

## IT7800 High-power programmable AC/DC power supply

IT7800 provides AC/DC output, and can use AC+DC mode to test the offset simulation of DC voltage. The switching between single phase and three phases can simulate the voltage drop and unbalance of 3 phases. It can edit parameters such as voltage, frequency, phase and etc. It has AC measurement and analysis functions, and can be widely used for the product research and development, production, quality check in fields such as distributed energy, smart grid, new energy and etc.

- 1 Support single/three phase output, can simulate 3 phase output unbalance
- 2 Built-in single phase or three phase AC power meter
- 3 Can realize output modes of AC, DC, AC+DC, when it's AC+DC mode, it can realize the DC voltage offset simulation
- 4 Simulation of arbitrary waveforms output, supporting CSV files of waveforms importing
- 5 Built-in abundant data base of waveforms
- 6 Harmonic analysis
- 7 Harmonic simulation
- 8 Simulation and measurement of inter-harmonic harmonics
- 9 Controllable variation rate of voltage and frequency
- 10 Settable output waveform starting/stop phase angle
- 11 List mode can simulate city grid reproduction and transient power interruption
- 12 Support remote SENSE function to improve measurement accuracy.

Input parameters					
AC input	<b>Wiring connection</b>	3 phase 3wire + ground(PE) *1			
	<b>Line voltage</b>	RMS	190 ~ 528	V	
	<b>Line current</b>	RMS	< 18	A	
	<b>Apparent power</b>		< 3	kVA	
	<b>Frequency</b>		45 ~ 65	Hz	
	<b>Power factor</b>	typ	0.98		
Output parameters					
AC Output	<b>Output voltage</b>	VLN *2	0 ~ 350	V	
	<b>Output current</b>	RMS (1phase)	30	A	
		Crest Factor	3		
		Peak (1phase)	90	A	
	<b>Output power</b>	Max. Power (1phase)	3k	VA	
	Voltage setting				
	<b>Range</b>	1phase	0 ~ 350	V	
	<b>Resolution</b>		0.01	V	
	<b>Accuracy</b>	16Hz ~ 500Hz	0.1%+0.1% F.S		
		500.1Hz ~ 2.4kHz	0.1%+(0.2%*kHz)F.S		
	<b>Temperature coefficient</b>		< 100ppm/C° F.S		
	<b>DC Voltage offset</b>	typ	0.02	Vdc	
	Current Limit setting				
	<b>Range</b>	RMS (1phase)	30	A	
	<b>Resolution</b>		0.01	A	
	<b>Accuracy</b>	16Hz ~ 500Hz	0.3%+0.3% F.S		
		500.01Hz ~ 2.4kHz	0.3%+(0.6%*kHz) F.S		
	<b>Temperature coefficient</b>		< 200ppm/C° F.S		
	Frequency				
	<b>Range</b>	Low *3	16 ~ 500	Hz	
		High *3	16 ~ 2.4k	Hz	
	<b>Resolution</b>		0.01	Hz	
	<b>Accuracy</b>	16Hz ~ 500Hz	0.01%		
500.01Hz ~ 2.4kHz		0.1%			
<b>waveform synthesis</b>	50/60Hz	up to 50	orders		
Phase					

	<b>Range</b>		0 ~ 360	°
	<b>Resolution</b>		0.1	°
DC Output	<b>Voltage setting</b>			
	<b>Range</b>	1phase	-495 ~ 495	Vdc
	<b>Resolution</b>		0.01	V
	<b>Accuracy</b>		< 0.1%+0.1% F.S	
	<b>Temperature coefficient</b>		< 100ppm/C° F.S	
	<b>Current setting</b>			
	<b>Range</b>	1phase	-30 ~ 30	Adc
	<b>Resolution</b>		0.01	A
	<b>Accuracy</b>		< 0.3%+0.3% F.S	
	<b>Temperature coefficient</b>		< 200ppm/C° F.S	
<b>Max. power</b>				
	<b>Total power</b>	Max. Power (1phase )	3k	W
Programmable impedance	<b>Range</b>		0Ω+200μH ~ 1Ω+1mH	
Voltage stability	<b>Line regulation</b>		< 0.05% F.S.	
	<b>Load regulation</b>	DC,16Hz ~ 500Hz	< 0.05% + 0.05% F.S.	
		500.01Hz ~ 2.4kHz	< 0.05% + (0.1%*kHz) F.S	
	<b>THD</b>	16Hz ~ 100Hz	< 0.5%	
		100.01Hz ~ 500Hz	< 1%	
		500.01Hz ~ 2.4kHz	< 1%+(1%*kHz) F.S	
<b>Voltage ripple</b>	RMS	< 0.4	V	
<b>Dynamic response</b>	typ	200	us	
<b>Measurement parameter</b>				
Voltage RMS	<b>Resolution</b>		0.01	V
	<b>Accuracy</b>	DC,16Hz ~ 500Hz	< 0.1%+0.1% F.S.	
		500.01Hz ~ 2.4kHz	< 0.1%+(0.2%*kHz) F.S	
<b>Temperature coefficient</b>		< 100ppm/C° F.S.		
Current RMS	<b>Resolution</b>		0.01	A
	<b>Accuracy</b>	DC,16 ~ 500Hz	< 0.3% + 0.3% F.S.	
		500.01Hz ~ 2.4kHz	< 0.3% + (0.6%*kHz) F.S	
<b>Temperature coefficient</b>		< 200ppm/C° F.S.		
Peak current	<b>Resolution</b>		0.01	A
	<b>Accuracy</b>	DC,16 ~ 500Hz	< 0.4% + 0.6% F.S.	
		500.01Hz ~ 2.4kHz	< 0.4% + (1.2%*kHz) F.S	
Output power	<b>Resolution</b>		0.001	kW
	<b>Accuracy</b>	DC,16 ~ 500Hz	< 0.4% +0.4% F.S.	
		500.01Hz ~ 2.4kHz	< 0.4% + < (0.8%*kHz) F.S	
Harmonic measurement	<b>Max.</b>	50/60Hz	up to 50	orders
<b>Others</b>				
Efficiency	<b>typ</b>		88%	
Protection			OVP, OCP, OPP, OTP, FAN,Sense	
Dimension			483.00mmW*151.3mmH*700mmD (841.6mm include cover and handle)	
weight			26.4	
Working			0C° - 50C°	
Programming response time			2ms	
Communication interface			Built-in USB/CAN/LAN/Digital IO interface, optional GPIB / Analog&RS232	

\*1 supports single phase 220V input, power cord connecting refer to manual.

\*2 According to the output frequency, the output voltage will be reduced, the rated voltage can be out within 1.4K, the maximum output voltage at 2KHz is 253VRMS and 2.4KHz is 211VRMS.

\*3 When loopSpeed Low is low, it can better complied DUT's characteristics ; When LoopSpeed is High, the dynamic response time is faster.