

High Power Strobe Light Units

Handling Precautions



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

1 Introduction

These products are LED Light Units used for machine vision and industrial inspection. Do not use the Light Units for other applications, and be sure to follow the instructions below.



Warning

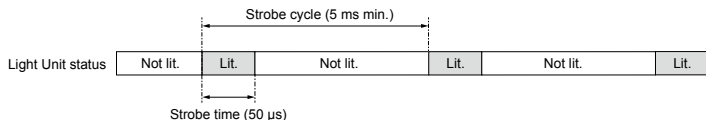
- These products are LED Light Units that are designed for use with overdrive^{*1} operation. To use the Light Unit, connect it to a High Power Strobe Control Unit. The High Power Strobe Control Units are manufactured by CCS and are equipped with EL connectors for power output.
- Use the Light Unit within the maximum strobe time and maximum duty cycle^{*2} that are specified for each Light Unit. Exceeding the conditions, such as performing continuous lighting using a power supply other than a High Power Strobe Control Unit, may result in fire or Light Unit failure.

^{*1} Overdrive is used to emit brighter light by applying a large current to LEDs for a short time. This current exceeds the rated current for continuous lighting.

^{*2} The duty cycle is the strobe operation ratio expressed by the following equation:

Duty cycle (%) = 100 X Strobe time/Strobe cycle

For example, if you want to restrict the duty cycle to 1% or less when the strobe time is 50 μ s, you must make the Light Unit flash with a cycle of 5 ms or longer.



Do not use the Light Unit in the following situations.

- Under conditions or in an environment not described in this document.
- 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.

Use the Light Unit under the following conditions.



Using the Light Unit under any other conditions may damage the Light Unit.

- Operating temperature: 0 to 40°C, Humidity: 20 to 85%RH (with no condensation)
- Storage temperature: -20 to 60°C, Humidity: 20 to 85%RH (with no condensation)

2 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 document 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.
--	---	--	---

The following symbols in the document 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. 
Do not touch the Light Unit with wet hands. Doing so may result in electric shock.	 To use the Light Unit, connect it to a High Power Strobe Control Unit from CCS. Using any power supply other than a High Power Strobe Control Unit may result in fire or Light Unit failure. 
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 High Power Strobe Control Unit. Failure to do so may result in circuit damage, fire caused by a minute spark, or 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.	 If abnormal condition occurs such as fuming, heat, smell, noise, or so on, stop using the Light Unit immediately, turn the High Power Strobe Control Unit off, and unplug the power cord. 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 High Power Strobe Extension Cable from CCS if it is necessary to extend the distance between the Light Unit and the Control Unit.	 Do not drop the Light Unit or subject it to impact. Doing so may cause the Light Unit to malfunction. 
Be careful of static electricity. Damage to the LED Light Unit may occur, if a person charged with static electricity touches it. Keep the Light Unit away from all items charged with static electricity.	 Use the High Power Strobe Extension Cable (5 m or shorter). However, if the cable is too long, the light intensity will decrease due to voltage drop caused by the DC resistance of the cable. 

3 Confirming Product Information

The following label is attached to the LED Light Unit. The name label specifies the model name, peak current, and serial number. Be sure to check the contents before using the Light Unit and handle the label with care. If the label is damaged and the contents cannot be checked, please contact CCS Inc.

Name label (Example)

MODEL	LDR-PF-nnSW
Sel.No.	012345-012345
Power	48 V/nA
CCS Inc.	MADE IN JAPAN



<http://www.ccs-grp.com/>

- 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.