



375XA

- *1. The maximum continuous input power can reach the rated power at 40°C. The maximum continuous input power will linearly decrease to 75% between 40°C to 50°C.
- *2. The current change rate is 1/25 of the set value in CCL mode.
- *3. The transition time is defined as the time required for the input to change from 10% to 90%.
- *4. The transient frequency depends on the time for high/low level and rising/falling edge.
- *5. Standard equipped RS232 and USB cable, optional equipped GPIB card.

► High-power Programmable DC Electronic Load

- High resolution large screen color TFT-LCD display.
- 4 basic operating modes: Constant Current; Constant Voltage; Constant Resistance; Constant Power.
- High-speed sequence, high-speed transient, synchronously current waveform output.
- Minimum operating voltage is less than 1.8V at the load's full rated current.
- Programmable rising/falling slew rate.
- With complete fast hardware overcurrent and overpower protection, high reliability.
- Multiple groups parameters and lists can be saved and recalled.
- Standard 4U case can meet the desk test and the rack mounting.
- Supporting SCPI (standard Commands for Programmable Instrumentation) and LabView, and providing necessary PC software.



▶ High Reliability

In order to cope with the complex environment, to maintain the excellent performance of the products, ARRAY pursue the rugged design and the excellent stability.

- ◆ Perfect protection circuit, with over current, over power and over temperature protection, and with over voltage and polarity reverse connection alarm to ensure the safety of the electronic load.
- ◆ High-speed Power-limit circuit can limit the input power when it is overloaded to effectively protect the electronic load and the tested equipment. Thus there is no necessary to interrupt the test. It greatly enhances the adaptability of the electronic load for the complex environment.
- ◆ High-efficiency intelligent tunnel-type cooling system can effectively reduce the system temperature and enhance the system stability to guarantee the system in long-term full-power trouble-free continuous running.
- ◆ The input binding posts are suitable for large current testing and are easy to operate, reliable and durable.
- ◆ The high-impact case and the modularity design enhance the reliability and the maintainability of the system.

▶ Superior Performance

ARRAY accumulating R&D and production experience in the field of electronic load for many years, adopting innovative design and advanced manufacturing technology, comprehensively improve the product performance.

- ◆ Adopting an optimum design of calculation method and high-speed hardware circuit, the D/A conversion rate can reach 500KHz. The smoothness of the slope control is comprehensively enhanced. The resolution and accuracy of transient operation and list characteristics is improved simultaneously.
- ◆ With CCH+CV mode, it is suitable for the test application of car charger and so on new energy.
- ◆ With I MON OUT output terminal, being isolated to the tested source, the system can be connected with oscilloscope to directly observe the dynamic waveform of the current.
- ◆ The 24 bit A/D and 16 bit DA converters incorporated, provide the equipment with greatly enhanced setting and measurement resolution.

▶ Multifunction

3751A is with rich test functions and can meet the test requirements of users in many fields.

- ◆ 4 basic functions: CC, CV, CR and CP and 3 additional functions: CC+CV, CRR+CV and CP+CV.
- ◆ High-speed transient operation with separate high/low level time and rising/falling time control.
- ◆ Powerful sequential test function: minimum step time 10us, maximum step time 99999s, resolution 10us. Cyclic times can be set freely and can be chained to another sequence to realize more complex test procedure.
- ◆ With remote sense input terminal and external trigger input terminal, the remote measurement can monitor the input signal automatically, and it is not necessary to change the wiring or modify the setting during operation.
- ◆ 10 groups of set parameters can be saved and the preset parameters will be uploaded automatically when power ON.
- ◆ Supporting SCPI (Standard Commands for Programmable Instruments), with RS232, USB and GPIB interfaces, it is convenient to built an ATE system with other programmable instruments.

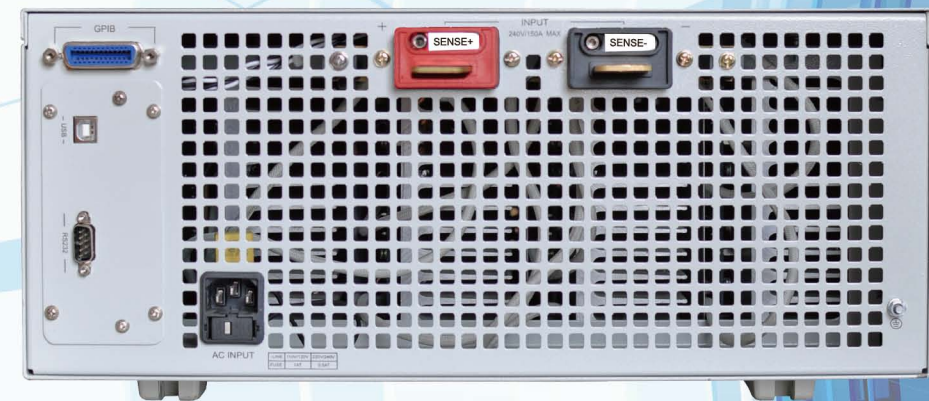
▶ Easy Operability

- ◆ Standard 4U case can meet desk operation and rack mounting.
- ◆ Reasonable keyboard design and basic operation using single layer shortcuts, make the test operation be more convenient.
- ◆ Easy-to-set test parameters coupled with a powerful sequence editing function
- ◆ All electronic calibration, no need to dismantle the equipment case.
- ◆ Firmware can be updated online.

▶ 375XA Effect Picture



Front



Behind



Front



Behind

375XA Main Parameters

Model	3750A	3751A	3752A	3753A	3754A	3755A	3756A
Current	0 ~ 100A	0 ~ 150A	0 ~ 75A	0 ~ 160A	0 ~ 180A	0 ~ 240A	0 ~ 260A
Voltage	0 ~ 240V	0 ~ 240V	0 ~ 240V	0 ~ 240V	0 ~ 240V	0 ~ 240V	0 ~ 240V
Power ^{*1}	1500W at 40°C	2000W at 40°C	1000W at 40°C	2400W at 40°C	3000W at 40°C	4000W at 40°C	5000W at 40°C
Input Characteristics							
Constant Current Mode							
Low Range	0 ~ 6A	0 ~ 6A	0 ~ 6A	0 ~ 6A	0 ~ 8A	0 ~ 8A	0 ~ 8A
Resolution	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA
Accuracy	0.2%+5mA	0.2%+5mA	0.2%+5mA	0.2%+5mA	0.2%+5mA	0.2%+5mA	0.2%+5mA
High Range	0 ~ 100A	0 ~ 150A	0 ~ 75A	0 ~ 160A	0 ~ 180A	0 ~ 240A	0 ~ 260A
Resolution	1mA (0 ~ 100A)	1mA (0 ~ 100A) 10mA (100 ~ 150A)	1mA (0 ~ 75A)	1mA (0 ~ 100A) 10mA (100 ~ 160A)	1mA (0 ~ 100A) 10mA (100 ~ 180A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 260A)
Accuracy	0.2%+10mA	0.2%+10mA	0.2%+10mA	0.2%+10mA	0.2%+10mA	0.2%+10mA	0.2%+10mA
Constant Voltage Mode							
Range	0 ~ 240A	0 ~ 240A	0 ~ 240A	0 ~ 240A	0 ~ 240A	0 ~ 240A	0 ~ 240A
Resolution	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)
Accuracy	0.2%+10mA	0.2%+10mA	0.2%+10mA	0.2%+10mA	0.2%+10mA	0.2%+10mA	0.2%+10mA
Constant Resistance Mode							
Low Range	0.2Ω ~ 240K	0.2Ω ~ 240K	0.2Ω ~ 240K	0.2Ω ~ 240K	0.2Ω ~ 240K	0.2Ω ~ 240K	0.2Ω ~ 240K
Resolution	0.1mΩ	0.1mΩ	0.1mΩ	0.1mΩ	0.1mΩ	0.1mΩ	0.1mΩ
Accuracy @I>6A	0.5%+12mΩ	0.5%+12mΩ	0.5%+12mΩ	0.5%+12mΩ	0.5%+12mΩ	0.5%+12mΩ	0.5%+12mΩ
High Range	0.2KΩ ~ 2.4mΩ	0.2KΩ ~ 2.4mΩ	0.2KΩ ~ 2.4mΩ	0.2KΩ ~ 2.4mΩ	0.2KΩ ~ 2.4mΩ	0.2KΩ ~ 2.4mΩ	0.2KΩ ~ 2.4mΩ
Resolution	0.001KΩ	0.001KΩ	0.001KΩ	0.001KΩ	0.001KΩ	0.001KΩ	0.001KΩ
Accuracy @I<6A	0.5%+0.12KΩ	0.5%+0.12KΩ	0.5%+0.12KΩ	0.5%+0.12KΩ	0.5%+0.12KΩ	0.5%+0.12KΩ	0.5%+0.12KΩ
Constant Power Mode							
Range	0 ~ 1500W	0 ~ 2000W	0 ~ 1000W	0 ~ 2400W	0 ~ 3000W	0 ~ 4000W	0 ~ 5000W
Resolution	1mW	1mW	1mW	1mW	1mW	1mW	1mW
@P<100W	1mW	1mW	1mW	1mW	1mW	1mW	1mW
@P≥100W	10mW	10mW	10mW	10mW	10mW	10mW	10mW
@P≥1000W	100mW	100mW	100mW	100mW	100mW	100mW	100mW
Accuracy	0.2%+600mW	0.2%+600mW	0.2%+600mW	0.2%+600mW	0.2%+600mW	0.2%+600mW	0.2%+600mW
Current Measurement							
Low Range	0 ~ 6A	0 ~ 6A	0 ~ 6A	0 ~ 6A	0 ~ 8A	0 ~ 8A	0 ~ 8A
Resolution	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA
Accuracy	0.1%+6mA+Vin/50KΩ	0.1%+6mA+Vin/50KΩ	0.1%+6mA+Vin/50KΩ	0.1%+6mA+Vin/50KΩ	0.1%+6mA+Vin/50KΩ	0.1%+6mA+Vin/50KΩ	0.1%+6mA+Vin/50KΩ
High Range	0 ~ 100A	0 ~ 150A	0 ~ 75A	0 ~ 160A	0 ~ 180A	0 ~ 240A	0 ~ 260A
Resolution	1mA (0 ~ 100A)	1mA (0 ~ 100A) 10mA (100 ~ 150A)	1mA (0 ~ 75A)	1mA (0 ~ 100A) 10mA (100 ~ 160A)	1mA (0 ~ 100A) 10mA (100 ~ 180A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 260A)
Accuracy	± (0.2%+8mA) +Vin/50KΩ	± (0.2%+8mA) +Vin/50KΩ	± (0.2%+8mA) +Vin/50KΩ	± (0.2%+8mA) +Vin/50KΩ	± (0.2%+8mA) +Vin/50KΩ	± (0.2%+8mA) +Vin/50KΩ	± (0.2%+8mA) +Vin/50KΩ
Voltage Measurement							
Range	0 ~ 240A	0 ~ 240A	0 ~ 240A	0 ~ 240A	0 ~ 240A	0 ~ 240A	0 ~ 240A
Resolution	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)	1mA (0 ~ 100A) 10mA (100 ~ 240A)
Accuracy	0.1%+8mA	0.1%+8mA	0.1%+8mA	0.1%+8mA	0.1%+8mA	0.1%+8mA	0.1%+8mA
Power Measurement							
Range	0 ~ 1500W	0 ~ 2000W	0 ~ 1000W	0 ~ 2400W	0 ~ 3000W	0 ~ 4000W	0 ~ 5000W
Resolution	1mW	1mW	1mW	1mW	1mW	1mW	1mW
@P<100W	1mW	1mW	1mW	1mW	1mW	1mW	1mW
@P≥100W	10mW	10mW	10mW	10mW	10mW	10mW	10mW
@P≥1000W	100mW	100mW	100mW	100mW	100mW	100mW	100mW
Accuracy	0.2%+600mW	0.2%+600mW	0.2%+600mW	0.2%+600mW	0.2%+600mW	0.2%+600mW	0.2%+600mW

Model	3750A	3751A	3752A	3753A	3754A	3755A	3756A
Current Slew Rate							
Range ^{*3}	1mA/us ~ 10A/us	1mA/us ~ 15A/us	1mA/us ~ 7.5A/us	1mA/us ~ 16A/us	1mA/us ~ 18A/us	1mA/us ~ 20A/us	1mA/us ~ 22A/us
CCH	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us
CCL ^{*2}	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us	100uA/us ~ 600mA/us
Resolution ^{*4}	1mA/us	1mA/us	1mA/us	1mA/us	1mA/us	1mA/us	1mA/us
Accuracy	3%+10us	3%+10us	3%+10us	3%+10us	3%+10us	3%+10us	3%+10us
Transient Operation							
Transient Mode	Continuous, Pulse, Toggled	Continuous, Pulse, Toggled	Continuous, Pulse, Toggled	Continuous, Pulse, Toggled	Continuous, Pulse, Toggled	Continuous, Pulse, Toggled	Continuous, Pulse, Toggled
Frequency Rang	0.025Hz ~ 50kHz	0.025Hz ~ 50kHz	0.025Hz ~ 50kHz	0.025Hz ~ 50kHz	0.025Hz ~ 50kHz	0.025Hz ~ 50kHz	0.025Hz ~ 50kHz
High/Low Level Time	10us ~ 10s	10us ~ 10s	10us ~ 10s	10us ~ 10s	10us ~ 10s	10us ~ 10s	10us ~ 10s
Resolution	10us	10us	10us	10us	10us	10us	10us
Accuracy	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us
raise/ falling edge	10us ~ 10s	10us ~ 10s	10us ~ 10s	10us ~ 10s	10us ~ 10s	10us ~ 10s	10us ~ 10s
Resolution	10us	10us	10us	10us	10us	10us	10us
Accuracy	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us
List Operation							
Step Time	10us ~ 99999s	10us ~ 99999s	10us ~ 99999s	10us ~ 99999s	10us ~ 99999s	10us ~ 99999s	10us ~ 99999s
Resolution	10us	10us	10us	10us	10us	10us	10us
Accuracy	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us	0.2%+10us
Number of Steps	1 ~ 50 Steps	1 ~ 50 Steps	1 ~ 50 Steps	1 ~ 50 Steps	1 ~ 50 Steps	1 ~ 50 Steps	1 ~ 50 Steps
Cycle	1 ~ 255	1 ~ 255	1 ~ 255	1 ~ 255	1 ~ 255	1 ~ 255	1 ~ 255
Store Capacity	10 Groupsd	10 Groupsd	10 Groupsd	10 Groupsd	10 Groupsd	10 Groupsd	10 Groupsd
Expansion Function	Chain	Chain	Chain	Chain	Chain	Chain	Chain
Maximum Slew Rate							
Current	10A/us	15A/us	7.5A/us	16A/us	18A/us	20A/us	22A/us
Voltage	0.5V/us	0.6V/us	0.5V/us	0.6V/us	0.6V/us	0.6V/us	0.6V/us
Programmable Open Circuit	>20kΩ	>20kΩ	>20kΩ	>20kΩ	>20kΩ	>20kΩ	>20kΩ
Trigger Input							
Trigger Level	TTL falling edge	TTL falling edge	TTL falling edge	TTL falling edge	TTL falling edge	TTL falling edge	TTL falling edge
Trigger Pulse Width	>10us	>10us	>10us	>10us	>10us	>10us	>10us
Maximum DC Input							
Current	101A	151A	76A	76A	161A	181A	211A
Voltage	242V	242V	242V	242V	242V	242V	242V
Protection and Alarm Function	OC, OT, OP	OC, OT, OP	OC, OT, OP	OC, OT, OP	OC, OT, OP	OC, OT, OP	OC, OT, OP
Alarm Function	OV, RV	OV, RV	OV, RV	OV, RV	OV, RV	OV, RV	OV, RV
Reverse Current Capacity							
Input OFF	90A	120A	60A	120A	150A	200A	220A
Input ON	100A	150A	75A	160A	180A	240A	260A
Ripple & Noise							
Current (rms/p-p)	3mA/30mA	3mA/30mA	3mA/30mA	3mA/30mA	5mA/30mA	8mA/30mA	8mA/30mA
Voltage (rms)	5mV	5mV	5mV	5mV	5mV	5mV	5mV
Environmental Conditions							
Temperature ^{*1}	0 ~ 50°C	0 ~ 50°C	0 ~ 50°C	0 ~ 50°C	0 ~ 50°C	0 ~ 50°C	0 ~ 50°C
Relative Humidity	<85%	<85%	<85%	<85%	<85%	<85%	<85%
Remote Interface ^{*5}	RS232, GPIB, USB	RS232, GPIB, USB	RS232, GPIB, USB	RS232, GPIB, USB	RS232, GPIB, USB	RS232, GPIB, USB	RS232, GPIB, USB
Programmable Language	SCPI	SCPI	SCPI	SCPI	SCPI	SCPI	SCPI
AC Input							
Voltage	(AC110V, AC120V, AC220V, AC240V) ±10%	(AC110V, AC120V, AC220V, AC240V) ±10%	(AC110V, AC120V, AC220V, AC240V) ±10%	(AC110V, AC120V, AC220V, AC240V) ±10%	(AC110V, AC120V, AC220V, AC240V) ±10%	(AC110V, AC120V, AC220V, AC240V) ±10%	(AC110V, AC120V, AC220V, AC240V) ±10%
Frequency	48 to 63HZ	48 to 63HZ	48 to 63HZ	48 to 63HZ	48 to 63HZ	48 to 63HZ	48 to 63HZ
Input Power	80VA	80VA	80VA	80VA	130VA	130VA	130VA
Outline Dimension							
Net Weight	24kg	26.5kg	24kg	38kg	38kg	42kg	45kg
Frame	Fig 1	Fig 1	Fig 1	Fig 1	Fig 2	Fig 2	Fig 2