Datasheet

Programmable DC Power Supply FTP3000

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				
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				

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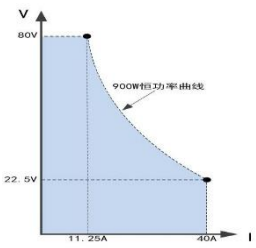
- Output voltages: 40 V, 80 V, 150 V, 300 V, 600 V;
- Output current: 5 A, 10 A, 20 A, 40 A, 80 A;
- Output power: 900 W, 1500 W;
- CV, CC, CP operation modes;
- Precision V & I measurement;
- High speed programming;
- 1ms typical transient response;
- Programmable sequence;
- Voltage & current slew rate control;
- CV / CC priority;
- Foldback protection;
- Wide operating region for output;
- Internal resistance simulating;
- Remote sense compensation;
- Optional analog programming & monitoring interface;
- ±OVP, ±OCP, ±OPP, OTP, ±LVP;
- Voltage limit, current limit;
- Standard RS232, LAN, optional CAN ports;
- SCPI and ModBus RTU protocol;
- TFT color LCD display.

General

FTP3000 series programmable DC power supply is a universal bench top power supply, with the features of high power factor, high efficiency, and wide range of output. Its wide range voltage / current output and automatic constant power function can greatly increase the application coverage. Accurate output (voltage: 0.1%+0.1%F.S.; current: 0.1%+0.2%F.S.), fast response (1ms typical) and low ripple noise (Vrms 0.02%F.S. typical) have always been the heritage of Startests Power. These power supplies are well suited for R&D, design verification, production test, and more comprehensive testing in power electronics industry.

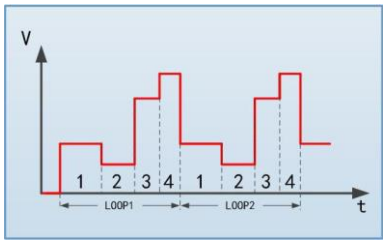
Wide operating region with constant power

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, also it can be programmed remotely via the RS232, GPIB, or LAN interfaces using SCPI commands with the included application software. Test sequences can be linked, as well as configured for single or repeated execution. Each steps' settings include voltage, current, duration.



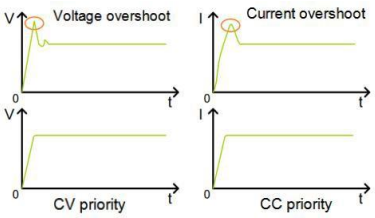
AC input

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%.

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% through control voltages of 0 V...10 V or 0 V...5 V. To monitor the output voltage and current, there are analog outputs with 0 V...10 V or 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, it is possible to set an overvoltage protection threshold (OVP), as well as one for overcurrent (OCP) and overpower (OPP). As soon as one of these thresholds is reached for any reason, the DC output will be immediately shut off and a status signal will be prompt on the display and via the interfaces. There is furthermore an overtemperature protection (OTP), which will shut off the DC output if the power supply overheats. 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. The power supply is also able to detect abnormally low or high AC input power and shut off DC output when this condition occurs.

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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.

Control software

Included with the devices is a control software for Windows PCs, which allows for the user to remotely control the power supply, execute test sequences, or log measurements. It has a direct input mode for SCPI and ModBus RTU commands and a firmware update feature. Programming manual and a complete set of development DLLs are available to reduce programming time and increase productivity.

Model

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
150V	FTP3009-150-20	20A	900W	300V	FTP3009-300-10	10A	900W
	FTP3015-150-20	20A	1500W		FTP3015-300-10	10A	1500W
600V	FTP3009-600-5	5A	900W	-	-	-	-
	FTP3015-600-5	5A	1500W			-	-

Optional accessories table

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

Specification	DC2-2P15M	DC16-2P20M	DC25-2P25M	DC50-2P20M	DC50-2P40M	DC120-2P20M	DC150-2P20M
Max voltage	750V						
Max current	10A	60A	100A	200A	200A	300A	400A
Terminal	M8/Alligator	M8/M8	M8/M8	M8/M8	M8/M8	M8/M8	M10/M10
Cross-sectional area	4.0mm²	16mm²	25mm²	50mm²	50mm²	120mm²	150mm²
Length	~1.5m	~2m	~2m	~2m	~4m	~2m	~2m

Dimension