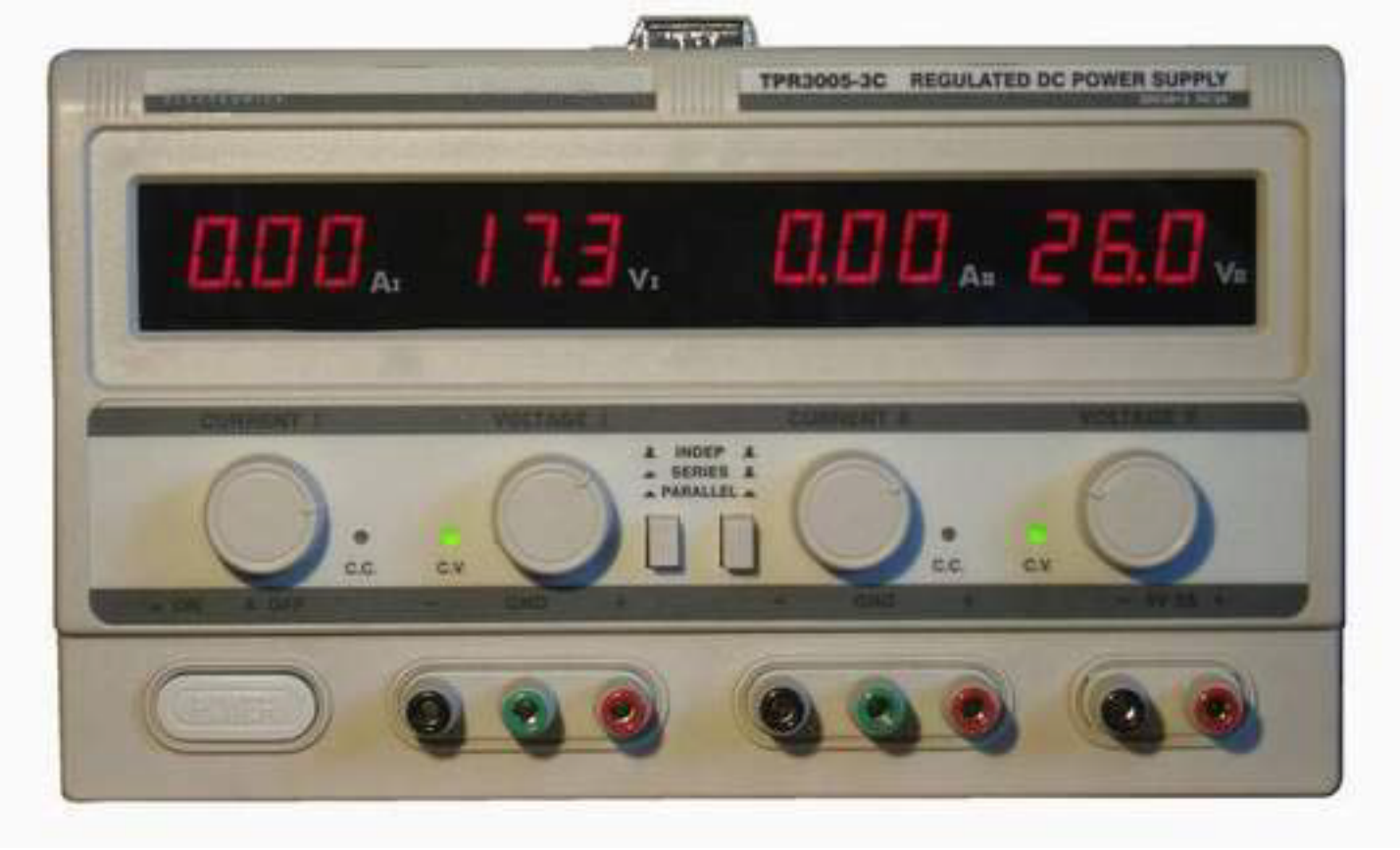
TPR3000
Triple-Output Regulated DC Power Supplies



Omxie Corp

Welcome to use Omxie TPR3000-3C high precision regulated DC power supply. Please read this user's manual carefully before start using it.

General

TPR3002-3C, TPR3003-3C, TPR3005-3C. TPR3010-3C series are high precision linear DC power supplies. These are dual constant voltage, constant current (CV, CC) regulated DC power supplies with the features of low ripple, excellent anti-interference ability and high precision. They can be used in serial, parallel or master/slave modes. These different modes extend the load capacity and improve the flexibility of the power supplies.

Table 1 TPR-3C Series Linear DC Power Supplies

Model	Output Voltage	Output Current	Current/Voltage Display	Display Accuracy
TPR3002-3C	Dual 0-30V Adjustable	Dual 0-2A Adjustable	Digital Display	±1%±1
TPR3003-3C	Dual 0-30V Adjustable	Dual 0-3A Adjustable	Digital Display	±1%±1
TPR3005-3C	Dual 0-30V Adjustable	Dual 0-5A Adjustable	Digital Display	±1%±1
TPR3010-3C	Dual 0-30V Adjustable	Dual 0-10A Adjustable	Digital Display	±1%±1

Specifications and Features of the Control Panel

1. Features

(1) Voltage/Current Display
(2) Master channel voltage and current display
(3) Slave channel voltage and current display
(4) Master channel current adjustment
(5) Master channel voltage adjustment
(6) Slave channel current adjustment
(7) Slave channel voltage adjustment
(8) Power switch
(9) Master channel output terminals
(10) Slave channel output terminals
(11) +5V 3A fixed output terminals
(12) Serial and parallel modes switches

2. Rated Operating Condition

Input Voltage AC 110V ± 10% 60Hz
Operating Condition: Temperature: -10 C~40 C
Relative Humidity: <90%
Storage Condition: Temperature: -20 C~80 C
Relative Humidity: <80%

3. Constant Voltage Specifications

Model	Voltage Stability	Load Stability	Ripple and Noise
TPR-3C Series	≤0.01&±2mV	≤0.01&±2mV	≤1mVrms *(effective value)*

4. Constant Current Specifications

Model	Voltage Stability	Ripple and Noise
TPR-3C Series	≤0.2&±3mA	≤3mArms

Operation Instructions

1. **Notice**

   (1) AC Input

   AC Input should be 110V±1% and 60Hz

   (2) Heat Radiator

   The heat sink radiator is located at the back of the power supply. Enough space should be left for heat dispensing. Do not use the power supply where the ambient temperature exceeds 40ºC

2. **Operations**
   - Plug the AC power input
   - Turn on the power switch "ON"
   - Adjust the VOLTAGE(master and slave) to the desired value
   - Connect the external load to the "+" and "-" terminals.
   - When the power supply is used with an unstable load, either the output terminal "+" or "-" should be reliably connected to the GND terminal(depending the output is used in positive or negative mode) to decrease the ripple on the output voltage.
   - Setting of Constant Current
     First make sure the maximum load current; then use a short-circuit wire to directly short the output terminal (+) to (-), and adjust the current control knob clockwise to the desired value; finally take off the short-circuit wire; adjust the Voltage knob to the desired value.

Independent mode

Set both of the mode switches at the up position.
If used in constant voltage mode, turn both of the current knobs clockwise to the maximum. Adjust the voltage knobs to the desired values.
If used in constant current mode, turn the voltage knobs clockwise to the maximum. Adjust the current knobs to the desired values.

Serial mode

Set the left mode switch to down and right mode switch to up positions. Turn the current knobs clockwise to the maximum, adjust the master channel (right) voltage

knob and the slave channel (left) voltage tracks the master voltage. Total output voltage is the summation of the master and slave. Serial mode output can be obtained from the "+" terminal of master channel (right) and "-" terminal of the slave channel(left).

In serial mode, the currents of the master and slave channels are still independent. If the slave current is not set at the maximum, the slave voltage will not track master voltage when the load current exceeds the slave set current.
In serial mode, master channel "-" terminal and slave channel "+" terminal are shorted internally, no external connection is necessary. It both of the master and slave negative terminals are shorted to ground terminals (middle terminals on both of the master and slave channels), the connections should be removed. Otherwise the slave channel will be shorted to the ground.

Parallel mode

Set both of the mode switches at the down positions to select the parallel mode. Output voltages of the master and slave will change at the same time when the master (right) voltage knob is adjusted.
In parallel mode, both the slave (left) voltage and current adjustments are disabled. Both channel's currents are controlled by the master current knob. Total current output is the summation of the master and slave channels.
In parallel mode, The "+" and "-" terminals on the master(right) and slave(left) channels are connected internally, no external connection is necessary. Load should be connected to the master (right) channel terminals.

Caution

Before the power supply is turned on, make sure that there is no load connected to it; otherwise damage to the power supply and the load may happen.

Maintenance

The power supply should be used in a normal working environment. Do not place it under direct sunshine, or in shaking or chemical smoke areas.

Warning: Do not perform the following steps if you are not a trained professional.

Fuse replacement

The power supply will not work if the fuse is burnt or absent. Check and fix any existing problems before the new fuse is inserted. Use a fuse with the same specifications as the original one. The fuse is located inside the AC power socket which is on the back panel.
Disconnect the AC power before replacing the fuse.

Warning: to prevent fire, use only a 250V or above fuse with the specified current.

Cleaning

Do not spray cleaning liquid directly on to the power supply. Use a wet soft cloth to clean the outside box. Do not use gasoline or other erosive chemical liquid to clean.