Programmable DC Power Supply IT-N6700 Series User Manual

Model: IT-N6700
Version: V1.0

Notices

Manual Part Number

IT-N6700

Revision

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2026

Itech Electronic, Co., Ltd.

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Safety Notices

CAUTION

A CAUTION sign denotes a hazard. It calls attention to an operating procedure or practice that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION sign until the indicated conditions are fully understood and met.

WARNING

A WARNING sign denotes a hazard. It calls attention to an operating procedure or practice that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING sign until the indicated conditions are fully understood and met.

NOTE

A NOTE sign denotes important hint. It calls attention to tips or supplementary information that is essential for users to refer to.

Quality Certification and Assurance

We certify that IT-N6700 series instruments meet all the published specifications at time of shipment from the factory.

Warranty

ITECH warrants that the product will be free from defects in material and workmanship under normal use for a period of one (1) year from the date of delivery (except those described in the Limitation of Warranty below).

For warranty service or repair, the product must be returned to a service center designated by ITECH.

- The product returned to ITECH for warranty service must be shipped PREPAID. And ITECH will pay for return of the product to customer.
- If the product is returned to ITECH for warranty service from overseas, all the freights, duties and other taxes shall be on the account of customer.

Limitation of Warranty

This Warranty will be rendered invalid in case of the following:

- Damage caused by circuit installed by customer or using customer own products or accessories;
- Modified or repaired by customer without authorization;
- Damage caused by circuit installed by customer or not operating our products under designated environment;
- The product model or serial number is altered, deleted, removed or made illegible by customer;
- Damaged as a result of accidents, including but not limited to lightning, moisture, fire, improper use or negligence.

Safety Symbols

	Direct current		ON (power on)
	Alternating current		OFF (power off)
	Both direct and alternating current		Power-on state
	Protective conductor terminal		Power-off state
	Earth (ground) terminal		Reference terminal
	Caution, risk of electric shock		Positive terminal

	Warning, risk of danger (refer to this manual for specific Warning or Caution information)	—	Negative terminal
	Frame or chassis terminal	-	-

Safety Precautions

The following safety precautions must be observed during all phases of operation of this instrument. Failure to comply with these precautions or specific warnings elsewhere in this manual will constitute a default under safety standards of design, manufacture and intended use of the instrument. ITECH assumes no liability for the customer's failure to comply with these precautions.

WARNING

- Do not use the instrument if it is damaged. Before operation, check the casing to see whether it cracks. Do not operate the instrument in the presence of inflammable gasses, vapors or dusts.
- The electronic load is provided with a power line during delivery and should be connected to a socket with a protective earth terminal. Before operation, be sure that the instrument is well grounded.
- Make sure to use the power cord supplied by ITECH.
- Check all marks on the instrument before connecting the instrument to power supply.
- Use electric wires of appropriate load. All loading wires should be capable of bearing maximum short-circuit current of electronic load without overheating. If there are multiple electronic loads, each pair of the power cord must be capable of bearing the full-loaded rated short-circuit output current
- Ensure the voltage fluctuation of mains supply is less than 10% of the working voltage range in order to reduce risks of fire and electric shock.
- If you use the power supply to charge the battery, pay attention to the positive and negative polarity of the battery when wiring, otherwise the power supply will be damaged!
- Do not install alternative parts on the instrument or perform any unauthorized modification.
- Do not use the instrument if the detachable cover is removed or loosen.
- To prevent the possibility of accidental injuries, be sure to use the power adapter supplied by the manufacturer only.
- We do not accept responsibility for any direct or indirect financial damage or loss of profit that might occur when using the instrument.
- This instrument is used for industrial purposes, do not apply this product to IT power supply system.
- Never use the instrument with a life-support system or any other equipment subject to safety requirements.

CAUTION

- Failure to use the instrument as directed by the manufacturer may render its protective features void.
- Always clean the casing with a dry cloth. Do not clean the internals.
- Make sure the vent hole is always unblocked.

Environmental Conditions

The instrument is designed for indoor use and an area with low condensation. The table below shows the general environmental requirements for the instrument.

Environmental Conditions	Requirements
Operating temperature	0°C to 40°C
Operating humidity	20%-80% (non-condensation)
Storage temperature	-10°C to 70 °C
Altitude	Operating up to 2,000 meters
Pollution degree	Pollution degree 2
Installation category	II

Note

To make accurate measurements, allow the instrument to warm up for 30 min before operation.

Regulatory Markings

CE	The CE mark indicates that the product complies with all the relevant European legal directives. The specific year (if any) affixed refers to the year when the design was approved.
UKCA	The UKCA mark indicates that the product complies with all relevant UK legal regulations (if accompanied by a year, it indicates the year the design was approved).
	The instrument complies with the WEEE Directive (2002/96/EC) marking requirement. This affixed product label indicates that you must not discard the electrical/electronic product in domestic household waste.
10	This symbol indicates the time period during which no hazardous or toxic substances are expected to leak or deteriorate during normal use. The expected service life of the product is 10 years. The product can be used safely during the 10-year Environment Friendly Use Period (EFUP). Upon expiration of the EFUP, the product must be immediately recycled.

Waste Electrical and Electronic Equipment (WEEE) Directive

This product complies with the WEEE Directive (2002/96/EC) marking requirement. This affix product label indicates that you must not discard the electrical/electronic product in domestic household waste.

Product Category

With reference to the equipment classifications described in the Annex I of the WEEE Directive, this instrument is classified as a “Monitoring and Control Instrument”.

To return this unwanted instrument, contact your nearest ITECH office.

Compliance Information

Complies with the essential requirements of the following applicable European Directives, and carries the CE marking accordingly:

- Electromagnetic Compatibility (EMC) Directive 2014/30/EU
- Low-Voltage Directive (Safety) 2014/35/EU

Conforms with the following product standards:

EMC Standard

IEC 61326-1:2012/ EN 61326-1:2013 [1][2][3]

Reference Standards

CISPR 11:2015+A1:2016 Ed 6.1
IEC 61000-3-2: 2018 RLV
IEC 61000-3-3: 2013+A1:2017
IEC 61000-4-2:2008
IEC 61000-4-3 2006+A1:2007+A2:2010/ EN 61000-4-3 A1:2008+A2:2010
IEC 61000-4-4:2012
IEC 61000-4-5:2014+A1:2017
IEC 61000-4-6:2013+cor1:2015
IEC 61000-4-11:2004+A1:2017

1. The product is intended for use in non-residential/non-domestic environments. Use of the product in residential/domestic environments may cause electromagnetic interference.
2. Connection of the instrument to a test object may produce radiations beyond the specified limit.
3. Use high-performance shielded interface cable to ensure conformity with the EMC standards listed above.

Safety Standard

IEC 61010-1:2010+A1:2016

Content

Chapter1 Inspection and Installation

The power supply is a device with a high safety rating and has a protective earth terminal. Before installation or operation, please check and read the safety signs and instructions in this manual.

1.1 Verifying the Shipment

Unpack the box and check the contents before operating the instrument. If wrong items have been delivered, if items are missing, or if there is a defect with the appearance of the items, please contact the ITECH authorized dealer or after-sales service department immediately.

The package contents include:

Item	Qty.	Model	Remarks
Programmable DC Power Supply	x1	IT-N6700 Series	Please refer to 2.1 Brief Introduction for complete models of this series instruments.
Power cord	x1	IT-E171/ IT-E172/ IT-E173/ IT-E174	Users can choose different power cords according to the specifications of power sockets in the region. For detailed specifications, please refer to 1.4 Installing Power Cords.
LAN communication cable	x1	-	This accessory is selected when the LAN interface is used for starting up remote operation.
Calibration Report	x1	-	It contains the test report of the instrument before delivery.

Note

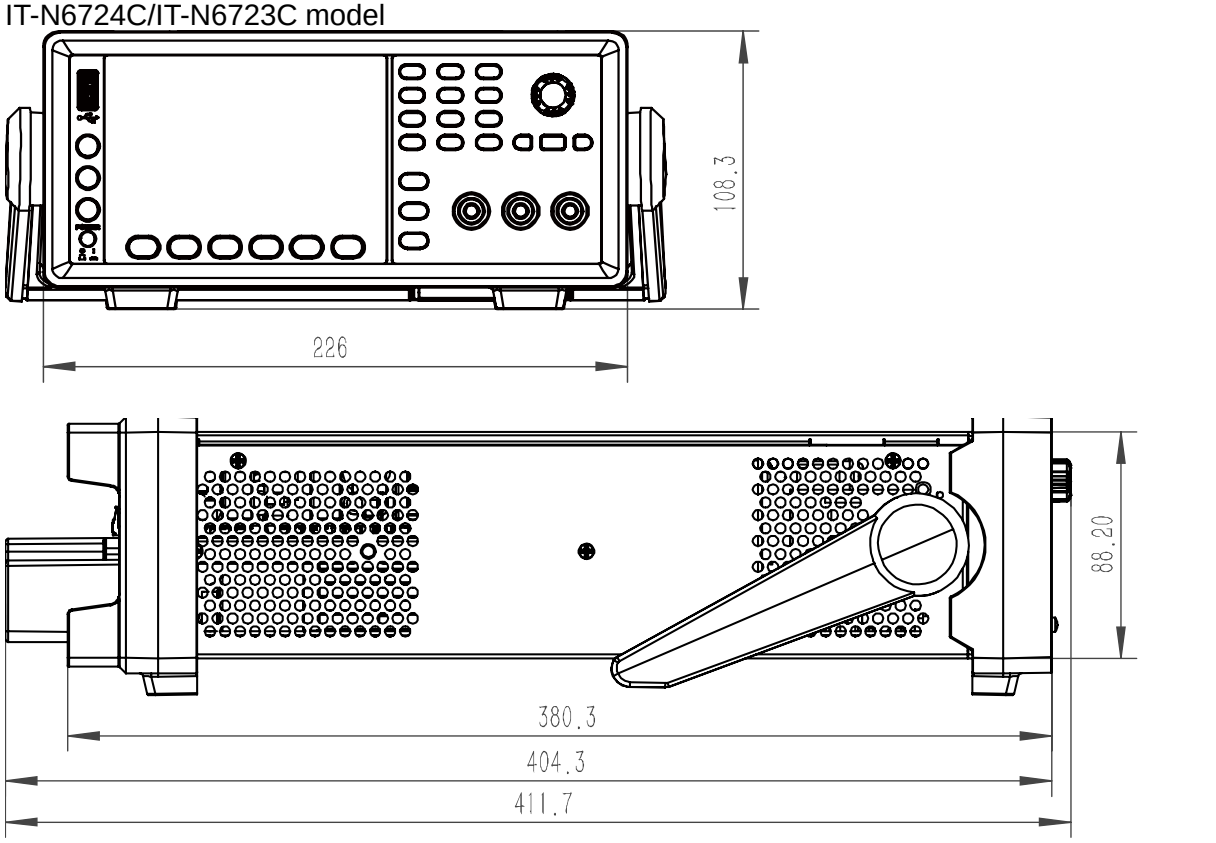
After confirming that the package contents are consistent and there is no problem, please keep the packing box and related contents properly. When the instrument is returned to the factory for service, it needs to meet the packing requirements.

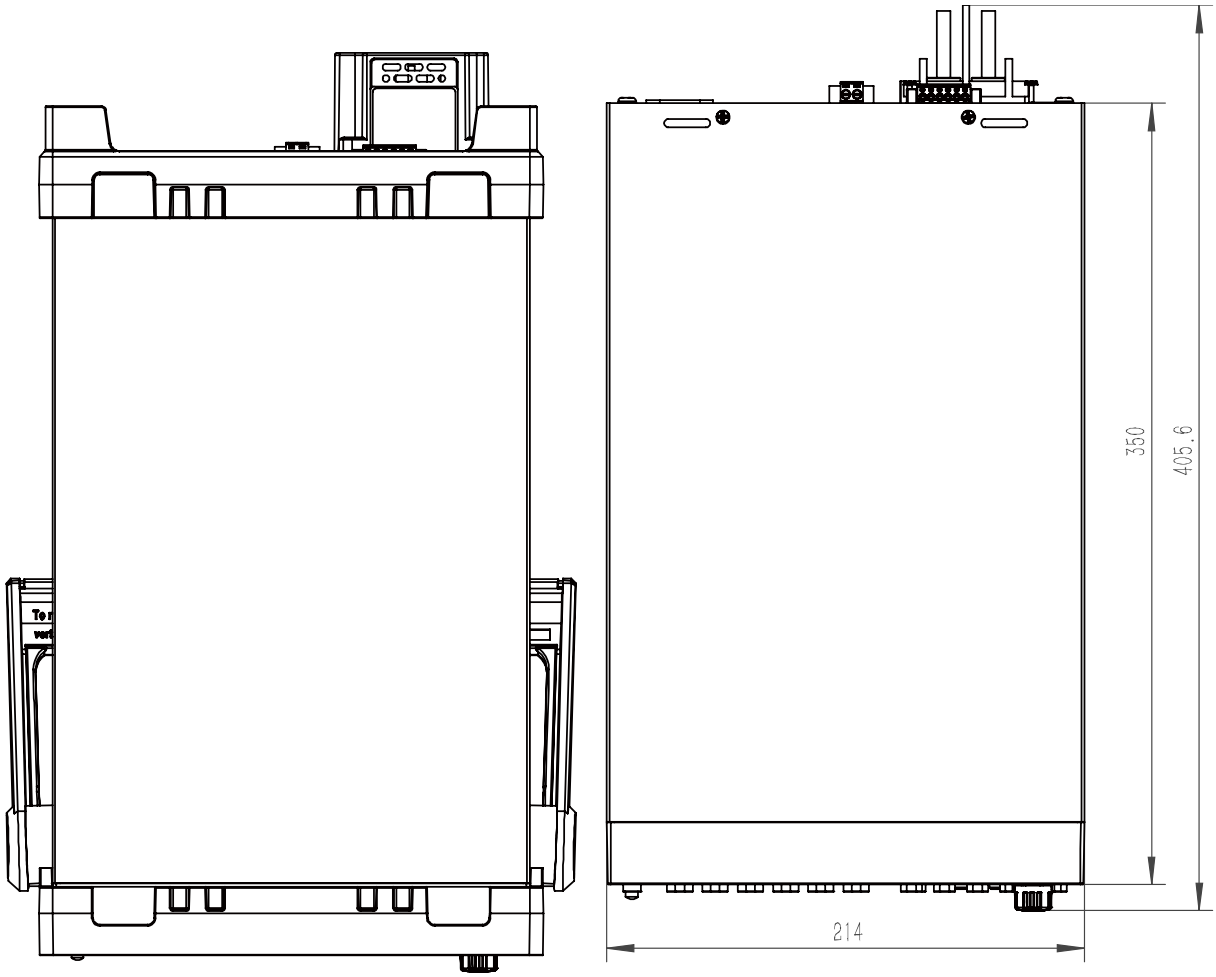
1.2 Instrument Size Introduction

The instrument should be installed at well-ventilated and rational-sized space. Please select appropriate space for installation based on the instrument size.

The detailed dimension drawings of this series are as follows (unit: mm).

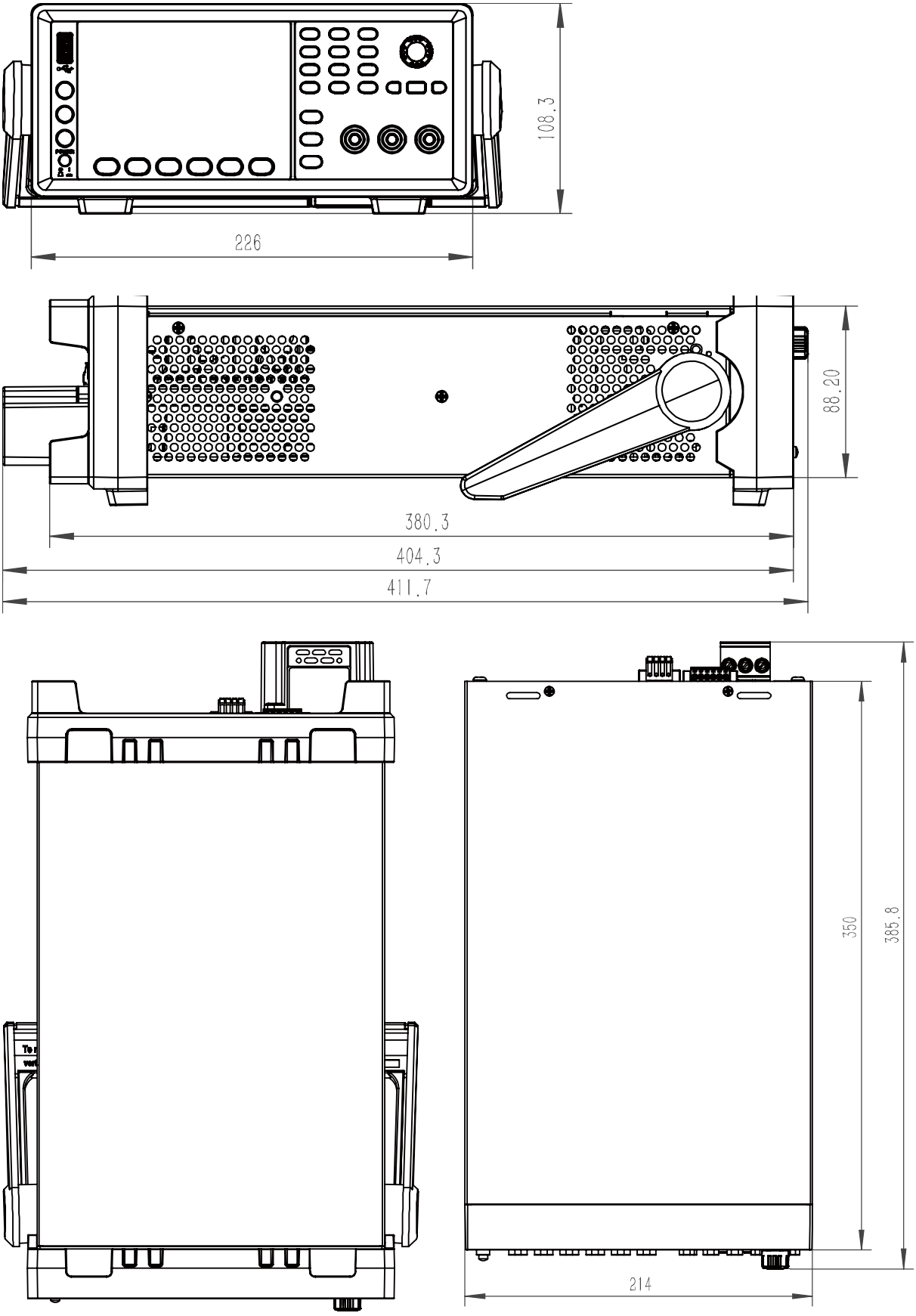
IT-N6724C/IT-N6723C model





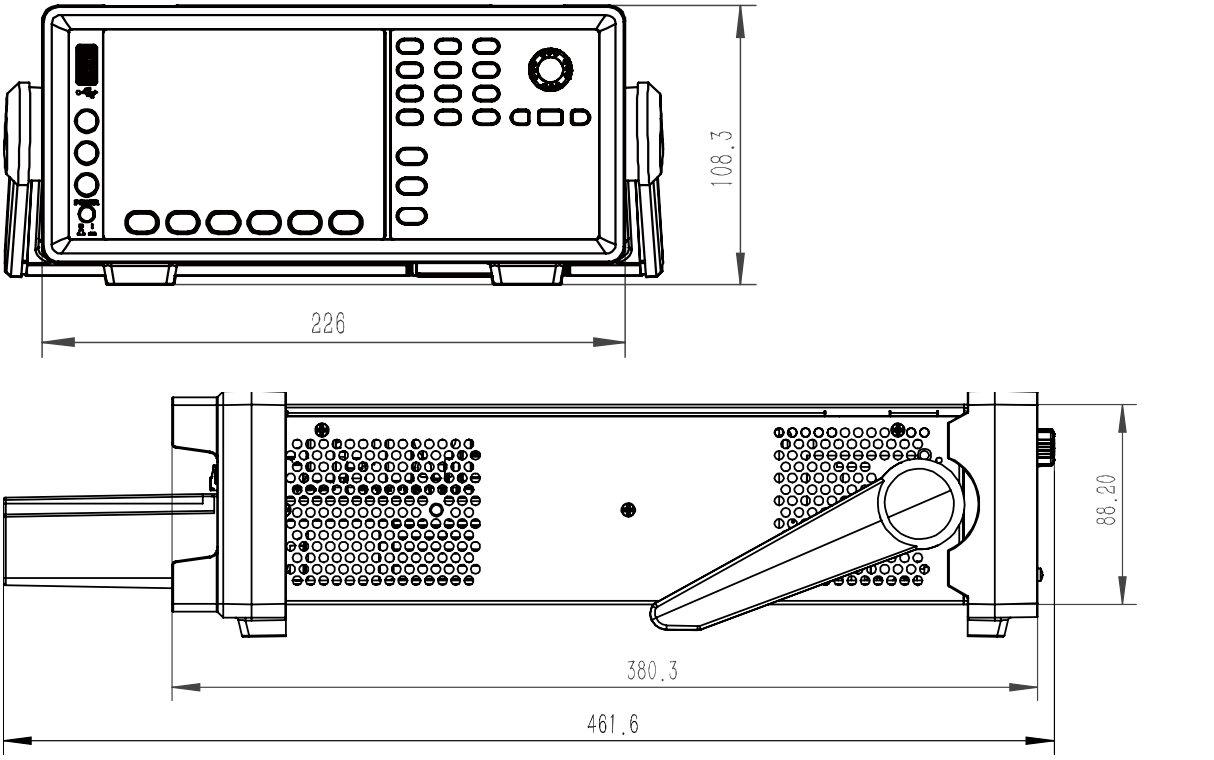
(Without sheath, handle, and protective cover.)

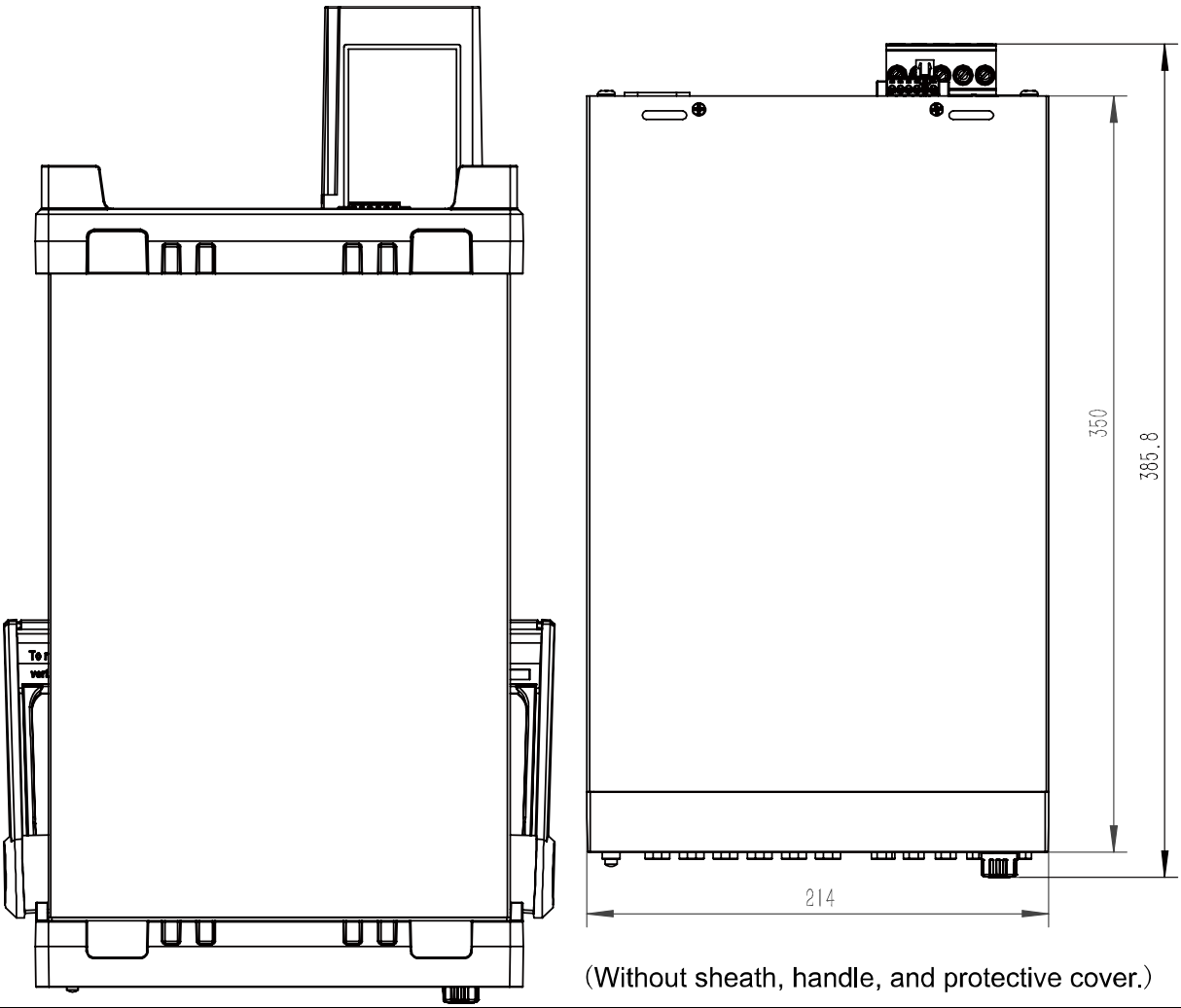
IT-N6724/IT-N6724B/IT-N6724G/IT-N6724H/IT-N6723/IT-N6723B/IT-N6723G/IT-N6723H models



(Without sheath, handle, and protective cover.)

IT-N6724P/IT-N6724V/IT-N6723P/IT-N6723V models





(Without sheath, handle, and protective cover.)

1.3 Mounting Brackets

IT-N6700 series power supplies can be installed on standard 19-inch racks. ITECH has prepared the IT-E158B (for mounting two units on a rack) and IT-E158D (for mounting a single unit on a rack) bracket as a mounting kit for users. Users can select the corresponding bracket manual for installation according to the specific bracket model purchased.

Before installing the IT-N6700 series power supply on the rack, please remove the rubber shock absorber and handle at the front of the instrument, and the rubber shock absorber at the rear of the instrument.

WARNING

Do not block the air intake holes on the front half of the sides of the instrument and the rear half of the sides and the exhaust holes on the rear panel.

Remove the Shock Absorber

Tighten one corner of the rubber shock and slide it out.

Remove the Handle

1. Grasp the edge of the handle and pull it outward. This will rotate it.
2. Turn the handle to the vertical position and lower the instrument horizontally.
3. Pull the handle outwards, then lift up.

CAUTION

To replace the handle, pay attention to its orientation. It will be damaged if placed in the wrong direction

1.4 Connecting the Power Cord

Precautions

To prevent electric shock and damage to the instrument, please observe the following precautions.

WARNING

- **The power cords supplied with this product is certified for safety. In case the supplied lines assembly needs to be replaced, or an extension lines must be added, be sure that it can meet the required power ratings of this product. Any misuse voids the warranty of this product.**
- **Before connecting power cord, be sure to confirm that the power voltage matches with the supply voltage.**

- **Before connecting power cord, be sure to switch off the instrument. Power switch is in Off position.**
- **To avoid fire or electric shock, make sure to use the power cord supplied by ITECH.**
- **Do not use an extended power cord without protective grounding, otherwise the protection function will fail.**
- **Be sure to connect the main power socket to the power outlet with protective grounding. Do not use terminal board without protective grounding.**

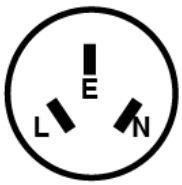
AC Power Input Level

IT-N6700 power supplies operate at the following AC power input.

- Voltage 1: 100V to 176V (derating to 850W), frequency: 50Hz/60Hz.
- Voltage 2: 176V to 240V (rated power output), frequency: 50Hz/60Hz.

Categories of Power Lines

Select from the flowing schedule of power cord specifications an appropriate power cord that matches the voltage for the area in which you use the instrument. If the power cord included in the instrument you purchased doesn't match the voltage, contact the dealer or manufacturer for change..

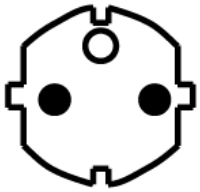


China

IT-E171

United States & Canada & Japan

IT-E172



Europe

IT-E173

England

IT-E174

1.5 Connecting the DUT

Precautions

To prevent electric shock and damage to the instrument, observe the following precautions.

WARNING

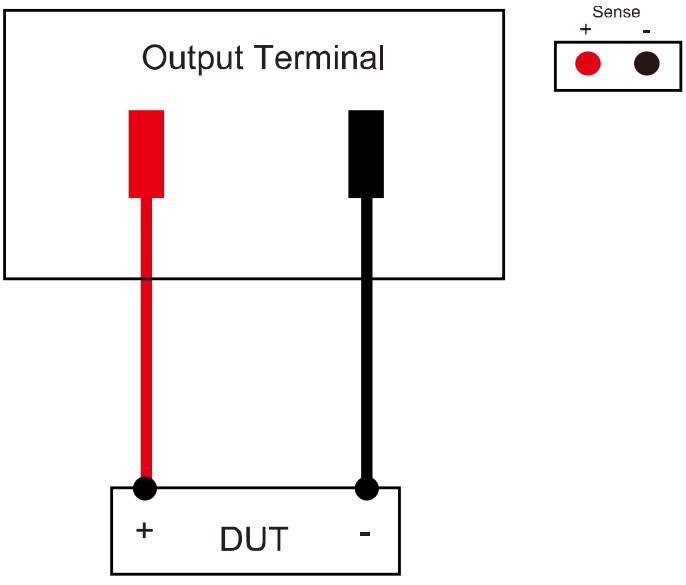
- **Before connecting DUT, be sure to switch off the instrument.**
- **If the DUT is a battery, do not short-circuit the battery. Shorted battery can cause serious injury.**
- **It is recommended to connect a fuse in series between the power supply and the battery when testing the battery to prevent short circuit caused by any case.**

- **Before connecting the test lines, please confirm the maximum current that the test lines can withstand.**
- **During wiring, check that the anode and cathode of the test lines are properly and tightly connected; anode ON and cathode OFF are prohibited.**
- **If the object to be tested is a battery, when wiring, please take measures to prevent reverse connection of the battery and prevent sparks.**
- **Ensure that the output terminals are either insulated or covered using, the safety covers provided, so that no accidental contact with lethal voltages can occur.**
- **Dangerous voltages may be present on the output terminals from external energy sources such as batteries. The external energy source must be disconnected before touching the output or sense terminals.**

The front and rear panels of this series power supply can be connected to the DUT. The maximum output current of the front panel terminals is 10A. If the current to be tested exceeds 10A, please be sure to connect the rear panel output terminals.

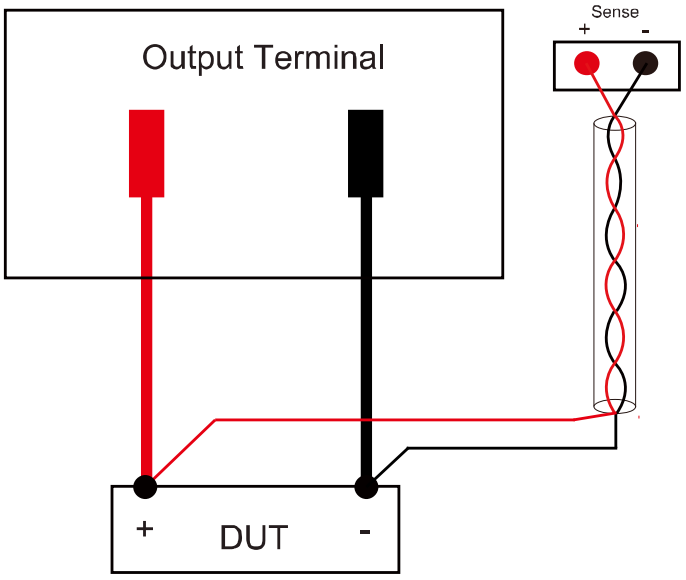
Local Measurement

The instrument is local output by default, that is, the Menu > System > Source > Remote Sense function is Off. To use local measurement, connect the DUT as shown in the figure below.



Remote Measurement Function (Sense)

Menu > System > Source > Remote Sense is set to On to indicate that the remote measurement function is enabled, and connect the DUT as shown in the figure below.



NOTE

To ensure the stability of the system, use armored twisted-pair cables between the remote sense terminals and the DUT. Pay attention to the positive and negative poles when wiring, otherwise it will damage the instrument. When the remote measurement function is turned on, don't leave the sense terminal unconnected.

Chapter2 Quick Reference

This chapter briefly introduces the front panel, rear panel, keyboard key functions and screen display functions of the IT-N6700 series power supply, so as to ensure that you can quickly understand the appearance, structure and key functions of the power supply before operating the power supply, so as to help you make better use of this series of power supplies.

2.1 Brief Introduction

The IT-N6700 Series Programmable DC Power Supply is designed to meet high power density and performance requirements, widely used in automated test equipment (ATE), R&D laboratories, semiconductor testing, and power electronics. The series offers 1000W and 1500W power options, with a voltage range from 32V to 1500V, catering to various testing needs. Its compact 1/2 2U rack design delivers powerful output in limited space. Equipped with a high-definition LCD screen, it provides not only traditional numeric measurements but also waveform trend display, allowing real-time monitoring of parameter changes during the testing process.

Features

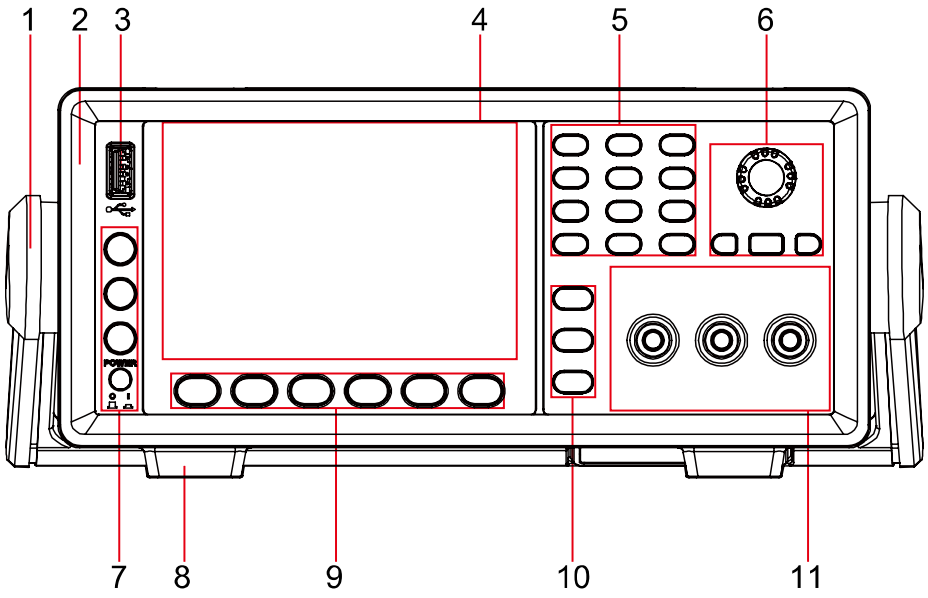
- 4.3-inch LCD screen
- Three output modes: CC/CV/CW
- LIST mode, adjustable rise/fall slope.
- CC/CV priority mode for compatibility with various DUTs.
- Remote sensing compensation.
- Rich protections: OCP/UCP/OVP/UVP/OPP/OTP/Foldback.
- Standard USB/LAN/RS232/Digital I/O communication interfaces.

Model	Voltage	Current	Power
IT-N6724	80V	40A	1500W*1
IT-N6723	80V	40A	1000W*1
IT-N6724B	150V	20A	1500W*1
IT-N6723B	150V	20A	1000W*1
IT-N6724C	32V	110A	1500W*1
IT-N6723C	32V	110A	1000W*1
IT-N6724G	600V	5A	1500W*1
IT-N6723G	600V	5A	1000W*1
IT-N6724H	300V	10A	1500W*1
IT-N6723H	300V	10A	1000W*1
IT-N6724V	1000V	3A	1500W*1
IT-N6723V	1000V	3A	1000W*1
IT-N6724P	1500V	2A	1500W*1
IT-N6723P	1500V	2A	1000W*1

*1. At 110Vac input, the power is 850W.

2.2 Front Panel Overview

All of the IT-N6700 series power supplies have the same front panels. The detailed descriptions are shown as below.



1. Handle (removable)
2. Rubber shock absorber (front)
3. U disk is inserted into the interface, which can realize screen capture and data record saving.
4. 4.3” HD LCD
5. Numeric keys (compound function) and ESC escape key.
6. Pressable pulsating knob, left and right direction keys, Enter key.
7. Shift compound key, View switch key, Menu key and power switch.
8. Foot (removable)
9. The function keys corresponding to the menu at the bottom of the screen (different menus are displayed on different screens).
10. V-Set, I-Set, On/Off output switch key.
11. Output terminals (Front panel terminals are used to facilitate wiring, but the maximum current can only be 10A. Otherwise the screen displays Focp Protect! This protection can be cleared by pressing Esc. Current outputs above 10A can be wired from the rear panel outputs.)

    The IT-N6724P/IT-N6724V/IT-N6723P/IT-N6723V models have no front-panel output terminals.

2.3 Keyboard Introduction

The keyboard introduction of IT-N6700 series power supplies is shown as follows.

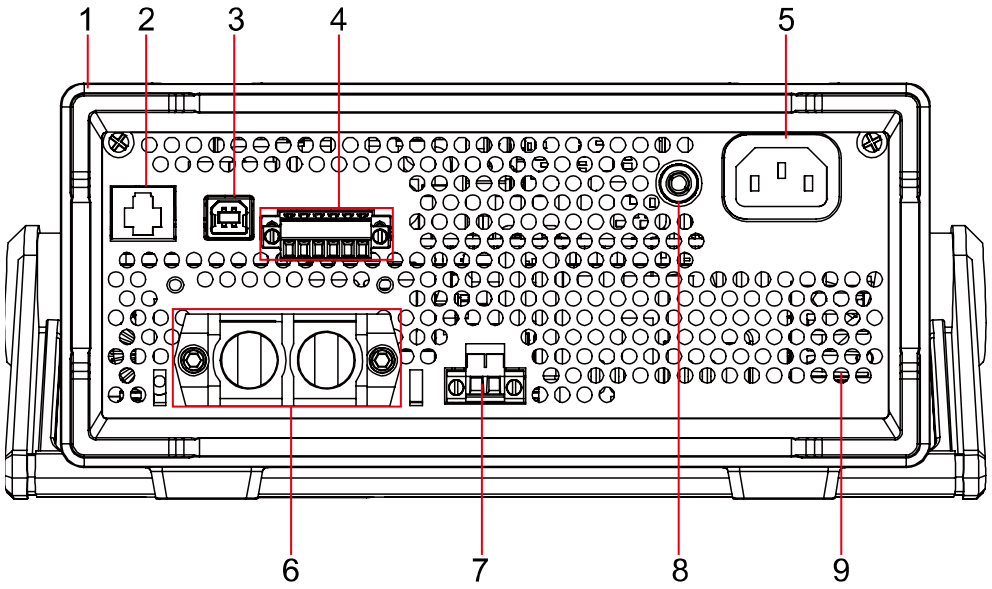
Key name	Function Description
Shift	Compound keys, used in combination with other keys to achieve compound menu settings.

View	View switch button. In any interface, press the **[View]** key to switch between the Meter interface and the Recorder interface.
Menu	Menu function keys.
Power	Power switch button.
0-9	Numeric input keys.
⊙	Decimal point.
Esc	The Cancel/Return key can also be used to clear the protection status.
Shift+1	Config menu shortcut keys.
Shift+2	Protect function shortcut keys.
Shift+3	Recall function shortcut key to recall a stored system parameter setting value.
Shift+4	Save function shortcut key to store system parameter settings.
Shift+5	System menu shortcut keys.
Shift+6	List function shortcut keys.
Shift+7	The Trig function shortcut key is used to set the trigger under the List operation.
Shift+8	The Lock function shortcut key is used to lock the panel keys.
Shift+9	The local key returns the power supply from remote mode to local mode.
Shift+⊙	Screen print key, insert the U disk in FAT 32 format before use.
V-Set	Voltage setting key, set the output voltage value of the power supply.
I-Set	Current setting key, set the output current value of the power supply.
On/Off	The output on/off key is used to control the output state of the power supply.

2.4 Rear Panel Introduction

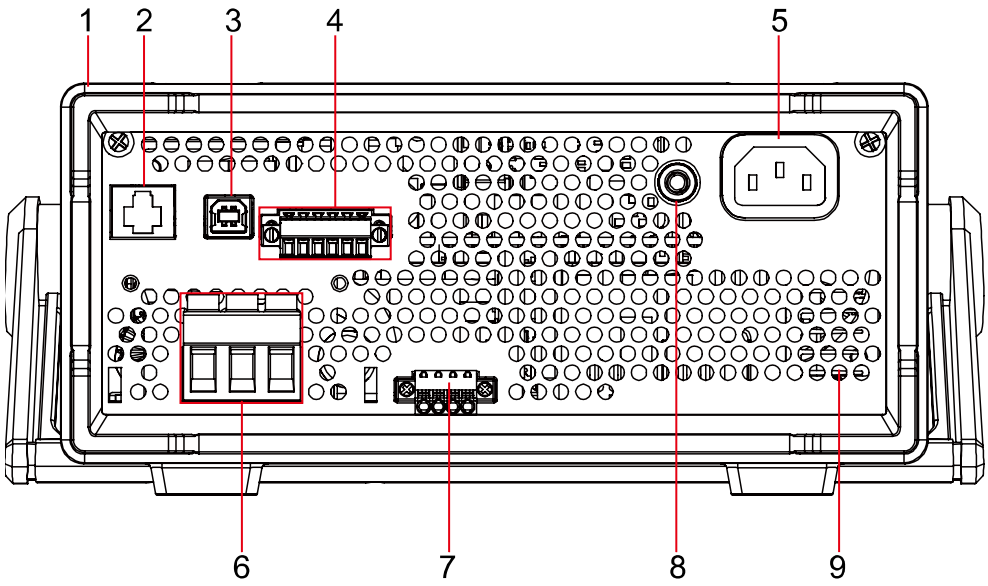
The detailed descriptions of the IT-N6700 series power supplies are shown as below.

- The rear panel of the 32V models.



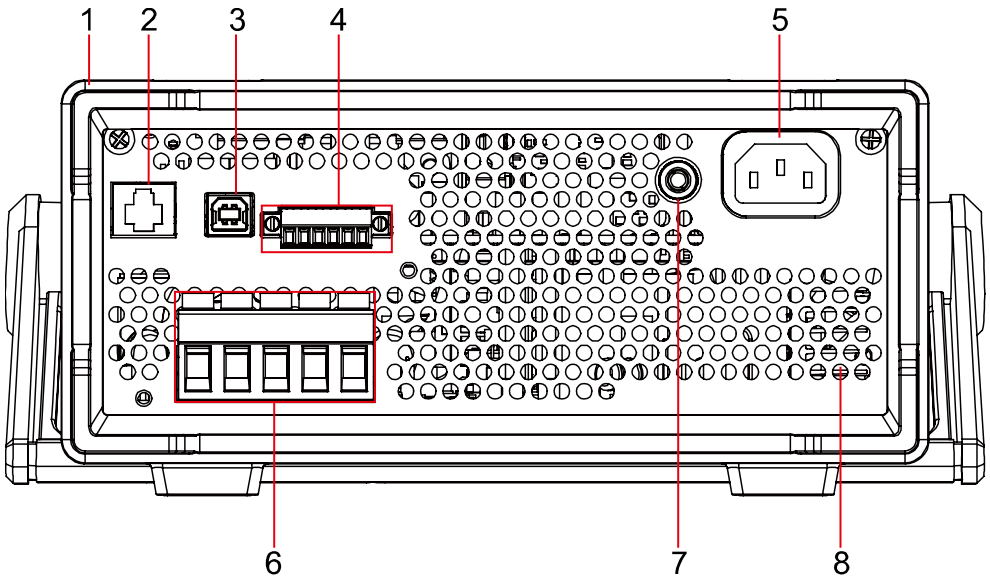
1. Rubber shock absorber (rear).
2. LAN communication interface.
3. USB communication interface.
4. Digital I/O and RS232 communication terminals.
5. AC power input socket.
6. DC output terminal.
7. Remote measurement terminal (Sense).
8. Grounding terminal for connecting the ground of other devices.
9. Heat dissipation window (air outlet).

- The rear panel of the 80V, 150V, 300V and 600V models.



1. Rubber shock absorber (rear).
2. LAN communication interface.
3. USB communication interface.
4. Digital I/O and RS232 communication terminals.
5. AC power input socket.
6. DC output terminal.
7. Remote measurement terminal (Sense).
8. Grounding terminal for connecting the ground of other devices.
9. Heat dissipation window (air outlet).

- The rear panel of the 1000V and 1500V models.



1. Rubber shock absorber (rear).
2. LAN communication interface.
3. USB communication interface.
4. Digital I/O and RS232 communication terminals.
5. AC power input socket.
6. DC output terminal and remote measurement terminal (Sense).
7. Grounding terminal for connecting the ground of other devices.
8. Heat dissipation window (air outlet).

2.5 Interface Symbols and Menu Interface

Introduction to Interface Symbols

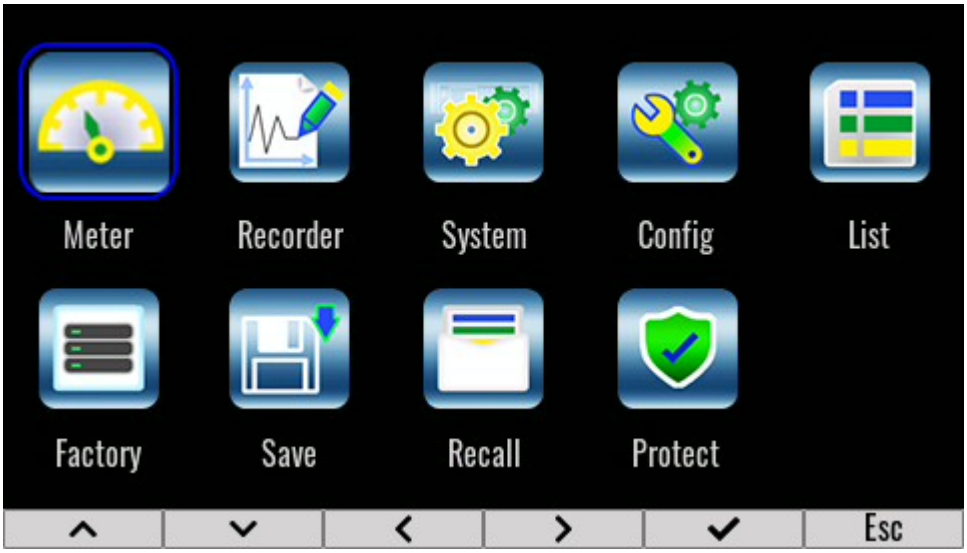
The interface of IT-N6700 power supply will display the following symbols. All the symbols and description are listed in the table below.

Indicator	Description	Indicator	Description
USB	U disk inserted.	LIST	LIST is running.
SENSE	Sense remote measurement function is enabled.	LIST	LIST runs waiting for trigger status.
CC	Set CC priority, actual CC output.	CV	Set CV priority, actual CV output.
OC	OCP overcurrent protection.	OV	OVP overvoltage protection.
OTP	OTP over temperature protection.	LOCK	Keyboard lock function is on.
ERROR	Executing error.	OFF	Output off state.

W POWER	OPP Overpower Protection	S SENSE	Sense protection.
A UC	UCP Undercurrent Protection	V UV	UVP Undervoltage Protection.
CW	The power supply is in a state of constant power output.	F FOLD	Foldback protection.
A FOC	Front panel overcurrent protection.	CC	Set CV priority, actual CC output.
CV	Set CC priority, actual CV output.	REM	The device is under remote control.
INHIBIT	INHIBIT LIVING alarm	INHIBIT	INHIBIT LATCH alarm

Menu Introduction

Press the **[Menu]** key on the front panel and enter to the menu interface. Menu interface will display all of function icon, user can rotate the knob or direction key to select to enter the function interface.



2.6 Introduction of Side Air Holes

1. Air inlet
2. Air outlet

2.7 Power-on Selftest

A successful selftest indicates that the purchased power product meets delivery standards and is available for normal usage.

Before operation, please confirm that you have fully understood the safety instructions.

WARNING

- **To avoid burning out, be sure to confirm that power voltage matches with supply voltage.**
- **Be sure to connect the main power socket to the power outlet of protective grounding. Do not use terminal board without protective grounding. Before operation, be sure that the power supply is well grounded.**
- **To avoid burning out, pay attention to marks of positive and negative polarities before wiring.**

Selftest Steps

The normal self-test process of the power supply is as follows:

1. Connect the power cord correctly, press the power button to turn on the power.

   Power supply self-test.

2. After the power supply self-test is completed, the screen displays the following information about the output voltage and current status.

Error Information References

The following error information may occur when an error occurs during Power On self-test.

Error information
User calibration data error
Factory calibration data error
System parameter loading failed

Network parameter loading failed
Source parameter loading failed
Configuration parameter loading failed
Source protection parameter loading failed
System parameter setting failure
Source parameter setting failure
Source protection parameter setting failure
Control board communication error

When the above prompt appears, please contact an ITECH engineer for remote assistance to update the instrument's firmware.

Exception Handling

If the power supply cannot start normally, please check and take measures by reference to steps below.

1. Check whether the power cord is correctly connected and confirm whether the power supply is powered.
   Correct wiring of power cord => 2
   Incorrect wiring of power cord => Re-connect the power cord and check whether the exception is removed.
2. Check whether the power in On. Power key is under "▮" On status.
   Yes => 3
   No => Please check the Power key to start power and check whether the exception is removed.
3. If the power supply still cannot be turned on normally, please contact ITECH after-sales technical support.

Chapter3 Function and Features

This chapter will describe the functions and characteristics of the power supply in detail.

3.1 Switching of Local/Remote Operation Modes

The power supply provides two modes of operation, local operation and remote operation. Switching between the two operating modes is possible through communication commands. Power initialization mode defaults to local operation mode.

- Local operation mode: use the buttons on the power supply body to perform related operations.
- Remote operation mode: The power supply is connected to the PC, and the related operations of the power supply are performed on the PC. When the power supply is in remote operation mode, except for the **[Shift]** + **[9], [On/Off]** keys, other keys on the panel have no effect. It is possible to switch to local operating mode with the **[Shift]** + **[9]** keys. When the operating mode is changed, the output parameters of the power supply will not be affected.

3.2 Output On/Off Operation

You can control the output switch of the power supply by pressing the **[On/Off]** key on the front panel. The **[On/Off]** key light is on, indicating that the output is turned on, and the **[On/Off]** key light is off, indicating that the output is turned off. When the power is on, the working status sign (CV/CC/CW) on the screen will be lit.

Note

After the power supply is connected to the DUT, press the **[On/Off]** key to turn on the output. If the power supply has no output after the output is turned on, please check the voltage and current setting values, please set both the voltage and current to non-zero values, and then turn on the output.

3.3 Power State CC/CV/CW Switching

The output voltage of the power supply and the resistance of the load determine the output current.

Constant voltage mode (CV)

In constant voltage (CV) mode, the instrument's output voltage remains at the set value (V-Set) unless the output current or output power reaches the current limit (I-Set) or power limit (P-Set). Once these limits are reached, the instrument automatically switches to constant current (CC) or constant power (CW) mode, and the output voltage will no longer remain constant but will decrease to a certain value according to Ohm's law.

When the instrument operates in constant voltage mode, the display will show the CV status indicator.

Constant current mode (CC)

In constant current (CC) mode, when the output current reaches the current limit setting (I-Set), the instrument's output current will remain constant, and the instrument will switch from constant voltage (CV) mode to constant current (CC) mode. However, if power consumption reaches the maximum set power value (P-Set), the instrument will automatically switch to constant power (CW) mode, where the product of output voltage and output current (Vout * Iout) equals the power limit (P-Set).

When the instrument operates in constant current mode, the display will show the CC status indicator.

Constant power mode (CW)

In CW mode, the output power is limited to the instrument's power limit (P-Set), where the product of output voltage and output current (Vout * Iout) equals the power limit (P-Set).

When the instrument operates in constant power mode, the display will show the CW status indicator.

3.4 Meter Interface

After the power is turned on, the following interface is displayed:

Voltage Setup

The voltage setting range is from 0V to the maximum output voltage value. When the **[V-Set]** key is pressed, the key light will be lit, and the voltage setting operation can be performed at this time. The following methods can be used to set the output voltage value through the front panel.

- After the power is turned on, press the **[V-Set]** key, use the left/right direction keys to adjust the cursor to the specified position, and rotate the knob to adjust the voltage setting value.
- After the power is turned on, press the **[V-Set]** key and the **[0]** to **[9]** number keys and then press the **[Enter]** key to set the voltage value.

Current Setup

The range of current setting is between 0A and full rated output current. When the **[I-Set]** key is pressed, the key light will be lit, and the current setting operation can be performed at this time. The following methods can be used to set the output current value through the front panel.

- After the power is turned on, press the **[I-Set]** key, use the left/right direction keys to adjust the cursor to the specified position, and rotate the knob to adjust the current setting value.
- After the power is turned on, press the **[I-Set]** key and the **[0]** to **[9]** number keys and then press the **[Enter]** key to set the current value.

P-Set / OVP / OCP / Timer / Slew ↑ / Slew ↓

Press the button corresponding to each function at the bottom of the screen to quickly set the power value, OVP protection, OCP protection, Timer function, voltage/current rising slope, voltage/current falling slope.

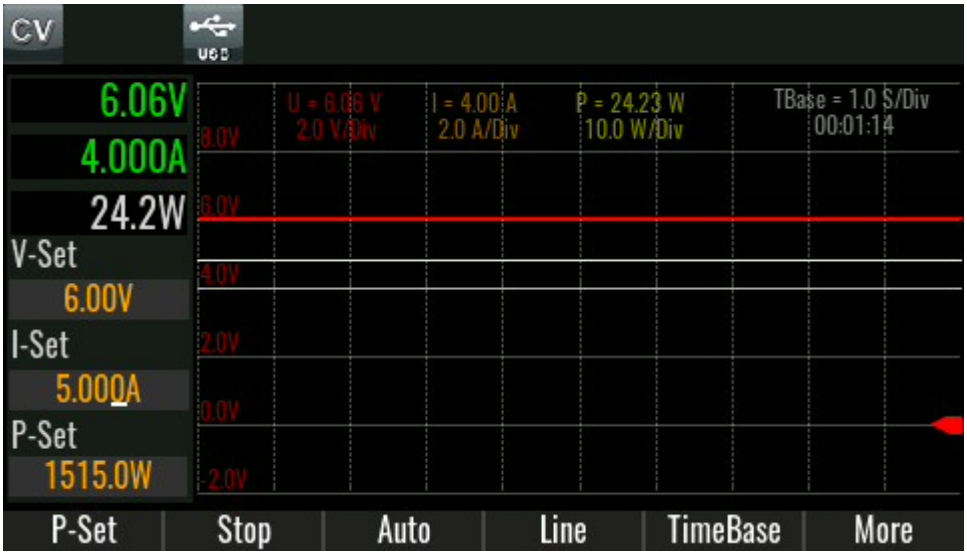
The settings here are the shortcut settings in the **Config** menu and the **Protect** menu under the **Menu**. If you need more parameter settings, please enter the **Config** menu and the **Protect** menu to set.

Among them, OVP, OCP and Timer are OFF by default. At this time, the corresponding function at the bottom of the screen is displayed in gray. You need to enter the **Config** menu and **Protect** menu to set the corresponding function to ON, and then set the corresponding parameter value in the **Meter** interface.

3.5 Recorder Interface

The Recorder function realizes trend graph analysis, monitors the voltage, current, and power curves of the object to be tested for a long time, and can save the data during the test to the U disk in real time. The supported file formats are csv and tdms.

Go to **Menu** > **Recorder** and the interface will display as follows.



- **Start / Stop**: When the File Path is set to Internal, the "Start / Stop" button

will be displayed to pause or resume curve plotting. The waveform will be redrawn.

- **Hold On / Hold Off**: When the File Path is set to USB, the "Hold On / Hold Off" button will be displayed to hold or resume curve plotting. The waveform will not be redrawn.

  During the real-time export of waveform data to an external USB drive, if the USB drive is removed after clicking "Hold On," the waveform will be cleared and redrawn, and the "Hold On" button will switch to "Stop."

- **Auto**: The waveform scale is adaptive, according to the actual output voltage/current/power value, the waveform display is automatically adjusted to an appropriate scale.
- **Line**: The resolution of the voltage, current, and power waveform display, that is, the voltage, current, and power values represented by each grid of the Y-axis. The setting method is: first press the button at the bottom of the screen to switch the U / I / P option, then turn the knob or press the left / right direction keys to adjust the value.
- **TimeBase**: Time base resolution adjustment, that is, the time represented by each division of the X axis.
- **More**: Recorder function configuration menu, the specific parameters are as follows.
  - **Base**: Set whether the voltage waveform (Line1/Volt), current waveform (Line2/Curr), and power waveform (Line3/Pow) are displayed in the Recorder interface. If set to On, the corresponding waveform will be displayed. If set to Off, it will not be displayed.
  - **Advance**: Save the real-time collected data to the U disk, and the file formats can be csv and tdms.

Parameter	Description
Sampling Interval	Set the sampling interval, the setting range:0.01s~5s.
File Format	The formats of the files exported to the USB drive: tdms or csv formats.
File Path	Set the storage path for real-time acquired data. You can choose either Internal memory or an external USB flash drive (USB). ● **Internal**: When Internal memory is selected, click **Export** to save the internally cached waveform data—up to 100 seconds prior to the current moment—to an external USB flash drive. ● **USB**: Export real-time waveform data directly to the USB flash drive.

  - **Export**: When the file path is set to Internal, the "Export" button appears, allowing data stored internally to be exported to an external USB drive.
  - **Start** / **Stop**: When the file path is set to USB, the "Start / Stop" button appears, allowing direct control of starting and stopping data recording.
  - **Return**: Return to the Recorder main interface.

3.6 System Interface

The System menu contains the settings for the following functional parameters of the power supply, which are described as follows.

The parameter setting method is as follows.

1. Press the corresponding button at the bottom of the screen to switch to the corresponding page, such as **General**.
2. In the **General** interface, turn the knob or press the left/right direction keys to adjust the cursor on the specified parameter.
3. Press **[Enter]** to enter the parameter modification state.
4. Adjust the parameter value by turning the knob or pressing the left/right direction keys.
5. Press **[Enter]** to confirm the modification.

General	Key Sound	Off	Set no sound when pressing the keyboard.
		On	Make a sound when you press the keyboard.
	Knob Immediately	Off	Setting the pulsation knob adjustment does not take effect immediately, and needs to manually press the **[Enter]** key to take effect. **Note**: Edit boxes in the Meter, Recorder, and List main screens, pulsation knob operations are always immediate and are not limited by this parameter
		On	Set the pulsation knob adjustment to take effect immediately.
	LCD Brightness		To adjust screen brightness:10%~100%.
	Trigger Source	Manual	The trigger method is **[Shift]** + **[7]** key trigger.
		Bus	The trigger mode is ***TRG** command trigger.
		External	Trigger mode is external signal trigger.
	Language	English	English
		简体中文	Chinese
Source	Power-On Setup	Reset	Set the parameters to the system defaults when the power is turned on.

		Last	Set the parameters when the power is turned on to the parameters at the last shutdown, and the output state is the same as the state before shutdown.
		Last+Off	Set the parameters when the power is turned on to the parameters when the power was turned off last time, and the output state is OFF.
	Remote Sense	Off	Sense switch off.
		On	Sense switch on.
	Leak Circuit	On	Turn on the internal load. When the output voltage is within 30V, the absorption current is about 200mA, and if the output voltage is above 30V, the power absorption is about 10W.
		Off	Turn off the internal load.
	On Delay		Output turn on delay time. Setting range: 0~10, step 0.001. Unit: seconds.
	Off Delay		Output off delay time. Setting range: 0~10, step 0.001. Unit: seconds.
	System Reset	No	Keep the original menu settings unchanged.
		Yes	Restore factory defaults.
Comm	Lan Config	Mode	● Auto: Automatically set IP address and other information. ● Manual: Manually set the IP address and other information.
		IP	IP address settings.
		Mask	Subnet mask setting.
		Gateway	Gateway address setting.
	RS232 Config	Baudrate	Baud rate: 4800/9600/19200/38400/57600/115200.
		Parity	Parity bit: None (No parity) / Even (Even parity) / Odd (Odd parity).
About	Product Model		Instrument model.
	SN		Instrument serial number.
	Soft Version		Instrument software version.
	MAC		Instrument MAC address.
	Hardware Version		Instrument hardware version.
Digit	Set Digital I/O. For detailed introduction of menus and functions, see 3.15 Digital I/O Function.		

System Reset Settings

The table below shows the reset settings of the system parameters.

System parameter	Reset Value
Key Sound	On
Knob Immediately	On
Trigger Source	Manual
Language	Simplified Chinese
Power-On Setup	Reset
Remote Sense	Off
Leak Circuit	Off
On Delay	0s

Off Delay	0s
System Reset	No

3.7 Config Interface

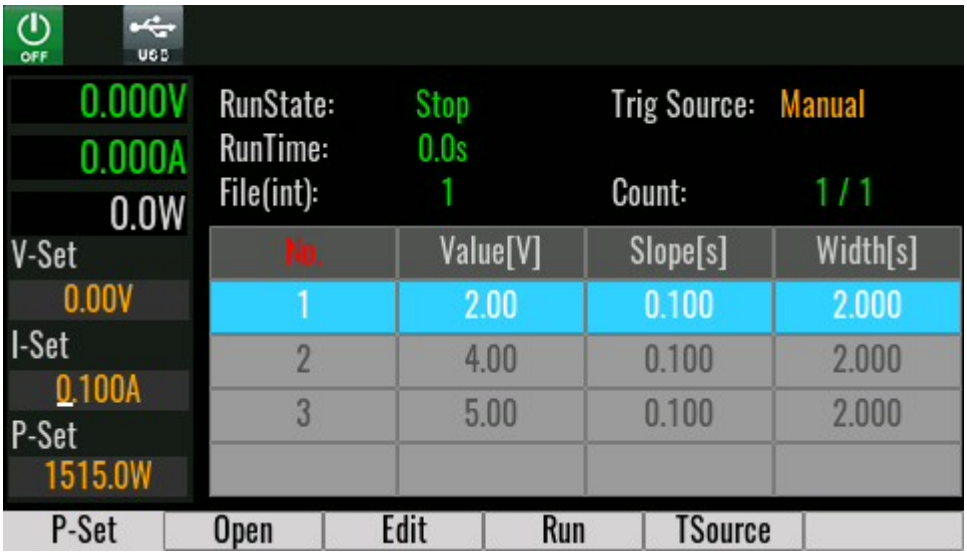
The Config interface contains the parameter settings of the following power functions, which are described as follows.

Measure Speed	Choice of measurement speed. ● Fast: high speed ● Medium: Medium speed ● Slow: slow
Resistance	Set the internal resistance.
Priority	Voltage: CV priority. Current: CC priority.
Slew Type	Set the units for the slope. ● Time: Slope in seconds ● Slew Rate: Select **Voltage** or **Current** according to **Priority**, and the slope unit is **V/ms** or **A/ms**.
Slew ↑	Set the rising slope of the voltage/current according to the selected CV/CC priority mode. ● When **Slew Type** is **Time**, the setting range is 0.001~3600s ● When the **Slew Type** is **Slew Rate**, for models with a nominal voltage less than 1000V, the voltage slew rate is expressed in V/s and the current slew rate is expressed in A/s. For models with a nominal voltage greater than or equal to 1000V, the voltage slew rate is expressed in V/ms and the current slew rate is expressed in A/ms.
Slew ↓	Sets the voltage/current falling slope according to the selected CV/CC priority mode. ● When **Slew Type** is **Time**, the setting range is 0.001~3600s. ● When the **Slew Type** is **Slew Rate**, for models with a nominal voltage less than 1000V, the voltage slew rate is expressed in V/s and the current slew rate is expressed in A/s. For models with a nominal voltage greater than or equal to 1000V, the voltage slew rate is expressed in V/ms and the current slew rate is expressed in A/ms.
Timer	Output timer settings. ● Off: Turn off the output timer.

	● On: Turn on the output timer, and also need to set the number of seconds of the timer, the setting range is 1~9999s, and the step is 1s.

3.8 List Interface

The List interface provides functions such as custom waveform editing, running, import/export, etc. The details are as follows.

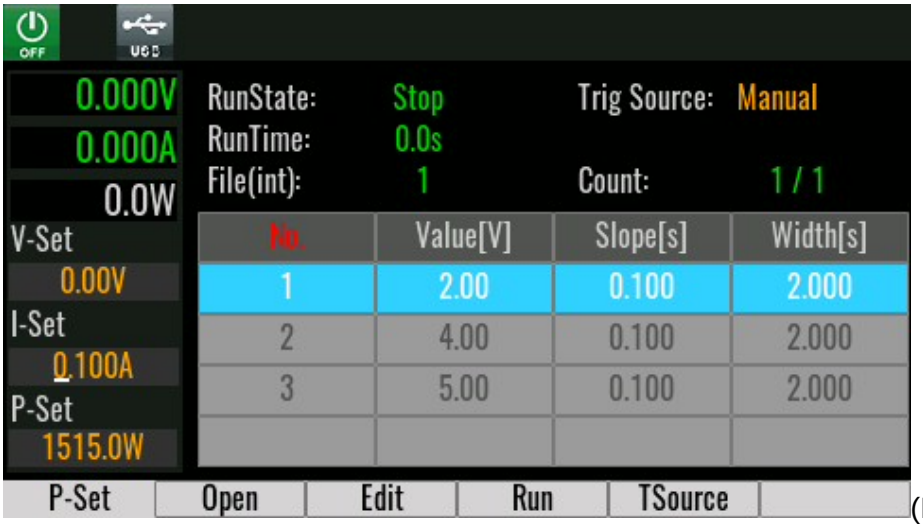


Interface Introduction

- P-Set: Set the power value.
- Open: Select/open List file.
  - Internal: Select the List file saved in the internal memory of the instrument. The save address is 1~10, that is, up to 10 files can be saved.
  - USB: Select the List file stored in the root directory of the external U disk (the U disk is plugged in on the front panel).

    Note: The List file stored in the root directory of the USB flash drive must be in .csv format, and the file must meet the template requirements. Users can save a List file template to the root directory of the U disk through Edit > Save As > USB, so that the .csv file can be edited on the computer later, and the edited .csv file can be re-imported into the instrument for running.
- Edit: Edit List file.
- Run/Stop: Run/stop List.
- TSource: Set the trigger source.

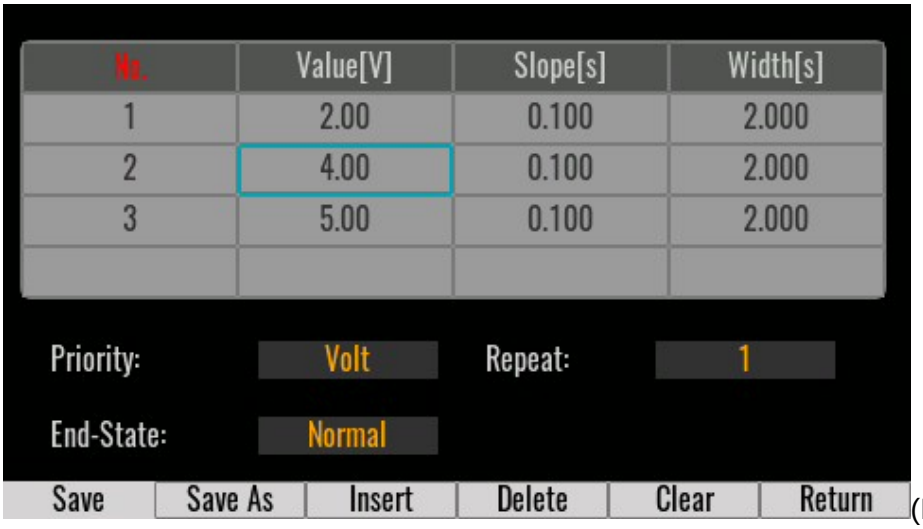
Edit List



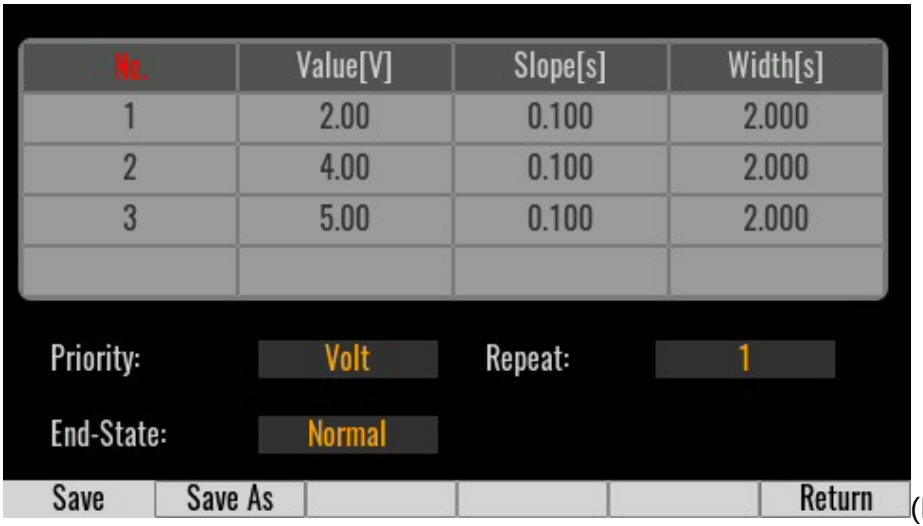
(Fig. 1)

The method of editing the List file is described as follows:

1. Press Edit to enter the List editing interface (Fig. 2), after pressing the [Esc] key, the cursor (blue box) will exit to the position shown in Fig. 3, i.e. the waveform editing area. Double-click [Esc] button to exit to the List interface shown in Fig. 1.



(Fig. 2)



(Fig. 3)

2. Rotate the knob or press the left/right arrow keys, select **Priority**, set CC or CV priority.
3. Set several other parameters in the same way.
   - End-State: The state after the List has finished running.
     - Normal: Return to the voltage and current settings before the List operation, and the output is still on.
     - Last: Stays at the voltage/current setting of the last Step of the List, and the output is still on.
     - Off: Turn off the output after the run is complete.
   - Repeat: Number of cycles of List, setting range: 1~9999.
4. Press the button below **[Insert]** to insert a line of data. At this point, the cursor will be positioned within the table cell area.

   Note: Supports up to 100 rows of data, that is, 100 Steps.

   Several other screen buttons are introduced as follows:
   - Delete: Delete the currently selected row of data.
   - Clear: Clear the data in the currently edited List waveform editing area.
   - Return: Return to the main interface of List.

   Note: The Insert, Delete, and Clear buttons can be clicked only when the cursor is positioned within the table area.
5. Rotate the knob or press the left/right direction keys to select a parameter of a Step, and press **[Enter]** to enter the editing state.
6. Press the numeric keys or turn the knob to set the Step, and press **[Enter]** to confirm the modification.
7. After editing the entire List, press **[Save As]** to select the address to save to the instrument or save to an external U disk.

Run List

1. On the main interface of List, press the **[Open]** key to enter the List file storage area.

2. Turn the knob, select the previously edited List file, and press **[Enter]** to load.
3. Press the **[Run/Stop]** key to run the selected List file.

   At this time, the mark of List waiting to be triggered appears at the top of the screen.
4. Turn on **[On/Off]**.

   At this time, the instrument outputs according to the settings of V-Set and I-Set in the main interface of List.

   Note: If the object to be tested has been connected at this time, pay attention to whether the set voltage and current values match the actual test requirements.
5. Trigger List to run according to the set Tsource.

3.9 Factory Interface

Factory is the factory menu, in order to facilitate troubleshooting and problem analysis, in case of troubleshooting, please operate under the guidance of ITECH technical support.

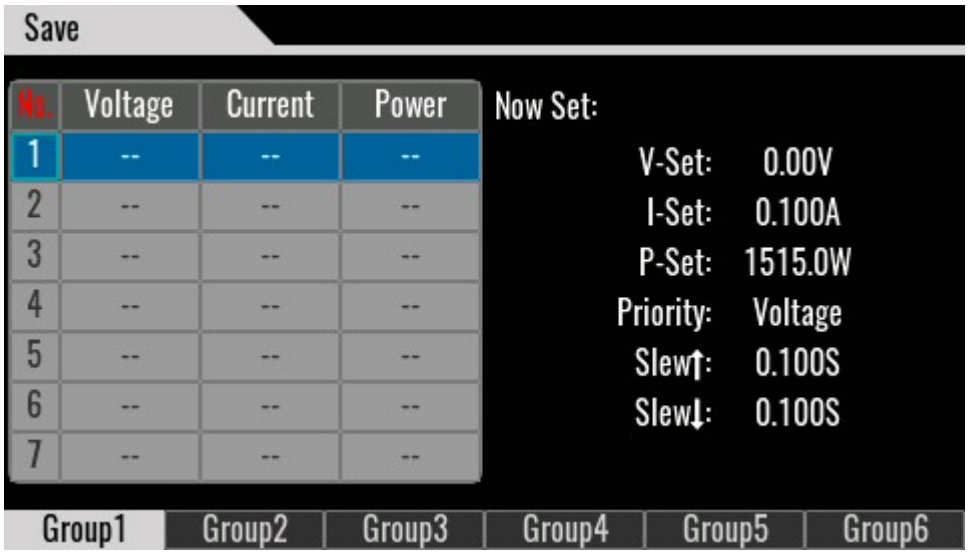
3.10 Save/Recall Operation

The power supply can save some commonly used parameters in 6×10 groups of non-volatile memory, which can be easily and quickly taken out by users. You can use the compound keys **[Shift]** + **[4]** (Save) and **[Shift]** + **[3]** (Recall) on the front panel, or the Save and Recall functions in the Menu menu, or the SCPI commands *SAV, *RCL to achieve save/recall operations

Storage contents include: V-Set voltage setting value, I-Set current setting value, CC/CV priority, voltage/current rising slope, voltage/current falling slope.

Save Operation

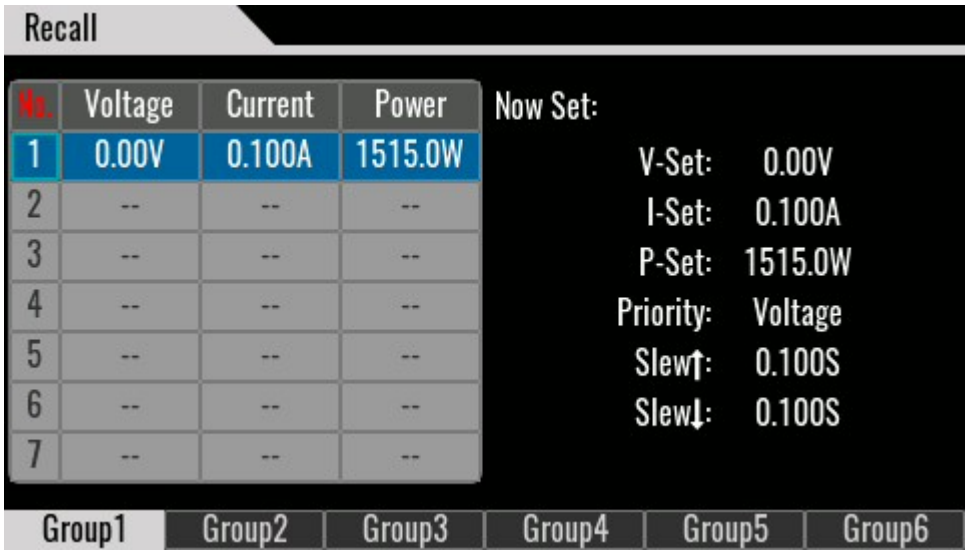
1. Enter the Save interface through the compound keys **[Shift]** + **[4]** (Save) or through the Menu.



2. Press the button corresponding to Group at the bottom of the screen and select the saved group name.
3. Press 0~9 number keys or rotate the knob to select the corresponding save address.
4. Press **[Enter]** to store the preset parameters of power supply in the specified storage area.

Recall Operation

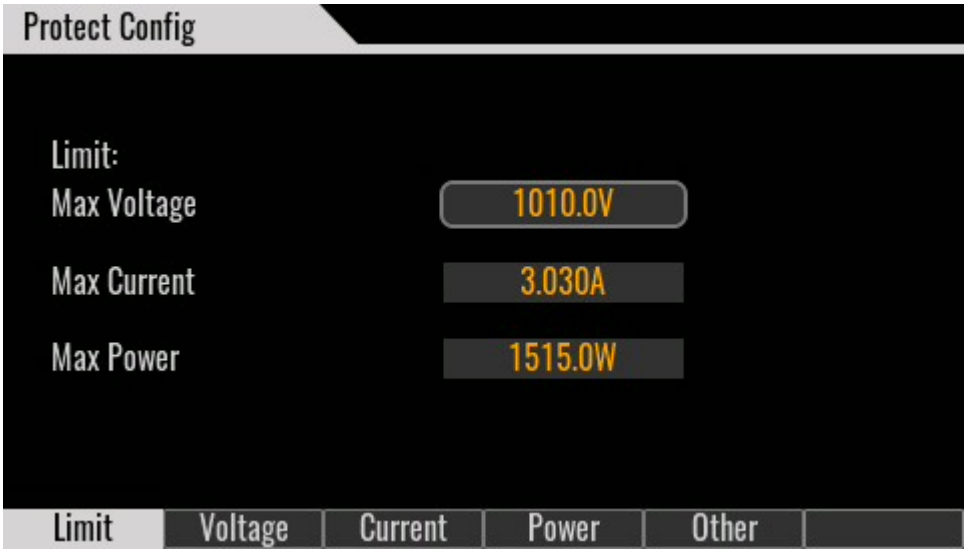
1. Enter the Recall interface through the compound key **[Shift]** + **[3]** (Recall) or through the Menu.



2. Press the button corresponding to the Group at the bottom of the screen, and select the group name where the recalled parameter is located.
3. Press the number keys 0~9 or rotate the knob to select the corresponding recalled address.
4. Press **[Enter]** to recall the parameters of the specified area.

3.11 Protect Interface

The IT-N6700 series power supply supports comprehensive protection functions. The interface is described as follows.



Limit	Set the limit values of voltage, current and power to avoid incorrect settings of output voltage, output current and output power in any interface. Max Voltage: Voltage limit Max Current: Current limit Max Power: power limit		
Voltage	Sets the overvoltage or under voltage protection of the voltage.		
	OVP Set	Over voltage protection function	
		Off	Disable OVP function (Def)
		On	Enable the OVP function
		Value	OVP value
		Delay	Delay time of protection. Setting range: 0.000~10S, step 0.001S, default 10S.
	UVP Set	Under voltage protection function	
		Off	Disable UVP function (Def)
		On	Enable UVP function
		Warm	The instrument warm-up time, which is set to prevent the voltage from reaching the protection value during the rising process and triggering the protection state. Because this transient condition should not be regarded as an under voltage fault, and there is no need to trigger the protection mechanism. Setting range: 0.00~30S, step 0.01S, default 30S.
		Value	UVP value

		Delay	Delay time of protection. Setting range: 0.000~10S, step 0.001S, default 10S.	
Current	Set the current overcurrent or undercurrent protection.			
	OCP Set	Overcurrent protection function		
		Off	Disable OCP function (Def)	
		On	Enable OCP function	
		Value	OCP value	
		Delay	Delay time of protection. Setting range: 0.000~10S, step 0.001S, default 10S.	
	UCP Set	Undercurrent protection function		
		Off	Disable the UCP function (Def)	
		On	Enable the UCP function	
		Warm	The instrument warm-up time, which is set to prevent the current from reaching the protection value during the rising process and triggering the protection state. Because this transient condition should not be considered an undercurrent fault, and there is no need to trigger the protection mechanism. Setting range: 0.00~30S, step 0.01S, default 30S.	
		Value	UCP value	
		Delay	Delay time of protection. Setting range: 0.000~10S, step 0.001S, default 10S.	
Power	OPP Set	Over power protection function		
		Off	Disable the OPP function (Def)	
		On	Enable the OPP function	
			Value	OPP value
			Delay	Delay time of protection. Setting range: 0.000~10S, step 0.001S, default 10S.
Other	Fold Back	Fold back protection function. Default is Off. ● If CC is selected, it means that when the operating mode of the instrument is switched from CV mode to CC mode, the instrument triggers the protection and the output is Off. After selecting CC, you also need to set the protection delay time. Setting range: 0.000~10,		

		step 0.001S, default 0S. ● If CV is selected, it means that when the operation mode of the instrument is switched from CC mode to CV mode, the instrument triggers the protection and the output is Off. After selecting CV, it is also necessary to set the protection delay time. Setting range: 0.000~10S, step 0.001S, default 0S. ● Select Off to disable the fold back protection function.

3.12 Trigger Function

Set Trigger Source

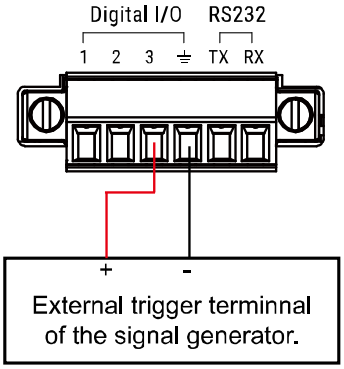
Menu > System > General > Trigger Source, this option is used to set whether the trigger signal is keyboard trigger, command trigger or external signal trigger during List operation.

- If the option is Manual (default), the trigger signal is provided by the panel compound keys **[Shift]** + **[7]** (Trigger);
- If the option is Bus, it is command trigger mode (*TRG trigger command);
- If the option is set to **External**, it enables the external signal trigger mode, meaning that when the IO terminal on the rear panel receives a pulse **signal**, it will trigger the List to run. Multiple triggers are ignored.

Set the IO pin for external trigger

The following describes the method for configuring IO pin 3 as an external trigger.

1. Go to the **Menu→System→Digit→D3** menu.
2. Set pin 3's function of instrument to **TriggerIn** and **Polarity-positive**.
3. Refer to the figure below to connect pin 3 to the external signal generator.



4. Send pulse signals as per the requirements from the external signal generator to pin 3.
5. Observe the LCD screen on the instrument's front panel to confirm whether the List file is running or not.

3.13 Inner Load Switch Settings

When **Menu > System > Source > Leak Circuit** set to **On** (default), it means that the inner load is turned on, and the Meter voltage will quickly drop to 0 after the output is Off. When the output voltage is within 30V, the absorption current is about 200mA, and if the output voltage is above 30V, the power absorption is about 15W.

When set to Off, it means to turn off the internal load, the Meter voltage will slowly drop to 0 after the output is Off.

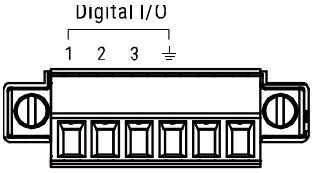
If the DUT is a battery and Leak Circuit is set to On, the power supply will discharge the battery with a current of about 200mA when the power supply is still connected to the battery after the output is Off. Please disconnect the DUT and the power supply in time to avoid continuously discharging the battery.

3.14 Keyboard Lock Function

The instrument panel keys can be locked by pressing the **[Shift]** + **[8]** (Lock) key combination on the panel. When the keys are locked, the LOCK icon is displayed at the top of the screen. Except for the **[Shift]** and **[8]** keys, all other keys are disabled. Press this key combination again to cancel the lock.

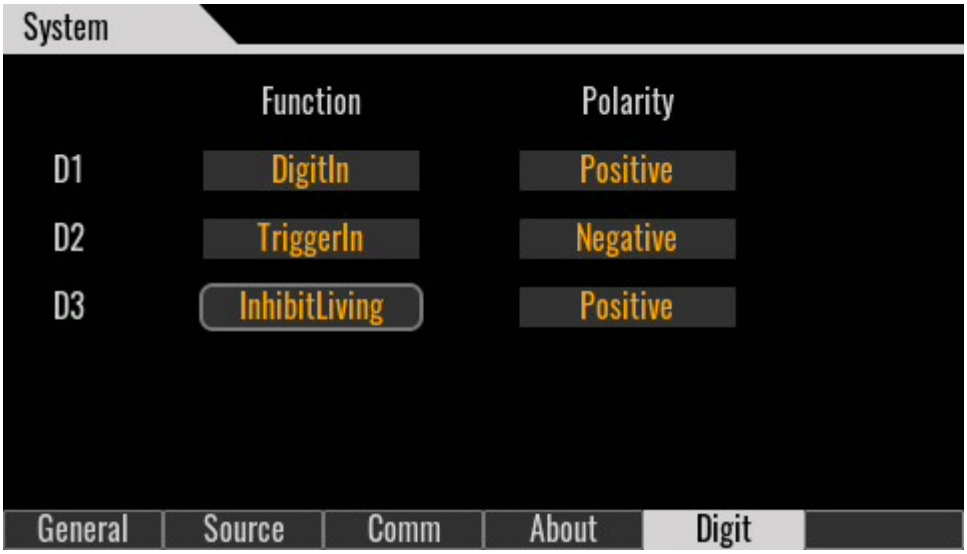
3.15 Digital I/O Function

This series power supply supports digital I/O function. The user can realize logic control over high and low level input or output by related configurations in the system menu. The appearance of the terminals is shown below.



Digital function selection

Press the **[Menu]** key to select System to enter the System menu function page, and then select the Digit tab to set the related parameters.



Digit	D1		Function setting of digital D1.
		Function	DigitOut: digital output only
			DigitIn: digital input only
			TriggerIn: external trigger input.
			InhibitLiving: inhibit input in living mode.
			InhibitLatch: inhibit input in latch mode.
			OutSync: output synchronous.
		Polarity	Positive: the signal polarity of the pin is positive.
			Negative: the signal polarity of the pin is negative.
	D2		Function setting of digital D2.
		Function	DigitOut: digital output only
			DigitIn: digital input only
			TriggerIn: external trigger input.
			InhibitLiving: inhibit input in living mode.
			InhibitLatch: inhibit input in latch mode.
			OutSync: output synchronous.
		Polarity	Positive: the signal polarity of the pin is positive.
			Negative: the signal polarity of the pin is negative.
	D3		Function setting of digital D3.
		Function	DigitOut: digital output only
			DigitIn: digital input only
			TriggerIn: external trigger input.
			InhibitLiving: inhibit input in living mode.
			InhibitLatch: inhibit input in latch mode.
			OutSync: output synchronous.
		Polarity	Positive: the signal polarity of the pin is positive.
			Negative: the signal polarity of the pin is negative.

Signal polarity

The signal polarity of the three pins can be configured as either positive or negative. For level signals, positive indicates a voltage high at the pin. negative indicates a voltage low at the pin. For edge signals, positive means a falling edge and negative means a rising edge.

Digital Input

Each of the three pins can be configured as digital input only. Pin 4 is the signal common for the digital input pins. When pins 1 to 3 are configured to input function, an external signal can be input to this pin, and the instrument can detect the state of the external signal. The input state of the pin's logic level can be read using the command *DIGital:INPut?* .

Digital Output

Each of the three pins can be configured as digital output only. Pin 4 is the signal common for the digital output pins. When pins 1 to 3 are configured for digital output function, they can be set to high level (positive) or low level (negative) using the command *DIGital:PIN:OUTPut*.

External Trigger Input

Each of the three pins can be configured as trigger input. Pin 4 is the signal common for the trigger input pins.

When configured as a trigger input, you can apply either a negative-going or a positive-going pulse to the designated trigger input pin. The trigger latency is 5 microseconds. The minimum pulse width is 4 microseconds for positive-going signals, and 10 microseconds for negative-going signals. The pin's polarity setting determines which edge generates a trigger-in event.

Configure the trigger source of the List function to be external. When the instrument receives an external pulse signal, it will trigger the running of the List function.

Inhibit Input

Each of the three pins can be configured as inhibit input. Pin 4 is the signal common for the inhibit input pins.

When the IO pin is configured for inhibit input function (positive polarity), the instrument output will be forbidden if the IO pin receives a low-level signal.

- **Living mode**: When input an inhibit signal and the instrument output is turned Off. The status bar of the LCD screen displays INH warning icon and the output is marked as Off. If power supply output is On state before, the On/Off button will be lit. When the input signal undoes (change from 0 to 1 for positive polarity.), the output returns to normal. This function can be used to control the output of the power supply.
- **Latch mode**: When input an inhibit signal and the instrument output is turned Off. The On/Off button will be lighted off, the status bar of the LCD screen displays INH warning icon. In this case, user need to remove the input signal and press **[Esc]** to clear protection, then manually turn on **[On/Off]** again.

Output Synchronous

Each of the three pins can be configured as output synchronous. Pin 4 is the signal common for the output synchronous pins. Output synchronous is used to indicate the On/Off status of the instrument.

- When the IO pin is set to output synchronous (positive polarity), the corresponding IO pin will output a high level/low level when the instrument output is On/Off.
- When the IO pin is set to output synchronous (negative polarity), the corresponding IO pin will output a low level/high level when the instrument output is On/Off.

Chapter4 Remote Control

IT-N6700 series power supplies have three built-in communication interfaces: USB, RS232 and LAN. The user can choose any one to communicate with the computer.

4.1 USB Interface

The USB interface is located on the rear panel of the instrument, and the user can connect the instrument and the computer through a cable with both USB ports (one end is USB A type interface and the other end is USB B type interface).

This series of power supply USB interfaces include the following two types, which do not need to be set in the menu, and can be operated remotely after installing the driver and connecting the USB communication cable.

- TMC: USB_TMC type interface, you need to install the NI-VISA driver adapted to the computer operating system version. Please download the driver from the NI official website. After the driver is installed successfully, it will be recognized as the USB device address in the computer device manager.
- VCP: Virtual serial port. The Win7 version of the operating system needs to install the supporting driver. Please download the driver from the ITECH official website or contact the ITECH technical support personnel to obtain it. The operating system of Win10 and above does not need to install the driver. Recognized as a COM port in the computer's device manager.

4.2 LAN Interface

When the user uses the LAN interface to communicate with the PC, the user should refer to the following contents to connect and configure the LAN interface. The LAN interface of this instrument conforms to the LXI standard.

Connection Interface

Connecting the Interface Use the following steps to quickly connect the instrument to a local area network and configure it. Two typical LAN interface systems are described below: private network and site network.

- **Connect to private LAN**

  A private LAN is a network in which LAN-enabled instruments and computers are directly connected. They are typically small, with no centrally managed resources. When connected to a computer, a standard network cable can be used to connect directly to the computer via the LAN interface.

- **Connect to site LAN**

  A site LAN is a local area network in which LAN-enabled instruments and computers are connected to the network through routers, hubs, and/or switches. They are typically large, centrally-managed networks with services such as DHCP and DNS servers. When connected to a computer, a network cable can be used to connect to the router, and the computer is

also connected to the router.

Note

When using one crossover cable to connect PC directly, the gateway address of the instrument should be consistent with that of the PC, and the IP address should be at the same network segment with the PC's IP address.

When the instrument and computer are connected to the router, an independent IP address must be assigned for the instrument.

Configure LAN Interface Parameters

This series of power supplies supports the configuration of the following LAN communication parameters.

- MODE: Set IP mode
  - Automatically configure instrument address (Auto): Automatically configure the default IP address.
  - Manually configure the instrument address (Manual): The method is to set the following parameters of the instrument, the settings of these parameter values are only displayed when Manual is selected.
- IP: This value is the Internet Protocol (IP) address of the instrument. An IP address is required for all IP and TCP/IP communications with the instrument. An IP Address consists of 4 decimal numbers separated by periods. Each decimal number ranges from 0 through 255 with no leading zeros (for example, 169.254.2.20).
- Gateway: This value is the IP Address of the default gateway that allows the instrument to communicate with systems that are not on the local subnet, as determined by the subnet mask setting. The same numbering notation applies as for the IP Address. A value of 0.0.0.0 indicates that no default gateway is defined.
- Mask: This value is used to enable the instrument to determine if a client IP address is on the same local subnet. The same numbering notation applies as for the IP Address. When a client IP address is on a different subnet, all packets must be sent to the Default Gateway.
- PORT: This value indicates the port number corresponding to the service, which is fixed at 30000.

The configuration steps are as follows:

1. Press the **[Menu]** key to enter the Menu interface.
2. Rotate the knob, select System, and press **[Enter]** to confirm.
3. Press the button corresponding to **Comm** at the bottom of the screen.
4. Rotate the knob, select Mode, press **[Enter]** to confirm, and select IP setting mode.
   - Auto: Automatic mode, which can automatically set the address of the instrument;
   - Manual: Manual mode, you can manually set the address of the instrument. If Manual is selected, you need to set the IP, Gateway, Mask parameter values.

     The IP address needs to be configured to be on the same network segment as the computer.

     Gateway and Mask must be the same as the computer configuration.
5. After the configuration is complete, press the **[Esc]** key to return.

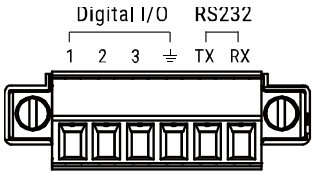
After configuring the LAN settings, the user needs to restart the instrument for the changes to take effect.

4.3 RS232 Interface

The RS232 interface is located on the rear panel of the instrument and is connected to the computer using a RS232 communication cable.

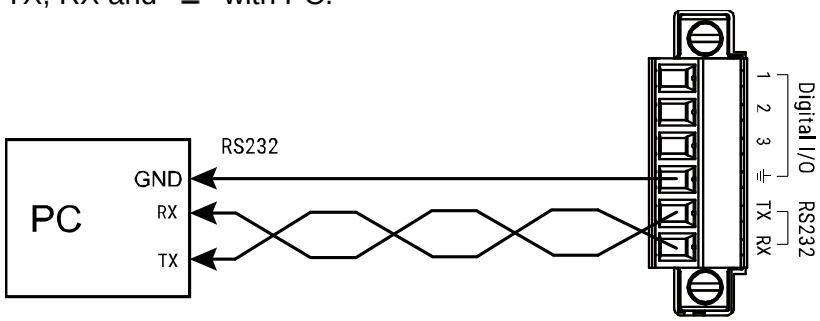
RS232 Pin Definition

The definition of RS232 pins are as follows.



Pins	Description
TX	TXD, transmit data
RX	RXD, receive data
⏚	DGND, ground

When using RS232 interface for communication, it is necessary to connect pins TX, RX and ⏚ with PC.



RS232 Configuration

The user needs to configure the RS232 interface parameters in the system menu before using the remote control. The specific operation steps are as follows.

1. Make sure that the power switch of the instrument is turned off, that is, the instrument is in the state of Power Off.
2. Connect the instrument to the computer through the RS232 cable. After the connection is successful, turn on the power switch of the instrument.
3. Press the **[Menu]** key to enter the menu interface.
4. Rotate the knob, select **System**, and press **[Enter]** to confirm. Enter the System function setting page.
5. Select **Comm > RS232 Config**.
6. Rotate the knob to set the communication baud rate and press **[Enter]** to confirm.
7. Rotate the knob to set the **Parity** and press **[Enter]** to confirm.

None: No check.

Odd: Odd check.

Even: Even check.

8. When finished, press the **[Esc]** key to return.

RS232 Troubleshooting

If you encounter problems when using the RS232 interface to communicate, the following will help solve the problem:

- Check whether the baud rate configuration of the computer and the instrument are the same.
- Make sure that the correct cables and adapters are connected. Note that the internal wiring may not be correct even if the cable has the proper plug.
- The interface cable must be connected to the correct serial port on the computer (COM1, COM2, etc.).

Chapter5 Technical Specification

This chapter will introduce the main technical parameters such as rated voltage, rated current and rated power of the IT-N6700 power supply, as well as the storage environment and temperature of the power supply.

5.1 Main Technical Parameters

IT-N6723

Parameter		Model: IT-N6723
Rated value	Voltage	0～80V
	Current	0～40A
	Power	0～1000W
Line Regulation ±(%of Output+Offset)	Voltage	≤7mV
	Current	≤20mA
Load Regulation ±(%of Output+Offset)	Voltage	≤8mV (Testing in sense mode)
	Current	≤20mA
Setup Resolution	Voltage	1mV
	Current	1mA
	Power	0.1W
Read Back Resolution	Voltage	1mV
	Current	1mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.3%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.3%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤130mV
	Irms	≤40mA
Ripple（20hz-300Khz）	Vrms	≤65mV
	Irms	≤40mA
Setting Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤2S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms

AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （%of Output +Offset）	Voltage	0.005%+4mV
	Current	0.01%+20mA
Setup stability-8h （%of Output +Offset）	Voltage	0.005%+4mV
	Current	0.01%+20mA
Readback stability-30min （%of Output +Offset）	Voltage	0.005%+4mV
	Current	0.01%+20mA
Readback stability-8h （%of Output +Offset）	Voltage	0.005%+4mV
	Current	0.01%+20mA
Efficiency		Full voltage and full power: 87% Full current and full power: 81%
Remote Sense Voltage		≤3V
Command Response Time		5ms
Power Factor		0.98
Maximum Input Current		12A
Maximum Input Apparent Power		1250VA
Storage Temperature		-10℃～70℃
Protective Function		OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface		LAN, USB, RS232
Isolation (output to ground)		500VDC
Isolation (input to ground)		2200VDC
Working Temperature		0～40℃
Parallel Number		Not support
Series Number		Not support
IP		IP20
Safety Standard		IEC 61010
Cooling		Air
Rack-Mount Dimension (mm)		214W*385.8D*88.2H
Dimension(Overall) (mm)		226W*411.7D*108.3H
Weight(net)		（6.5±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6723B

Parameter		Model: IT-N6723B
Rated value	Voltage	0～150V
	Current	0～20A
	Power	0～1000W
Line Regulation ±(%of Output+Offset)	Voltage	≤15mV
	Current	≤10mA
Load Regulation ±(%of Output+Offset)	Voltage	≤15mV (Testing in sense mode)
	Current	≤10mA
Setup Resolution	Voltage	10mV
	Current	1mA
	Power	0.1W
Read Back Resolution	Voltage	10mV
	Current	1mA
	Power	0.1W

Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.3%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.3%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤150mV
	Irms	≤20mA
Ripple（20hz-300Khz）	Vrms	≤75mV
	Irms	≤20mA
Setting Temperature Coefficient (％of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (％of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤2S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （％of Output +Offset）	Voltage	0.005%+10mV
	Current	0.01%+10mA
Setup stability-8h （％of Output +Offset）	Voltage	0.005%+10mV
	Current	0.01%+10mA
Readback stability-30min （％of Output +Offset）	Voltage	0.005%+10mV
	Current	0.01%+10mA
Readback stability-8h （％of Output +Offset）	Voltage	0.005%+10mV
	Current	0.01%+10mA
Efficiency		Full voltage and full power: 87% Full current and full power: 81%
Remote Sense Voltage		≤3V
Command Response Time		5ms
Power Factor		0.98
Maximum Input Current		12A
Maximum Input Apparent Power		1250VA
Storage Temperature		-10℃～70℃
Protective Function		OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface		LAN, USB, RS232
Isolation (output to ground)		500VDC
Isolation (input to ground)		2200VDC
Working Temperature		0～40℃
Parallel Number		Not support
Series Number		Not support
IP		IP20
Safety Standard		IEC 61010

Cooling	Air
Rack-Mount Dimension (mm)	214W*385.8D*88.2H
Dimension(Overall) (mm)	226W*411.7D*108.3H
Weight(net)	（6.5±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6723C

Parameter		Model: IT-N6723C
Rated value	Voltage	0～32V
	Current	0～110A
	Power	0～1000W
Line Regulation ±(%of Output+Offset)	Voltage	≤3.5mV
	Current	≤55mA
Load Regulation ±(%of Output+Offset)	Voltage	≤3.5mV (Testing in sense mode)
	Current	≤55mA
Setup Resolution	Voltage	1mV
	Current	10mA
	Power	0.1W
Read Back Resolution	Voltage	1mV
	Current	10mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.3%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.3%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤60mV
	Irms	≤110mA
Ripple（20hz-300Khz）	Vrms	≤30mV
	Irms	≤110mA
Setting Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤2S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （%of Output +Offset）	Voltage	0.005%+1.5mV
	Current	0.01%+60mA

Setup stability-8h （%of Output +Offset）	Voltage	0.005%+1.5mV
	Current	0.01%+60mA
Readback stability-30min （%of Output +Offset）	Voltage	0.005%+1.5mV
	Current	0.01%+60mA
Readback stability-8h （%of Output +Offset）	Voltage	0.005%+1.5mV
	Current	0.01%+60mA
Efficiency		Full voltage and full power: 86% Full current and full power: 77%
Remote Sense Voltage		≤3V
Command Response Time		5ms
Power Factor		0.98
Maximum Input Current		12A
Maximum Input Apparent Power		1250VA
Storage Temperature		-10℃～70℃
Protective Function		OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface		LAN, USB, RS232
Isolation (output to ground)		500VDC
Isolation (input to ground)		2200VDC
Working Temperature		0～40℃
Parallel Number		Not support
Series Number		Not support
IP		IP20
Safety Standard		IEC 61010
Cooling		Air
Rack-Mount Dimension (mm)		214W*405.6D*88.2H
Dimension(Overall) (mm)		226W*411.7D*108.3H
Weight(net)		（6.5±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6723G

Parameter		Model: IT-N6723G
Rated value	Voltage	0～600V
	Current	0～5A
	Power	0～1000W
Line Regulation ±(%of Output+Offset)	Voltage	60mV
	Current	≤1.5mA
Load Regulation ±(%of Output+Offset)	Voltage	60mV (Testing in sense mode)
	Current	≤1.5mA
Setup Resolution	Voltage	10mV
	Current	0.1mA
	Power	0.1W
Read Back Resolution	Voltage	10mV
	Current	0.1mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.2%+0.3%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.

	Power	≤0.2%+0.3%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤600mV
	Irms	≤5mA
Ripple（20hz-300Khz）	Vrms	≤300mV
	Irms	≤5mA
Setting Temperature Coefficient (％of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (％of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤2S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （％of Output +Offset）	Voltage	0.005%+35mV
	Current	0.01%+1.5mA
Setup stability-8h （％of Output +Offset）	Voltage	0.005%+35mV
	Current	0.01%+1.5mA
Readback stability-30min （％of Output +Offset）	Voltage	0.005%+35mV
	Current	0.01%+1.5mA
Readback stability-8h （％of Output +Offset）	Voltage	0.005%+35mV
	Current	0.01%+1.5mA
Efficiency		Full voltage and full power: 87% Full current and full power: 84%
Remote Sense Voltage		≤3V
Command Response Time		5ms
Power Factor		0.98
Maximum Input Current		12A
Maximum Input Apparent Power		1250VA
Storage Temperature		-10℃～70℃
Protective Function		OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface		LAN, USB, RS232
Isolation (output to ground)		900VDC
Isolation (input to ground)		2200VDC
Working Temperature		0～40℃
Parallel Number		Not support
Series Number		Not support
IP		IP20
Safety Standard		IEC 61010
Cooling		Air
Rack-Mount Dimension (mm)		214W*385.8D*88.2H
Dimension(Overall) (mm)		226W*411.7D*108.3H
Weight(net)		（6±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6723H

Parameter		Model: IT-N6723H
Rated value	Voltage	0～300V
	Current	0～10A
	Power	0～1000W
Line Regulation ±(%of Output+Offset)	Voltage	35mV
	Current	≤3mA
Load Regulation ±(%of Output+Offset)	Voltage	35mV (Testing in sense mode)
	Current	≤3mA
Setup Resolution	Voltage	10mV
	Current	1mA
	Power	0.1W
Read Back Resolution	Voltage	10mV
	Current	1mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.2%+0.3%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.2%+0.3%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤300mV
	Irms	≤10mA
Ripple（20hz-300Khz）	Vrms	≤150mV
	Irms	≤10mA
Setting Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤2s
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （%of Output +Offset）	Voltage	0.005%+20mV
	Current	0.01%+2.5mA
Setup stability-8h （%of Output +Offset）	Voltage	0.005%+20mV
	Current	0.01%+2.5mA
Readback stability-30min （%of Output +Offset）	Voltage	0.005%+20mV
	Current	0.01%+2.5mA
Readback stability-8h （%of Output +Offset）	Voltage	0.005%+20mV
	Current	0.01%+2.5mA
Efficiency		Full voltage and full power: 87%

	Full current and full power: 81%
Remote Sense Voltage	≤3V
Command Response Time	5ms
Power Factor	0.98
Maximum Input Current	12A
Maximum Input Apparent Power	1250VA
Storage Temperature	-10℃～70℃
Protective Function	OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface	LAN, USB, RS232
Isolation (output to ground)	500VDC
Isolation (input to ground)	2200VDC
Working Temperature	0～40℃
Parallel Number	Not support
Series Number	Not support
IP	IP20
Safety Standard	IEC 61010
Cooling	Air
Rack-Mount Dimension (mm)	214W*385.8D*88.2H
Dimension(Overall) (mm)	226W*411.7D*108.3H
Weight(net)	（6±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6723P

Parameter		Model: IT-N6723P
Rated value	Voltage	0～1500V
	Current	0～2A
	Power	0～1000W
Line Regulation ±(%of Output+Offset)	Voltage	100mV
	Current	≤0.6mA
Load Regulation ±(%of Output+Offset)	Voltage	100mV (Testing in sense mode)
	Current	≤0.6mA
Setup Resolution	Voltage	100mV
	Current	0.1mA
	Power	0.1W
Read Back Resolution	Voltage	100mV
	Current	0.1mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.2%+0.3%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.2%+0.3%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤1500mV
	Irms	≤5mA
Ripple（20hz-300Khz）	Vrms	≤750mV
	Irms	≤5mA
Setting Temperature Coefficient	Voltage	≤20PPM/℃

(%of Output+Offset)/℃	Current	≤50PPM/℃
Readback Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤100ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤3S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （%of Output +Offset）	Voltage	0.005%+70mV
	Current	0.01%+0.6mA
Setup stability-8h （%of Output +Offset）	Voltage	0.005%+70mV
	Current	0.01%+0.6mA
Readback stability-30min （%of Output +Offset）	Voltage	0.005%+70mV
	Current	0.01%+0.6mA
Readback stability-8h （%of Output +Offset）	Voltage	0.005%+70mV
	Current	0.01%+0.6mA
Efficiency		Full voltage and full power: 87% Full current and full power: 84%
Remote Sense Voltage		≤6V
Command Response Time		5ms
Power Factor		0.98
Maximum Input Current		12A
Maximum Input Apparent Power		1250VA
Storage Temperature		-10℃～70℃
Protective Function		OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface		LAN, USB, RS232
Isolation (output to ground)		2250VDC
Isolation (input to ground)		2200VDC
Working Temperature		0～40℃
Parallel Number		Not support
Series Number		Not support
IP		IP20
Safety Standard		IEC 61010
Cooling		Air
Rack-Mount Dimension (mm)		214W*385.8D*88.2H
Dimension(Overall) (mm)		226W*461.6D*108.3H
Weight(net)		（6±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6723V

Parameter		Model: IT-N6723V
Rated value	Voltage	0～1000V

	Current	0～3A
	Power	0～1000W
Line Regulation ±(%of Output+Offset)	Voltage	100mV
	Current	≤0.8mA
Load Regulation ±(%of Output+Offset)	Voltage	100mV (Testing in sense mode)
	Current	≤0.8mA
Setup Resolution	Voltage	100mV
	Current	0.1mA
	Power	0.1W
Read Back Resolution	Voltage	100mV
	Current	0.1mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.2%+0.3%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.2%+0.3%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤1000mV
	Irms	≤5mA
Ripple（20hz-300Khz）	Vrms	≤500mV
	Irms	≤5mA
Setting Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤3S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （%of Output +Offset）	Voltage	0.005%+60mV
	Current	0.01%+0.9mA
Setup stability-8h （%of Output +Offset）	Voltage	0.005%+60mV
	Current	0.01%+0.9mA
Readback stability-30min （%of Output +Offset）	Voltage	0.005%+60mV
	Current	0.01%+0.9mA
Readback stability-8h （%of Output +Offset）	Voltage	0.005%+60mV
	Current	0.01%+0.9mA
Efficiency		Full voltage and full power: 87% Full current and full power: 84%
Remote Sense Voltage		≤3V
Command Response Time		5ms

Power Factor	0.98
Maximum Input Current	12A
Maximum Input Apparent Power	1250VA
Storage Temperature	-10℃～70℃
Protective Function	OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface	LAN, USB, RS232
Isolation (output to ground)	1500VDC
Isolation (input to ground)	2200VDC
Working Temperature	0～40℃
Parallel Number	Not support
Series Number	Not support
IP	IP20
Safety Standard	IEC 61010
Cooling	Air
Rack-Mount Dimension (mm)	214W*385.8D*88.2H
Dimension(Overall) (mm)	226W*461.6D*108.3H
Weight(net)	（6±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6724

Parameter		Model: IT-N6724
Rated value	Voltage	0～80V
	Current	0～40A
	Power	0～1500W
Line Regulation ±(%of Output+Offset)	Voltage	≤7mV
	Current	≤20mA
Load Regulation ±(%of Output+Offset)	Voltage	≤8mV (Testing in sense mode)
	Current	≤20mA
Setup Resolution	Voltage	1mV
	Current	1mA
	Power	0.1W
Read Back Resolution	Voltage	1mV
	Current	1mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.2%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.2%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤130mV
	Irms	≤40mA
Ripple（20hz-300Khz）	Vrms	≤65mV
	Irms	≤40mA
Setting Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient	Voltage	≤20PPM/℃
	Current	≤50PPM/℃

(%of Output+Offset)/℃		
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤2S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （%of Output +Offset）	Voltage	0.005%+4mV
	Current	0.01%+20mA
Setup stability-8h （%of Output +Offset）	Voltage	0.005%+4mV
	Current	0.01%+20mA
Readback stability-30min （%of Output +Offset）	Voltage	0.005%+4mV
	Current	0.01%+20mA
Readback stability-8h （%of Output +Offset）	Voltage	0.005%+4mV
	Current	0.01%+20mA
Efficiency		Full voltage and full power: 89% Full current and full power: 83%
Remote Sense Voltage		≤3V
Command Response Time		5ms
Power Factor		0.99
Maximum Input Current		12A
Maximum Input Apparent Power		1800VA
Storage Temperature		-10℃～70℃
Protective Function		OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface		LAN, USB, RS232
Isolation (output to ground)		500VDC
Isolation (input to ground)		2200VDC
Working Temperature		0～40℃
Parallel Number		Not support
Series Number		Not support
IP		IP20
Safety Standard		IEC 61010
Cooling		Air
Rack-Mount Dimension (mm)		214W*385.8D*88.2H
Dimension(Overall) (mm)		226W*411.7D*108.3H
Weight(net)		（6.5±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6724B

Parameter		Model: IT-N6724B
Rated value	Voltage	0～150V
	Current	0～20A
	Power	0～1500W
Line Regulation	Voltage	≤15mV

±(%of Output+Offset)	Current	≤10mA
Load Regulation ±(%of Output+Offset)	Voltage	≤15mV (Testing in sense mode)
	Current	≤10mA
Setup Resolution	Voltage	10mV
	Current	1mA
	Power	0.1W
Read Back Resolution	Voltage	10mV
	Current	1mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.2%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.2%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤150mV
	Irms	≤20mA
Ripple（20hz-300Khz）	Vrms	≤75mV
	Irms	≤20mA
Setting Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤2S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （%of Output +Offset）	Voltage	0.005%+10mV
	Current	0.01%+10mA
Setup stability-8h （%of Output +Offset）	Voltage	0.005%+10mV
	Current	0.01%+10mA
Readback stability-30min （%of Output +Offset）	Voltage	0.005%+10mV
	Current	0.01%+10mA
Readback stability-8h （%of Output +Offset）	Voltage	0.005%+10mV
	Current	0.01%+10mA
Efficiency		Full voltage and full power: 89% Full current and full power: 83%
Remote Sense Voltage		≤3V
Command Response Time		5ms
Power Factor		0.99
Maximum Input Current		12A
Maximum Input Apparent Power		1800VA

Storage Temperature	-10℃～70℃
Protective Function	OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface	LAN, USB, RS232
Isolation (output to ground)	500VDC
Isolation (input to ground)	2200VDC
Working Temperature	0～40℃
Parallel Number	Not support
Series Number	Not support
IP	IP20
Safety Standard	IEC 61010
Cooling	Air
Rack-Mount Dimension (mm)	214W*385.8D*88.2H
Dimension(Overall) (mm)	226W*411.7D*108.3H
Weight(net)	（6.5±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6724C

Parameter		Model: IT-N6724C
Rated value	Voltage	0～32V
	Current	0～110A
	Power	0～1500W
Line Regulation ±(%of Output+Offset)	Voltage	≤3.5mV
	Current	≤55mA
Load Regulation ±(%of Output+Offset)	Voltage	≤3.5mV (Testing in sense mode)
	Current	≤55mA
Setup Resolution	Voltage	1mV
	Current	10mA
	Power	0.1W
Read Back Resolution	Voltage	1mV
	Current	10mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.2%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.1% + 0.1%F.S.
	Power	≤0.2%+0.2%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤60mV
	Irms	≤110mA
Ripple（20hz-300Khz）	Vrms	≤30mV
	Irms	≤110mA
Setting Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms

Fall Time(no load)	Voltage	≤2S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （%of Output +Offset）	Voltage	0.005%+1.5mV
	Current	0.01%+60mA
Setup stability-8h （%of Output +Offset）	Voltage	0.005%+1.5mV
	Current	0.01%+60mA
Readback stability-30min （%of Output +Offset）	Voltage	0.005%+1.5mV
	Current	0.01%+60mA
Readback stability-8h （%of Output +Offset）	Voltage	0.005%+1.5mV
	Current	0.01%+60mA
Efficiency		Full voltage and full power: 88.5% Full current and full power: 82%
Remote Sense Voltage		≤3V
Command Response Time		5ms
Power Factor		0.99
Maximum Input Current		12A
Maximum Input Apparent Power		1800VA
Storage Temperature		-10℃～70℃
Protective Function		OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface		LAN, USB, RS232
Isolation (output to ground)		500VDC
Isolation (input to ground)		2200VDC
Working Temperature		0～40℃
Parallel Number		Not support
Series Number		Not support
IP		IP20
Safety Standard		IEC 61010
Cooling		Air
Rack-Mount Dimension (mm)		214W*405.6D*88.2H
Dimension(Overall) (mm)		226W*411.7D*108.3H
Weight(net)		（6.5±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6724G

Parameter		Model: IT-N6724G
Rated value	Voltage	0～600V
	Current	0～5A
	Power	0～1500W
Line Regulation ±(%of Output+Offset)	Voltage	60mV
	Current	≤1.5mA
Load Regulation	Voltage	60mV (Testing in sense mode)

±(%of Output+Offset)	Current	≤1.5mA
Setup Resolution	Voltage	10mV
	Current	0.1mA
	Power	0.1W
Read Back Resolution	Voltage	10mV
	Current	0.1mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.1%+0.15%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.1%+0.15%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤600mV
	Irms	≤5mA
Ripple（20hz-300Khz）	Vrms	≤300mV
	Irms	≤5mA
Setting Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤2S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （%of Output +Offset）	Voltage	0.005%+35mV
	Current	0.01%+1.5mA
Setup stability-8h （%of Output +Offset）	Voltage	0.005%+35mV
	Current	0.01%+1.5mA
Readback stability-30min （%of Output +Offset）	Voltage	0.005%+35mV
	Current	0.01%+1.5mA
Readback stability-8h （%of Output +Offset）	Voltage	0.005%+35mV
	Current	0.01%+1.5mA
Efficiency		Full voltage and full power: 89% Full current and full power: 86%
Remote Sense Voltage		≤3V
Command Response Time		5ms
Power Factor		0.99
Maximum Input Current		12A
Maximum Input Apparent Power		1800VA
Storage Temperature		-10℃～70℃
Protective Function		OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface		LAN, USB, RS232

Isolation (output to ground)	900VDC
Isolation (input to ground)	2200VDC
Working Temperature	0～40℃
Parallel Number	Not support
Series Number	Not support
IP	IP20
Safety Standard	IEC 61010
Cooling	Air
Rack-Mount Dimension (mm)	214W*385.8D*88.2H
Dimension(Overall) (mm)	226W*411.7D*108.3H
Weight(net)	（6±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6724H

Parameter		Model: IT-N6724H
Rated value	Voltage	0～300V
	Current	0～10A
	Power	0～1500W
Line Regulation ±(%of Output+Offset)	Voltage	35mV
	Current	≤3mA
Load Regulation ±(%of Output+Offset)	Voltage	35mV (Testing in sense mode)
	Current	≤3mA
Setup Resolution	Voltage	10mV
	Current	1mA
	Power	0.1W
Read Back Resolution	Voltage	10mV
	Current	1mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.1%+0.15%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.1%+0.15%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤300mV
	Irms	≤10mA
Ripple（20hz-300Khz）	Vrms	≤150mV
	Irms	≤10mA
Setting Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤2s
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to	Voltage	≤1ms

within ±0.5% of the rated output voltage.)		
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （%of Output +Offset）	Voltage	0.005%+20mV
	Current	0.01%+2.5mA
Setup stability-8h （%of Output +Offset）	Voltage	0.005%+20mV
	Current	0.01%+2.5mA
Readback stability-30min （%of Output +Offset）	Voltage	0.005%+20mV
	Current	0.01%+2.5mA
Readback stability-8h （%of Output +Offset）	Voltage	0.005%+20mV
	Current	0.01%+2.5mA
Efficiency		Full voltage and full power: 89% Full current and full power: 86%
Remote Sense Voltage		≤3V
Command Response Time		5ms
Power Factor		0.99
Maximum Input Current		12A
Maximum Input Apparent Power		1800VA
Storage Temperature		-10℃～70℃
Protective Function		OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface		LAN, USB, RS232
Isolation (output to ground)		500VDC
Isolation (input to ground)		2200VDC
Working Temperature		0～40℃
Parallel Number		Not support
Series Number		Not support
IP		IP20
Safety Standard		IEC 61010
Cooling		Air
Rack-Mount Dimension (mm)		214W*385.8D*88.2H
Dimension(Overall) (mm)		226W*411.7D*108.3H
Weight(net)		（6±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6724P

Parameter		Model: IT-N6724P
Rated value	Voltage	0～1500V
	Current	0～2A
	Power	0～1500W
Line Regulation ±(%of Output+Offset)	Voltage	100mV
	Current	≤0.6mA
Load Regulation ±(%of Output+Offset)	Voltage	100mV (Testing in sense mode)
	Current	≤0.6mA
Setup Resolution	Voltage	100mV
	Current	0.1mA
	Power	0.1W
Read Back Resolution	Voltage	100mV

	Current	0.1mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.1%+0.15%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.1%+0.15%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤1500mV
	Irms	≤5mA
Ripple（20hz-300Khz）	Vrms	≤750mV
	Irms	≤5mA
Setup Temperature Coefficient (％of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (％of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤100ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤3S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz
Setup stability-30min （％of Output +Offset）	Voltage	0.005%+70mV
	Current	0.01%+0.6mA
Setup stability-8h （％of Output +Offset）	Voltage	0.005%+70mV
	Current	0.01%+0.6mA
Readback stability-30min （％of Output +Offset）	Voltage	0.005%+70mV
	Current	0.01%+0.6mA
Readback stability-8h （％of Output +Offset）	Voltage	0.005%+70mV
	Current	0.01%+0.6mA
Efficiency		Full voltage and full power: 89% Full current and full power: 86%
Remote Sense Voltage		≤6V
Command Response Time		5ms
Power Factor		0.99
Maximum Input Current		12A
Maximum Input Apparent Power		1800VA
Storage Temperature		-10℃～70℃
Protective Function		OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface		LAN, USB, RS232
Isolation (output to ground)		2250VDC
Isolation (input to ground)		2200VDC
Working Temperature		0～40℃
Parallel Number		Not support
Series Number		Not support

IP	IP20
Safety Standard	IEC 61010
Cooling	Air
Rack-Mount Dimension (mm)	214W*385.8D*88.2H
Dimension(Overall) (mm)	226W*461.6D*108.3H
Weight(net)	（6±0.5）kg

This specification is for reference only and is subject to change without notice.

IT-N6724V

Parameter		Model: IT-N6724V
Rated value	Voltage	0～1000V
	Current	0～3A
	Power	0～1500W
Line Regulation ±(%of Output+Offset)	Voltage	100mV
	Current	≤0.8mA
Load Regulation ±(%of Output+Offset)	Voltage	100mV (Testing in sense mode)
	Current	≤0.8mA
Setup Resolution	Voltage	100mV
	Current	0.1mA
	Power	0.1W
Read Back Resolution	Voltage	100mV
	Current	0.1mA
	Power	0.1W
Setup Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.1%+0.15%F.S.
Read Back Accuracy	Voltage	≤0.02% + 0.02%F.S.
	Current	≤0.05% + 0.05%F.S.
	Power	≤0.1%+0.15%F.S.
Ripple（20hz-20Mhz）	Vp-p	≤1000mV
	Irms	≤5mA
Ripple（20hz-300Khz）	Vrms	≤500mV
	Irms	≤5mA
Setting Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Readback Temperature Coefficient (%of Output+Offset)/℃	Voltage	≤20PPM/℃
	Current	≤50PPM/℃
Rise Time(no load)	Voltage	≤60ms
Rise Time(full load)	Voltage	≤150ms
Fall Time(no load)	Voltage	≤3S
Fall Time(full load)	Voltage	≤200ms
Transient Response Time (The output voltage recovers to within ±0.5% of the rated output voltage.)	Voltage	≤1ms
AC Input	Voltage	176VAC-264VAC (rated power)
		99VAC-121VAC (derating to 850W)
	Frequency	47-63Hz

Setup stability-30min （%of Output +Offset）	Voltage	0.005%+60mV
	Current	0.01%+0.9mA
Setup stability-8h （%of Output +Offset）	Voltage	0.005%+60mV
	Current	0.01%+0.9mA
Readback stability-30min （%of Output +Offset）	Voltage	0.005%+60mV
	Current	0.01%+0.9mA
Readback stability-8h （%of Output +Offset）	Voltage	0.005%+60mV
	Current	0.01%+0.9mA
Efficiency		Full voltage and full power: 89% Full current and full power: 86%
Remote Sense Voltage		≤3V
Command Response Time		5ms
Power Factor		0.99
Maximum Input Current		12A
Maximum Input Apparent Power		1800VA
Storage Temperature		-10℃～70℃
Protective Function		OVP, OCP, OTP, OPP, UVP, UCP, Sense reverse connection protection
Standard Interface		LAN, USB, RS232
Isolation (output to ground)		1500VDC
Isolation (input to ground)		2200VDC
Working Temperature		0～40℃
Parallel Number		Not support
Series Number		Not support
IP		IP20
Safety Standard		IEC 61010
Cooling		Air
Rack-Mount Dimension (mm)		214W*385.8D*88.2H
Dimension(Overall) (mm)		226W*461.6D*108.3H
Weight(net)		（6±0.5）kg

This specification is for reference only and is subject to change without notice.

5.2 Supplemental Characteristics

Recommended calibration frequency: once a year.
Cooling style: fans

Appendix

Specifications of Red and Black Test Cables

ITECH provides you with optional red and black test cables, which are sold individually and you can select for test. For specifications of ITECH test cables and maximum current values, refer to the table below.

Model	Description
IT-E30110-AB	1kV/10A/1m*2pcs Alligator clips-Banana plugs
IT-E30110-BB	1kV/10A/1m*2pcs Banana plugs-Banana plugs
IT-E30110-BY	1kV/10A/1m*2pcs Banana plugs-Y-type terminals
IT-E30312-YY	500V/30A/1.2m*2pcs Y-type terminals-Y-type terminals
IT-E30320-YY	500V/30A/2m*2pcs Y-type terminals-Y-type terminals
IT-E30615-OO	500V/60A/1.5m*2pcs Ring terminals-Ring terminals
IT-E31005LIC-OO	600V/100A/0.5m*2pcs Ring terminal low inductance
IT-E31010LIC-OO	600V/100A/1m*2pcs Ring terminal low inductance
IT-E31020LIC-OO	600V/100A/2m*2pcs Ring terminal low inductance
IT-E31040LIC-OO	600V/100A/2m*2pcs Ring terminal low inductance
IT-E31220-OO	500V/120A/2m*2pcs Ring terminals-Ring terminals
IT-E31250-OO	500V/120A/5m*2pcs Ring terminals-Ring terminals
IT-E32410-OO	500V/240A/1m*2pcs Ring terminals-Ring terminals
IT-E32420-OO	500V/240A/2m*2pcs Ring terminals-Ring terminals
IT-E32450-OO	500V/240A/5m*2pcs Ring terminals-Ring terminals
IT-E3301020-OO	3kV/100A/2m*2pcs Ring terminals-Ring terminals
IT-E3301050-OO	3kV/100A/5m*2pcs Ring terminals-Ring terminals
IT-E3302420-OO	3kV/240A/2m*2pcs Ring terminals-Ring terminals
IT-E3302450-OO	3kV/240A/5m*2pcs Ring terminals-Ring terminals
IT-E3303620-OO	3kV/360A/2m*2pcs Ring terminals-Ring terminals
IT-E3304020-OO	3kV/400A/2m*2pcs Ring terminals-Ring terminals
IT-E33620-OO	500V/360A/2m*2pcs Ring terminals-Ring terminals
IT-E33650-OO	500V/360A/5m*2pcs Ring terminals-Ring terminals
IT-E34020-OO	500V/400A/2m*2pcs Ring terminals-Ring terminals
IT-E34520-OO	500V/450A/2m*2pcs Ring terminals-Ring terminals
IT-E35030-OO	500V/360A/3m*2pcs Ring terminals-Ring terminals
IT-E36530-OO	500V/650A/3m*2pcs Ring terminals-Ring terminals

For maximum current of AWG copper wire, refer to table blow.

AWG	10	12	14	16	18	20	22	24	26	28
The Maximum current value(A)	40	25	20	13	10	7	5	3.5	2.5	1.7

Note: AWG (American Wire Gage), it means X wire (marked on the wire). The table above lists current capacity of single wire at working temperature of 30°C. For reference only.

Contact Us

Thanks for purchasing ITECH products. In case of any doubts, please contact us as follows:

1. Visit ITECH website: www.itechate.com.
2. Select the most convenient contact method, for further information.