

LN-60-HK 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.

	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.

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

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 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, 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 an 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.	Make known to all personnel concerned the risk of infrared radiation. Failure to do so may cause incorrect handling.

Caution	
Do not use user-made cables. Doing so may cause product failure. Use the CCS extension cable if it is necessary to extend the distance between the Light Unit and the Control Unit.	Use 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 product 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 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.

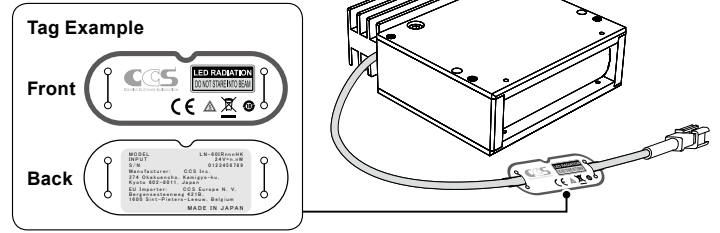
- Under conditions or in an environment not described in this instruction guide.
- In nuclear energy control systems, railroad systems, aviation systems, vehicles, combustion equipment, medical equipment, amusement machines, or safety equipment.
- In applications involving serious risk to life or property,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

Make sure that the Control Unit for the LED Light is turned off.

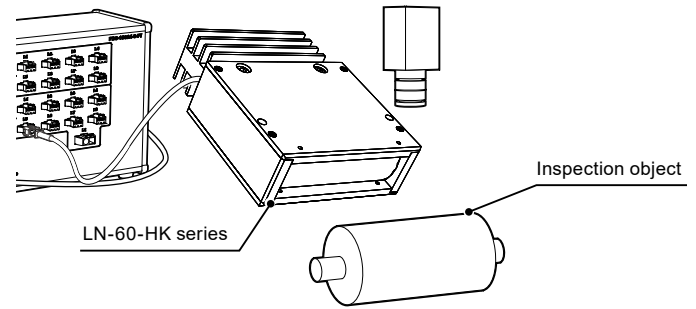
1 Connect the light cable of the product to the Control Unit.
Connect to the Control Unit equipped with SMP-03V-BC Connectors for power output. Insert the plug all the way into the connector.

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

Caution Do not expose human eyes to infrared radiation. Also, make known to all personnel concerned the risk of infrared radiation.

2 Turn ON the Control Unit to turn ON the light.
Read the instruction guide of the Control Unit before use.

3 Adjust light range, light angle, and radiant quantity to optimize images.

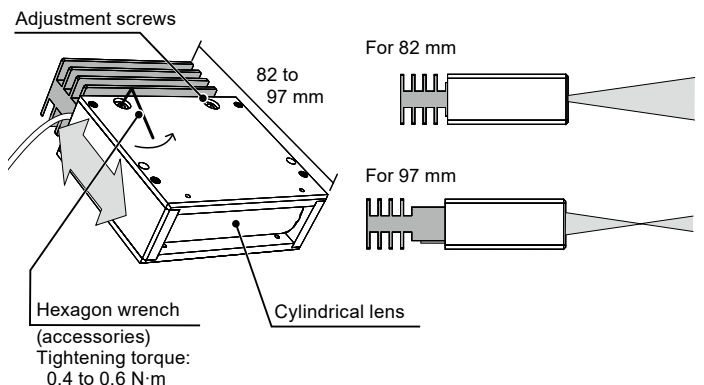


- Conceptual Diagram -

Caution The LEDs that appear to be not lit radiate infrared light. Do not look at the radiated light directly with your naked eyes. To check for LED radiation, use an infrared-enabled camera to look at the LEDs indirectly.

Adjusting the Light Distribution Characteristics

You can adjust the distance between the cylindrical lens and the light source by loosening the adjustment screws and sliding the main unit.

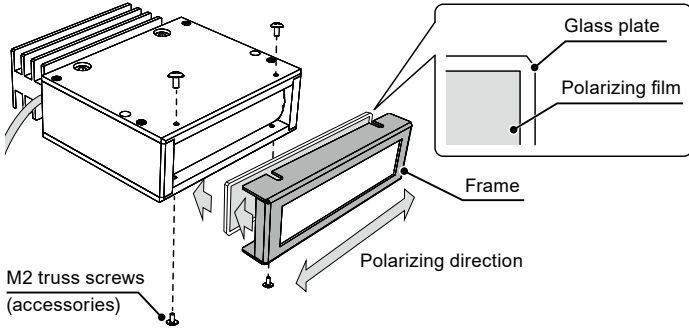


4 Brackets (Sold Separately)

The following products are available for the Light Units. Obtain the required product.

Polarizing Plate PL-LN-60-WGFHO

Light is linearly polarized. Prevent light reflection by using the polarizing plate together with the polarizing filter (The product that supports the corresponding wavelength is required. Ask your CCS sales representative.) mounted to the lens.



- Install the glass plate with a polarizing film into the frame and then attach it to the Light Unit.
- The glass plate with a polarizing film has a front side and a back side. Install it with the polarizing film side facing the inspection object.

Package contents	Glass plate with a polarizing film x 1 pc., frame x 1 pc., M2 x 4 mm truss screws x 5 pcs.
Material	Glass, aluminum alloy

5 Main Specifications

Common Specifications

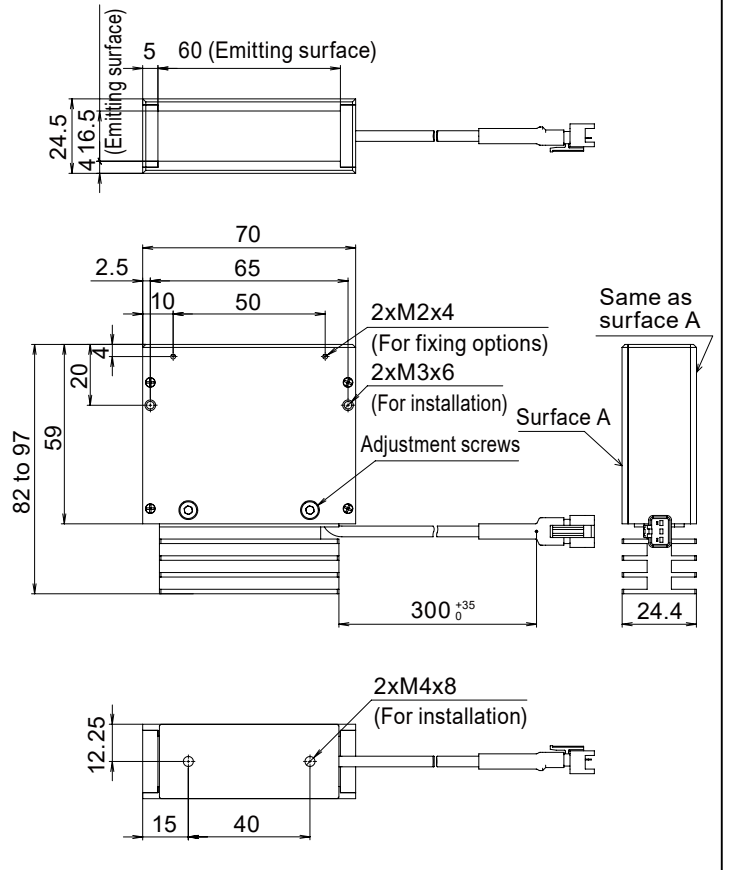
Input voltage	24 VDC
LED color	Infrared
Connector	SMR-03V-B
Polarity	1:(+), 2:NC, 3:(-)
Cable length	300 mm
Cooling method	Natural air-cooling
Operating environment (indoors only)	Temperature: 0 to 40°C, Humidity: 20 to 85%RH (with no condensation)
Storage environment	Temperature: -20 to 60°C, Humidity: 20 to 85%RH (with no condensation)
CE marking	Safety standard: Conforms to EN62471
Case material	Aluminum alloy, resin
Accessories	Instruction guide x1, hexagon wrench x1

Specifications by Model

Model name	Peak wavelength (typ.)	Power consumption (max.)	Weight
LN-60IR105-HK	1050 nm	11 W	Approx. 222 g
LN-60IR120-HK	1200 nm	7.1 W	
LN-60IR130-HK	1300 nm	7.1 W	
LN-60IR145-HK	1450 nm	6.6 W	
LN-60IR155-HK	1550 nm	6.6 W	
LN-60IR165-HK	1650 nm	6.6 W	

6 Dimensions (mm)

LN-60IR105-HK / 120-HK / 130-HK / 145-HK / 155-HK / 165-HK



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