

The DPS series of DC power supply button operation manual

An overview:

DPS series digital input DC regulated power supply is designed for laboratory, school, and the design of the production line and the use of electronic repair. High voltage stability, small ripple coefficient, short circuit protection and perfect with and overcurrent protection, short-circuit output are not afraid of any form. Because the voltage value is a digital keyboard or encoder input, shorten the voltage setting time, completely overcomes the traditional potentiometer adjusting bad contact voltage instability. The power supply includes electronic switch, convenient to open the output load.

DM BM BF CM CF common functions and functional distinction:

1 common features: automatic constant current and constant voltage, output, breaking, OCP overcurrent automatic stop and three automatic reset, mobile phone and notebook repair a key to enter boot immediately, can set whether output, fast voltage each step and other functions.

2 DM BM BF with no memory calls and password lock function.

3 DM BF CF with output short sound alarm function and RF RF signal test (mobile phone signal test).

4 CM CF added function: fast call 10 groups of voltage and current data and store the user required 10 groups of voltage and current data, password lock keyboard operation, prevent misoperation or man-made destruction operation.

5 BM DM CM four bit current display.

6 BF CF five bit current display.

The two parameter specification

1, the rated working conditions and dimensions

The power supply voltage $220V \pm 10\%$ 50/60Hz (110V order)

Working conditions: 80% relative humidity and temperature of 0-40 °C

Storage conditions: temperature -10-70 °C, relative humidity 70%

Dimensions 265 x 128 x 150mm (D * W * H)

Gross weight 2.3KG

2, steady state parameters

The output voltage from 0 to 30V continuously adjustable (resolution 0.1V)

The precision of output voltage of $\pm(0.5\%+2)$

Voltage stability: $<0.01\%+3\text{mv}$

Load stability: $<0.01\%+3\text{mv}$

Recovery time: 100uS

Ripple and noise voltage: $< 1\% \text{ VP-P}$

Temperature coefficient: $<300\text{PPM/C}$

3, constant current output parameters

The constant current value: 0-5A

Constant current output current from the 0 to the nominal value of continuous adjustable (resolution 0.01A)

Constant current output precision: $\pm(1\%+2)$

The current stability of $<0.1\%+3\text{mA}$

Load stability $<0.1\%+3\text{mA}$

Ripple and noise current $< 1\% \text{ VP-P}$

4, OCP overcurrent automatic cut-off parameter

OCP current values: 0-5A accuracy of $\pm(1\%+2)$

5, the current - voltage shows that the measurement accuracy

Voltage display precision: $\pm(0.5\%+2)$ (constant current state)

DPS-305BM/DM/CM four bit current display precision: 0.000---0.45A $\pm(1\%+2)$
0.45----5A $\pm(1\%+2)$

DPS-305BF/CF five bit current display precision: 0.0001--0.0450A $\pm(1\%+2)$

0.045---0.45A $\pm(1\%+2)$ 0.45----5A $\pm(1\%+2)$

6, storage capacity

Storage and call ten groups of current, voltage data (305CM/3CF)

The initial data is stored: press the button 1 (3V) 2 (5V) button button 3 (9V) 4 (12V) button button 5 (13.8V) 6 (15V) button button 7 (18V) 8 (19V) button button 9 (20V) 0 (24V key) the current value of 5A, users can set arbitrarily change the required voltage and current.

7, step voltage range

10V/1V/0.1V lifting step voltage(only lower 10V)

8 RF RF signal strength test (305DM 305BF 305CF)

RF RF signal testing frequency range: GSM900MHZ contains mobile phone signal testing

The signal intensity of RF: more than 20dBm

The three panel features



1, the front panel

The current display window shows the value of actual load current value

Voltage display window shows the value of actual voltage output value

Data input keyboard (multiple function keys are: decimal point / inventory / ENT/ password 4/ step 7/ step and 8/ step 9/ step 1 step 2/ step and 3/ step 5/ mobile phone repair shortcut 6/ notebook repair shortcut 0/RF signal test)

Constant pressure /ENT indicator

Constant flow indicator (constant pressure and constant current CV lamp CC lamp lights at the same time as the OCP status indicator)

Output indicator

The power switch

Output port: "-" negative (black)

Line GND: ground terminal (green)

Output port: "+" positive (red)

2, the rear panel

AC input socket (including insurance tube)

110V/220V switch (optional)

Cooling fan (optional)

Four instructions (Note: allows the user to arbitrary or random operation power or output in the long time of any state port short circuit, will not cause the DPS DC power supply itself is damaged, so rest assured that the use of)

1, the initial state power:

Power every time when the power is switched on, the first digital tube display 8 check all digital tube, and then displays the type, value of a set of voltage and current in the display, enter the working state and the output.

If not set the boot is the state of the output, please don't press any button in the electricity, the power supply in each electricity, power supply to self-test, self content including checking whether the key to normal. If the user presses the button on the electricity, it may cause power supply can not enter the working state and crash. So, just release the button, start again back to normal working state.

2, the voltage value of the input

A step input

The following is the power factory step setting state, the 3333333 is the status code.

The 123789 key is respectively 10V/1V/0.1V step lifting keys, in order to prevent misoperation damage the load state, the factory is not allowed to rise 10V. When the shutdown state, press the number 4 key not loosened, the press the power switch, display 4444444 full screen, press 7 keys to rise 10V no..

Return to factory step setting method:

Before a in the DC power supply, no electricity, press the 4 button, in the power. After electrifying, digital tube display all 3, immediately release the 4 button, this setting, will return to factory step setting state.

B long by 5 or 6 button to restore the factory, No. 7 liter 10V also cancel button.

Note: the above settings, power will automatically set by user state memory.

B keyboard input

Column: 13.8V output voltage

According to the voltage V respectively by 138 and press the ENT key to complete the.

Column: 9V output voltage

According to the voltage V directly press 9 and press ENT button to complete the.

Column: need to output 4.5V

According to the voltage V directly on the 4.5 press ENT button to finish.

According to the voltage V respectively by 4.5 and press the ENT key and the result is the same.

In a word with the most complex or input the most simple form of the result is the same.

Prompt.

Voltage input data is greater than 300 and greater than 30V, the instrument will not accept input, return not set before the voltage value.

When the keyboard input data does not meet the requirements or input the wrong information, need to be removed to enter new data in time, press the V key, the data that you input voltage is removed away, can be re input. If this time to withdraw from the state of voltage setting, only need to press the ENT key to return (and to exit the voltage input must press the V button, press the ENT key to exit in return).

Voltage display a word window flashing, the power supply in the waiting for user input the data.

CV/ENT input validation blinking, that power in waiting for the user to press the ENT button to confirm the input value.

Current, 3 CC constant current value and OCP automatic cut-off value input

DPS DC power supply has two kinds of current protection mode: a. CC constant current protection of B. OCP automatic cut-off protection. The user can only select one kind of protection, can not and two current protection exist at the same time.

The CV lights, the protection of state power is CC constant current protection status, the input current value is automatically transferred to the instrument state of constant current constant current value, when the load current is equal to and greater than the current value, the power from the constant pressure state into the automatic constant current CC status, CC indicator lights up, CV the lights go out, the current limit in the set current value to output, output voltage is low (low voltage value is calculated by the load voltage resistance, and Ohm's law is consistent, cases: constant current value 1A, constant current voltage display 2V, the load resistance is 2 ohm), in constant the flow state is not cut off the load and output.

Panel CV lamp and CC lamp lights at the same time, the protection of state power is OCP protection, current when the input value is the current automatic stop current threshold output value. When the load current is greater than or equal to the current setting value of OCP on the action and automatically stop output, OUT lights, only press the OUT button, the power supply to output.

Column: need to output 1.38A current

According to the current I respectively by 1.38 and press the ENT key to complete the.

Column: need to output 5A current

According to the current I directly press 5 and press ENT button to complete the.

Column: need to output 0.5A current

According to the current I direct press. 5 Finally, press the ENT key to complete the.

According to the current I respectively by 0.5 and press the ENT key and the result is the same.

In a word with the most complex or input the most simple form of the result is the same.

Prompt.

Current input data is greater than 500 and greater than or equal to 5A 0.00A, the instrument will not accept the input value, return not set before the current value.

When pressing the I key, the current display current input window displays the last observed, when the power supply input and confirm the input RMS, instrument display input current value, in return to show the actual current measurements.

When the keyboard input data does not meet the requirements or input the wrong data, need to be removed to enter new data, then press I again, so that the input data is deleted automatically disappear, will be able to input. If this time to exit the current settings, only need to press the ENT key to return (and to exit the current input method must first press the I button, press ENT key to exit in return).

When pressing the I key, the current display a certain word window flashing, then wait for user input current data of the bit.

CV/ENT input validation lights flashing, to illustrate the power of waiting for the user presses the ENT key to confirm the input value.

4, constant current and constant voltage characteristic

When the voltage and current values preset, power load, power supply work in what state is determined by the load resistance, is Ohm's law is obeyed the $R=V/I$ law.

When the output current reaches a constant current constant pre input, automatically enter the state of constant current constant voltage state from, but with less than the load current setting value, returns the state from constant flow state automatic constant pressure. In the top panel of the V indicator light that constant pressure in the state, in light of front panel I shine in the state of constant current.

Column: direct current to the battery charging and 12V, the power output is set to 13.8V, the constant current value is set to 1A, access battery, power output of 1A for battery charging with constant current charging, when completed, will not need constant current 1A charging, power will be on constant pressure 13.8V battery trickle supplement.

5, the power of CC and COP two kinds of current protection status of the operation

The power supply is factory set to CC protection state of constant current, constant current protection is the current value of current setting value.

OCP overcurrent automatic cut-off method entry state:

Long press 4 keys do not loosen condition, CC indicator lights up, the current display window shows the letter OCP, enter the OCP overcurrent automatic cut-off state, and in the OCP state, CV lamp and CC lamp is also bright, before entering or preservation of the constant current value is automatically converted to COP automatic stop output current value.

When the load current value is equal to or greater than the OCP current value, it will automatically stop the output power, current and voltage display are OCP-OFF, OUT lamp extinguished. Need to output voltage, just press the OUT button, OUT lights, power supply is automatically the output voltage value.

Return to the CC state, only need to repeat the above process, the current display window shows the letter CC, CC lights, CV lights can only

Special tip: when setting the CC or OCP, power will automatically memory settings, when electricity is the state, if need to change state only need to repeat the above process.

6, the keyboard password lock (305CM/CF)

In a separate press ENT three money, V/ENT indicator light will flash quickly, waiting to enter the password, the power also stop output, if 258 three keys pressed at the same time, ENT or V/ENT indicating exhibit of lanterns to flash

slowly, the password is entered correctly, and the output voltage. This state of V I O key is lost, it can not change the voltage / current / storage / call / MA data. The password of the release: repeat the above process once, on the restoration of the V I O key functions.

Prompt.

This password is only available to authorized users.

If the press ENT three money, ENT indicator light flashes quickly for several seconds, did not enter the password or password is not correct, the instrument automatically return to a previous state.

7, the output switching function

When the instrument is OUT indicator lights, press the OUT button, the power supply immediately stop output. When the instrument is the OUT indicator light is extinguished, press the OUT button and release, the power supply will output, while OUT indicator light.

8, storage / call (305CM/CF)

A storage:

To set up the required storage V, I value (make sure that the data according to ENT), in a separate press. (decimal) button for 3 seconds and then, V/ENT lights flash slowly, the power to enter the storage state, 3 seconds and then flash slowly, if press the number keys 0 to 9 in the current, voltage, current data is stored in the keys (such as 1, in 1 keys). At the same time, V/ENT light does not twinkle, and enter the working state.

If the slow flash 3 seconds without press 0 to 9 keys, then from the stored state and back to work.

B fast call:

Individually quick click. (decimal) button, V/ENT lights flash, power to out of state, in a flash quickly for 3 seconds, if press 0 to 9 number keys, power supply is automatically removed before the current, voltage data 0 to 9 keys, and display and output.

If the flash quickly for 3 seconds without press 0 to 9 keys, then from out of state and back to work.

9, when the output voltage is set

The power supply is factory set to post directly after the output voltage of a power on state values and the current protection value, OUT light.

Method to set the boot does not output voltage of each power supply:

In the DC power supply without electricity, press the OUT button, in the power of. After electrifying, digital tube display all 2 (status code 22222222), the OUT button, enter the state of power supply, OUT lamp does not light, voltage display is 0, the output end no voltage, waits for the user to manually by pressing the OUT button, the power is output.

Returns the output state of each boot, just repeat the above process. After electrifying, digital tube display all 1 (status code 11111111), the OUT button, enter the state power, OUT lights and output voltage.

Operation after setting the above, power will automatically set by the user state memory.

10, increase the heat radiating fan

This machine is of no fan design, support the continuous full power output, if the need for 8 hours or longer continuous full power output, can be provided with the fan to reduce the temperature inside the machine.

Adding method: the machine in the power supply board for the fan interface CJ11 (Vcc positive) and a fan fixing hole, users only need to install the model 8025 voltage of DC fan can be 24V (if the output voltage is less than 24V when the user need, can also use 8025 voltage of DC fan 12V).

11 mobile phone repair shortcuts and notebook repair shortcut keys and mobile phone signal test

A long press No. 5 key to enter the mobile phone repair state, 4.2V 3A OCP output protection state flow automatically stop.

B long press 6 keys into the notebook repair state, 19V 5A CC constant current protection.

C long press No. 0 key into the mobile phone signal test state, only a long press 0 keys to return again (DM BF CF only).

12 mobile phone repair flow need three seconds automatic power settings are automatically stops

Adjustable power supply factory state set OCP 3 seconds automatically reset state in the power, is dedicated to mobile phone repair user settings.

Method of operation if other users don't need automatic power on function: the power switch off, press 5 keys do not loosen, in turn on the power switch, power, power adjustable display 6666666, just loosen the No. 5 key, after this operation, OCP protection power adjustable power source, is not in automatic power on reset, if needs to output again, press OUT button, the power supply immediately return output.

If the user requires automatic power on reset seconds, just repeat the above process, press 5 keys do not loosen, in turn on the power switch, power, power adjustable display 5555555, just loosen the No. 5 key, power into three seconds automatic power on reset state.

If you want to automatically power on three seconds, setting adjustable power supply automatically memory user settings, each boot status will not change.

Five points for attention

In 1, the input voltage selection: the input AC voltage should be $220V \pm 10\%$ 50Hz.

2, ground: three core power line to the protective earth terminal earth must be reliable access security, to ensure that users and peripheral equipment safety.

3, insurance tube replacement: when the power pressing the power switch, panel lights and led all does not shine, there may be a fuse burned, if confirmation is the fuse burned, then to find out the insurance tube burn reason and elimination, substitution of the same specifications of insurance tube. Remember, to replace the safety tube must pull the power plug from the socket removed, can be replaced.

4, placing: to ensure power supply service life, being used for a long time, please keep power placed in well-ventilated environment to (23 ± 5 °C), do not put in the ambient temperature is over 40 °C places, radiator is located on the instrument's rear, should leave enough space, to facilitate heat dissipation. Not a long time, should be the power supply plug.

In 5, abnormal operation: the power supply mode of operation and a normal operation without causing power failure, but has the potential to damage the load (when the output voltage exceeds the work load voltage).

6, fault disposal: power if any abnormal, please sent to manufacturers or suppliers handle, do not attempt to repair, otherwise all the consequences arising, manufacturers will not bear.

Six annex

1 power line 1

2 video manual 1

3 Certificate 1 pieces

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