UDP1306C

Program Control DC Power Supply User Manual

Safety Information

Important safety instructions must be followed for operating and storing the UDP1306C. To ensure your personal safety, read the following instructions carefully before operation to ensure that the UDP1306C is in the best working environment.

⚠	Caution
⚠	Danger！ High Voltage
⏚	Ground Terminal

Safety Guidelines

General

- Do not block and isolate the air inlet and vent
- Avoid physical impact or using the instrument improperly
- Do not discharge static electricity onto the instrument
- Only professionals should open the instrument

AC Input

- AC input voltage: 110V/120V/220V/230V, 50/60Hz
- Connect the protective ground wire to the earth to avoid shock hazard.

Fuse Type

- Corresponding fuse type for the model:

Model	100V/120V	220V/230V
UDP1306C	T6. 3AL/250V (20X5mm)	T3. 15AL/250V (20X5mm)

- Make sure to use the correct fuse type before starting up
- To prevent fires, only replace with fuses that meet the model and rating value
- Do not connect the power cord before replacing the fuse to avoid electric shock
- Confirm the cause of the blown fuse before replacing the fuse

Power Supply

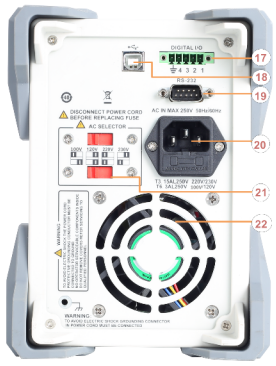
AC input voltage includes 100V/120V/220V/230V±10%, 50/60Hz. You can select different input voltages through the "AC SELECTOR" on the rear panel according to actual needs, please disconnect the power connection before switching the input voltage

UDP1306C Program Control DC Power Supply Introduction

The UDP1306C DC power supply has two groups of independent outputs: the adjustable output of 32V/6A, which has the constant voltage (CV) and constant current (CC) modes, and the fixed output of 5V/2A with protection features of short circuit and overvoltage.

UDP1306C Main Features

- 4-digit voltage and current high precision display
- Overvoltage, overcurrent and over-temperature protection
- Output voltage/current settings can be viewed
- Remote control (output ON/OFF)
- Shutdown memory
- Keypad lock
- Intelligent temperature-controlled fan
- USB phone charging interface
- RS232 program control communication
- USB device communication
- 5 sets of data storage



1. Ch1output voltage adjustment knob
2. M1-M5 data storage button
3. CH1 output current adjustment knob
4. Buzzer switch
5. Keypad lock
6. OUTPUT button
7. Channel CV/CC indicator (green-CV, red-CC)
8.Green channel binding post (ground)
9. Black channel binding post (negative)
10. Red channel binding post (positive)
11. Mobile phone charging USB interface (5V/2A)
12.Power switch
13. Output power
14. Current
15. Voltage
16. Product model: UDP1306C
17. Remote control switch
18. USB Device communication interface
19. RS232 communication interface
20. Power supply interface
21. Voltage selector
22. Power supply louver

Main Index Parameters

Test conditions: Turn on the device for 30 minutes at temperature 25℃±5℃

Ch1	Technical Index
Output Voltage	0-32V
Output Current	0-6A
Power Supply Regulation	
Constant Voltage	<0.01%+3mV
Constant Current	<0.1%+3mA
Load Regulation	
Constant Voltage	<0. 01%+5mV
Constant Current	<0.1%+10mA
Resolution	
Voltage	10mV
Current	1mA
Programming Accuracy	
Voltage	<0.5%+20mV
Current	<0.5%+10mA
Read Back Resolution	
Voltage	10mV
Current	1mA
Ripple and Noise (5Hz-20MHz)	
Voltage	⩽2mVrms
Current	⩽3mArms
Temperature Coefficient	
Voltage	⩽300ppm/℃
Current	⩽300ppm/℃
USB	
Output Voltage	5.0V ±5%
Output Current-limiting Protection	2.0A⩽USB⩽3A
Current Regulation	⩽5mV
Load Regulation	⩽5%

Function Introduction

1.Voltage/Current Setting and Output

a.Press VOLTAGE knob, the cursor will flash on the CH1 voltage position, then continuously press the knob to move the cursor and rotate it to adjust the voltage value.

b.Press CURRENT knob, the cursor will flash on the CH1 current position, then continuously press the knob to move the cursor and rotate it to adjust the current value.

c.Press the OUTPUT button after setting the voltage and current values needed, the ON symbol and the backlight of OUTPUT button are lighten, the output of CH1 is enabled.

2. Constant Voltage/Constant Current

In constant voltage mode, the output current is less than the set value, the channel indicator will be green (CV), and the voltage is the set value, if the output current reaches the set value, the device will switch to the constant current mode.

In constant current mode, the output current is the set value, the channel indicator will be red (CC), and the voltage is lower than the set value, if the output current is lower than the set value, the device will switch to the constant voltage mode.

3.OVP (overvoltage protection), OCP (overcurrent protection) Setting and Enabling

a.Short press VOLTAGE knob, the cursor will flash on the CH1 voltage position, continuously press the knob to move the cursor and rotate it to adjust the voltage threshold value.

Long press VOLTAGE knob, OVP symbol is lighten, the voltage output value returns to zero, OVP is enable (if output is on). If the output voltage exceeds the OVP set limit, the output will be shut off, and OVP symbol will be flashing on LCD screen. Long press VOLTAGE knob again to disable OVP, then OVP symbol disappear.

b.Short press CURRENT knob, the cursor will flash on the CH1 current position, continuously press the knob to move the cursor and rotate it to adjust the current threshold value.

Long press CURRENT knob, OCP symbol is lighten, the current output value returns to zero, OCP is enable (if output is on). If the output current exceeds the OCP set limit, the output will be shut off, and OCP symbol will be flashing on LCD screen. Long press CURRENT knob again to disable OCP, then OCP symbol disappear.

4. Remote Control DIGITAL I/O Interface

To remotely control the output and shutoff of CH1, you can short-circuit or disconnect the pin 1 and 2 of the DIGITAL I/O terminal by a short-circuited wire or an external relay. The specific operations are as follows:

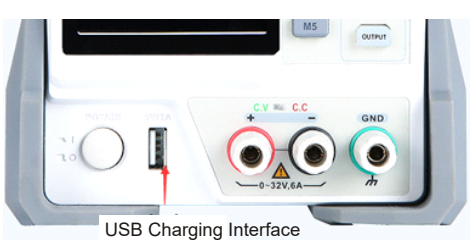
When the pin 1 and 2 of the DIGITAL I/O terminal are short-circuited, the OUTPUT button is disabled, the power output is forcibly turned on, and the ON symbol appears on the LCD screen.

When the short circuit is released, the OUTPUT button function is restored, and the output is turned off, the OFF symbol appears on the LCD screen.

The DIGITAL I/O terminal is shown in the following figure:

5. USB Interface Function

As shown in figure, this interface is not for communication but only for mobile phone charging, and the output is 5V/2A by default.



USB Charging Interface

6. OTP (over-temperature protection) Overview

Inside the power supply, there is thermistor placed on the heat sink which has the maximum heat. Once the power supply fails and the temperature of the heat sink reaches about 100 °C, OTP will be triggered, the output will be turned off with the OTP symbol flashing and periodical beeps. The OTP indication stops when any key is pressed.

7. M1-M5 Store/Recall Functions Introduction

a.Press VOLTAGE knob, rotate the knob to adjust voltage as needed;

b.Press CURRENT knob, rotate the knob to adjust current as needed;

c.Long press M1buttton with its backlight flashing to save M1 setting.

d.Short press M1to recall the stored data with its backlight on and the M1 symbol displaying on screen;

e.Similar operation for M1-M5.

8. Buzzer On and Off

Long press (>3s) the BEEP button, the backlight is on and the buzzer is off.

Short press the BEEP button, the buzzer is on;

9. Keypad Lock

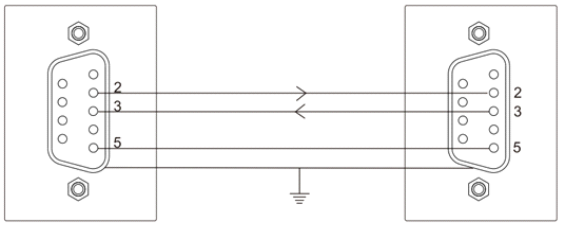
Short press the LOCK button, the button backlight is on and the keypads are locked.

Long press the LOCK button (>3s), the button light is off and the keypads are unlocked.

10. Remote Interface Control

UDP1306C power supply supports the communication between RS232 interface and the computer base on SCPI communication instruction, please refer to the programming manual for detail.

Rs232 Interface Definition



Power Source PC

11. Accessories

Charging line ---------- 1

USB communication cable ---------- 1

Power output cable ---------- 1

RS232 communication cable ---------- 1 (optional)

UNI-T®

UNI-TREND TECHNOLOGY (CHINA) CO., LTD.

No.6, Gong Ye Bei 1st Road,
Songshan Lake National High-Tech Industrial
Development Zone, Dongguan City,
Guangdong Province, China