**Model IT7805-350-30**
**High Performance**
**Programmable AC Power Supply**

# 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.

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|---|---|---|---|---|
| **Input parameters** | | | | |
| AC input | **Wiring connection** | 3 phase 3wire + ground(PE) *1 | | |
| | **Line voltage** | RMS | 190 ~ 528 *2 | V |
| | **Line current** | RMS | < 20 | A |
| | **Apparent power** | | < 6 | kVA |
| | **Frequency** | | 45 ~ 65 | Hz |
| | **Power factor** | typ | 0.98 | |
| **Output parameters** | | | | |
| AC Output | **Output voltage** | VLN *3 | 0 ~ 350 | V |
| | **Output current** | RMS (1phase) | 30 | A |
| | | Crest Factor | 3 | |
| | | Peak (1phase) | 90 | A |
| | **Output power** | Max. Power (1phase) | 5k | VA |
| | **Voltage setting** | | | |
| | **Range** | 1phase | 0 ~ 350 | V |
| | **Resolution** | | 0.01 | V |
| | **Accuracy** | 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 | |
| | **DC Voltage offset** | typ | 0.02 | Vdc |
| | **Current Limit setting** | | | |
| | **Range** | RMS (1phase) | 30 | A |
| | **Resolution** | | 0.01 | A |
| | **Accuracy** | 16Hz ~ 500Hz | 0.3%+0.3% F.S | |
| | | 500.01Hz ~ 2.4kHz | 0.3%+(0.6%*kHz) F.S | |
| | **Temperature coefficient** | | < 200ppm/C° F.S | |
| | **Frequency** | | | |
| | **Range** | Low *4 | 16 ~ 500 | Hz |
| | | High *4 | 16 ~ 2.4k | Hz |
| | **Resolution** | | 0.01 | Hz |
| | **Accuracy** | 16Hz ~ 500Hz | 0.01% | |
| | | 500.01Hz ~ 2.4kHz | 0.1% | |
| | **waveform synthesis** | 50/60Hz | up to 50 | orders |

| | | | | |
|---|---|---|---|---|
| | **Phase** | | | |
| | **Range** | | 0 ~ 360 | ° |
| | **Resolution** | | 0.1 | ° |
| DC Output | **Voltage setting** | | | |
| | **Range** | 1phase | -495 ~ 495 | Vdc |
| | **Resolution** | | 0.01 | V |
| | **Accuracy** | | < 0.1%+0.1% F.S | |
| | **Temperature coefficient** | | < 100ppm/C° F.S | |
| | **Current setting** | | | |
| | | 1phase | -30 ~ 30 | Adc |
| | **Resolution** | | 0.01 | A |
| | **Accuracy** | | < 0.3%+0.3% F.S | |
| | **Temperature coefficient** | | < 200ppm/C° F.S | |
| | **Max. power** | | | |
| | **Total power** | Max. Power (1phase ) | 5k | W |
| Programmable impedance | **Range** | | 0Ω+200μH ~ 1Ω+1mH | |
| Load PF | **Range** | | 0 ~ 1 (lagging or leading) | |
| 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) F.S | |
| | **Voltage ripple** | RMS | < 0.4 | V |
| | **Dynamic response** | typ | 200 | us |
| **Measurement parameter** | | | | |
| 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,16 ~ 500Hz | < 0.3% + 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,16 ~ 500Hz | < 0.4% + 0.6% F.S. | |
| | | 500.01Hz ~ 2.4kHz | < 0.4% + (1.2%*kHz) F.S | |
| Output power | **Resolution** | | 0.001 | kW |
| | **Accuracy** | DC,16 ~ 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 |
| **Others** | | | | |
| Efficiency | **typ** | 88% | | |
| Protection | | OVP, OCP, OPP, OTP, FAN,Sense | | |
| Dimension | | 483.00mm W*151.3mmH*700mmD (841.6mm include cover and handle) | | |
| Weight | | 26.4kg | | |
| 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 Max. Output derated to 60% when input with 190-240Vac, 1 ph or 3 ph
*3 According to the output frequency, the output voltage will be reduced, the rated voltage can be out within 1.4K, the maximumoutput voltage at 2KHz is 253VRMS and 2.4KHz is 211VRMS.
*4 When loopSpeed Low is low, it can better complied DUT' s characteristics ; When LoopSpeed is High, the dynamic response time is faster.
All the above parameters are subject to change without prior notice from ITECH.