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1. SAFETY PRECAUTION AND PROCEDURES

The instrument is designed and tested in accordance with EN publication EN60950-1:2006+A11:2009.
The instrument has been tested in accordance to the following EC Directives(EMC):

a. EN55022:2006+A1:2007
b. EN61000-3-2:2006+A1:2009+A2:2009
c. EN61000-3-3:2008
d. EN61000-4-2:2009
e. EN61000-4-3:2006+A1:2009
f. EN61000-4-4:2004
g. EN61000-4-5:2006
h. EN61000-4-6:2009
i. EN61000-4-11:2004
j. EN61000-6-1:2007
k. EN61000-6-3:2007
l. EN55024:1998+A1:2001+A2:2003

The instrument complies with the requirements of the European Council Directive 89/336/EEC (EMC Directive) and 73/23/EEC (Low Voltage Directive). To ensure that the instrument is used safety, follow all safety and operating instructions in this manual. If the instrument is not used as described in this manual, the safety features might be impaired

WARNING
Non compliance with the warnings and/ or the instructions for use may damage the instument and/or its components or injure the operator.

Take extreme care under the following conditions when using the instrument:

- For your own safety and that of the instrument, you must follow the procedure described in this instruction manual.
- Do not use this instrument in a location where there is explosive gas in the vicinity. The use of this instrument in a location where there is explosive gas could result in explosion.
- If there is any smoke, abnormal odor, or abnormal sound coming from this instrument, immediately switch off the power and disconnect the power cord. Continuous using of this instument under these conditions could result in electrical shock or fire. After disconnecting the power cord, contact the service offices for repair. Repair by the user is dangerous and should be strictly avoided.
- Take care not to allow water to get into this insturment. The use of this instrument in a wet state could result in electrical shock or fire. If water or other foreign matter has prenetrated this instrrment, first switch the power off, remove the power cord and call for repair.
- Do not place this instrument on an unstable or slanting surface. The dropping or turning over this instrument could result in electrical shock, injury or fire. If this instrument has been dropped or its cover has damaged, switch the power off, remove the power cord and call for repair

- Do not allow any foreign matter such as metal or inflammable substance to get into the instrument via the air holes. The penetration of any foreign matter from the ventilation holes could result in fire, electrical shock, or power failure.
- Use this instrument with the rated AC power sources. Use of this instrument with a voltage other than specified could result in electrical shock, fire or power failure. The usable power voltage range is marked on the rear panel.
- Do not remove either the cover or panel.
- Do not modify this instrument.
- Avoid use of damaged cables.

1.1 BEFORE USE

1. Make sure the POWER switch is at the “0” position and connect the power cord to the power supply.
2. To set the constant voltage output: Push the **POWER SWITCH** to “I” position. Adjust the **VOLTAGE COARSE** / **CURRENT COARSE** tune knob for roughly adjustment or **VOLTAGE FINE** / **CURRENT FINE** tune knob for fine adjustment. Once the voltage or current value is reached, to desire value appear on **Display Panel**.

1.2 DURING USE

1. Ensure the voltage and current set to zero, prevent a undesired output damage the circuit.
2. The supplied voltage should be within 110V AC or 220V AC±10% (60/50Hz) and the system is capable for supplying the maximum power consumption as indicated on section 3.1.
3. Keep a distance at least greater than 10cm between the power supply and other things for airy reason when usage. Do not place this power supply in a hot, dusty, wet, corrosive gas stage or near the poison substance.
4. This power supply need warm up 30 minutes to meet the specification section 3.2.
5. Keep hands and face away from the heat sink.
6. Do not touch the heat sink during operation.

1.3 AFTER USE

1. Once the operation completed, remove all connection to the power supply, especially the power source.
2. Wait the power cold down.
3. Store in a dry, well air and non-dusty environment.

2. GENERAL

TP3005DM is a high performance and precision DC regulated power supply. TP3005DM has constant voltage mode, constant current mode, over-voltage protection function, overload protection, and 8 hours continuous full load features. Voltage and current value can be adjusted linearly. With the extract stability and enhanced responsibility, this power supply is suitable for bench, laboratory, university, high school, and enterprise use or where needed a high performance and precision regulated DC power supply.

3. FEATURES AND SPECIFICATIONS

3.1 OPERATION CONDITION

Input Voltage：	110V AC or 220V AC±10% 60/50Hz
Power Consumption：	300W
Operating Condition：	Temperature：0～40℃ Relative Humidity*： 90%RH
Storage Condition：	Temperature：-20℃～80℃ Relative Humidity*： 80%RH

*Non-condensing

3.2 TECHNICAL SPECIFICATION

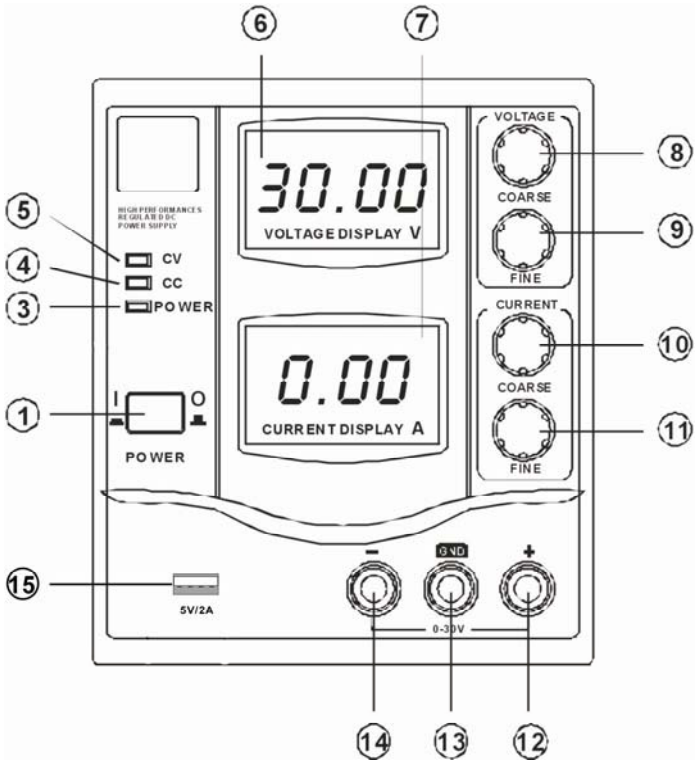
Constant Voltage Mode (CV)	
Voltage Range:	0~30V (main output), fixed 5V (USB output)
Line Effect:	≤1×10^{-4} +3mV (main output) ≤100mV (USB output)
Loading Effect:	≤1×10^{-4}+3mV (output current≤3A) (main output) ≤2×10^{-4}+3mV (3A≤output current≤5A) (main output) ≤100mV (USB output)
Noise and Ripple:	1mV (main output) 2mV (USB output)
Temperature Coefficient	150ppm/℃
Constant Current Mode (CC)	
Current Range	0~5A (main output), Max. 2A (USB output)
Line Effect:	≤2×10^{-3} +3mA (main output)
Loading Effect:	≤1×10^{-3}+3mA (output current≤3A) (main output) ≤2×10^{-3}+3mA (3A≤output current≤5A) (main output)
Temperature Coefficient:	500ppm/℃

Display Accuracy	
Digital Display:	3 Digits Display: ±0.5%+2d
Resume Time:	Less than 100 μ s
Mechanical Specification	
Weight(kg):	5.6
Dimension(mm):	130 (W) × 165 (H) × 320 (D)

4. OPERATING INSTRUCTIONS

4.1 INSTRUMENT DESCRIPTION

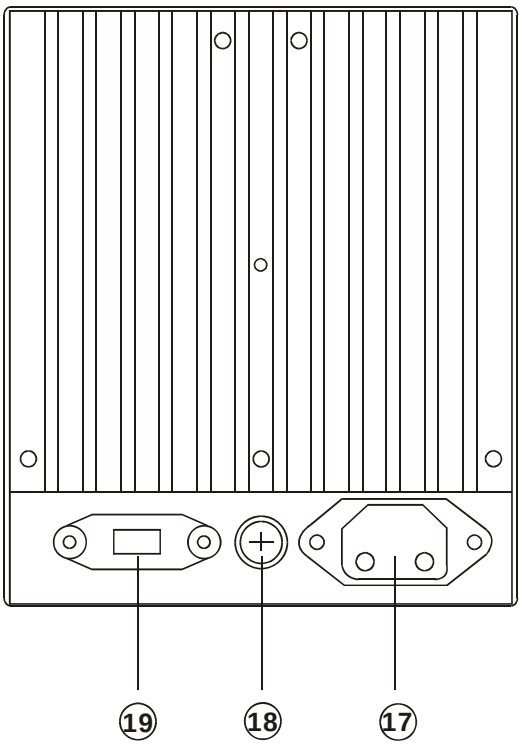
4.1.1 FRONT PANEL DESCRIPTION



Item	Description
1	**POWER SWITCH**: Press it to power on the supply
3	**POWER INDICATOR**
4	**CC (constant current mode) INDICATOR**: When the power supply is at the constant current mode, this LED light will be on.
5	**CV (constant voltage mode) INDICATOR**: When the power supply is at the constant voltage mode, this LED light will be on.
6	**Voltage Display Panel**: This display will indicate the voltage value that will be applied to the circuit.
7	**Current Display Panel**: This display will indicate the current value that will be applied to the circuit
8	**VOLTAGE COARSE** (roughly adjustment) tune knob: Turn clockwise for increasing the voltage value; turn anti-clockwise for decreasing the voltage value.

9	**VOLTAGE FINE** (fine adjustment) tune knob: Turn clockwise for increasing the voltage value; turn anti-clockwise for decreasing the voltage value.
10	**CURRENT COARSE** (roughly adjustment) tune knob: Turn clockwise for increasing the current value; turn anti-clockwise for decreasing the current value.
11	**CURRENT FINE** (fine adjustment) tune knob: Turn clockwise for increasing the current value; turn anti-clockwise for decreasing the current value.
12	**+** main positive terminal**:** 0～30V positive output.
13	**GND** grounding terminal: This terminal is connecting to the casing and the Earth.
14	**-** main negative terminal**:** 0～30V negative output.
15	**USB** output: This output is for USB charging.

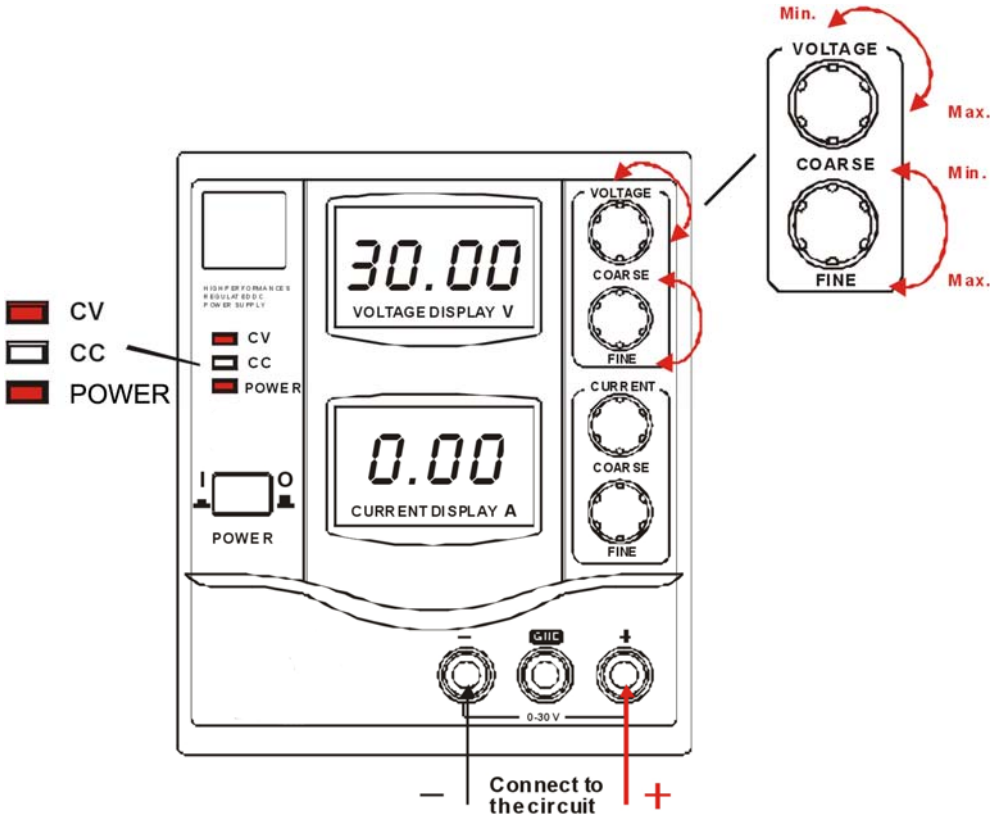
4.1.2 REAR PANEL DESCRIPTION



ITEMS	Description
17	**POWER INPUT SOCKET**: Input AC110V/AC220V ±10% 60/50Hz
18	**FUSE SOCKET**: Fuse 4A
19	**INPUT VOLTAGE SELECTOR**: For 110V AC power system, please switch the INPUT VOLTAGE SELECTOR switch to the top for 110V AC power system selection. For 220V AC power system, please switch the INPUT VOLTAGE SELECTOR switch to the top for 220V AC power system selection.

5. POWER SUPPLY DESCRIPTION

5.1 SETTING THE OUTPUT VOLTAGE



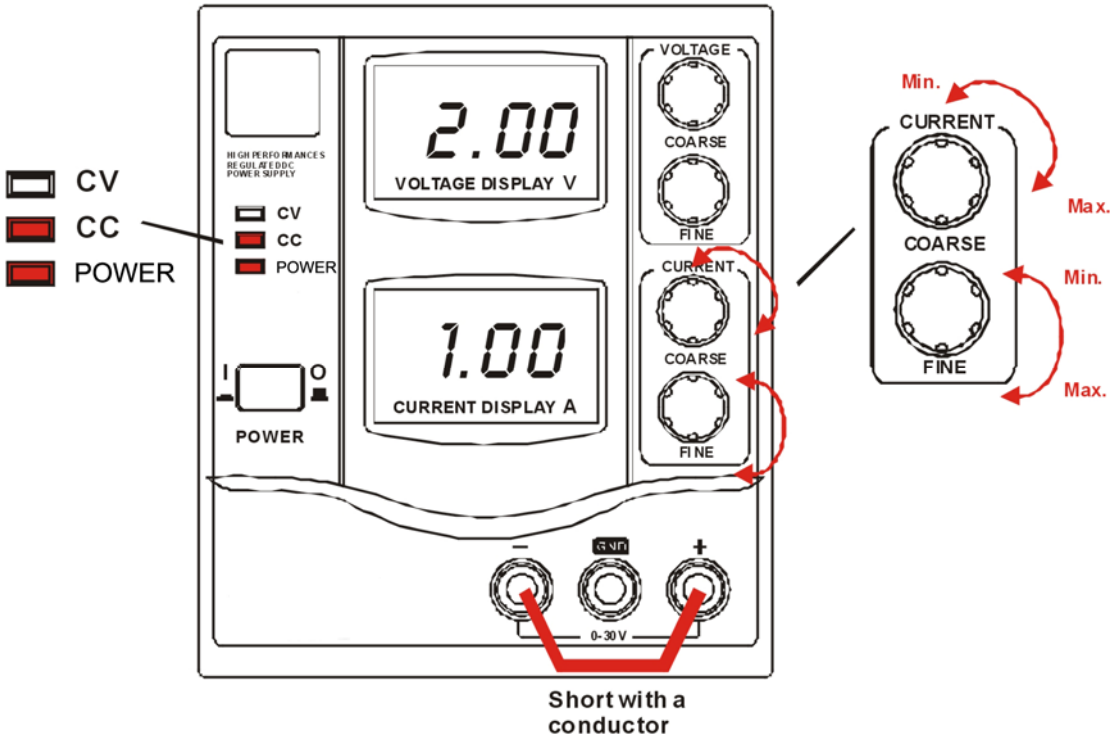
1 Connect the power supply to the power source.

2. Press the **POWER SWITCH [1]** to “I” position to turn on the power supply.
3. The **CV INDICATOR [5]** and **POWER INDICATOR [3]*** will on and the voltage value will be displayed on the display.
4. Use the **VOLTAGE COARSE TUNE KNOB [8]** and **VOLTAGE FINE TUNE KNOB [9]** to adjust and fine turn the voltage to give a desired output voltage.
5. Connect the circuit to the **MAIN TERMINAL [12, 14].**
6. When the **CC INDICATOR [4]** is on, adjust the **CURRENT COARSE TUNE KNOB [10]** and **CURRENT FINE TUNE KNOB [11]** to give a suitable current.

Caution:

- Make sure the **INPUT VOLTAGE SELECTOR [19]** set to a correct position. Otherwise, it will damage the power supply.
- Do not short the **MAIN TERMINAL [12, 14]** over 1 minute; it will damage the power supply.

5.2 SETTING THE OUTPUT CURRENT

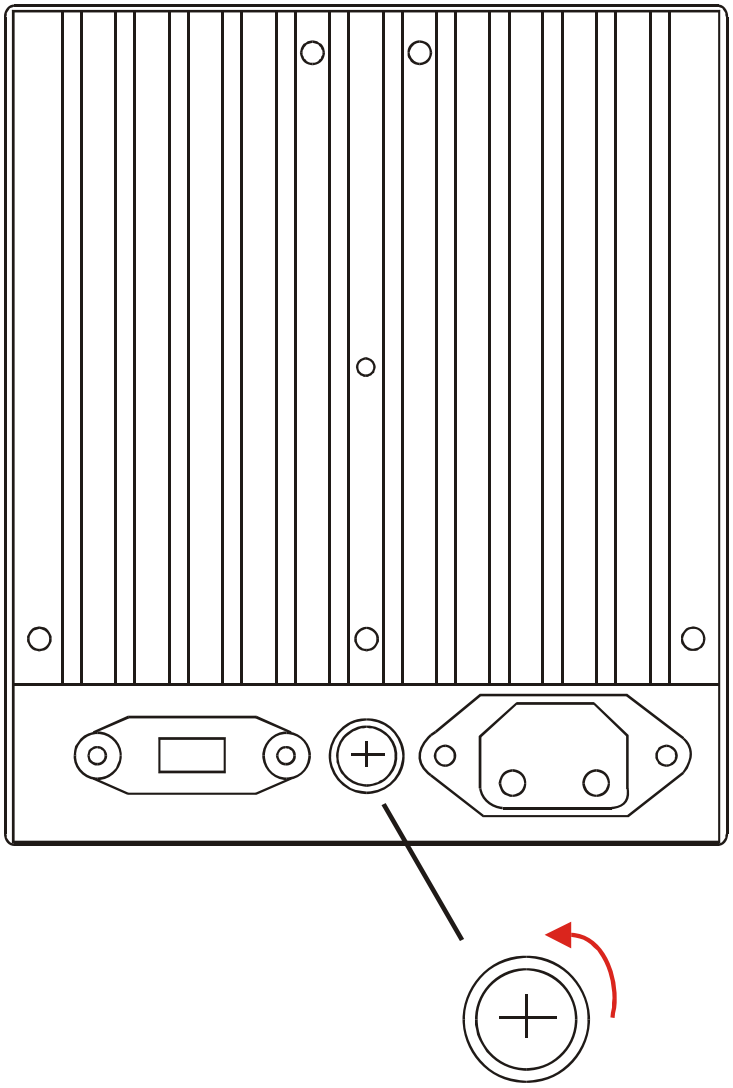


1. Turn on the supply
2. Refer to Section 5.1 step 1 – 4 to give the voltage around 2-5V.
3. Turn the **CURRENT COARSE TUNE KNOB [10]** and **CURRENT FINE TUNE KNOB [11]** anticlockwise reach the minimum current value.
4. Short the + and the – **MAIN TERMINAL [12, 14]** with a conductor.
5. Ensure the out indicator is on. Otherwise, press the **ACCIDENTAL PROTECTION KEY [2]**. Then the **CV INDICATOR [5]** will off and the **CC INDICATOR [4]** will on.
6. Adjust the **CURRENT KNOB [10, 11]** to give a desired output current.
7. Repress the **ACCIDENTAL PROTECTION KEY [2]** to cut off the output.
8. Then the **CC INDICATOR [4]** will off and the **CV INDICATOR [5]** will on.
9. Remove the conductor from the **MAIN TERMINAL [12, 14]**.
10. Set to diesried voltage.
11. Connect the circuit to the **MAIN TERMINAL [12, 14].**

Caution:

- Ensure the current is set to zero before short the **MAIN TERMINAL [12, 14].** Otherwise it will damage the power supply.
- Do not short the **MAIN TERMINAL [12, 14]** over 1 minute; it will damage the power supply.

5.3 CHANGING THE FUSE



1. Disconnect all power connection.
2. Turn over the case.
3. Find the fuse socket.
4. Use a cross screw drive and turn anti-clockwise to open the fuse socket.
5. Replace the fuse with identical rating. Rating see section 4.1.1
6. Use the cross screw drive and turn clockwise to close the fuse socket.

Caution:

- Ensure no power is connected to the power supply; otherwise, will have an electrical shock.
- Do not over turn the fuse socket, or you will damage the fuse socket.

6. PACKAGE

1. Power supply X 1
2. Power cord X 1
3. Instruction manual X 1
4. Fuse X 2

7. TROUBLESHOOTING

Problem	Solution
The power supply cannot start up, no display	1. Ensure the power source or power cord is working properly 2. Check the fuse. If the fuse broken, disconnect from the power source then replace with identical rating fuse.
When operate in CV mode, the voltage drop down and the CC indicator on	It is the current protect. The desired current range is under the circuit gain. The power supply switched to CC mode. Adjust the current knob clockwise to increase the range.
The power supply output unstable	1. The power supply needs at least 30 minutes to warm up and reach the specification. 2. The power source voltage is under the minimum requirement.

If the above solution cannot solve the problem, please contact the local reseller.