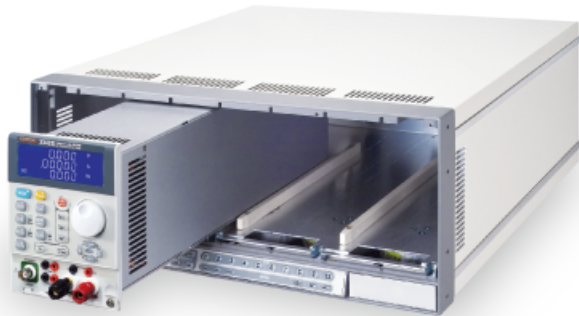


3340G 系列

LED直流電子模擬負載



LED DC ELECTRONIC LOAD SIMULATOR



博計電子股份有限公司

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3341G	300V,	24A,	300W
3342G	500V,	12A,	300W
3343G	500V,	24A,	300W
3345G	120V,	4A,	150W
3346G	120V,	12A,	300W
33401G	500V,	6A,	150Wx2
33402G	120V,	2A,	75Wx2
33403G	120V,	6A,	150Wx2

電壓可提高至600V (選購)



特 性

- 專供LED Driver測試的LED模式負載
- 定電流、定電阻、定電壓、定功率、LED及動態操作模式
- 模擬LED順向偏壓(Vd)及導通電阻(Rd)
- 不只CC、CR、CP mode具備並聯操作功能，CV mode 亦具備並聯操作功能
- 響應快速，可供PWM調光測試
- 內建調光控制所需之控制訊號
- 以外接Relay的方式做短路測試（內建控制Relay短路之驅動電路）
- 5位之數位電壓，電流以及功率錶
- 過電壓、電流、功率及溫度保護
- 須安裝於機框3302G〔單組框〕、3305G〔雙組框〕或 3300 G〔四組框〕上，且機框上具有150組儲存/呼叫 記憶
- 電壓可提高至600V (選購)
- 可選用介面：GPIB、RS232、USB、LAN
- 3345G & 33402G的功率輸入調光頻率可達25KHZ，是市場上速度最快、頻寬最寬的電子負載
- 3345G & 33402G的調光控制輸出為DC-10KHZ

說 明

- 每個3340G系列模組均有獨立的控制及顯示面板、LED/定電流/定電阻/定電壓/定功率/動態模式，配合3300G機框上的150組 儲存/呼叫 記憶，能有效地控制所有負載的設定，更可透過RS232、Ethernet、USB和GPIB等介面進行遠端控制。
- 以外接Relay的方式做短路測試（備有短路專用治具板可供選購），並可設定短路時間及量測短路電壓。
- 內建的調光控制訊號輸出，方便於LED driver的PWM調光（Dimming）測試。
- 透過LED模式，設定順向偏壓（Vd）及導通電阻（Rd），即可模擬LED的拉載特性。
- 可設定的吃載/停止吃載（LOAD ON/OFF）電壓點及良/不良（GO/NG）的比較判斷功能、電壓極性顯示可正可負及150組 儲存/呼叫 記憶，使得負載更適用於各種不同的應用。
- 多達150組測試參數及狀態的儲存功能，讓其可根據自動測試(auto sequence)需求，隨時將儲存記憶調出來任意使用。

應 用

- LED Driver
- 電壓/電流源測試
- 交換式電源供應器暫態響應
- 定電壓模式供限流測試及模擬電池
- 電池放電
- 電池充電
- 研發、品管
- ATE系統
- 生產測試

規 格

MODEL	3341G		3342G		3343G		3345G		3346G	
Power	300W		300W		300W		150W		300W	
Current	0 ~ 6A	0 ~ 24A	0 ~ 3A	0 ~ 12A	0 ~ 6A	0 ~ 24A	0 ~ 1.2A	0 ~ 4A	0 ~ 3A	0 ~ 12A
Voltage	0 ~ 300V		0 ~ 500V		0 ~ 500V		0 ~ 120V		0 ~ 120V	
Min. Operating Voltage	3V @ 24A		6V @ 12A		6V @ 24A		3V @ 4A		1.5V @ 12A	
Constant Current Mode										
Range*1	0 ~ 6A	0 ~ 24A	0 ~ 3A	0 ~ 12A	0 ~ 6A	0 ~ 24A	0 ~ 1.2A	0 ~ 4A	0 ~ 3A	0 ~ 12A
Resolution	0.1mA	0.4mA	0.05mA	0.2mA	0.1mA	0.4mA	0.02mA	0.08mA	0.05mA	0.2mA
Accuracy	± 0.1% OF (SETTING + RANGE)									
Constant Resistance Mode										
Range	CRL:0.125Ω-1.5KΩ (150V) CRH:0.25Ω-3KΩ (300V)	CRL:0.5Ω-1.5KΩ (300V) CRH:1Ω-3KΩ (500V)	CRL:0.25Ω-3KΩ (300V) CRH:0.5Ω-6KΩ (500V)	CRL:0.75Ω-750Ω (60V) CRH:1.5Ω-1.5KΩ (120V)	CRL:0.1Ω-1.2KΩ (60V) CRH:0.2Ω-2.4KΩ (120V)	CRL:0.125Ω-1.5KΩ (150V) CRH:0.25Ω-3KΩ (300V)	CRL:0.5Ω-1.5KΩ (300V) CRH:1Ω-3KΩ (500V)	CRL:0.25Ω-3KΩ (300V) CRH:0.5Ω-6KΩ (500V)	CRL:0.75Ω-750Ω (60V) CRH:1.5Ω-1.5KΩ (120V)	CRL:0.1Ω-1.2KΩ (60V) CRH:0.2Ω-2.4KΩ (120V)
Resolution	133.333μS	66.666μS	33.333μS	16.666μS	66.666μS	33.333μS	66.666μS	33.333μS	166.66μS	83.333μS
Accuracy	± 0.2% OF (SETTING + RANGE)									
Constant Voltage Mode										
Range	30V / 150V / 300V		60V / 300V / 500V		60V / 300V / 500V		30V / 60V / 120V		12V / 60V / 120V	
Resolution	0.0005V / 0.0025V / 0.005V		0.001V / 0.005V / 0.01V		0.001V / 0.005V / 0.01V		0.0005V / 0.001V / 0.002V		0.2mV / 1mV / 2mV	
Accuracy	± 0.05% OF (SETTING + RANGE)									
Constant Power Mode										
Range	0 ~ 300W		0 ~ 300W		0 ~ 300W		0 ~ 150W		0 ~ 300W	
Resolution	0.005W		0.005W		0.005W		0.0025W		0.005W	
Accuracy	± 0.5% OF (SETTING + RANGE)									
LED Mode										
Vo Voltage Range	LEDL:30V/LEDM:150V/LEDH:300V		LEDL:60V/LEDM:300V/LEDH:500V		LEDL:60V/LEDM:300V/LEDH:500V		LEDL:30V/LEDM:60V/LEDH:120V		LEDL:12V / LEDM:60V / LEDH:120V	
Rd Resistance Range	LEDL: 0.125~125KΩ@Vo-Vd=0~3V LEDL: 1.25~1.25KΩ@Vo-Vd=3~30V LEDM: 0.625~625Ω@Vo-Vd=0~15V LEDM: 6.25~6.25KΩ@Vo-Vd=15~150V LEDH: 1.25~1.25KΩ@Vo-Vd=0~30V LEDH: 12.5~12.5KΩ@Vo-Vd=30~300V		LEDL: 0.5~100Ω@Vo-Vd=0~6V LEDL: 5~1KΩ@Vo-Vd=6~60V LEDM: 2.5~500Ω@Vo-Vd=0~30V LEDM: 25~5KΩ@Vo-Vd=30~300V LEDH: 5~1KΩ@Vo-Vd=0~60V LEDH: 50~10KΩ@Vo-Vd=60~500V		LEDL: 0.25~125KΩ@Vo-Vd=0~6V LEDL: 2.5~1.25KΩ@Vo-Vd=6~60V LEDM: 1.25~625Ω@Vo-Vd=0~30V LEDM: 12.5~6.25KΩ@Vo-Vd=30~300V LEDH: 2.5~1.25KΩ@Vo-Vd=0~60V LEDH: 25~12.5KΩ@Vo-Vd=60~500V		LEDL: 0.625~0.75KΩ@Vo-Vd=0~3V LEDL: 6.25~7.5KΩ@Vo-Vd=3~30V LEDM: 1.25~1.5KΩ@Vo-Vd=0~6V LEDM: 12.5~15KΩ@Vo-Vd=6~60V LEDH: 2.5~3KΩ@Vo-Vd=0~12V LEDH: 25~30KΩ@Vo-Vd=12~120V		LEDL: 0.1~120Ω@Vo-Vd=0~1.2V LEDL: 1~1.2KΩ@Vo-Vd=1.2~12V LEDM: 0.5~600Ω@Vo-Vd=0~12V LEDM: 5~6KΩ@Vo-Vd=12~60V LEDH: 1~1.2KΩ@Vo-Vd=0~60V LEDH: 10~12KΩ@Vo-Vd=60~120V	
Resolution	16Bits									
Accuracy	Vd : ± (0.05% OF SETTING + 0.1% OF RANGE), Rd : ± (0.05% OF SETTING + 0.1% OF RANGE)									
Dynamic Mode										
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	4.8~300mA/μS	19.2~1200mA/μS	2.4~150mA/μS	9.6~600mA/μS	4.8~300mA/μS	19.2~1200mA/μS	0.96~60mA/μS	3.84~240mA/μS	2.4~150mA/μS	9.6~600mA/μS
Resolution	1.2mA/μS	4.8mA/μS	0.6mA/μS	2.4mA/μS	1.2mA/μS	4.8mA/μS	0.24mA/μS	0.96mA/μS	0.6mA/μS	2.4mA/μS
Accuracy	± (5%OF SETTING) ±10μS									
Min. Rise Time	20μS (Typical)									
Current										
Range	0 ~ 6A	0 ~ 24A	0 ~ 3A	0 ~ 12A	0 ~ 6A	0 ~ 24A	0 ~ 1.2A	0 ~ 4A	0 ~ 3A	0 ~ 12A
Resolution	0.1mA	0.4mA	0.05mA	0.2mA	0.1mA	0.4mA	0.02mA	0.08mA	0.05mA	0.2mA
Accuracy	± 0.1% OF (SETTING + RANGE)									
Measurement										
Voltage Read Back										
Range	30V / 150V / 300V		60V / 300V / 500V		60V / 300V / 500V		30V / 60V / 120V		12V / 60V / 120V	
Resolution	0.5mV / 2.5mV / 5mV		1mV / 5mV / 10mV		1mV / 5mV / 10mV		0.5mV / 1mV / 2mV		0.2mV / 1mV / 2mV	
Accuracy	± 0.025% OF (READING + RANGE)									
Current Read Back										
Range	6A	24A	3A	12A	6A	24A	1.2A	4A	3A	12A
Resolution	0.1mA	0.4mA	0.05mA	0.2mA	0.1mA	0.4mA	0.02mA	0.08mA	0.05mA	0.2mA
Accuracy	± 0.1% OF (READING + RANGE)									
Power Read Back										
Range	300W		300W		300W		150W		300W	
Accuracy	± 0.1% OF (READING + RANGE)									
General										
Imonitor	2.4A/V		1.2A/V		2.4A/V		0.4A/V		1.2A/V	
Accuracy	± 0.5% OF (READING + RANGE)									
Short Signal Output	12V/100 mAmax									
Dimming Control										
Level Range	0 ~ 12V									
Resolution	0.048V									
Accuracy	1% of (SETTING + RANGE)									
Frequency Range	DC ~ 1KHz						DC ~ 10KHz		DC ~ 1KHz	
Resolution	10Hz									
Duty Range	0.01 ~ 0.99 (1%~99%)						100Hz		0.1 ~ 0.9 (10%~90%)	
Resolution	0.01						0.1		0.01	
Temperature Coefficient	100ppm/°C (typical)									
Power	Supply from mainframe									
Operating Temperature*2	0 ~ 40°C									
Dimension(HxWxD)	143x108x405mm									
Weight	3.5kg									
Safety & EMC	CE									

輸入電源：115/230 Vac ±10%，50/60Hz
冷卻方式：智慧型風扇冷卻

註 *1：CC Mode 可強制於 range II
註 *2：操作溫度範圍為 0~40°C，此規格表內之精確度僅適用於 25°C±5°C

訂 購 方 式

LED 直流電子負載模組

- ▶ 3341G 300V, 24A, 300W
- ▶ 3342G 500V, 12A, 300W
- ▶ 3343G 500V, 24A, 300W
- ▶ 3345G 120V, 4A, 150W
- ▶ 3346G 120V, 12A, 300W

選購電壓：600V
負載模組 3.5kg
W=108mm / H=143mm / D=405mm

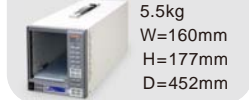


電子負載機框：

選購介面：① GPIB Card ② RS232 Card ③ USB Card ④ LAN Card

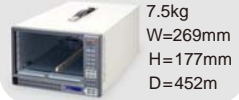
3302G (單組框)

5.5kg
W=160mm
H=177mm
D=452mm



3305G (雙組框)

7.5kg
W=269mm
H=177mm
D=452mm



3300G (四組框)

9.3kg
W=440mm
H=177mm
D=445mm



選購配備：
短路專用工具板



規 格

MODEL	33401G		33402G		33403G	
Power	150W x 2		75W x 2		150W x 2	
Current	0 ~ 1.5A	0 ~ 6A	0 ~ 0.6A	0 ~ 2A	0 ~ 1.5A	0 ~ 6A
Voltage	0 ~ 500V		0 ~ 120V		0 ~ 120V	
Min. Operating Voltage	4V @ 6A		3V @ 2A		1.8V @ 6A	
Constant Current Mode						
Range ^{*1}	0 ~ 1.5A	0 ~ 6A	0 ~ 0.6A	0 ~ 2A	0 ~ 1.5A	0 ~ 6A
Resolution	0.025mA	0.1mA	0.01mA	0.04mA	0.025mA	0.1mA
Accuracy	± 0.1% OF (SETTING + RANGE)					
Constant Resistance Mode						
Range	CRL:1Ω~3KΩ (300V)	CRH:2Ω~6KΩ (500V)	CRL:1.5Ω~1.5KΩ (60V)	CRH:3Ω~3KΩ (120V)	CRL:0.2Ω~2.4KΩ (60V)	CRH:0.4Ω~4.8KΩ (120V)
Resolution	16.666μS	8.333μS	33.33μS	16.66μS	83.333μS	41.666μS
Accuracy	± 0.2% OF (SETTING + RANGE)					
Constant Voltage Mode						
Range	60V / 300V / 500V		30V / 60V / 120V		12V / 60V / 120V	
Resolution	0.001V / 0.005V / 0.01V		0.0005V / 0.001V / 0.002V		0.2mV / 1mV / 2mV	
Accuracy	± 0.05% OF (SETTING + RANGE)					
LED Mode						
Vo Voltage Range	LEDL : 60V / LEDM : 300V / LEDH : 500V		LEDL : 30V / LEDM : 60V / LEDH : 120V		LEDL : 12V / LEDM : 60V / LEDH : 120V	
Rd Resistance Range	LEDL : 1 ~ 200Ω @ Vo-Vd = 0~6V LEDL : 10 ~ 2KΩ @ Vo-Vd = 6~60V LEDM : 5 ~ 1KΩ @ Vo-Vd = 0~30V LEDM : 50 ~ 10KΩ @ Vo-Vd = 30~300V LEDH : 10 ~ 2KΩ @ Vo-Vd = 0~60V LEDH : 100 ~ 20KΩ @ Vo-Vd = 60~500V		LEDL : 1.25 ~ 1.5KΩ @ Vo-Vd = 0~3V LEDL : 12.5 ~ 15KΩ @ Vo-Vd = 3~30V LEDM : 2.5 ~ 3KΩ @ Vo-Vd = 0~6V LEDM : 25 ~ 30KΩ @ Vo-Vd = 6~60V LEDH : 5 ~ 6KΩ @ Vo-Vd = 0~12V LEDH : 50 ~ 60KΩ @ Vo-Vd = 12~120V		LEDL : 0.2 ~ 240Ω @ Vo-Vd = 0~1.2V LEDL : 2 ~ 2.4KΩ @ Vo-Vd = 1.2~12V LEDM : 1 ~ 1.2KΩ @ Vo-Vd = 0~12V LEDM : 10 ~ 12KΩ @ Vo-Vd = 12~60V LEDH : 2 ~ 2.4KΩ @ Vo-Vd = 0~60V LEDH : 20 ~ 24KΩ @ Vo-Vd = 60~120V	
Resolution	16Bits					
Accuracy	Vd : ± (0.05% OF SETTING + 0.1% OF RANGE), Rd : ± (0.05% OF SETTING + 0.1% OF RANGE)					
Measurement						
Voltage Read Back						
Range	60V / 300V / 500V		30V / 60V / 120V		12V / 60V / 120V	
Resolution	1mV / 5mV / 10mV		0.5mV / 1mV / 2mV		0.2mV / 1mV / 2mV	
Accuracy	± 0.025% OF (READING + RANGE)					
Current Read Back						
Range	1.5A	6A	0.6A	2A	1.5A	6A
Resolution	0.025mA	0.1mA	0.01mA	0.04mA	0.025mA	0.1mA
Accuracy	± 0.1% OF (READING + RANGE)					
Power Read Back						
Range	150W		75W		150W	
Accuracy	± 0.1% OF (READING + RANGE)					
General						
Short Signal Output	12V / 100 mAmax					
Dimming Control						
Level Range	0 ~ 12V					
Resolution	0.048V					
Accuracy	1% of (SETTING + RANGE)					
Frequency Range	DC ~ 1KHz		DC ~ 10KHz		DC ~ 1KHz	
Resolution	10Hz		100Hz		10Hz	
Duty Range	0.01 ~ 0.99 (1%~99%)		0.1 ~ 0.9 (10%~90%)		0.01 ~ 0.99 (1%~99%)	
Resolution	0.01		0.1		0.01	
Temperature Coefficient	100ppm/°C (typical)					
Power	Supply from mainframe					
Operating Temperature ^{*2}	0 ~ 40°C					
Dimension(HxWxD)	143x108x405mm					
Weight	3.5kg					
Safety & EMC	CE					

輸入電源：115/230 Vac ±10%，50/60Hz

冷卻方式：智慧型風扇冷卻

註 *1：CC Mode 可強制於 range II

註 *2：操作溫度範圍為 0~40°C，此規格表內之精確度僅適用於 25°C±5°C

訂 購 方 式

LED 直流電子負載模組

33401G 500V，6A，150Wx2

33402G 120V，2A，75Wx2

33403G 120V，6A，150Wx2



負載模組
3.5kg
W=108mm
H=143mm
D=405mm

電子負載機框：

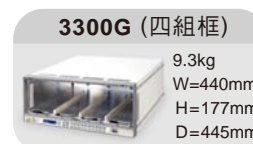
選購介面：① GPIB Card ② RS232 Card ③ USB Card ④ LAN Card



3302G (單組框)
5.5kg
W=160mm
H=177mm
D=452mm



3305G (雙組框)
7.5kg
W=269mm
H=177mm
D=452mm



3300G (四組框)
9.3kg
W=440mm
H=177mm
D=445mm



33401G / 33402G
33403G

選購配備：

短路專用治具板