

# 3340G 系列

LED直流電子模擬負載



LED DC ELECTRONIC LOAD SIMULATOR



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<b>3341G</b>	300V,	24A,	300W
<b>3342G</b>	500V,	12A,	300W
<b>3343G</b>	500V,	24A,	300W
<b>3345G</b>	120V,	4A,	150W
<b>3346G</b>	120V,	12A,	300W
<b>33401G</b>	500V,	6A,	150Wx2
<b>33402G</b>	120V,	2A,	75Wx2
<b>33403G</b>	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3300G [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	
<b>Constant Current Mode</b>										
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)									
<b>Constant Resistance Mode</b>										
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)									
<b>Constant Voltage Mode</b>										
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)									
<b>Constant Power Mode</b>										
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)									
<b>LED Mode</b>										
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: 0.625-6250Ω@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: 0.5-100KΩ@Vo-Vd=0-6V LEDL: 5-1KΩ@Vo-Vd=6-60V LEDM: 2.5-500KΩ@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: 1.25-6250Ω@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: 0.5-600KΩ@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)									
<b>Dynamic Mode</b>										
<b>Timing</b>										
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)									
<b>Current</b>										
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)									
<b>Measurement</b>										
<b>Voltage Read Back</b>										
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)									
<b>Current Read Back</b>										
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)									
<b>Power Read Back</b>										
Range	300W		300W		300W		150W		300W	
Accuracy	± 0.1% OF (READING + RANGE)									
<b>General</b>										
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									
<b>Dimming Control</b>										
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

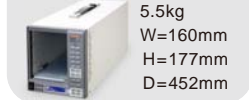


### 電子負載機框：

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

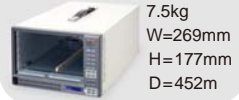
#### 3302G (單組框)

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	
<b>Constant Current Mode</b>						
Range <sup>*1</sup>	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)					
<b>Constant Resistance Mode</b>						
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)					
<b>Constant Voltage Mode</b>						
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)					
<b>LED Mode</b>						
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)					
<b>Measurement</b>						
<b>Voltage Read Back</b>						
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)					
<b>Current Read Back</b>						
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)					
<b>Power Read Back</b>						
Range	150W		75W		150W	
Accuracy	± 0.1% OF (READING + RANGE)					
<b>General</b>						
Short Signal Output	12V / 100 mAmax					
<b>Dimming Control</b>						
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 <sup>*2</sup>	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



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：

短路專用治具板

#### 33401G / 33402G

33403G

