

Product

IT7600 AC Power Supply



IT7600 AC Power Supply

APPLICATIONS

- Avionic Devices & Military
- Global Positioning System (GPS)
- Laboratory
- Electromagnetic Compatibility Test
- Household Appliances
- AC Motor

Your Power Testing Solution



IT7600 AC Power Supply



IT7600 adopts advanced digital signal processing technology to provide voltage waveforms with high precision and high stability. The AC power supplies can not only be widely applied in household electrical appliances, power electronics, avionics, military and IEC standard test development and applications; but can also be applied in various processes from laboratory R&D to factory production-line test. The power can provide large-capacity single-phase or three-phase AC output and the capacity of a single unit can reach 18,000 VA; in addition, the parallel connection of power supplies can expand the output current capacity range. Moreover, IT7600 is also equipped with the powerful harmonic analysis capability. Therefore, IT7600 is not only a set of powerful AC power supplies but also a set of power analyzers.

Features

- 7" DSO function
- Frequency: up to 5 kHz, output voltage: 150 V / 300 V, current: 12 A / 24 A / 72 A / 144 A
- Simulate any waveform output. Support of synchronous ON/OFF input and output for parallel connection operation function.
- Single-unit power: 750 VA / 1.5 kVA / 3 kVA / 9 kVA / 18 kVA
- IT7622/7624/7626 support parallel connection to realize single/3-phase output
- IT7627/IT7628 can switch between single-phase output and three-phase output.
- Settable of start/stop phase angle.
- Available for isolation transformer connection, remote SENSE compensatory function.
- Measurement contents: VRMS / IRMS / IPK+ / IPK- / CF / PF / VA / W
- Harmonic analysis function
- Frequency measurement function
- Standard configuration: USB / RS-232 / LAN / GPIB / CAN communication interfaces and front panel USB interface

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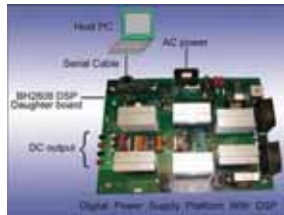
IT7600 AC Power Supply

Applications

- Avionic Devices & Military
Instruments, Global Positioning System (GPS), Airport ground facilities
- Military
Radar, Communication devices, 400 Hz IF power supply occasions.
- Laboratory and testing units
AC-DC power-supply adapter, Electromagnetic compatibility Test.
- Appliances
Air conditioner, Microwave oven, refrigerator, Coffee machine.
- Electrical and electronic manufacturers
transformers, AC fans, uninterruptible power systems (UPS), AC motors
- IT industry and computer equipments
Fax machines, shredders, writers, etc.



Radar test



AC-DC power block Test



AC motor test

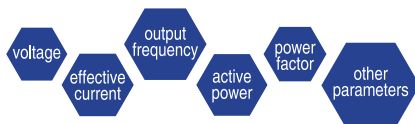


Refrigerator motherboard test



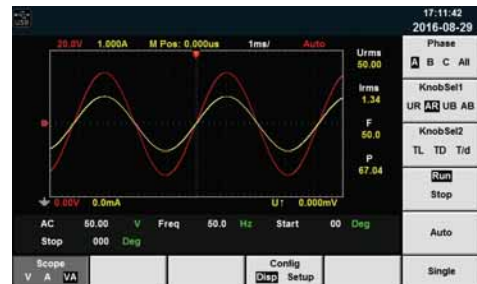
High-precision measuring function

The instrument is equipped with a 16 Bit high-precision measuring circuit which can accurately measure the voltage, effective current, output frequency, active power, power factor and other parameters. The instrument measures the circuit through high-speed sampling and displays the waveform of measured voltage and current on a 7"-LCD screen, so that there is no need to use the oscilloscope to make instant analysis.



7" DSO Function

IT7600 series AC power supplies provide 7" display screen and strong oscilloscope function. The necessary waveform is visible or invisible by your option. Combined with shortcut keys and an external USB stick through the USB interface on the front panel, the graphic on the newly design colorful display can be saved, that achieves effective oscilloscope experience and easier secondary analysis.



Powerful harmonic analysis capability

The power is able to complete analyses for harmonics of as high as 50 orders and the analysis result can be displayed in bar graph or table.



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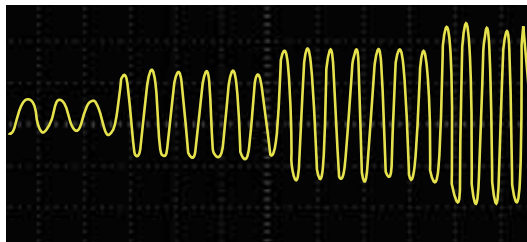


Simple programming on the front panel

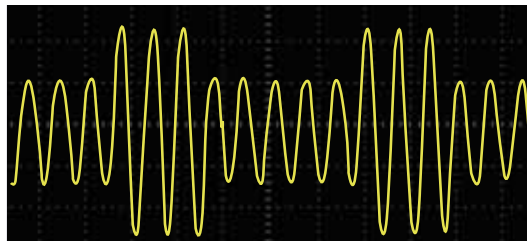
Same as conventional ITECH user-friendly design, IT7600 series provides a convenient front panel for quick and precise programming. The knob can easily and continuously change the output parameters of the power supply, including voltage, frequency etc.

Simulation functions of electric-supply interference, distortion simulation and abnormal wave reproduction

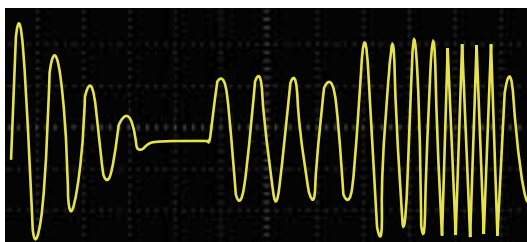
IT7600 allows you to use the panel or program-control software to edit and simulate various power interferences. STEP and LIST mode provide simple methods to implement single-step or changing output. Moreover, data can be imported based on a certain format so the waveform can directly be generated.



Step mode



List mode

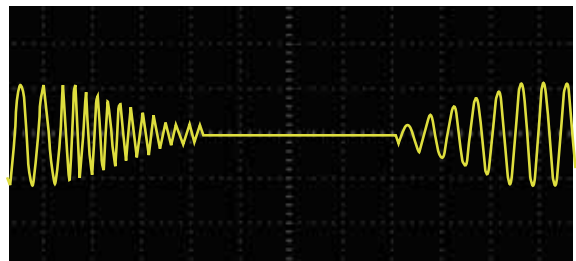


List mode



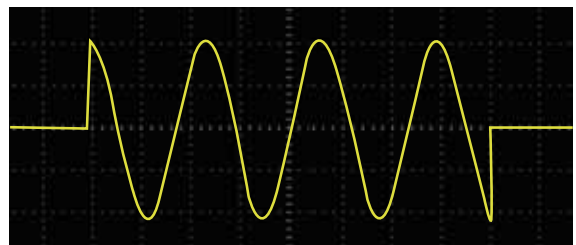
Instant power interruption simulation function

IT7626 power can not only edit the voltage and frequency output but also effectively simulate various power interruptions. The STEP and LIST mode provide users with a simple and easy operation method in order to achieve the gradual or continuous change of output parameters. The amplitude, frequency, phase and waveform of output voltage can also be output by controlling the internal triggers or external triggers within the instrument. Therefore, it can simulate various instant power off, surge, slow rising and other characteristics.



Settable initial phase and stop phase

IT7600 can set the initial phase and stop phase of sine output waveform to meet different test requirements under same test condition. The setting range of the initial phase and stop phase is 0-360°. The phase angle can be regulated to test the impact current of product in different locations, which is applicable to the current impact test of various startup and shutdown operations and regulation of various rectifiers.



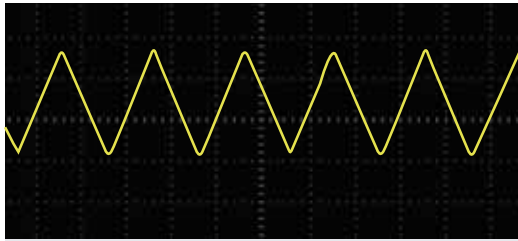
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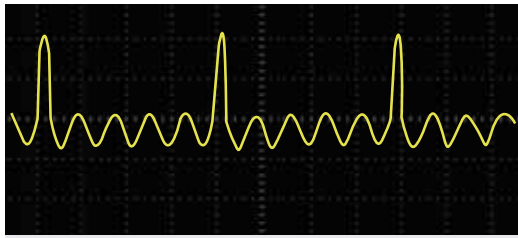


Built-in of abundant waveform

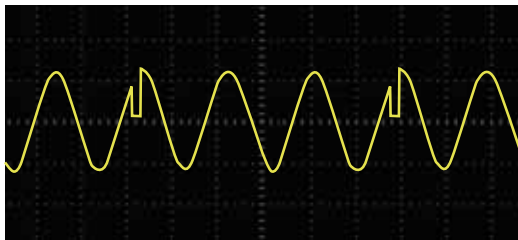
IT7600 provides different kinds of built-in waveforms, such as triangle wave, sine wave, top surge and, trapped wave and other waveforms. The user can invoke these waveforms through menu and display the selected waveform in the LCD screen.



Triangle wave



Surge wave

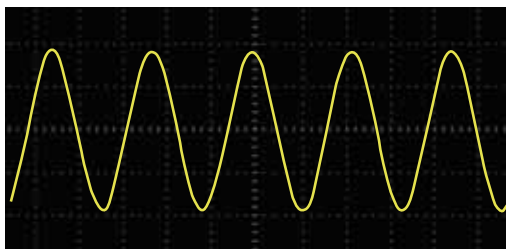


Trapped wave



DDS waveform generation function

IT7600 can provide high output voltage, current, power and frequency range. Moreover, it is also equipped with the function to simulate the AC voltage.



Standard AC output waveform



Self-protection function

The instruments are equipped with over voltage protection (OVP), over current protection (OCP), over power protection (OPP) and over temperature protection (OTP) in order to meet the safety and quality requirements of R&D, quality management and production in different fields of application.



Strong master-slave parallel connection function

IT7600 supports parallel-connection output of several units to improve single-phase AC power supply output current and power range. As a result, it allows using the power in a more flexible way in order to save costs. During parallel connection operation, it only requires setting the Master to achieve the automatic control of slave unit by the Master, which can greatly simplify the operation. In addition, three-phase AC output can also be achieved through parallel connection of three sets of units, which is applicable for the three-phase AC product test.

* Only IT7622, IT7624 and IT7626 have the function.

Intelligent temperature controlled fan

The power adopts the intelligent temperature controlled fan and the fan speed can change along with the internal temperature of the instrument, which cannot only save the energy but also effectively reduce the noise of fan.



Built-in multi-interface

In conventional test instruments, extra interfaces mean extra cost. IT7600 series provides built-in USB, LAN, RS-232, GPIB, CAN interfaces on rear panel and a USB interface on the front panel. Simplifying the configuration process and adding flexibility to change interface used without additional costs.

Your Power Testing Solution

IT7600 AC Power Supply

Specification

Model		IT7622	IT7624	IT7626	IT7627	IT7628
AC Input						
Voltage		220 Vac±10% ^{*1}	220 Vac±10% ^{*1}	220 Vac±10%	380 Vac±10%(Y)	380 Vac±10%(Y)
Phase		1-phase	1-phase	1-phase	3-phase	3-phase
Frequency		47-63 Hz	47-63 Hz	47-63 Hz	47-63 Hz	47-63 Hz
Maximum Current		15 A	30 A	60 A	60 A	120 A
Power Factor		0.7 (typical)	0.7 (typical)	0.7 (typical)	0.7 (typical)	0.7 (typical)
AC Output						
Output Phase		1φ	1φ	1φ	1φ or 3φ	1φ or 3φ
Maximum output power	Total	750 VA	1.5 KVA	3 KVA	9 KVA	18 KVA
	Each phase	-	-	-	3 KVA	6 KVA
Voltage	Range	0 V-300 V, 0 V-150 V/0 V-300 V Auto	0 V-300 V, 0 V-150 V/0 V-300 V Auto	0 V-300 V, 0 V-150 V/0 V-300 V Auto	0 V-300 V, 0 V-150 V/0 V-300 V Auto	0 V-300 V, 0 V-150 V/0 V-300 V Auto
	Resolution	10 mV	10 mV	10 mV	10 mV	10 mV
	Accuracy ^{*2}	±0.2%+(0.2%+0.2%×Kfreq)×FS ^{*3}	±0.2%+(0.2%+0.2%×Kfreq)×FS ^{*3}	±0.2%+(0.2%+0.2%×Kfreq)×FS ^{*3}	±0.2%+(0.2%+0.2%×Kfreq)×FS ^{*3}	±0.2%+(0.2%+0.2%×Kfreq)×FS ^{*3}
Current	(rms)	0-6 Arms (150 Vac)	0-12 Arms (150 Vac)	0-24 Arms (150 Vac)	1φ: 72 A/36 A	1φ: 144 A/72 A
		0-3 Arms (300 Vac)	0-6 Arms (300 Vac)	0-12 Arms (300 Vac)	3φ: 24 A/12 A	3φ: 48 A/24 A
	(peak)	0-18 Apeak (150 Vac)	0-36 Apeak (150 Vac)	0-72 Apeak (150 Vac)	1φ: (CF=3) 216 A/108 A	1φ: (CF=3) 432 A/216 A
Frequency Range		45-5 KHz	45-5 KHz	45-5 KHz	45-5 KHz	45-5 KHz
Total Harmonic Distortion (T.H.D) ^{*4}		≤0.5% at 45-500 Hz (Resistive Load)				
		≤2% at 501-5000 Hz (Resistive Load)				
Crest Factor		3	3	3	3	3
Line Regulation		≤0.1%FS(Resistive Load)				
Load Regulation		≤0.5%FS(Resistive Load)				
Response Time		≤100 μs(typ.)	≤100 μs(typ.)	≤100 μs(typ.)	≤200 μs(typ.)	≤200 μs(typ.)
Meter						
AC Voltage	Range	0-300 Vac	0-300 Vac	0-300 Vac	0-300 Vac	0-300 Vac
	Resolution	10 mV	10 mV	10 mV	10 mV	10 mV
	Accuracy	±(0.2%+0.2%FS)	±(0.2%+0.2%FS)	±(0.2%+0.2%FS)	±(0.2%+0.2%FS)	±(0.2%+0.2%FS)
AC Current (rms)	Range	0-6 Arms	0-12 Arms	0-24 Arms	0-72 Arms	0-24 Arms
	Resolution	10 mA	10 mA	10 mA	10 mA	10 mA
	Accuracy	±0.3%+(0.3%+0.2%×Kfreq)×FS ^{*2}	±0.3%+(0.3%+0.2%×Kfreq)×FS ^{*2}	±0.3%+(0.3%+0.2%×Kfreq)×FS ^{*2}	±0.3%+(0.3%+0.2%×Kfreq)×FS ^{*2}	±0.3%+(0.3%+0.2%×Kfreq)×FS ^{*2}
AC Current (peak)	Range	0-18 Apeak	0-36 Apeak	0-72 Apeak	0-216 Apeak	0-72 Apeak
	Resolution	10 mA	10 mA	10 mA	10 mA	10 mA
	Accuracy	±0.3%+(0.3%+0.2%×Kfreq)×FS ^{*2}	±0.3%+(0.3%+0.2%×Kfreq)×FS ^{*2}	±0.3%+(0.3%+0.2%×Kfreq)×FS ^{*2}	±0.3%+(0.3%+0.2%×Kfreq)×FS ^{*2}	±0.3%+(0.3%+0.2%×Kfreq)×FS ^{*2}
Power	Resolution	10 mW	10 mW	10 mW	10 mW	10 mW
	Accuracy	±0.4%+(0.4%+0.2%×Kfreq)×FS ^{*2}	±0.4%+(0.4%+0.2%×Kfreq)×FS ^{*2}	±0.4%+(0.4%+0.2%×Kfreq)×FS ^{*2}	±0.4%+(0.4%+0.2%×Kfreq)×FS ^{*2}	±0.4%+(0.4%+0.2%×Kfreq)×FS ^{*2}
Phase Degree	Range	0-360°	0-360°	0-360°	0-360°	0-360°
	Resolution	1°	1°	1°	1°	1°
	Accuracy	±1°(45-65 Hz) ^{*6}	±1°(45-65 Hz) ^{*6}	±1°(45-65 Hz) ^{*6}	±1°(45-65 Hz)	±1°(45-65 Hz)
Frequency	Range	45-5 kHz	45-5 kHz	45-5 kHz	45-5 kHz	45-5 kHz
	Resolution	0.1 Hz	0.1 Hz	0.1 Hz	0.1 Hz	0.1 Hz
	Accuracy	±0.1%+0.5 Hz ^{*5}	±0.1%+0.5 Hz ^{*5}	±0.1%+0.5 Hz ^{*5}	±0.1%+0.5 Hz ^{*5}	±0.1%+0.5 Hz ^{*5}
Others						
Interfaces		GPIB / USB / LAN / RS232 / CAN	GPIB / USB / LAN / RS232 / CAN	GPIB / USB / LAN / RS232 / CAN	GPIB / USB / LAN / RS232 / CAN	GPIB / USB / LAN / RS232 / CAN
Dimension (W*H*D)		3 U	3 U	6 U	24 U	37 U

Notes:

^{*1}: AC input: 220 Vac or 110 Vac, which cannot be switched by end users;

^{*2}: Preconditions: Slow loop speed: 45-100 Hz, Fast loop speed: 45-5 kHz;

^{*3}: Full Scale (FS),

IT7622: Vrms 300 Vac, Irms=6 A, Ipk=18 A, P=750 VA;

IT7624: Vrms 300 Vac, Irms=12 A, Ipk=36 A, P=1500 VA;

IT7626/IT7628: Vrms 300 Vac, Irms=24 A, Ipk=72 A, P=3000 VA;

IT7627: Vrms 300 Vac, Irms=72 A, Ipk=216 A, P=9000 VA;

^{*4}: Precondition: output voltage larger than 10 Vac;

^{*5}: Under voltage larger than 30 Vac;

^{*6}: In the "Fast" mode.

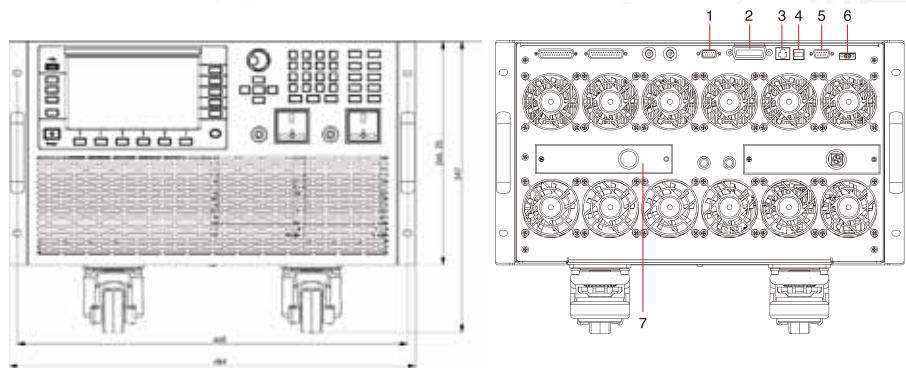
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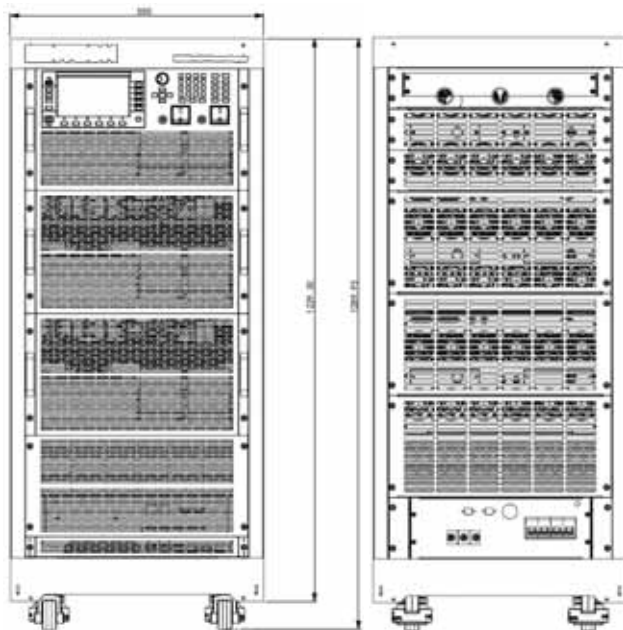
Dimension (mm)

Built-in interfaces (e.g. IT7626)

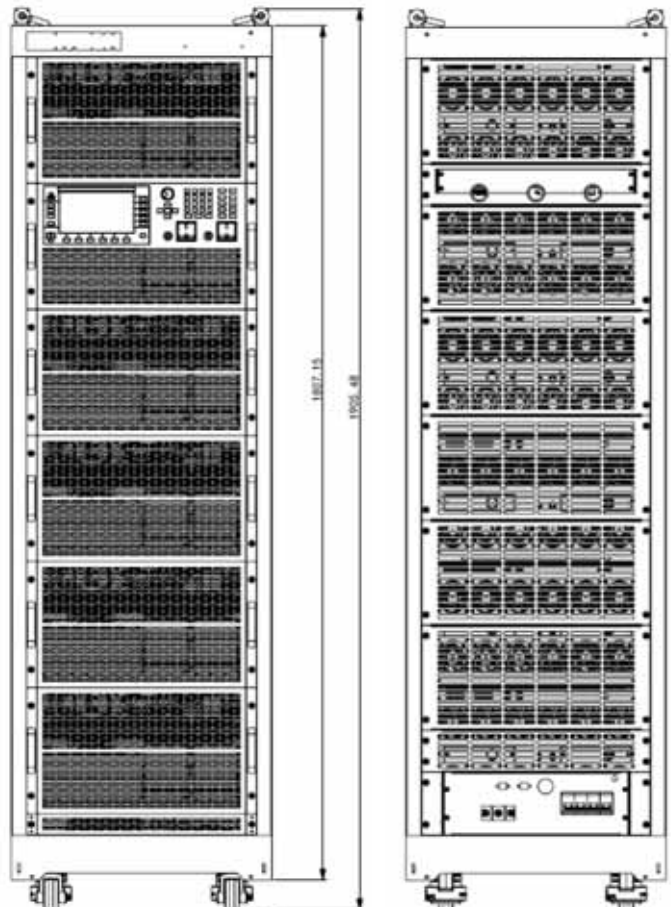
1. External analog control terminal
2. GPIB Interface
3. LAN Interface
4. USB Interface
5. RS232 Interface
6. CAN Interface
7. Remote sense & AC power socket



IT7626



IT7627



IT7628