











## Operation Manual for the PSB series Power Supply Units for LED Lighting

CCS Inc.

### 【1】 Articles for safety ※ Be sure to read before using ※

Thank you for purchasing LED Digital Control Power Supply Units for LED Lighting. Be sure to read this operation manual carefully and use as described. This manual should be kept with the product and referred to whenever needed. Obey the following articles with “  Warning ” and  Caution ” in this manual to prevent accidents such as bodily injuries and electric shocks.

### <Safety precautions>

 Warning	
<b>Do not open the cover of the product</b> Electric shock may occur as the voltage of some internal parts is high.	
<b>Connect the power plug directly to the outlet.</b> Fire and electric shock may occur when connected to an extended table tap or a multiple outlet extension plug. Install and remove the product after disconnecting the power plugs of the main body and peripheral devices from outlets.	
<b>Do not touch the power plug with wet hands.</b> Otherwise, electric shock may occur.	
<b>Ground properly.</b> Otherwise, electric shock may occur in case of touching the equipment and the power unit at the same time.	
<b>Do not look at the light of high lumen directly.</b> LED Lighting doesn't have a quality of gathering light like a semiconductor laser, however, do not look at the light of high lumen directly or do not view the electric flashing light directly for a long time. Eye damage may occur.	

## 【2】 Specifications

Model	PSB-512V	PSB-524V	PSB-1012VB	PSB-1024VB
Input	AC85~125V 15VA max.	AC85~125V 15VA max.	AC85~125V 27VA max.	AC85~125V 27VA max.
Output	DC12V 5W	DC24V 5W	DC12V 10W	DC24V 10W
Connector	SMP-02V-BC	SMP-03V-BC	SMP-02V-BC	SMP-03V-BC
Dimension *1)	W65xD113xH42	W65xD113xH42	W76xD117xH45	W76xD117xH45

Model	PSB-3012VB	PSB-3024VB		
Input	AC85~125V 78VA max.	AC85~125V 78VA max.		
Output	DC12V 30W	DC24V 30W		
Connector	SMP-02V-BC	SMP-03V-BC		
Dimension *1)	W86xD148xH55	W86xD148xH55		

Model	PSB-1012V-WW	PSB-1024V-WW	PSB-3012V-WW	PSB-3024V-WW
Input	AC85~264V 27VA max.	AC85~264V 27VA max.	AC85~264V 78VA max.	AC85~264V 78VA max.
Output	DC12V 10W	DC24V 10W	DC12V 30W	DC24V 30W
Connector	SMP-02V-BC	SMP-03V-BC	SMP-02V-BC	SMP-03V-BC
Dimension *1)	W76xD130xH50	W76xD130xH50	W86xD159xH55	W86xD159xH55

\*1) Projected items such as the switch, latch and stand are not included.

## 【3】 Illuminator output connector

Pin number	PSB-XX12	PSB-XX24
1	+12V	+24V
2	GND	non-connection
3		GND
Connector	SMP-02V-BC (JST)	SMP-03V-BC (JST)

## 【4】 How to operate

### (1) Connection

Turn the power supply switch off.

Connect the receptacle of the LED illuminator to the output plug connector on the back part of the power supply. Ground the FG terminal with 0.5-01.25sq(AWG20-16) wire. [caution 1]

Connect the plug of the AC cord to an AC100V outlet.

### (2) Power supply operation

Turn the power supply switch on.

### (3) Intensity control

PSB series power supply controls intensity variably.

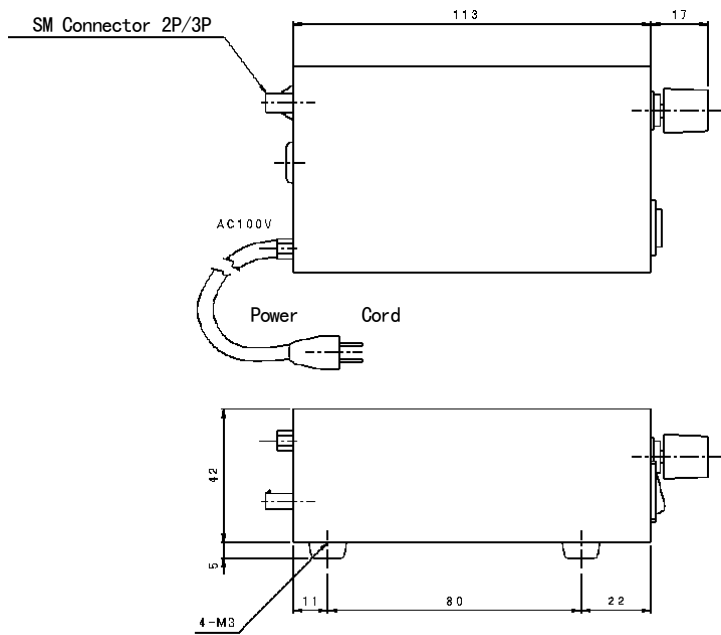
Intensity voltage range is 8.3~12V for the 12V illuminator, 5W model is 15~24V for the 24V illuminator and the 10, 30W model is 12~24V.

The LED intensifies by turning the dial to the right and dims by turning it left.

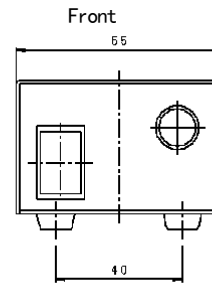
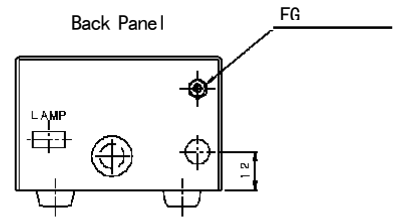
Some illuminators may deactivate if the dial is turned completely left.

## 【5】 Appearance

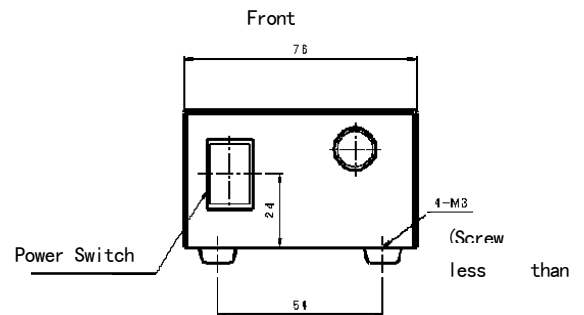
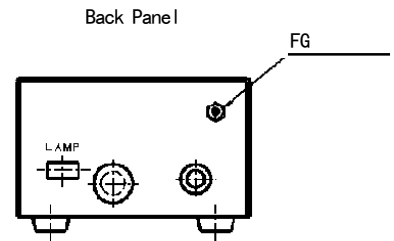
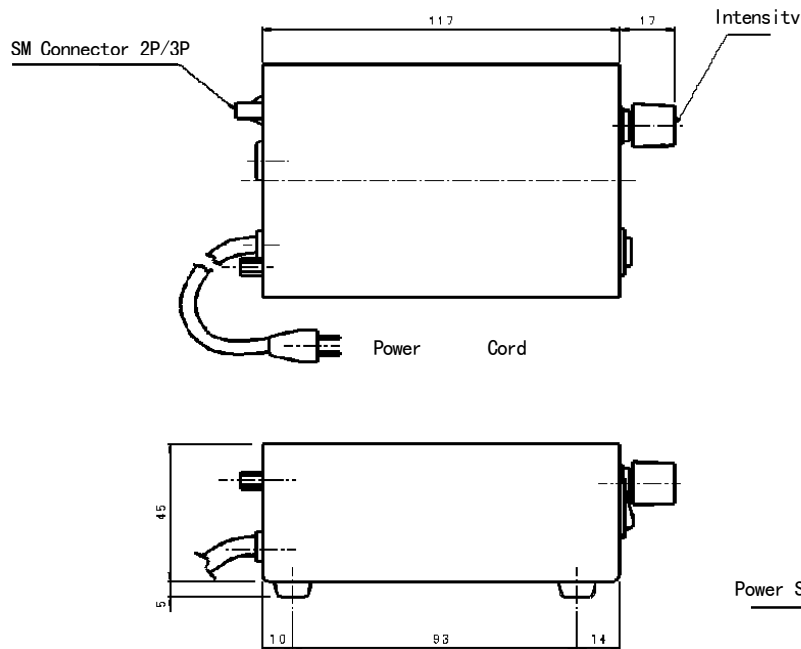
### (1) PSB-512V/PSB-524V



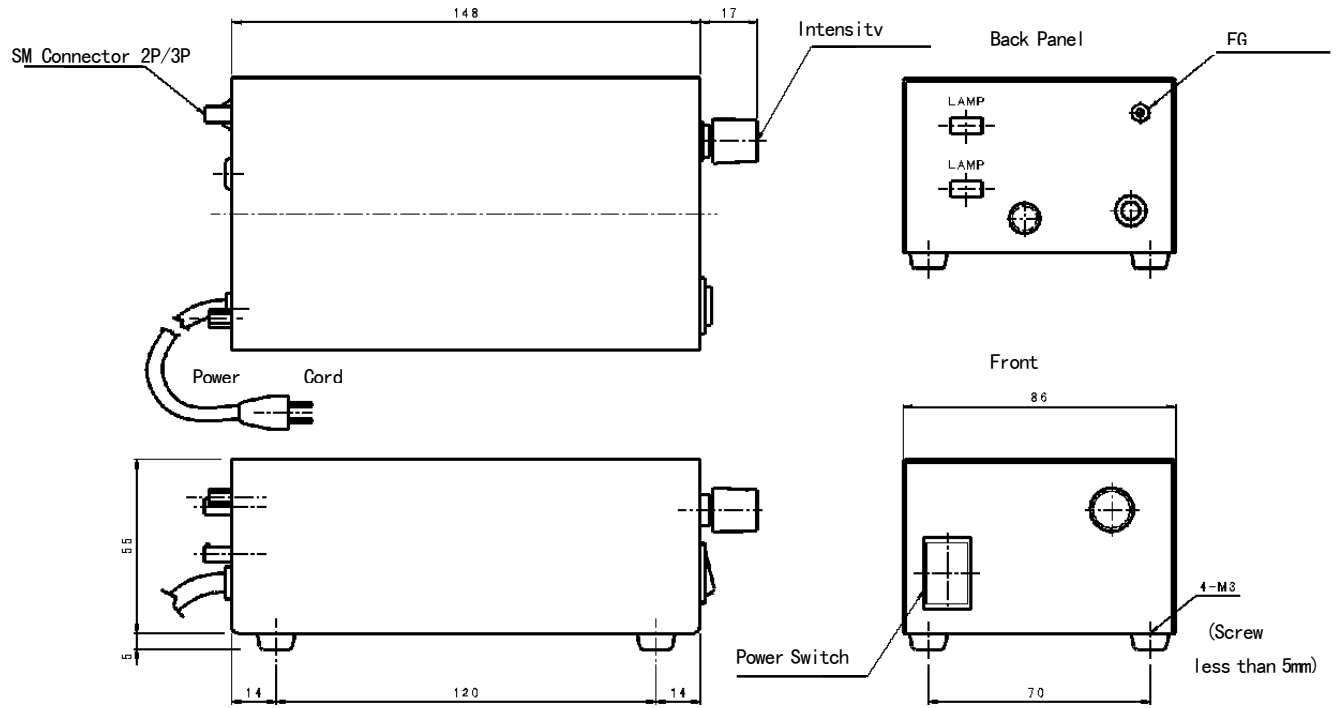
(Screw insertion less than



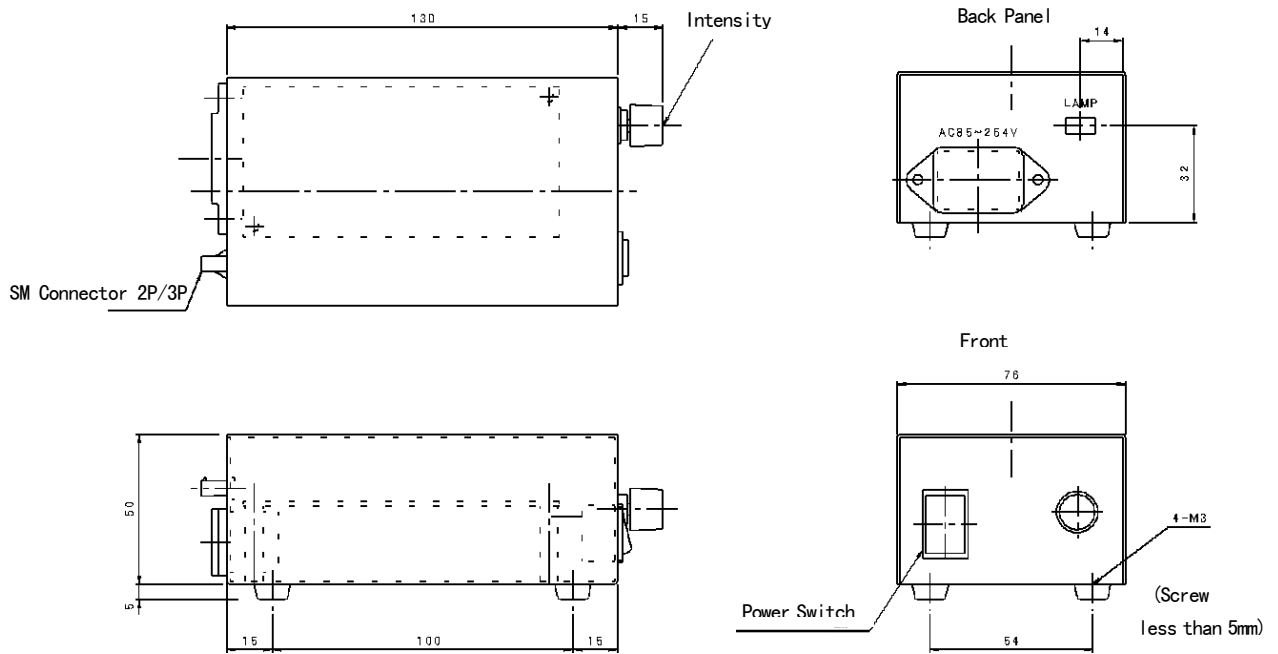
### (2) PSB-1012VB/PSB-1024VB



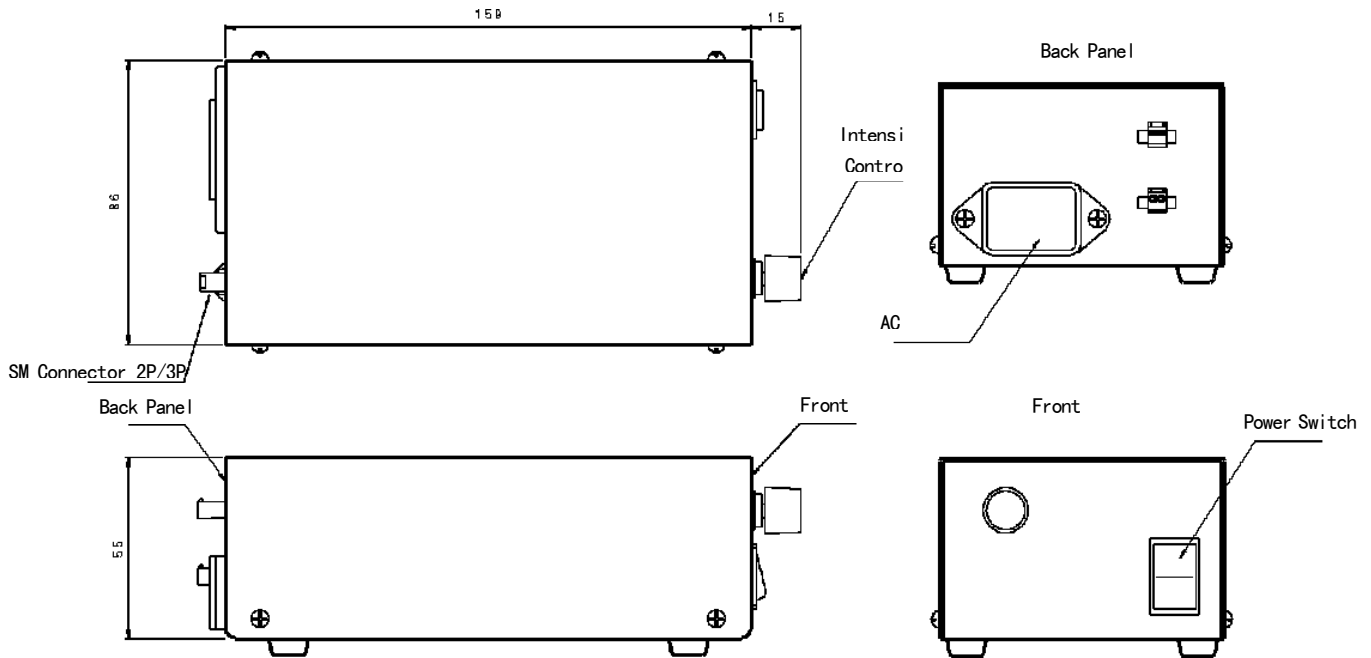
(3) PSB-3012VB/PSB-3024VB




(4) PSB-1012V-WW/PSB-1024V-WW



(5) PSB-3012V-WW/PSB-3024V-WW



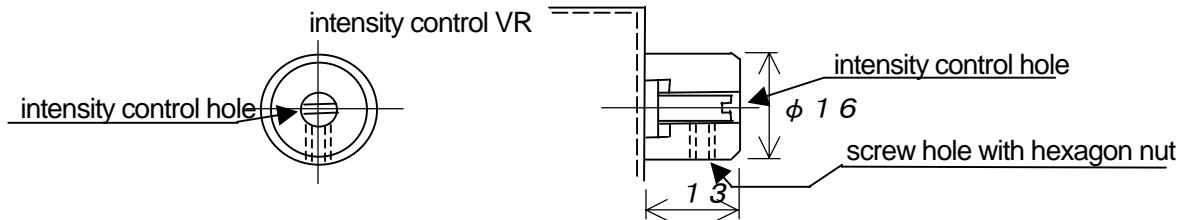
	Caution
1. There is a risk of electric shock when touching the metal housing of this power supply and another unit at the same time. To avoid electric shock, ground the FG terminal with 0.5~1.25sq (AWG20~AWG16). If the housing of the device touched at the same time has not been grounded and has potential for electric shock, there is a way to connect the FG terminals to avoid a shock.	
2. Do not extend a cable for the light input to more than 5m. Otherwise, the voltage is lowered because of voltage drop occurred by a DC resistance of the cable. The quantity of light decreases since the voltage supplied to the light doesn't reach the rate voltage in spite of 100% light-up.	

## 【6】 Factory Options

- (1) Latch with the intensity control VR lock noted with a L

Control the intensity with a minus driver.

To lock, firm the VR shaft while screwing the M3 push screw with a hexagon wrench.

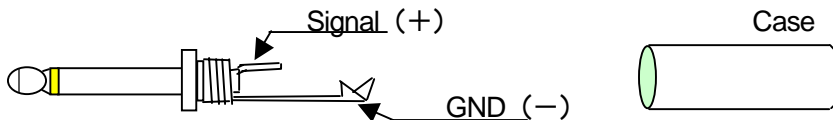


- (2) External ON/OFF function noted with an EX

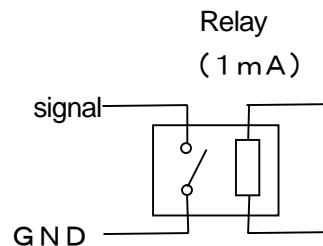
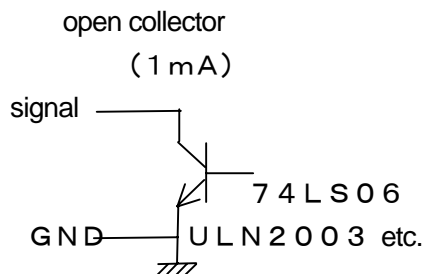
Possible to control ON/OFF from external sequencer and computer. Use the illuminator only when necessary to avoid overheating, consequently affecting its life span.

Power supply connector : Microphone jack

Suitable plug :  $\phi 3.5\mu\text{s}$  model plug



- \* Control ON/OFF by connecting phone plug to the power supply's external control jack.
- \* The LED illuminator will remain on when the plug and GND(-) short-circuit.
- \* Recommended circuit



In case of controlling ON/OFF in high speed conditions, drive it with an open collector or an driver IC.

- (3) Metal connector noted with a M

It is used to restrain the wiring resistance of an extension cable by using a thick rod when using a sealed cable or standard 0.3sq (AWG22).



## Precaution

1. Switch off the power when connecting and disconnecting cables.  
Otherwise, fire and electric shock may occur.
2. Disconnect the power cable and the external cable when you move the unit.  
Damaged cables may cause fire and electric shock.
3. Do not use the unit in a closed system, as the light becomes hot.  
Cool down it with fans, etc. in case of using in a closed space.
4. In the following cases, turn off the power, pull the power plug from the outlet and stop using instantly.
  - Smoke rise from the unit.
  - The outside of the unit is too hot.
  - There are strange smells or strange sounds.Please contact the local sales office of CCS as it is dangerous for you to repair it,
5. In case of dropping and damaging the unit, please contact the local sales office of CCS after turning off the power and pulling the power plug from the outlet.  
Fire and electric shock may occur if you continue to use the unit.
6. Install the unit in the following site.
  - Temperature: 0 – 40 °C. Humidity: 10 – 70 % RH. (No condensation.)
  - At a flat site without vibration.
  - At a site with good ventilation, not exposed to dust.
  - Not at the site where the temperature immediately changes.
  - Not near a faucet, a water heater, a humidifier, an air conditioner or a heater.  
(Not at the site where temperature and humidity is too high, nor too low.)
  - Not near things containing water.
7. Obey the following articles for the power source.
  - Take the power as a dedicated power source from the space with steady voltage.  
Do not operate the unit from the same power source as an air conditioner, a copy machine, etc. as this causes incorrect operation.
  - Pull off the power plug from the outlet when not using for an extended time.
  - Do not put the power cable near heating machines nor damage it.
  - Do not touch the product and the power plug during the electrical storm..
8. Bundling the camera cable and the power cable together may affect the screen badly.
9. When using color image processing with white LED,
  - in continuous light-up, the quantity of light and color vary in response to the temperature.
  - regulate the white balance of the camera again about 60h after switching on the power.
  - in intermittent light-up, it is possible to use the unit as soon as the power is on.
10. Use the LED light with controlled heat-generation.
  - The lifetime of the LED light is shorter when used at high temperature. In case of continuous using. Keeping the dimming quantity of light around 50% shows stable performance for a longer time.
  - Turning on the light only when taking in the image, the Intermittent light-up, makes it possible to use the unit under the stable condition with less heat generation.
11. In using the unit under the following conditions, consider the rates, the functions, and safety like a fail-safe.  
Also, contact the sales local office of CCS.
  - In case of using it under conditions and environments not written in this manual.
  - In case of using it for atomic energy, a railway, an airplane, a car, a burning machine, a medical instrument, an entertainment facility or a safety device.
  - In the case when serious influences on life and property are predicted and special safety is required.

## ■ Exemption

We are not obliged to have any responsibility nor compensation for troubles and damages which occur both directly and indirectly from using the power unit and the LED light.

## WARRANTY

All CCS products undergo shipment inspection for "performance" and other requirements prior to shipment. However, in cases of trouble occurring under conditions of normal use, our products are guaranteed in accordance with the following terms of warranty

<Term of Warranty>

One year from the date of purchase.

<Content of Warranty>

In the event of trouble occurring during the term of warranty and under conditions of normal use in accordance with the Instruction Manual and other written cautions for which the obligation stems from the manufacture, repairs will be performed on a gratis basis, or, the product will be exchanged for a new product or a product of equal standing.

Said repairs and exchanges will be limited to products of CCS Co., Ltd. The company will not be considered liable for any damages suffered either directly or indirectly as a result of breakdown or use of its products.

<Cautions>

1. Before using, take time to read the "Instruction Manual".
2. In cases such as following, charges will be required for repairs or adjustments even if performed during the term of warranty.
  - ① When there is no such indication in the warranty.
  - ② Breakdown or damage occurring as a result of dropping or other impact, or due to handling in an inappropriate matter.
  - ③ Breakdown or damage occurring as a result of disassembly, or inappropriate remodeling or repairs on the part of the customer.
  - ④ Breakdown or damage occurring as a result of fire, natural disaster or accident, abnormal voltage input, water, steam, oil, acid or other external factors.
  - ⑤ Any other cases determined as not pertaining to the obligations of CCS.

Type	Production Number No.
Date of Purchase  2000                    _____ ,	
Term of Warranty One year from date of purchase	Total units  _____ units



Shipping Clerk

### CCS Inc.

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