

Power Electric Tester

III. TH6700A Series Programmable Switch DC Power Supply

Features

- Wide range, and constant power output
- High efficiency and high power density
- Programmable internal resistance, designed for battery output simulation
- Constant current (CC) priority mode, prevent overshoot for LED power supply
- Master-slave series and parallel operation
- 4-Digit LED display
- Voltage and current adjustment with knob
- programmable voltage or current rising time
- RS232, USB HOST, USB DEVICE, LAN, and analog control interface



TH6700A

Rack mount (mm):

71.5(W)x146(H)x420(D) 【TH6711A/6721A/6731A/6741A】

143(W)x146(H)x420(D) 【TH6712A/6722A/6732A/6742A】

215(W)x146(H)x420(D) 【TH6713A/6723A/6733A/6743A】

Dimension (mm):

71.5(W)x132(H)x420(D) 【TH6711A/6721A/6731A/6741A】

143(W)x132(H)x420(D) 【TH6712A/6722A/6732A/6742A】

215(W)x132(H)x420(D) 【TH6713A/6723A/6733A/6743A】

Net weight :

3.4kg 【TH6711A/6721A/6731A/6741A】

5.7kg 【TH6712A/6722A/6732A/6742A】

8 kg 【TH6713A/6723A/6733A/6743A】

RS232	LAN	Analog Control Interface	USB HOST	USB DEVICE
standard	standard	standard	standard	standard

Brief Introduction

■ TH6700A series is a single channel output, wide range programmable switch mode DC power supply, with three output powers of 360W, 720W, and 1080W. Users are able to realize 2 master-slave in series or 3 master-slave in parallel connection, to achieve the requirements of higher voltage and higher current output.

TH6700A series is designed with adjustable slope function that allows users to set the rise time and fall time of current and voltage output. When testing lighting devices and large capacitors, inrush current will be generated as soon as the output is turned on, which severely shortens the lifetime of the tested parts. In this case, the slope function ensures the voltage transmission is smooth and slow at the switching moment which prevents the tested parts from being damaged.

TH6700A series CV/CC priority mode protects the tested parts well. The traditional power supply in CV mode will instantly bring a large surge current to the capacitive load while turning on the output. TH6700A series power supply can run in CC mode at the start of output, which avoids sudden peak current and protects the device from being damaged by surge current.

TH6700A series can simulate battery output with its programmable internal resistor. For instance, a battery supplies power to a device, the applied voltage drops as it passes through the battery's internal resistance. With TH6700A series power supply, the internal resistance can be simulated by setting values, thus causing the output voltage to drop.

TH6700A series provides OVP, OCP, and OTP protection function. Once the output voltage or current exceeds the preset value, the output will be immediately shut down. Once the temperature inside the machine exceeds a certain temperature, the output will be shut down as well.

TH6700A series can be connected to 2 or 4-terminal measurement from the rear panel. The 4-terminal measurement has the remote compensation function, which compensates the pressure drop from the power supply to the parts to be tested.

Application

- R & D and design verification common test
- Clean energy, solar cells, electric vehicles
- Production line table routine testing and maintenance
- Automated device integration testing
- Solar photovoltaic simulation test
- Teaching laboratory
- LED test

Specifications

Parameter		TH6711A	TH6712A	TH6713A	TH6721A	TH6722A	TH6723A	TH6731A	TH6732A	TH6733A	TH6741A	TH6742A	TH6743A	
Rated Output	Rated Power	360W	720W	1080W	360W	720W	1080W	360W	720W	1080W	360W	720W	1080W	
	Max Power	Rated output *105%												
	Rated Voltage	0-30V	0-30V	0-30V	0-80V	0-80V	0-80V	0-250V			0-800V			
	Max Voltage	31.5V			84V			262.5V			840V			
	Rated Current	0-33A	0-66A	0-100A	0-12.5A	0-25A	0-37.5A	4.2A	8.4A	12.6A	1.32A	2.64A	3.96A	
Setting	Max Current	36A	72A	108A	13.5A	27A	40.5A	4.5A	9A	13.5A	1.44A	2.88A	4.32A	
	Voltage Range	0-31.5V			0-84V			0-262.5V			0-840V			
Load Regulation	Current Range	0-36A	0-72A	0-108A	0-13.5A	0-27A	0-40.5A	0-4.5A	0-9A	0-13.5A	0-1.44A	0-2.88A	0-4.32A	
	Voltage	≤20mV				≤45mV			≤130mV		≤405mV			
Line Regulation	Current	≤41mA	≤77mA	≤113mA	≤18.5mA	≤32mA	≤45.5mA	≤9.5mA	≤14mA	≤18.5mA	≤6.44mA	≤7.88mA	≤9.32mA	
	Voltage	≤18mV				≤43mV			≤128mV		≤403mV			
Set Value Resolution	Current	≤41mA	≤77mA	≤113mA	≤18.5mA	≤32mA	≤45.5mA	≤9.5mA	≤14mA	≤18.5mA	≤6.44mA	≤7.88mA	≤9.32mA	
	Voltage	10mV							100mV					
Readback Value Resolution	Voltage	10mV							100mV					
	Current	10mA	10mA	100mA	10mA	10mA	10mA	1mA	1mA	10mA	1mA	1mA	1mA	
Set Value Accuracy (25°C±5°C)	Voltage (>0.1V)	±0.1%+10mV							±0.1%+200mV			±0.1%+400mV		
	Current (>0.1A)	±0.1%+30mA	±0.1%+60mA	±0.1%+100mA	±0.1%+20mA	±0.1%+40mA	±0.1%+50mA	±0.1%+5mA	±0.1%+10mA	±0.1%+20mA	±0.1%+2mA	±0.1%+4mA	±0.1%+6mA	

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Specifications

Readback Value Accuracy (25°C±5°C)	Voltage (>0.1V)	≤0.1%+20mV						≤0.1%+200mV			≤0.1%+400mV		
	Current (>0.1A)	≤0.1%+40mA	≤0.1%+70mA	≤0.1%+100mA	≤0.1%+20mA	≤0.1%+40mA	≤0.1%+50mA	≤0.1%+5mA	≤0.1%+10mA	≤0.1%+20mA	≤0.1%+2mA	≤0.1%+4mA	≤0.1%+6mA
"Ripple and Noise (20Hz-2MHz)"	Differential Mode Voltage	≤60mVp-p and 7mVrms	≤80mVp-p and 11mVrms	≤100mVp-p and 14mVrms	≤60mVp-p and 7mVrms	≤80mVp-p and 11mVrms	≤100mVp-p and 14mVrms	≤80mVp-p and 15mVrms	≤100mVp-p and 15mVrms	≤120mVp-p and 15mVrms	≤150mVp-p and 30mVrms	≤200mVp-p and 30mVrms	≤200mVp-p and 30mVrms
	Differential Mode Current	≤72mArms	≤144mArms	≤216mArms	≤27mArms	≤54mArms	≤81mArms	≤10mArms	≤20mArms	≤30mArms	≤5mArms	≤10mArms	≤15mArms
"Dynamic Recovery Time (50% - 100% Load) Load Frequency = 100Hz"	Recover to 0.1% + 10mV: ≤2ms							≤2ms					
Rise Time (Full Load)	10%-90%	≤50ms						≤100ms			≤150ms		
Rise Time (No Load)	10%-90%	≤50ms						≤100ms			≤150ms		
Drop Time (Full Load)	90%-10%	≤50ms						≤150ms			≤300ms		
Drop Time (No Load)	90%-10%	≤500ms						≤1200ms			≤2000ms		
Start Delay	Setting Range	0-99.99s						0-99.99s					
Stop Delay	Setting Range	0-99.99s						0-99.99s					
Slope Setting	Voltage Rise	0.01-60V/s			0.1-160V/s			0.1-500V/s			1-1600V/s		
	Voltage Drop	0.01-60V/s			0.1-160V/s			0.1-500V/s			1-1600V/s		
	Current Rise	0.01-72A/s	0.1-144A/s	0.1-216A/s	0.01-27A/s	0.01-54A/s	0.01-81A/s	0.001-9A/s	0.01-18A/s	0.01-27A/s	0.001-2.88A/s	0.001-5.76A/s	0.001-8.64A/s
	Current Drop	0.01-72A/s	0.1-144A/s	0.1-216A/s	0.01-27A/s	0.01-54A/s	0.01-81A/s	0.001-9A/s	0.01-18A/s	0.01-27A/s	0.001-2.88A/s	0.001-5.76A/s	0.001-8.64A/s
Analog Internal Resistance	Setting Range	0-0.833Ω	0-0.417Ω	0-0.278Ω	0-5.926Ω	0-2.963Ω	0-1.975Ω	0-55.55Ω	0-27.77Ω	0-18.51Ω	0-555.5Ω	0-277.8Ω	0-185.1Ω
"External Voltage Control (25°C±5°C)"	CV Accuracy	Rated Output Voltage±0.5%						Rated Output Voltage±0.5%					
	CC Accuracy	Rated Output Current±1%						Rated Output Current±1%					
"External resistance control (25°C±5°C)"	CV Accuracy	Rated Output Voltage±1.5%						Rated Output Voltage±1.5%					
	CC Accuracy	Rated Output Current±1.5%						Rated Output Current±1.5%					
Power Factor	100VAC (Full Load)	0.99						0.99			0.99		
	200VAC (Full Load)	0.97						0.97			0.97		
Efficient	100VAC (Full Load)	75%			76%			77%			78%		
	200VAC (Full Load)	77%			78%			79%			80%		
Master-Slave Control	Master-Slave Parallel	3 Sets including the mater tester						3 Sets including the mater tester					
	Master-Slave Series	2 Sets including the mater tester						2 Sets including the mater tester					
Protection	OVP	3-33V	3-33V	3-33V	8-88V	8-88V	8-88V	20-275V			20-880V		
	Accuracy	N/A						±2% Rated Output Voltage					
	OCP	3.6-37.8A	5-75.6A	5-113.4A	1.35-14.18A	2.7-28.35A	4.05-42.53A	0.45-4.72A	0.9-9.45A	1.35-14.17A	0.144-1.512A	0.288-3.024A	0.432-4.536A
	Accuracy	N/A						±2% Rated Output Current					
	OTP	Internal Temperature Rise Determines						Internal Temperature Rise Determines					
Power Supply		88-265VAC, 50/60HZ						88-265VAC, 50/60Hz					

*Note: Power regulation rate (88-132VAC or 170-265VAC, constant load).

Load regulation rate (no load - full load, constant input voltage).

Rise time (10%-90% of rated output voltage, with rated resistive load)

Drop time (90%-10% of rated output voltage, with rated resistive load)

Dynamic recovery time (when the load changes from 50% to 100% of the rated output current, the time for the output voltage to recover within the range of 0.1%+10mV of the rated output")