Instruments.uni-trend.com

Quick Start Guide

UDP6720 Series Programmable DC Power Supply

V1.1

March 2025

Limited Warranty and Liability

Uni-T guarantees that the Instrument product is free from any defect in material and workmanship within three years from the purchase date. This warranty does not apply to damages caused by accident, negligence, misuse, modification, contamination, or improper handling. If you need a warranty service within the warranty period, please contact your seller directly. Uni-T will not be responsible for any special, indirect, incidental, or subsequent damage or loss caused by using this device. For the probes and accessories, the warranty period is one year. Visit instrument.uni-trend.com for full warranty information.

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Foreword

Thank you for choosing this UNI-T instrument. For safe and proper use this instrument, please read this manual carefully, especially the safety instructions section.

After reading this manual, it is recommended to keep the manual in a convenient location, preferably near the device, for future reference.

Safety Instructions

This chapter contains information and warnings that must be observed. Ensure that the instrument is operated under the safe conditions. In addition to the safety precautions indicated in this chapter, you must also follow accepted safety procedures.

Safety Precautions		
Warning	Please follow these guidelines to avoid possible electric shock and risk to personal safety.	
	Users must adhere to standard safety precautions during the operation, servicing, and maintenance of this device. UNI-T will not be liable for any personal safety and property loss caused by the user's failure following the safety precautions. This device is designed for professional users and responsible organizations for measurement purposes. Do not use this device in any manner not specified by the manufacturer. This device is intended for indoor use only, unless otherwise stated in the product manual.	
Safety Statements		
Warning	"Warning" indicates the presence of a hazard. It warns users to pay attention to a certain operation process, operation method or similar. Personal injury or death may occur if the rules in the "Warning" statement are not properly executed or observed. Do not proceed to the next step until you fully understand and meet the conditions stated in the "Warning" statement.	
Caution	"Caution" indicates the presence of a hazard. It warns users to pay attention to a certain operation process, operation method or similar. Product damage or loss of important data may occur if the rules in the "Caution" statement are not properly executed or observed. Do not proceed to the next step until you fully understand and meet the conditions stated in the "Caution" statement.	
Note	"Note" indicates important information. It reminds users to pay attention to procedures, methods, and conditions, etc. The contents of "Note" should be highlighted if necessary.	
Safety Signs		
	Danger	It indicates danger of electric shock, which may cause personal injury or death.
	Warning	It indicates that there are factors you should be cautious of to prevent personal injury or product damage.

	Caution	It indicates danger, which may cause damage to this device or other equipment if you fail to follow a certain procedure or condition. If the "Caution" sign is present, all conditions must be met before you proceed to operation.
	Note	It indicates potential problems, which may cause failure of this device if you fail to follow a certain procedure or condition. If the "Note" sign is present, all conditions must be met before this device will function properly.
	AC	Alternating current of device. Please check the region's voltage range.
	DC	Direct current device. Please check the region's voltage range.
	Grounding	Frame and chassis grounding terminal
	Grounding	Protective grounding terminal
	Grounding	Measurement grounding terminal
	OFF	Main power off
	ON	Main power on
	Power	Standby power supply: When the power switch is turned off, this device is not completely disconnected from the AC power supply.
CAT I		Secondary electrical circuit connected to wall sockets through transformers or similar equipment, such as electronic instruments and electronic equipment; electronic equipment with protective measures, and any high-voltage and low-voltage circuits, such as the copier in the office.
CAT II		Primary electrical circuit of the electrical equipment connected to the indoor socket via the power cord, such as mobile tools, home appliances, etc. Household appliances, portable tools (e.g., electric drill), household sockets, sockets more than 10 meters away from CAT III circuit or sockets more than 20 meters away from CAT IV circuit.
CAT III		Primary circuit of large equipment directly connected to the distribution board and circuit between the distribution board and the socket (three-phase distributor circuit includes a single commercial lighting circuit). Fixed equipment, such as multi-phase motor and multi-phase fuse box; lighting equipment and lines inside large buildings; machine tools and power distribution boards at industrial sites (workshops).
CAT IV		Three-phase public power unit and outdoor power supply line equipment. Equipment designed to "initial connection," such as power distribution system of power station, power instrument, front-end overload protection, and any outdoor transmission line.
CE	Certification	CE indicates a registered trademark of EU.
UK CA	Certification	UKCA indicates a registered trademark of United Kingdom.

	Certification	Conforms to UL STD 61010-1 and 61010-2-030. Certified to CSA STD C22.2 No.61010-1 and 61010-2-030.
	Waste	Do not place equipment and accessories in the trash. Items must be properly disposed of in accordance with local regulations.
	EEUP	This environment-friendly use period (EFUP) mark indicates that dangerous or toxic substances will not leak or cause damage within this indicated time period. The environmentally friendly use period of this product is 40 years, during which it can be used safely. Upon expiration of this period, it should enter the recycling system.
Safety Requirements		
Warning		
Preparation before use	Please connect this device to AC power supply with the power cable provided. The AC input voltage of the line reaches the rated value of this device. See the product manual for specific rated value. The line voltage switch of this device matches the line voltage. The line voltage of the line fuse of this device is correct. This device is not intended for measuring the main circuit.	
Check all terminal rated values	Please check all rated values and marking instructions on the product to avoid fire and the impact of excessive current. Please consult the product manual for detailed rated values before connection.	
Use the power cord properly	You can only use the special power cord for the instrument approved by the local and state standards. Please check whether the insulation layer of the cord is damaged, or the cord is exposed, and test whether the cord is conductive. If the cord is damaged, please replace it before using the instrument.	
Instrument Grounding	To avoid electric shock, the grounding conductor must be connected to the ground. This product is grounded through the grounding conductor of the power supply. Please be sure to ground this product before it is powered on.	
AC power supply	Please use the AC power supply specified for this device. Please use the power cord approved by your country and confirm that the insulation layer is not damaged.	
Electrostatic prevention	This device may be damaged by static electricity, so it should be tested in the anti-static area if possible. Before the power cable is connected to this device, the internal and external conductors should be grounded briefly to release static electricity. The protection grade of this device is 4 kV for contact discharge and 8 kV for air discharge.	
Measurement accessories	Measurement accessories designated as lower-grade, which are not applicable to main power supply measurement, CAT II, CAT III, or CAT IV circuit measurement. Probe subassemblies and accessories within the range of IEC 61010-031 and current sensors within the range of IEC 61010-2-032 can meet its requirements.	
Use the input / output port of this device properly	Please use the input / output ports provided by this device in a proper manner. Do not load any input signal at the output port of this device. Do not load any signal that does not reach the rated value at the input port of this device. The probe or other connection accessories should be effectively grounded to avoid product damage or abnormal function. Please refer to the product manual for the rated value of the input / output port of this device.	

Power fuse	Please use a power fuse of exact specification. If the fuse needs to be replaced, it must be replaced with another one that meets the specified specifications by the maintenance personnel authorized by UNI-T.
Disassembly and cleaning	There are no components available for operators inside. Do not remove the protective cover. Qualified personnel must conduct maintenance.
Service environment	This device should be used indoors in a clean and dry environment with ambient temperature from 0 ℃ to +40 ℃. Do not use this device in explosive, dusty, or high humidity conditions.
Do not operate in humid environment	Do not use this device in a humid environment to avoid the risk of internal short circuit or electric shock.
Do not operate in flammable and explosive environment	Do not use this device in a flammable and explosive environment to avoid product damage or personal injury.
Caution	
Abnormality	If this device may be faulty, please contact the authorized maintenance personnel of UNI-T for testing. Any maintenance, adjustment or parts replacement must be done by the relevant personnel of UNI-T.
Cooling	Do not block the ventilation holes at the side and back of this device. Do not allow any external objects to enter this device via ventilation holes. Please ensure adequate ventilation and leave a gap of at least 15 cm on both sides, front and back of this device.
Safe transportation	Please transport this device safely to prevent it from sliding, which may damage the buttons, knobs, or interfaces on the instrument panel.
Proper ventilation	Insufficient ventilation will cause the device temperature to rise, thus causing damage to this device. Please keep proper ventilation during use, and regularly check the vents and fans.
Keep clean and dry	Please take actions to avoid dust or moisture in the air affecting the performance of this device. Please keep the product surface clean and dry.
Note	
Calibration	The recommended calibration period is one year. Calibration should only be conducted by qualified personnel.

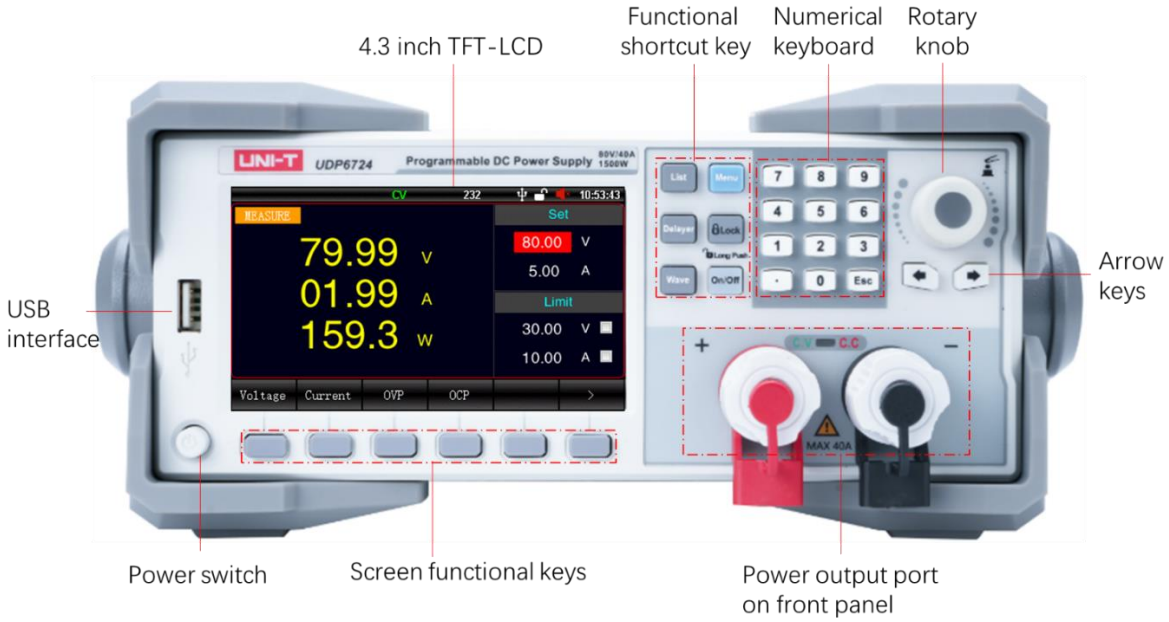
Chapter 1 Panel

1.1 Front Panel

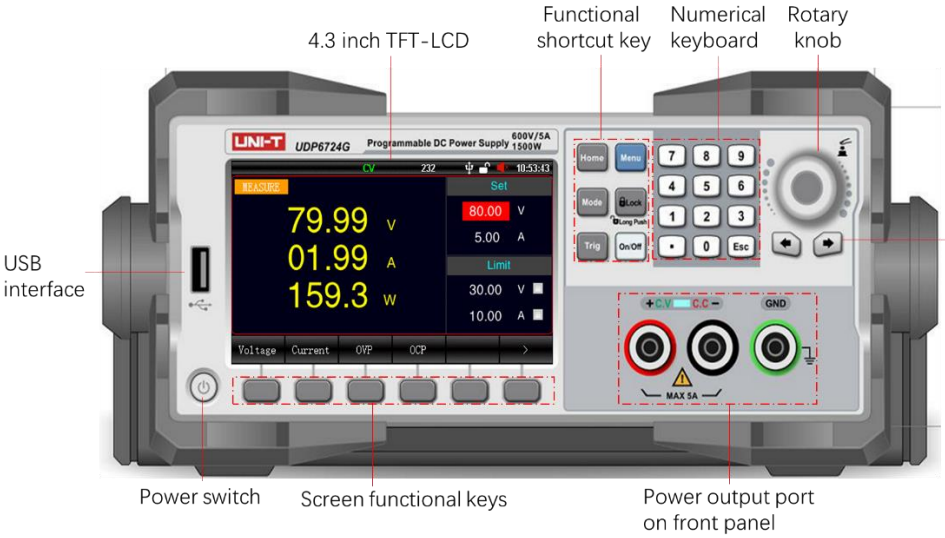
The product has a simple, intuitive and easy to use front panel, as shown in the following figure.

UDP6722

UDP6723/UDP6724/UDP6723B/UDP6724B UDP6723C/UPD6724C



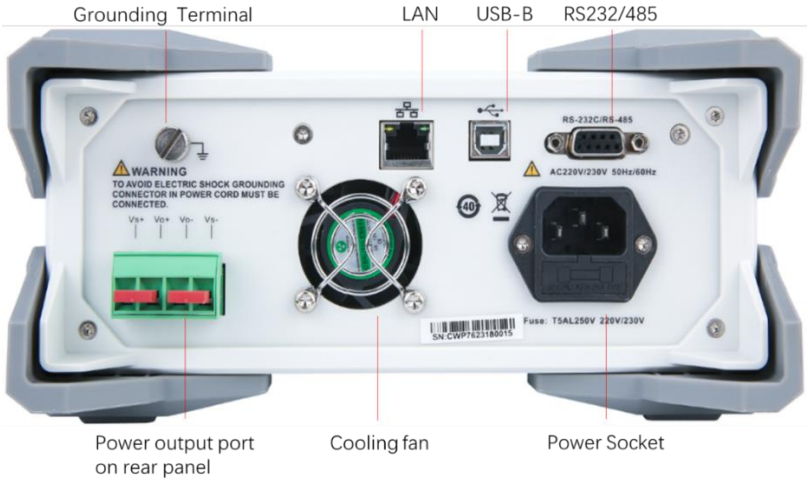
UDP6723H/UDP6724H/UDP6723G/UDP6724G



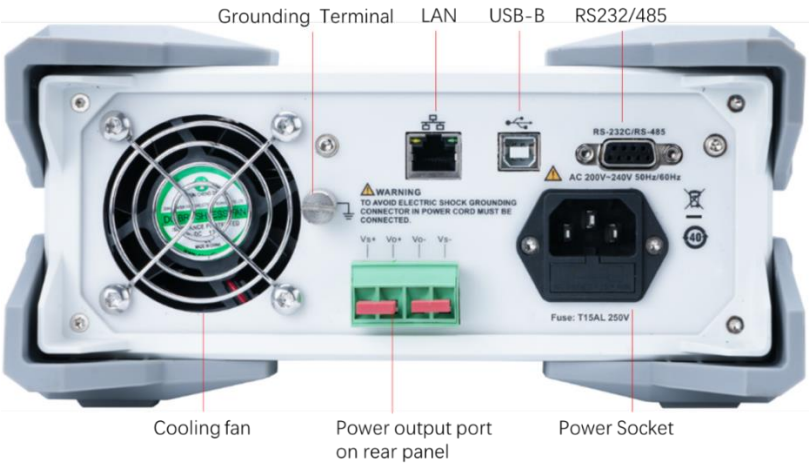
For more details, please refer to UDP6720 Series Programmable DC Power Supply User Manual.

1.2 Rear Panel

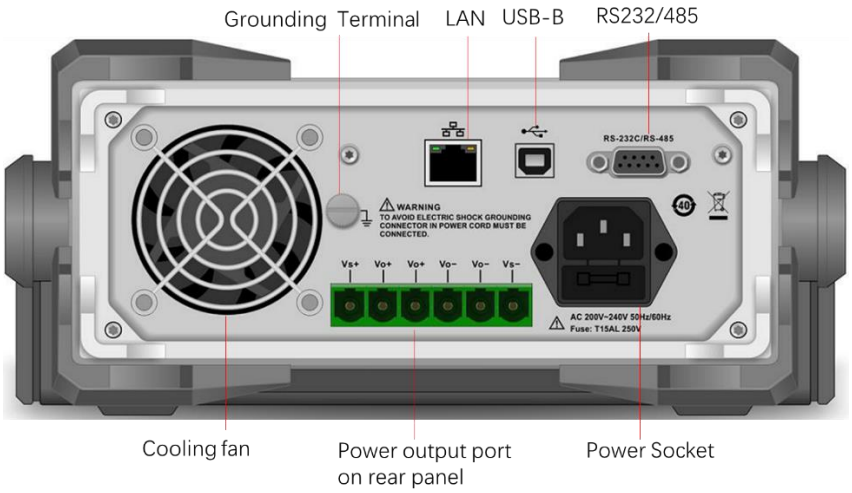
UDP6722



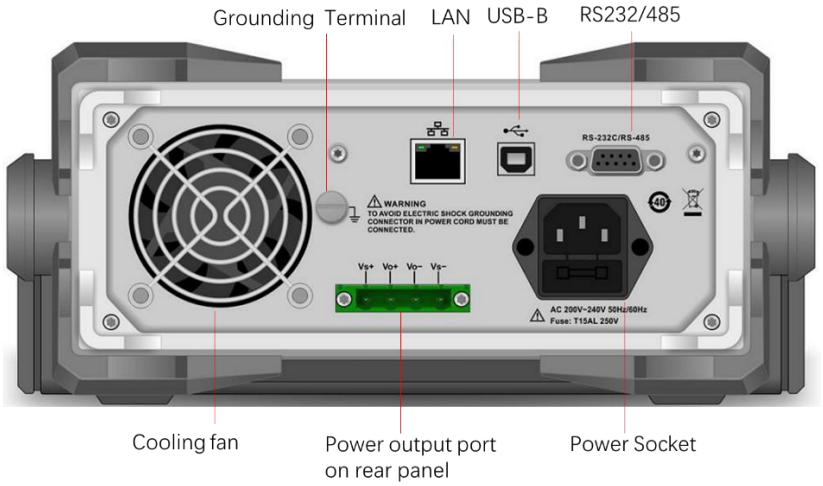
UDP6723/UDP6724/UDP6723B/UDP6724B



UDP6723C/UDP6724C



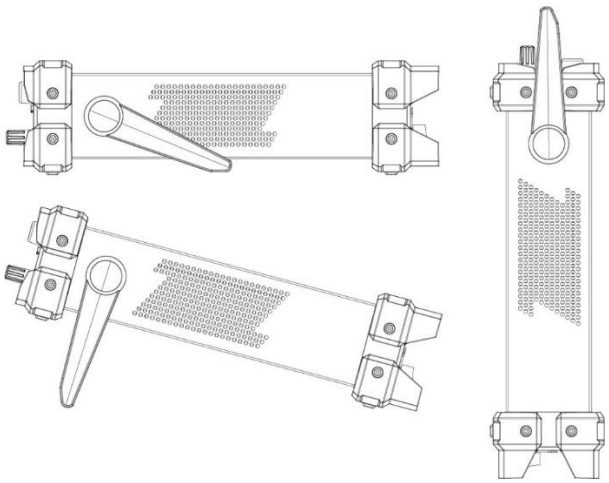
UDP6723G/UDP6724G/UDP6723H/UDP6724H



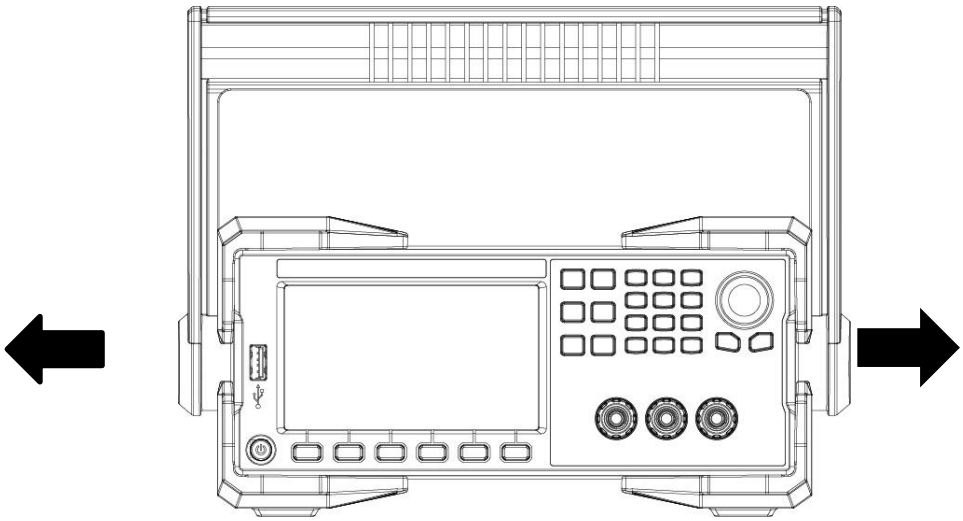
For more details, please refer to UDP6720 Series Programmable DC Power Supply User Manual.

1.3 Handle

Handle can adjust to three positions by appropriate strengths.



Hold the handle and pull to two sides to remove it. Adjusting the handle to the position as shown in the following figure. Please be careful of your hands when remove the handle.



Chapter 2 User's Guide

This manual includes safety requirements and the operation of UDP6720 series Programmable DC Power Supply.

UDP6720 Series programmable DC power supply is switching power supply with wide span. The model is small, light and powerful. It adopts LCD, so the parameter can be display directly and easy to use; the product can be applied to the field of automatic test system, R&D, laboratory, teaching experiment, phone and home appliances maintenance.

Model	Output Range
UDP6722	0V-80V, 0A-20A, 0W-400W
UDP6723	0V-80V, 0A-40A, 0W-850W
UPD6724	0V-80V, 0A-40A, 0W-1500W
UDP6723B	0V-150V, 0A-20A, 0W-850W
UPD6724B	0V-150V, 0A-20A, 0W-1500W
UDP6723C	0~32V, 0~110A, 0W-850W
UPD6724C	0~32V, 0~110A, 0W-1500W
UDP6723G	0~600V, 0~5A, 0W-850W
UPD6724G	0~600V, 0~5A, 0W-1500W
UDP6723H	0~300V, 0~10A, 0W-850W
UPD6724H	0~300V, 0~10A, 0W-1500W

2.1 Inspecting Packaging and List

When you receive the instrument, please make sure to check the packaging and list by the following steps:

- Check whether the packing box and padding material are extruded or teased caused by external forces, and the appearance of the instrument. If you have any questions about the product or need consulting services, please contact the distributor or local office.
- Carefully take out the article and check it with the packing list.

2.2 Environmental Requirements

This instrument is suitable for the following environment:

Operating Environment	Requirements
Operating temperature	0℃~40℃
Operating humidity	20%~80%
	(non-condensation)
Storage temperature	-20℃~60℃
Altitude	≤2000 meters
Pollution degree	2

There are ventilation opening on the rear panel and side panel of the instrument. So please keep the air flowing through the vents of the instrument housing. To prevent excessive dust from blocking the vents, please clean the instrument housing regularly. The housing is not waterproof, please disconnect the power supply first and then wipe the housing with a dry cloth or a slightly moistened soft cloth.

2.3 Connect Power Supply

The specification of input AC power:

Model	Voltage Range	Frequency
UDP6722/23/24/23B/24B/23C/24C/23G/24G/23H/24H	200-240VAC	50/60Hz

Please use the attached power lead to connect to the power port.

Connecting to service cable

The supplied power lead has good performance in terms of case ground. This power supply is equipped with a three-prong power cable that meets international safety standards. It provides good case grounding performance for the specification of your country or region.

Please install AC power cable as follow,

• Ensure the power cable is in a good condition.

• Leave enough space for connecting the power cord.

• Plug the attached three-prong power cable into a well-grounded power socket.

2.4 Electrostatic Protection

Electrostatic discharge may cause damage to component. Components can be damaged invisibly by electrostatic discharge during transportation, storage and use.

The following measure can reduce the damage of electrostatic discharge.

- Testing in anti-static area as far as possible
- Before connecting the power cable to the instrument, inner and outer conductors of the instrument should be briefly grounded to discharge static electricity;
- Ensure all the instruments are properly grounded to prevent the accumulation of static.

2.5 Preparation

1. Connect the power supply wire;

2. Press the switch  on the front panel, the instrument is booting-up.

2.6 Remote Control

UDP6720 Series Programmable DC Power Supply supports communication with the computer via RS232/LAN/USB interface. Users can use programming language SCPI or Modbus via RS232/LAN/USB interface to remote control the instrument.

The detailed information about programming, please refer to UDP6720 Series Programming Manual at the official website http:// www.uni-trend.com

Chapter 3 Quick Start

3.1 Voltage Setting

In <MEASURE> page, press [Voltage] key under the screen, use arrow key and the rotary knob to adjust the voltage value, press [Esc] key to cancel the setting or press the rotary knob to confirm the setting

3.2 Current Setting

In <MEASURE> page, press [Current] key under the screen, use arrow key and the rotary knob to adjust the current value, press [Esc] key to cancel the setting or press the rotary knob to confirm the setting

3.3 Voltage Limit Setting and Enable

In <MEASURE> page, press [OVP] key under the screen, use arrow key and the rotary knob to adjust the voltage limit value, press [Esc] key to cancel the setting or press the rotary knob to confirm the setting. Press [OVP] again to enable the voltage limit.

3.4 Current Limit Setting and Enable

In <MEASURE> page, press [OCP] key under the screen, use arrow key and the rotary knob to adjust the current limit value, press [Esc] key to cancel the setting or press the rotary knob to confirm the setting. Press [OCP] again to enable the current limit.

After the setting, users could connect the power supply with load, press the [On/Off] to start output. During the output, all these parameters could be set.

Chapter 4 Troubleshooting

Possible faults in use of UDP6720 Series DC Power Supply and troubleshooting methods are listed below. Please handle fault as the corresponding steps. If it cannot be handled, please contact with the distributor or local office and provide the model information (press Menu → System → About to check).

The power supply fails to start properly, see the following procedure to check and deal with it.

1. Check whether the power cable is connected correctly and make sure the power supply is powered on.
   If the power cable is connected in good condition, then move to next step.
   If the power cable is connected incorrectly, reconnect the power cable to fix the error.
2. Check whether the power supply is turned on and the power switch is switched on.
   If the power supply has been turned on and the power switch is switched on, then move to next step.
   If the power supply is turned off, press the power switch to fix the error.
3. Check whether the fuse is burned out.
   If the fuse is burned out, replace the fuse as the following steps.
   1) Turn off the power supply and plug out the power cable, use tweezers or screwdriver to take out the fuse box (fuse position refer to Rear Panel figure).
   2) Check whether the fuse is damaged, if it is really damaged, replace the fuse according to the model. The specification of fuse as shown in the following table.

Model	Input	Specification of Fuse
UDP6722	200-240V AC	250V/T5A
UDP6723/24/23B/24B/23C/24C/23G/24G/23H/24H	200-240V AC	250V/T15A

   3) Replace the fuse of the same specification, put it in the box, and re-power it.

Chapter 5 Appendix

5.1 Maintenance and Cleaning

(1) General Maintenance

Keep the instrument away from the direct sunlight.

Caution

Keep sprays, liquids and solvents away from the instrument or probe to avoid damaging the instrument or probe.

(2) Cleaning

Check the instrument frequently according to the operating condition. Follow these steps to clean the external surface of the instrument:

Please use a soft cloth to wipe the dust outside the instrument.

When cleaning the LCD screen, please pay attention and protect the transparent LCD screen.

Please disconnect the power supply, then wipe the instrument with a damp but not dripping soft cloth. Do not use any abrasive chemical cleaning agent on the instrument or probes.

Warning

Please confirm that the instrument is completely dry before use, to avoid electrical shorts or even personal injury caused by moisture.

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