

Product

IT8600 AC / DC ELECTRONIC LOAD

Features

THD up
to 50th

Oscilloscope
Function

Parallel/
3-Phase
Control

Adjustable
CF/PF

Multiple
Parameters
Simultaneously
Displayed



IT8600

AC / DC ELECTRONIC LOAD

Your Power Testing Solution



IT8600

AC/DC ELECTRONIC LOAD

IT8600 is ITECH latest series of AC/DC electronic loads with power range 0~14.4 kVA and adjustable frequency 45 Hz ~ 450 Hz. The unique oscilloscope waveform display function of IT8600's can display input voltage & current as waveform. It is equipped with measurement modes for different parameters such as inrush current, peak value, effective value, PF (power factor). Voltage harmonics measurement capacity is up to 50th. The built-in RS232, GPIB, LAN and USB communication interfaces are for reliable and fast control. IT8600 is the perfect solution for testing UPS, inverters, AC power supplies and relevant AC electronic components etc.

Features

- Frequency range: 45 Hz~450 Hz
- Power range: 0~14.4 kVA
- Voltage range: 50~420 Vrms, 15~260 Vrms
- Current range: 0~160 Arms
- Parallel connection/ three-phase control *1
- 7" LCD screen
- Oscilloscope function supporting display of voltage and current waveform
- High-speed AD sampling, real-time capture waveform
- Measure Vrms, Vpk, Vdc, Irms, Ipk, Idc, W, VA,
- VAR, CF, PF and FREQ
- Measures THD (V) up to 50th Harmonic
- AC electronic load: CC/CR/CP mode
- DC electronic load: CC/CR/CP/CV mode
- External 0~10 V analog control input, voltage and current analog monitoring function
- OTP, OCP, OVP, UVP and OPP protection function
- GPIB, LAN and USB communication interfaces and external USB flash disk interface

* 1 IT8615 and IT8615L are with the function

Model	Voltage	Current	Power
IT8615	50~420 Vrms	20 Arms	1800 VA
IT8615L	15~260 Vrms	20 Arms	1800 VA
IT8616	50~420 Vrms	40 Arms	3600 VA
IT8617	50~420 Vrms	60 Arms	5400 VA
IT8624	50~420 Vrms	80 Arms	7200 VA

Model	Voltage	Current	Power
IT8625	50~420 Vrms	100 Arms	9000 VA
IT8626	50~420 Vrms	120 Arms	10.8 kVA
IT8627	50~420 Vrms	140 Arms	12.6 kVA
IT8628	50~420 Vrms	160 Arms	14.4 kVA

Applications

- UPS
- Inverter
- Frequency converter
- Generator
- AC power supply
- Electronic component



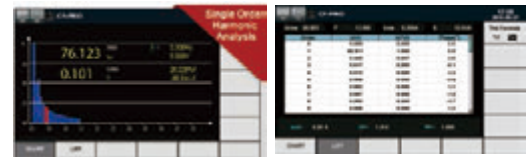
Display Multiple Parameters Simultaneously

IT8600 provides 7 inch LCD display screen, easy user interface. Give full consideration to engineers' requirements in different tests, IT8600 not only can display multiple parameters simultaneously, but also has diversified display modes for choice, such as waveform, histogram and list etc.



Harmonic Measuring And Analysis Function

IT8600 provides powerful data measurement function, which can not only support measurement of conventional parameters such as V_{rms} , V_{pk} , V_{dc} , I_{rms} , I_{pk} , I_{dc} , W , VA , VAR , CF , PF and $Freq$, but also provide unique voltage harmonic analysis function to verify the harmonic interference of the object (UPS, generators, etc.) to be measured over the grid. The harmonic measurement function supports analysis up to the 50th voltage harmonic and it can display the percentage of each harmonic analysis results in different forms.

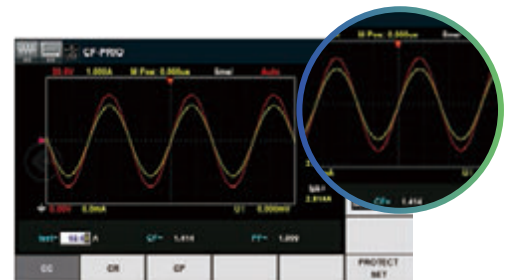


BAR

LIST

Oscilloscope Function

The most unique highlight of IT8600 lies in the oscilloscope display function, which can display the input voltage and current waveform of the device under test measured. Through the screenshot function key to save the current screen picture to peripheral storage disk by the front USB interface, easy for the second analysis.



Parallel/3-Phase Control

IT8600 provides parallel and 3-phase functions for three-phase and high-power applications. In 3-phase applications, users can make Y or Δ connection according to their specific requirements. IT8600 is available for AC 380V input to meet diverse test requirements.

(*Only IT8615 and IT8615L are with the function)



I/V Monitor

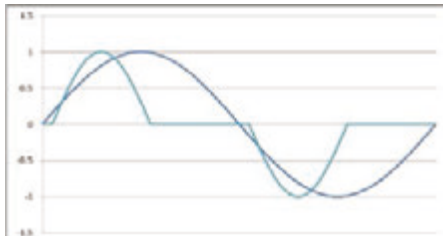
IT8600 AC/DC electronic load is with I/V monitor and allow users to observe current and DUT output voltage through connecting to oscilloscope of BNC. The function is very useful for users to monitor the change of voltage and current by waveforms. Not only simplify the wiring, improve the measurement accuracy, but also save test cost without oscilloscope current probe.

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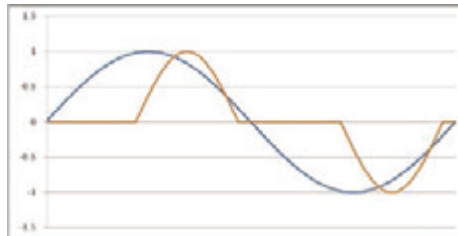
IT8600 AC/DC Electronic Load

Adjustable CF/PF Value

IT8600 has CC, CR and CP operation modes. In CC and CP operation modes, PF or CF or both are available for programming. Power factor range is 0~1 lead or lag, CF setting range is 1.414~5, besides CF and PF, IT8600 also has various settings modes for choice to realize actual current simulation.



CF=2 PF=0.6



CF=2 PF=-0.68



Short circuit simulation function

IT8600 AC/DC electronic load can simulate short circuit under DC load mode. The actual current value consumed under the short circuit state depends on the operating mode and current range of the current load. Users can press [Short] soft key to switch short circuit state. The max short circuit current is 120% current range under CC, CP and CR mode.

Under the CV mode, the short circuit corresponds to the rated voltage value of 0V *1.

*1 Only IT8615 and IT8615L are with CV mode



Data logging function

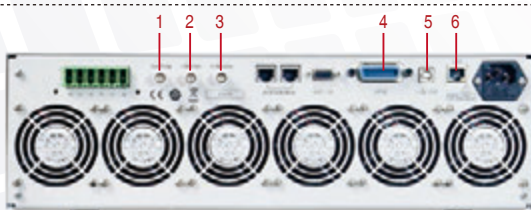
IT8600 series AC/DC electronic load can record all the data in the measurement process, users can press Log key to set the time interval for recording, and press the start key to start recording data, the current measured data is recorded from time to time, the data is saved to the external device storage disk. e.g. IT8615.csv

■ Application: Battery discharge test

Test battery pack performance, draw voltage curve for single battery, plug the U disk before the test, press start key to record data, pull out the U disk after the test.

DateTime	Sd	Time	Load	U _{in}	U _{out}	I _{in}	I _{out}	Power	F	S	Phase	R	Freq	OP	PP	Prod	Time	Temp
2009-02-13 09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009-02-13 09:20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Abundant communication interface



1. Analog input terminal
2. Current monitor terminal
3. Voltage monitor terminal
4. GPIB interface
5. USB interface
6. LAN interface

* Take IT8615 for example

Parameters		IT8615	IT8615L	IT8616
AC Section				
Rated parameter	Input voltage	50~420 Vrms, 600 V peak	15~260 Vrms, 360 V peak	50~420 Vrms, 600 V peak
	Current	0~20 Arms, 60 A peak	0~20 Arms, 60 A peak	0~40 Arms, 120 A peak
	Power	0~1800 VA	0~1800 VA	0~3600 VA
	Frequency	45~450 Hz	45~450 Hz	45~450 Hz
CC Mode *1	Range	0.1~20 Arms	0.1~20 Arms	0.1~40 Arms
	Resolution	2 mA	2 mA	2 mA
	Accuracy	±(0.1%+0.2%FS)	±(0.1%+0.2%FS)	±(0.1%+0.2%FS)
CR Mode *2	Range	3 Ω~2.5 kΩ	3Ω~2.5 kΩ	1.5 Ω~1.25 kΩ
	Resolution	16bit	16bit	16bit
	Accuracy	0.2% +0.01 S	0.2% +0.01 S	0.2% +0.01 S
CP Mode	Range	1800 W	1800 W	3600 W
	Resolution	0.4 W	0.4 W	0.4 W
	Accuracy	0.5%+0.5% FS	0.5%+0.5% FS	0.5%+0.5% FS
Crest factor	Range	1.414~5.0	1.414~5.0	1.414~5.0
(CP,CC mode)	Resolution	0.005	0.005	0.005
	Accuracy	(0.5% / Irms) + 1% FS	(0.5% / Irms) + 1% FS	(0.5%*(1+2/9) / Irms) + 1% FS
Power factor	Range	1 phase lead or lag	1 phase lead or lag	0~1 phase lead or lag
	Resolution	0.001	0.001	0.001
DC Section				
Input rating	voltage	10~ 600	10~ 360 V	10~ 600 V
	current	0.1~20 A	0.1~20 A	0.1~40 A
	power	0~1800 W	0~1800 W	0~1800 W
Operation modes		CC, CV, CR, CP	CC, CV, CR, CP	CC, CR, CP
Short-circuit simulation		Use the CC mode under the maximum power or maximum working current		
Meter				
Current	Range	0~60 A	0~60 A	0~120 A
	Resolution	1 mA	1 mA	1 mA
	Accuracy	0.1%+0.2%FS+0.1%*CF^2*kHz	0.1%+0.2%FS+0.1%*CF^2*kHz	0.2%+0.2%FS+0.2%*CF^2*kHz
Voltage	Range	0~600 V	0~360 V	0~600V
	Resolution	10 mV	10 mV	10 mV
	Accuracy	0.1%+0.1%FS	0.1%+0.1%FS	0.1%+0.1%FS
Meter (continue)				
Others		S(VA), Q(VAR), P(W), Ip+, Ip-, Freq, THDv, CF, PF, R, FFT		
Other				
Voltage Monitor		±600 V/±10 V(Isolated)	±360 V±10 V(Isolated)	±600 V/±10 V(Isolated)
Current Monitor		±60 A/±10 V(Isolated)	±60 A±10 V(Isolated)	±120 A/±10 V(Isolated)
Protection		OCP/OVP/OPP/OTP	OCP/OVP/OPP/OTP	OCP/OVP/OPP/OTP
Interfaces		GPIB/USB/LAN	GPIB/USB/LAN	GPIB/USB/LAN
Dimension(W*H*D)		3U	3U	6U

*1 Typical value at 45 Hz-100 Hz

*2 Resistance accuracy: $(1/(1/R+(1/R)*0.2\%+0.01), 1/(1/R-(1/R)*0.2\%-0.01))$

Test conditions: Voltage>10%FS, Current>10%FS

*3 Operating temperature: 0~40 °C, Temperature coefficient: 100ppm/°C

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IT8600 AC/DC Electronic Load

Parameters		IT8617	IT8624	IT8625
AC Section				
Rated parameter	Input voltage	50~420 Vrms , 600 V peak	50~420 Vrms , 600 V peak	50~420 Vrms , 600 V peak
	Current	0~60 Arms ,180 A peak	0~80 Arms ,240 A peak	0~100 Arms ,300 A peak
	Power	0-5400 VA	0-7.2 kVA	0-9 kVA
	Frequency	45~450 Hz	45~450 Hz	45~450 Hz
CC Mode *1	Range	0.1~60 Arms	0.4~80 Arms	0.1~100 Arms
	Resolution	2 mA	10 mA	20 mA
	Accuracy	±(0.1%+0.2%FS)	±(0.2%+0.2%FS)	±(0.5%+0.5%FS)
CR Mode *2	Range	1 Ω~833 kΩ	0.75 Ω~625 Ω	0.5 Ω~500 Ω
	Resolution	16bit	16bit	16bit
	Accuracy	0.2% +0.01 S	0.2% +0.01 S	0.2% +0.01 S
CP Mode	Range	5400 W	7.2 kW	9 kW
	Resolution	0.4 W	1 W	3 W
	Accuracy	0.5%+0.5% FS	0.5%+0.5% FS	0.5%+0.5% FS
Crest factor	Range	1.414~5.0	1.414~5.0	1.414~5.0
(CP,CC mode)	Resolution	0.005	0.005	0.005
	Accuracy	(0.5%*(1+1/3) / Irms) + 1% FS	(2% / Irms) + 1% FS	(1.5% / Irms) + 1% FS
Power factor	Range	0~1 phase lead or lag	0~1 phase lead or lag	0~1 phase lead or lag
	Resolution	0.001	0.001	0.001
DC Section				
Input rating	voltage	10~ 600 V	10~600 V	10~600 V
	current	0.1~60 A	0.4~80 A	0.1~140 A
	power	0-5400 W	0~7.2 kW	0~12.6 kW
Operation modes		CC、 CR、 CP	CC、 CR、 CP	CC、 CR、 CP
Short-circuit simulation		Use the CC mode under the maximum power or maximum working current		
Meter				
Current	Range	0~180 A	0~240 A	0~300 A
	Resolution	1 mA	5 mA	0.1 A
	Accuracy	0.2%+0.2%FS+0.2%*CF^2* kHz	0.1%+0.2%FS+0.1%*CF^2*kHz	0.1%+0.2%FS+0.1%*CF^2* kHz
Voltage	Range	0~600 V	0~600 V	0~600 V
	Resolution	10 mV	10 mV	10 mV
	Accuracy	0.1%+0.1% FS	0.1%+0.1% FS	0.1%+0.1% FS
Meter (continue)				
Others		S(VA), Q(VAR), P(W), Ip+, Ip-, Freq, THDv, CF, PF, R, FFT		
Other				
Voltage Monitor		±600 V/±10 V(Isolated)	±600 V/±10 V(Isolated)	±600 v/±10 V(Isolated)
Current Monitor		±180 A/±10 V(Isolated)	±240 A/±10 V(Isolated)	±300 A/±10 V(Isolated)
Protection		OCP/OVP/OPP/OTP	OCP/OVP/OPP/OTP	OCP/OVP/OPP/OTP
Interfaces		GPIO/USB/LAN	GPIO/USB/LAN	GPIO/USB/LAN
Dimension(W*H*D)		9U	15U	24U

*1 Typical value at 45 Hz-100 Hz

*2 Resistance accuracy: (1/(1/R+(1/R)*0.2%+0.01), 1/(1/R-(1/R)*0.2%-0.01)

*3 Operating temperature: Voltage>10%FS, Current>10%FS

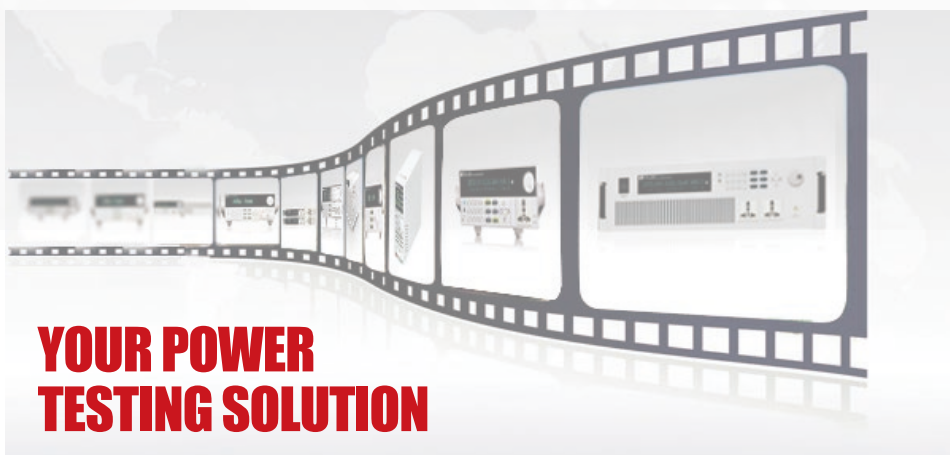
Parameters		IT8626	IT8627	IT8628
AC Section				
Rated parameter	Input voltage	50~420 Vrms, 600 V peak	50~420 Vrms, 600 V peak	50~420 Vrms, 600 V peak
	Current	0~120 Arms, 360 A peak	0~140 Arms, 420 A peak	0~160 Arms, 420 A peak
	Power	0-10.8 kVA	0-12.6 kVA	0-14.4 kVA
	Frequency	45~450 Hz	45~450 Hz	45~450 Hz
CC mode *1	Range	0.6~120 Arms	0.1~140 Arms	0.8~160 Arms
	Resolution	20 mA	20 mA	20 mA
	Accuracy	±(0.2%+0.2%FS)	±(0.5%+0.5%FS)	±(0.2%+0.2%FS)
CR mode *2	Range	0.5 Ω~416 Ω	0.5 Ω~350 Ω	0.375 Ω~312.5 Ω
	Resolution	16bit	16bit	16bit
	Accuracy	0.2% +0.01 S	0.2% +0.01 S	0.2% +0.01 S
CP mode	Range	10.8 kW	12.6 kW	14.4 kW
	Resolution	3 W	3 W	3 W
	Accuracy	0.5%+0.5%FS	0.5%+0.5%FS	0.5%+0.5%FS
Crest factor	Range	1.414~5.0	1.414~5.0	1.414~5.0
(CP,CC mode)	Resolution	0.005	0.005	0.005
	Accuracy	(1.5% / Irms) + 1% FS	(1% / Irms) + 1% FS	(1% / Irms) + 1% FS
Power factor	Range	0~1 phase lead or lag	0~1 phase lead or lag	0~1 phase lead or lag
	Resolution	0.001	0.001	0.001
DC Section				
Input rating	voltage	10~600 V	10~ 600 V	10-600 V
	current	0.6~120 A	0.1~140 A	0.8~160 A
	power	0~10.8 kW	0~12.6 kW	0-14.4 kW
Operation modes		CC、 CR、 CP	CC、 CR、 CP	CC、 CR、 CP
Short-circuit simulation		Use the CC mode under the maximum power or maximum working current		
Meter				
Current	Range	0~360 A	0~420 A	0-480 A
	Resolution	10 mA	0.1 A	0.1 A
	Accuracy	0.1%+0.2%FS+0.1%*CF^2*kHz	0.1%+0.2%FS+0.1%*CF^2*kHz	0.1%+0.2%FS+0.1%*CF^2*kHz
Voltage	Range	0~600 V	0~600 V	0~600 V
	Resolution	10 mV	10 mV	10 mV
	Accuracy	0.1%+0.1% FS	0.1%+0.1% FS	0.1%+0.1% FS
Meter (continue)				
Others		S(VA), Q(VAR), P(W), Ip+, Ip-, Freq, THDv, CF, PF, R, FFT		
Other				
Voltage Monitor		±600 V/±10 V(Isolated)	±360 V/±10 V(Isolated)	±600 V/±10 V(Isolated)
Current Monitor		±360 A/±10 V(Isolated)	±420 A/±10 V(Isolated)	±480 A/±10 V(Isolated)
Protection		OCP、 OVP、 OPP、 OTP	OCP、 OVP、 OPP、 OTP	OCP、 OVP、 OPP、 OTP
Interfaces		GPIOB、 USB、 LAN	GPIOB、 USB、 LAN	GPIOB、 USB、 LAN
Dimension(W*H*D)		24U	24U	37U

*1 Typical value at 45 Hz-100 Hz

*2 Resistance accuracy: $(1/(1/R+(1/R)*0.2\%+0.01), 1/(1/R-(1/R)*0.2\%-0.01))$

Test conditions: Voltage>10%FS, Current>10%FS

*3 Operating temperature: 0~40 °C, Temperature coefficient:100ppm/ °C



This information is subject to
change without notice.

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