



IT6500 Auto-range Programmable DC Power Supply

With ITECH latest technology, as a series of full-featured high-performance fast response DC power supplies, IT6500 series provide users with a new level of power supply performance. From 800W to 30 kW, the whole series include more than 100 models, the maximum output voltage and current is up to 1000V and 1200A respectively. At the same time, it also has a super wide scope of voltage and current applications. Users can choose the power supplies according to different testing requirements.

Choose the right power supplies according to different testing requirements.

IT6502D/12/12A/13/13A Good performance and small size, designed for general testing purpose of R&D or production in fields.

IT6500C series Seamless switching across two quadrants, multi-functional and fast response, designed for continuous source and sink testing needs in power storage applications such as automobile electronics, solar battery, DC motor, batteries etc.

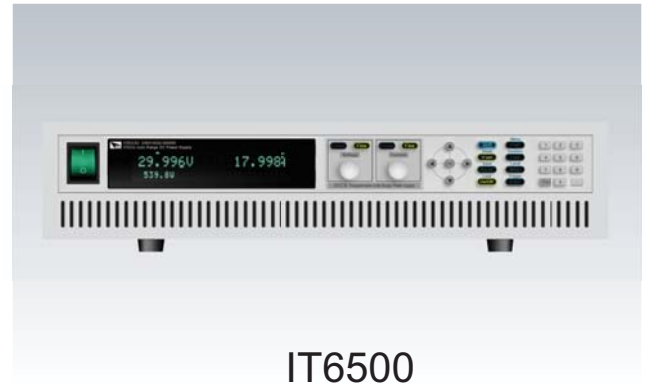
IT6500D series High performance and stable output, designed for automobile, green energy, high speed testing, high-power testing etc.

Wide-range & High-power

IT6500 series wide-range high-power DC power supplies provide users with a wider testing range for options. From 800W to 30 kW, the whole series include more than 100 models, the maximum output voltage and current is up to 1000V and 1200A respectively. At the same time, it also has a super wide scope of voltage and current applications. Work with IT-E501 power dissipater unit, the current sinking capacity of IT6500C can rise up to 100% and the power sinking is up to 300%.

Working with power dissipater unit, expanding load ability

IT6500C series can be used as both a power supply and an electronic load. It greatly enlarges the current working range of the power supplies and enables it to sink certain current and power, thus it can be widely applied in fast current falling test and batteries charging /discharging test. Each IT-E500 series power dissipater unit provides up to 3kW current sinking capability for IT6500C series power supply. To meet higher power discharging test demand, by multiple power dissipater units' paralleling, IT-E500 series power dissipater unit can extend the current sinking capability up to 100%, the power sinking capability up to 300% (Max.90kW). Thus it can meet the requirements of higher power discharging test.

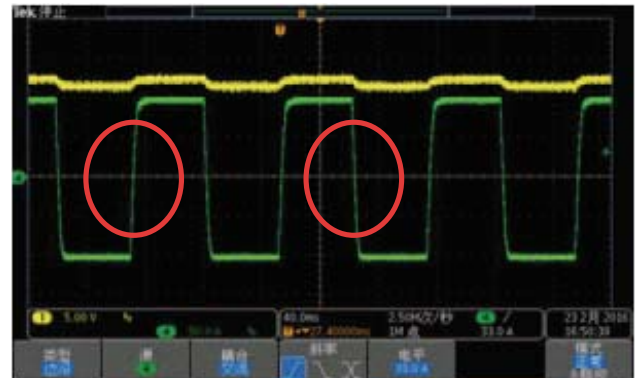


■ Features

- Aerospace & Aviation
- Vehicle Battery
- Automotive
- R&D
- Military
- Solar Charger
- Welding & Plating
- Motor

Continuous source & sink testing

IT6500 series two-quadrant power supply is not simply a combination of a power supply and electronic load, but it is a continuous source and load. The 2-quadrant current output ability provides seamless switching across two quadrants. For traditional two-quadrant power supply, there will be a short jump and discontinuity across positive and negative currents. As a high-speed two-quadrant power supply, IT6500C (1800W-30KW) series has a priority function so as to realize high-speed current transition between power supply mode and electronic load mode, to achieve fast seamless switching between sourcing and sinking current, effectively to avoid the overshoot of voltage or current. That enables it to be suitable for battery fast charging and discharging measurements without sacrificing accuracy and can be widely used in energy storage device testing, such as batteries, battery encapsulation and battery protection panel etc.



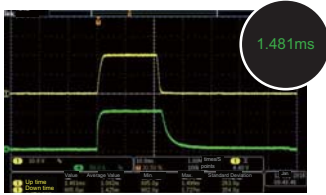
High-power test challenges	IT6500 helps you to overcome the challenges	IT6500C	T6500D	T6512 IT6513	IT6502D IT6512A IT6513A
High-power	■ Output power of single unit is up to 30kW	✓	✓		
	■ Work with IT-E500 power dissipater unit, can meet discharge test demand up to 90kW	✓			
Wide-range	■ 800W~30kW, whole series over 100 models.	✓	✓		
	■ Maximum output voltage is up to 1000V	✓	✓		
	■ Maximum output current is up to 1200A	✓	✓		
	■ Work with IT-E500 power dissipater unit, the current sinking capacity of IT6500C can rise up to 100% and the power sinking is up to 300%.	✓			
Continuous source & sink testing	■ Two-quadrant current output	✓			
	■ Seamless switching across two-quadrants	✓			
Maintain excellent performance after paralleling	■ Built-in paralleling capability up to 30kW.	✓	✓		
	■ Support multiple power supplies paralleling in Master-Slave mode	✓	✓	✓	✓
	■ Ensures each power supply equally shares the load current and they all remain in the desired mode.	✓	✓		
	■ Power increasing, performance maintains stable.	✓	✓		
Fast response	■ 30kW up/down time < 3mS	✓			
	■ CC / CV priority automatically selection	✓			
Simple programming on the front panel	■ LIST mode programming	✓	✓	✓	
	■ Independent settable slew rate in different modes	✓		✓	✓
	■ Adjustable rising and falling time	✓	✓		
	■ Multiple operation modes:				
	■ Power supply: CV/CC/CP modes, ■ Electronic load: CC/CP modes.	✓ ✓	✓ ✓	✓ ✓	✓ ✓
Design for special applications	■ Variable output impedance function	✓			
	■ Built-in DIN 40839 and ISO-16750-2 standard voltage curve	✓		✓	
	■ Solar panel I-V curve simulation function	✓			
Precise measurement	■ High resolution and high accuracy	✓	✓	✓	✓
	■ Remote sense function	✓	✓	✓	✓
Fully protection	■ Power Supply: OVP,OCP,OPP;	✓	✓	✓	✓
	■ Electronic Load: OCP,OPP,OTP,	✓			
	■ Anti-reverse protection	Optional	Optional		
	■ Turn-off protection,	✓	✓	✓	✓
	■ Under voltage protection.	✓	✓	✓	✓
Cost saving	■ Analog control interfaces	✓	✓	✓	✓
	■ Multiple built-in interfaces				
	■ USB	✓	✓	✓	✓
	■ RS232	✓	✓	✓	✓
	■ RS485			✓	✓
	■ GPIB	✓	✓	✓	✓
	■ LAN	✓	✓		
■ CAN	✓	✓			
Low ripple and low noise		✓	✓	✓	✓



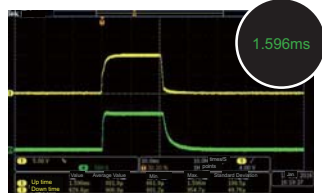
Maintain excellent performance after paralleling

Built-in paralleling and current equally assigned capability
IT6500 has built-in paralleling capability up to 30kW. At the same time, IT6500C supports multiple power supplies paralleling together in master-slave mode. Even more it can ensure that each power supply equally shares the load current and they all remain in the desired mode. In the traditional sense, when paralleling power supplies together, different power supplies will operate in different operation modes. For instance, when two sets of power supplies are paralleled together, one will offer a majority of current in CC mode, and the other will offer only a small part of current in CV mode, which will degrade certain power supplies' performance specifications. The current equally assigned ability of IT6500 ensures each power supply equally shares the load current via the attached cable and no degrading on the performance specifications. The paralleling connection of IT6500 can realize all the functions of a standalone unit. That is a great way to add power flexibility to your test system. What is particularly unusual is that after the expansion of power, IT6500C can still maintain the excellent dynamic characteristics of the single unit to meet the I-V characteristic curve testing demanding a variety of high-power high-speed applications.

Low voltage & high current test

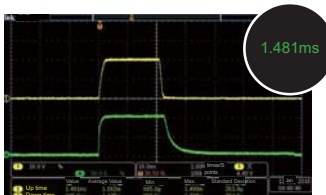


Standalone set IT6522C, 80V, 120A, 3000W
Voltage ratings: 10V, Current ratings: 120A
Load current: 100A

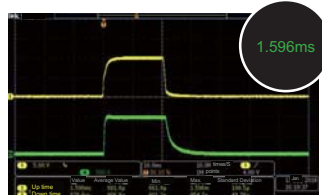


8 sets of IT6522C paralleling together
Voltage ratings: 10V, Current ratings: 960A
Load current: 800A

High voltage & low current test



Standalone set unit IT6522C, 80V, 120A, 3000W
Voltage ratings: 80V, Current ratings: 120A
Load current: 30A



8 sets of IT6522C paralleling together
Voltage ratings: 80V, Current ratings: 960A
Load current: 300A

Dynamic response test



Standalone set IT6522C, 80V, 120A, 3000W
Voltage ratings: 10V, Current ratings: 120A
Load current:
Level A=10A Level B=100A
F=10 Hz

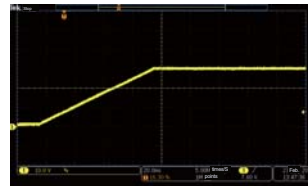


8 sets of IT6522C paralleling together
Voltage ratings: 10V, Current ratings: 960A
Load current:
Level B=100A Level A=800A
F=10Hz

* Figure: Voltage-Yellow, Current-Green

Simple programming on the front panel (List)

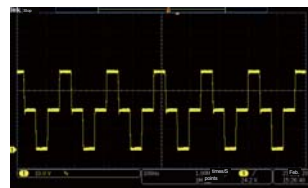
Same as conventional ITECH user-friendly design, IT6500 series provides a convenient front panel for programming quickly and precisely without any software. In list mode, IT6500 series can store, recall and run the preset customized program sequences via front panel programming without any software. Edit the voltage/current value & the time of each step in advance and provide the power supply with trigger signal, then the preset sequences/waveform will be executed automatically according to the LIST. That's especially suitable for the applications such as DC/DC converter, inverters voltage drop test, engine start-up simulation, battery charging/discharging tests, product life cycle tests and aircraft test etc. Waveforms programmed with IT6500 series by engineers



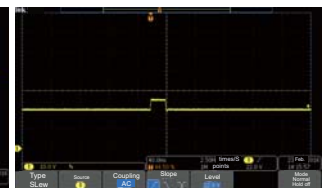
Soft Start Testing



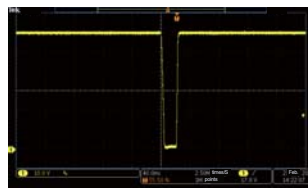
Voltage Step Waveform



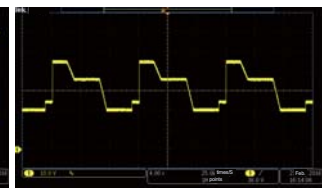
D/D Converter Cycle drop Testing



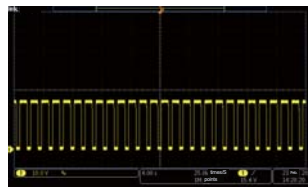
Pulse Charge of Battery



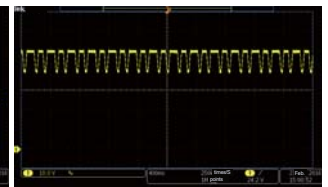
D/D Converter Sag Testing



D/D Converter Surge Testing



Life Cycle Testing



Line Regulation Testing

*Output test with no load

Functions for special applications

Built-in DIN40839 & ISO-16750-2 test sequences

The automobile electronics devices often suffer the dropouts or surges from power turn-on or turn-off transient, to ensure the DUT can stand up the real-world transients, it is necessary to simulate the worst-case power transient conditions. IT6512, IT6513 and IT6500C series power supplies provide built-in DIN40839 and ISO-16750-2 testing curves. Users can select any built-in curve to do the DUT performance test directly according to their demand. 12V and 24V are available for choice.

Programmable output impedance

In battery charging and discharging test, the changes of internal resistance should be taken into account. For enhancing test precision, IT6500C series power supply provides built-in internal resistance setting function which can simulate battery operation status in real-case.

Solar panel I-V curve simulation function

I-V curve output of the solar array can be influenced by climate factors such as light, temperature etc. IT6500C series has built-in solar panel I-V curve simulation function, support maximum open-circuit current and maximum short-circuit current. 16 I-V curves in different conditions can be stored and recalled in IT6500 through setting the parameters, e.g. Voc, Isc, Vmp, Imp etc. It can be applied in MPPT (maximum power point tracking) performance tests for solar inverters, micro-inverters, and solar chargers. By PC, IT6500C can simulate more realistic I-V curve. Up to 1024 points can be edited.



IT6500 series specifications

800W	IT6502D 80V/60A/800W					
1200W	IT6512/A 80V/60A/1200W	IT6513/A 150V/30A/1200W				
1800W	IT6512C/D 80V/120A/1800W	IT6513C/D 200V/30A/1800W	IT6514C/D 360V/30A/1800W	IT6515C/D 500V/20A/1800W	IT6516C/D 750V/15A/1800W	IT6517C/D 1000V/10A/1800W
3kW	IT6522C/D 80V/120A/3KW	IT6523C/D 200V/60A/3KW	IT6524C/D 360V/30A/3KW	IT6525C/D 500V/20A/3KW	IT6526C/D 750V/15A/3KW	IT6527C/D 1000V/10A/3KW
6kW	IT6532C/D 80V/240A/6KW	IT6533C/D 200V/120A/6KW	IT6534C/D 360V/60A/6KW	IT6535C/D 500V/40A/6KW	IT6536C/D 750V/30A/6KW	IT6537C/D 1000V/20A/6KW
9kW	IT6542C/D 80V/360A/9KW	IT6543C/D 200V/180A/9KW	IT6544C/D 360V/90A/9KW	IT6545C/D 500V/60A/9KW	IT6546C/D 750V/45A/9KW	IT6547C/D 1000V/30A/9KW
12kW	IT6552C/D 80V/480A/12KW	IT6553C/D 200V/240A/12KW	IT6554C/D 360V/120A/12KW	IT6555C/D 500V/80A/12KW	IT6556C/D 750V/60A/12KW	IT6557C/D 1000V/40A/12KW
15kW	IT6562C/D 80V/600A/15KW	IT6563C/D 200V/300A/15KW	IT6564C/D 360V/150A/15KW	IT6565C/D 500V/100A/15KW	IT6566C/D 750V/75A/15KW	IT6567C/D 1000V/50A/15KW
21kW	IT6572C/D 80V/840A/21KW	IT6573C/D 200V/420A/21KW	IT6574C/D 360V/210A/21KW	IT6575C/D 500V/140A/21KW	IT6576C/D 750V/105A/21KW	IT6577C/D 1000V/70A/21KW
24kW	IT6582C/D 80V/960A/24KW	IT6583C/D 200V/480A/24KW	IT6584C/D 360V/240A/24KW	IT6585C/D 500V/160A/24KW	IT6586C/D 750V/120A/24KW	IT6587C/D 1000V/80A/24KW
30kW	IT6592C 80V/1200A/30KW	IT6593C/D 200V/600A/30KW	IT6594C/D 360V/300A/30KW	IT6595C/D 500V/200A/30KW	IT6596C/D 750V/150A/30KW	IT6597C/D 1000V/100A/30KW



Parameters		IT6512C	IT6512D	IT6522C	IT6522D	IT6532C	IT6532D
Output Rating (0°C- 40°C)	Voltage	0~80V	0~80V	0~80V	0~80V	0~80V	0~80V
	Current	0~120A	0~120A	0~120A	0~120A	0~240A	0~240A
	Power	0~1800W	0~1800W	0~3000W	0~3000W	0~6KW	0~6KW
	Impedance	0~3.6Ω	-	0~3Ω	-	0~1.5Ω	-
Load Regulation ±(%of Output+Offset)	Voltage	≤0.01%+30mV					
	Current	≤0.05%+30mA					
Line Regulation ±(%of Output+Offset)	Voltage	≤0.01%+10mV					
	Current	≤0.01%+10mA					
Setup Resolution	Voltage	10mV					
	Current	10mA					
Read back Resolution	Voltage	10mV					
	Current	10mA					
Setup Accuracy (Within 12 months,25°C±5°C) ±(%of Output+Offset)	Voltage	≤0.05%+30mV					
	Current	≤0.2%+120mA					
Readback Accuracy (Within 12 months,25°C±5°C) ±(%of Output+Offset)	Voltage	≤0.05%+30mV					
	Current	≤0.2%+120mA					
Ripple (20Hz-20MHz)	Voltage	≤80mVp-p					
	Current	≤0.05%+60mArms					
Up time (no load)	Voltage	≤5ms	≤30ms	≤5ms	≤30ms	≤5ms	≤30ms
Up time (full load)	Voltage	≤10ms	≤30ms	≤10ms	≤30ms	≤10ms	≤30ms
Down time (no load)	Voltage	≤30ms	≤150ms	≤30ms	≤150ms	≤30ms	≤150ms
Down time (full load)	Voltage	≤10ms	≤150ms	≤10ms	≤150ms	≤10ms	≤150ms
Operation Temperature	0~40°C						

Parameters		IT6542C	IT6542D	IT6552C	IT6552D
Output Rating (0°C- 40°C)	Voltage	0~80V	0~80V	0~80V	0~80V
	Current	0~360A	0~360A	0~480A	0~480A
	Power	0~9KW	0~9KW	0~12KW	0~12KW
	Impedance	0~1Ω	-	0~0.75Ω	-
Load Regulation ±(%of Output+Offset)	Voltage	≤0.01%+30mV			
	Current	≤0.05%+30mA			
Line Regulation ±(%of Output+Offset)	Voltage	≤0.01%+10mV			
	Current	≤0.01%+10mA			
Setup Resolution	Voltage	10mV			
	Current	10mA			
Read back Resolution	Voltage	10mV			
	Current	10mA			
Setup Accuracy (Within 12 months,25°C±5°C) ±(%of Output+Offset)	Voltage	≤0.05%+30mV			
	Current	≤0.2%+120mA			
Readback Accuracy (Within 12 months,25°C±5°C) ±(%of Output+Offset)	Voltage	≤0.05%+30mV			
	Current	≤0.2%+120mA			
Ripple (20Hz-20MHz)	Voltage	≤80mVp-p			
	Current	≤0.05%+60mArms			
Up time (no load)	Voltage	≤5ms	≤30ms	≤5ms	≤30ms
Up time (full load)	Voltage	≤10ms	≤30ms	≤10ms	≤30ms
Down time (no load)	Voltage	≤30ms	≤150ms	≤30ms	≤150ms
Down time (full load)	Voltage	≤10ms	≤150ms	≤10ms	≤150ms
Operation Temperature	0~40°C				



Parameters		IT6562C	IT6562D	IT6572C	IT6572D
Output Rating (0°C- 40°C)	Voltage	0~80V	0~80V	0~80V	0~80V
	Current	0~600A	0~600A	0~840A	0~840A
	Power	0~15KW	0~15KW	0~21KW	0~21KW
	Impedance	0~0.6Ω	-	0~0.43Ω	-
Load Regulation ±(%of Output+Offset)	Voltage	≤0.01%+30mV			
	Current	≤0.05%+30mA			
Line Regulation ±(%of Output+Offset)	Voltage	≤0.01%+10mV			
	Current	≤0.01%+10mA			
Setup Resolution	Voltage	10mV			
	Current	10mA			
Read back Resolution	Voltage	10mV			
	Current	10mA			
Setup Accuracy (Within 12 months,25°C±5°C) ±(%of Output+Offset)	Voltage	≤0.05%+30mV			
	Current	≤0.2%+120mA			
Readback Accuracy (Within 12 months,25°C±5°C) ±(%of Output+Offset)	Voltage	≤0.05%+30mV			
	Current	≤0.2%+120mA			
Ripple (20Hz-20MHz)	Voltage	≤80mVp-p			
	Current	≤0.05%+60mArms			
Up time (no load)	Voltage	≤5ms	≤30ms	≤5ms	≤30ms
Up time (full load)	Voltage	≤10ms	≤30ms	≤10ms	≤30ms
Down time (no load)	Voltage	≤30ms	≤150ms	≤30ms	≤150ms
Down time (full load)	Voltage	≤10ms	≤150ms	≤10ms	≤150ms
Operation Temperature	0~40°C				

Parameters		IT6582C	IT6582D	IT6592C	IT6592D
Output Rating (0°C- 40°C)	Voltage	0~80V	0~80V	0~80V	0~80V
	Current	0~960A	0~960A	0~1200A	0~1200A
	Power	0~24KW	0~24KW	0~30KW	0~30KW
	Impedance	0~0.375Ω	-	0~0.3Ω	-
Load Regulation ±(%of Output+Offset)	Voltage	≤0.01%+30mV			
	Current	≤0.05%+30mA			
Line Regulation ±(%of Output+Offset)	Voltage	≤0.01%+10mV			
	Current	≤0.01%+10mA			
Setup Resolution	Voltage	10mV			
	Current	10mA			
Read back Resolution	Voltage	10mV			
	Current	10mA			
Setup Accuracy (Within 12 months,25°C±5°C) ±(%of Output+Offset)	Voltage	≤0.05%+30mV			
	Current	≤0.2%+120mA			
Readback Accuracy (Within 12 months,25°C±5°C) ±(%of Output+Offset)	Voltage	≤0.05%+30mV			
	Current	≤0.2%+120mA			
Ripple (20Hz-20MHz)	Voltage	≤80mVp-p			
	Current	≤0.05%+60mArms			
Up time (no load)	Voltage	≤5ms	≤30ms	≤5ms	≤30ms
Up time (full load)	Voltage	≤10ms	≤30ms	≤10ms	≤30ms
Down time (no load)	Voltage	≤30ms	≤150ms	≤30ms	≤150ms
Down time (full load)	Voltage	≤10ms	≤150ms	≤10ms	≤150ms
Operation Temperature	0~40°C				