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TECHNICAL PRODUCT INFORMATION

Test & measurement instruments

- high - quality
- moderate prices
- excellent precision

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IT8500G+ series Programmable DC Electronic Load



IT8500G+ series programmable electronic load is not only a desktop power supply, but also suitable for system integration. It is specially designed for fast charging adapters, power banks, industrial power modules, power electronic device R&D and burn-in testing. It not only has the traditional CC/CV/CR/CP load mode, but also provide compound modes such as CR+CC/CV+CC/CR-LED, which are widely applicable to DUTs with different characteristics. So it performs well in limiting current overshoot and dynamic loading. Not only that, the multi-channel mode and ripple measurement mode of IT8500G+ help to reduce test cost and improve test efficiency. Without additional oscilloscope and communication interface, you can easily realize the program control of hundreds of channels.

FEATURE

- 7 operating modes: CC/CV/CR/CW/CR+CC/CV+CC/CR-LED
- Built-in voltage and current ripple measurement functions
- Built in 8 fast charging communication protocol, including QC2.0, QC3.0, PE+, PE2.0+, USB PD2.0, USB,PD3.0, FCP, SCP *1
- Dynamic mode up to 20kHz
- Voltage measurement resolution up to 0.1mV / 0.1mA
- Multi-channel, up to 16 units can be connected
- OCP/OPP, battery discharge mode
- Auto test, LIST mode, short circuit mode
- Measure function, can measure the voltage rise/fall time
- Monitor 0-100% current at 0-10V (I-monitor)
- Built-in USB/LAN communication interface *2

*1 Only available with IT8511G+

*2 150W model with built-in USB interface

Model	Parameter			Accessories		
	Voltage	Current	Power	Fast charge card IT-E164	USB	LAN
IT8511G+	150V	30A	150W	Optional	Standard	/
IT8512G+	150V	30A	300W	/	Standard	Standard
IT8512BG+	600V	15A	300W	/	Standard	Standard
IT8513G+	150V	120A	600W	/	Standard	Standard
IT8513BG+	600V	20A	600W	/	Standard	Standard
IT8513CG+	40V	200A	600W	/	Standard	Standard

Specification

	Parameter	IT8511G+	
Rated (0℃-40℃)	Input Voltage	0~150V	
	Input Current	0~3A	0~30A
	Input Power	150W	
	Mov	0.12V/3A	1.2V/30A
CV mode	Range	0.1~18V	0.1~150V
	Resolution	1mV	10mV
	Accuracy	±(0.05%+0.02%FS)	±(0.05%+0.025%FS)
CC mode	Range	0~3A	0~30A
	Resolution	0.1mA	1mA
	Accuracy	±(0.05%+0.05%FS)	±(0.05%+0.05%FS)
CR mode*1	Range	0.05Ω~10Ω	10Ω~7.5KΩ
	Resolution	16bit	
	Accuracy	0.01%+0.08S *2	0.01%+0.0008S
CP mode*3	Range	150W	
	Resolution	10mW	
	Accuracy	0.1%+0.2%FS	
Dynamic mode			
		CC mode	
	T1＆T2	20uS~3600S /Res:1 uS	
	Accuracy	2uS±100ppm	
	Up/down slope*4	0.0001~0.2A/uS	0.001~1.5A/uS
	Up/down slope*5	10uS	10uS
Measuring range			
Voltage Readback	Range	0~18V	0~150V
	Resolution	0.1 mV	1 mV
	Accuracy	±(0.025%+0.025%FS)	±(0.025%+0.025%FS)
Current Readback	Range	0~3A	0~30A
	Resolution	0.1mA	1mA
	Accuracy	±(0.05%+0.05%FS)	
Power Readback	Range	150W	
	Resolution	10mW	
	Accuracy	±(0.1%+0.2%FS)	
Protected range			
OPP		⎓160W	
OCP		⎓3.3A	⎓33A
OVP		⎓155V	
OTP		⎓85℃	
Specifications			
Short circuit	Current（CC）	⎓3.3/3A	⎓33/30A
	Voltage（CV）	⎓0V	⎓0V
	Power（CR）	⎓40mΩ	⎓40mΩ
Input terminal impedance		⎓250kΩ	
Dimension		214.5mmW*88.2mmH*354.6mmD	

*This information is subject to change without notice

*1 Voltage/current input value is not less than 10% FS (FS is full range)

*2 Range of resistance readback value: (1/(1/R+(1/R)*0.01%+0.08),1/(1/R-(1/R)*0.01%-0.08))

*3 Voltage/current input value is not less than 10%FS

*4 Rise/fall slope: 10%~90% current rise slope from 0 to maximum current

*5 Minimum rise time: 10%~90% current rise time

Your Power Testing Solution

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Specification

	Parameter	IT8512G+	
Rated (0 ℃-40 ℃)	Input Voltage	0~150V	
	Input Current	0~3A	0~30A
	Input Power	300W	
	Mov	0.12V/3A	1.2V/30A
CV mode	Range	0~18V	0~150V
	Resolution	1mV	10mV
	Accuracy	±(0.05%+0.02%FS)	±(0.05%+0.025%FS)
CC mode	Range	0~3A	0~30A
	Resolution	0.1mA	1mA
	Accuracy	±(0.05%+0.05%FS)	±(0.05%+0.05%FS)
CR mode*1	Range	0.05Ω~10Ω	10Ω~7.5KΩ
	Resolution	16bit	
	Accuracy	0.01%+0.08S *2	0.01%+0.0008S
CP mode*3	Range	300W	
	Resolution	0.01W	
	Accuracy	0.1%+0.2%FS	
		Dynamic mode	
Dynamic mode*4		CC mode	
	T1 & T2	20uS~3600S /Res:1us	
	Accuracy	2uS±100ppm	
	Up/down slope	0.0001~0.2A/uS	0.001~1.5A/uS
	Up/down slope	10uS	10uS
		Measuring range	
Voltage Readback	Range	0~18V	0~150V
	Resolution	0.1mV	1mV
	Accuracy	±(0.025%+0.025%FS)	±(0.025%+0.025%FS)
Current Readback	Range	0~3A	0~30A
	Resolution	0.1mA	1mA
	Accuracy	±(0.05%+0.05%FS)	±(0.05%+0.05%FS)
Power Readback*2	Range	300W	
	Resolution	0.01W	
	Accuracy	±(0.1%+0.2%FS)	
		Protected range	
OPP		⎓320W	
OCP		⎓3.3A	⎓33A
OVP		⎓160V	
OTP		⎓85 ℃	
		Specifications	
Short circuit	Current （CC）	⎓3.3A	⎓33A
	Voltage （CV）	⎓0V	⎓0V
	Power （CR）	⎓40mΩ	⎓40mΩ
Input terminal impedance		⎓ 250KΩ	
Dimension		214.5mmW*88.2mmH*354.6mmD	

*This information is subject to change without notice

*1 Voltage/current input value is not less than 10% FS (FS is full range)

*2 Range of resistance readback value: (1/(1/R+(1/R)*0.01%+0.08),1/(1/R-(1/R)*0.01%-0.08))

*3 Voltage/current input value is not less than 10%FS

*4 Loading current is not less than 4%FS_CCH

Rise/fall slope: 10%~90% current rise slope from 0 to maximum current

Minimum rise time: 10%~90% current rise time

Specification

Parameter		IT8512BG+	
Rated (0℃-40℃)	Input Voltage	0~600V	
	Input Current	0~3A	0~15A
	Input Power	300W	
	Mov	0.6V/3A	3V/15A
CV mode	Range	0~60V	0~600V
	Resolution	1mV	10mV
	Accuracy	±(0.05%+0.02%FS)	±(0.05%+0.025%FS)
CC mode	Range	0~3A	0~15A
	Resolution	0.1mA	1mA
	Accuracy	±(0.05%+0.05%FS)	±(0.05%+0.05%FS)
CR mode*1	Range	0.05Ω~10Ω	10Ω~7.5KΩ
	Resolution	16bit	
	Accuracy	0.01%+0.08S *2	0.01%+0.0008S
CP mode*3	Range	300W	
	Resolution	0.01W	
	Accuracy	0.1%+0.2%FS	
Dynamic mode			
Dynamic mode*4		CC mode	
	T1＆T2	20uS~3600S /Res:1us	
	Accuracy	2uS±100ppm	
	Up/down slope	0.0001~0.2A/uS	0.001~0.8A/uS
	Up/down slope	10uS	10uS
Measuring range			
Voltage Readback	Range	0~60V	0~600V
	Resolution	1mV	10mV
	Accuracy	±(0.025%+0.025%FS)	±(0.025%+0.025%FS)
Current Readback	Range	0~3A	0~15A
	Resolution	0.1mA	1mA
	Accuracy	±(0.05%+0.05%FS)	±(0.05%+0.05%FS)
Power Readback*2	Range	300W	
	Resolution	0.01W	
	Accuracy	±(0.1%+0.2%FS)	
Protected range			
OPP		≒320W	
OCP		≒3.3A	≒16A
OVP		≒630V	
OTP		≒85℃	
Specifications			
Short circuit	Current （CC）	≒3.3A	≒16A
	Voltage （CV）	≒0V	≒0V
	Power （CR）	≒188mΩ	≒188mΩ
Input terminal impedance		≒ 800KΩ	
Dimension		214.5mmW*88.2mmH*354.6mmD	

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*1 Voltage/current input value is not less than 10% FS (FS is full range)

*2 Range of resistance readback value: (1/(1/R+(1/R)*0.01%+0.08),1/(1/R-(1/R)*0.01%-0.08))

*3 Voltage/current input value is not less than 10%FS

*4 Loading current is not less than 4%FS_CCH

Rise/fall slope: 10%~90% current rise slope from 0 to maximum current

Minimum rise time: 10%~90% current rise time

Your Power Testing Solution

IT8500G+ series Programmable DC Electronic Load

Specification

	Parameter	IT8513G+	
Rated (0 ℃-40 ℃)	Input Voltage	0~150V	
	Input Current	0~12A	0~120A
	Input Power	600W	
	Mov	0.2V/12A	2V/120A
CV mode	Range	0~18V	0~150V
	Resolution	1mV	10mV
	Accuracy	±(0.05%+0.02%FS)	±(0.05%+0.025%FS)
CC mode	Range	0~12A	0~120A
	Resolution	1mA	10mA
	Accuracy	±(0.05%+0.05%FS)	±(0.05%+0.05%FS)
CR mode*1	Range	0.05Ω~10Ω	10Ω~7.5KΩ
	Resolution	16bit	
	Accuracy	0.01%+0.08S *2	0.01%+0.0008S
CP mode*3	Range	600W	
	Resolution	0.01W	
	Accuracy	0.2%+0.2%FS	
Dynamic mode			
Dynamic mode*4		CC mode	
	T1 & T2	20uS~3600S /Res:1us	
	Accuracy	2uS±100ppm	
	Up/down slope	0.001~0.2A/uS	0.01~1.6A/uS
	Up/down slope	10uS	10uS
Measuring range			
Voltage Readback	Range	0~18V	0~150V
	Resolution	0.1mV	1mV
	Accuracy	±(0.025%+0.025%FS)	±(0.025%+0.025%FS)
Current Readback	Range	0~12A	0~120A
	Resolution	1mA	10mA
	Accuracy	±(0.05%+0.05%FS)	±(0.05%+0.05%FS)
Power Readback*2	Range	600W	
	Resolution	0.01W	
	Accuracy	±(0.2%+0.2%FS)	
Protected range			
OPP		≒620W	
OCP		≒13A	≒130A
OVP		≒160V	
OTP		≒85°C	
Specifications			
Short circuit	Current （CC）	≒13A	≒130A
	Voltage （CV）	≒0V	≒0V
	Power （CR）	≒15mΩ	≒15mΩ
Input terminal impedance		≒ 250KΩ	
Dimension		214.5mmW*88.2mmH*354.6mmD	

*This information is subject to change without notice

*1 Voltage/current input value is not less than 10% FS (FS is full range)

*2 Range of resistance readback value: (1/(1/R+(1/R)*0.01%+0.08),1/(1/R-(1/R)*0.01%-0.08))

*3 Voltage/current input value is not less than 10%FS

*4 Loading current is not less than 4%FS_CCH

Rise/fall slope: 10%~90% current rise slope from 0 to maximum current

Minimum rise time: 10%~90% current rise time

Specification

	Parameter	IT8513BG+		IT8513CG+	
Rated (0℃-40℃)	Input Voltage	0~600V		0~40V	
	Input Current	0~3A	0~20A	0~20A	0~200A
	Input Power	600W		600W	
	Mov	0.4V/3A	2.4V/20A	0.06V/20A	0.6V/200A
CV mode	Range	0~60V	0~600V	0~4V	0~40V
	Resolution	1mV	10mV	0.1mV	1mV
	Accuracy	±(0.05%+0.02%FS)	±(0.05%+0.025%FS)	±(0.05%+0.1%FS)	±(0.05%+0.15%FS)
CC mode	Range	0~3A	0~20A	0~20A	0~200A
	Resolution	0.1mA	1mA	1mA	10mA
	Accuracy	±(0.05%+0.05%FS)	±(0.05%+0.05%FS)	±(0.1%+0.1%FS)	±(0.1%+0.15%FS)
CR mode*1	Range	0.05Ω~10Ω	10Ω~7.5KΩ	0.01Ω~10Ω	10Ω~200Ω
	Resolution	16bit		16bit	
	Accuracy	0.01%+0.08S *2	0.01%+0.0008S	0.01%+0.08S *2	0.01%+0.0008S
CP mode*3	Range	600W		600W	
	Resolution	0.01W		0.01W	
	Accuracy	0.2%+0.2%FS		0.2%+0.5%FS	
Dynamic mode					
Dynamic mode*4		CC 模式		CC 模式	
	T1＆T2	20uS~3600S /Res:1us		20uS~3600S /Res:1us	
	Accuracy	2uS±100ppm		2uS±100ppm	
	Up/down slope	0.0001~0.2A/uS	0.001~0.8A/uS	0.001~0.2A/us	0.01~1A/us
	Up/down slope	10uS	10uS	10uS	10uS
Measuring range					
Voltage Readback	Range	0~60V	0~600V	0~4V	0~40V
	Resolution	1mV	10mV	0.1mV	1mV
	Accuracy	±(0.025%+0.025%FS)	±(0.025%+0.025%FS)	±(0.025%+0.1%FS)	±(0.025%+0.1%FS)
Current Readback	Range	0~3A	0~20A	0~20A	0~200A
	Resolution	0.1mA	1mA	1mA	10mA
	Accuracy	±(0.05%+0.05%FS)	±(0.05%+0.05%FS)	±(0.1%+0.1%FS)	±(0.1%+0.1%FS)
Power Readback*2	Range	600W		600W	
	Resolution	0.01W		0.01W	
	Accuracy	±(0.2%+0.2%FS)		±(0.2%+0.5%FS)	
Protected range					
OPP		≒620W		≒620W	
OCP		≒3.3A	≒21A	≒21A	≒210A
OVP		≒630V		≒44V	
OTP		≒85℃		≒85℃	
Specifications					
Short circuit	Current （CC）	≒3.3A	≒21A	≒21A	≒210A
	Voltage （CV）	≒0V	≒0V	≒0V	≒0V
	Power （CR）	≒120mΩ	≒120mΩ	≒3mΩ	≒3mΩ
Input terminal impedance		≒ 800KΩ		≒ 90KΩ	
Dimension		214.5mmW*88.2mmH*354.6mmD		214.5mmW*88.2mmH*354.6mmD	

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*1 Voltage/current input value is not less than 10% FS (FS is full range)

*2 Range of resistance readback value: (1/(1/R+(1/R)*0.01%+0.08),1/(1/R-(1/R)*0.01%-0.08))

*3 Voltage/current input value is not less than 10%FS

*4 Loading current is not less than 4%FS_CCH

Rise/fall slope: 10%~90% current rise slope from 0 to maximum current

Minimum rise time: 10%~90% current rise time