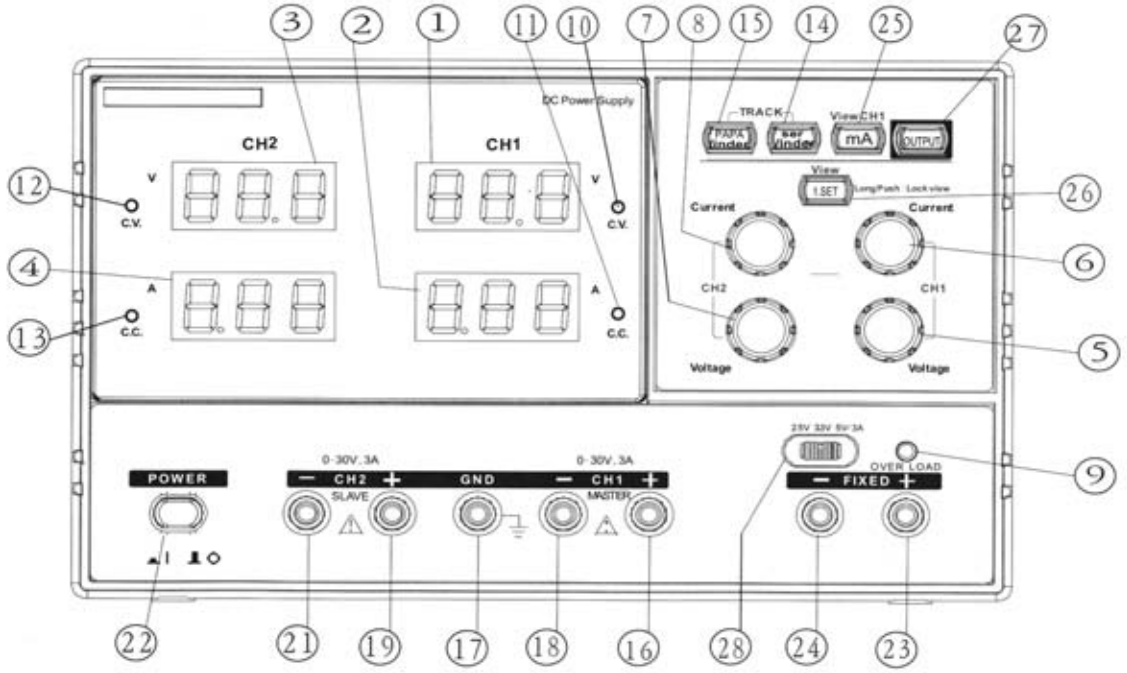
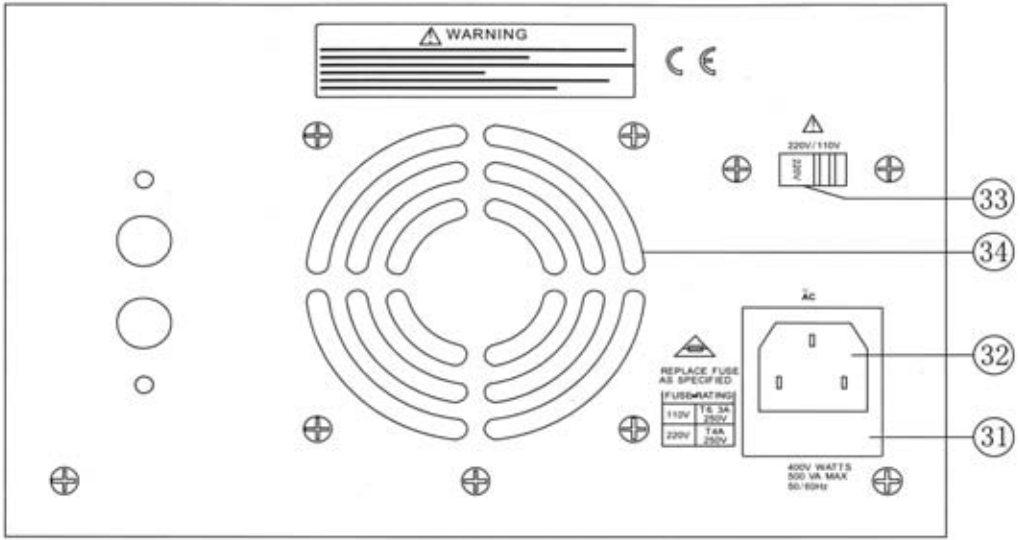
Specifications

Model NO.	DPS-3202TK-3	DPS-3203TK-3	DPS-3205TK-3	MPS-6005L-2
Output voltage	0~30V*2 variable	0~30V*2 variable	0~30V*2 variable	0~60V*2 variable
Output current	0~2A*2 variable	0~3A*2 variable	0~5A*2 variable	0~5A*2 variable
Constant voltage operation				
Line regulation	CV≤0.01%+5mV			CV≤0.03%+5mV
Load regulation	CV≤0.01%+5mV			CV≤0.03%+5mV
Ripple and noise	CV≤5mV(rms)			CV≤7mV(rms)
Temperature coeffecient	150ppm/℃			
Constant current opperation				
Line regulation	CC≤0.2%+5mA			
Load regulation	CC≤0.2%+5mA			
Ripple and noise	CC≤3mA(rms)			
Temperature coeffecient	500ppm/℃			
Display accuracy	3and1/2 digit Voltage≤±0.5%+2d Current (A) ≤±1%+2d (mA) 0-100mA±1mA,100-900mA±2mA			Voltage≤±0.5%+2d Current≤±1%+2d
Recovery time	≤ 100 μ S			
Fixed output				
Line regulation	≤ 5mV			
Load regulation	≤ 15mV			
Ripple and noise	≤ 2mV(rms)			
Voltage accuracy	± 0.1V			
N.W. (KG)	6.5	7.4	8	12.8
Measurement	300X220X150			420X250X150

Front Panel of DPS-3202TK-3/3203TK-3/3205TK-3



Rear Panel of DPS-3202TK-3/3203TK-3/3205TK-3



Front and Rear Panel instruction

1.V LED display: indicate the MASTER output voltage.
2.A LED display: indicate the MASTER output current.
3.V LED display: indicate the SLAVE output voltage.
4.A LED disply: indicate the SLAVE output current.
5.Voltage Control: for adjust of the output voltage of the MASTER supply. Also functions as adjustment control for the maximum output voltage of the SLAVE supply when either parallel or series tracking operation.
6.Current Control: for adjustment of the output current of the MASTER supply. Also functions as adjustment control for the maximum output voltage of the SLAVE supply when either parallel or series tracking operation.
7.Voltage Control: for adjustment of the output voltage of SLAVE supply.
8.Current Control: for adjustment of output current of the SLAVE supply.
9.Over load indicator: lights when load over than 2.5V/3.3V/5V.
10.C.V. indicator: lights when the MASTER supply in the constant voltage operation, in either the Series or Parallel Tracking mode, both the MASTER AND SLAVE supplies are in the constant voltage operation.
11.C.C. indicator: lights when the MASTER supply in the constant current operation.
12.C.V. indicator: lights when the SLAVE supply in the constant voltage operation.
13.C.C. indicator: lights when the SLAVE supply in the constant current operation.
14.15. TRACKING Mode Switches:

Two push-button switches that select Independent mode, Series tracking mode, or Parallel tracking mode as follows:

a. When both switches are disengaged (out), the unit is in the INDEPENDENT mode and the MASTER and SLAVE power supplies are completely independent from one another.

b. When the left switch is engaged (in) and the right switch is disengaged (out), the unit is in the TRACKING SERIES mode. In this mode, maximum voltage of both supplies is set using the MASTER VOLTAGE controls (voltage at output terminals of the SLAVE supply tracks the voltage at the output terminals of MASTER supply). Also, in this mode of operation the positive terminal (red) of the SLAVE supply is connected to the negative ternimal (black) of the MASTER supply. This allows the two supplies to be used as one 0 to double rating voltage supply.

c. When both switches are engaged (in), the unit is in the TRACKING PARALLEL mode. In this mode the MASTER and SLAVE supplies are wired togerther in parallel and both the maximum current and voltage are set using the MASTER controls. The MASTER and SLAVE outputs can be used as two individual (but tracking) power supplies or just the MASTER output can be used as a 0 to rating voltage supply with a 0 to double rating current capability.

16. "+" output terminal: Positive polarity output terminal for the MASTER supply.
17. 20. "GND" terminal: Earth and chassis ground.
18. "-" output terminal: Negative polarity output terminal for the MASTER supply
19. "+" output terminal: Positive polarity output terminal for the SLAVE supply
21. "-" output terminal: Negative polarity output termial for the SLAVE supply
22. Power switch: ON/OFF the power input.
23. "+" output terminal: Positive polarity output terminal for Fixed 2.5V/3.3V/5V supply.
24. "-" output terminal: Negative polarity output terminal for Fixed 2.5V/3.3V/5V supply
25. mA Switch: display current in mA at MASTER output when choose this Switch.(In

Independent and Series mode)

26.Voltage preset button: Press this botton, turn the voltage adjustment knob to get the wanted voltage value. Then the voltage is preset.

27.Output standby (TK series) : After power on, there is no voltage cross the terminals
Press this button, the unit has power out.
Repress this button, the output voltage cross the terminals is zero, and the unit is on standby mode.

28.Fixed output select switch: Select different voltage between 2.5V, 3.3V, 5V by using this switch.

29.Output standby: After power on, there is no voltage cross the terminals.
Turn on this button, output LED on, the unit has power out.
Turn off this button, output LED off, the output voltage cross the terminals is Zero, and the unit is on standby mode.

30.Output standby indicator: see above 29).

31.Fuse Holder

32.Power Cord

33.AC Select Switch: The power transformer is designed to allow operation under 110V or 220V AC, 50/60Hz. Convertion from one line voltage to another is done changing AC selector.

34.Cooling Fan.

Operation Instruction (TK series)

I. Independent Operation

1. In independent mode, The light of (14)(15) are in off condition. Then turn on OUTPUT STANDBY button(27).
2. C.V. mode: Rotate CURRENT control of MASTER and SLAVE supply to adjust the current to maximum value, after turned on unit, adjust voltage of MASTER and SLAVE supply by rotating VOLTAGE control until the output voltage of MASTER and SLAVE supply to desired value.
3. C.C mode: Rotating VOLTAGE control of MASTER and SLAVE supply to adjust the voltage to maximum value after unit turned on. In the meanwhile, adjust the current to Minimum value. After connected with load, by rotating CURRENT control of MASTER and SLAVE supply to adust the current to a constant and desired vaulue.
4. Setting Current Limit

   Before connected with load, press I. Set button (26). Adjust current to desired value by rotaing CURRENT control of MASTER and SLAVE supply, so the Current Limit is setted, but unit will recover to non-setting condition automatically after 3 seconds.

   Or Long press the I. Set button for 3 seconds to set Current Limit, but unit can't recover to be non-setting automatically, should long re-press I. Set button to make unit be a non-setting condition from the Current limit point.

II. Series Tracking Operation

1. Press TRACKING MODE SWITCH(14), turn on OUTPUT. And adjust the current to maximum value by using CURRENT control of MASTER and SLAVE supply, in the meanwhile, adjust voltage of MASTER supply, and the voltage of SLAVE supply change same as voltage of MASTER supply under Series Tracking Operation. In this case, the output voltage is double the displayed value.
2. Under Series tracking mode, the current of MASTER and SLAVE supply can be adjusted

independently. When current of SLAVE supply set at a Current Limit point, and also the load current reaches to the current limit value, in this case, the output voltage of SLAVE supply will not change same as voltage of MASTER supply when rotate VOLTAGE control of MASTER supply.

3. In Series Mode, if the load which connected with unit is very large, and with high powr output, in this case, temporarily short the (+) output terminal of SLAVE and (-) output terminal of MASTER together with a test lead. Which can avoid damage to unit.

III. Parallel Tracking Operation

1. Press Tracking Mode Switches, and turn on OUTPUT standby button, the output of MASTER and SLAVE supply are both in a Parallel operation. The output voltage of SLAVE supply is changing same as MASTER supply by rotating VOLTAGE control of MASTER. In the meanwhile, the C.C. indicator lights.
2. The CURRENT control of SLAVE supply don't play effect in Parallel Tracking Mode, current of MASTER and SLAVE supply is only controled by CURRENT control of MASTER supply, the actual output current at the MASTER supply is doubled the reading on the SLAVE indicator meter.
3. In Parallel Tracking Mode, if the load which connected with unit is large, and with high power output, in this case, temporarily short "+" output terminal of MASTER and SLAVE with a test lead, and also short "-" output termianl of MASTER and SLAVE with a test lead, which can avoid any damage to unit.

IV. (CH1)mA Switch operation

1. The Decimal Point move one digit toward to left when press mA Switch, so the accuracy of current by mA displayed.
2. In mA operation Mode, the Decimal Point move one digit to right automatically when the value of current output is over 900mA.
3. (CH1)mA Switch doesn't work when unit is cunder Parallel Tracking Mode.

Maintenace

WARNING

The following instructions are for use by qualified personnel only. To avoid electrical shock, do not perform any servicing other than contained in the operating instructions unless you are qualified to do so.

Fuse Replacement

If the fuse blows, the CV or CC indicators will not light and the power supply will not operate. The fuse should not normally open unless a problem has developed in the unit. Try to determine and correct the cause of the blown fuse, then replace only with a fuse of the correct rating and type.The fuse is located on the rear panel (see Fig.3-2).

The fuse is located on the rear panel (see Fig.3-2).

When line voltage are changed, replace the required fuse shown below

Line voltage / Model number	Fuse	
	110V AC	220V AC
30V/2A series	TSD 6.3A/250V AC	TSD 4.0A/250V AC
30V/3A sereis	TSD 6.3A/250V AC	TSD 4.0A/250V AC
30V/5A series	TSD 6.3A/250V AC	TSD 6.3A/250V AC
MPS-3010L-2	TSD 10A/250V AC	TSD 6.3A/250V AC
MPS-6005L-2	TSD 10A/250V AC	TSD 10 A/250V AC

Line Voltage Selector

The power transformer is designed to permit operation in 110 or 220 VAC, 50/60Hz line voltage. To convert from one line voltage to another is done by change AC selector as shown in fig. 3-2

The rear panel identifies the line voltage to which the unit was factory setted. To convert to a different line voltage, perform the following procedure:

(1) Make sure the power cord is unplugged.
(2) Change the AC selector to the desired line voltage position.
(3) A change in line voltage may also require a corresponding change of fuse value, Install the correct fuse value as listed on rear panel.

Adjustment

This unit was accurately adjusted at factory before shipment. Readjustment is recommended only if repairs have been made in a circuit affecting accuracy or if you have reason to believe the unit is out of adjustment. However, adjustment should be attempted only if a multi-meter with an accuracy of $\pm 0.1\%$ dcv or better is available. If readjustments is required, use the following procedure Locations of the adjustments are shown in fig.6-1 to fig 6-3.

Independent Adjustment

A. Disengage both Tracking mode switches (both switches out) so that the power supply is in the Independent operating mode.
B. Connect an accurate ($\pm 0.1\%$) external 4-1/2 digit multi-meter to measure the DC voltage at the output terminals of the MASTER (SLAVE) supply.
C. Set the MASTER (SLAVE) Voltage controls to minimum (fully counterclockwise).

D. Adjust trimmer potentiometer VR102 (MASTER) VR302 (SLAVE) for a reading of -15mV~0mV.
E. Set the MASTER (SLAVE) Voltage control to maximum (fully clockwise).
F. Adjust trimmer potentiometer VR101 (MASTER) VR301 (SLAVE) for a reading as close to rating voltageX1.05 (on the multi-meter) as possible.
G. Adjust trimmer potentiometer VR2, VR4 on the master (slave) voltage indicator circuit board for a reading of rate voltageX1.05 on the MASTER(SLAVE) meter.
H. Connect the external multi-meter across the MASTER(SLAVE) SUPPLY output terminals to read output current (so that the meter causes a short circuit across the terminals) and adjust the MASTER(SLAVE) CURRENT control so that rating amperes is read on the multi-meter.
I. Adjust VR1, VR3 so that the MASTER (SLAVE) meter also reads rating amperes.
J. Rotate the MASTER (SLAVE) current control fully clockwise (maximum).
K. Adjust VR103, VR303 on the master (slave) supply circuit board to obtain an output current of rating amperesX1.05(read on the meter or LED display).

Series Tracking Adjustment

A. Set the supply to the TRACKING SERIES mode by engaging the left TRACKING switch and releasing the right TRACKING switch.
B. Set the SLAVE CURRENT control to midrange and set the MASTER SUPPLY VOLTAGE controls to minimum (fully counterclockwise).
C. Connect the multi-meter to the MASTER SUPPLY outputs and measure the voltage.
D. Adjust trimmer potentiometer VR306 on the circuit board to obtain the exact same reading for the SLAVE SUPPLY output as was present at the MASTER SUPPLY output (e.g. if the minimum MASTER SUPPLY output voltage is -10.00mV adjust VR202 to obtain an output voltage as close to -10.00mV at the SLAVE SUPPLY as possible).

E. Set the SLAVE CURRENT control to midrange and set the MASTER SUPPLY VOLTAGE controls to maximum (fully clockwise).

F. Measure the voltage of MASTER SUPPLY and then SLAVE SUPPLY use the multi-meter.

G. Adjust VR501 until the voltage read from the multi-meter is the same as it was across the MASTER output terminals. Return the multi-meter to the MASTER output terminals and verify that the output voltage is identical. If not, repeat this step.

Parallel Tracking Adjustment

A. Disengage both TRACKING mode switchs (both switches out) so that the power supply is in the INDEPENDENT operating mode.

B. Set the MASTER SUPPLY Voltage and Current controls to minimum (fully counterclockwise).

C. Connect the multi-meter across the MASTER SUPPLY output terminals and measure the output current.

D. Set the MASTER SUPPLY voltage control to midrange and Adjust the Current control to obtain an output current of rating amperes (read on the multi-meter). Do not change the Current control setting after this step.

E. Engaged both TRACKING mode switches (both switches in) so that the power supply is in the PARALLEL operating mode.

F. Set the SLAVE SUPPLY CURRENT control to maximum (fully clockwise) and set the Voltage control to midrange.

G. Adjust trimmer potentiometer VR502 on the circuit board to obtain an output current of double rating amperes on the multi-meter.

Fixed 5V Output Adjustment

A. Connect the multi-meter across the output terminals of the 5V SUPPLY to read output voltage and adjust the VR401 to obtain a reading of 5.00 volts on the multi-meter.
B. Turn VR403,VR402 on the main master circuit board fully counterclockwise
C. Connect a variable load(load must be rated to handle a power of at least 30W) across the output terminals and connect the multi-meter to read the output current, then adjust the load to multi-meter shows an output current is 3.25A
D. Slowly adjust VR403 clockwise until the current reading on the multi-meter drop to 2.5~2.6A.
E. Adjust the load so that the multi-meter shows up to 3.10A.
F. Adjust VR402 until the 3A OVERLOAD indicator LED lights. Then reverse turn the VR402 until the LED off.

CAUTION:

1. The DC power supply must be operated under the rated line voltage. If the DC power supply is meant to work for a long time, it is suggested to use 60%~70% load so as to avoid rapid aging.
2. Avoid frequent short-circuit operations.
3. Do not turn on the DC power supply when the output ternimanl is with heavy load. Turn the output voltage adjustment knob to the lowest value, next connect the load, and then turn on the DC power supply. Ajust the voltage/current adjustment knob to set the wanted values.

Specifications are subject to changes without notice.