

## 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)		
	<b>Line voltage</b>	RMS	( 200 ~ 480 ) ±10% *1	V
	<b>Line current</b>	RMS	< 233	A
	<b>Apparent power</b>		< 122	kVA
	<b>Frequency</b>		45 ~ 65	Hz
	<b>Power factor</b>	typ	0.98	
Output parameters				
AC Output	<b>Output voltage</b>	V <sub>LN</sub> *2	0 ~ 350	V
		V <sub>LL</sub> (3phase)	0 ~ 606	V
		V <sub>LL</sub> (reverse)	0 ~ 700	V
	<b>Output current</b>	RMS (1phase)	630	A
		Crest Factor	3	
		Peak (1phase)	1890	A
		RMS (3phase/multichannel/reverse )	210	A
		Peak (3phase/multichannel/reverse )	630	A
	<b>Output power</b>	Per Phase/Per Channel	35k	VA
		Max. Power (reverse phase )	70k	VA
		Max. Power (1phase/3phase)	105k	VA
	<b>Voltage setting</b>			
	<b>Range</b>	1phase/3phase/multichannel	0 ~ 350	V
		reverse	0 ~ 700	V
	<b>Resolution</b>		0.01	V
	<b>Accuracy</b>	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	

AC Output	DC Voltage Offset	typ	0.02	Vdc
	<b>Current Limit setting</b>			
	Range	RMS (1phase)	630	A
		RMS (3phase/multichannel/reverse )	210	A
	Resolution		0.1	A
	Accuracy	DC,16Hz ~ 150Hz	< 0.1% + 0.2% F.S.	
		150.01Hz ~ 500Hz	< 0.2% + 0.3% F.S.	
		500.01Hz ~ 2.4kHz	0.3%+(0.6%*kHz) F.S	
	Temperature coefficient		< 200ppm/C° F.S	
	<b>Frequency</b>			
	Range	Low *3	16 ~ 500	Hz
		High *3	16 ~ 2.4k	Hz
	Resolution		0.01	Hz
	Accuracy	16Hz ~ 500Hz	0.01%	
		500.01Hz ~ 2.4kHz	0.1%	
waveform synthesizer	50/60Hz	up to 50	orders	
<b>Phase</b>				
Range		0 ~ 360	°	
Resolution		0.1	°	
DC输出 DC Output	<b>Voltage setting</b>			
	Range	1phase/multichannel	-495 ~ 495	Vdc
		reverse	-990 ~ 990	Vdc
	Resolution		0.01	V
	Accuracy		< 0.1%+0.1% F.S	
	Temperature coefficient		< 100ppm/C° F.S	
	<b>Current setting</b>			
	Range	multichannel/reverse	-210 ~ 210	Adc
		1phase	-630 ~ 630	Adc
	Resolution		0.1	A
	Accuracy		< 0.3%+0.3% F.S	
	Temperature coefficient		< 200ppm/C° F.S	
	<b>Max. power</b>			
	Phase power	Per Phase	35k	W
	Max. power (reverse phase)	Max. Power (reverse phase )	70k	W
Total power	Max. Power (1phase/multichannel )	105k	W	
Programmable impedance	Range		0Ω+200μH ~ 1Ω+1mH	
Voltage stability	Line regulation		< 0.05% F.S.	
	Load regulation	DC,16Hz ~ 500Hz	< 0.05% + 0.05% F.S.	
		500.01Hz ~ 2.4kHz	< 0.05% + (0.1%*kHz) F.S	
	THD	16Hz ~ 100Hz	< 0.5%	
		100.01Hz ~ 500Hz	< 1%	
		500.01Hz ~ 2.4kHz	< 1%+(1%*kHz)	
Voltage ripple	RMS	< 1	V	
Dynamic response	typ	1000	us	
<b>Measurement parameter</b>				
Voltage RMS	Resolution		0.01	V
	Accuracy	DC,16Hz ~ 500Hz	< 0.1%+0.1% F.S.	
		500.01Hz ~ 2.4kHz	< 0.1%+(0.2%*kHz) F.S	
temperature coefficient		< 100ppm/C° F.S.		
Current RMS	Resolution		0.01	A
	Accuracy	DC,16Hz ~ 150Hz	< 0.1% + 0.2% F.S.	
		150.01Hz ~ 500Hz	< 0.2% + 0.3% F.S.	
		500.01Hz ~ 2.4kHz	< 0.3% + (0.6%*kHz) F.S	
Temperature coefficient		< 200ppm/C° F.S.		
Peak current	Resolution		0.01	A
	Accuracy	DC,16Hz ~ 500Hz	< 0.4% + 0.6% F.S.	
500.01Hz ~ 2.4kHz		< 0.4% + (1.2%*kHz) F.S		
Output power	Resolution		0.1	kW
	Accuracy	DC,16Hz ~ 500Hz	< 0.4% +0.4% F.S.	
500.01Hz ~ 2.4kHz		< 0.4% + < (0.8%*kHz) F.S		
Harmonic measurement	Max.	50/60Hz	up to 50	orders
<b>Others</b>				
Efficiency	typ		88%	

Protection		OVP, OCP, OPP, OTP, FAN,ECP,Sense
Working		0C°-50C°
Programming response time		2ms
Remote Sense Compensation Voltage		20V
Communication interface		Built-in USB/CAN/LAN/Digital IO interface, optional GPIB / Analog&RS232
<p>*1 200-240V, 3 phase AC input, power is 60% of the rated.</p> <p>*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 250.76Vrms and 2.4KHz is 208.97Vrms.</p> <p>*3 When loopSpeed Low is low, it can better complied DUT' s characteristics ; When LoopSpeed is High, the dynamic response time is faster.</p> <p>All the above parameters are subject to change without prior notice from ITECH.</p>		