

OPERATING MANUAL

PSD3303

30V MULTIPLE POWER SUPPLY

scientific

**SCIENTIFIC MES-TECHNIK PVT LTD.,
B-14 Industrial Estate, Pologround ,
INDORE 452015 (INDIA)**

Tel : 0731-2422330/31/32/33
Fax: 0731-2422334, 2561641
Email: info@scientificindia.com
Internet : www.scientificindia.com

**30V MULTIPLE POWER SUPPLY
PSD3303**

1.	Introduction	3
2.	Technical Specifications	4
3.	Front Panel Controls	6
4.	Operating Instructions	8
	General Information	
	Safety	
	Operating Conditions	
	First Time Operation	
	Operation	
5.	List of Service Centers	12

POWER SUPPLY PSD3303

- **Floating DC Supply Voltages**
- **2 x DC 0-30 V, 0 - 3 Amp, 5V - 3Amp**
- **Constant Voltage and Constant Current operation**
- **Digital Display for Voltage and Current**
- **Adjustable Current Limiter**
- **Protection against overload and short circuit**

The **PSD3303** Dual 30V , 3A & single 5V , 3A Multiple Power supply is designed as a constant **current (CC) and constant voltage (CV)**, source for laboratories, industries and field testing applications, featuring Low Power Loss, compact and light weight. It provides two isolated and floated, DC output voltages and is ideally suitable for complex Analog and Digital testing.

The DC output can be continuously adjusted from 0 to 30 V with coarse and fine controls. Current limit is also adjustable from 0-3 A. The DC output of 5V can be adjusted to 4V to 6 V . Any over loading for adjusted current limit is indicated by "CC" LED. When the maximum setting is crossed or the overheating has occurred, the LED will lit.

A 3 digit display for voltage and current switchable for the power supply A , B or C , is used to read the instantaneous values. These two parameters are switchable for indicating either voltage or current. In addition to low residual ripple and noise as well as excellent line and load regulation, the **PSD3303** is provided with all protective circuits to ensure trouble free operation.

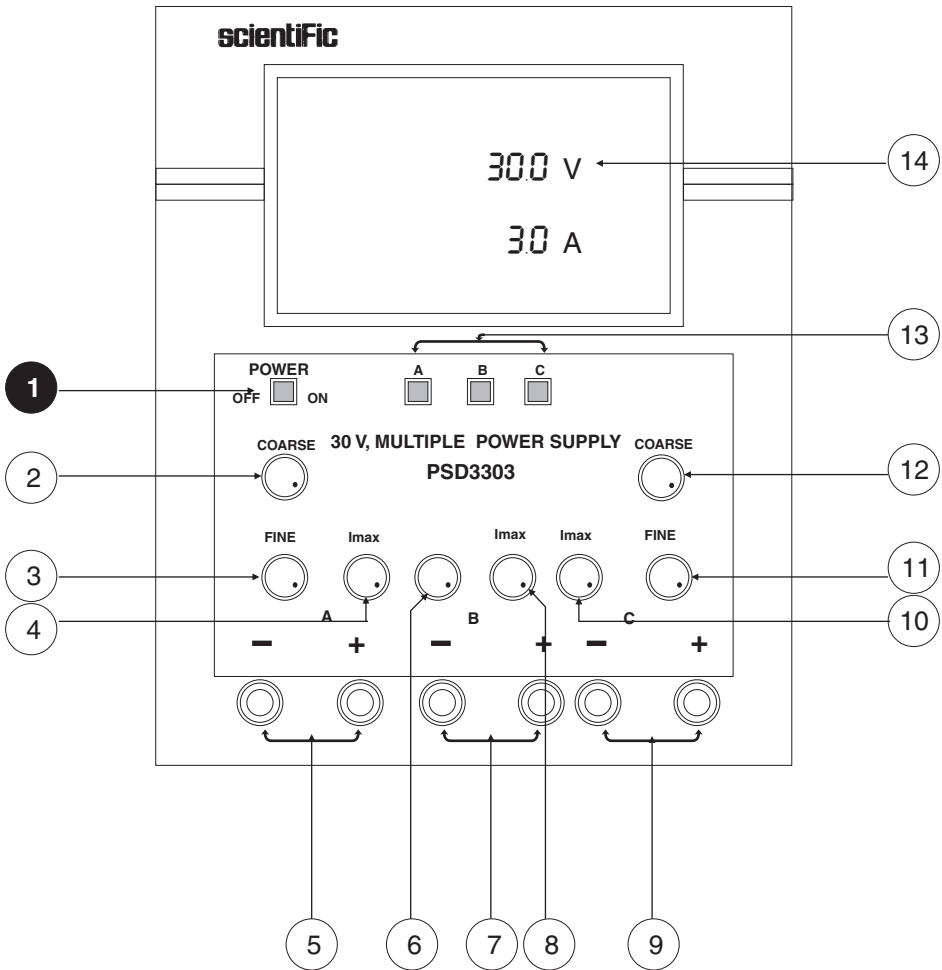
TECHNICAL SPECIFICATIONS:

DC Output:	A: 0 - 30 V, 3A B: 5V, 3A C: 0 30 V, 3 A
Output A & C DC Output:	0- 30V, cont. variable by means of coarse and fine controls
Output Current:	3A
Setting Resolution:	Voltage: 10mV Current: 5mA
Internal Resistance:	10 m Ω
Stability:	2.5 mV at 30 V, 3A
Recovery Time:	50 μ s
Load Regulation:	(0.05% + 10mV)
Line Regulation:	(0.05% + 10mV)
Temperature Coefficient:	(0.05% + 5mV/ $^{\circ}$ C)
Ripple and Noise:	5mV _{rms}
Current Limit:	Adjustable between 100mA to 3A
Output B	
DC output:	5V, cont. adjustable from 4V to 6V
Output Current:	3A
Setting Resolution:	Voltage: 10mV Current: 5mA
Internal Resistance:	10 m Ω
Stability:	2.5 mV at 5 V, 3A
Recovery Time:	50 μ s

Load Regulation:	(0.05% + 10mV)
Line Regulation:	(0.05% + 10mV)
Temperature Coefficient:	(0.05% + 5mV/°C)
Ripple and Noise:	5mV _{rms}
Current Limit:	Adjustable between 100mA to 3A
Display:	3 digit for voltage and current, switchable for A, B and C DC outputs
Accuracy:	± (1% + 1digit)
Over range Indication:	By lighting 'CC' LED.
General Information:	
	Built-in overheat, over voltage, overload protection.
Insulation:	Between chassis and output > 10 MΩ at 100 V DC
	Between chassis and AC plug > 50 MΩ at 500 V DC
Power Supply:	230 V ± 10 %, 50 Hz
Operating Conditions:	0 - 40 C, 95 % RH
Dimension:	W 165, H 215, D 360 mm
Weight:	7.7 kgs. Approx.

(Subject to change)

FRONT PANEL CONTROLS



- 1. POWER:** Push button for Switching ON/OFF mains supply to the instrument.
- 2. COARSE (VARIABLE POTENTIOMETER):** Variable potentiometer for the coarse setting of the output voltages from the output terminals Adjustment range 0-30 V.
- 3. FINE (VARIABLE POTENTIOMETER):** Variable potentiometer for the fine setting of the output voltage at terminals. Adjustment range 2.1V.
- 4. IMAX (VARIABLE POTENTIOMETER):** Variable potentiometer for current limit setting of the voltage source. Adjustment range 0.1A 3.00A.
- 5. OUTPUT TERMINALS:** Output terminals for DC Power Supply “A”, 4mm-banana plugs or cable connection. The Output is short circuit protected.
- 6. 5V ADJUSTMENT:** DC output setting for 5 V from 4V to 6V.
- 7. OUTPUT TERMINALS:** Output terminals for DC Power Supply “B”, 4mm-banana plugs or cable connection. The Output is short circuit protected.
- 8. IMAX ADJUSTMENT:** Variable potentiometer for current limit setting of the 5V voltage source.
- 9. OUTPUT TERMINALS:** Output terminals for DC Power Supply “C”, 4mm-banana plugs or cable connection. The Output is short circuit protected.
- 10. IMAX (VARIABLE POTENTIOMETER):** Variable potentiometer for current limit setting of the voltage source. Adjustment range 0.1A 3.00A.
- 11. FINE (VARIABLE POTENTIOMETER):** Variable potentiometer for the fine setting of the output voltage at terminals. Adjustment range 2.1V.
- 12. COARSE (VARIABLE POTENTIOMETER):** Variable potentiometer for the coarse setting of the output voltages from the output terminals Adjustment range 0-30 V.
- 13. PUSH BUTTON A, B & C:** Pushbutton for switching the display from DC Power supply A, B or C . Voltage and to current reading are simultaneously displayed for A, B or C depending upon the switch selected. The Current is displayed with a resolution of 10mA and voltage is displayed with a resolution of 0.01V.
- 14.DISPLAY WINDOW:** Dual display for Voltage and Current , displays the values in accordance to the switch selected. When supply “A” is used in constant current mode the “A” LED lits ,which shows that the supply A is in constant current mode. Similarly LED “B” & “C” will lit , “B” or “C” is in constant current mode .

NOTE : The instrument is provided with over voltage protection from mains variation. The over voltage setting is at 253 V , whenever , the mains increases beyond the set voltage , it trips and LED “HV” is lit. After the mains normalized , switch OFF once the instrument and then switch ON again , if the mains is below 253 V , the instrument get switched ON , other wise trips again.

GENERAL INFORMATION

The logical front panel layout of **PSD3303** ensures rapid familiarization with the various functions. However, even experienced operators should not neglect to carefully read the following instructions, to avoid any operational errors and to be fully acquainted with the instrument when later in use.

After unpacking the instrument, check for any mechanical damage or loose parts inside. Should there be any transportation damage, inform the supplier immediately and do not put the instrument into operation.

SAFETY

The case chassis and all measuring parts are connected to the protective earth contact of the inlet. The mains plug shall only be inserted in a socket outlet provided with a protective earth contact. The protective action must not be negated by the use of an extension cord without a protective conductor.

WARNING!

Any interruption of the protective conductor inside or outside the instrument or disconnection of the protective earth terminal is likely to make the instrument dangerous. Intentional interruption is prohibited.

When removing the metal case or replacing, the instrument must be completely disconnected from the mains supply. If any measurement or calibration procedures are unavoidable on the opened-up instrument, qualified personnel acquainted with the danger involved must only carry these out.

OPERATING CONDITIONS

The ambient temperature range during operation should be between + 0 to + 40°C and should not exceed. - 40°C or + 70C during transport or storage. The operational position is optional, however, the ventilation holes on the PSD3303 must not be obstructed.

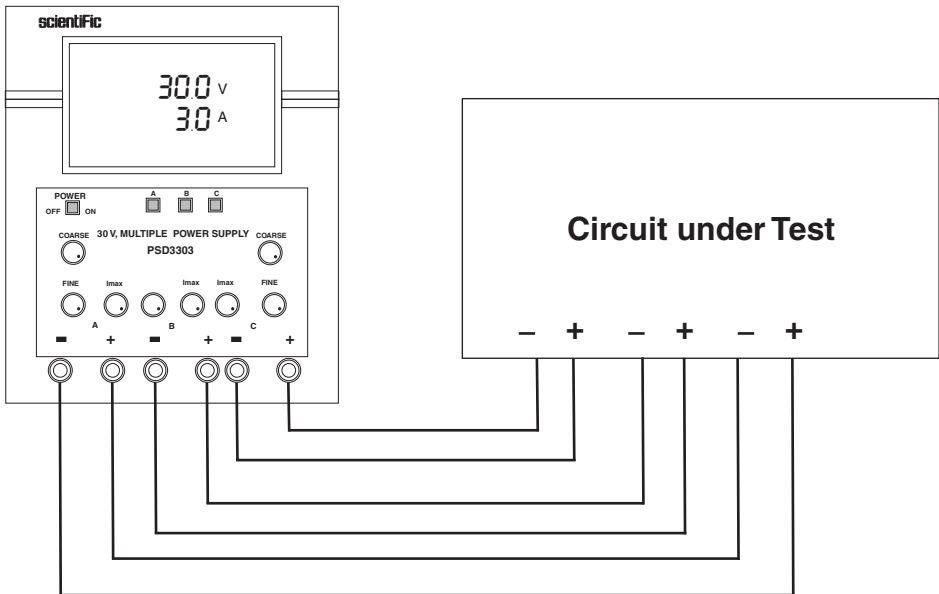
FIRSTTIME OPERATION

After unpacking the instrument check for any mechanical damages. The instrument should be plugged in mains-plug of proper mains supply $230V \pm 10\%$. On switch ON no undue observation should be noticed. Once the instrument is switched ON the power ON is indicated by lighting of displays.

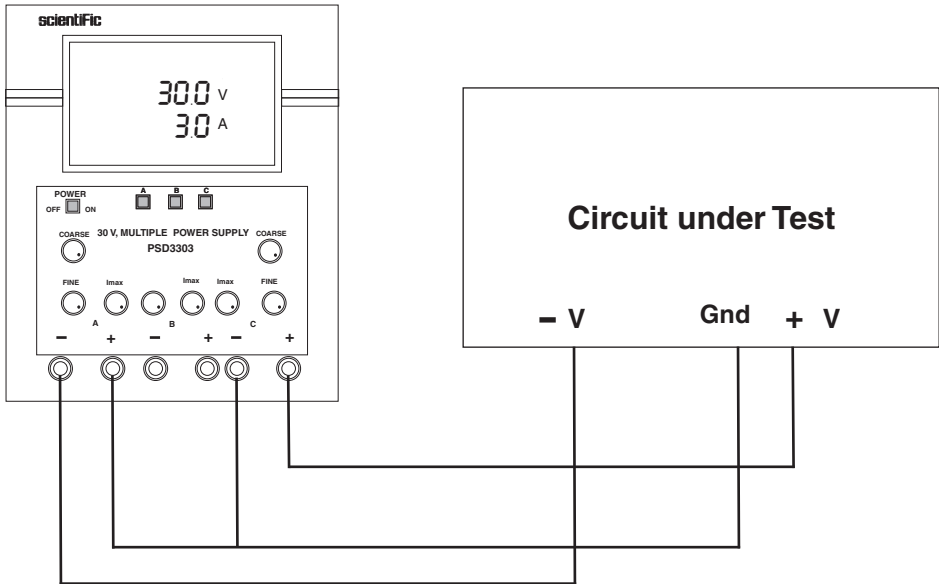
OPERATION

The power supply has an electrically floating output. This permits easy series or parallel connection with other power supply units, to increase supply voltage or current respectively.

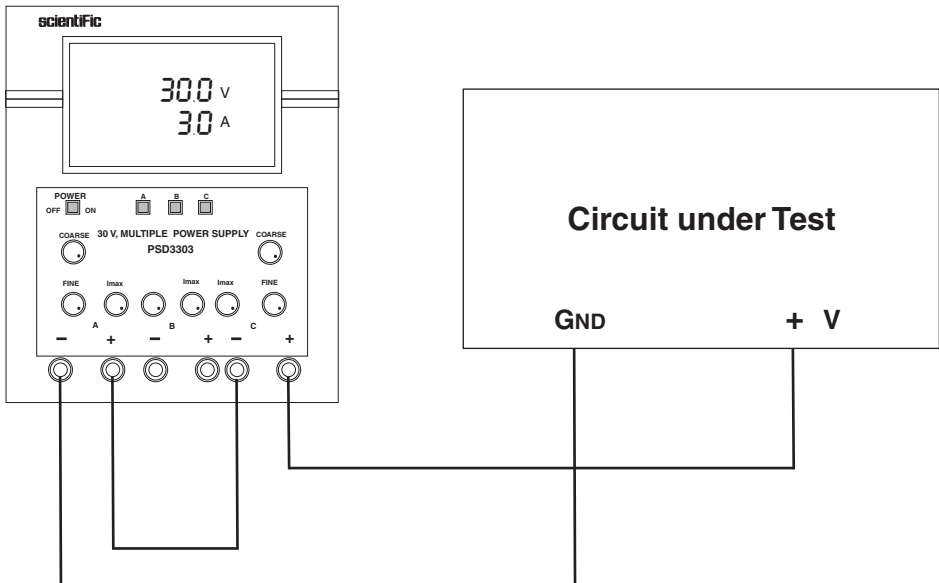
Triple Output voltage operation:



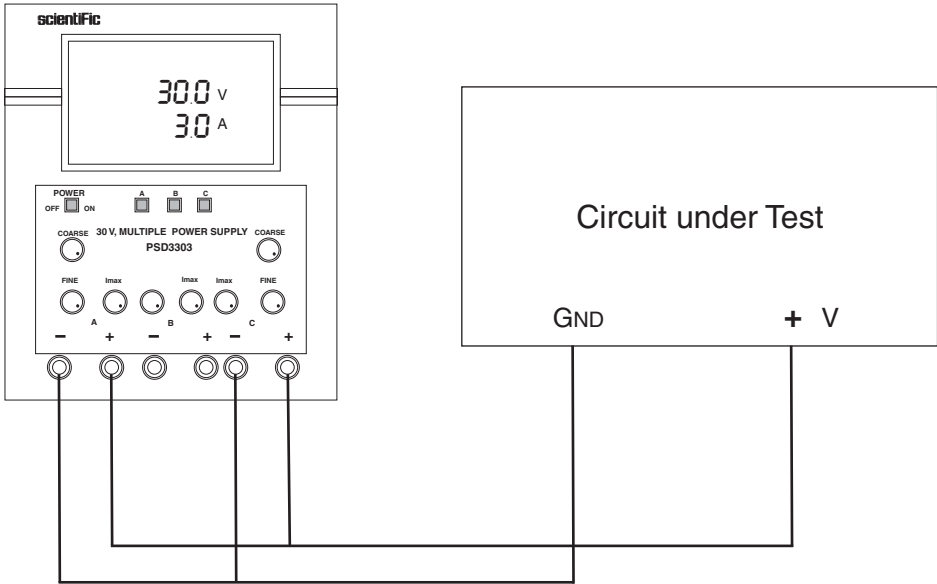
Settings for +V and V DC outputs :



Serial Operation in , 3 A :



Parallel Operation for 30V , 6 A :



Over Voltage Protection:

The instrument is provided with over voltage protection from mains variation. The over voltage setting is at 253 V , whenever , the mains increases beyond the set voltage , it trips and LED “HV” is lit. After the mains normalized, switch OFF once the instrument and then switch ON again, if the mains is below 253 V , the instrument get switched ON , other wise trips again.

DESPATCH PROCEDURE FOR SERVICE

No user service part inside the instrument, should it become necessary to send back the instrument to factory for service, please observe the following procedure.

OPERATING INSTRUCTIONS

1. Before dispatching the instrument please write to us giving fully details of the fault noticed.
2. After receipt of your letter our repairs dept. will advise you whether it is necessary to send the instrument back to us for repairs or the adjustment is possible in your premises.
3. Dispatch the instrument (only on the receipt of our advise) securely packed in original packing duly insured and freight paid along with accessories and a copy of the details noticed to us at our Service Center listed on page 13 near to you.

MAJOR SERVICE CENTERS**PHONE/ FAX NO.**

1. SCIENTIFIC MES-TECHNIK PVT. LTD.,
G-4-5, CHAKRADEV APARTMENT,
10/2 SNEHLATA GANJ,
INDORE 452003 (M.P.)
Ph:(0731)2421790, 2422330-31
Fax : (0731)2422334, 2561641
Email: info@scientificindia.com
2. SCIENTIFIC MES-TECHNIK PVT. LTD.,
FIRST FLOOR,
14, UDAY PARK,
NEW DELHI 110 049
Ph: (011) 26513912, 26513923
Fax : (011) 26864943
Email: scientific.delhi@vsnl.com
3. SCIENTIFIC MES-TECHNIK PVT. LTD.,
NO.46, 4 TH MAIN CROSS,
MLA LAYOUT, R. T. NAGAR,
BANGALORE 560 032
Ph: (080) 23331478
Fax: (080) 23331478
Email: smplbngl@vsnl.com
4. SCIENTIFIC MES-TECHNIK PVT. LTD.,
NO.22 , KAMRAJ AVENEU ,
2 ND STREET , FIRST FLOOR , ADYAR
CHENNAI 600 020
Ph : (044) 24424598
Fax : (044)24420421
Email: smplmds@vsnl.com
5. SCIENTIFIC MES-TECHNIK PVT. LTD.,
SECOND FLOOR ,
51 / A , MULJI HOUSE,
VEER SAVARKAR MARG ,
PRABHADEVI ,
MUMBAI 400 025
Ph: (022) 24333654
Fax: (022)24333654
Email: smplmum@vsnl.com
6. SCIENTIFIC MES-TECHNIK PVT. LTD.,
209, Lloyd's Chamber III
409, Mangalwar Peth, Maldhakka Chowk ,
PUNE 411 011
Ph: (020) 26114688
Fax : (020) 26132882
Email: scientific.pune@vsnl.com
7. SCIENTIFIC MES-TECHNIK PVT. LTD.,
"Krupa Ashirwad Complex" Second Floor,
Door No. 5-2-394 81/A, R.P. Road,
Hyderbasti
SECUNDERABAD - 500 026
Ph: (040) 27534995
Fax : (040) 27534996
Email: hyd-ap@scientificindia.com

