Digital Buck-Boost Supply Power Module

Product model: DPH3205

General Information

Digital Control Buck-Boost Supply Power Module put the collection of analog integration and digital control functions in one. Its adjustable output voltage range is 0-32.00V, step by 0.01V. Its adjustable output current range is 0-5.000A, step by 0.001A. This module has power-down stored function and can store 10 groups preset value. And it also has the function of extracting quickly two groups stored value. Compared with the traditional analog power supply, it is more convenient to quickly extract the voltage or current required. LCD display on the module has the function of digital voltmeter and ammeter. You can view the preset voltage, input voltage, output voltage, the preset current, output current, output power, etc. On the output state remind area, you can see that output opens or not, the state of constant voltage and constant current, output is normal or not, the key is locked or not, and the current data groups that is being used. On the setting data interface, you can adjust overvoltage value, overcurrent value, over-power value, data group and LCD brightness. This module adopts buck-boost structure; when input voltage is lower than, equal to or higher than output voltage, output voltage is still stable and changeless. This feature has wide range of application.

Technical parameters

Input voltage range: 6.00-40.00V   Output voltage range: 0V-32.00V

Output current: 0-5.000A   Output power range: 0-160W

Product Weight: about 227g   Display module size: 79*43*41(mm) (L*W*H)

Open size: 71mm*39mm   Power module size: 93*71*41(mm) (L*W*H)

Length of connecting line: 200mm   Fixed hole center distance: 86mm, 64mm

Max allowable input current: 10A   Output ripple: about 100mVpp

Output voltage program and read back resolution: 0.01V

Output current program and read back resolution: 0.001A

Output Voltage program and read back accuracy: ± (0.5% + 1 digit)

Output Current program and read back accuracy: ± (0.5% + 3 digits)

Temperature of the application environment: -10°c ~45°c

NOTE: 1.If you want to ensure output at full load, you must make sure that input is higher than 18V and 180W; pay attention to heat elimination at full load.

2. Connection between display part and power part should be according to the corresponding words. Otherwise it will not work by wrong connection

Connection description

IN+: Input positive   IN-: Input negative:

OUT+: Output positive: OUT-: Output negative

Note: Input voltage range is DC 6-40V and 40V is the limit voltage; please leave a room to use. Or else it will be burnt.

The input must be DC power supply, not AC 220V, or else it will be burnt too. Though this module

has reverse connection protection and output short circuit protection, you can muse be in strict accordance with connection description to connect. If you connect the supply power with output, the module will be burnt.

Panel description

1-Voltage setting/Page up to choose/Shortcut extract M1 data group

2-Data setting/ Extract value of the specified data group/Store value into the specified data group

3-Current setting/Page Down to choose/Shortcut extract M2 data group

4-1.44 inch color LCD screen

5-Coding potentiometer/Data adjustment/Lock all buttons

6-Open or close output

Display interface description

7-The preset value of output voltage

8- The actual value of output voltage

9-The actual value of output current

10-The actual value of output power

11-The actual value of input voltage

12-The preset value of output current

13-Key lock or unlock prompt

14-Output normal or not prompt

15-Constant voltage and constant current status prompt

16-Data set prompt

17-Open or close output prompt

18-Preset output voltage

19-Preset output current

20-Preset over- voltage

21-Preset over-current

22-Preset over-power

23-Preset screen brightness

24-Preset data set

25-The actual value of output voltage and output current

Operating instructions

When connect the power supply, the screen shows welcome window firstly and then comes into main interface. On the main interface, the output set voltage value and the output set current value is on the top of the screen. The big font value on the left are the current real output voltage, the current real output current and the current real output power. Input voltage is on the bottom of the screen. There are some running

status icons on the right of the screen, key lock icon, abnormal output status icon, constant voltage and constant current icon, data set tip icon and opening or closing output icon.

Set the output voltage and output current on the main interface.

Press V/↑ key shortly, you can enter into voltage setting status. Then press the coding potentiometer, and then enter to adjust the numerical value. Press coding potentiometer to enter into the status of adjusting the numerical value you want to adjust. Turn coding potentiometer to adjust the numerical value. Turn by clockwise rotation to increase the numerical value; Turn by counterclockwise to decrease the numerical value. If you want to exit adjusting the numerical value, press shortly V/↑ . In the same time the preset value will be stored. Or you can do nothing in one minute, the status will be automatically existed and the preset will be stored too. You can press A/↓ to set the output current by the same way.

Set the data on the data setting interface

On the main interface, you can press SET key shortly to enter into data setting interface. On the data setting interface, press shortly V/↑ or A/↓ to page up or page down to U-SET or I-SET, and then set the output voltage and output current by same way used in the main interface .

Set the protection value.

Page up or page down to S-OVP, S-OCP or S-OPP place to set over-voltage value , over-current value and over-power value correspondingly; when the value is up to the setting value, output will be closed ; and there is a prompt on right of screen . And then press shortly the coding potentiometer to enter into the status of adjusting the numerical value you want to adjust. Turn coding potentiometer to adjust the numerical value. If you want to exit adjusting the numerical value, press shortly SET key.

Adjust the brightness of screen.

Page up or page down to B-LED, and then press shortly the coding potentiometer to enter into the status of adjusting the brightness of screen. Turn coding potentiometer to adjust the numerical value you need. If you want to exit adjusting the numerical value, press shortly SET key. There are six brightness levels of LCD screen, 0-5 level. Rank 0 is the darkest; rank 5 is the brightest. You can choose what you like.

Data setting and store the specified data group.

Page up or page down to M-PRE, and then press shortly the coding potentiometer to enter into the status of choosing the data groups. Turn coding potentiometer to choose the data group you need to view. Then the data group you need will be displayed. And then press the coding potentiometer to enter into status of changing output state. Turn coding potentiometer to choose ON or OFF. When choose ON, the data group is extracted and the output status remain the same. When choose OFF, the data group is extracted and the output is closed. If you want to exit choosing data set, press shortly SET key. Then press shortly V/↑ or A/↓ to page up or page down to other place to adjust the data you need. After data setting done, keep pressing SET key more than 2s, all the data you set are automatically stored into the specified data group. In the same time, you can see the group number on the right of screen. At last you can press shortly SET key back to the main interface.

Set default boot open or close output

Page up or page down to S-INI, and then press shortly the coding potentiometer to enter into the setting status. Set ON, default boot open; set off, default boot close.

Function description.

Open or close the output.

You can press ON/OFF key to open or close the output on any interface.

Lock the button to avoid wrong operation.

On the any interface, you can keep pressing coding potentiometer more than 2s, all buttons are locked. You can see the key lock icon on the right of screen. If you want to unlock all buttons, keep pressing coding potentiometer more than 2s, all buttons are unlocked. The key unlock icon will be displayed on the right of screen.

M0-M9 ten groups data group

M0 group is the boot default data group. When you extract the data group you need, this data group will cover M0 data group and be automatically stored on M0 data group.

Extract Shortcut storage data group M1 or M2.

On the main interface, keep pressing V/↑ or A/↓　more than 2s, you can extract Shortcut storage data group M1 or M2 quickly. In the same time the corresponding data group number will displayed on the right of the screen.

Extract the specified data group.

On the main interface, keep pressing SET key more than 2s, the sequence number of data group will be displayed on the right of the screen, you can turn coding potentiometer to choose data group you need. And then press shortly SET key, you can extract the specified data group you need.