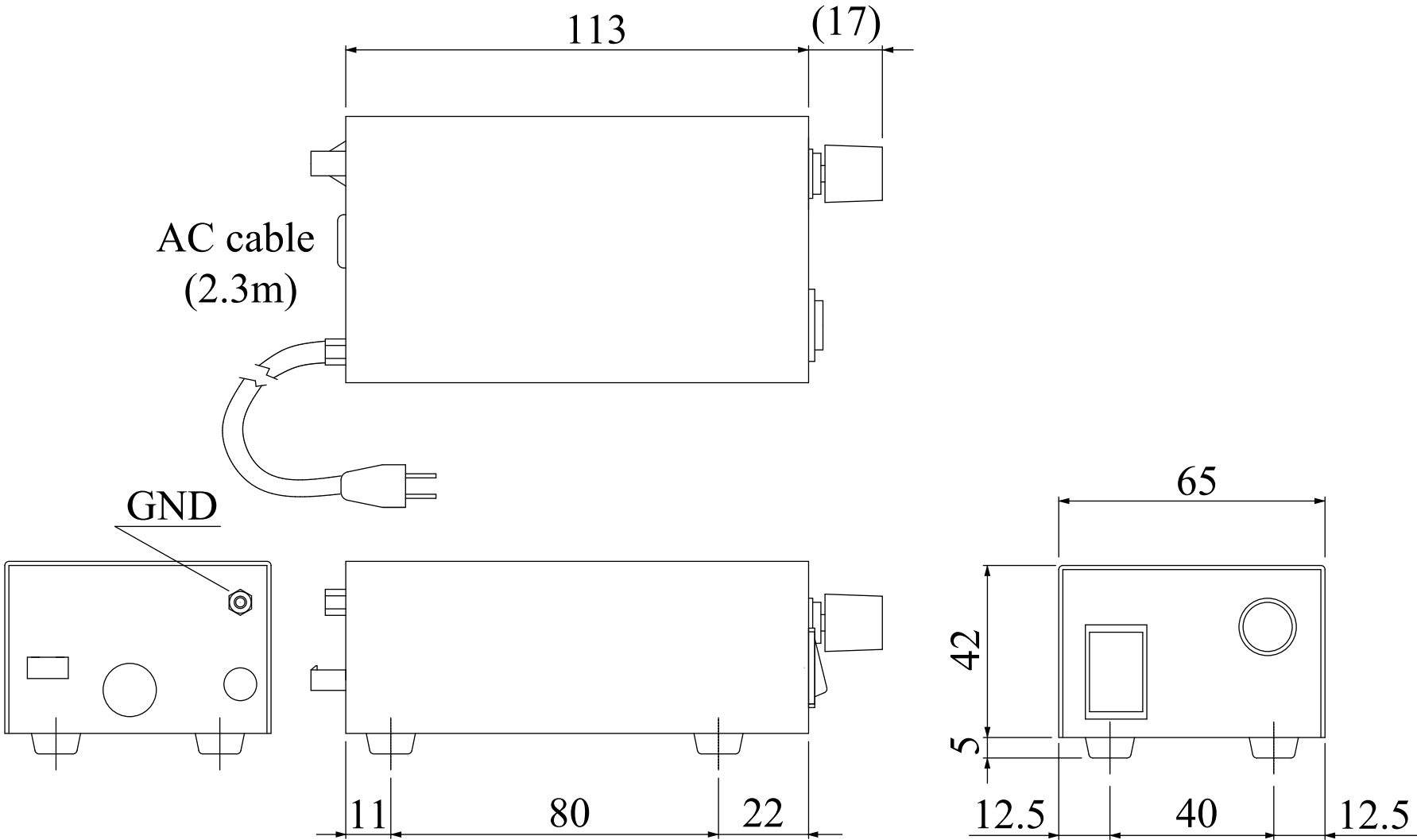


PSB-512V/ PSB-524V

Model	PSB-512V	PSB-524V
Power requirements	AC100-120V 15VA	AC100-120V 15VA
Output	12V/5.0W	24V/5.0W
Mass	400g	400g
Connector type	2P (1: + , 2: -) x1	3P (1: + , 2: NC , 3: -) x1

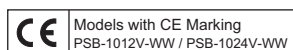
Third Angle Projection Units: mm



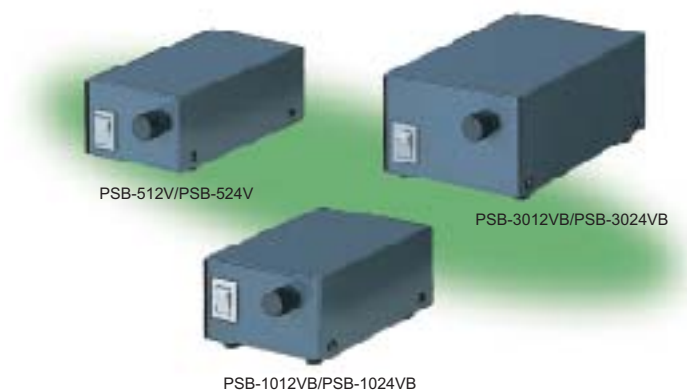


Analog Power Supplies

PSB Series



CCS Standard Analog Power Supplies



The PSB Series is an analog power supply series providing stepless intensity control through variable voltage control. It is ideal for continuous use with cameras having a shutter speed of 1/4000 or faster. Worldwide type also available.

* Models with lock of dimming control knob are available as option.

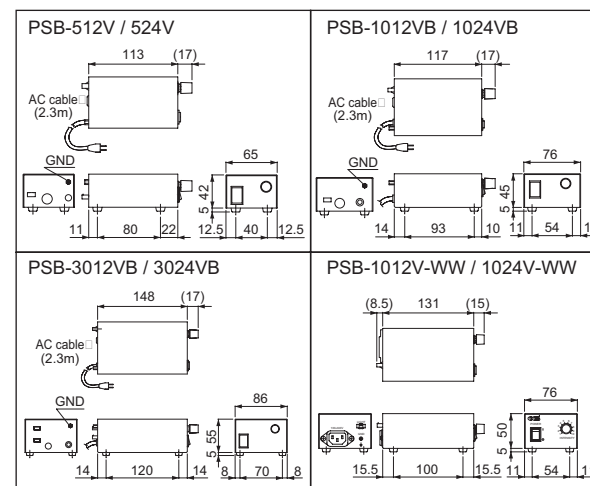
Models: PSB-512VL/PSB-524VL/PSB-1012VBL/PSB-1024VBL/PSB-3012VBL/PSB-3024VBL

Specifications

RoHS Directive Compatible

Model	Power requirements	Output	Circuit	Connector
PSB-512V	AC100 ~ 120V 15VA	12V/5W	1	SMP-02VX1
PSB-524V	AC100 ~ 120V 15VA	24V/5W	1	SMP-03VX1
PSB-1012VB	AC100 ~ 120V 27VA	12V/10W	1	SMP-02VX1
PSB-1024VB	AC100 ~ 120V 27VA	24V/10W	1	SMP-03VX1
PSB-3012VB	AC100 ~ 120V 78VA	12V/30W	1	SMP-02VX2
PSB-3024VB	AC100 ~ 120V 78VA	24V/30W	1	SMP-03VX2
PSB-1012V-WW	AC100 ~ 240V 27VA	12V/10W	1	SMP-02VX1
PSB-1024V-WW	AC100 ~ 240V 27VA	24V/10W	1	SMP-03VX1



Dimensions (Unit: mm)












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

1. Articles for safety - Be sure to read before using -

Thank you for purchasing 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”, “ Caution ” in this manual to prevent accidents such as bodily injuries and electric shocks.

< Safety precautions >

 Warning		
(1)	Do not open the cover of the product Electric shock may occur as the voltage of some internal parts is high.	
(2)	Connect the power plug directly to the outlet. 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.	
(3)	Do not touch the power plug with wet hands. Otherwise, electric shock may occur.	
(4)	Ground properly. Otherwise, electric shock may occur in case of touching the equipment and the power unit at the same time.	
(5)	In the following cases, turn off the power, pull the power plug from the outlet and stop using instantly. <ul style="list-style-type: none">• Smoke rising from the unit.• The outside of the unit is too hot.• There are strange smells or strange sounds.	
(6)	Do not look at the light of high lumen directly. 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.	

Declaration of Conformity for PSB-xxxx-WW series power supply

Statement of Conformity

Based on test results using appropriate standards,
the product is in conformity with
Electromagnetic Compatibility Directive 89/336/EEC
Low Voltage Directive 73/23/EEC

Sample tests Standards used:

Safety: EN61010-1, EMC: EN50081-2, EN50082-2

This Conformity is indicated by the symbol .



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.
- (3) In case of that the power supply unit is mounted to another system rack or frame case, remove four legs from bottom of the unit. Mount the unit with M3 screws and make sure the insertion of screw less than 5mm to avoid short circuit.
- (4) To conform to EMC Directive, attach a ferrite core ESD-SR-25 [TOKIN] or equivalent to the power cord for removing the high frequency noise.
- (5) Switch off the power when connecting and disconnecting cables. Otherwise, fire and electric shock may occur.
- (6) Disconnect the power cable and the external cable when you move the unit. Damaged cables may cause fire and electric shock.
- (7) Do not use the unit in a closed system, as the light becomes hot. Cool down with fans, etc. in case of using in a closed space.
- (8) In the following cases, turn off the power, pull the power plug from the outlet and stop using instantly.
 - Smoke rising 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.
- (9) 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.
- (10) Install the unit in the following site.
 - Temperature: 0 – 40 °C. Humidity: 20 – 85%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.
- (11) 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.
- (12) Bundling the camera cable and the power cable together may affect the screen badly.
- (13) 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 1 hour after switching on the power.
 - In intermittent light-up, it is possible to use the unit as soon as the power is on.
- (14) 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 use 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.
- (15) 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.

2. 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)

3. 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 0.5-1.25sq(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

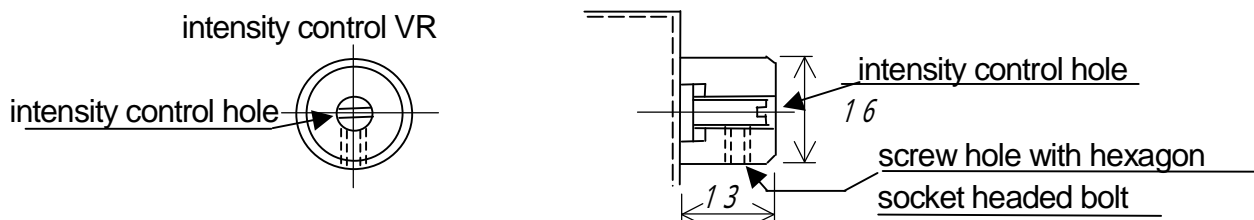
Illuminator and the 10, 30W model is 12 ~ 24V. The LED intensifies by turning the dial to the right and dims by turning it left. Some illuminators may deactivate if the dial is turned completely left. The dimming range of some lightings may be limited. Although we select and use LEDs that have the equivalent features, the slight unevenness of the forward voltage before turning off makes some LEDs turn off earlier or flash on. This is not due to the degradation of LED lightings.

4. 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.



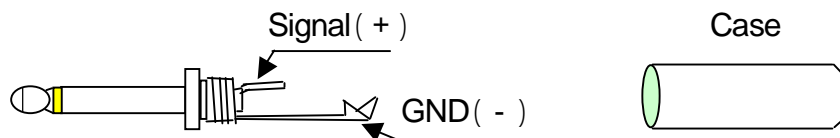
(2) External ON/OFF function noted with an EX

Possible to control ON/OFF from external PLC and computer.

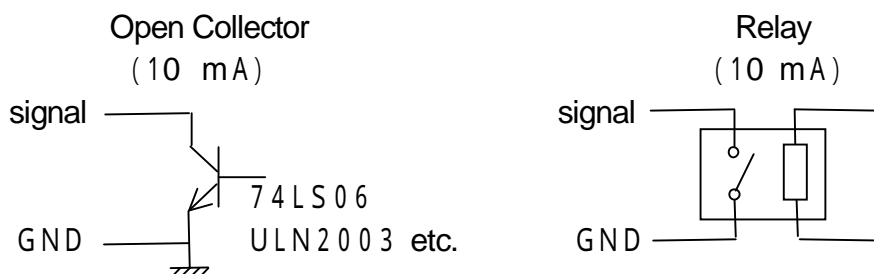
Use the illuminator only when necessary to avoid overheating, consequently affecting its life span.

Power supply connector : Microphone jack

Suitable plug : 3.5mm US 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.
- * To eliminate external noise, attach a 0.1 μ F ceramic condenser between Signal and GND.
- * Recommended circuit



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

- * A phone plug is not included.
(There is an optional 3m cable with a plug.)

5. Specifications

Model	PSB-512V	PSB-524V	PSB-1012VB	PSB-1024VB
Input ^{*1)}	AC100-120V 15VA max.	AC100-120V 15VA max.	AC100-120V 27VA max.	AC100-120V 27VA max.
Output	DC12V 5W	DC24V 5W	DC12V 10W	DC24V 10W
Connector	SM Connector 2P	SM Connector 3P	SM Connector 2P	SM Connector 3P
Dimension ^{*2)}	W65xD113xH42	W65xD113xH42	W76xD117xH45	W76xD117xH45

Model	PSB-3012VB	PSB-3024VB	PSB-3012V-WW	PSB-3024V-WW
Input ^{*1)}	AC100-120V 78VA max.	AC100-120V 78VA max.	AC100-240V 78VA max.	AC100-240V 78VA max.
Output	DC12V 30W	DC24V 30W	DC12V 30W	DC24V 30W
Connector	SM Connector 2P	SM Connector 3P	SM Connector 2P	SM Connector 3P
Dimension ^{*2)}	W86xD148xH55	W86xD148xH55	W86xD159xH55	W86xD159xH55

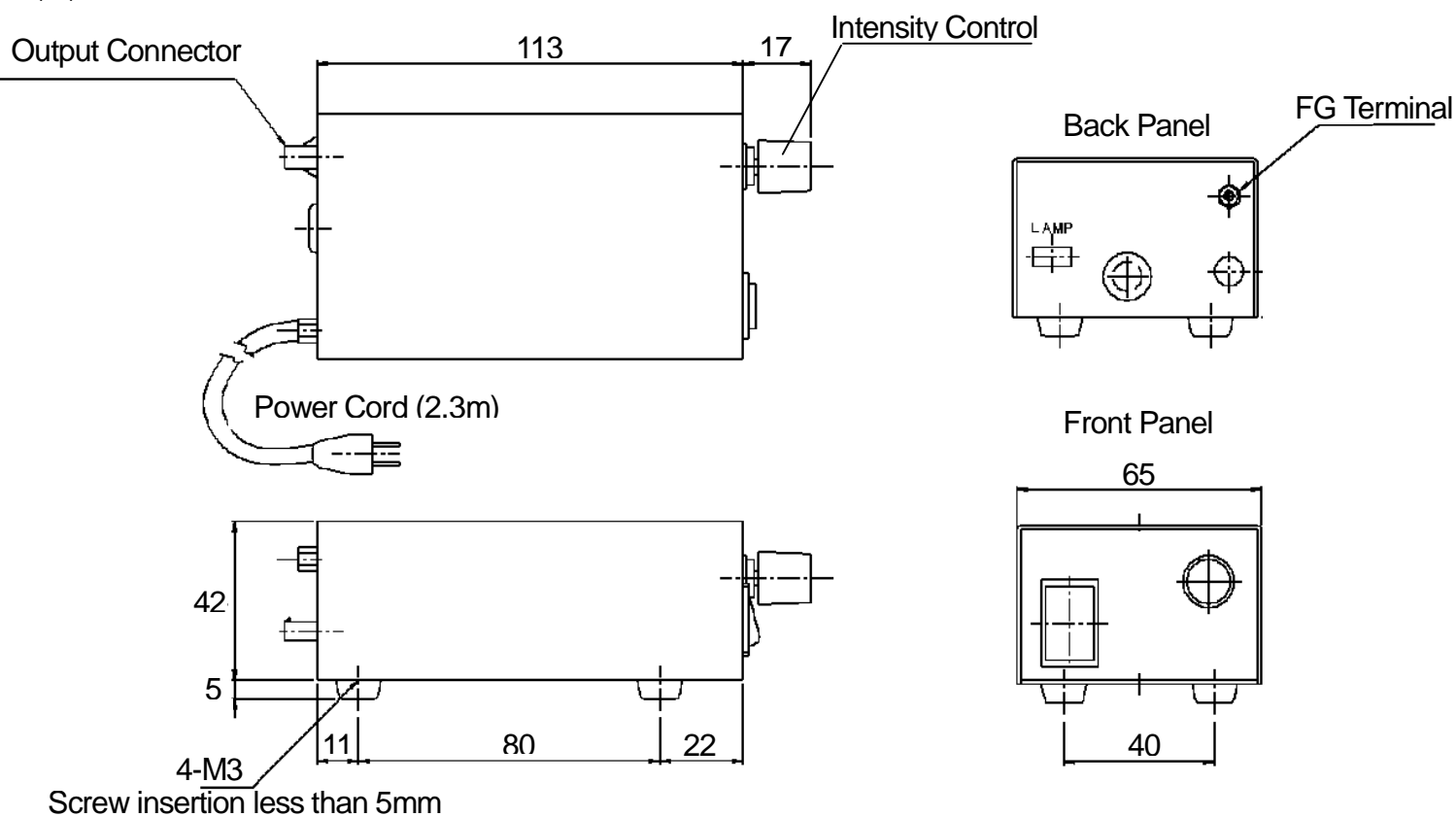
Model	PSB-1012V-WW	PSB-1024V-WW
Input ^{*1)}	AC100-240V 27VA max.	AC100-240V 27VA max.
Output	DC12V 10W	DC24V 10W
Connector	SM Connector 2P	SM Connector 3P
Dimension ^{*2)}	W76xD130xH50	W76xD130xH50

*1) The operating voltage is from -15% to +10% of the input voltage. (50/60Hz)

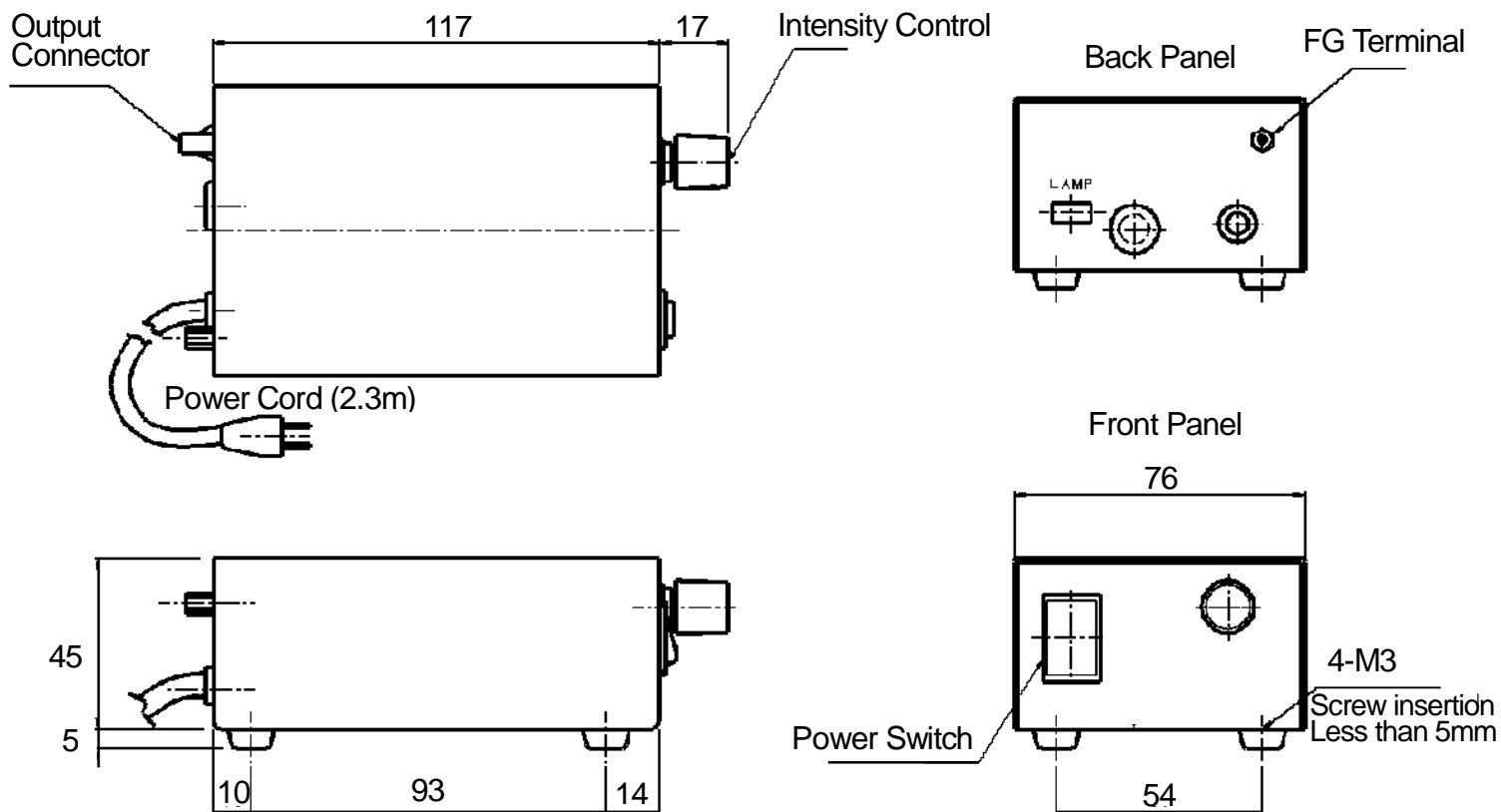
*2) Projected items such as the switch, latch and stand are not included.

6. Appearance

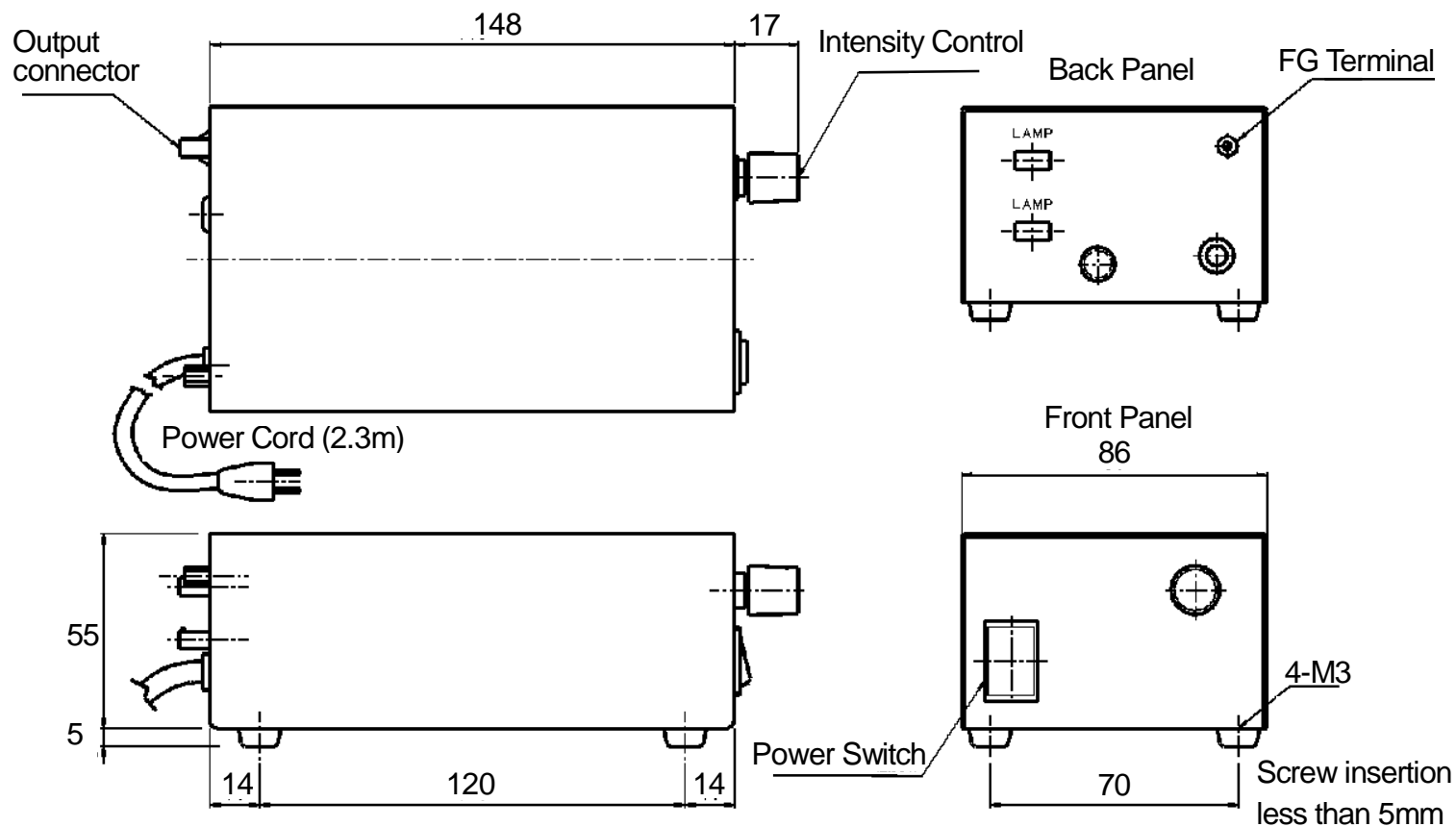
(1) PSB - 512V / PSB - 524V



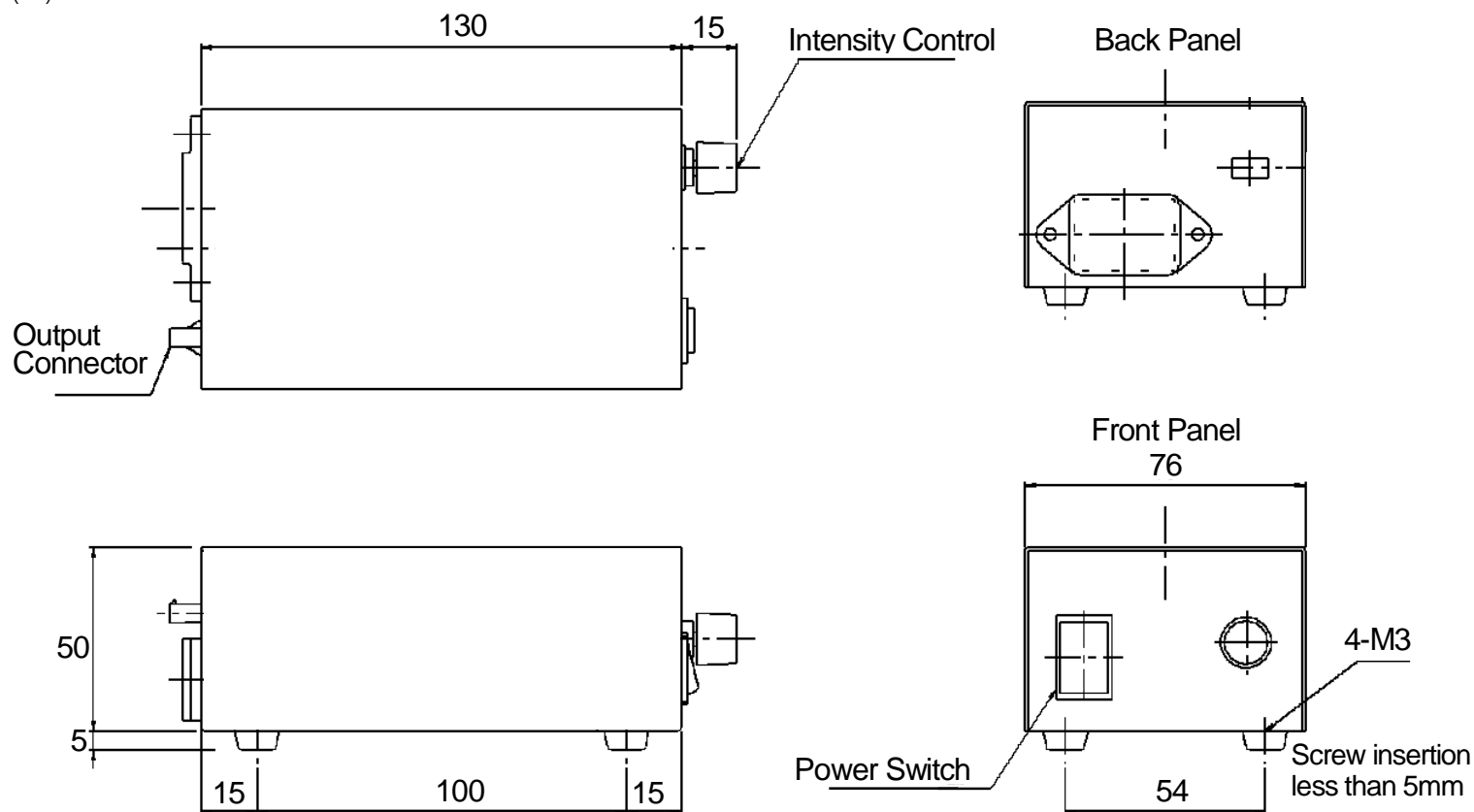
(2) PSB - 1012VB / PSB - 1024VB



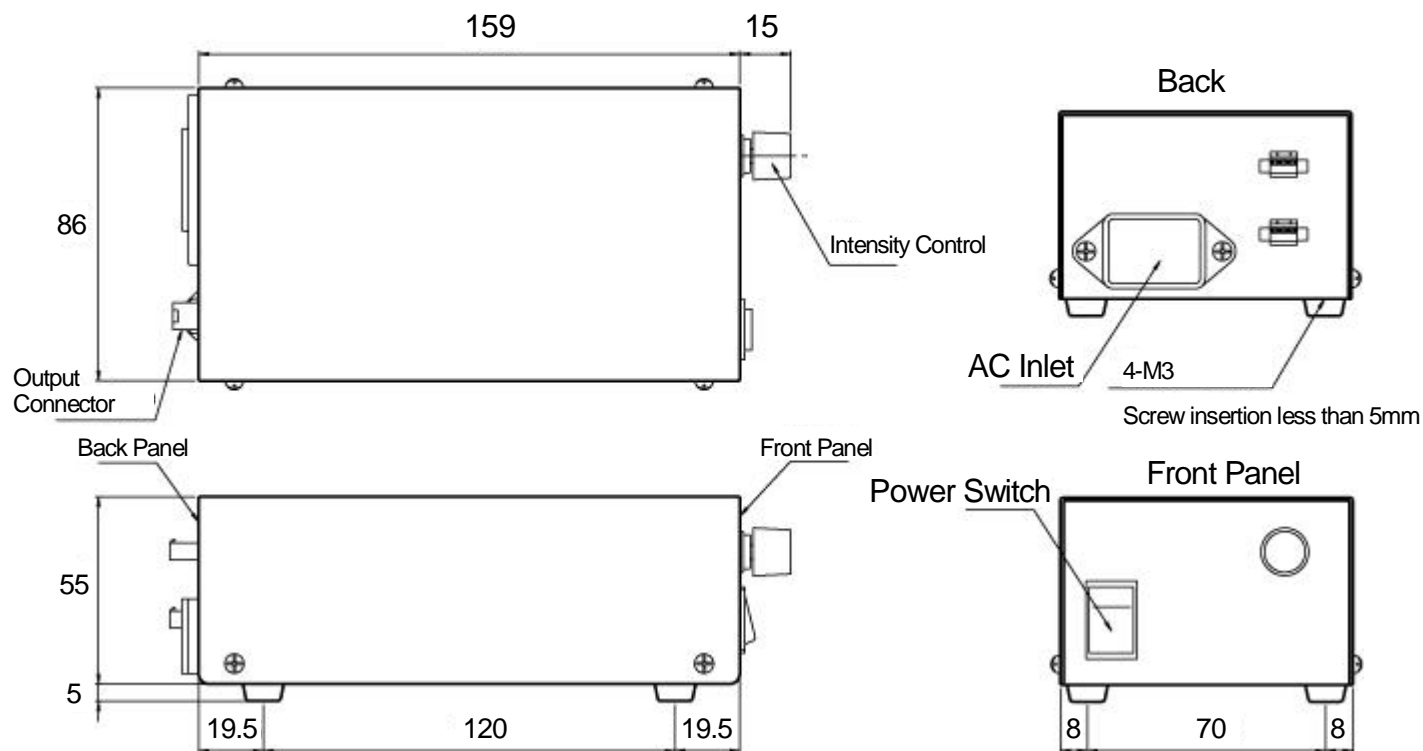
(3) PSB - 3012VB / PSB - 3024VB



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



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



A domestic AC power (100-120V) supply cord is included in the units of WW-series. In operating at AC 200V, make sure of using a power supply cord for 200V

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.



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