

Instruction Manual for Adjustable Pulse Power Supply for LED Lights

OPP-10- (10W Power supply)

is V : Knob is turned by hand. H: adjust using a screwdriver.

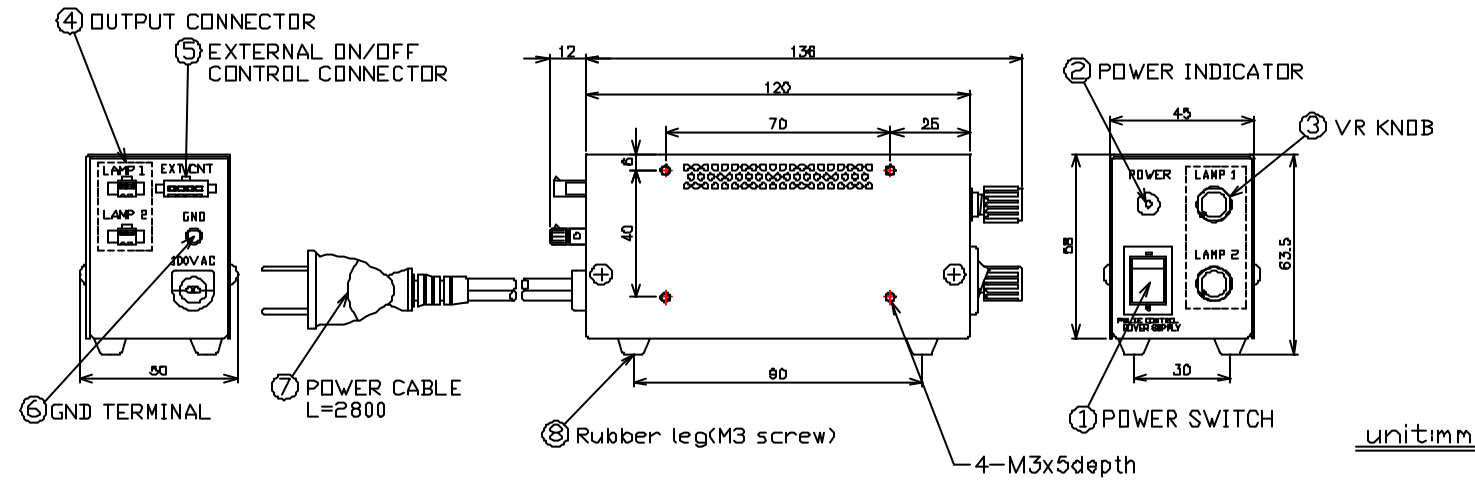
1 . Product outline

- This product is an adjustable power supply only for LED Lights. Please do not use it in addition to our company's LED Lights.
- The LED Light brightness can be adjusted by PWM. (Pulse oscillation: approx. 60KHz)
- This product operates under AC100V.
- LED Light can be turn on/off with an external control connector. (EXT CONT, 4 pin connector)
- Using the front panel VR knob, LAMP 1 and LAMP 2, the brightness can be adjusted from 0 to 100%.

2 . Accessories and appearance

Accessories : External control connector set (4 pin connector) 1 piece
: Instruction Manual (this sheet) 1 piece

Appearance



3 . Safety

Warning	
(1) Do not open the cover of a unit. There is a portion of high voltage inside of a power supply, and there is a possibility of receiving an electric shock in it.	
(2) Connect directly the plug of a power supply to a wall socket. There is a cause of fire when you use an extension cable.	
(3) Do not touch a power supply plug by the wet hand. There is a possibility of receiving an electric shock.	
(4) Use a power supply, grounding it. When not grounded, there is a possibility of receiving an electric shock.	
(5) When abnormalities to which a main part gets hot, a strange smell and/or smoke comes out arise, stop use immediately, shut off a power supply and pull out a power supply plug from a wall socket.	
(6) Do not look at LED Light directly, it may have bad influence on your eyes.	

Cautions	
(1) Make connection of AC input cable and a LED Light cable after turning off the switch of a power supply unit.	
(2) Do not place any objects on a power supply.	
(3) Do not expose a power supply unit to sunlight or humidity directly.	
(4) When not used for a long period of time, pull out a power supply plug from the unit.	
(5) LED Light should be used at the strength of light at least in a half, when you use the constant light always, since a life will become short if used in the environment of a high temperature.	
(6) When abnormalities happen at a power supply unit, stop use immediately and contact to our company. Do not repair by the customer. (A product cannot be guaranteed, when a customer has an inside of a power supply changed or repaired.)	

Product warranties

1. If it should break down within the term of a guarantee(delivery-of-goods day for 12 months) under a customer's normal use condition based on notes, such as this handling description, or when initial [poor] accepts, We will carry out repair and exchange of a failure part gratuitously.
2. However, We cannot guarantee on condition that external factors [, such as strong shock / natural disaster / water, steam oil, acid, radiation, etc.], such as an error on use / use of the lighting equipment of those other than our company / unjust decomposition, and reconstruction / fall, etc.

4 . Specifications

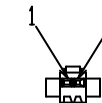
- 4 - 1 Input-and-output voltage
 Input voltage : AC100V - 115V 0.315A (MAX)
 Frequency of operation : 47 ~ 440Hz
 Rated output : DC12V 0.83A
- 4 - 2 Control of brightness
 Method of control : Approx. 60KHz PWM Control
 System of control : Control the brightness by the VR knob (LAMP 1, LAMP 2)
 Range of control : 0 ~ 100% (At the environmental within the limits of operational condition)
 Since the scale position does not correspond to the adjusted bright level, please use a scale as a reference.
 External on/off control : EXT CONT can control ON/OFF with the open collector or the relay contact .

- 4 - 3 Environment of operation
 Circumferential temperature : -10 ~ +40
 Circumferential humidity : 20 ~ 70% (Don't dew)

4 - 4 Connectors

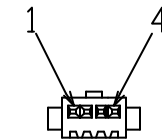
- Output connector (LAMP 1,LAMP 2) : SM connector SMP-02V-BC (Made by JST)

Pin No.	12V output type
1	output + (+ 12V)
2	output -



- External on/off control connector (EXT CONT) : SM connector SMP-04V-BC (Made by JST)

Pin No.	Signal	Color of option cable
1	LAMP 1 ON/OFF	White
2	LAMP 2 ON/OFF	Green
3	External control change	Red
4	GND	black



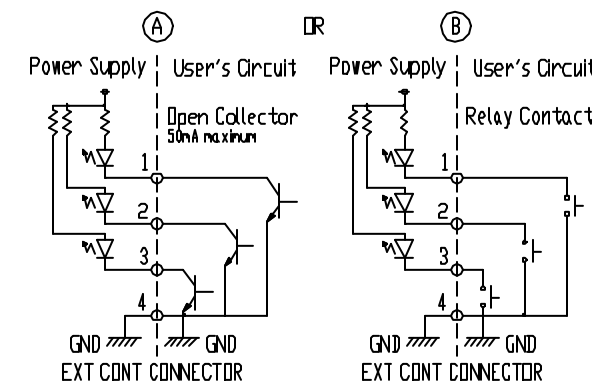
"OP-ECB2-" (is length[m]) should be used for an option cable.

4 - 5 The method of external on/off control (EXT CONT)

In order to work the external control function, short pin #3 and pin #4 circuit. (LED putting out lights)
 Under the above condition, when short the pin #1 and pin #4 circuit, LED Light (connected to ch1) will light on.

Furthermore, when short pin #2 and pin #4 circuit, the LED Light (connected to ch2) will light on. (The INT/EXT control perform 2ch simultaneously.)

Recommendation circuit



There are approx. 10mA current from pin#1/2/3 to pin#4. Please see a margin and use the open collector circuit with the current capacity of about 50mA.