OPERATING MANUAL

DPS3806 DC-DC
NC BOOST Buck Module

Contents

Contact

Address: No.96 Rui Da Rd., Zhengzhou, China

Tel: 86-371-86106382

Fax: 86-371-86106382

Zip: 450001

E-mail: sales@mhinstek.com

Website: www.mhinstek.com

Unpacking

When you get a new DPS3806 DC-DC NC BOOST Buck Module, it is recommended that you follow these steps to inspect the instrument.

1、 Check for damage caused by transport.

If you find cartons or bubble bag cushions severely damaged, keep them until the machine and accessories passed the test.

2、 Check the items inside the box are complete.

The package contents,as described below. If the content does not match or if the instrument is damaged, please contact your dealer or the company.

Host computer：DPS3806DC-DC NC BOOST Buck Module   1

Accessory：   User Manual (pdf version)   1

3. Check the machine

If the appearance of the instrument is damaged, the instrument is not working properly, or failed to pass the test, please contact the dealer or the company.

Outline

Instrument profile

DPS3806DC-DC NC BOOST Buck Module is a digital display of the digital control module, small size, high power, high efficiency, stable. The features of the module is When the input voltage is lower or higher than the output voltage or be equal to the output voltage, the output voltage can be kept stable. Joined the precision measurement of high-speed microcontroller calculations, it can accurately adjust the size of the output voltage and current.Built-in 10 groups of storage locations can be stored at any time, call up parameters, convenient to use. With LED digital tube, it can display parameters as voltage, current, power and capacity. At the same time, this machine has a function of automatic output or automatic display parameters.It can be turned on or off According to need.

The Instrument Characteristics

1,The use of advanced microprocessors, can precisely regulated output voltage and current;

2, With memory save function, can store 10 groups of parameters, and can be freely stored, transferred out;

3, All-digital display, easy to use;

4, With a constant voltage, constant current state;

5, Using four high-brightness LED, can display the output voltage, current, power and capacity and other parameters in real time;

6,Automatic / manual switching display voltage, current, power, capacity and other parameters;

7, With the output OUT, constant voltage CV, constant current CC indicator, you can view real-time job status;

8, Can be set whether to automatically output after electrify;

9, Can be a key to save the voltage and current values for the current setting.

The Technical Specifications

Table 1-1 DPS3806 Technical specifications

Project	Parameters
The modular nature	Non-isolated buck
The input voltage	10V~40V
The output current	0~6A
The output voltage	0~38V
Conversion efficiency	Up to 80%
Working frequency	150KHz
Short circuit protection	Constant
Operating temperature	−40℃~+85℃
control method	Digital Control + digital display
Voltage Regulator / Display Resolution	0.01V
Power Display minimum resolution	0.001W
Current Regulation / Display Resolution	0.001A
Capacity display a minimum resolution	0.001AH
Output ripple	≤50mV
Weight	116g
External dimensions (length × width × height)	100×80×29(mm)

Rument Description

Module description
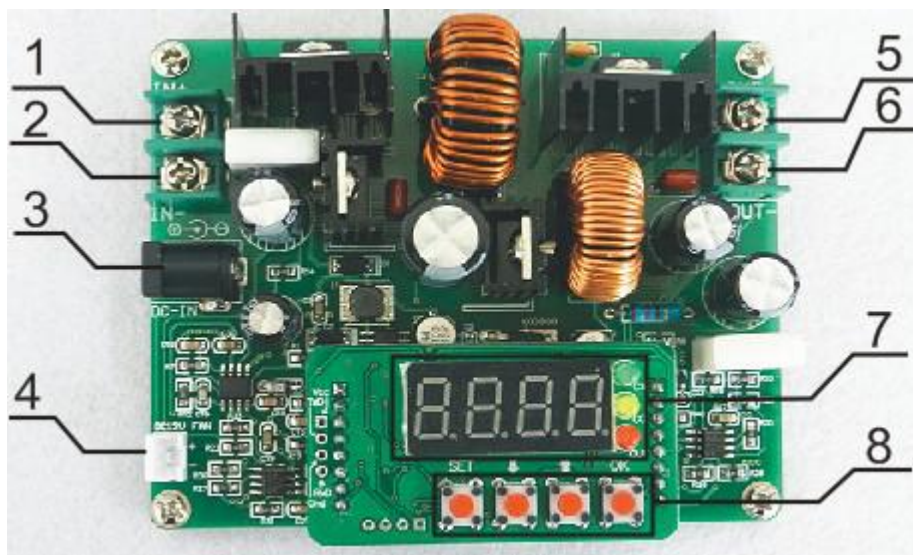
Figure 2-1   DPS3806DC-DC step-down module illustrated NC

Table 2-1 DPS3806DC-DC step-down module description NC

Grad	Explanation	Grad	Explanation
1	positive electrode of input	5	positive electrode of output
2	Negative electrode of input	6	Negative electrode of output
3	DC socket	7	Digital and Indicators
4	+12V Fan Interface	8	Operation buttons

Display Description

Table 2-2　　DPS3806DC-DC step-down module NC Display Description

Display content	Explanation
00.00	Voltage，00.00~38.00V
0.000	Electric current，0.000~6.000A
P.000、P0.00、P00.0、P000.	Power value, unit W, the decimal point position with the power of change and change position. For xample: P.123 represents 0.123W, P1.23 represents 1.23W, P12.3 represents 12.3W, P102 represents 102W.
C.000、C0.00、C00.0、C000.	Capacity values, units AH, the decimal point is changed with the change of the capacity position. For example: C.123 represent 0.123AH, C1.23 represents 1.23AH, C12.3 represents 12.3AH, C123 represents 123AH.
--0-	Special features 0
--1-	Special features 1
--2-	Special features 2
--y-	Open Special features
--n-	Close Special features
SA.-*（* represent 0~9）	Save parameters to the storage location of a storage location 0-9
Lo.-*（* represent 0~9）	Adjust the position of a given set of
----	Save parameters
⌈--n	reset

Instructions

This module has two operating modes: simple mode and full function. The factory setting is the simple mode, if you need to use the full functionality, you can open it.

Simple mode instructions：

1.Correct connection of input and output,Ensure that the input voltage is within the required range, Reversal is forbidden。

Note：Input voltage range：10V~40V；

Maximum input current: 8A

Output Current Range：0A~6A；

Output voltage range: 0V ~ 38V.

2.Setting the desired voltage and current values. It should be noted that the voltage and current shows no units, but the two are different, the decimal point voltage value is displayed in the second decimal place (eg 00.00), the current value is displayed in the first place (eg 0.000). Setting voltage and current values as follows:

After power on, the default display is the voltage value. Voltage display format is "00.00", you can press the "SET" button to switch to the current. Current format of the show is "0.000".Ppres the button ⬆ to increase the setting value, press the button ⬇ to reduce the set value. Short press accurately set, long press to quickly set. After the voltage or current value is changed, press the "SET" key will display "----", indicating that it save the voltage or current value of the current setting.Tthe instrument default storage location for the M0. If you do not have to change the voltage or current value, press "SET" button will switch to the current or voltage values.

3. After the setting is completed, press the "OK" button you can output .

4.In the output state, you can press the button ⬆ to increase the output voltage and press the button ⬇ to reduce the output voltage when it display the voltage value.You can press the button ⬆ to increase the current setpoint and press the button ⬇ to reduce

the Current setpoint when it display the current setpoint. Short press can be precisely set, long press can be quickly set. In the output state ,short pressing the button "OK"can be switch to display the voltage, the current, the power, and the capacity.It can automatic display when you press the button"ok" 3 seconds, press again to cancel the automatic display. In the automatic display, press the button ⬆⬇invalid.

5.Output state, press "SET" button to turn off the output.

Explanation for full-function：

This module has three special functions.The default is disabled.If necessary, you can open them.

Function0: After connecting the power output automatically.

Function1: save and transfer the parameter setting, showing power and capacity.

Function2: After the output parameters auto rotate

On / off method:

Press the "OK" button, and then to power up the module, Digital tube display will cycle between "--0-"、"--1-"、"--2-". In the display "--0-" when Release the "OK" button will turn on or off function 0, the display "--1-" Release the "OK" button will turn on or off function 1, the display "--2-" When you release the "OK" button 2 will be turned on or off function2. If you release the "OK" button after the digital display "--y-" indicates the current function is turned on, "--n-" indicates that the current is turned off.

1.Enable function 0: After connecting the power is automatically output.

2.Enable the function 1: In the absence of output state, it can be Cycled between the voltage "00.00", the current "0.000", Calls up the parameter "Lo.-0"   and save the parameter "SA.-0" when you press the "SET" button. The following example illustrates this feature:

Such as the 10V, 1.5A need to stored in the storage location 1, and call up the stored position 1 parameters.

① Press "SET" button to switch to the voltage value, the set voltage value 10.00V, press the "SET" button to save the current set voltage value.

② Press the "SET" button to switch to the current value, the current value is set

1.500A, press the "SET" button to save the current current value.

③　Press the "SET" button to switch to "SA.-0", press the button ⬆⬇to select the storage location,here you need to adjust to "SA.-1", press the "OK" button , you can set "10V, 1.5A " and stored in the storage location 1.

④　Press the "SET" button to adjust to the "Lo0", press the button⬆⬇ to call up the parameters to select the desired storage location, here you need to adjust to "Lo.-1", press the "OK" button to store the location parameter 1, could be released

⑤　Native 0 to 9 groups of 10 storage locations, each storage location can be arbitrarily set voltage and current values, each storage location are independent of each other.

　3.Enable function 2: Output will automatically round between the parameters as voltage, current, power and capacity.

Precautions

1. connect the input and output, non-reverse, reverse will burn module.

2.the output of the following natural cooling to 5A, 5A output above shall enhance heat dissipation.

3.When the module is working in boost state or using to High-power electrical appliances, if it can not normal output, turn off the automatic output function, press the OK button to output voltage,then open the electrical appliances.

Care and maintenance

Thank you for purchasing Minghe electronic products. To maximize the use of your new product features, we recommend that you take the following a few simple steps:

1. Read the safe and efficient use.

2. Read the warranty terms and conditions.

Warranty conditions:

Instruments from the shipment date of the warranty period of one year. During the warranty period, the company's failure to repair or replace the instrument case selected according to. For service, please send the product to my company.

The following conditions are not covered under warranty:

User operation or improper maintenance; using the software or user interface to provide their own; unauthorized modification to the instrument.