ITECH

YOUR POWER TESTING SOLUTION

IT7200

Programmable AC/DC Power Supply

Your Power Testing Solution

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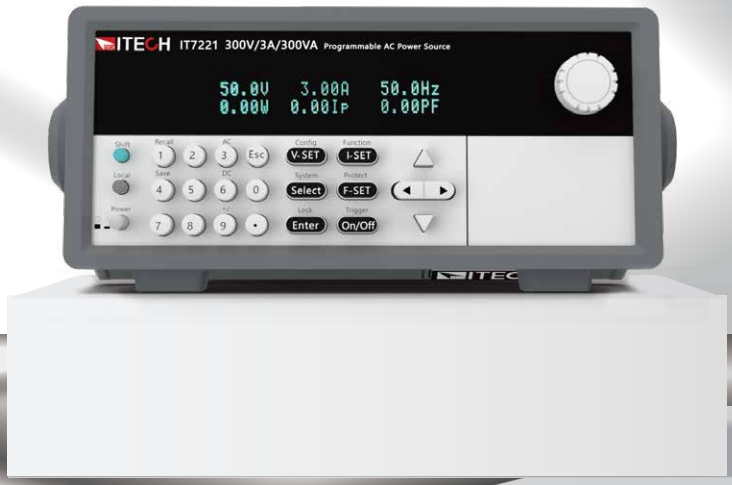
IT7200

Programmable AC/DC Power Supply



IT7200 series programmable AC/DC power supplies are designed to provide cost-effective testing solutions for R&D, production and laboratories. It is a bench top unit as well as a rack mounted one. It is only in a 2U half rack, but the max. power can output 300VA or 600VA. Its built-in USB/LAN interface allows for easy ATE integration and remote monitoring of data without additional costs. IT7200AC/DC power supply has powerful waveform editing and simulation functions and full protection. Through functions such as LIST, waveform customization or harmonic simulation, it can simulate various power grid disturbance waveforms. For example, voltage sag, short-term power failure, and IEC61000-4-11 regulatory standard waveform. The product is widely used in testing of small home appliances, industrial IoT, power modules, power tools, etc.

FEATURE

- 2U half rack compact design, suitable for both bench top and ATE integration
- 300Vac L-N rated output, 45Hz-500Hz
- Built-in AC power meter and up to 50th harmonic analysis capability
- Built-in rich waveforms: Sine/Square/Triangle/Sawtooth/Clip sine
- Up to 50th order harmonic simulation function
  Output modes: AC, DC, AC+DC
- Rich waveform editing functions: LIST/Surge&Trap/User-defined
- Built-in rich waveform database, including 30 harmonic distortion waveforms
- The start/stop phase angle of the output waveform can be set
- Standard USB/LAN interface
- Free Demo software

Application

Power converter

Adapter, AC-DC power module, LED Driver

Semiconductor component

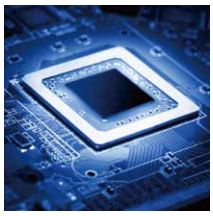
Chips, sensors, linear regulator

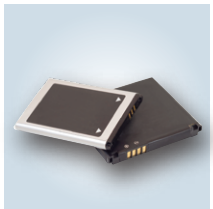
Industrial equipment/home appliance

Power tools, smart meters, low power home applicance

ATE integration

Burning test of power modules, chiips, components



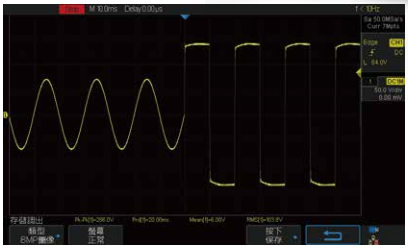


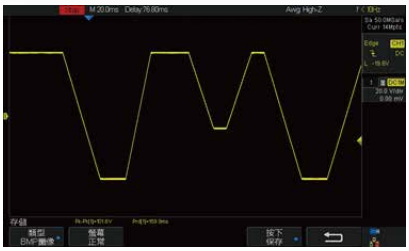
Model	Power	Voltage	Current	Height
IT7221	300VA/300W	300V	3A	2U half rack
IT7222	600VA/600W	300V	6A	2U half rack

built-in USB/LAN

Arbitrary waveform output

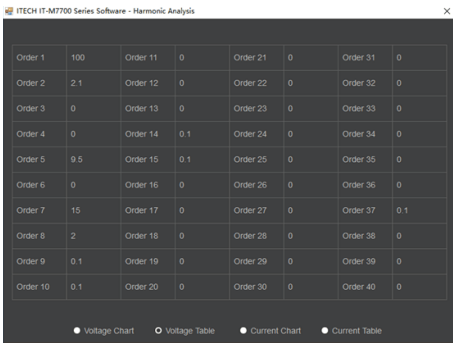
The PC software of the IT7200 series can help you customize arbitrary waveforms, supporting up to 1024 points of data. The data is downloaded to the power supply to simulate and reproduce the problem.





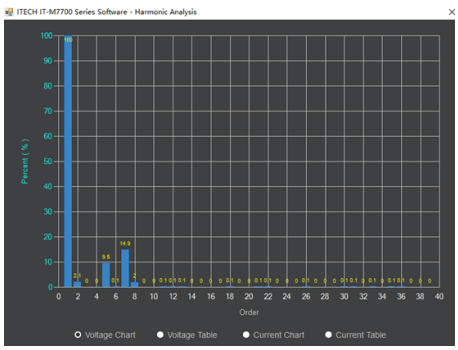
Harmonic analysis

The IT7200 series can measure up to the 50th voltage/current harmonic in the range of 45-50Hz, analyze the results, and display them in a list or bar graph. In list mode you can view the percentage of each harmonic. The histogram is conducive to observing the order with the highest harmonic content, making the test results clearer.



Order 1	100	Order 11	0	Order 21	0	Order 31	0
Order 2	2.1	Order 12	0	Order 22	0	Order 32	0
Order 3	0	Order 13	0	Order 23	0	Order 33	0
Order 4	0	Order 14	0.1	Order 24	0	Order 34	0
Order 5	9.5	Order 15	0.1	Order 25	0	Order 35	0
Order 6	0	Order 16	0	Order 26	0	Order 36	0
Order 7	15	Order 17	0	Order 27	0	Order 37	0.1
Order 8	2	Order 18	0	Order 28	0	Order 38	0
Order 9	0.1	Order 19	0	Order 29	0	Order 39	0
Order 10	0.1	Order 20	0	Order 30	0	Order 40	0

list

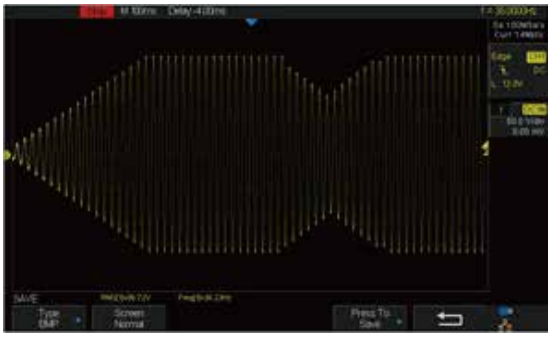


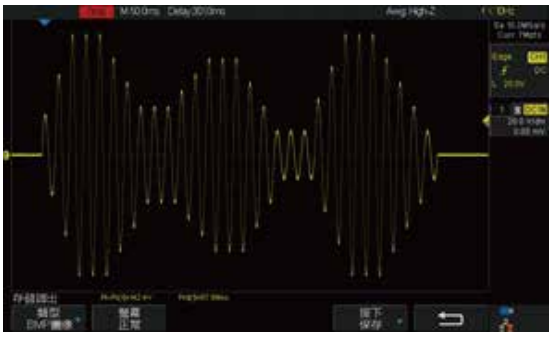
bar chart

List

The list mode of IT7200 series can simulate complex waveforms. You can edit 5 list files. Each file can include up to 50 steps. Each step can set the basic waveform (including THD and custom waveforms), AC and DC amplitude, slope, frequency, dwell time, and start/stop phase angle, number of repetitions, etc. This function can help you simulate various complex waveforms such as power grid disturbances and periodic power outages.

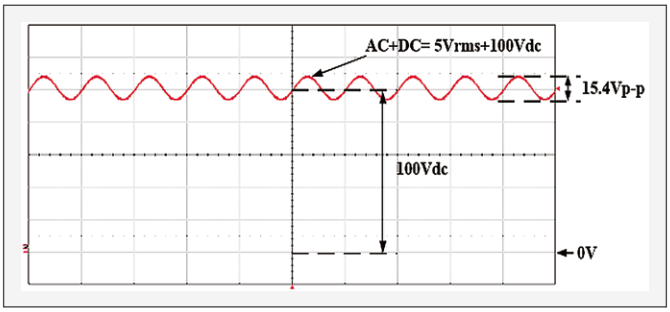
* Operate by PC software

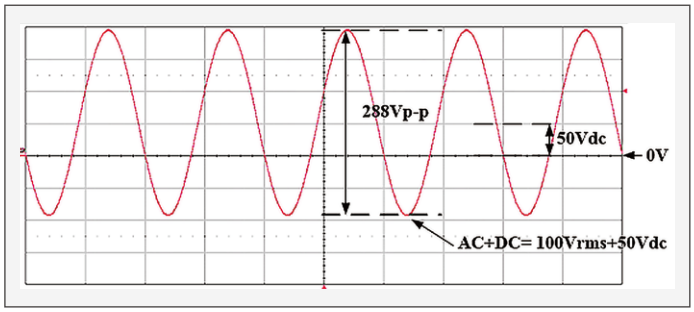




AC, DC, AC+DC output

The IT7200 series can realize various output modes of AC, DC, and AC+DC. It not only provides pure AC/DC output, but also provides AC+DC output mode to test the DC bias component, which covers more applications.





Surge/Trap

IT7200 series has surge/notch simulation function. In addition to outputting sine waves, you can also use Surge/Trap waveforms to simulate abnormal voltage fluctuations in the circuit to test the performance of the DUT under this condition.

Surge

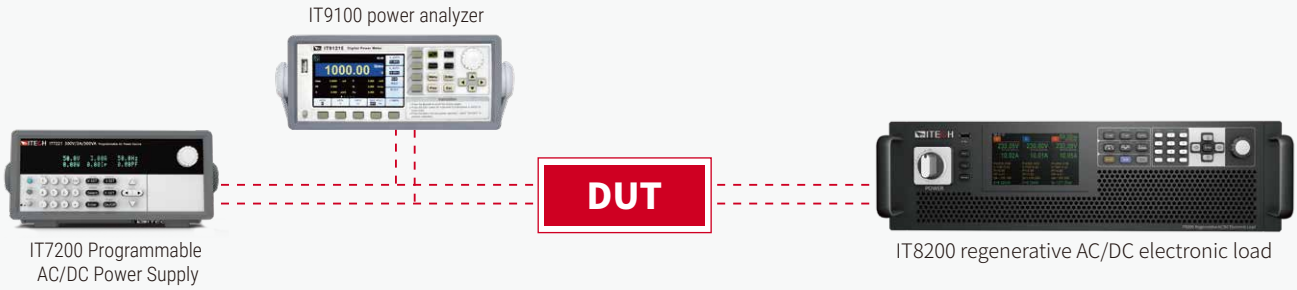
Trap

Harmonic simulation

IT7200 series has harmonic simulation function. It can simulate up to 50 times in the range of 45-50Hz. Quickly and easily restore distorted waveforms.

Load the 50th order harmonic component

Application: simulate high-order harmonics to verify the measurement deviation of smart meters/power quality detectors



Your Power Testing Solution

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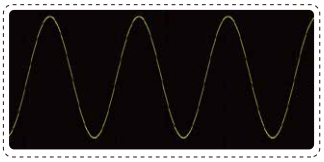
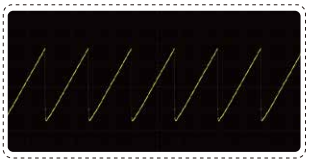
Built-in rich waveforms

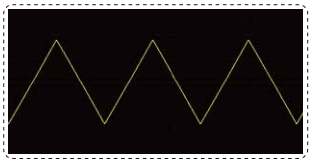
IT7200 series has built-in user-defined waveforms such as square, saw, triangle and so on . There are 30 built-in distortion waveforms for you to edit and recall. They can be used as basic waveforms and recalled during list programming.



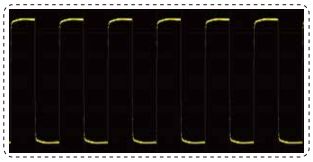
Sine



Saw

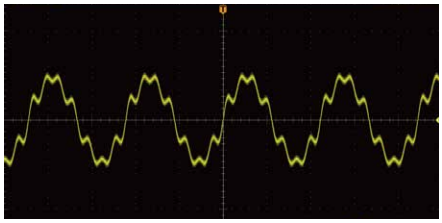


Triangle

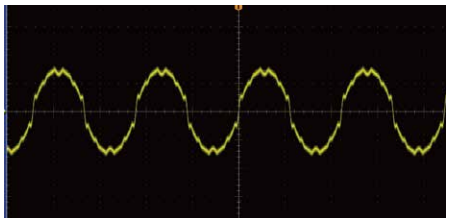


Square

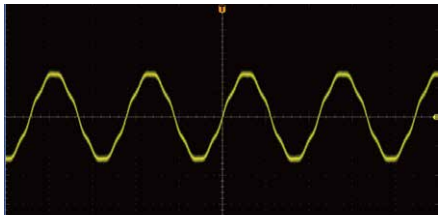
Built-in 30 harmonic distortion waveforms



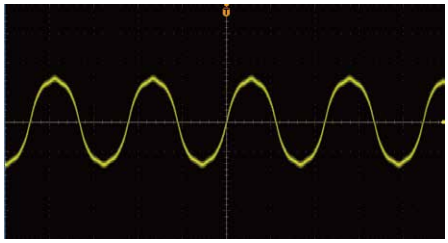
non-linear distortion



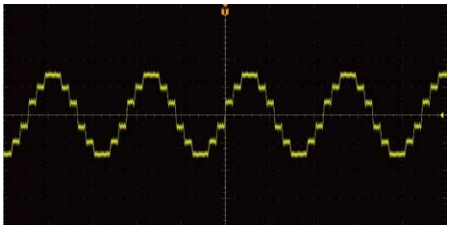
linear distortion



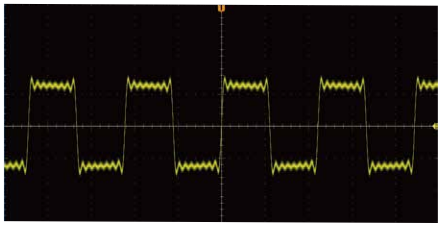
Iron core transformer self-excited



peak spike



Stepper frequency converter



square wave UPS

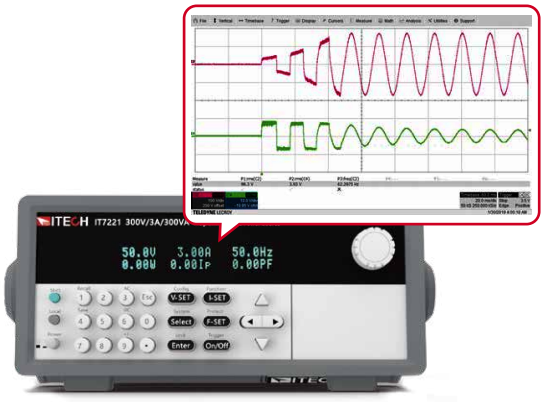
Full protection

The IT7200 series has a variety of protection functions, including OVP rms, OVP peak, UVP rms, OCP rms, OCP peak, OCP delay, OPP, OTP, fan failure protection, etc.

Application

When an AC power supply is testing a capacitive load, the voltage will drop due to the instantaneous large current and the loading will fail. At the same time, excessive inrush current can easily damage the AC power supply. Therefore, full protection functions are very necessary for AC power supply.

The picture on the right shows the voltage and current curves of IT7200 testing incandescent light bulbs.



		IT7221	IT7222
AC Input			
Voltage		220Vac (±15%)	220Vac (±15%)
Phase		single phase	single phase
Frequency		47～63Hz	47～63Hz
Max. current		3.3A	7.3A
AC Output			
Max. power		300VA	600VA
Max. voltage		300V	300V
Output phase		single phase	single phase
Max current(rms)		3A	6A
Max current(peak)		9A	18A
Frequency		45 ～ 500Hz	45 ～ 500Hz
Phase		0 ～359.9°	0 ～ 359.9°
T.H.D.*1*3		≤0.3% at 50/60Hz ; ≤1% at 45～500Hz	≤0.3% at 50/60Hz ; ≤1% at 45～500Hz
Crest factor		3	3
Power regulation*3		≤0.06%	≤0.06%
Load regulation*3		≤0.15%	≤0.15%
Voltage(V_{AC})	Resolution	0.1V	0.1V
	Accuracy	±(0.2% +0.2%×F.S.)	±(0.2% +0.2%×F.S.)
Frequency	Resolution	0.1Hz	0.1Hz
	Accuracy	±0.1%	±0.1%
Phase angle	Resolution	0.1°	0.1°
	Accuracy	0.5°	0.5°
DC bias		20mV	20mV
Efficiency		73% (typical)	73% (typical)
DC Output			
Max. output power		300W	600W
Max. output voltage		±400V	±400V
Max. output current		±3A	±6A
Voltage(V_{DC})	Accuracy	±(0.2%+0.2%×F.S.)	±(0.2%+0.2%×F.S.)
Dynamic response		≤0.5ms(Full load of 10~90%)	≤0.5ms(Full load of 10~90%)
Meter			
AC voltage(V_{AC})	Range	0～300V	0～300V
	Resolution	0.1V	0.1V
	Accuracy	±(0.25%+0.25%×F.S.)	±(0.25%+0.25%xF.S.)
AC current rms (I_{AC}, High)	Range	0.1～3A	0.1～6A
	Resolution	10mA	10mA
	Accuracy	±(0.5% +0.5%×F.S.)	±(0.5% +0.5%×F.S.)
AC current rms (IAC_L, Low at 100Hz)	Range	0.1～1250 mA	0.1～1250 mA
	Resolution	0.1mA	0.1mA
	Accuracy	±(0.25% +0.25%×F.S.)	±(0.25% +0.25%×F.S.)
AC current peak(I_P)	Range	0～4.25A	0-8.5A
	Resolution	10mA	10mA
	Accuracy	±(0.4% +0.8%×F.S.)	±(0.4% +0.8%×F.S.)
DC voltage(V_{DC})	Accuracy	±(0.25% +0.25%×F.S.)	±(0.25% +0.25%×F.S.)
DC current (I_{DC} , High)	Accuracy	±(0.25% +0.355%×F.S.)	±(0.25% +0.355%×F.S.)
DC current(I_{DC_L} , Low)	Accuracy	±(0.25% +0.355%×F.S.)	±(0.25% +0.355%×F.S.)
Frequency	Range	45～500Hz	45～500Hz
	Resolution*5	0.1Hz	0.1Hz
	Accuracy*2	±0.1%	±0.1%
Power(s)*4	Resolution	100mVA	100mVA
	Accuracy	±(0.5%+0.5% F.S.)	±(0.5%+0.5% F.S.)
Other			
Dimension		255mm (W)x 110mm (H) x 493.9 (D) mm	255mm (W)x 110mm (H) x 493.9 (D) mm
Weight		8.05 KG	9.9 KG

*1: The minimum voltage for THD testing is 100Vac

*2: The minimum available voltage for test frequency display accuracy is 100Vac

*3: Tested with purely resistive load

*4: The minimum voltage within the applicable range is 3Vac

*5: Frequency resolution range 45~99.9Hz

*6: Ambient temperature range is 23±2°

This information is subject to change without notice.For more information, please contact ITECH.

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