

# FPQ3 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 -

These products have been designed with full consideration of safety. However, incorrect usage of the products 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.

	<b>Warning</b>	Indicates that incorrect usage may result in serious injury or death.		<b>Caution</b>	Indicates that incorrect usage may result in injury or property damage.
--	----------------	---	--	----------------	---

The following symbols in the instruction guide indicate and classify the precautions.

These symbols indicate prohibited actions.				This symbol indicates required actions.

<b>Warning</b>	
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.	These Light Units generate high temperatures. Do not touch the Light Unit 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 Light Unit 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 or electric shock.	Connect or disconnect the light cable only after turning off the Control Unit for the LED light. 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, turn OFF the Control Unit and unplug the power cord. A fire or electric shock may result if the Light Unit is kept used.	

<b>Caution</b>	
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 power supply 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.	Due to the structure of the Light Unit, leak current may be produced as the result of AC amplitude noise. This may cause the LEDs to light incorrectly. Separate the Light Unit from sources of noise.

Do not use the Light Unit in the following situations.

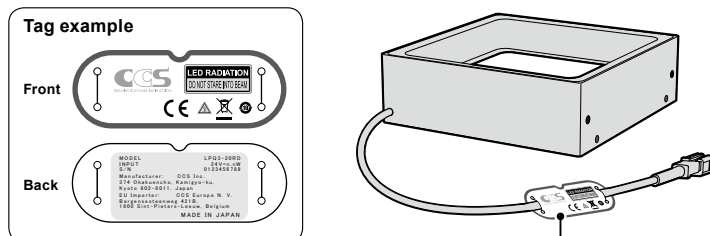
- Under conditions or in an environment not described in this instruction guide.
- In nuclear energy control systems, railroad systems, aviation systems, vehicles, combustion equipment, medical equipment, amusement machines, or safety equipment.
- In applications involving serious risk to life or property,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

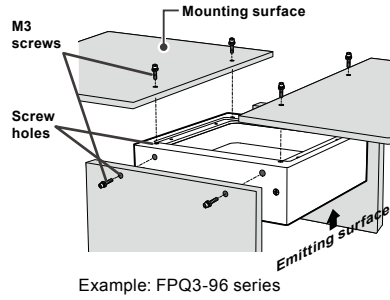
### 2 Confirming Product Information

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 Light Unit and handle the label with care. If the label is missing or damaged and the contents cannot be checked, please contact CCS Inc.



### 3 Installation

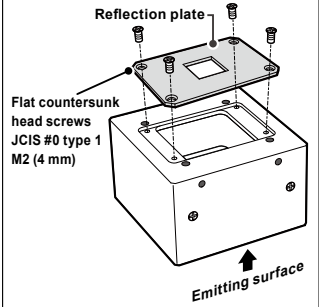
Install the Light Unit by tightening M3 screws in the screw holes on the back and sides of the Light Unit. Recommended tightening torque: 0.4 N·m



Example: FPQ3-96 series

#### Reflection plate

The reflection plate is normally attached to the FPQ3-48-, FPQ3-60-, and FPQ3-75-series Light Units. If the reflection plate is not required, remove it before installing the Light Unit. (There are four screws holding it in place.)

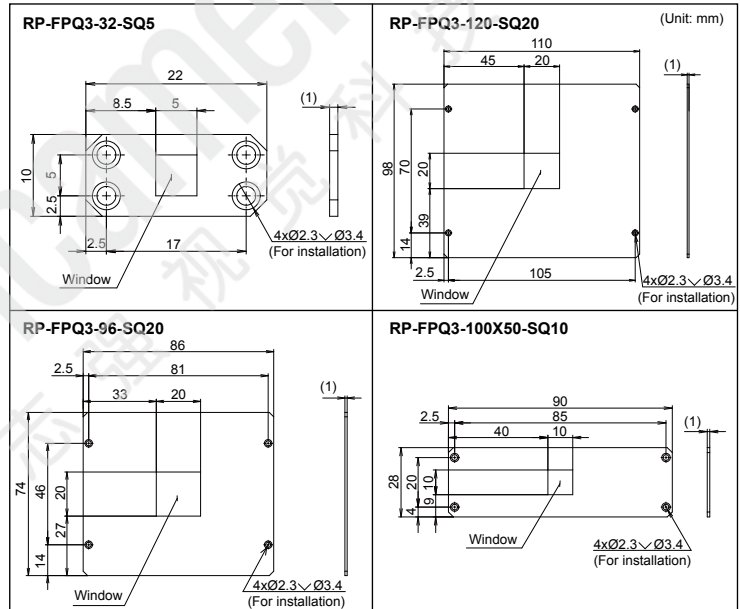


Note: You can install an optional reflection plate (sold separately) on the FPQ3-32-, FPQ3-96-, FPQ3-120-, or FPQ3-100x50-series Light Units.

#### Optional Reflection Plates (Sold Separately)

Model name	Applicable Light Units	Model name	Applicable Light Units
RP-FPQ3-32-SQ5	FPQ3-32 series	RP-FPQ3-120-SQ20	FPQ3-120 series
RP-FPQ3-96-SQ20	FPQ3-96 series	RP-FPQ3-100X50-SQ10	FPQ3-100x50 series

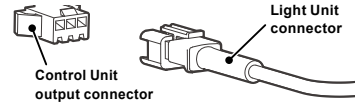
Accessories: Flat countersunk head screws, JCS #0 type 1, M2 (4 mm) x 5 pieces



### 4 Operating Instructions

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

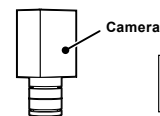
1 Connect the cable of the Light Unit to the Control Unit output connector.



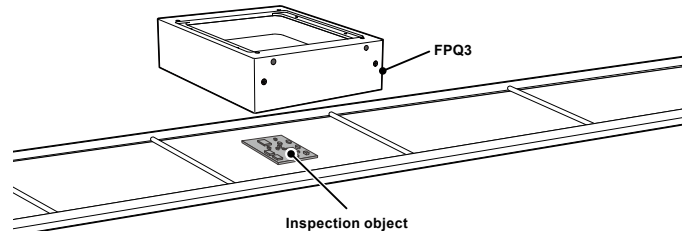
**Mandatory Actions** Use the Control Unit that is suitable for the Light Unit ratings. Insert the plug all the way into the connector.

2 Turn ON the Control Unit and turn ON the Light Unit.

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



Read the instruction guide of the Control Unit before use.



## 5 Main Specifications

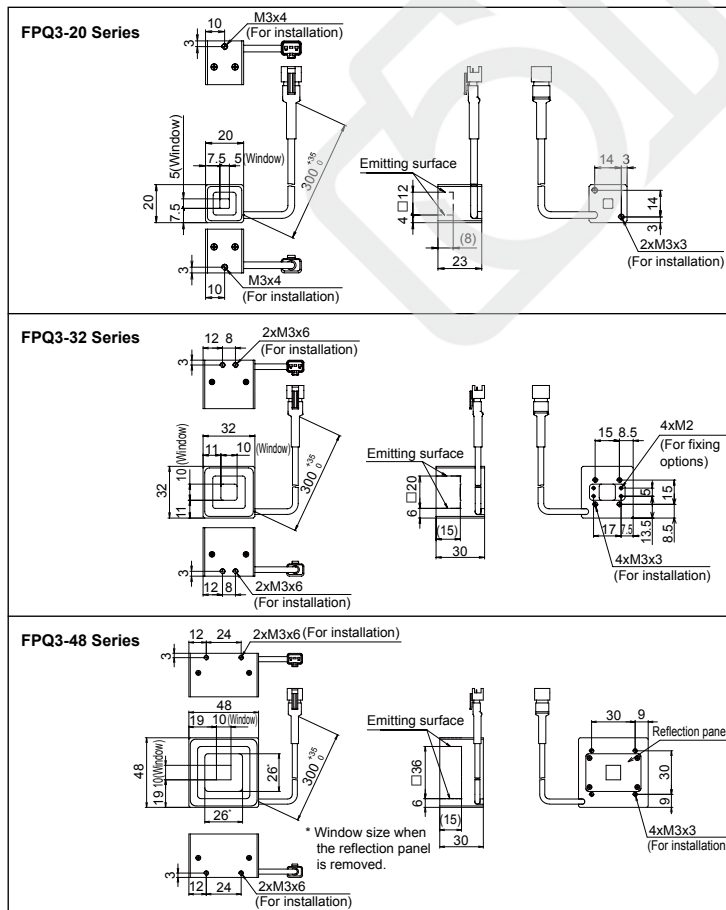
### Common Specifications

Input voltage	24 VDC
Peak wavelength / Correlated color temperature (typ.)	Red: 630 nm White: 6,000 K Blue: 465 nm
Connector	SMR-03V-B
Polarity, signal	1: (+) 2: NC 3: (-)
Cable length	300 mm
Cooling method	Natural air-cooling
Operating env. (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)
CE marking	Safety standard: Conforms to EN 62471-1
Case material	Aluminum alloy
Accessories	Instruction guide

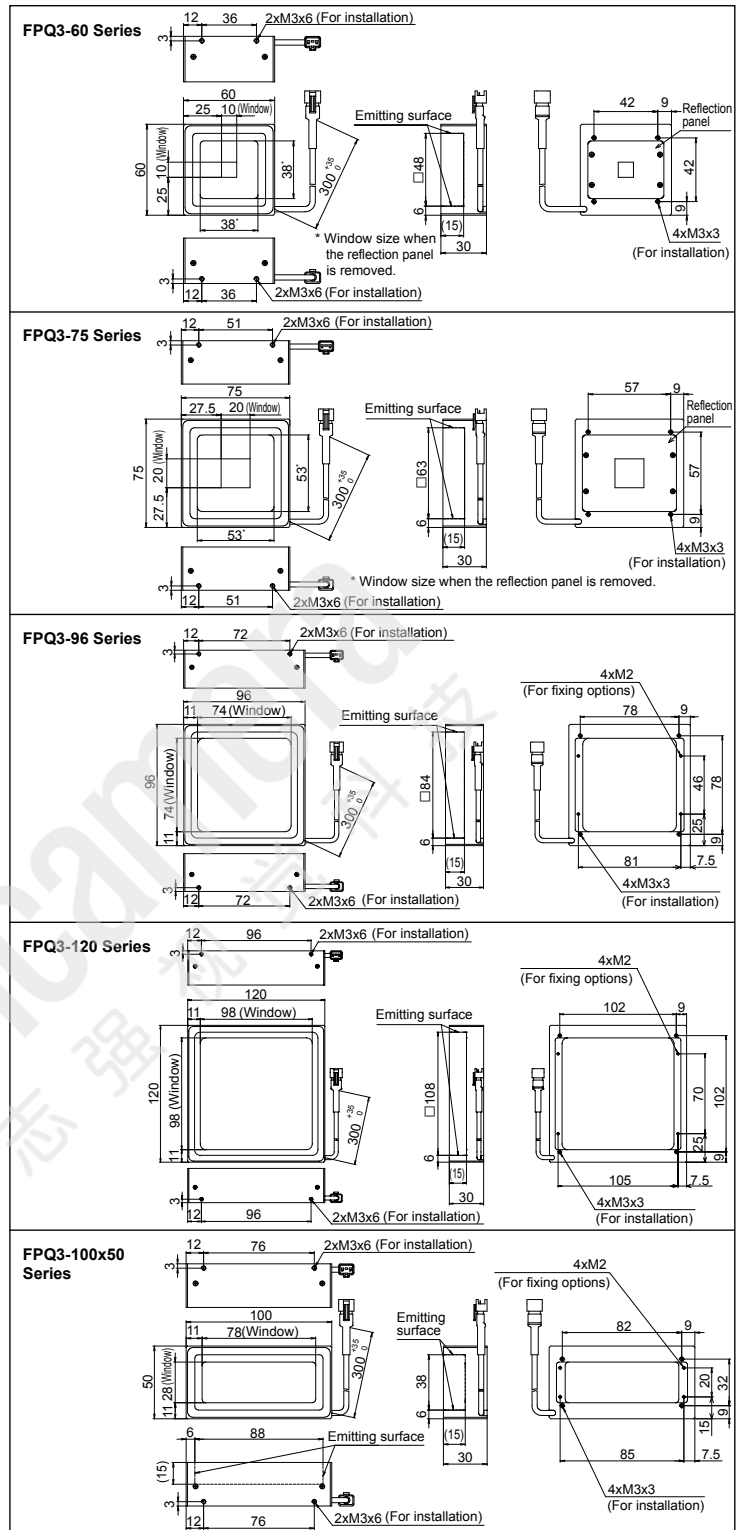
### Specifications by Model

Model name	LED color	Power consumption (max.)	Weight (max.)	Model name	LED color	Power consumption (max.)	Weight (max.)
FPQ3-20RD	Red	1.3 W	25 g	FPQ3-75RD	Red	12 W	155 g
FPQ3-20SW	White	3.1 W		FPQ3-75SW	White	22 W	
FPQ3-20BL	Blue	2.6 W		FPQ3-75BL	Blue	16 W	
FPQ3-32RD	Red	3.8 W	50 g	FPQ3-96RD	Red	13 W	170 g
FPQ3-32SW	White	7.1 W		FPQ3-96SW	White	25 W	
FPQ3-32BL	Blue	5.1 W		FPQ3-96BL	Blue	18 W	
FPQ3-48RD	Red	5.1 W	90 g	FPQ3-120RD	Red	16 W	220 g
FPQ3-48SW	White	11 W		FPQ3-120SW	White	27 W	
FPQ3-48BL	Blue	7.6 W		FPQ3-120BL	Blue	21 W	
FPQ3-60RD	Red	7.6 W	120 g	FPQ3-100x50RD	Red	11 W	135 g
FPQ3-60SW	White	15 W		FPQ3-100x50SW	White	18 W	
FPQ3-60BL	Blue	11 W		FPQ3-100x50BL	Blue	13 W	

## 6 Dimensions (mm)



## 6 Dimensions (mm, Continued)



- Contents of this Instruction Guide may be changed without prior notice.
- Illustrations used in this Instruction Guide may differ from actual products.
- CCS maintains the copyright on this Instruction Guide. Unauthorized transfer or reproduction is strictly prohibited.