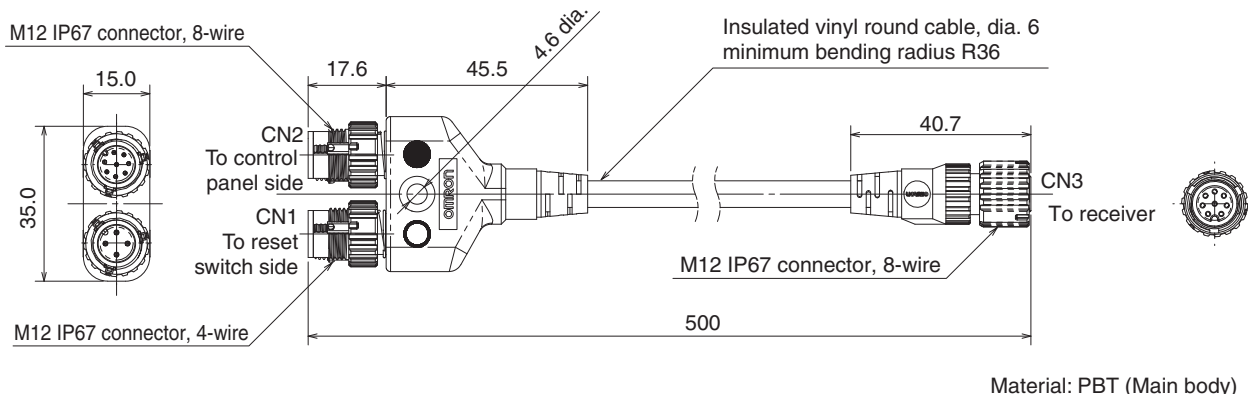


Model	Length
F39-GCNY2	0.5 m

Reset Switch Connector (F39-GCNY3, sold separately)

Plug marked with ● (blue circle): Connect to control panel side

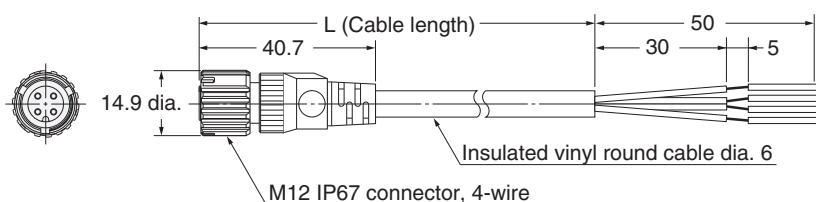
Plug marked with ○ (open circle): Connect to reset switch side



Model	Length
F39-GCNY3	0.5 m

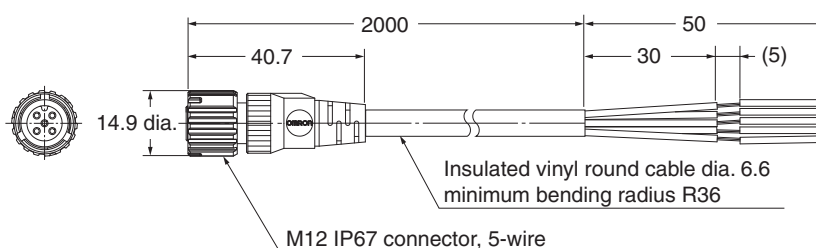
Connector Connected to Cable, Socket on One Cable End (XS5F-D421-□80-F, sold separately)

Model	Length (L)
XS5F-D421-C80-F	1 m
XS5F-D421-D80-F	2 m
XS5F-D421-E80-F	3 m
XS5F-D421-G80-F	5 m
XS5F-D421-J80-F	10 m
XS5F-D421-L80-F	20 m

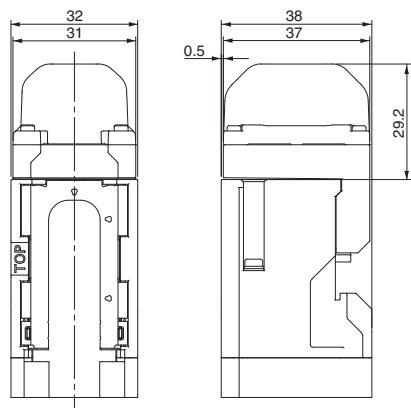


Intelligent Tap-to-IO-Link Master Cable (Single ended cable) (XS5F-D521-DJ0-IL, sold separately)

Model	Length (L)
XS5F-D521-DJ0-IL	2 m

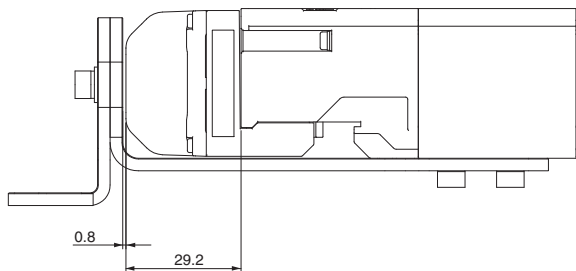


Lamp
Lamp
(F39-SGLP, sold separately)

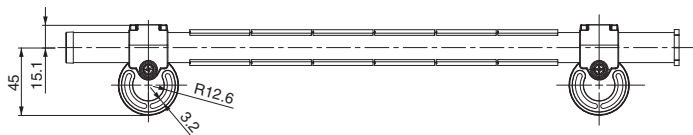


Material: PC resin (Transparent cover)
PBT resin (Base)

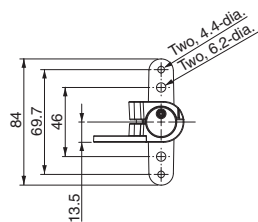
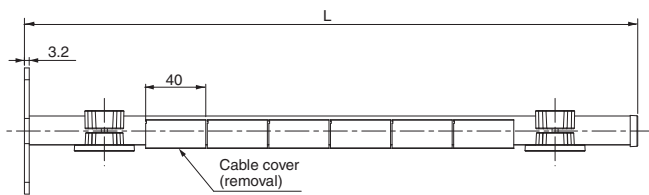
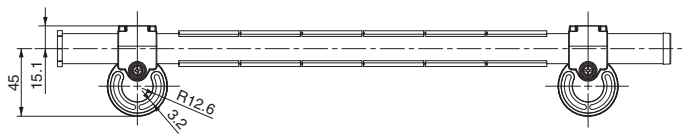
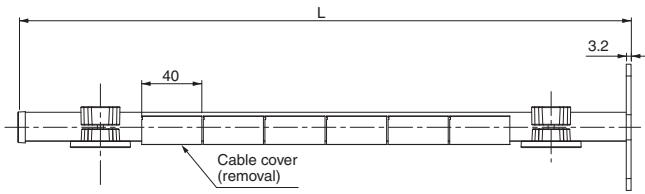
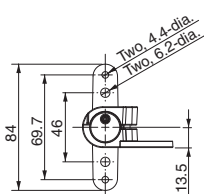
• Assembly Dimensions



Muting Sensor Arm Mounter
Muting Sensor Arm Mounter
(F39-FMA□□□□, sold separately)

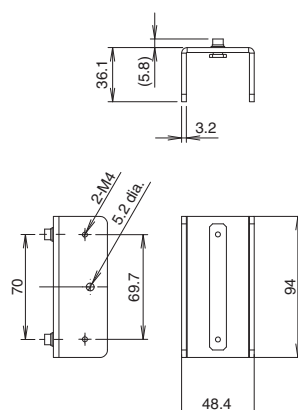


Material: PBT resin (Sensor Mounting)
PC resin (Cable cover)
Hot rolled steel (Base)
Aluminum alloy (Arm)



Model	Dimension L
F39-FMA150□	158.2
F39-FMA400□	408.2

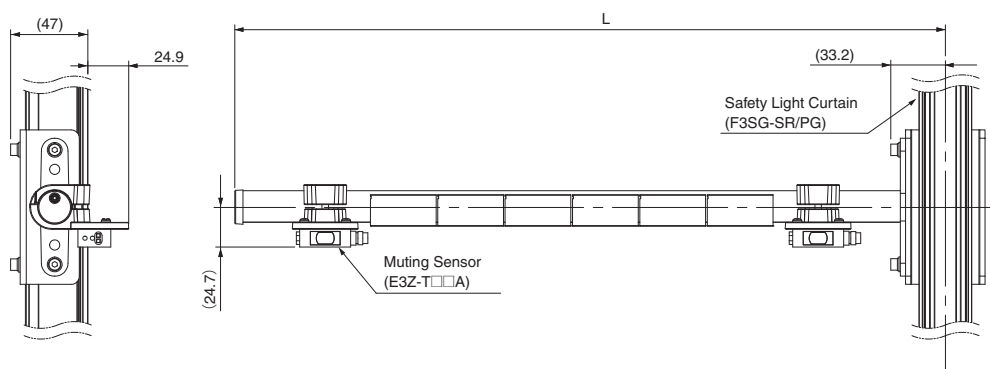
Muting Sensor Arm Mounter Bracket for SLC (F39-LMAF1, sold separately)



Material: Hot rolled steel

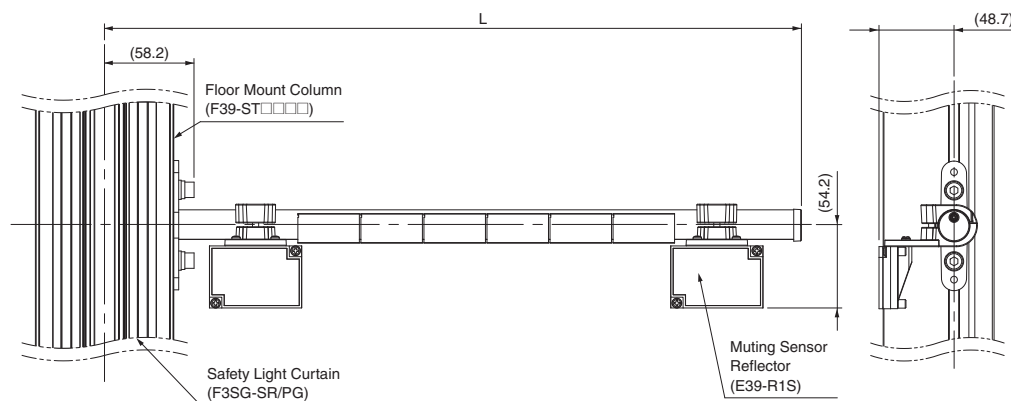
• Assembly Dimensions

Mounting F39-FMA□□□□-T on the Muting Sensor Arm Mounter Bracket for SLC (F39-LMAF1)



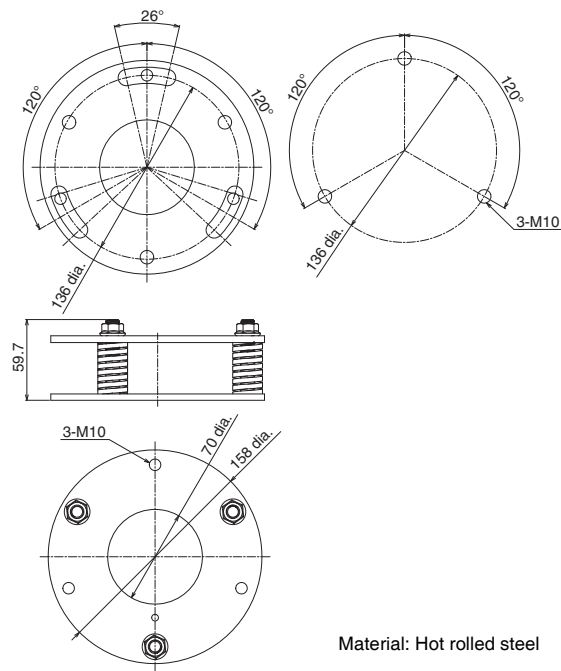
Model	Dimension L
F39-FMA150□	182.4
F39-FMA400□	432.4

Mounting F39-FMA□□□□-R on the Floor Mount Column (F39-ST□□□□)

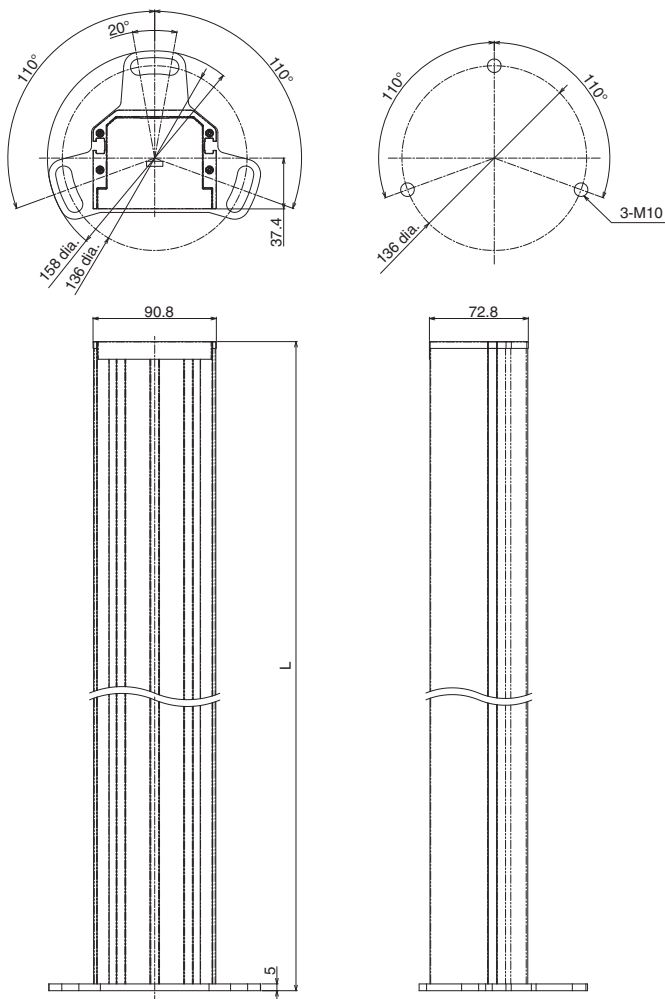


Model	Dimension L
F39-FMA150□	203.2
F39-FMA400□	453.2

Mount-Column Adjustable Base
F39-STB



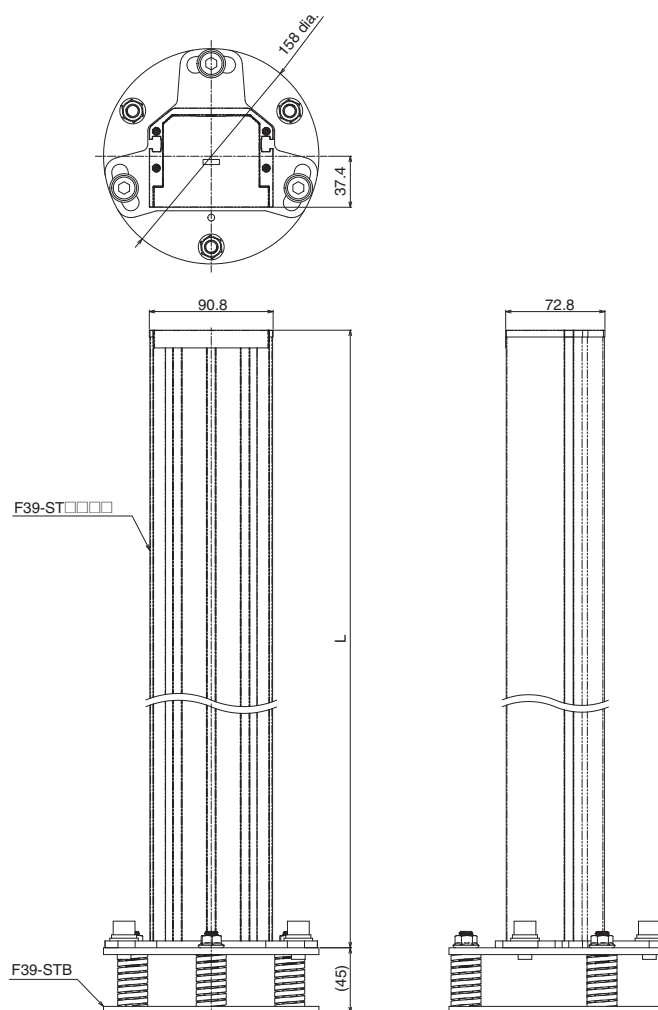
Floor Mount Column
F39-ST□□□□



Material: Aluminum alloy (Housing)
Hot rolled steel (Base)
PBT resin (Cap)

Model	Dimension L
F39-ST0990	990
F39-ST1310	1310
F39-ST1630	1630
F39-ST1950	1950
F39-ST2270	2270

• Assembly Dimensions (Mount-Column Adjustable Base /Floor Mount Column)
F39-STB/F39-ST□□□□



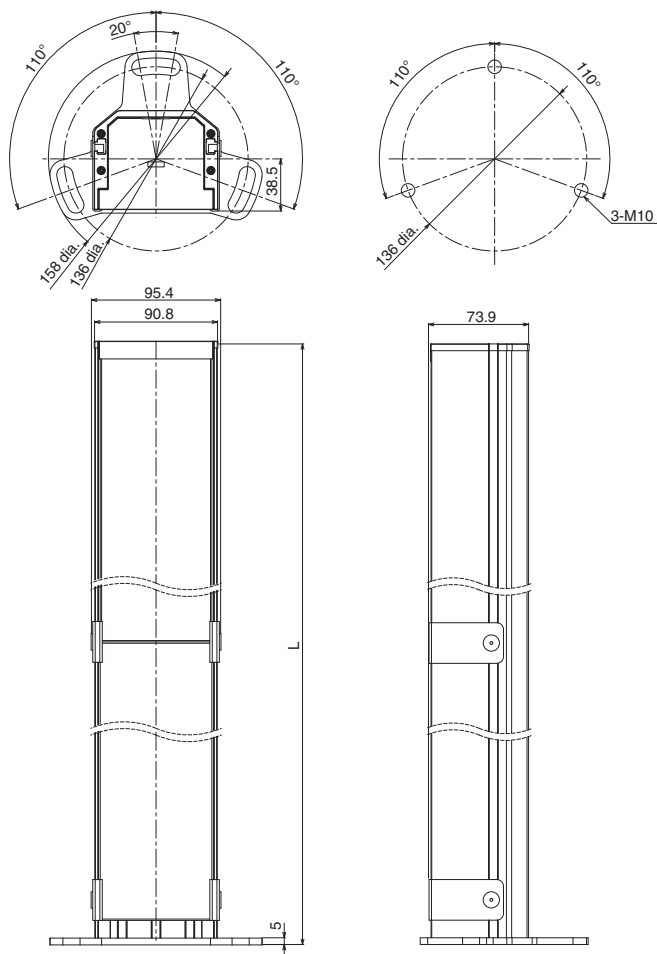
Model	Dimension L
F39-ST0990	990
F39-ST1310	1310
F39-ST1630	1630
F39-ST1950	1950
F39-ST2270	2270

F3SG-SR/PG

F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

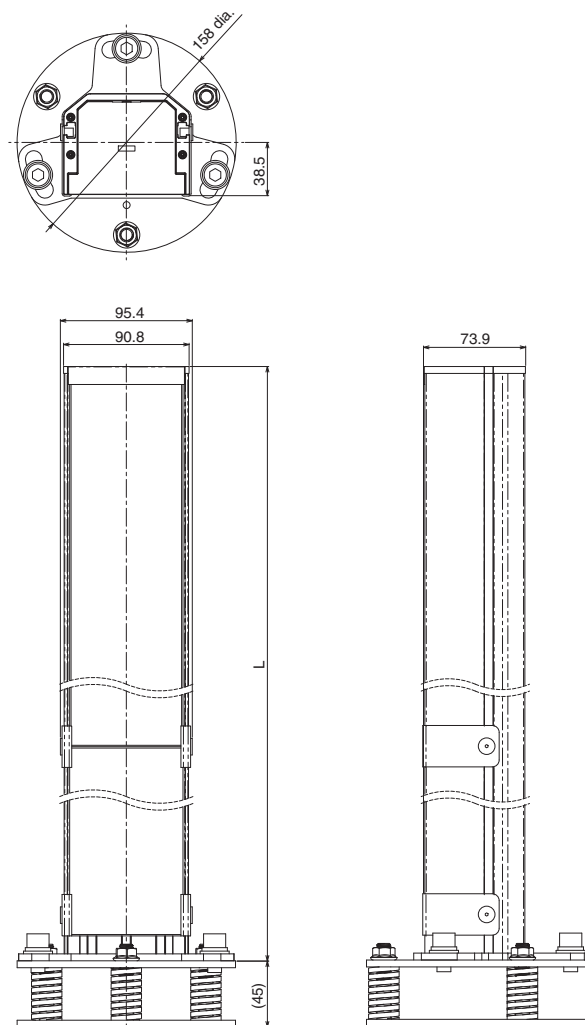
Mirror Column
F39-SML□□□□



Material: Aluminum alloy (Housing)
Hot rolled steel (Base)
PBT resin (Cap)
Glass mirror (Mirror)

Model	Dimension L
F39-SML0990	990
F39-SML1310	1310
F39-SML1630	1630
F39-SML1950	1950

• Assembly Dimensions (Mount-Column Adjustable Base /Mirror Column)
F39-STB/F39-SML□□□□



Model	Dimension L
F39-SML0990	990
F39-SML1310	1310
F39-SML1630	1630
F39-SML1950	1950

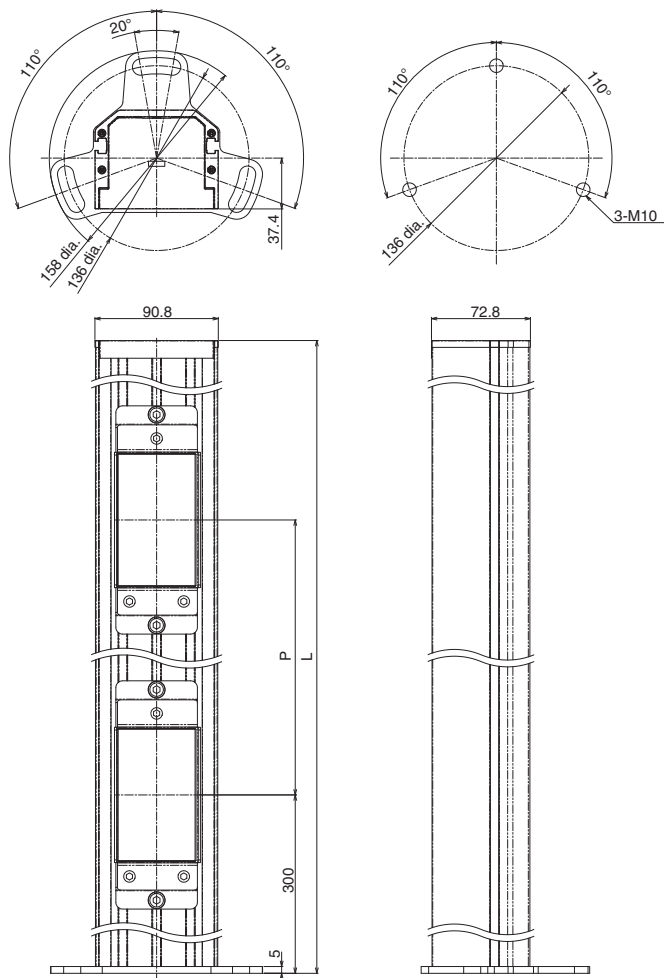
F3SG-SR/PG

F3SG-SR-K

Common to
F3SG-SR and F3SG-PG

F3SG-SR/PG

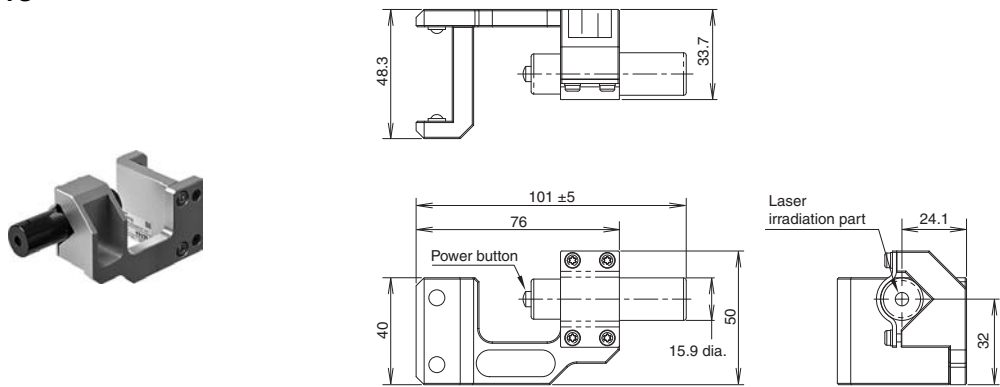
F39-PML□□□□



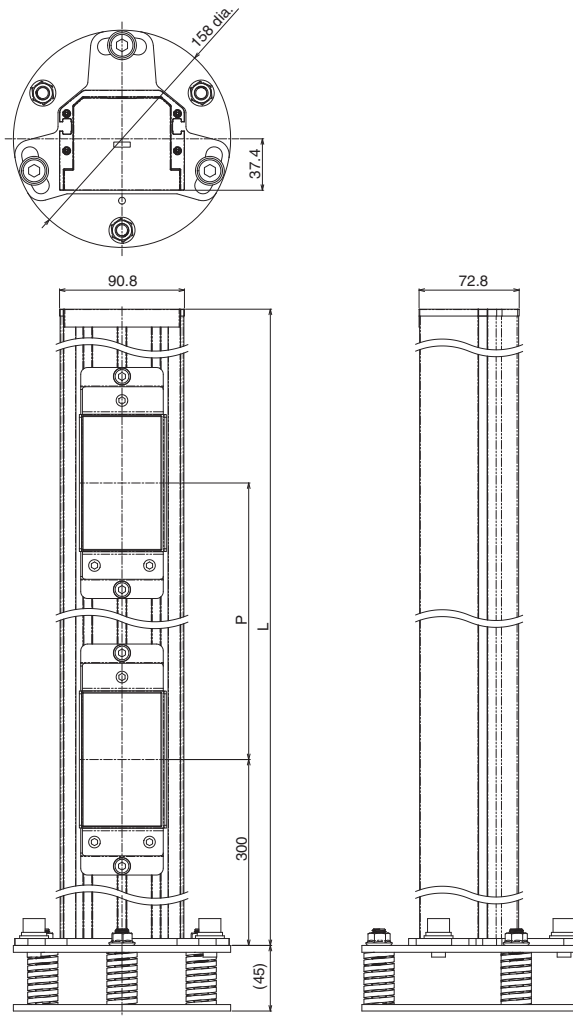
Material: Aluminum alloy (Housing)
Hot rolled steel (Base, Mirror base)
PBT resin (Cap)
Glass mirror (Mirror)

Model	Dimension L	Dimension P	Mirror Q'ty
F39-PML0990-2	990	500	2
F39-PML1310-3	1310	400	3
F39-PML1310-4		300	4
F39-PML1630-4	1630	400	4

Laser Alignment Pointer
F39-PTS



• Assembly Dimensions (Mount-Column Adjustable Base /Mirror Column)
F39-STB/F39-PML□□□□



Model	Dimension L	Dimension P	Mirror Q'ty
F39-PML0990-2	990	500	2
F39-PML1310-3	1310	400	3
F39-PML1310-4		300	4
F39-PML1630-4	1630	400	4

Muting Sensor Connection Box
F39-GCN5

