FTP3000 Power Supply (900 W, 1500 W)

Programmable DC Power Supply

FTP3009-150-20   900W/150V/20A

- Output voltages: 40 V, 80 V, 150 V, 300 V, 600 V;
- Output current: 5 A, 10 A, 20 A, 40 A, 80 A;
- Output power: 900 W, 1500 W;
- Wider voltage and current output range with constant power;
- 0.1%+0.1%F.S. and 0.1%+0.2%F.S. accuracy for voltage and current measurement respectively;
- 20 user programmable sequence files, each support up to 20 steps;
- 1ms typical transient response, Voltage & current slew rate control;
- CV / CC priority start (prevents voltage or current overshoot with output ON);
- Internal resistance simulating, voltage remote sense compensation;
- Optional analog programming & monitoring interface;
- ±OVP, ±OCP, ±OPP, OTP, ±LVP, foldback protection, as well as voltage / current limit;
- Standard RS232, LAN, optional GPIB and CAN ports;
- SCPI and ModBus RTU protocol;
- TFT color LCD display.

General

FTP3000 series DC power supplies provide wider voltage and current output range at full power, this means both low voltage/high current and high voltage/low current devices can be tested using a single power supply. The FTP3000 series adopt 1/2 2U chassis design, with output power 900 W or 1500 W, output voltage ranges from 40 V to 600 V, and output current ranges from 5 A to 80 A.

The FTP3000 series provide accurate output, fast transient response, low ripple noise, excellent line and load regulation, fast and precise programmability. With 4.3-inch color TFT screen, full keypad and rotary knob, convenient for benchtop users. In addition, this series offer standard LAN and RS232 interfaces support both SCPI and Modbus protocol, which is ideal for automated test systems.

Furthermore, the FTP3000 series come standard with user programmable sequence, CV or CC priority start, CV-to-CC or CC-to-CV foldback and built-in test routines for battery internal resistance simulation, etc., to name a few.

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AC input

All models are provided with an active Power Factor Correction (PFC) circuit and designed for a usage in single-phase 190 VAC ~ 265 VAC input, power factor 0.98, power supply efficiency is larger than 90%.


Wide operating region with constant power

All models provides wide range of output voltage & current within the power rating of the power supply, this means both low voltage/high current and high voltage/low current DUTs can be tested using a single supply avoiding the need for multiple power supplies.
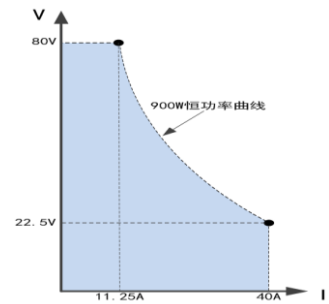
Programmable sequence

All models provides users with a programmable sequence function, which can simulate power supply interruptions, instantaneous drops, and other voltage and current changes. The sequence feature allows users to program a list of steps to the power supply's internal memory and execute them. A total of 20 steps can be allocated to each internal memory location, up to a maximum of 20 locations (sequences). The test sequence can be programmed locally through the keypad and rotary knob. Test sequences can be linked, as well as configured for single or repeated execution. Each steps' settings include voltage, current, duration, and duration time range is 1 ms...86400 s.
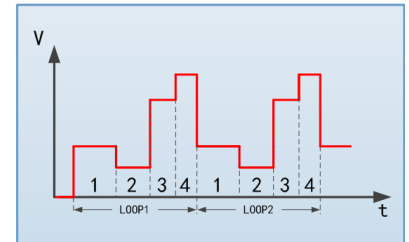

Internal resistance simulating

All models can simulate the output characteristic of battery by setting the internal resistance. When the output current of the power supply increases, the output voltage will be adjusted automatically according to the preset internal resistance value.

CV / CC priority

When power supply is connected to an inductive or capacitive load, it will cause voltage or current overshoot, which may trigger the protection of the device under test, or even cause the device under test to be damaged in severe cases. This series power supply provides CC priority and CV priority function, which forces the power supply to operate in CC or CV mode at the moment the output is turned on, effectively avoids the current or voltage overshoot resulted from capacitive or inductive load.
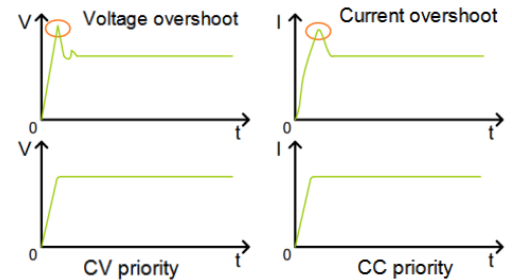
Optional analog programming and monitoring interface

In addition to front panel and remote interface control, there is a galvanically isolated analog interface terminal, located on the rear of the device. It offers analog inputs to set voltage, current from 0...100%F.S. through control voltages of 0 V...5 V. To monitor the output voltage and current, there are analog outputs with 0 V...5 V. Also, several inputs and outputs are available for controlling and monitoring the device status. The controlling speed of analog programming is 1000 points per second.

Protective features

For protection of the equipment connected, the series provide programmable protection functions such as OVP, OCP, OPP and LVP. Moreover, there are built-in hardware protection functions OV, OC, OP and OTP. If a protection is triggered, the DC output will be shut off immediately and a status signal will be prompt on the display and via the interfaces. Similarly, foldback protection is used to disable the output when a transition is made between the CC and CV operating modes. The DC output will be shut off and locked in foldback mode after a specified delay if the power supply transitions into CV or CC mode, depending on the foldback mode settings. This feature is particularly useful for protecting current or voltage sensitive loads.

Digital interfaces

All models features two galvanically isolated digital interfaces by default, these are standard RS232 and LAN (optional GPIB, CAN interfaces). LAN and RS232 can be used to control and monitor the devices either with SCPI language commands or ModBus RTU protocol, while with GPIB only SCPI is supported, with CAN only CANopen is supported.

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Control software

The series provide a control software for Windows PCs, which can read test data, generate images, export reports, print reports, etc. in real time, it is convenient for customers to use.

Options

Anti backflow current module;

Digital interface modules for GPIB, CAN, CANopen;

Analog programming and monitoring interface.

Model options

Voltage	Model	Current	Power	Voltage	Model	Current	Power
40V	FTP3009-40-80	80A	900W	80V	FTP3009-80-40	40A	900W
	FTP3015-40-80	80A	1500W		FTP3015-80-40	40A	1500W
Voltage	Model	Current	Power	Voltage	Model	Current	Power
150V	FTP3009-150-20	20A	900W	300V	FTP3009-300-10	10A	900W
	FTP3015-150-20	20A	1500W		FTP3015-300-10	10A	1500W
Voltage	Model	Current	Power	Voltage	Model	Current	Power
600V	FTP3009-600-5	5A	900W	--	--	--	--
	FTP3015-600-5	5A	1500W				

Optional accessories table 1

Item	Model name or specs	Notes
Analog interface	Model name ends with Suffix "F"	
Anti backflow current module	Model name ends with Suffix "D"	Excludes 40V model
CAN interface	Model name ends with Suffix "R"	
GPIB interface	FT7130	RS232 to GPIB

Dimension
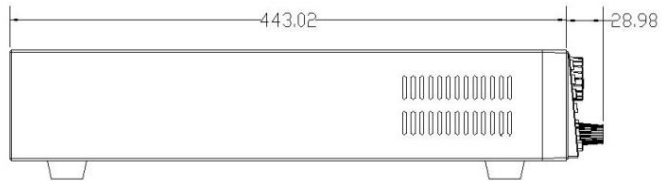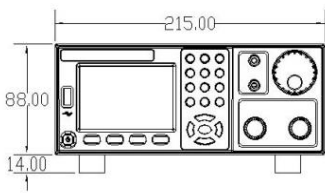
Specifications

Model	FTP3009-40-80	FTP3009-80-40	FTP3009-150-20	FTP3009-300-10	FTP3009-600-5
Voltage	0～40V	0～80V	0～150V	0～300V	0～600V
Current	0～80A	0～40A	0～20A	0～10A	0～5A
Power	900W				
Model	FTP3015-40-80	FTP3015-80-40	FTP3015-150-20	FTP3015-300-10	FTP3015-600-5
Voltage	0～40V	0～80V	0～150V	0～300V	0～600V
Current	0～80A	0～40A	0～20A	0～10A	0～5A
Power	1500W				

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Voltage programming				
Resolution	16Bits			
Accuracy	0.1%+0.1%F.S.			
Current programming				
Resolution	16Bits			
Accuracy	0.1%+0.2% F.S.			
External analog programming				
Control voltage	0～5V corresponds to 0～100%F.S.			
Voltage accuracy	0.2%F.S.			
Current accuracy	0.5%F.S.			
Analog output				
Output voltage	0～100%F.S. corresponds to 0～5V.			
Voltage accuracy	0.5%F.S.			
Current accuracy	0.5%F.S.			
Line regulation				
Voltage	0.01%+0.01%F.S.			
Current	0.02%+0.01%F.S.			
Load regulation				
Voltage	0.01%+0.05%F.S.			
Current	0.02%+0.1%F.S.			
Voltage measurement				
Resolution	16Bits			
Accuracy	0.1%+0.1%F.S.			
Current measurement				
Resolution	16Bits			
Accuracy	0.1%+0.2%F.S.			
Output noise & ripple				
Ripple Vpp	40mV	60mV	80mV	150mV	300mV
Ripple Vrms	10mV	20mV	20mV	30mV	60mV
Slew rate				
Voltage	5V/ms(max)			
Current	2A/ms(max)			
OVP setting				
Range	0～110%F.S.			
Accuracy	1%F.S.			
Transient response	Typical 1ms, voltage recover to the designed accuracy after a 50% change of load			
Efficiency	0.9(Typical)			
Communication	RS232, LAN			
INPUT	190VAC～265VAC, 47Hz～63Hz, PF: 0.99(Typical)			
Working temp	0℃～40℃			
Storage temp	-20℃～70℃			
Altitude	＜2000m			
Size	215 (W)×88(H)×452.5(D)mm			
Weight	7kg			