

## Model: GP-CVM400P 系列

### ■ 產品特點

- 恆壓電源, 適合 LED 燈條, LED 電子廣告牌等相關運用.
- 全電壓工作區間 (90VAC ~ 305VAC).
- 具備短路保護、過電流、過電壓、過溫度多重保護功能.
- 內置主動型 PFC (功率因素校正)功能, 滿載時功率因素 >0.98 (115VAC).
- 電源效率最高達 93.5% (230VAC 滿載).
- 230VAC 時, 空載消耗功率小於 0.5W (適用於非調光型號).
- 230VAC 時, 待機功耗小於 0.5W (適用於調光型號).
- 提供 3 合 1 調光(dim-to-off) 和 DALI-2 功能.
- 雷擊保護 4KV/2KV.
- 安規包括:美國 FCC, cUL、歐盟 CE、歐亞 EAC、摩洛哥 CoC、DALI-2、IP67.
- 採用無鉛制程, 符合環保 RoHS 要求.
- 全封閉耐高溫鋁殼.
- 輸出和調光線符合新的隔離規定.

### ■ 安規認證



### ■ 尺寸

300 x 98 x 38.5mm (L x W x H)



CVM400P-12V



CVM400P-12VA / CVM400P-12VD2



CVM400P-24V ~48V



CVM400P-24VA ~48VA / CVM400P-24VD2 ~48VD2

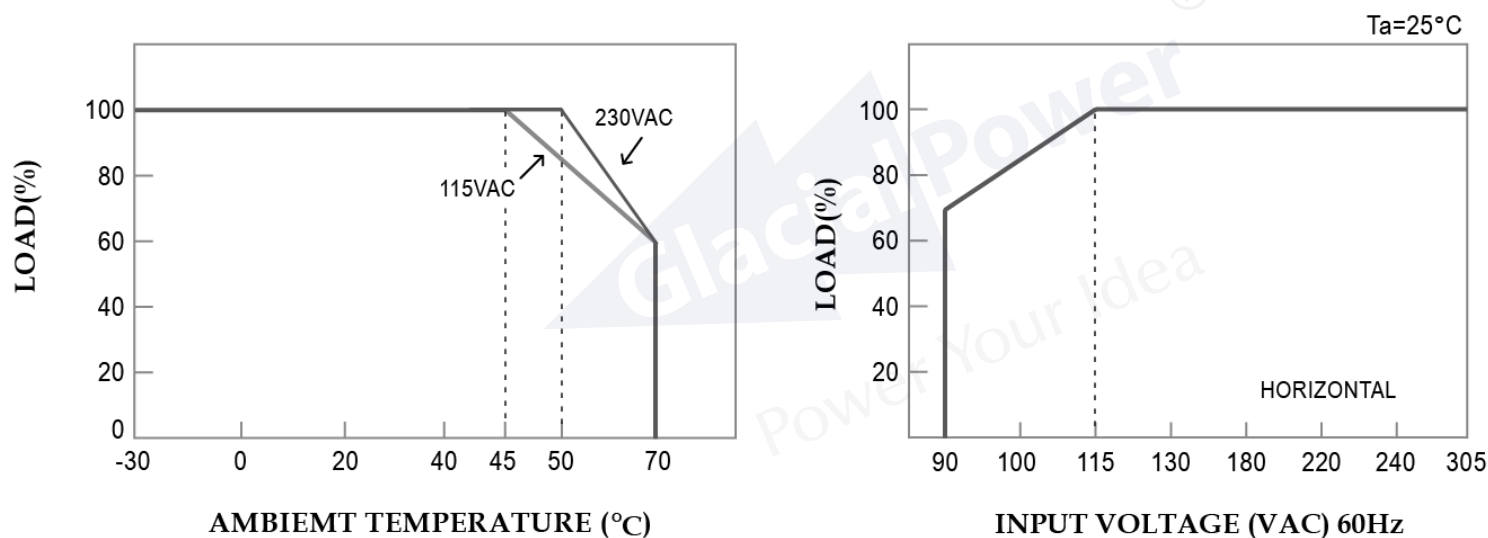
### ■ 產品規格

Note: GP-CVM400P-xxV(X): xx=12,24,36,48V (X)=Blank → Non DIM., (X)=A → 3-in-1 DIM., (X)=D2 → DALI-2 DIM.

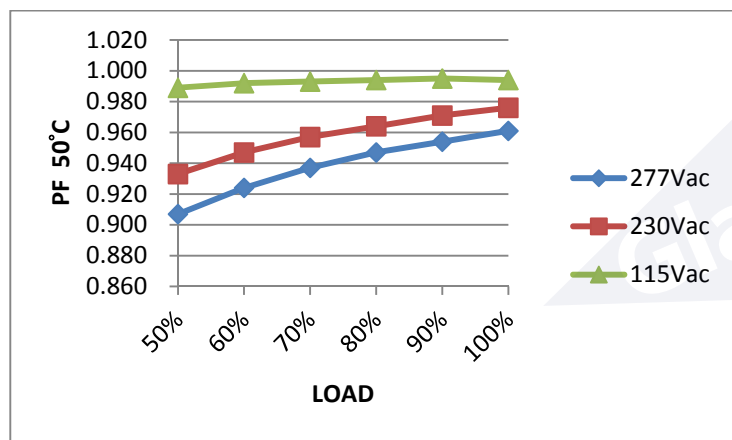
Model No.		GP-CVM400P-12V(X)	GP-CVM400P-24V(X)	GP-CVM400P-36V(X)	GP-CVM400P-48V(X)
輸出	直流電壓	12V	24V	36V	48V
	額定電流	0~26.7A	0~16.7A	0~11.1A	0~8.3A
	額定功率	320.4W	400.8W	399.6W	398.4W
	紋波和噪音 (Max.) Note.2	300mV	350mV	400mV	500mV
	效率 (Typ.)	92.5%	93%	93%	93.5%
	電壓精度 Note.3	± 5%	± 5%	± 5%	± 5%
	PWM 調光頻率 (optional)	> 1600 Hz (可調光版本)			
啟動時間 (Max.)	0.5s / 230VAC, 1s / 115VAC, at full load. 0.7s / 230VAC for DALI2 version				
輸入	額定電壓	100 ~ 277VAC			
	電壓範圍	90 ~ 305VAC			
	頻率範圍	47 Hz ~ 63 Hz			

	交流電流 (Max.)	4.5A at 115VAC / 2.3A at 230VAC			
	功率因數	>0.98 at 115VAC / >0.94 at 230VAC at full load. PF ≥ 0.9 at 70% load			
	總諧波失真	THD < 15% at 230VAC, full load. Note 4			
	浪湧電流 (Typ.)	Cold Start 120A (Td=960us measured at 50% Ipeak) at 230VAC			
	斷路器可配置同型號電源供應器數量	B type : 1 unit (16A) / 1 unit (25A), C type : 1 unit (10A) / 1 unit (16A) / 2 units (25A), D type : 3 units (16A) / 5 units (25A) at 230VAC			
	漏電流	<1mA / 240VAC			
調光控制 (3-in-1)	直流調光	DC 0-10V			
	PWM 調光	Puls:Hi=10V Low=0V, Duty:0%~100%, Fsw 0.5-3KHz			
	電阻調光	0KΩ~100KΩ or Electronic Potentiometer 0-10V			
調光控制 (DALI-2)	DALI-2 Standards	IEC 62386-101, 102 and 207			
	DALI bus current consumption	< 2mA			
保護功能	過電流	105~180% rated current. Type: Hiccup mode (Auto recover after fault condition disappeared).			
	短路	Type: Hiccup mode (Auto recover after fault condition disappeared).			
	過電壓	13~19V	26~38V	38V~50V	50V~65V
		Type: Hiccup mode (Auto recover after fault condition disappeared).			
過溫度	Tcase: 95°C ± 10°C				
	Type: Latch off mode (re-power on to recover).				
環境	操作溫度	-30°C ~50°C (Refer to output load derating curve).			
	操作濕度	20% ~ 90% RH non-condensing.			
	儲存溫度	-40 ~ +80°C			
	儲存濕度	10% ~ 90% RH			
	振動	10~500 Hz, 2G 10 min./1 cycle, period for 60 min. each along X, Y, Z axes.			
安規和 電磁兼容	安全標準	EN61347-1,EN61347-2-13 ,independent,IP67 Approved.			
	耐壓	I/P-O/P: 3.75KVAC I/P-FG:1.88KVAC O/P-FG:0.5KVAC			
	隔離電阻	I/P-O/P,I/P-FG : 100M ohms , O/P-FG : 4M ohms / 500VDC at 25°C			
	EMI 傳導和輻射	Compliance to EN55015,FCC part 15			
	諧波電流	Compliance to EN61000-3-2 Class C(≥ 75% load),EN61000-3-3			
	EMS 免疫	Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547,criteria B			
其他	MTBF	120K hours min. MIL-HDBK-217F(25°C)			
	尺寸 (L x W x H)	300 x 98 x 38.5mm; 1308g/pcs			
Note	<p>1. 所有未特別提及的規格均在 230VAC 滿載和 25°C 環境溫度下測量。</p> <p>2. 紋波和噪聲是在 20MHz 帶寬下使用 12"雙絞線以 0.1uf 和 47uf 並聯電容器端接的方式測量的。</p> <p>3. 電壓容差：包括線路調節、負載調節和設置容差。</p> <p>4. THD &lt; 25% at 277VAC，滿載。</p>				

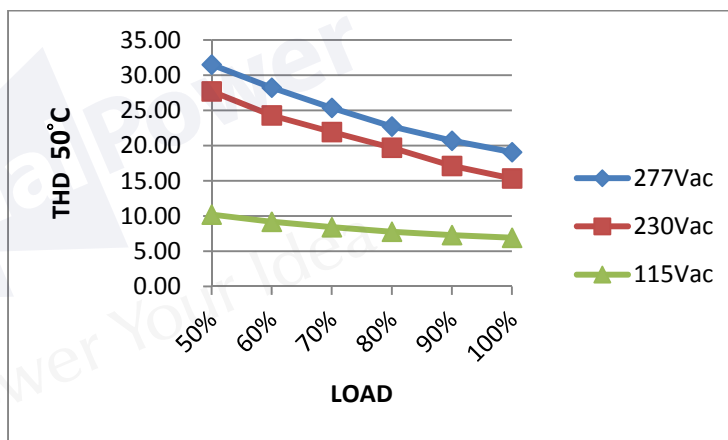
■ 降額曲線



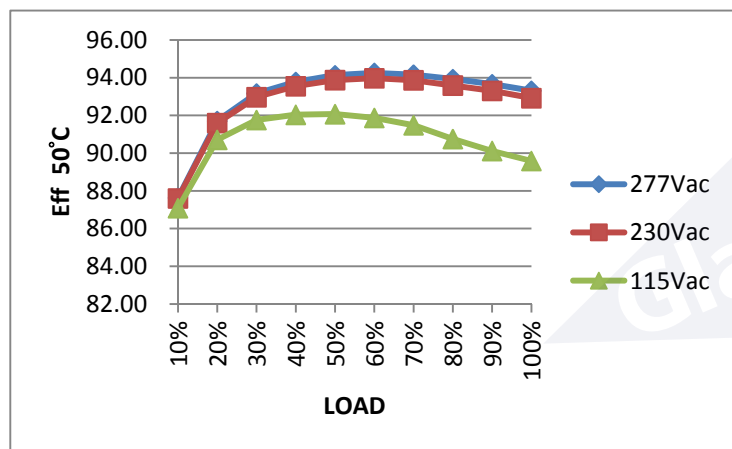
■ 功率因數(PF)特性 (※Ta at 50°C)



■ 總諧波失真(THD) (※Ta at 50°C)



■ 效率與負載(※Ta at 50°C)



■ **3-in-1 調光控制(DC/PWM/電阻)**

◆ **3-in-1 調光功能說明**

**(1) 0-100KΩ 電阻調光(Typical):**

Resistor	Single-driver	Short	9K	20K	30K	40K	50K	60K	70K	80K	95K	100K
	Multi-driver	Short/N	9K/N	20K/N	30K/N	40K/N	50K/N	60K/N	70K/N	80K/N	95K/N	100K/N
Vout Duty Cycle (%)		0%	2%	14.5%	25.9%	37.3%	48.7%	60.1%	71.5%	82.9%	100%	100%

※ The length of extended wire for DIM+/- shall not exceed 20 meters. (Wire ≤ 20m)

※ N=The number of dimmer drivers should not exceed 15.(N ≤ 15)

※ DIM+/- <7K or 7K/N Vout Duty cycle 0%

**(2) DC : 0-10V 調光(Typical):**

DIM(Voltage)	0V	0.9V	2V	3V	4V	5V	6V	7V	8V	9.5V	10V
Vout Duty Cycle (%)	0%	2%	14.5%	25.9%	37.3%	48.7%	60.1%	71.5%	82.9%	100%	100%

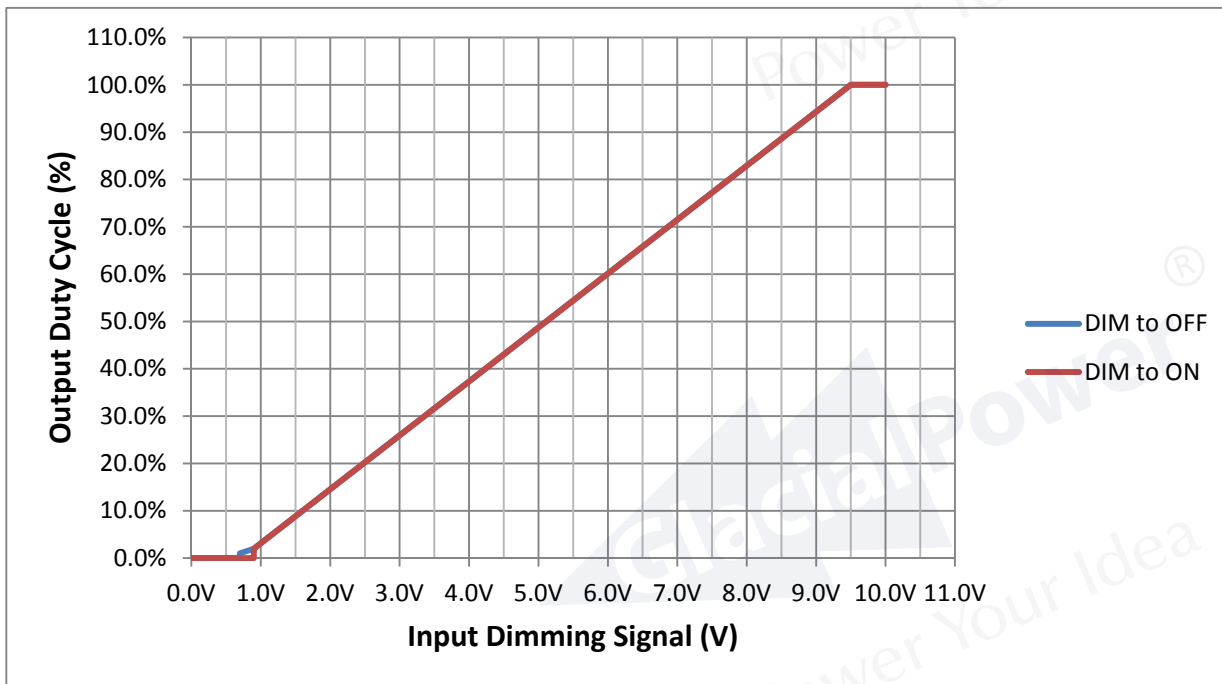
※ DIM+/- <0.7V Vout Duty Cycle 0%

**(3) 10V / PWM 調光(Typical):**

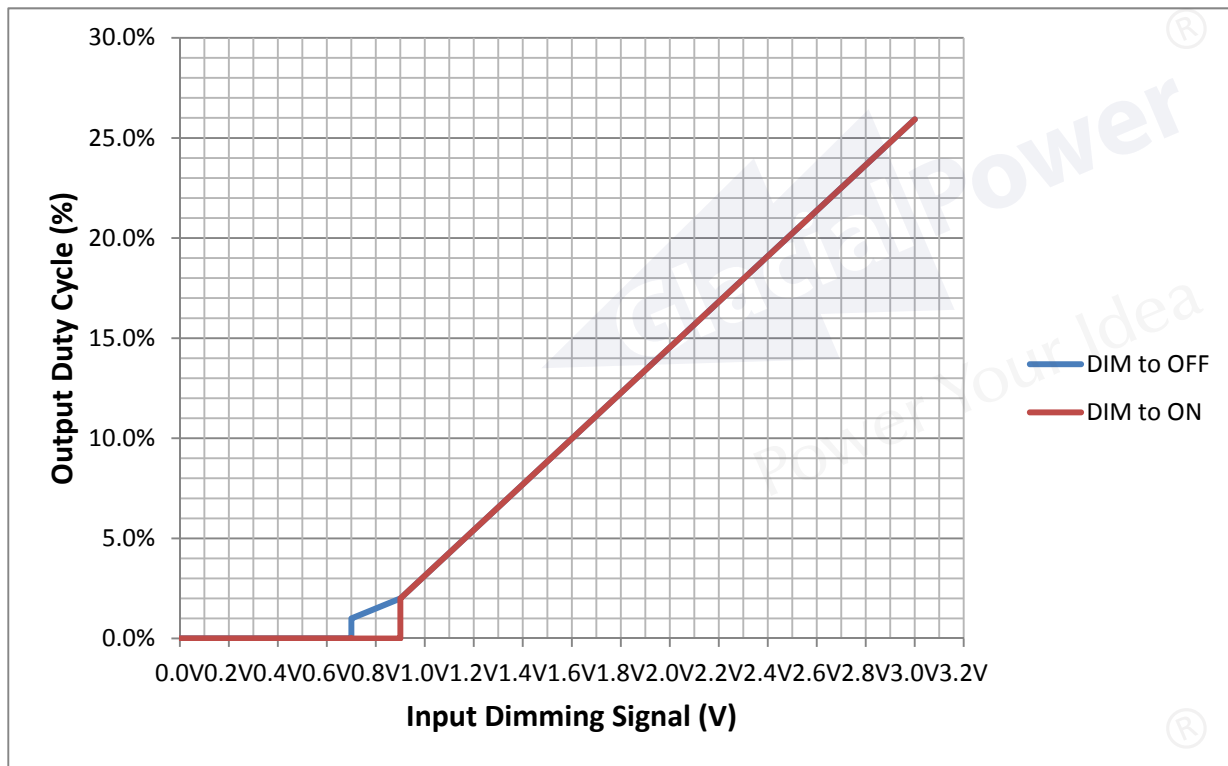
DIM(10V/PWM Duty)	0%	9%	20%	30%	40%	50%	60%	70%	80%	95%	100%
Vout Duty Cycle (%)	0%	2%	14.5%	25.9%	37.3%	48.7%	60.1%	71.5%	82.9%	100%	100%

※ DIM+/- <7% Vout Duty Cycle 0%

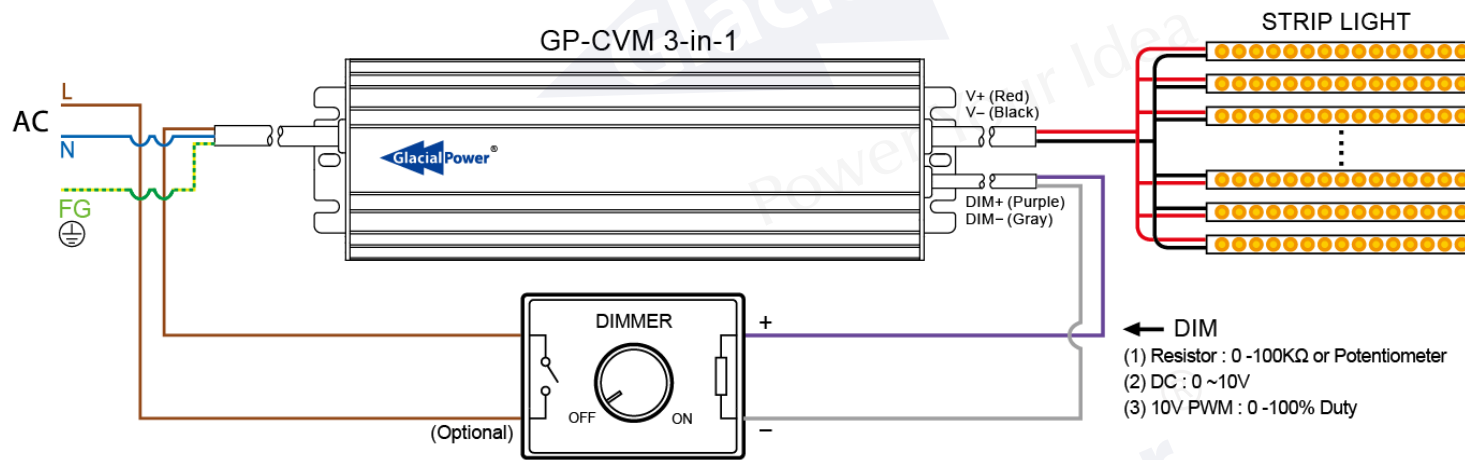
◆ **調光曲線**



◆調光曲線



◆接線圖

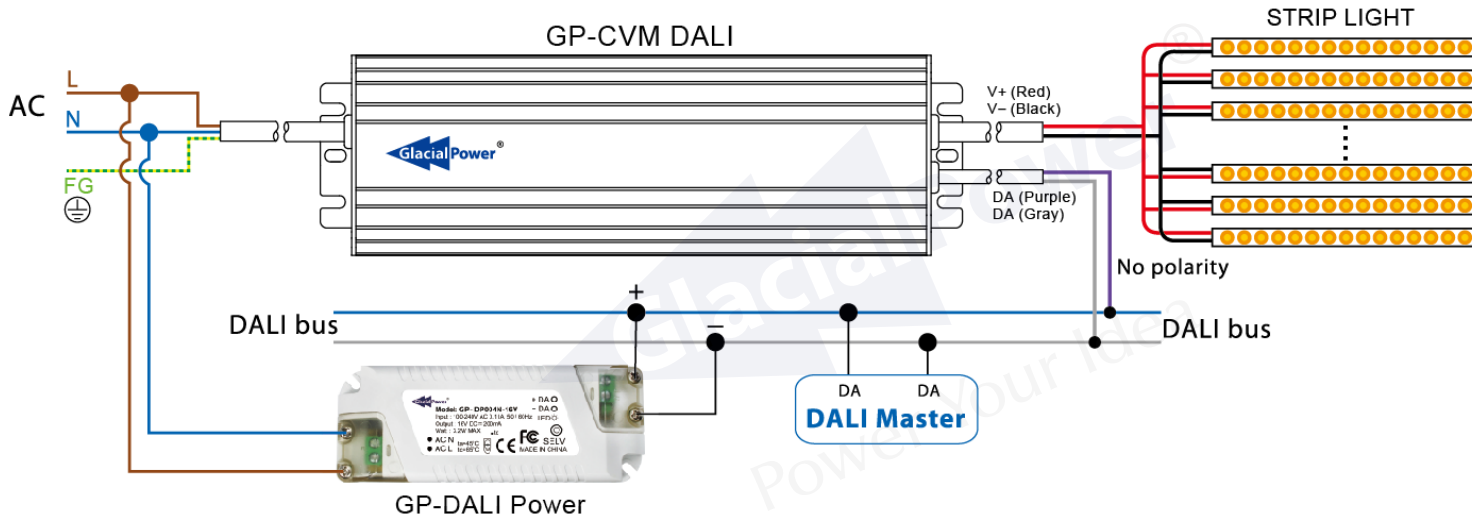


■ DALI 界面

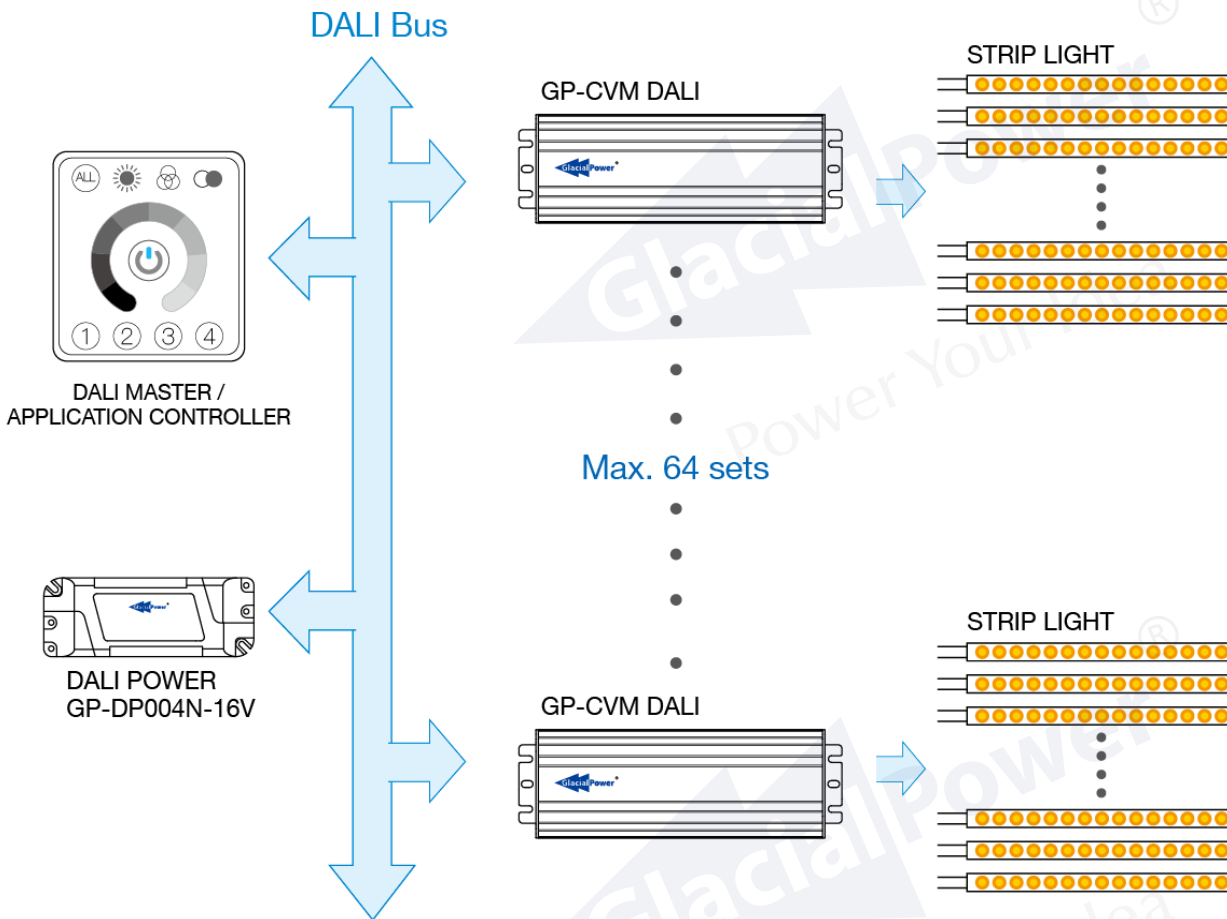
◆ DALI 功能說明

- (1) Apply DALI signal between DA wires
- (2) First step is fixed at 1% of output

### (3) Wiring diagram

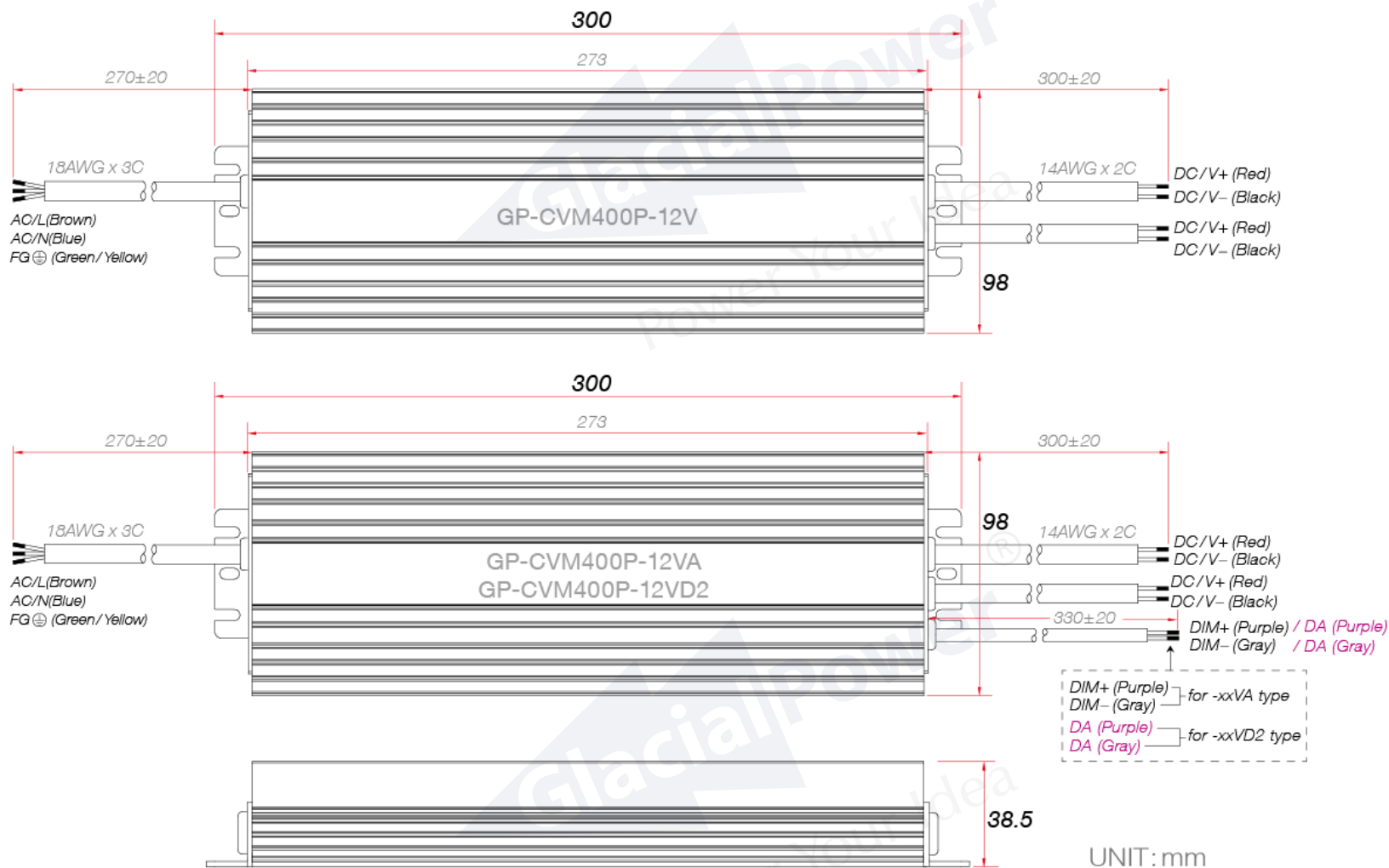


### (4) Application diagram



■ 產品(規格)尺寸

GP-CVM400P-12Vx Series



GP-CVM400P-12Vx Series



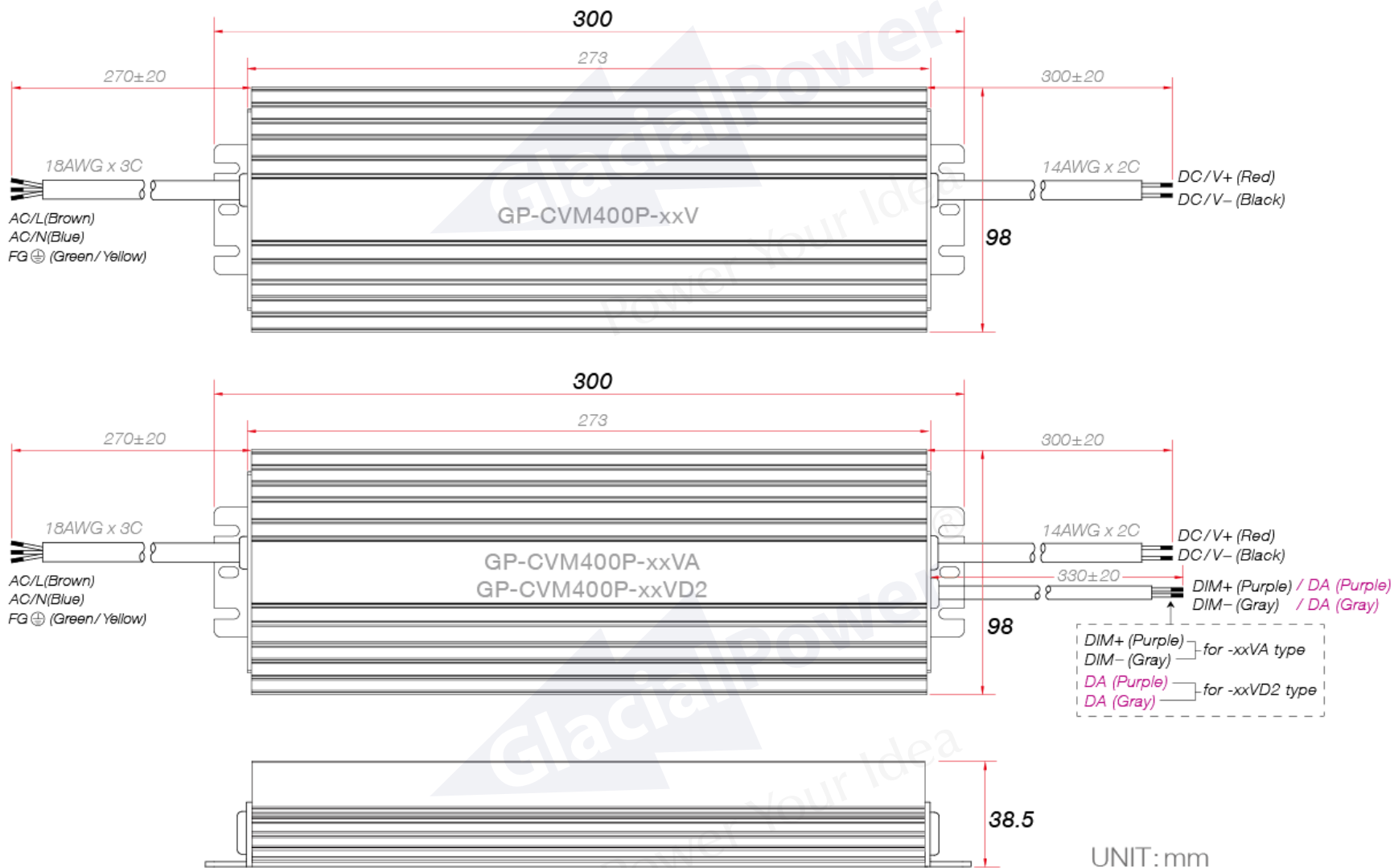
GP-CVM400P-12V

GP-CVM400P-12VA

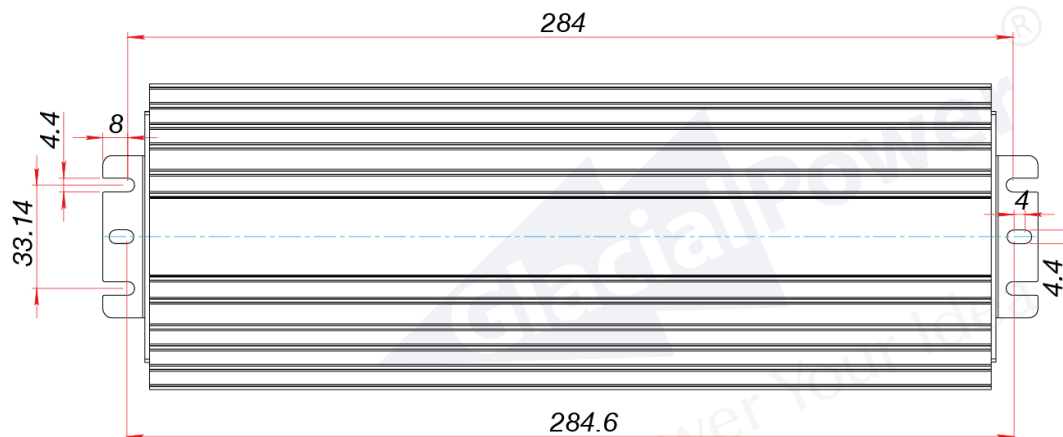
GP-CVM400P-12VD2

■ 產品(規格)尺寸

GP-CVM400P-xxVx series



■ 側板固定孔位





■ 產品(規格)尺寸

GP-CVM400P-xxVx series



GP-CVM400P-xxV



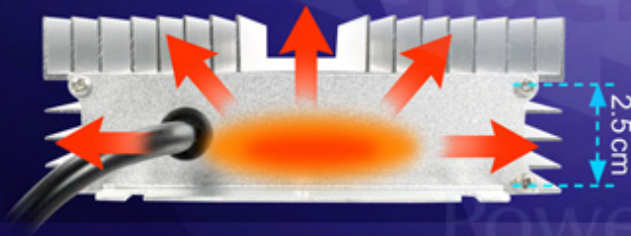
GP-CVM400P-xxVA



GP-CVM400P-xxVD2

■ 散熱設計

GP-CVM LED 驅動電源，高散熱設計的原理  
確保長期使用的高穩定品質



極低高度設計 –  
快速將內部的熱傳導到  
外部四周的鋁殼進行散熱



大面積散熱設計 –  
將鋁殼的熱快速釋放到  
外圍的空氣中