

Power Electric Tester

III. TH8300 Series Programmable DC Electronic Load



Features

- 5-module/2-module frame
- Unit maximum power 2500W, maximum current 400A
- Module maximum power 500W, maximum current 80A, and maximum voltage 600V
- High resolution: 0.1mV/10μA
- Up to 50kHz dynamic frequency
- Up to 500kHz sampling speed
- 12 advanced test functions
- Modular design, support each module to operate independently
- Modular 40 files storage
- One single machine can support up to five modules in parallel and support up to ten channels
- Connect via CAN interface, support up to four complete machines online
- 24-bit 2.8-inch color LCD display
- Chinese and English operation interface
- Smart fan system
- Support power-on hold function
- Support timing function
- Electrical isolation, external input and output
- Support over current protection (OCP), over voltage protection(OVP), over power protection (OPP), over temperature protection(OTP), reverse polarity protection (REV), low voltage protection (LVP)



TH8300



TH8310

Application

- Power supply
Chargers, switching power supplies, communication power supplies, LED drivers, mobile phone batteries, power banks, etc.
- New energy
Solar cells, new power cars, electric bicycles
- Electronic power components
Fuse/connector/relay/sensor
- Automation equipment integration test

RS232	USB HOST	USB DEVICE	GPIO	LAN	CAN	SYSTEM I/O
standard	standard	standard	standard	standard	standard	standard

Dimension(mm): 477mm(W)x177mm(H)x590mm(D) Weight: 15kg
Dimension(mm): 142mm(W)x85.5mm(H)x550mm(D) Weight: 4.2kg

Specifications

Main machine		TH8300 Frame					TH8310 Frame			
Supported modules		5					2			
Interface		RS232, USB HOST, USB DEVICE, LAN, GPIB, SYSTEM I/O, CAN								
Storage		40 groups (50 groups of status memory)								
Power supply		90-130VAC or 175-253VAC (47-63Hz)								
Power consumption		Less than 300VA								
Temperature and environment	Operating temperature	0 degrees Celsius - 40 degrees Celsius								
	Operating humidity	10%-90% (non-condensing)								
	Storage temperature	-20 degrees Celsius -70 degrees Celsius								
	Altitude	Less than 2000m								
	Pollution degree	Pollution degree 2								
Security Level		Safety Category II								
Size and Weight	Frame Size	480mm×177mm×590mm					260mm×177mm×590mm			
	Frame Weight	15kg					11kg			
Module Model		TH8301-80-20	TH8301A-80-20	TH8302-80-40	TH8303-80-60	TH8304-80-80	TH8305-80-80	TH8302-600-10	TH8303-600-15	TH8305-600-30
Input Power		100W×2	200W×2	200W×1	300W×1	400W×1	500W×1	200W×1	300W×1	500W×1
Input Voltage		0-80V						0-600V		
Input Current		0-20A	0-20A	0-40A	0-60A	0-80A	0-80A	0-10A	0-15A	0-30A
Minimum operating voltage		0.5V@0.2A	0.5V@0.2A	0.5V@0.4A	0.5V@0.6A	0.4V@0.8A	0.4V@0.8A	2V@0.1A	2V@0.15A	2V@0.3A
		0.5V@2A	0.5V@2A	0.5V@4A	0.4V@8A	0.4V@8A	2V@1A	2V@1.5A	2V@3A	2V@3A
		0.5V@20A	0.5V@20A	0.5V@40A	0.4V@80A	0.4V@80A	2V@10A	2V@15A	2V@30A	2V@30A
Standard Mode		Constant current (CC), constant resistance (CR), constant voltage (CV), constant power (CP)								
Constant voltage (CV)	Range/Resolution	6V/0.1mV, 16V/1mV, 80V/1mV						80V/1mV, 150V/10mV, 600V/10mV		
	Accuracy	0.05%+0.1%FS								

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Constant current (CC)	Range	0-0.2A	0-0.2A	0-0.4A	0-0.6A	0-0.8A	0-0.8A	0-0.1A	0-0.15A	0-0.3A
	Resolution	0.01mA	0.01mA	0.01mA	0.01mA	0.01mA	0.01mA	0.005mA	0.005mA	0.005mA
	Range	0-2A	0-2A	0-4A	0-6A	0-8A	0-8A	0-1A	0-1.5A	0-3A
	Resolution	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA	0.05mA	0.05mA	0.05mA
	Range	0-20A	0-20A	0-40A	0-60A	0-80A	0-80A	0-10A	0-15A	0-30A
	Resolution	1mA	1mA	1mA	1mA	1mA	1mA	0.5mA	0.5mA	0.5mA
Accuracy		0.1%+0.1%FS								
Constant resistance (CR)	Range	0.04-80Ω (100W/6V)	0.04-80Ω (100W/6V)	0.03-60Ω (200W/6V)	0.015-30Ω (300W/6V)	0.01-20Ω (400W/6V)	0.01-20Ω (400W/6V)	0.2-400Ω (200W/80V)	0.13-270Ω (300W/80V)	0.1-200Ω (500W/80V)
		1.4-2.9kΩ (100W/16V)	1.4-2.9kΩ (100W/16V)	1.0-2.16kΩ (200W/16V)	0.3-600Ω (300W/16V)	0.36-720Ω (400W/16V)	0.3-720Ω (400W/16V)	3-6kΩ (200W/150V)	1.9-4kΩ (300W/150V)	1.5-3kΩ (500W/150V)
		6-12kΩ (100W/80V)	6-12kΩ (100W/80V)	4.3-9kΩ (200W/80V)	1.5-3kΩ (300W/80V)	1.5-2.9kΩ (400W/80V)	1.5-2.9kΩ (400W/80V)	300-300kΩ (200W/600V)	208-200kΩ (300W/600V)	150-150kΩ (500W/600V)
	Resolution	0.1Ω								
	Accuracy*1	1%								
Constant power (CP)	Range	0-2W	0-4W	0-4W	0-6W	0-8W	0-10W	0-4W	0-6W	0-10W
	Resolution	1mW	2mW	2mW	3mW	4mW	5mW	2mW	3mW	5mW
	Range	0-10w	0-20w	0-20w	0-30w	0-40w	0-50w	0-20W	0-30w	0-50w
	Resolution	10mW	20mW	20mW	30mW	40mW	50mW	20mW	30mW	50mW
	Range	0-100w	0-200w	0-200w	0-300w	0-400w	0-500w	0-200W	0-300w	0-500w
	Resolution	100mW	200mW	200mW	300mW	400mW	500mW	200mW	300mW	500mW
Accuracy		1%								
Advanced mode		Dynamic test, dynamic frequency scan, CR-LED test, battery test, time test, MPPT test, OCPT test, OVPT test, OPPT test, sine wave test, list test, automatic test								
Dynamic mode-constant current mode										
Minimum working voltage		1.5V						3V		
Frequency	Range	100Hz-50kHz/0.01Hz-1kHz								
	Accuracy	1μs/1ms+100ppm								
	Duty cycle	1-99% (Minimum rise time controlled)								
Slope	Range	0.04A/ms-0.02A/μs	0.04A/ms-0.02A/μs	0.08A/ms-0.04A/μs	0.12A/ms-0.06A/μs	0.16A/ms-0.08A/μs	0.16A/ms-0.08A/μs	0.02A/ms-0.01A/μs	0.03A/ms-0.015A/μs	0.06A/ms-0.03A/μs
	Resolution	0.01mA/μs						0.005mA/μs		
	Range	0.4A/ms-0.2A/μs	0.4A/ms-0.2A/μs	0.8A/ms-0.4A/μs	1.2A/ms-0.6A/μs	1.6A/ms-0.8A/μs	1.6A/ms-0.8A/μs	0.2A/ms-0.1A/μs	0.3A/ms-0.15A/μs	0.6A/ms-0.3A/μs
	Resolution	0.1mA/μs						0.05mA/μs		
	Range	4A/ms- 2A/μs	4A/ms- 2A/μs	8A/ms- 4A/μs	12A/ms- 6A/μs	16A/ms- 8A/μs	16A/ms- 8A/μs	2A/ms- 1A/μs	3A/ms- 1.5A/μs	6A/ms- 3A/μs
	Resolution	1mA/μs						0.5mA/μs		
	Accuracy	10%±20μs								
	Minimum rise time	10μs								
Measurement (read back)										
Voltage	Range/Resolution	0-6V/0. 2mV						0-80V/1.5mV		
	Accuracy	0.025%+0.01%FS								
	Range/Resolution	0-16V/0.3mV						0-150V2.7mV		
	Accuracy	0.025%+0.01%FS								
	Range/Resolution	0-80V/1.4mV						0-600V/10.7mV		
	Accuracy	0.01%+0.025%FS								
Current	Range	0-0.2A	0-0.2A	0-0.4A	0-0.6A	0-0.8A	0-0.8A	0-0.1A	0-0.15A	0-0.3A
	Resolution	0.004mA	0.004mA	0.008mA	0.012mA	0.016mA	0.016mA	0.002mA	0.003mA	0.003mA
	Range	0-2A	0-2A	0-4A	0-6A	0-8A	0-8A	0-1A	0-1.5A	0-3A
	Resolution	0.04mA	0.04mA	0.08mA	0.12mA	0.16mA	0.16mA	0.02mA	0.03mA	0.03mA
	Range	0-20A	0-20A	0-40A	0-60A	0-80A	0-80A	0-10A	0-15A	0-30A
	Resolution	0.4mA	0.4mA	0.8mA	1.2mA	1.6mA	1.6mA	0.2mA	0.3mA	0.3mA
	Accuracy	0.05%+0.05%FS								
Power	Range	0-16W	0-30W	0-30W	0-30W	0-60W	0-60W	0-60W	0-90W	0-180W
		0-30W	0-60W	0-60W	0-60W	0-60W	0-60W	0-200W	0-300W	0-500W
		0-100W	0-200W	0-200W	0-300W	0-400W	0-500W	0-200W	0-300W	0-500W
	Accuracy	0. 1%+0.1%FS								
Protection function		Over voltage protection (OVP) Over current protection (OCP) Over power protection (OPP) Over temperature protection (OTP)								
Short circuit function										
Constant current (CC)		Set to 100% of rated current								
Constant voltage (CV)		0V								
Constant resistance (CR)		60kΩ(6V); 150kΩ(16V); 700kΩ(80V)								

Note *1: This accuracy parameter does not apply below 5% of the current measurement range.