TENMA®

72-8690A
72-8695A
72-8700A
72-8335A
Series

OPERATING MANUAL

DC POWER SUPPLY

Introduction

Thank you for purchasing our product.

In order to ensure correct installation, operation and optimum performance of this product please read this manual in detail and keep for future reference.

This instrument is produced under strict quality control. All parts go through screening and ageing, and a series of performance testing, environmental testing and safety testing. In order to guarantee safe use, and the best working performance, working environment guidelines must be followed.

CONTENT

1. Overview

72-8XXXA is a series of general DC power supplies suitable for laboratory use.

Both CH1 and CH2 may work in CV or CC mode, and these two modes convert automatically according to the load. CH1 and CH2 have auto tracking function. In this condition, the output of CH2 tracks the output of CH1. This function is usually used when adjustable symmetrical and double polarity power is required. Both CH1 and CH2 display the output voltage or current with a 6-digit-LED meter.

CH3 (in some models) is a 5V fixed output. Its maximum output current is 2A, and it is usually used in TTL circuits etc.
CH1, CH2 and CH3 all have overload protection.

2. General safety summary

Pease review the following safety precautions before operating our equipment to avoid electric shock or personal injury.

- Only qualified service technicians should perform service or maintenance. Please inspect instrument before using. Do not use if there is damage or you suspect damage.
- If you suspect there is damage to this product, have it inspected by qualified service personnel.
- Read and follow all installation, operation, and maintenance information carefully to avoid possible damage to the product.
- There should be ground protection to the power plug.Cut off the power when installing the fuse.

1A time-delay fuse works on 72-8335A, 2A time-delay fuse works on 72-8690A/72-8695A;

3.15A time-delay fuse for 72-8700A.

3. Specifications

- Output Voltage and Current

Spec. / Model	CH1,CH2 voltage	CH1, CH2 current
72-8335A	0—24V	0—1A
72-8690A	0—32V	0—3A
72-8695A	0—32V	0—3A
72-8700A	0—32V	0—5A

- CH1 and CH2

Load Regulation:
CV: $\leqslant 1\times10^{-4}+2mV$ CC: $\leqslant$20mA
Ripple & Noise:
CV: $\leqslant$1mVrms CC: $\leqslant$1mArms
Adjustable Resolution:
CV: 20mV (typical) CC: 50mV (typical)
Interactive Regulation:
CV: $\leqslant 5\times10^{-5}+1mV$ CC: $\leqslant$0.5mA
Tracking Error: $\leqslant 5\times10^{-3}+2mV$
Display: Synchronized display of 6 digits of voltage and current .
It's characterized with automatic CV/CC mode converting and overload protection.

- CH3 (NO CH3 in 72-8690A、72-8700A)

Output Voltage: 5V Output Current: 0～2A
Ripple & Noise: ＜3mVrms
Notice: Load resistance should NOT be less than 2 ohms.

- Temperature Range

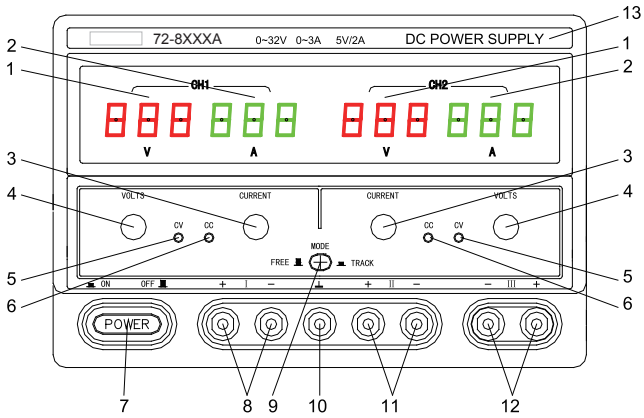
Operating: 0ºC to 40ºC (for UK/Europe),
32ºF to 104ºF (for US)
Storing: +5℃～+45℃

- Power Source:

AC 220V 10%, 50Hz 4% (UK/Europe)
AC 110V 10%, 50Hz 4%(US)

- Cooling-down method: natural ventilation cooling (72-8700A has temperature sensitive fan)
- Dimensions: 298/278mm ×213mm × 158mm
- Weight: 72-8335A 4.5Kg, 72-8690A/72-8695A 5.5Kg, 72-8700A 6.5Kg
- MTBF: ⩾2000hs

4. Descriptions of Panel



1. Voltage Meter
2. Current Meter
3. CURRENT: Adjust the output current at CC mode
4. VOLTS: Adjust the output voltage at CV mode
5. Constant Voltage Indicator：CV light on when in state of constant voltage
6. Constant Current Indicator：CC light on when in state of constant current
7. Power
8. Output terminal of CH1
9. MODE: Control two main channels work in FREE mode or TRACK mode
10. Ground of instrument with a short circuiting piece
11. Output terminal of CH2
12. Output terminal of CH3：fixed output of 5V
13. Indicate specific model

Notice: A short circuiting piece is attached to ground of instrument(10) to be used when both positive and negative power is needed. If not it should be disconnected from the negative output terminal of CH1 and positive output terminal of CH2 so that CH1 and CH2 can work independently.

5. Applications

● The button VOLTS(4) adjusts the output voltage. The button CURRENT(3) adjusts the defined output current that when the load is higher than limit the output will convert to CC mode automatically and when lower the output will convert to CV mode. The operating mode will be indicated by the CC or CV indicator light.

● The adjusting of CV is set when the terminal is open circuit. The adjusting of CC is set when the terminal is short circuit.

● In independent operation the short circuiting piece is disconnected with negative terminal of CH1 and positive terminal of CH2. The output of CH1 and CH2 are suspended. User can insert the output to the ground of his own system.

● In series operation the negative terminal of CH1 and positive terminal of CH2 are short circuited and the positive terminal of CH1 and negative terminal of CH2 are output of the power. At this time the maximum output voltage is 48V/64V and the reading is the sum voltage of CH1 and CH2.

● When the MODE button is pushed out, each CH1 and CH2 works independently. When this button is pushed in, the negative terminal of CH1 and the positive terminal of CH2 need to be short-circuited (usually use the attached short circuiting piece to connect them to the ground) so

that CH2 tracks to CH1.

- Only one terminal of the four terminals of CH1 and CH2 can be connected to the ground in principle when in series operation or tracking mode.
- The output of CH3 is fixed +5V with the negative terminal connected to the ground. The load resistance should NOT be less than 2 ohms.
- The input of power is three-wire. A protective grounding connection is essential for safe operation. This is helpful to reduce the ripper and noise also.

6. Accessories

Standard accessories are as below:

1. Power cord 1
2. Instruction manual 1

Please note
The product includes with the power source 220V (for UK/Europe) or 110V (for USA)

Operating Manual content is subject to change without notice

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