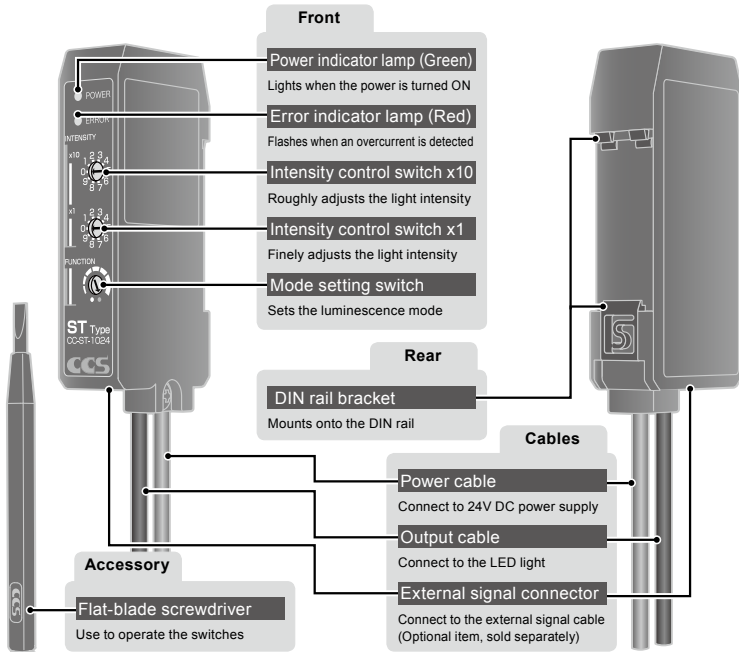


# Compact Controller for LED Lights CC-ST-1024

## 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 Name and Function of Each Part





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### 2 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.

|  |   |  |   |
|--|---|--|---|
|  <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.

|  |   |  |   |  |
|--|---|--|---|--|
|  <b>PROHIBITED</b> |  <b>DISASSEMBLY PROHIBITED</b> |  <b>DO NOT TOUCH WITH WET HANDS</b> |  <b>DO NOT SUBJECT TO MOISTURE</b> |  <b>MANDATORY ACTIONS</b> |
| These symbols indicate prohibited actions.   |   |  |   | This symbol indicates required actions.  |

|  <b>Warning</b>   |  |
|--|--|
| Do not disassemble or modify the product. Doing so may result in fire or electric shock.   |  <b>DISASSEMBLY PROHIBITED</b>      |
| Make sure that the product is free of moisture or any liquid. Exposure to water may result in fire or electric shock.  |  <b>DO NOT SUBJECT TO MOISTURE</b>  |
| Do not touch the power cords and connect the peripherals during lightning. This may result in electric shock.  |  <b>PROHIBITED</b>                  |
| Do not touch the connectors or switches with wet hands. Doing so may result in electric shock.   |  <b>DO NOT TOUCH WITH WET HANDS</b> |
| Turn off the power switch when connecting or disconnecting the product and peripherals. Otherwise it may cause fire or electric shock.   |  <b>MANDATORY ACTIONS</b>           |
| If abnormal condition occurs such as fuming, heat, smell, noise, or so on, stop using the product immediately, and turn off the power switch. A fire or electric shock may result if the product is kept used. |  <b>MANDATORY ACTIONS</b>           |

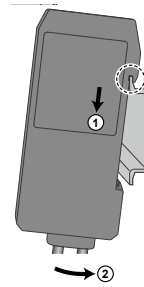
|  <b>Caution</b>   |  |
|--|--|
| Do not place product under direct sunlight or in a high humidity environment. Doing so may result in fire due to internal temperature rise.  |  <b>PROHIBITED</b>        |
| Always place product on a stable and flat location. Not doing so may result in the product falling or toppling, which may cause bodily injury and the product to malfunction.  |  <b>PROHIBITED</b>        |
| Do not use lighting that is not manufactured by CCS. Doing so may cause overcurrent and the device may overheat or ignite.   |  <b>PROHIBITED</b>        |
| Do not bend or jam cables when wiring product. Doing so may cause product failure.   |  <b>PROHIBITED</b>        |
| Verify the polarity of terminals before connecting cables.   |  <b>PROHIBITED</b>        |
| To avoid product surface discoloration or deterioration, do not wipe product with volatiles such as paint thinner or benzene.  |  <b>PROHIBITED</b>        |
| Do not use extended cables that are longer than 5m for light output or longer than 10m for power input. Over extended cables will lower the light intensity since the voltage will drop due to the DC resistance of the cable. |  <b>PROHIBITED</b>        |
| Please use designated power sources with stable voltage. Sharing a power source with inverters, motors, etc. may cause malfunction.  |  <b>MANDATORY ACTIONS</b> |
| Do not bundle product cables with high-voltage lines or power lines. Doing so may cause the product to malfunction. Keep the product cables as far away from such lines as possible.   |  <b>MANDATORY ACTIONS</b> |
| Make sure that connected lighting is within the power rating of the product. Not doing so may cause product failure.   |  <b>MANDATORY ACTIONS</b> |
| Make sure to hold and pull from the connectors when disconnecting the cables. Not pulling from the connectors may damage the cable and result in fire or electric shock.   |  <b>MANDATORY ACTIONS</b> |
| Before moving the product, disconnect all connecting cables. Damaging the cables may result in fire or electric shock.   |  <b>MANDATORY ACTIONS</b> |
| Use a dry cloth to remove dust or other foreign matter from the plug electrodes. Failure to do so may result in fire.  |  <b>MANDATORY ACTIONS</b> |
|  |  <b>MANDATORY ACTIONS</b> |

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### 3 Installation on to DIN Rail

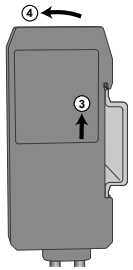
#### How to mount

Hook the tips located on the upper part of the main body to the DIN rail. While pushing down the main body in the direction of arrow ①, push it in the direction of arrow ②.



#### How to dismount

While pushing the main body up in the direction of arrow ③, pull it in the direction of arrow ④.



\* Do not install the product to locations where the cables are bent or twisted.

### 4 Wire Connection

**Warning** Before connection, make sure that the power is turned OFF. Making connections with the power ON may result in a fire or electric shock.

#### 1 Connect the LED light to the output connector of the product

| Output cable   |  |
|----------------|--|
| Cable          | AWG23, 2-wire, L=1m, Black (Optional cable extension up to 5m) |
| Connector      | SMP-03V-B (JST)  |
| Pin assignment | 1: Output+ (+24V), 2: N.C, 3: Output-                          |

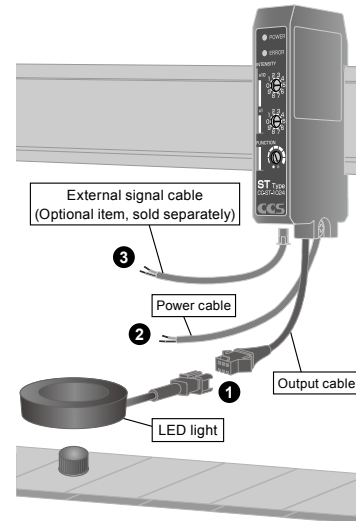
#### 2 Connect the 24V DC power supply to the power cable of the product

| Power cable |                           |
|-------------|---------------------------|
| Cable       | AWG23, 2-wire, L=2m, Gray |
| Wiring      | Brown: +24V, Blue: GND    |

#### 3 To take in external signal to the product, connect the external signal cable

External signal cable model: NFCB2-CC-3 (Optional item, sold separately)

| External signal cable |                               |
|-----------------------|-------------------------------|
| Cable                 | AWG25, 2-wire, L=3m, Navy     |
| Wiring                | White: Input +, Black: Input- |



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### 5 Operating Instructions

Operate the rotary switch using the flat-blade screwdriver included in the package.

The value becomes inconsistent when the rotary switch is positioned in between the scale. Make sure that the arrow of rotary switch is aligned with the scale.

#### 1 Turn ON the power

Turn ON the power. The power lamp is lit while the power is ON.

#### 2 Select the luminescence mode

Using the mode setting switch, select the luminescence mode from the following: Constant ON mode, ON/OFF mode, Strobe mode.

##### Constant lighting

To continuously keep the light emission on, adjust the mode setting switch to the ① position as shown on the right.

##### ON/OFF mode

To light in ON/OFF mode, adjust the mode setting switch to the ① position as shown on the right. The luminescence will synchronize with the HIGH external signal.

##### Strobe mode

To light in strobe mode, select and adjust the mode setting switch between positions ② to ⑨ as shown on the right (Luminescence time: 50μs to 40ms). The LED will be illuminated according to the time selected by the mode setting switch after the external trigger signal input.

| Mode setting switch | 0                 | 1           | 2           | 3     | 4     | 5     | 6   | 7   | 8    | 9    |
|---------------------|-------------------|-------------|-------------|-------|-------|-------|-----|-----|------|------|
| Status              | Constant lighting | ON/OFF mode | Strobe mode |       |       |       |     |     |      |      |
|                     |                   |             | 50μs        | 100μs | 250μs | 500μs | 1ms | 4ms | 10ms | 40ms |

#### 3 Setting the light intensity

Adjust the light intensity using the intensity control switch. Total of 100 levels of light intensity adjustments is possible (intensity control switch x10 adjusts the light intensity at every 10th level while the intensity control switch x1 adjusts the light intensity at single unit level). \* LED is illuminated faintly at the minimum value.

| Intensity control switch | x10 | 0 | 0 | 0 | 0 | ... | 4  | 4  | 4  | 4  | 4  | 5  | 5  | 5  | 5  | ... | 9  | 9  | 9  | 9   |
|--------------------------|-----|---|---|---|---|-----|----|----|----|----|----|----|----|----|----|-----|----|----|----|-----|
| Light intensity level    |     | 1 | 2 | 3 | 4 | ... | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | ... | 97 | 98 | 99 | 100 |

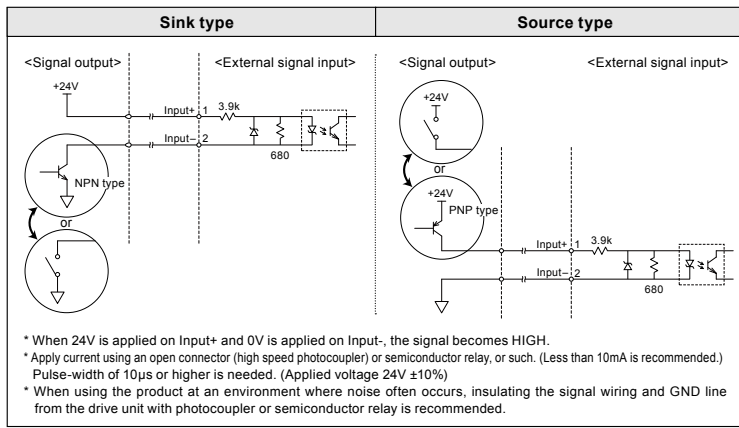
Dark ← → Bright

#### 4 Errors and solutions

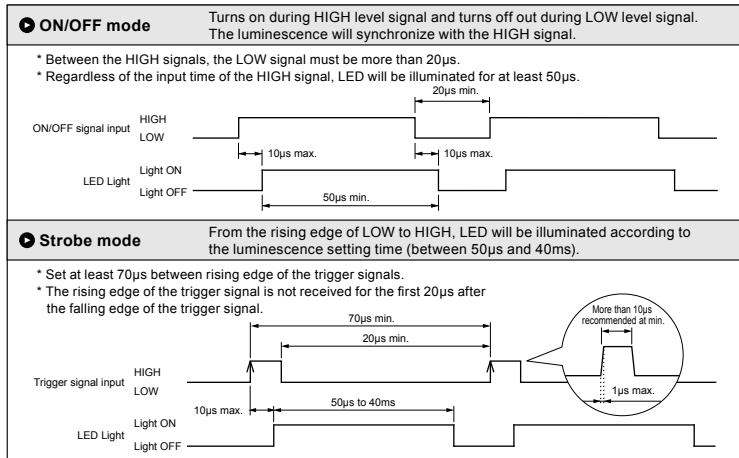
When the consumption current exceeds the maximum allowable output current more than 110%, the overcurrent protection is activated and the output is forcibly stopped. The error indicator lamp (red) will flash as well. To cancel the output stop, remove the cause of overcurrent and then turn ON the power supply again or change setting of the mode setting switch. Finally, return the setting back to the original state.

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## 6 Examples of External Signal Connection



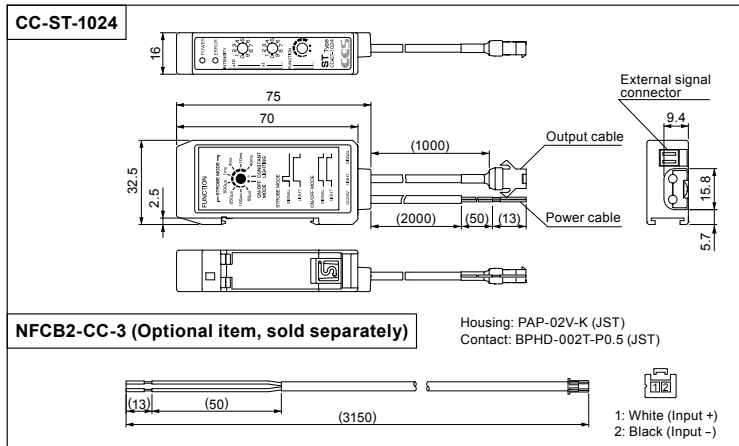
## 7 Luminescence Timing



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## 8 Dimensions (mm)



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## 9 Main Specifications

|   |  |
|---|--|
| Product name                                      | Compact Controller for LED Lights (Strobe light type)  |
| Model   | CC-ST-1024   |
| Drive method                                      | Constant-voltage system  |
| Light control method                              | PWM control, lighting time control   |
| Applicable illuminators (rating)                  | 24V, 10W   |
| PWM frequency                                     | 100kHz   |
| Input overcurrent protection                      | The fuse cuts off to protect from overcurrent  |
| Input voltage                                     | 24V DC ±10%  |
| Power consumption (typ.)                          | 11.0W (10W LED light, at maximum light intensity)  |
| Output voltage (rating)                           | 24V DC   |
| Output current (rating)                           | 0.42A  |
| Operating temperature and humidity (indoors only) | Temperature: 0 to 40°C, Humidity: 20 to 85%RH (No condensation)  |
| Storage temperature and humidity                  | Temperature: -20 to 60°C, Humidity: 20 to 85%RH (No condensation)  |
| Vibration resistance                              | Acceleration: 19.6 m/s <sup>2</sup> , frequency: 10 to 55 Hz, cycles: 3 minutes, for 1 hour each in X, Y, and Z directions |
| Impact  | Acceleration: 49.0 m/sec <sup>2</sup> , Operation time: 30 msec, Number of times: 3 times per each 6 directions            |
| Cooling method                                    | Natural air cooling  |
| CE marking  | EMC standard conform to EN 61326-1 Class A   |
| Material  | ABS  |
| Weight  | 80g  |
| Accessories                                       | Instruction guide, Flat-blade screwdriver  |

### Do not use the product 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.

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