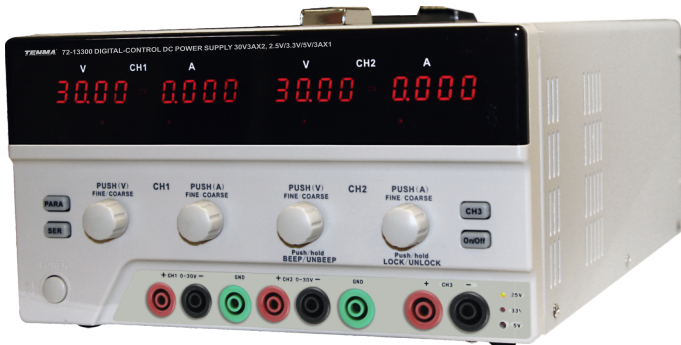


TENMA®



DC Power Supply User Manual Model No.72- 13300 and 72-13310

When using electrical appliances, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons or property.

Read all instructions before using the appliance and retain for future reference.

- Check that the voltage indicated on the rating plate corresponds with that of the local network before connecting the appliance to the mains power supply.
- Do not operate this appliance with a damaged plug or cord, after a malfunction or after being dropped or damaged in any way.
- Check the product before use for any damage. Should you notice any damage on the cable or casing, do not use.
- This appliance contained no user-serviceable parts. All repairs should only be carried out by a qualified engineer. Improper repairs may place the user at risk of harm.
- Do not block or obstruct the cooling fan vent opening.
- Avoid severe impacts or rough handling that leads to damage.
- Do not discharge static electricity.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory, or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children should be supervised to ensure that they do not play with the appliance.
- Always disconnect from the mains when the product is not in use or before cleaning.
- Do not use the appliance for any purpose other than that for which it is designed.
- Do not operate or store in an environment of high humidity or where moisture may enter the product as this can reduce insulation and lead to electric shock.

PRODUCT OVERVIEW

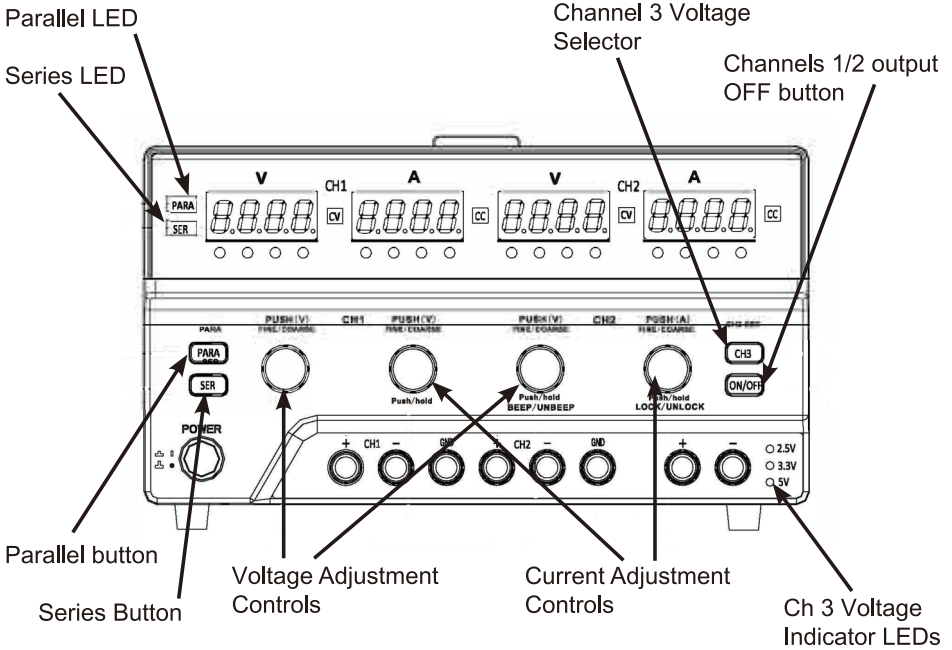
Main Features

- High accuracy/resolution 0-30V DC power supply
- Low noise cooling fan controlled by heatsink temperature
- Constant voltage/constant current
- Digital panel control - 4 digit display
- Software calibration
- Button lock function
- Output ON/OFF control
- Standard interfaces: USB, RS232 & LAN

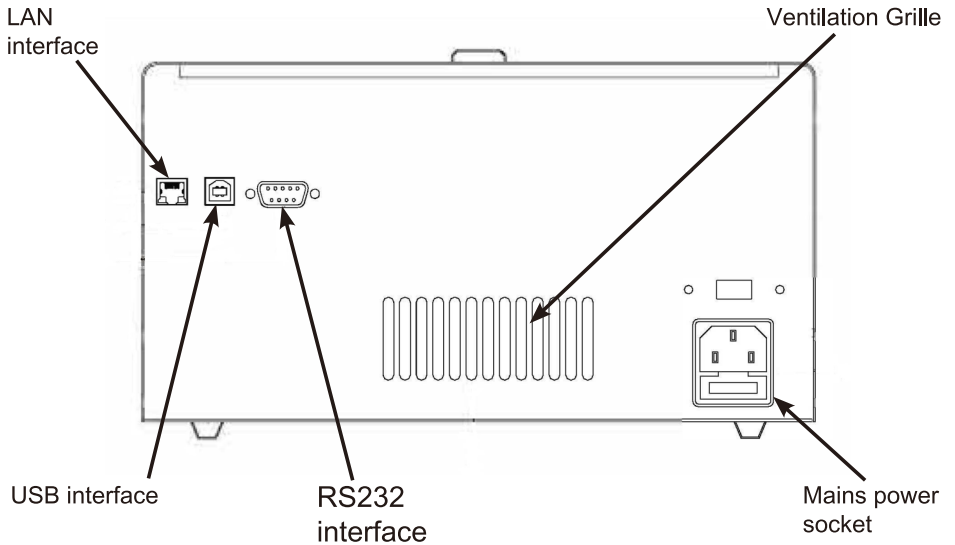
WHAT'S INCLUDED

- Power Supply Unit
- Mains power lead
- User Manual

OPERATION

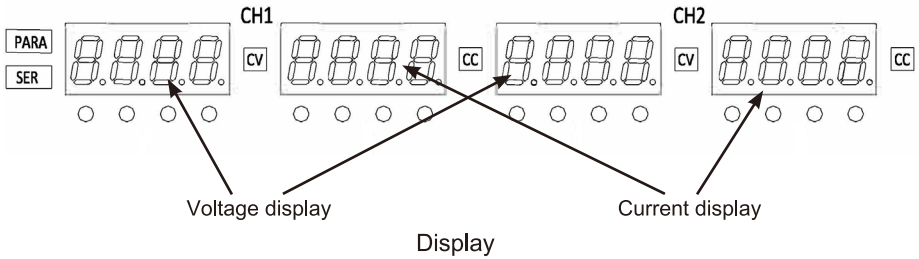


Front Panel



Rear Panel

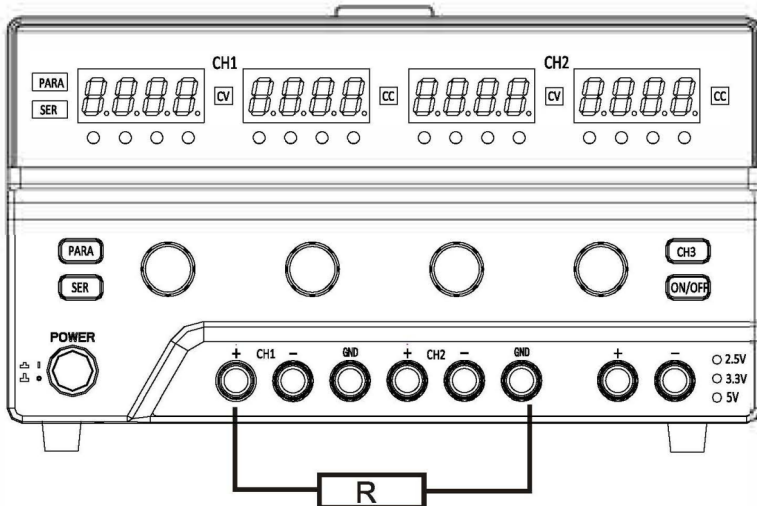
FRONT LED DISPLAY



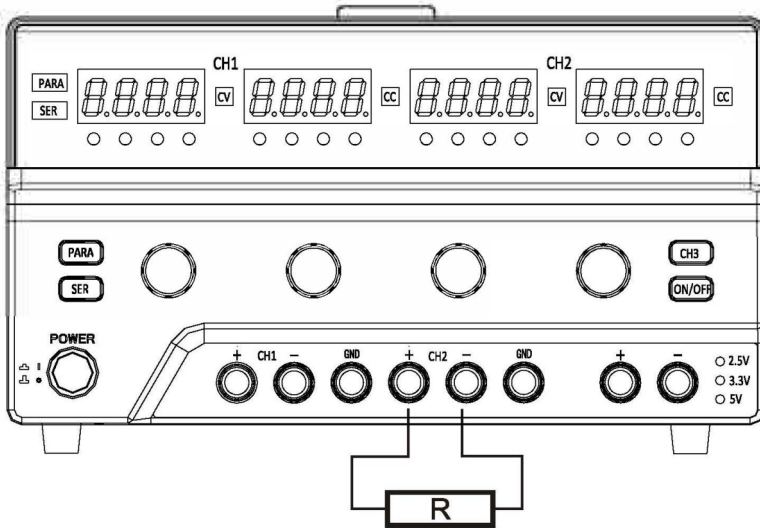
SERIES OR PARALLEL OPERATION

Series or Parallel operation

- To enter Series mode, press and hold the SER button. The SER LED on the display will illuminate to confirm the setting.
- Initially default master channel is channel 2 with channel 1 as slave and shielded.
- Press the ON/OFF button to switch the output on or off.
- Connection terminals are shown in the diagram below.



- To enter Parallel mode, press and hold the PARA button. The PARA LED on the display will illuminate to confirm the setting.
- Initially default master channel is channel 2 with channel 1 as slave and shielded.
- Press the ON/OFF button to switch the output on or off.
- Connection terminals are shown in the diagram below.



VOLTAGE OR CURRENT MODE

Voltage or Current channel setting

- Press the adjusting control of either Channel 1 or 2 and the corresponding digital readout will start blinking.
- Rotate the control to increase or decrease the voltage or current displayed on the digital readout.

Adjusting Voltage on Channel 3

- Press the Channel 3 button for 2 seconds until the current set voltage setting LED illuminates.
- Pressing repeatedly cycles through the 2.5V, 3.3V and 5V with corresponding LED illuminating to indicate the setting.

SPECIFICATION

Model	72-13300	72-13310
	0-30V	0-30V
Current Range	0-3A	0-5A
Load Regulation		
Voltage	$\leq 0.01\%+3\text{mV}$	$\leq 0.01\%+5\text{mV}$
Current	$\leq 0.1\%+5\text{mA}$	$\leq 0.1\%+10\text{mA}$
Line Regulation		
Voltage	$\leq 0.01\%+3\text{mV}$	$\leq 0.01\%+3\text{mV}$
Current	$\leq 0.1\%+3\text{mV}$	$\leq 0.1\%+3\text{mV}$
Setup Resolution		
Voltage	10mV	10mV
Current	1mA	1mA
Setup Accuracy (25°C $\pm 5^\circ\text{C}$)		
Voltage	$\leq 0.5\%+20\text{mV}$	$\leq 0.5\%+20\text{mV}$
Current	$\leq 0.5\%+5\text{mA}$	$\leq 0.5\%+5\text{mA}$
Ripple (20-20M)		
Voltage	$\leq 1\text{mVrms}$	$\leq 2\text{mVrms}$
Current	$\leq 3\text{mA}_{\text{rms}}$	$\leq 3\text{mA}_{\text{rms}}$
Temp Coefficient		
Voltage	$\leq 150\text{ppm}$	$\leq 150\text{ppm}$
Current	$\leq 150\text{ppm}$	$\leq 150\text{ppm}$
Read Back Accuracy		
Voltage	10mV	10mV
Current	1mA	1mA
Read Back Temp Coefficient		
Voltage	ISOppm	ISOppm
Current	ISOppm	ISOppm
Reaction Time		
Voltage Rise	$\leq 100\text{ms}$	$\leq 100\text{ms}$
Voltage Drop	$\leq 100\text{ms}$ (10% rated load)	$\leq 100\text{ms}$ (10% rated load)
Load Regulation of Parallel		
Voltage	$\leq 0.1\%+0.1\text{V}$	
Load Regulation of Series		
Voltage	$\leq 0.1\%+0.1\text{V}$	
Ch3 Specifications		
Voltage Range	2.5V/3.3V/2.5V	
Current Range	3A	
Voltage Accuracy	$\pm 50\text{mV}$	
Load Regulation	$\pm 50\text{mV}$	

MAINTENANCE

Cleaning

- Use a damp cloth and a small amount of liquid detergent if necessary.
- Never submerge the power supply in liquid or allow any liquid to enter the case.
- Do not use any chemicals, abrasives or solvents that could damage the power supply casing.

Changing the fuse

- Replace the fuse only with one of exactly the same type and rating.
- Disconnect the mains power and unplug the mains lead before replacing the fuse.

Model	110/120V	220/230V
72-13300	T4A/250V	T2A/250V
72-13310	TSA/250V	T3A/250V

NOTES



INFORMATION ON WASTE DISPOSAL FOR CONSUMERS OF ELECTRICAL & ELECTRONIC EQUIPMENT.

When this product has reached the end of its life it must be treated as Waste Electrical & Electronic Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used. Contact your local authority for details of recycling schemes in your area.



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