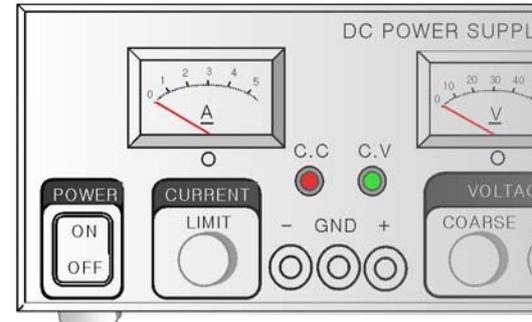


# DC Regulated Power Supply Operation Manual

GP-305 / GP-503  
GP-505 / GP-3010



EZ Digital Co., Ltd.

## SAFETY SUMMARY

### SAFETY PRECAUTIONS

Please take a moment to review these safety precautions.  
They are provided for your protection and prevent damage to the power supply.

This safety information applied to all operator and service personnel.

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

### CAUTION AND WARNING STATEMENTS

**CAUTION** : Is used to indicate correct operating or maintenance procedures in order to prevent damage to or destruction of the equipment or other property.

**WARNING** : Calls attention to a potential danger that requires correct procedures or practices in order to prevent personal injury.

### SYMBOLS



Caution, risk of electric shocks.  
Easily-touched higher temperature parts.



Caution(refer to accompanying documents)



PROTECTIVE CONDUCTOR TERMINAL

## INSTRUCTIONS

Thank you for purchasing EZ DIGITAL products.

The instruments produced by EZ DIGITAL COMPANY are high products technology products made under strict quality control.

We guarantee their exceptional precision and utmost reliability.

For proper use of this product, please read this manual carefully.

**EZ Digital Co., Ltd.**

1. To maintain the precision and the reliability of the product , use it in the standard setting.

Operating temperature : 5 ~ 40  
Operating humidity : 80% ~ 50%  
Storage temperature : 0 ~ 70

2. For quality improvement , the exterior design and specifications of the product can be changed without notice.

3. Should any further information be required , please contact the EZ DIGITAL company or sales outlet.

## WARRANTY

Warranty service covers one year the date of original purchase.

In case of technical failure a year, repair service will be provided by EZ DIGITAL company.

We charge for repairs after the one year warranty period expires.

When the failure is a result of user's neglect , natural disaster or accident , we charge for repairs regardless of the warranty period.

For more professional repair service , be sure to contact us or sales outlet.

## 1. INTRODUCTION

GP-305 , 3010 , 503 , 505 series are regulated DC POWER SUPPLY units with voltmeter and amperemeter : GP-305 can supply the DC power of 0 to 30V/5A

GP-503 can supply 0 to 50V/3A.

GP-505 can supply 0 to 50V/5A.

They are provided with continuously variable coarse adjustment and the output voltages, and with continuously variable current adjustment in a range of 10 to 100%.

Current limiting and overload protection functions are built in to protect the load under any circumstances.

The supply features analog voltmeter and amperemeter, enabling the user to monitor the supply's operation at a glance.

LEDs for Constant current ( C.C ) and Constant Voltage ( C.V ) enables monitoring of operation status.

Main input voltage AC230V and 50/60Hz are supported.

## 2. FEATURE

Built in output current limiter circuit

Availability of series and / or parallel operation

### 3. PRECAUTIONS

#### 3-1. Line voltage selection

This instrument must be operated with the correct line voltage selector switch setting and the correct line fuse for the line voltage selected to prevent damage.

The instrument operates from either a 90V to 132V or 198V to 250V line source.

Before line voltage is applied to the instrument, make sure the line voltage selector switch is set correctly.

In the case of the line voltage selector switch selected, must be operated to the correct line fuse.

This instrument is the of category

#### To change the line voltage selection

1. Make sure the instrument is disconnected from the power source.
2. Pull out the line voltage selector switch on the bottom panel.  
Select the arrow mark position of the switch from Table 3-1.  
  
Select the arrow mark to the desired position and plug it in.
3. Pull out the line fuse holder containing the fuse for overload protection.  
Replace the fuse in the holder with the correct fuse from table3-1 & plug it in.

Table 3-1. Line voltage Selection & Fuse Ratings

Line Voltage	Arrow Mark Position	Fuse Ratings (250V)		
		GP-305/503	GP-505	GP-3010
AC 90 ~ 110	100V	T5A	T6.3A	T8A
AC 108 ~ 132	120V			
AC 198 ~ 242	220V	T2.5A	T3.15A	T4A
AC 207 ~ 250	230V			

#### 3-2. INSTALLATION & HANDLING PRECAUTIONS

When placing the power supply in service at your workplace, observe the following precautions for best instrument performance and longest service life.

1. Avoid placing this instrument in an extremely hot and cold place.  
Specifically, don't leave this instrument in a close car, exposed to sunlight in midsummer, or next to a space heater.
2. Don't use this instrument immediately after bring it in from the cold.  
Allow time for it to warm to room temperature. Similarly don't move it from a warm place to a very cold place, as condensation might impair its operation.
3. Do not expose the instrument to wet or dusty environments.

4. Do not place liquid-filled containers on top of this instrument.  
A spill could seriously damage the instrument.
5. Do not use this instrument where it is subject to severe vibration, or strong blows.
6. Do not place heavy objects on the case, or otherwise block the ventilation hole
7. Do not use this power supply in strong magnetic fields, such as near motors.
8. Do not insert wires, tools, etc. through the ventilation holes.
9. Do not leave a hot soldering iron near the instrument.
10. Do not place this instrument face down on the ground, or damage to the knob may result.
11. Do not connect other power source to +, - of the output terminal.
12. Ground terminal of power cord must connect to the ground.
13. According to output polarity, it solved problem ESD and Floating voltage using the connect ground port to terminal of output.
14. To connect the ground, be careful at ground polarity of load.
15. Input voltage of instrument must be equal to AC power voltage.
16. It use to thick and short wire of output terminal in possible.

### 3-3. Cleaning

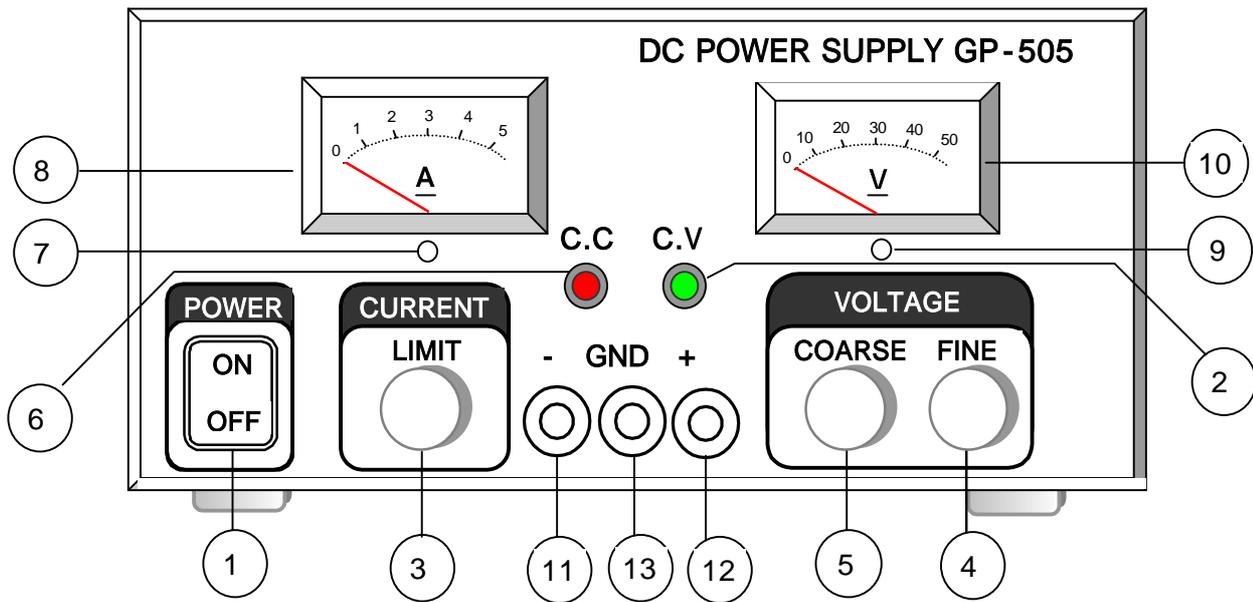
1. To clean stained casing, lightly rub the stained area with a soft cloth dipped in a neutral detergent.
2. If the surface of the panel is dirty, use the same method to clean.  
If the panel is heavily stained, rub the affected area lightly with a soft cloth soaked in light neutral detergent or alcohol.
3. Never use highly volatile material such as benzene or paint thinner.

## 4. SPECIFICATIONS

Model	GP-305	GP-3010	GP-503	GP-505
Output polarity	Positive & Negative			
Output current	0 ~5A	0 ~10A	0 ~3A	0 ~5A
Ripple Voltage	Less than 3mVpp			
Line Regulation	Less than 0.01% +2mV for power source voltage change of $\pm 10\%$			
Load Regulation	Less than 0.01% +3mV for load variation of 0 to 100%			
Voltmeter Monitor	0 ~ 30V (F.S)		0 ~50V (F.S)	
	Accuracy of 2.5% for full scale			
Ampermeter Monitor	0 ~ 5A	0 ~10A	0 ~ 3A	0 ~ 5A
	Accuracy of 2.5% for full scale			
Insulation between	More than 10M $\Omega$ at DC 500V chassis and output terminal More than 50M $\Omega$ at DC 500V chassis and AC plug.			
Compensation/ Protection circuit	Overload protection circuit of constant current self restoring type			
Ambient temperature	5 ~ 40			
Operating Humidity	80% ~ 50%			
Dimension	235(W) x 145(H) x 380(D)			
Weight	Approx.8Kg	Approx.12Kg	Approx.8Kg	Approx.11Kg
Accessories	Short circuit Bar Spare Fuse			
Power source	AC 110/230V , 50/60Hz			
Power Consumption	230VA	450VA	230VA	380VA

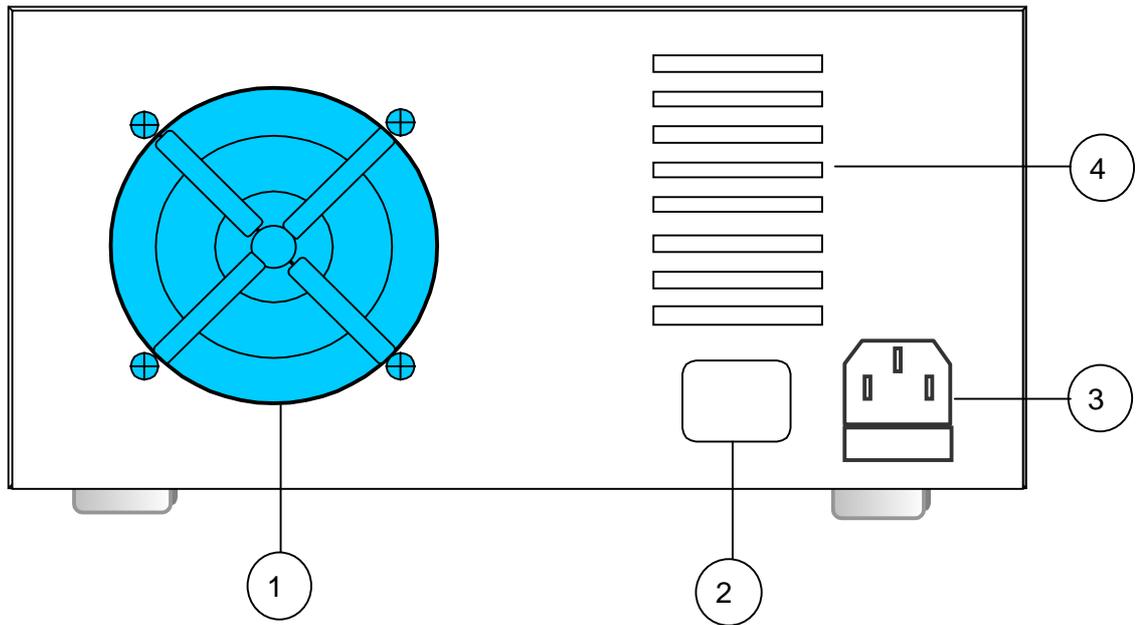
## 5. DESCRIPTION OF PANEL FUNCTION

### 5-1. Front Panel Description



1. POWER SWITCH : This switch turns on and off the power.
2. C.V LED : Display LED for static state current & voltage operating.
3. CURRENT VR : The current limiting knob for setting and adjusting the output current in a range of max. 10 ~100%
4. FINE VR : The fine adjustment knob of the output voltage.
5. COARSE VR : The coarse adjustment knob of the output voltage.
6. C.C LED : Display LED for overcurrent.
7. ZERO ADJUST : The mechanical zero adjuster screw for amperemeter.  
If the meter needle is off the zero position when the power is off or with no load, then adjust the screw by a screw driver while the power is off.
8. CURRENT METER : Indicates the load current
9. ZERO ADJUST : The mechanical zero adjuster screw for voltmeter.  
If the meter needle is off the zero position adjust the screw while the power is off.
10. VOLTAGE METER : Set an output voltage while reading the voltage indication.
11. OUTPUT TERMINAL (-) : The negative side of output terminal.
12. OUTPUT TERMINAL (+) : The positive side of output terminal.
13. OUTPUT TERMINAL (GND) : When the positive polarity or negative polarity is to be connected to the ground, either an appropriate output terminal should be connected to the GND by a short circuit bar supplied as accessory.  
When no bar connection is made, the terminal is used as the ground terminal

## 5-2. Rear Panel Description



1. DC FAN
2. SERIAL NUMBER
3. AC INLET
4. VENTILATION