Specifications

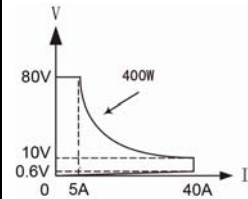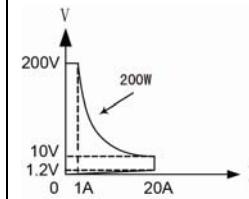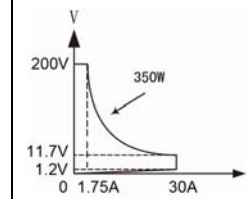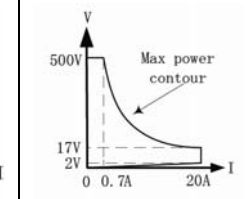(The warm-up time is 30 minutes. Specifications indicate warranted performance in the 25°C ± 5°C region of the total temperature range.)

Model	3720A	3721A	3722A	3723A	3724A

Input Ratings

	3720A	3721A	3722A	3723A	3724A
Current	0~30A	0~40A	0~20A	0~30A	0~20A
Voltage	0~80V	0~80V	0~200V	0~200V	0~500V
Power[*1]	250W at 40° C	400W at 40° C	200W at 40° C	350W at 40° C	250W at 40 C

Input Characteristics

	3720A	3721A	3722A	3723A	3724A
Input Characteristics					
Minimum Operation Voltage @Full Scale Current	0.6V	0.6V	1.2V	1.2V	2V

Constant Current Mode

	3720A	3721A	3722A	3723A	3724A
LowRange	0~3A	0~4A	0~2A	0~3A	0~2A
Resolution	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA
Accuracy	0.1%+5mA	0.1%+5mA	0.1%+5mA	0.1%+5mA	0.1%+5mA

HighRange	0~30A	0~40A	0~20A	0~30A	0~20A
Resolution	1mA	1mA	1mA	1mA	1mA
Accuracy	0.1%+10mA	0.1%+10mA	0.1%+10mA	0.1%+10mA	0.1%+10mA

Constant Voltage Mode

Range	0~80V	0~80V	0~200V	0~200V	0~500V
Resolution	1mV	1mV	2mV	2mV	5mV
Accuracy	0.1%+10mV	0.1%+10mV	0.1%+25mV	0.1%+25mV	0.1%+62.5mV

Constant Resistance Mode

LowRange	0.02~2Ω	0.02~2Ω	0.0666~6.66Ω	0.0666~6.66Ω	0.250~25Ω
Resolution	0.1mΩ	0.1mΩ	0.1mΩ	0.1mΩ	0.1mΩ
Accuracy	0.5%+12mΩ@I>4A	0.5%+12mΩ@I>4A	0.5%+40mΩ@I>3A	0.5%+40mΩ@I>3A	0.5%+150mΩ@I>3A
MiddleRange	2~200Ω	2~200Ω	6.66~666Ω	6.66~666Ω	25~2500Ω
Resolution	8.6uS[*2]	8.6uS[*2]	2.6uS[*2]	2.6uS[*2]	6.8uS[*2]
Accuracy	0.3%+1.25mS@V>8V	0.3%+1.25mS@V>8V	0.3%+375uS@V>20V	0.3%+375uS@V>20V	0.3%+1mS@V>20V
HighRange	20~2000Ω	20~2000Ω	66.6~6660Ω	66.6~6660Ω	250~25000Ω
Resolution	0.96uS	0.96uS	0.29uS	0.29uS	0.77uS
Accuracy	0.3%+0.625mS@V>8V	0.3%+0.625mS@V>8V	0.3%+188uS@V>20V	0.3%+188uS@V>20V	0.3%+0.5mS@V>20V

Constant Power Mode

Range	0~250W	0~400W	0~200W	0~350W	0~250W
Resolution @P<100W	1mW	1mW	1mW	1mW	1mW
@P≥100W	10mW	10mW	10mW	10mW	10mW
Accuracy	0.2%+600mW	0.2%+600mW	0.2%+600mW	0.2%+600mW	0.2%+600mW

Current Measurement

LowRange	0~3A	0~4A	0~2A	0~3A	0~2A
Resolution	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA
Accuracy	0.05%+4mA	0.05%+4mA	0.05%+4mA	0.05%+4mA	0.05%+4mA
HighRange	0~30A	0~40A	0~20A	0~30A	0~20A
Resolution	1mA	1mA	1mA	1mA	1mA
Accuracy	0.05%+8mA	0.05%+8mA	0.05%+8mA	0.05%+8mA	0.05%+8mA

Voltage Measurement

Range	0~80V	0~80V	0~200V	0~200V	0~500V
Resolution	1mV	1mV	1mV	1mV	1mV
Accuracy	0.1%+8mV	0.1%+8mV	0.1%+50mV	0.1%+50mV	0.1%+200mV

Power Measurement

Range	0~250W	0~400W	0~200W	0~350W	0~250W
Resolution @P<100W	1mW	1mW	1mW	1mW	1mW
@P≥100W	10mW	10mW	10mW	10mW	10mW
Accuracy	0.1%+600mW	0.1%+600mW	0.1%+600mW	0.1%+600mW	0.1%+600mW

Current Slew Rates

Range CCH	1mA/us~3A/us	1mA/us~4A/us	1mA/us~2A/us	1mA/us~3A/us	1mA/us~2A/us
CCL[3]	100uA/us~300mA/us	100uA/us~400mA/us	100uA/us~200mA/us	100uA/us~300mA/us	100uA/us~200mA/us
Resolution	1mA/us	1mA/us	1mA/us	1mA/us	1mA/us
Accuracy [4]	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
FrequencyRange[5]	0.38Hz ~50kHz	0.38Hz ~50kHz	0.38Hz ~50kHz	0.38Hz ~50kHz	0.38Hz ~50kHz

High/Low Time Resolution Accuracy	0~655.35ms 10us 0.2%+10us	0~655.35ms 10us 0.2%+10us	0~655.35ms 10us 0.2%+10us	0~655.35ms 10us 0.2%+10us	0~655.35ms 10us 0.2%+10us
Rising/Falling Time Resolution Accuracy	10us~655.35ms 10us 0.2%+10us	10us~655.35ms 10us 0.2%+10us	10us~655.35ms 10us 0.2%+10us	10us~655.35ms 10us 0.2%+10us	10us~655.35ms 10us 0.2%+10us

List Characteristics

Step Time Resolution Accuracy	10us~100000s 10us 0.2%+10us	10us~100000s 10us 0.2%+10us	10us~100000s 10us 0.2%+10us	10us~100000s 10us 0.2%+10us	10us~100000s 10us 0.2%+10us
Number of Steps	1~50	1~50	1~50	1~50	1~50
Cycle	1~65535	1~65535	1~65535	1~65535	1~65535
StoreCapacity	7 Lists	7 Lists	7 Lists	7 Lists	7 Lists
Expanded Functions	Chain	Chain	Chain	Chain	Chain

Battery Discharge

Discharge Time Resolution Accuracy	1s ~100h 1s 0.2%+1s	1s ~100h 1s 0.2%+1s	1s ~100h 1s 0.2%+1s	1s ~100h 1s 0.2%+1s	1s ~100h 1s 0.2%+1s
BatteryCapacity Resolution Accuracy	1mAh~3000Ah 1mAh 0.3%+0.01Ah	1mAh~4000Ah 1mAh 0.3%+0.01Ah	1mAh~2000Ah 1mAh 0.3%+0.01Ah	1mAh~3000Ah 1mAh 0.3%+0.01Ah	1mAh~3000Ah 1mAh 0.3%+0.01Ah

Short Circuit

CCL Mode	3.3A	4.4A	2.2A	3.3A	2.2A
CCH Mode	33A	44A	22A	33A	22A
CV Mode	0V	0V	0V	0V	0V
CRL Mode	0.018Ω	0.018Ω	0.06Ω	0.06Ω	0.25Ω
CRM Mode	1.8Ω	1.8Ω	6Ω	6Ω	25Ω
CRH Mode	18Ω	18Ω	60Ω	60Ω	250Ω
CPV Mode	270W	420W	220W	370W	270W
CPC Mode	0W	0W	0W	0W	0W

Maximum Slew Rate

Current	3A/us	4A/us	2A/us	3A/us	2A/us
Voltage	0.6V/us	0.6V/us	0.6V/us	0.6V/us	0.6V/us
Programmable Open Circuit	≥20 kΩ	≥20 kΩ	≥20 kΩ	≥20 kΩ	≥20 kΩ

Trigger Input

Trigger Level Trigger Pulse Width	TTL falling edge ≥10us	TTL falling edge ≥10us	TTL falling edge ≥10us	TTL falling edge ≥10us	TTL falling edge ≥10us

Maximum Input Levels

Current	33A	44A	22A	33A	22A
Voltage	84V	84V	210V	210V	520V
Protection Features	OV, OC,OP,OT, RV	OV, OC,OP,OT, RV	OV, OC,OP,OT, RV	OV, OC,OP,OT, RV	OV, OC,OP,OT, RV

Reverse Current Capacity

Input OFF	25A	30A	25A	25A	25A
Input ON	40A	50A	35A	40A	35A

Ripple and Noise

Current (rms/p-p)	3mA/30mA	3mA/30mA	3mA/30mA	3mA/30mA	3mA/30mA
Voltage (rms)	5mV	5mV	12mV	12mV	30mV

Environmental Conditions

Temperature	0~50º C	0~50º C	0~50º C	0~50º C	0~50º C
Relative Humidity	≤85%	≤85%	≤85%	≤85%	≤85%
Remote Interface[*6]	RS232, GPIB, USB	RS232, GPIB, USB	RS232, GPIB, USB	RS232, GPIB, USB	RS232, GPIB, USB
Programming Language	SCPI	SCPI	SCPI	SCPI	SCPI

AC Input

Voltage	AC110V or AC220V ±15%	AC110V or AC220V ±15%	AC110V or AC220V ±15%	AC110V or AC220V ±15%	AC110V or AC220V ±15%
Frequency	48 to 63Hz	48 to 63Hz	48 to 63Hz	48 to 63Hz	48 to 63Hz
Net Weight	5.8kg	5.8kg	5.8kg	5.8kg	5.8kg

*1. Maximum continuous power available is derated linearly from 100% of maximum at 40ºC, to 75% of maximum at 50 ºC.

*2. Conductance (S) = 1 / Resistance (Ω). The siemens is the SI derived unit of conductance, and the symbol is "S".

*3. The set level is 10 times larger than the slew rate in CCL mode.

*4. The actual transition time is defined as the time required for the input to change from 10% to 90% or from 90% to 10% of the programmed excursion.

*5. Transient frequency depends on the time for high/low level and rising/falling edge.

*6. Full remote control via RS232 with optional GPIB and USB.

110mm

226mm

376mm

414mm

104mm

213mm

350mm

391mm