

TH2 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.

 PROHIBITED	 DISASSEMBLY PROHIBITED	 DO NOT TOUCH WITH WET HANDS	 DO NOT SUBJECT TO MOISTURE	 MANDATORY ACTIONS
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.  MANDATORY ACTIONS
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.  MANDATORY ACTIONS
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.  MANDATORY ACTIONS
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.	 Make known to all personnel concerned the risk of infrared radiation. Failure to do so may cause incorrect handling.  MANDATORY ACTIONS

 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.  MANDATORY ACTIONS
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.  MANDATORY ACTIONS
Do not drop the Light Unit or subject it to impact. Doing so may cause the Light Unit to malfunction.	  MANDATORY ACTIONS

Do not use the Light Unit in the following situations.

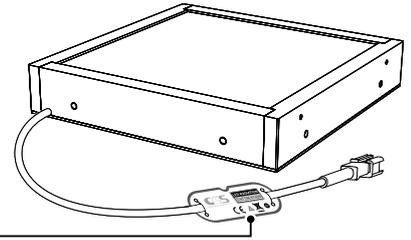
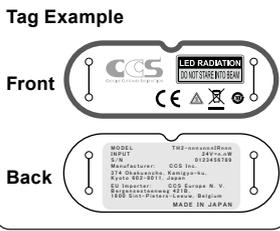
- Under conditions or in an environment not described in this instruction guide.
- In nuclear energy control systems, railroad systems, aviation systems, vehicles, combustion equipment, medical equipment, amusement machines, or safety equipment.
- In applications involving serious risk to life or property,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

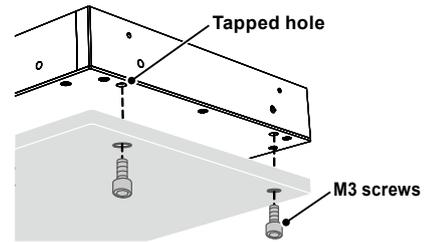
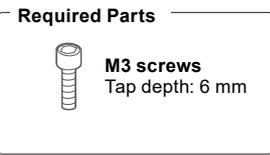
2 Confirming Product Information

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



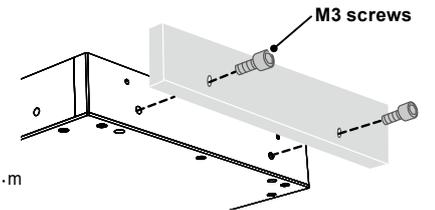
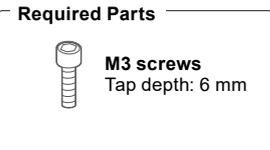
3 Installation

Bottom Installation



Attach M3 screws to the tapped holes on the bottom of the Light Unit to fix it.

Side Installation



Fix the Light Unit with M3 screw.

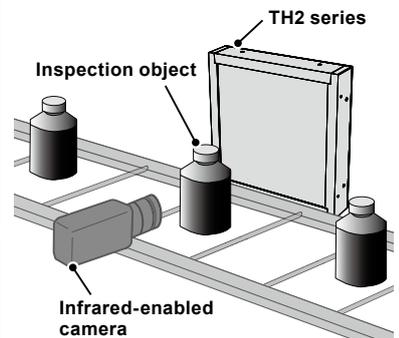
Recommended tightening torque: 0.6 N·m

4 Operating Instructions

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

- Use a Control Unit that is suitable for the Light Unit ratings and is equipped with the corresponding power output connectors.
- Make sure that the Control Unit is turned OFF before connecting.
- Insert the plug all the way into the connector.

 **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 and turn ON the Light Unit.

Read the instruction guide of the Control Unit before use.

3 Adjust light range, light angle, and radiant quantity to optimize images. Adjust the radiant quantity at the Control Unit.

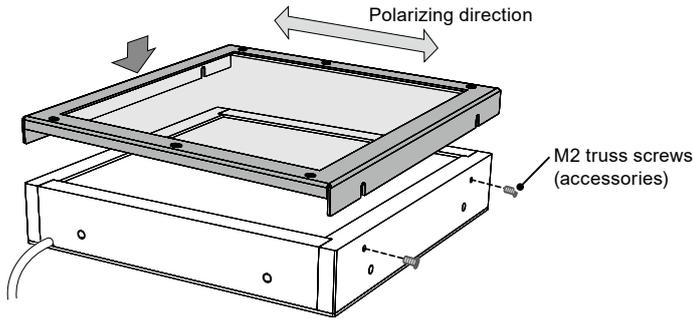
 **Caution** The LEDs that appear to be not lit radiate infrared light. Do not look at the radiated light directly with your naked eyes. To check for LED radiation, use an infrared-enabled camera to look at the LEDs indirectly.

5 Options for TH2 Series (Sold Separately)

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

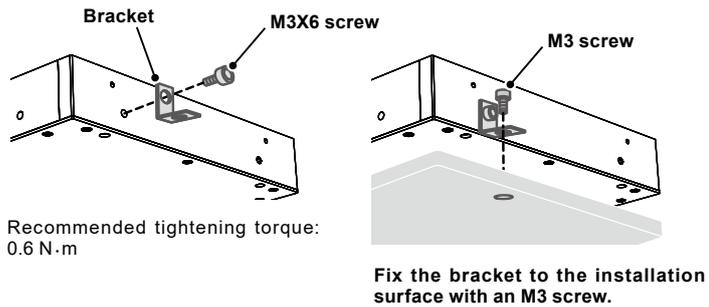
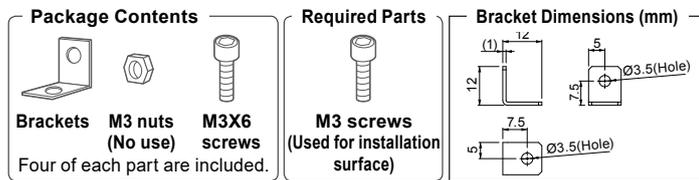
1 Polarizing Plate PL-TH-100X100-WGFHO

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.



Material	Glass, aluminum alloy
Accessories	M2 x 4 mm truss screws x 5 pcs.

2 Bracket BK-TH-LE12



6 Main Specifications

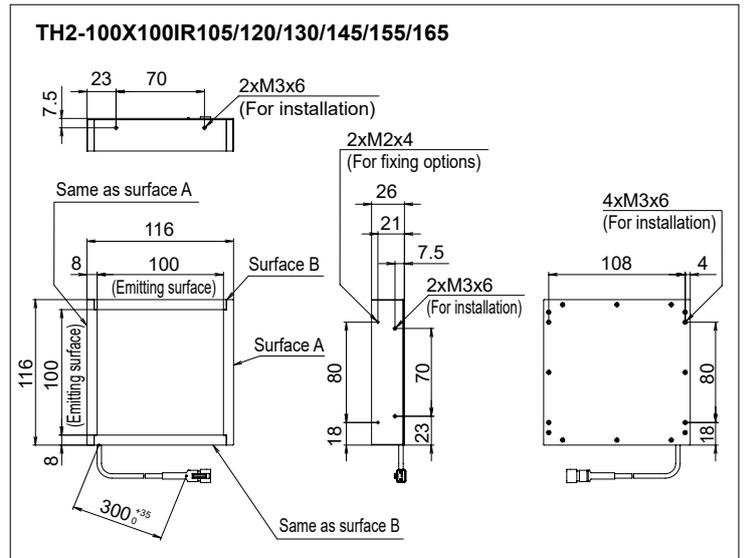
Common Specifications

Input voltage	24 VDC
LED color	Infrared
Connector	SMR-03V-B
Polarity, signal	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

Specifications by Model

Model name	Peak wavelength (typ.)	Power consumption (max.)	Weight
TH2-100X100IR105	1050 nm	16 W	Approx. 300 g
TH2-100X100IR120	1200 nm	13 W	
TH2-100X100IR130	1300 nm	13 W	
TH2-100X100IR145	1450 nm	12 W	
TH2-100X100IR155	1550 nm	12 W	
TH2-100X100IR165	1650 nm	12 W	

7 Dimensions (mm)



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