

LFV3-G Series Instruction Guide



Thank you for purchasing a CCS product. To ensure proper use of the product, please read this instruction guide before use and keep it for your future reference.

1 Important Information for Equipment Safety - Read Before Use -

This product has been designed with full consideration of safety. However, incorrect usage of the product may result in fire, electric shock, or other serious damages. Please ensure to follow the conditions below.

The following symbols are used in this instruction guide to indicate and classify the relative importance of warnings and cautions.

Warning	Indicates that incorrect usage may result in serious injury or death.	Caution	Indicates that incorrect usage may result in injury or property damage.
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The following symbols in the instruction guide indicate and classify the precautions.

<p>These symbols indicate prohibited actions.</p>	<p>This symbol indicates required actions.</p>
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Warning	
Do not disassemble or modify the Light Unit. Doing so may result in fire or electric shock.	LED light radiation may cause corneal or retinal abnormalities if you look directly at the light. To prevent harmful light exposure, never look directly at the LED light.
Do not touch the Light Unit with wet hands. Doing so may result in electric shock.	This Light Unit generates high temperatures. Do not touch the product while it is turned on or immediately after it is turned off, or burning may result. Provide cooling with a fan or other ventilation if the product is to be used in a closed space.
Make sure that the Light Unit is free of moisture or any liquid. Exposure to water may result in fire, electric shock.	Connect or disconnect the light cable only after turning off the power source. Failure to do so may result in circuit damage, fire caused by a minute spark, or electric shock.
If abnormal condition occurs such as fuming, heat, smell, noise, or so on, stop using the Light Unit immediately, and turn off the power source. A fire or electric shock may result if the Light Unit is kept used.	

Caution	
Do not use user-made cables. Doing so may cause Light Unit failure. Use the CCS extension cable if it is necessary to extend the distance between the Light Unit and the Control Unit.	Use a Control Unit that is suitable for the Light Unit ratings. Using an incorrect Control Unit can cause Light Unit failure.
Be careful of static electricity. Damage to the LED light may occur, if a person charged with static electricity touches it. Keep the Light Unit away from all items charged with static electricity.	Use a standard Extension Cable that is manufactured by CCS. However, if the cable is too long, the light intensity will decrease due to voltage drop caused by the DC resistance of the cable.
Do not drop the Light Unit or subject it to impact. Doing so may cause the Light Unit to malfunction.	

Do not use the Light Unit in the following situations.

- Under conditions or in an environment not described in this instruction guide.
- In nuclear energy control systems, railroad systems, aviation systems, vehicles, combustion equipment, medical equipment, amusement machines, or safety equipment.
- In applications involving serious risk to life or property, particularly applications demanding a high level of safety.

Please install the Light Unit to locations with following conditions.

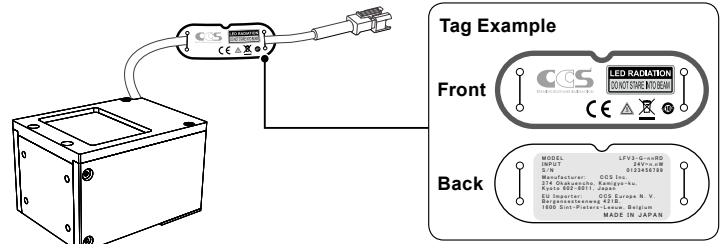
Incorrect installation location may cause Light Unit failure.

- In a flat and stable location with minimal vibration.
- Well-ventilated places with minimal dust.
- Places that are not subject to sudden temperature changes.
- Places free from any water, oil, liquid, chemical, or steam.
- Places free from corrosive or combustible gas.
- Places away from water faucets, boilers, humidifiers, air conditioners, heaters, or stoves.

2 Confirming Product Information

The following tag is attached to the cable on the LED Light. The color of the label indicates the luminescence color of the Light. The back of the tag there is a name label that gives the model number, power consumption, and serial number.

Be sure to check the contents before using the product and handle the label with care. If the label is missing or damaged and the contents cannot be checked, please contact CCS Inc.



The above illustration is of the LFV3-G-35-series Light Unit.

3 Operating Instructions

1 Connect the light cable of the product to the Control Unit.

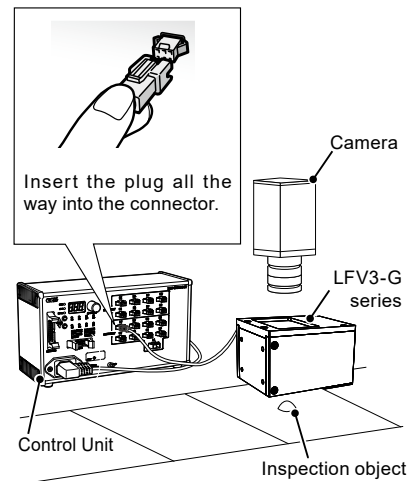
Connect to the Control Unit equipped with **SMP-03V-BC** Connectors for power output.

For information on applicable Control Units and cables, refer to the product catalogs or the CCS website.

Make sure that the Control Unit is turned OFF before connecting.

2 Turn ON the Control Unit to turn ON the light.

Read the instruction guide of the Control Unit before use.



3 Adjust the Light Unit position and radiant quantity to optimize images.

- Conceptual Diagram -

Precautions

- Ghost images (double vision) of the inspection object may appear due to reflection from the half mirror inside the light. It is impossible to remove these images because of the characteristics of the light.
- Dust, dirt, or fingerprints on the glass portions of the light may affect the captured image. In that case, clean the light as follows:
 - Remove dust and dirt by blowing it off with air. Do not touch the light with your hand.
 - Use a soft, finely woven cloth to wipe away any marks, such as fingerprints.
 - Use a soft, finely woven cloth soaked with diluted neutral detergent to remove any heavy dirt.

Also, handle the light with care during daily use. Make sure no dust, dirt, or fingerprints adhere to the light.

4 Optional Accessories (Sold Separately)

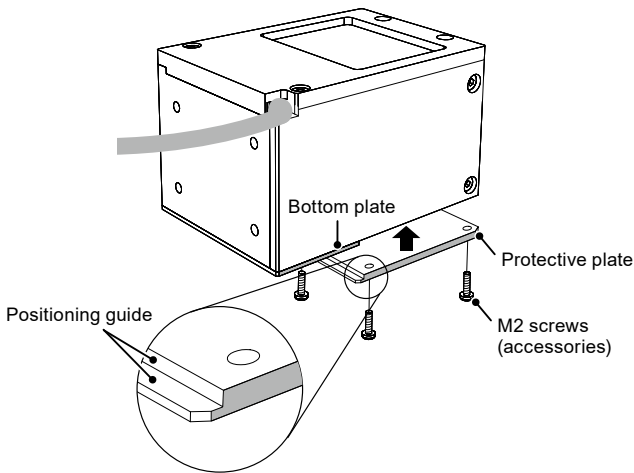
The following optional products are available as required.

Protective Plates

Protects the half mirror part of the Light Unit. It is not available to use this product for protection use from any damages caused by dust, water, and etc.

Model name	Applicable Light Unit	Accessories
PR-LFV3-27	LFV3-G-27 series	M2 x 5 mm screws x 5 pcs.
PR-LFV3-30X60	LFV3-G-30X60 series	M2 x 6 mm screws x 5 pcs.
PR-LFV3-35	LFV3-G-35 series	M2 x 4 mm screws x 5 pcs.
PR-LFV3-50	LFV3-G-50 series	M2 x 6 mm screws x 5 pcs.
PR-LFV3-50X100	LFV3-G-50X100 series	M2 x 6 mm screws x 5 pcs.
PR-LFV3-70	LFV3-G-70 series	M2 x 4 mm screws x 5 pcs.
PR-LFV3-100	LFV3-G-100 series	M2 x 4 mm screws x 5 pcs.
PR-LFV3-100X200	LFV3-G-100X200 series	M2 x 6 mm screws x 6 pcs.

Align the surfaces of the positioning guide with the edge of the bottom plate.



5 Main Specifications

Common Specifications

Input voltage	24 VDC
Connector	SMR-03V-B
Polarity	1: (+), 2: NC, 3: (-)
Cable length	300 mm
Cooling method	Natural air-cooling
Operating environment (indoors only)	Temperature: 0 to 40°C, Humidity: 20 to 85%RH (with no condensation)
Storage environment	Temperature: -20 to 60°C, Humidity: 20 to 85%RH (with no condensation)
Case material	Aluminum alloy, Resin
Accessories	Instruction guide

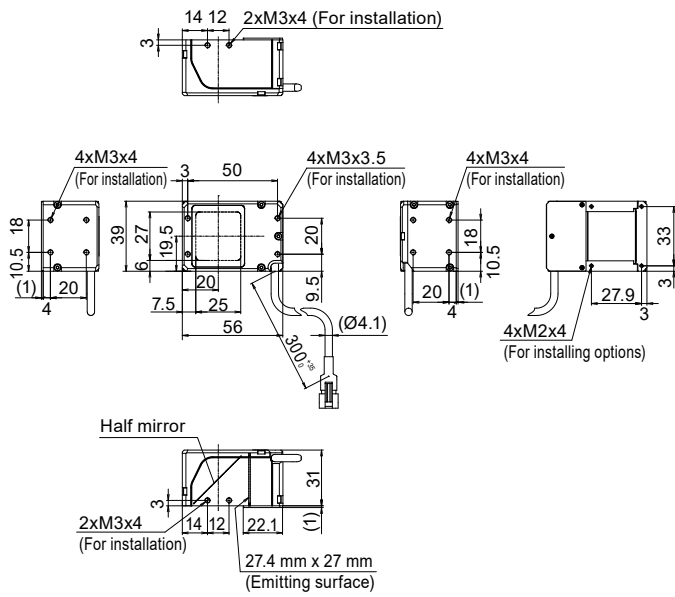
Specifications by Model

Model name	LED color	Peak wavelength / correlated color temperature (typ.)	Power consumption (max.)	Weight (max.)
LFV3-G-27RD	Red	630 nm	5.0 W	110 g
LFV3-G-27SW	White	7,000 K		
LFV3-G-27BL	Blue	470 nm		
LFV3-G-30X60RD	Red	630 nm	12 W	165 g
LFV3-G-30X60SW	White	5,500 K	11 W	
LFV3-G-30X60BL	Blue	467 nm	8.1 W	
LFV3-G-35RD	Red	630 nm	8.4 W	140 g
LFV3-G-35SW	White	5,500 K	8.3 W	
LFV3-G-35BL	Blue	467 nm	7.1 W	
LFV3-G-50RD	Red	630 nm	17 W	285 g
LFV3-G-50SW	White	5,500 K	17 W	
LFV3-G-50BL	Blue	467 nm	15 W	
LFV3-G-50X100RD	Red	630 nm	34 W	445 g
LFV3-G-50X100SW	White	5,500 K	34 W	
LFV3-G-50X100BL	Blue	467 nm	29 W	
LFV3-G-70RD	Red	630 nm	28 W	570 g
LFV3-G-70SW	White	5,500 K	25 W	
LFV3-G-70BL	Blue	467 nm	22 W	
LFV3-G-100RD	Red	630 nm	40 W	990 g
LFV3-G-100SW	White	5,500 K	37 W	
LFV3-G-100BL	Blue	467 nm	32 W	
LFV3-G-100X200RD	Red	630 nm	59 W	1730 g
LFV3-G-100X200SW	White	5,500 K		
LFV3-G-100X200BL	Blue	467 nm		

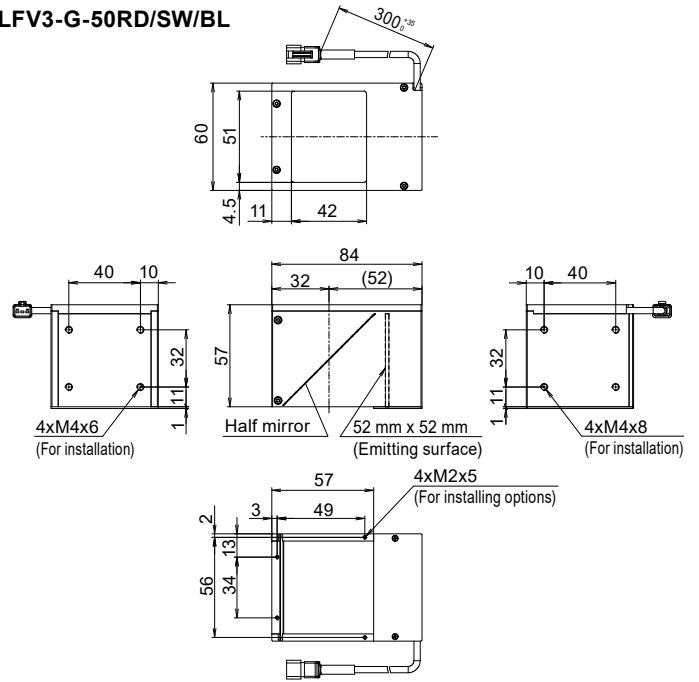
CE marking

- For the LFV3-G-27 series
Safety standard: Conforms to EN62471,
EMC standard: Conforms to EN61000-6-2, EN61000-6-4
- For other series
Safety standard: Conforms to EN62471

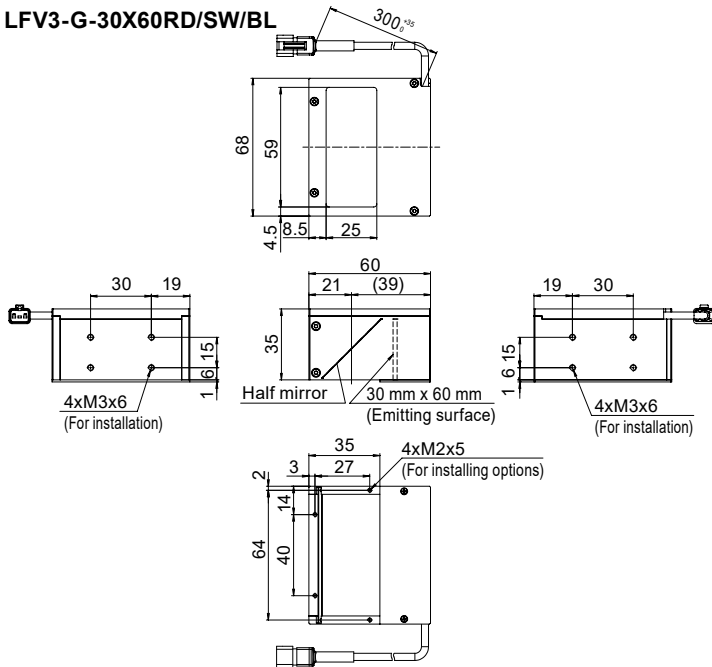
LFV3-G-27RD/SW/BL



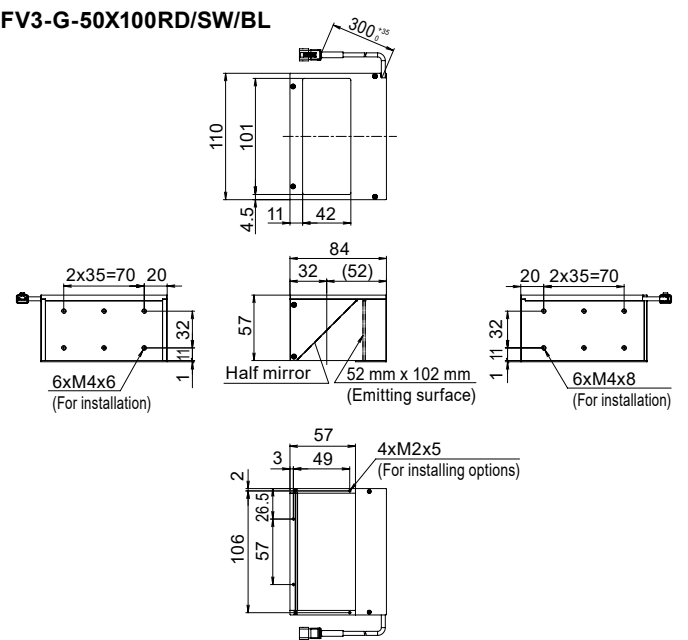
LFV3-G-50RD/SW/BL



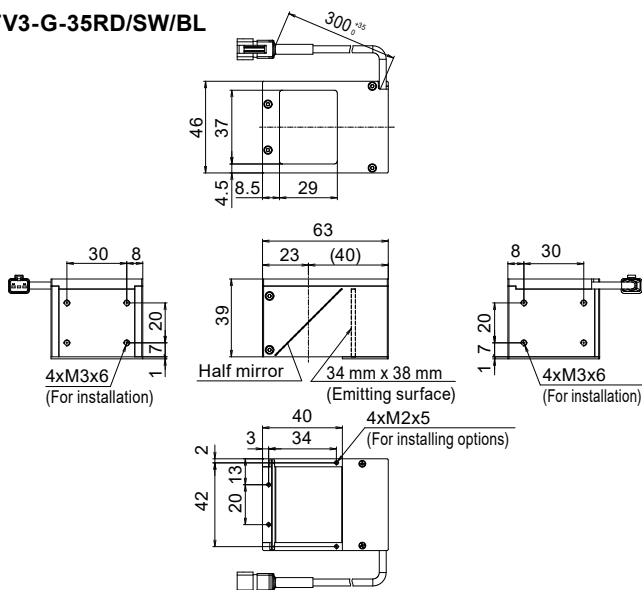
LFV3-G-30X60RD/SW/BL



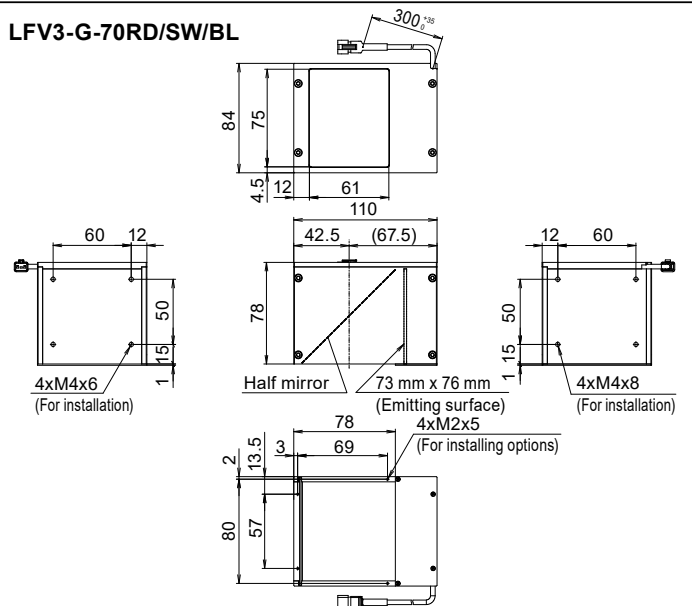
LFV3-G-50X100RD/SW/BL



LFV3-G-35RD/SW/BL

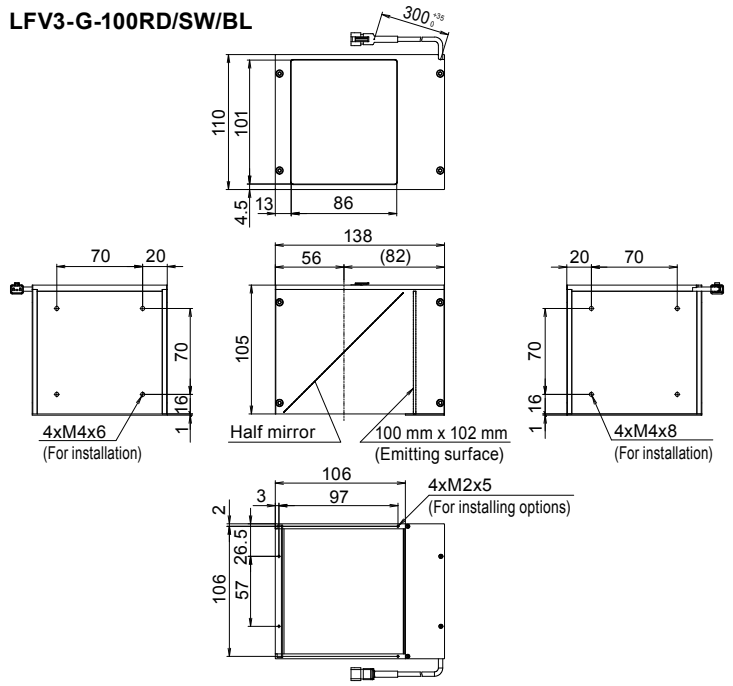


LFV3-G-70RD/SW/BL

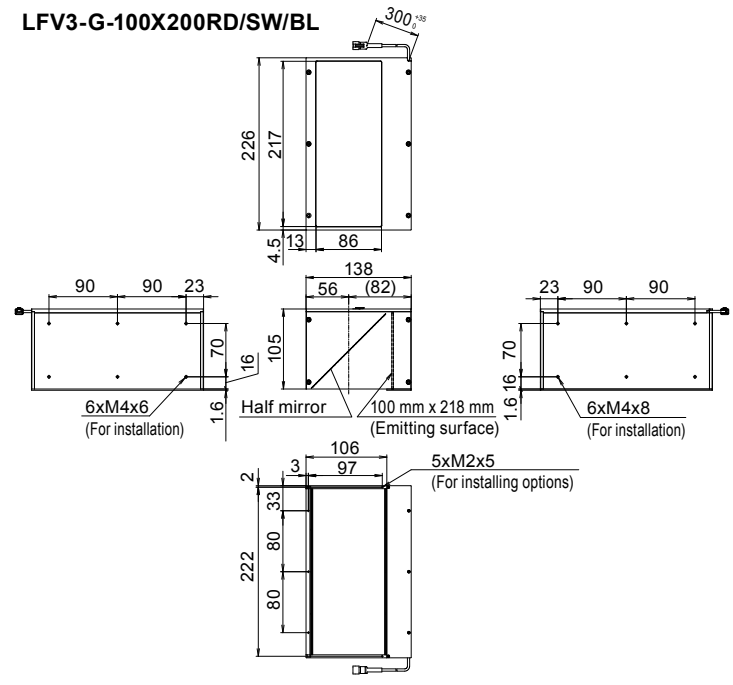


6 Dimensions (mm, Continued)

LFV3-G-100RD/SW/BL



LFV3-G-100X200RD/SW/BL



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