

Model F39-SML□/PML□

Mirror Column for F3SG-SR/PG

INSTRUCTION SHEET

Thank you for purchasing the product. Be sure to have F3SG-SR/PG and this product be handled by a "Responsible Person" who is well aware of and familiar with the machine to be installed. The term "Responsible Person" used in this document means the person qualified, authorized and responsible to secure "safety" in each process of the design, installation, operation, maintenance services and disposition of the machine. Read this document and user's manuals of F3SG-SR/PG series thoroughly to understand and make good use of the descriptions before installing and operating the product. Keep this document at the place where the operator can refer to whenever necessary.

© OMRON Corporation 2020-2021 All Rights Reserved.

5636186-8 B

Safety Precautions

Meaning of Signal Words



Indicates an imminently hazardous situation which, if not avoided, is likely to result in serious injury or may result in death. Additionally there may be severe property damage.



Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Additionally there may be significant property damage.

Alert Statements



Make sure that the machine can be controlled correctly and as intended. Also make sure that the machine can be stopped immediately at any time of the operation cycle without danger to machine operators when the machine behavior does not meet safety-related requirements. Otherwise, continued use of the machine may result in serious injury or death.



The F3SG must be installed, configured, and incorporated into a machine control system by a sufficiently trained and qualified person. An unqualified person may not be able to perform these operations properly, which may cause a person to go undetected, resulting in serious injury.

Precautions for Safe Use

Make sure to observe the following precautions that are necessary for ensuring safe use of the product.

- Do not install, use, or store the product in the following types of environments:
 - Areas exposed to intense interference light, such as direct sunlight
 - Areas with high humidity where condensation is likely to occur
 - Areas where corrosive gases are present
 - Areas exposed to vibration or shock levels higher than in the specification provisions
 - Areas where the pollution degree is harsher than 3, such as outdoor environment
- When carrying and installing the product, make sure that two people work together according to the weight of the product so that it should not fall. Otherwise injury and/or property damage may occur.
- Make sure that the fixing screws are properly secured with the torque recommended in this document.
 - Mounting to the F39-STB: 7.0N·m (use M10 bolts)
 - The F39-PML mirror mounting: 3.0N·m (use M6 bolts)
- Dispose of the product in accordance with the relevant rules and regulations of the country or area where the product is used.

Precautions for Correct Use

Observe the precautions described below to prevent operation failure, malfunctions, or undesirable effects on product performance.

- Do not install, use, or store the product in the following types of environments:
 - Areas with a temperature or humidity out of the specified range
 - Do not use thinner, benzene, or acetone for cleaning. They affect the product's resin parts and paint on the housing.
- Mirror will be broken when it has big impact, it means to be connected with possibility to be injured. Be careful when using this mirror.
- Do not use in an environment where shock is applied during operation. It may malfunction.
- When using one F39-SML, the operating range of the safety light curtain is 15% shorter than the rating. When using one F39-PML, the operating range of the safety light curtain is 10% shorter than the rating per reflection. Install the product in consideration with the decrease of the operating range.

Ratings and Specifications

Item	F39-SML□□□□/PML□□□□-□	
Applicable Sensor	F39-SML0990	F3SG-SR (Protective height up to 0880) F3SG-4PGA0670-2A/-2L
	F39-SML1310	F3SG-SR (Protective height up to 1200) F3SG-4PGA0970-3A/3L F3SG-4PGA1070-4A/-4L
	F39-SML1630	F3SG-SR (Protective height up to 1520) F3SG-4PGA1370-4A/-4L
	F39-SML1950	F3SG-SR (Protective height up to 1840)
	F39-PML0990-2	F3SG-4PGA0670-2A/-2L
	F39-PML1310-3	F3SG-4PGA0970-3A/3L
	F39-PML1310-4	F3SG-4PGA1070-4A/-4L
Operating range Reduction	F39-SML: 15% shorter than the rating (per reflection)	F39-PML: 10% shorter than the rating (per reflection)
	Ambient Temperature	Operating: -30 to 55°C, Storage: -30 to 70°C (non-icing and non-condensing)
Ambient Humidity	Operating: 35% to 85%, Storage: 35% to 95% (non-condensing)	
Vibration Resistance	10 to 55 Hz, Multiple amplitude of 0.05 mm, 20 sweeps for all 3 axes	
Material	Case: Aluminum, Mounting plate: SPHC, Cap: PBT Mirror: Grass, Mounting parts of F39-SML mirror: PMMA Mounting parts of F39-PML mirror: SPCC F39-STB: SPHC (Sold separately)	
Weight (when packaged)	F39-SML0990: 7,700 g, F39-SML1310: 9,800 g F39-SML1630: 12,000 g, F39-SML1950: 14,000 g F39-PML0990-2: 7,100 g, F39-PML1310-3: 9,200 g F39-PML1310-4: 9,600 g, F39-PML1630-4: 11,400 g F39-STB: 1,700 g (Sold separately)	
Included accessories F39-SML/PML	Mirror column x 1 Instruction Sheet x 1	
Included accessories F39-STB	Mount-column adjustable base x 1 Hexagon socket head bolt x 3 (M10 x 15mm)	

Installation

< Mounting the Mirror column (F39-SML□□□□ / F39-PML□□□□-□) >

- Temporarily tighten the Screws or the stud bolts and the Nuts (M10) to fix the Mirror column to the mounting position of the floor. When using the Mount-column adjustable base, mount the stud bolts to the mounting holes on the floor of the mount-column adjustable base. Then insert the stud bolts into the mounting holes of the Mount-column adjustable base and securely tighten the Nut (M10). Temporarily tighten the included Bolts (1) to fix the Mirror column to the Mount-column adjustable base. The length of the stud bolt from the floor should be 17 to 25 mm. (Fig. 1)

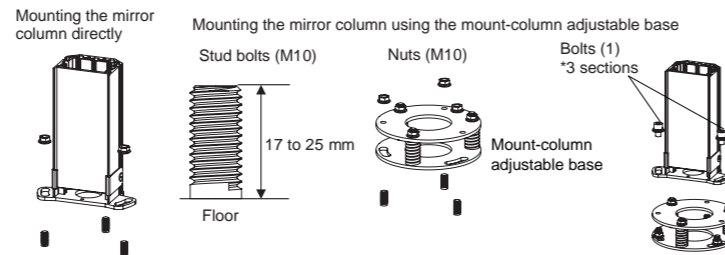
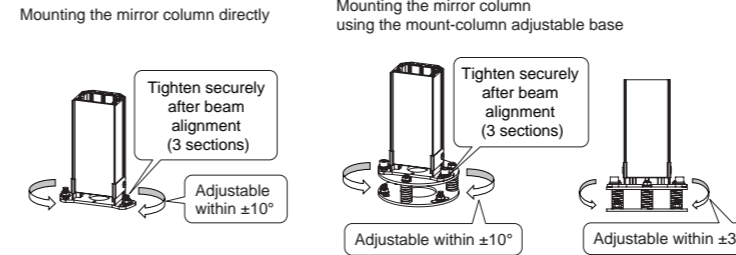


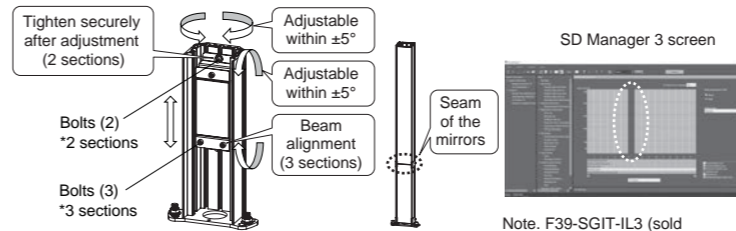
Fig. 1

- Mount the F3SG-SR/PG with the dedicated Brackets to the mounting position. For the procedure of mounting the F3SG-SR/PG, refer to the F3SG-SR/PG User's Manual.

- Perform beam alignment for the Mirror column so that the Emitter and Receiver of F3SG-SR/PG face each other through the Mirror column. The Mirror column can be adjusted ± 10 degree in the direction of rotation and the Mount-column adjustable base can be adjusted ± 3 degree in tilt direction. And the each mirror of the F39-PML□□□□-□ can be adjusted in rotation and tilt direction. Adjust position with Bolt (2) and angle with Bolt (3). The adjustment angle is ± 5° for both. If it is difficult to perform beam alignment, use the laser pointer (sold separately). For usable laser pointers, refer to the F3SG-SR/PG User's Manual. If the beam axes are positioned on the seam of the mirrors of the F39-SML, incident light level may become so low that the F3SG-SR/PG can be in the blocked or unstable beam state. In this case, adjust the F39-SML in the tilt direction or adjust the F3SG-SR/PG in the height direction. After perform beam alignment, securely tighten the Screws or Bolts (1). The recommended torque to tighten the Bolt (1) is 7.0 N·m. And The recommended torque to tighten the Bolt (2) is 3.0 N·m. (Fig. 2)



Mirror adjustment of F39-PML□□□□-□



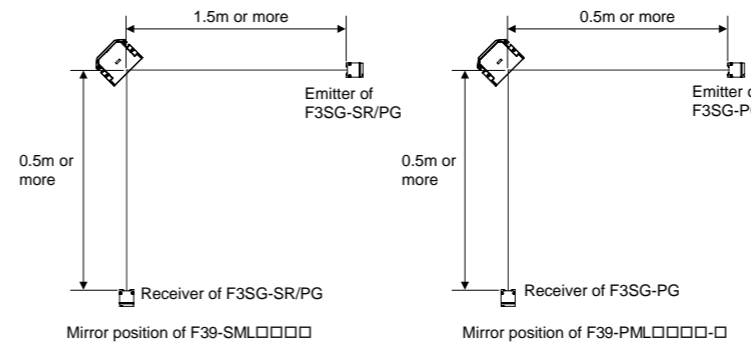
* Please note that loosening all Bolts (2) or Bolts (3) may cause the mirror to fall out.

Fig. 2

- Perform beam alignment for the F3SG-SR/PG. For the procedure of performing beam alignment, refer to the F3SG-SR/PG User's Manual.

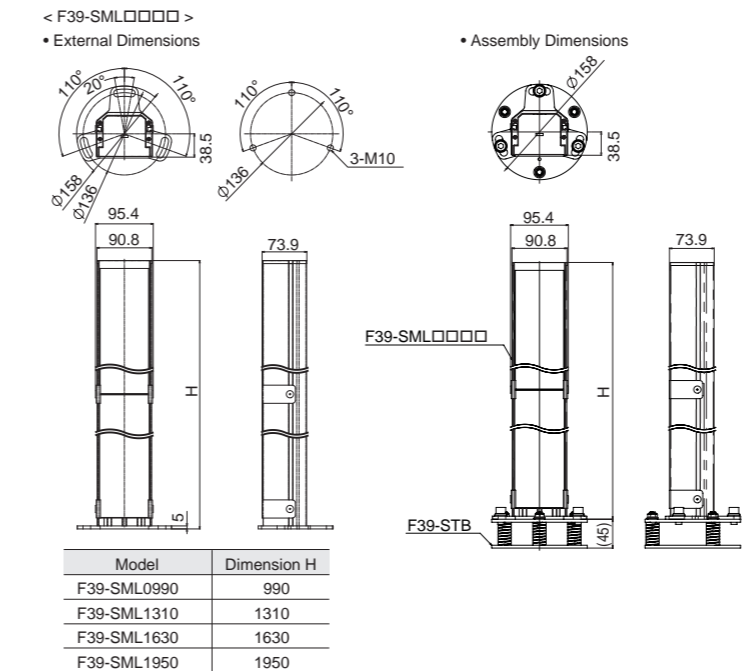
Installation location

Use the F39-SML□□□□ and the F3SG-SR/PG transmitter at a distance of 1.5m or more. Other combinations should be separated by 0.5m or more.



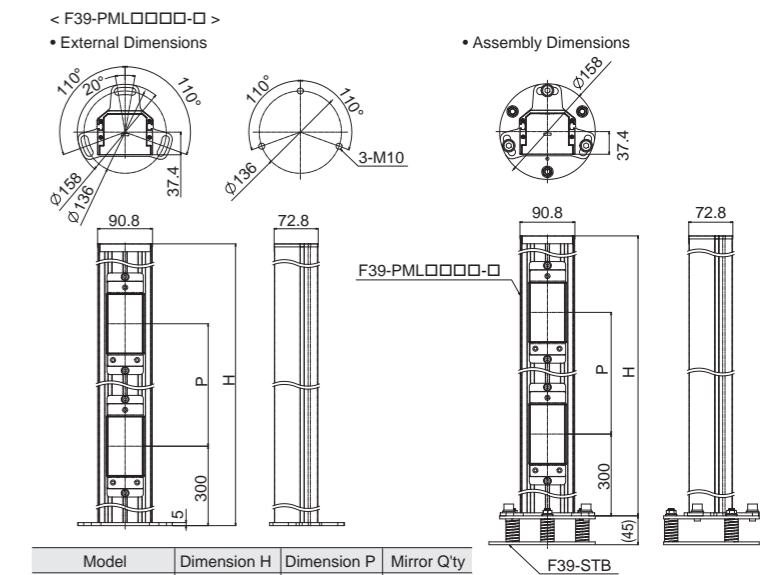
External Dimensions

SML External Dimensions, Assembly dimension diagram



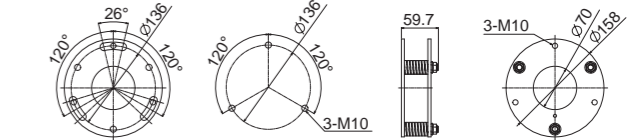
[Unit: mm]

PML External Dimensions, Assembly dimension diagram



Model	Dimension H	Dimension P	Mirror Qty
F39-PML0990-2	990	500	2
F39-PML1310-3	1310	400	3
F39-PML1310-4	1310	300	4
F39-PML1630-4	1630	400	4

STB External Dimensions



Reference Manuals

Document Title	Cat. No.
Safety Light Curtain F3SG-SR Series Multi Beam Safety Sensor F3SG-PG Series User's Manual	Z405-E1

Suitability for Use

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

OMRON Corporation (Manufacturer)

Shiokoji Horikawa, Shimogyo-ku, Kyoto, 600-8530 JAPAN

Contact: www.ia.omron.com

Regional Headquarters

- OMRON EUROPE B.V. (Importer in EU)**
Wegalaan 67-69, 2132 JD Hoofddorp
The Netherlands
Tel: (31)2356-81-300/Fax: (31)2356-81-388
- OMRON ELECTRONICS LLC**
2895 Greenspoint Parkway, Suite 200
Hoffman Estates, IL 60169 U.S.A.
Tel: (1) 847-843-7900/Fax: (1) 847-843-7787
- OMRON ASIA PACIFIC PTE. LTD.**
No. 438A Alexandra Road # 05-05/08 (Lobby 2),
Alexandra Technopark,
Singapore 119967
Tel: (65) 6835-3011/Fax: (65) 6835-2711
- OMRON (CHINA) CO., LTD.**
Room 2211, Bank of China Tower,
200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200