

33500F 系列

高功率直流电子负载



HIGH POWER DC ELECTRONIC LOAD



博计电子股份有限公司

236 新北市土城区中兴路7-1号

TEL : 886-2-2918-2620

FAX : 886-2-2912-9870

[http : //www.prodigit.com.tw](http://www.prodigit.com.tw)

E-mail : pdsales@prodigit.com.tw





特 性

- 5位数之数位电压、电流以及功率表
- 高速量测及通讯传输速率
- 大型 LCD Display、可用飞梭旋钮或按键调整设定值
- 可同时显示电压值、电流值、瓦特值
- 可自动执行OCP、OPP测试
- 具有150组 储存/呼叫 记忆
- 可设定开机状态值
- 定电流、定电阻、定电压、定功率、动态及短路模式
- 短路测试时可设定短路时间
- 过电压、电流、功率及温度保护
- 电压极性显示可设定正值 ("+ ") 或负值 (" - ")
- 可选用介面：GPIB、RS232、USB、LAN

说 明

- 33500F系列具有独立的控制及显示面板、定电流/定电阻/定电压/定功率/ 动态模式，配合面板上的150组储存/呼叫 记忆，能有效地控制所有负载的设定，更可透过RS232、Ethernet、USB和GPIB等介面进行远端控制。
- 具备短路测试功能及设定短路时间，并可量测短路电压及电流。
- 在定电流及定功率模式下，可做动态负载之模拟，其电流上升、下降斜率均为 独立可调，另具有一外部输入任意波形之动态负载功能。
- 具有OCP、OPP单键测试功能，使得OCP、OPP之测试更有效率及准确。
- 可设定的吃载/停止吃载 (LOAD ON/OFF) 电压点及良/不良 (GO/NG) 的比较判断功能、电压极性显示可正可负及150组 储存/呼叫 记忆，使得负载更适用于 各种不同的应用。
- 多达150组测试参数及状态的储存功能，让其可根据自动测试 (auto sequence) 需求，随时将储存记忆调出来任意使用。

应 用

- 电压/电流源测试
- 交换式电源供应器暂态响应
- 定电压模式供限流测试及模拟电池
- 电池放电
- 电池充电
- 研发、品管
- ATE系统
- 生产测试

规格

MODEL	33501F	33521F	33511F	33531F	33541F
Power	2400W	2400W	3600W	3600W	3600W
Current	0 ~ 240A	0 ~ 480A	0 ~ 240A	0 ~ 480A	0 ~ 720A
Voltage	0 ~ 60V	0 ~ 60V	0 ~ 60V	0 ~ 60V	0 ~ 60V
Min.Operation Voltage	0.7V @ 240A	0.7V @ 480A	0.6V @ 240A	0.7V @ 480A	0.7V @ 720A
CC MODE					
Range *1	0 ~ 24A / 240A	0 ~ 48A / 480A	0 ~ 24A / 240A	0 ~ 48A / 480A	0 ~ 72A / 720A
Resolution	0.4mA / 4mA	0.8mA / 8mA	0.4mA / 4mA	0.8mA / 8mA	1.2mA / 12mA
Accuracy	±0.1% OF (Setting+Range)				
CR MODE					
Range	0.0041 ~ 0.25~15KΩ	0.002 ~ 0.125~7.5KΩ	0.0041~0.25 ~15KΩ	0.002~0.125~7.5KΩ	0.00138~0.0833~5KΩ
Resolution	0.0041mΩ / 0.066mS	0.002mΩ / 0.1333mS	0.0041mΩ / 0.066mS	0.002mΩ / 0.133mS	0.00138mΩ / 0.2mS
Accuracy	±0.2% OF (Setting + Range)				
CV MODE					
Range	6V / 60V				
Resolution	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV
Accuracy	± 0.05% OF (Setting+Range)				
CP MODE					
Range	240W / 2400W	240W / 2400W	360W / 3600W	360W / 3600W	360W / 3600W
Resolution	4mW / 40mW	4mW / 40mW	6mW / 60mW	6mW / 60mW	6mW / 60mW
Accuracy	± 0.5% OF (Setting+Range)				
DYNAMIC MODE - CC					
Timing					
Thigh & Tlow	0.050~9.999 / 99.99 / 999.9 / 9999mS				
Resolution	0.001 / 0.01 / 0.1 / 1mS				
Accuracy	1μS / 10μS / 100μS / 1mS + 50ppm				
Slew rate	0.016A ~ 1A / μS 0.16A ~ 10A / μS	0.032A ~ 2A / μS 0.32A ~ 20A / μS	0.016A ~ 1A / μS 0.16A ~ 10A / μS	0.016A ~ 1A / μS 0.16A ~ 10A / μS	0.048A ~ 3A / μS 0.48A ~ 30A / μS
Resolution	0.004 / 0.04A / μS	0.008 / 0.08A / μS	0.004 / 0.04A / μS	0.004 / 0.04A / μS	0.012 / 0.12A / μS
Accuracy	(5% of setting) ± 10μS				
Min. Rise Time	24μS (typical)				
Current					
Range	24A / 240A	48A / 480A	24A / 240A	48A / 480A	72A / 720A
Resolution	0.4mA / 4mA	0.8mA / 8mA	0.4mA / 4mA	0.8mA / 8mA	1.2mA / 12mA
Accuracy	± 0.1% OF (Setting+Range)				
MEASUREMENT					
Voltage Read Back					
Range (5 Digital)	0 ~ 6V / 60V	0 ~ 6V / 60V	0 ~ 6V / 60V	0 ~ 6V / 60V	0 ~ 6V / 60V
Resolution	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV
Accuracy	± 0.025% OF (Reading+Range)				
Current Read Back					
Range (5 Digital)	0 ~ 24A / 240A	0 ~ 48A / 480A	0 ~ 24A / 240A	0 ~ 48A / 480A	0 ~ 72A / 720A
Resolution	0.4mA / 4mA	0.8mA / 8mA	0.4mA / 4mA	0.8mA / 8mA	1.2mA / 12mA
Accuracy	± 0.1% OF (Reading+Range)				
Power Read Back					
Range (5 Digital)	0 ~ 2400W	0 ~ 2400W	0 ~ 2400W	0 ~ 3600W	0 ~ 3600W
Resolution	0.04W	0.04W	0.04W	0.06W	0.06W
Accuracy	± 0.125% OF (Reading + Range)				
PROTECTIONS					
Over Power	105% of Rated Power				
Over Current	105% of Rated Current				
Over Voltage	105% of Rated Voltage				
Over Temp.	Yes				
OTHERS					
Load ON Voltage					
Range	0.1 ~ 25.0V				
Resolution	0.1V				
Accuracy	1% of Setting + 0.25V				
Load OFF Voltage					
Range	0 ~ 25V				
Resolution	Same as Voltage Meter				
Accuracy	Same as Voltage Meter				
GENERAL					
Short Circuit					
Current	240A	480A	240A	480A	720A
Temperature Coefficient	100ppm / °C (typical)				
Power consumption	200Wmax	200Wmax	200Wmax	200Wmax	200Wmax
Operating Temperature *2	0 ~ 40℃				
Dimension (HxWxD)	459 x 480 x 577mm	459 x 480 x 577mm	459 x 480 x 577mm	459 x 480 x 577mm	459 x 480 x 577mm
Weight	36 kg	36 kg	44 kg	44 kg	44 kg
Safety & EMC	CE				

输入电源：115/230 Vac ±10% · 50/60Hz

冷却方式：智慧型风扇冷却

注 *1：CC Mode 可强制于 range II

注 *2：操作温度范围为 0~40°C，此规格表内之精确度仅适用于 25°C±5°C

订购方式

选购介面：

- ① GPIB Card
- ② RS232 Card
- ③ USB Card
- ④ LAN Card



33501F 60V · 240A · 2400W



33521F 60V · 480A · 2400W



33511F 60V · 240A · 3600W



33531F 60V · 480A · 3600W



33541F 60V · 720A · 3600W

规格

MODEL	33512F	33532F	33542F	33513F
Power	5400W	5400W	5400W	7200W
Current	0 ~ 360A	0 ~ 720A	0 ~ 1000A	0 ~ 480A
Voltage	0 ~ 60V	0 ~ 60V	0 ~ 60V	0 ~ 60V
Min.Operation Voltage	0.6V @ 360A	0.7V @ 720A	0.7V @ 1000A	0.6V @ 480A
CC MODE				
Range *1	0 ~ 36A / 360A	0 ~ 72A / 720A	0 ~ 100.2A / 1000.2A	0 ~ 48A / 480A
Resolution	0.6mA / 6mA	1.2mA / 12mA	1.67mA / 16.7mA	0.8mA / 8mA
Accuracy	± 0.1% OF (Setting + Range)			
CR MODE				
Range	0.0027~0.167~10KΩ	0.00138~0.0833~5KΩ	0.001~0.06~3.6KΩ	0.002~0.125~7.5KΩ
Resolution	0.0028mΩ / 0.1mS	0.0028mΩ / 0.1mS	0.001mΩ / 0.277mS	0.002mΩ / 0.13mS
Accuracy	± 0.2% OF (Setting + Range)			
CV MODE				
Range	6V / 60V			
Resolution	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV
Accuracy	± 0.05% OF (Setting + Range)			
CP MODE				
Range	540W / 5400W	540W / 5400W	540W / 5400W	720W / 7200W
Resolution	9mW / 90mW	9mW / 90mW	9mW / 90mW	12mW / 120mW
Accuracy	± 0.5% OF (Setting + Range)			
DYNAMIC MODE - CC				
Timing				
Thigh & Tlow	0.050 ~ 9.999 / 99.99 / 999.9 / 9999mS			
Resolution	0.001 / 0.01 / 0.1 / 1mS			
Accuracy	1μS / 10μS / 100μS / 1mS + 50ppm			
Slew rate	0.024A ~ 1.5A / μS 0.24A ~ 15A / μS	0.048A ~ 3A / μS 0.48A ~ 30A / μS	0.0664A ~ 4.15A / μS 0.644A ~ 41.5A / μS	0.032A ~ 2A / μS 0.32A ~ 20A / μS
Resolution	0.006 / 0.06A / μS	0.012 / 0.12A / μS	0.0166 / 0.166A / μS	0.008 / 0.08A / μS
Accuracy	(5% of setting) ± 10 μS			
Min. Rise Time	24μS (typical)			
Current				
Range	36A / 360A	72A / 720A	100.2A / 1000.2A	48A / 480A
Resolution	0.6mA / 6mA	1.2mA / 12mA	1.67mA / 16.7mA	0.8mA / 8mA
Accuracy	± 0.1% OF (Setting+Range)			
MEASUREMENT				
Voltage Read Back				
Range (5 Digital)	0 ~ 6V / 60V	0 ~ 6V / 60V	0 ~ 6V / 60V	0 ~ 6V / 60V
Resolution	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV
Accuracy	± 0.025% OF (Reading + Range)			
Current Read Back				
Range (5 Digital)	0~36A / 360A	0~72A / 720A	0~100.2A / 1000.2A	0~48A / 480A
Resolution	0.6mA / 6mA	1.2mA / 12mA	1.67mA / 16.7mA	0.8mA / 8mA
Accuracy	± 0.1% OF (Reading + Range)			
Power Read Back				
Range (5 Digital)	0 ~ 5400W	0 ~ 5400W	0 ~ 5400W	0 ~ 7200W
Resolution	0.09W	0.09W	0.09W	0.12W
Accuracy	± 0.125% OF (Reading + Range)			
PROTECTIONS				
Over Power	105% of Rated Power			
Over Current	105% of Rated Current			
Over Voltage	105% of Rated Voltage			
Over Temp.	Yes			
OTHERS				
Load ON Voltage				
Range	0.1 ~ 25.0V			
Resolution	0.1V			
Accuracy	1% of Setting + 0.25V			
Load OFF Voltage				
Range	0 ~ 25V			
Resolution	Same as Voltage Meter			
Accuracy	Same as Voltage Meter			
GENERAL				
Short Circuit				
Current	360A	720A	1000.2A	480A
Temperature Coefficient	100ppm /°C (typical)			
Power consumption	300Wmax	300Wmax	300Wmax	400Wmax
Operating Temperature *2	0 ~ 40℃			
Dimension (HxWxD)	637 x 480 x 577mm	637 x 480 x 577mm	637 x 480 x 577mm	815 x 480 x 577mm
Weight	66 kg	66 kg	66 kg	88 kg
Safety & EMC				
	CE			

输入电源：115/230 Vac ±10% · 50/60Hz

冷却方式：智慧型风扇冷却

注 *1：CC Mode 可强制于 range II

注 *2：操作温度范围为 0~40°C，此规格表内之精确度仅适用于 25°C±5°C

订购方式

选购介面：

- ① GPIB Card
- ② RS232 Card
- ③ USB Card
- ④ LAN Card



33512F 60V · 360A · 5400W



33532F 60V · 720A · 5400W



33542F 60V · 1000A · 5400W



33513F 60V · 480A · 7200W

规格

MODEL	33514F	33515F	33516F	33517F
Power	9000W	10800W	12600W	14400W
Current	0 ~ 600A	0 ~ 720A	0 ~ 840A	0 ~ 960A
Voltage	0 ~ 60V	0 ~ 60V	0 ~ 60V	0 ~ 60V
Min.Operation Voltage	0.6V @ 600A	0.6V @ 720A	0.6V @ 840A	0.6V @ 960A
CC MODE				
Range *1	0 ~ 60A / 600A	0 ~ 72A / 720A	0 ~ 84A / 840A	0 ~ 96A / 960A
Resolution	1mA / 10mA	1.2mA / 12mA	1.4mA / 14mA	1.6mA / 16mA
Accuracy	± 0.1% OF (Setting + Range)			
CR MODE				
Range	0.0017 ~ 0.1 ~ 6KΩ	0.00138 ~ 0.083 ~ 5KΩ	0.0012 ~ 0.0714 ~ 4284Ω	0.001 ~ 0.0625 ~ 3750Ω
Resolution	0.0016mΩ / 0.016mS	0.0014mΩ / 0.2mS	0.0003mΩ / 0.23mS	0.001mΩ / 0.267mS
Accuracy	± 0.2% OF (Setting + Range)			
CV MODE				
Range	6V / 60V			
Resolution	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV
Accuracy	± 0.05% OF (Setting + Range)			
CP MODE				
Range	900W / 9000W	1080W / 10800W	1260W / 12600W	1440W / 14400W
Resolution	15mW / 150mW	18mW / 180mW	21mW / 210mW	24mW / 240mW
Accuracy	± 0.5% OF (Setting + Range)			
DYNAMIC MODE - CC				
Timing				
Thigh & Tlow	0.050 ~ 9.999 / 99.99 / 999.9 / 9999mS			
Resolution	0.001 / 0.01 / 0.1 / 1mS			
Accuracy	1μS / 10μS / 100μS / 1mS + 50ppm			
Slew rate	0.04A ~ 2.5A / μS 0.4A ~ 25A / μS	0.048A ~ 3A / μS 0.48A ~ 30A / μS	0.056A ~ 3.5A / μS 0.56A ~ 35A / μS	0.064A ~ 4A / μS 0.64A ~ 40A / μS
Resolution	0.01 / 0.1A / μS	0.012 / 0.12A / μS	0.014 / 0.14A / μS	0.016 / 0.16A / μS
Accuracy	(5% of setting) ± 10 uS			
Min. Rise Time	24uS (typical)			
Current				
Range	60A / 600A	72A / 720A	84A / 840A	96A / 960A
Resolution	1mA / 10mA	1.2mA / 12mA	1.4mA / 14mA	1.6mA / 16mA
Accuracy	± 0.1% OF (Setting + Range)			
MEASUREMENT				
Voltage Read Back				
Range (5 Digital)	0 ~ 6V / 60V	0 ~ 6V / 60V	0 ~ 6V / 60V	0 ~ 6V / 60V
Resolution	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV	0.1mV / 1mV
Accuracy	± 0.025% OF (Reading + Range)			
Current Read Back				
Range (5 Digital)	0 ~ 60A / 600A	0 ~ 72A / 720A	0 ~ 84A / 840A	0 ~ 96A / 960A
Resolution	1mA / 10mA	1.2mA / 12mA	1.4mA / 14mA	1.6mA / 16mA
Accuracy	± 0.1% OF (Reading + Range)			
Power Read Back				
Range (5 Digital)	0 ~ 9000W	0 ~ 10800W	0 ~ 12600W	0 ~ 14400W
Resolution	0.15W	0.18W	0.21W	0.24W
Accuracy	± 0.125% OF (Reading + Range)			
PROTECTIONS				
Over Power	105% of Rated Power			
Over Current	105% of Rated Current			
Over Voltage	105% of Rated Voltage			
Over Temp.	Yes			
OTHERS				
Load ON Voltage				
Range	0.1 ~ 25.0V			
Resolution	0.1V			
Accuracy	1% of Setting + 0.25V			
Load OFF Voltage				
Range	0 ~ 25V			
Resolution	Same as Voltage Meter			
Accuracy	Same as Voltage Meter			
GENERAL				
Short Circuit				
Current	600A	720A	840A	960A
Temperature Coefficient	100ppm / °C (typical)			
Power consumption	500Wmax	600Wmax	700Wmax	800Wmax
Operating Temperature *2	0 ~ 40°C			
Dimension (HxWxD)	1283 x 600 x 600 mm	1283x 600 x 600 mm	1506 x 600 x 600 mm	1728 x 600 x 600 mm
Weight	185 kg	208.6 kg	232.2 kg	268.8 kg
Safety & EMC	CE			

输入电源：115/230 Vac ±10% · 50/60Hz

冷却方式：智慧型风扇冷却

注 *1：CC Mode 可强制于 range II

注 *2：操作温度范围为 0~40°C, 此规格表内之精确度仅适用于 25°C±5°C

订购方式

选购介面：

- ① GPIB Card
- ② RS232 Card
- ③ USB Card
- ④ LAN Card



33514F 60V · 600A · 9000W

33515F 60V · 720A · 10800W

33516F 60V · 840A · 12600W

33517F 60V · 960A · 14400W