

Model: GP-CVM400P Series

■ Features

- Universal AC input range 90 ~ 305VAC.
- Constant voltage mode.
- Active PFC design.
- Protections: OVP / OCP / SCP / OTP.
- High efficiency up to 93.5%
- Fully insulated case with IP67 rated.
- Surge protection with 4KV/2KV.
- Cooling by free air convection (Metal Housing)
- No-load power consumption < 0.5W at 230VAC (for non-dimming models).
- Standby power consumption < 0.5W at 230VAC (for dimming models).
- Suitable for LED strips and moving sign applications.
- 3-in-1 dimming (dim-to-off) and DALI-2 functions available.
- The output and dimming lines are compliant with the new regulations with isolation.

■ Approvals



■ Size

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



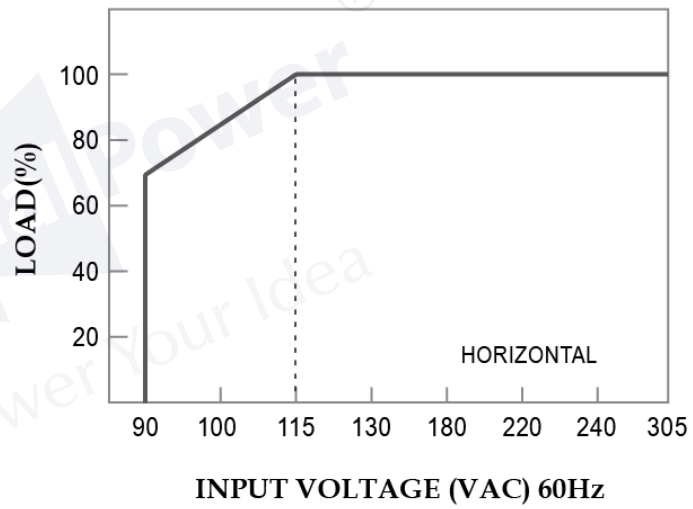
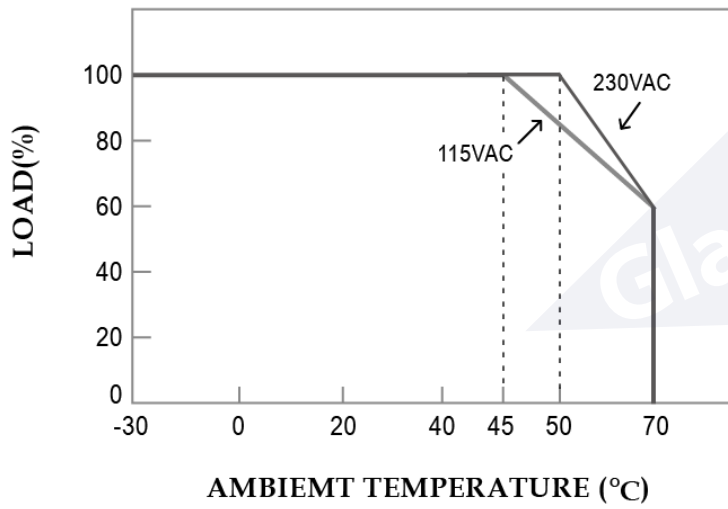
■ Specifications

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.

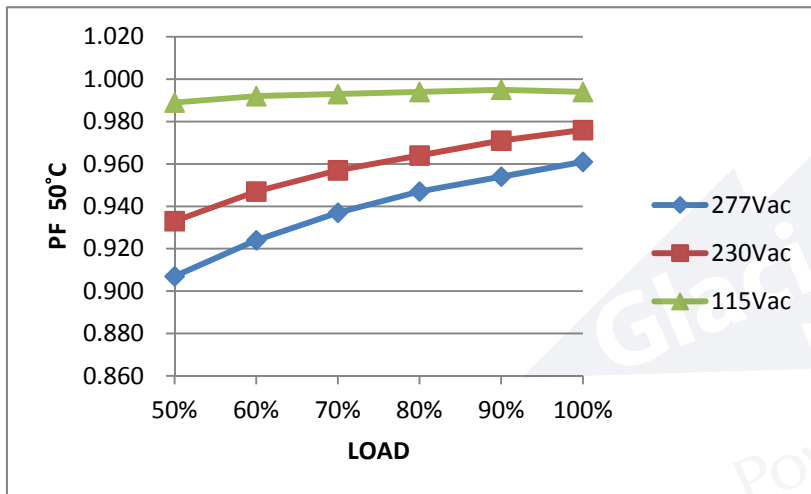
Model No.		GP-CVM400P-12V(X)	GP-CVM400P-24V(X)	GP-CVM400P-36V(X)	GP-CVM400P-48V(X)
Output	DC Voltage	12V	24V	36V	48V
	Rated Current	0~26.7A Note.5	0~16.7A	0~11.1A	0~8.3A
	Rated Power	320.4W	400.8W	399.6W	398.4W
	Ripple & Noise (Max.) Note.2	300mV	350mV	400mV	500mV
	Efficiency at 230VAC (Typ.)	92.5%	93%	93%	93.5%
	Voltage Tolerance Note.3	± 5%	± 5%	± 5%	± 5%
	PWM Dimming (optional)	> 1600 Hz (for dimmable version)			
	Set up time (Max.)	0.5s / 230VAC, 1s / 115VAC, at full load. 0.7s / 230VAC for DALI2 version			

Input	Rated Voltage	100 ~ 277VAC			
	Voltage Range	90 ~ 305VAC			
	Frequency Range	47 Hz ~ 63 Hz			
	AC Current (Max.)	4.5A at 115VAC / 2.3A at 230VAC			
	Power Factor	> 0.98 at 115VAC / >0.94 at 230VAC at full load. PF ≥ 0.9 at 70% load			
	Total Harmonic Distortion	THD < 15% at 230VAC, full load. Note 4			
	Inrush Current (Typ.)	Cold Start 120A (Td=960us measured at 50% Ipeak) at 230VAC			
	Max. Number of PSUs on Circuit Breaker	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			
	Leakage Current	<1mA / 240VAC			
DIM. Control (3-in-1)	DC dimming	DC 0-10V			
	PWM dimming	Puls:Hi=10V Low=0V, Duty:0%~100%, Fsw 0.5-3KHz			
	Resistance dimming	0KΩ~100KΩ or Electronic Potentiometer 0-10V			
DIM. Control (DALI-2)	DALI-2 Standards	IEC 62386-101, 102 and 207			
	DALI bus current consumption	< 2mA			
Protections	Over Current	105~180% rated current. Type: Hiccup mode (Auto recover after fault condition disappeared).			
	Short Circuit	Type: Hiccup mode (Auto recover after fault condition disappeared).			
	Over Voltage	13~19V	26~38V	38V~50V	50V~65V
		Type: Hiccup mode (Auto recover after fault condition disappeared).			
	Over Temperature	Tcase: 95°C ± 10°C			
		Type: Latch off mode (re-power on to recover).			
Environment	Operation Temp.	-30°C ~50°C (Refer to output load derating curve).			
	Operation Humidity	20% ~ 90% RH non-condensing.			
	Storage Temp.	-40 ~ +80°C			
	Storage Humidity	10% ~ 90% RH			
	Vibration	10~500 Hz, 2G 10 min./1 cycle, period for 60 min. each along X, Y, Z axes.			
Safety& EMC	Safety Standards	EN61347-1,EN61347-2-13 ,independent,IP67 Approved.			
	Withstand Voltage	I/P-O/P: 3.75KVAC I/P-FG:1.88KVAC O/P-FG:0.5KVAC			
	Isolation Resistance	I/P-O/P,I/P-FG : 100M ohms , O/P-FG : 4M ohms / 500VDC at 25°C			
	EMI Conduction & Radiation	Compliance to EN55015,FCC part 15			
	Harmonic Current	Compliance to EN61000-3-2 Class C(≥ 75% load),EN61000-3-3			
	EMS Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547,criteria B			
Others	MTBF	120K hours min. MIL-HDBK-217F(25°C)			
	Dimension(L x W x H)	300 x 98 x 38.5mm; 1308g/pcs			
Note	1. All specifications not specially mentioned are measured at 230VAC full load and 25°C ambient temperature. 2. Ripple & Noise are measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with 0.1uf & 47uf parallel capacitor. 3. Voltage Tolerance: includes line regulation, load regulation and set-up tolerance. 4. THD < 25% at 277VAC, full load. 5. For models with higher output current, there will be two sets of output wires. Each set of output wires should carry no more than 20A of load current. It is recommended to use the two sets of output wires in parallel to reduce wire resistance and wire loss.				

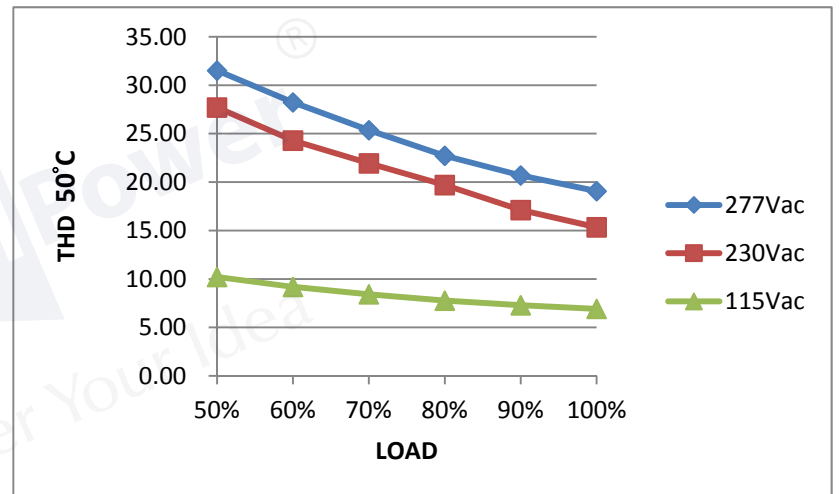
■ Derating Curve



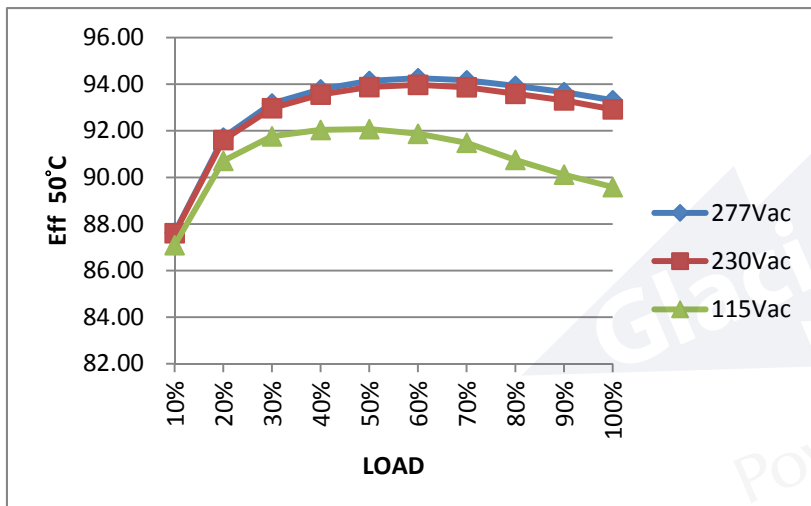
■ Power Factor (PF) Characteristic (※Ta at 50°C)



■ Total Harmonic Distortion (THD) (※Ta at 50°C)



■ Efficiency vs Load (※Ta at 50°C)



■ 3-in-1 Dimming Control (DC/ PWM/ Resistance)

◆ 3-in-1 Dimmable Function Description

(1) 0-100KΩ Resistance Dimmable (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 Dimmable (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%

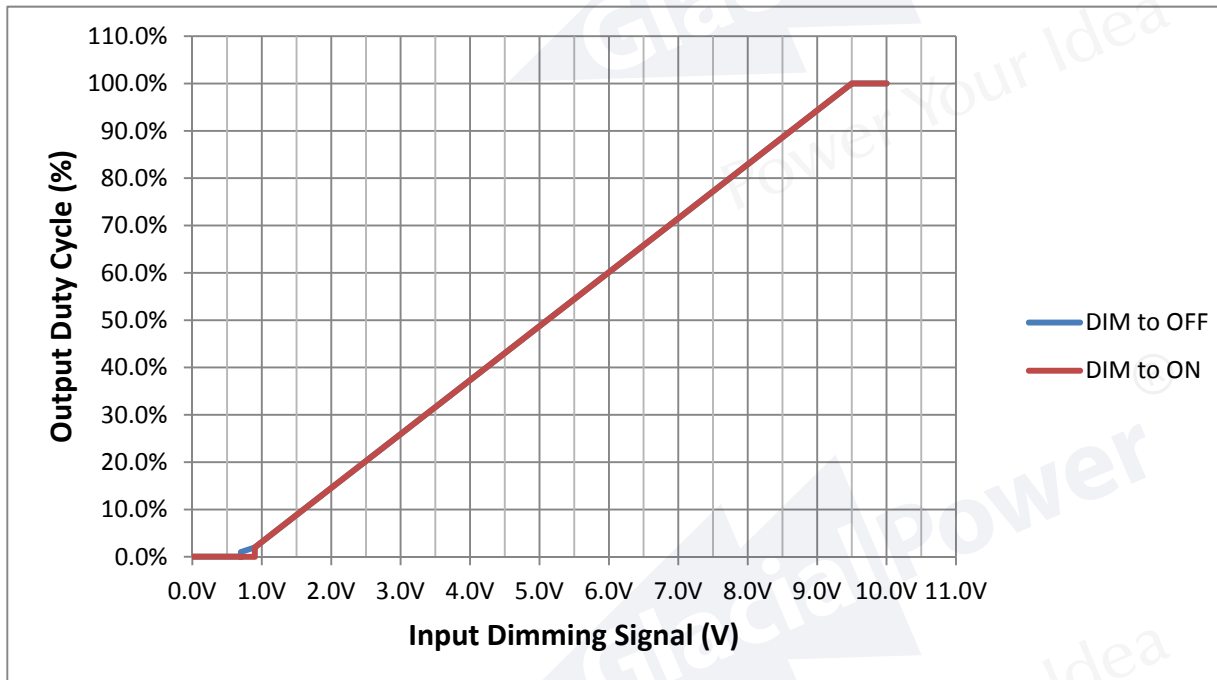
※ DIM+/- <0.7V Vout Duty Cycle 0%

(3)10V / PWM Dimmable (Typical):

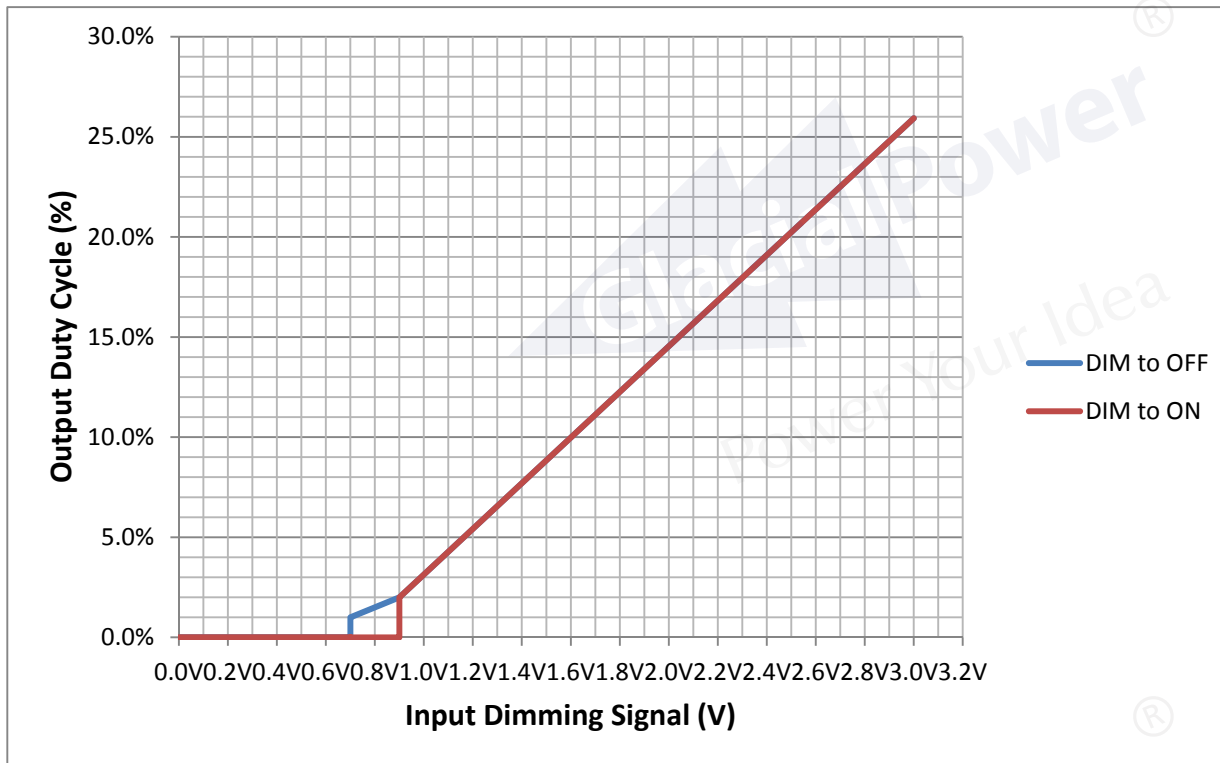
DIM(10V/PWM Duty)	0%	9%	20%	30%	40%	50%	60%	70%	80%	95%	100%
Vout Duty Cycle (%)	0%	2%	14.5%	25.9%	37.3%	48.7%	60.1%	71.5%	82.9%	100%	100%

※ DIM+/- <7% Vout Duty Cycle 0%

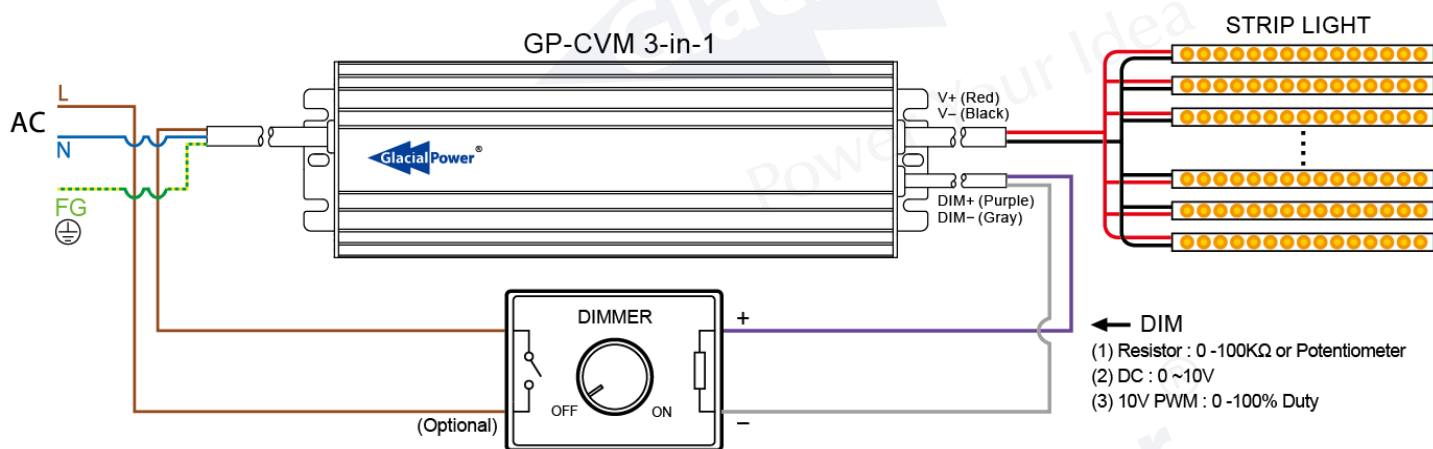
◆ Dimming Curve



◆ Dimming Curve (Enlarge)



◆ Wiring Diagram

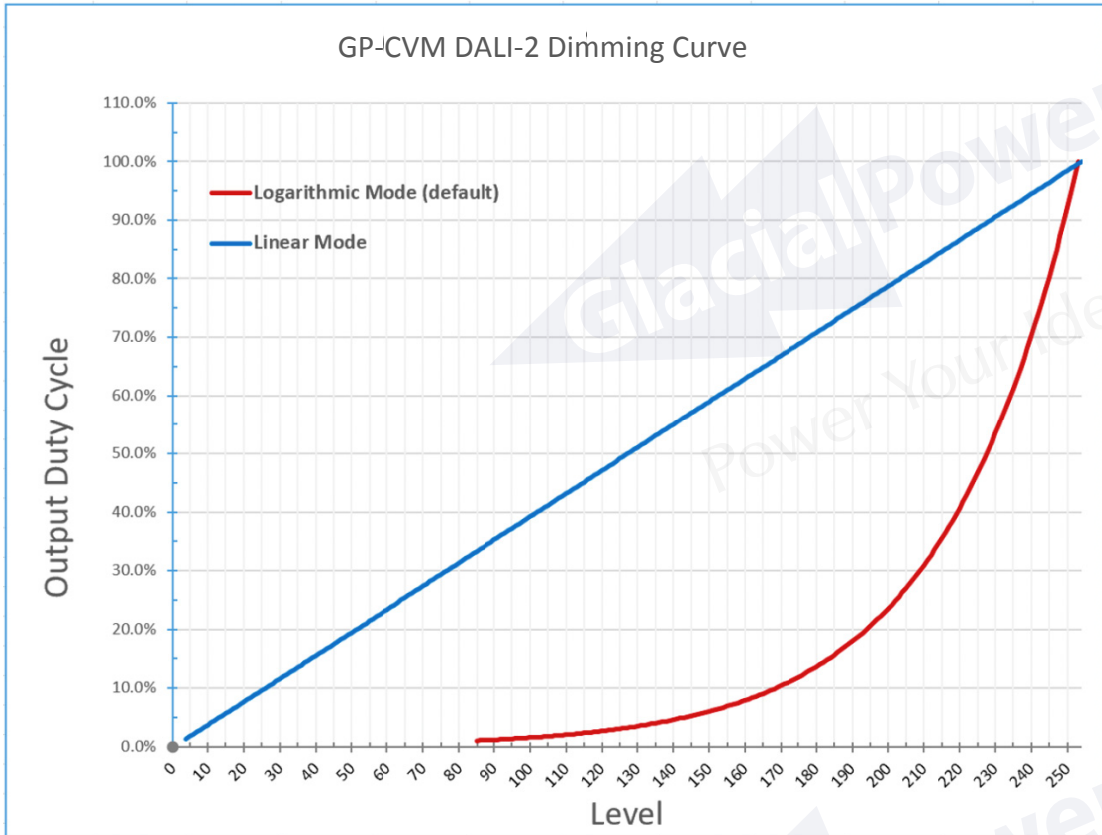


■ DALI Interface

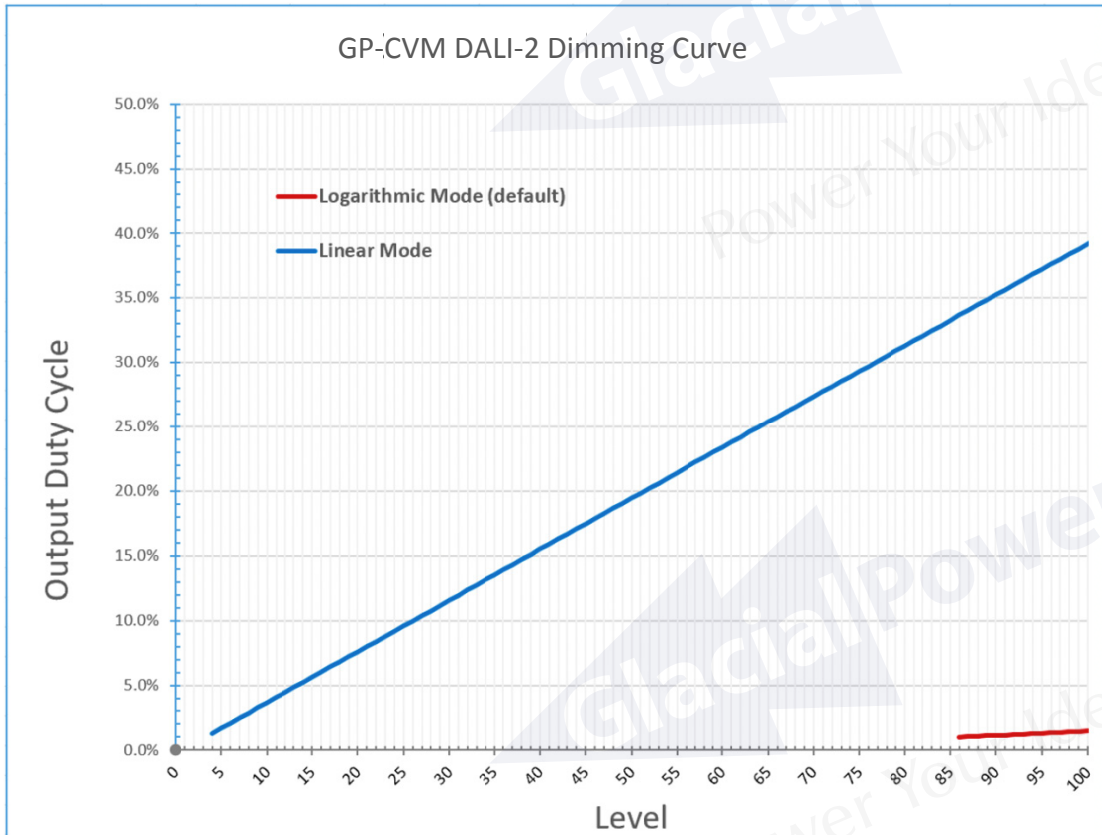
◆ DALI Function Description

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

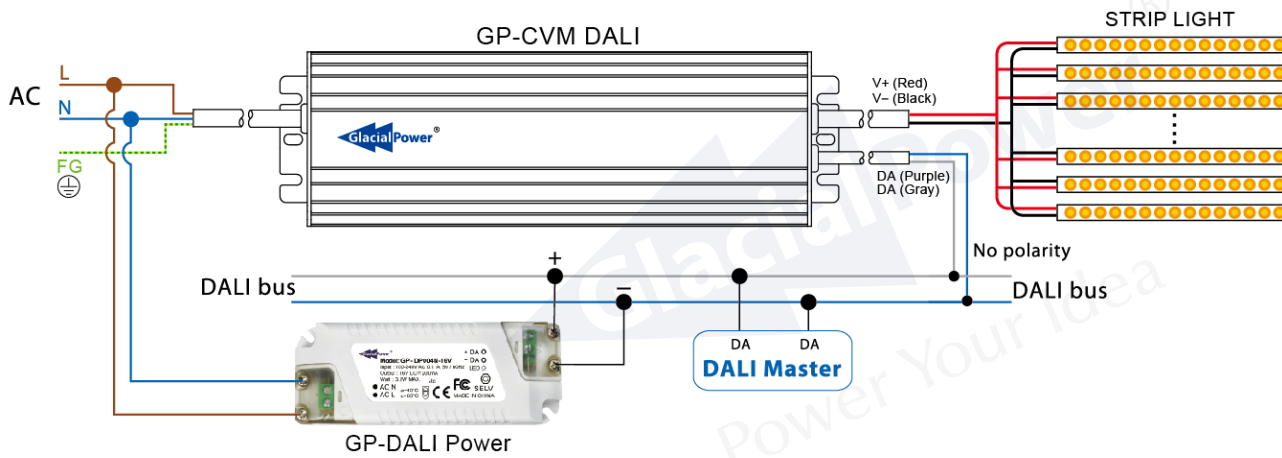
(3) Dimming Curve



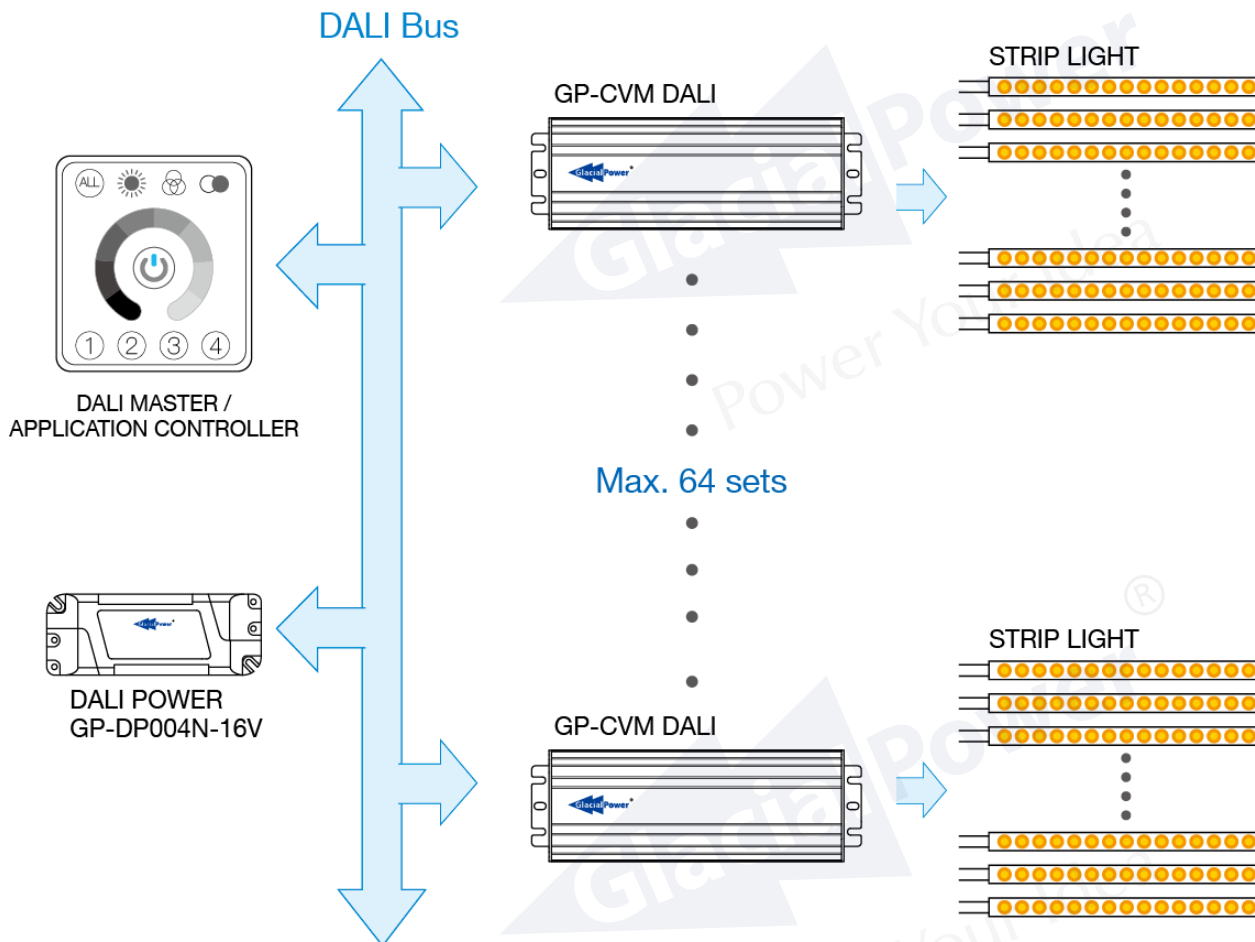
Dimming Curve (Enlarge)



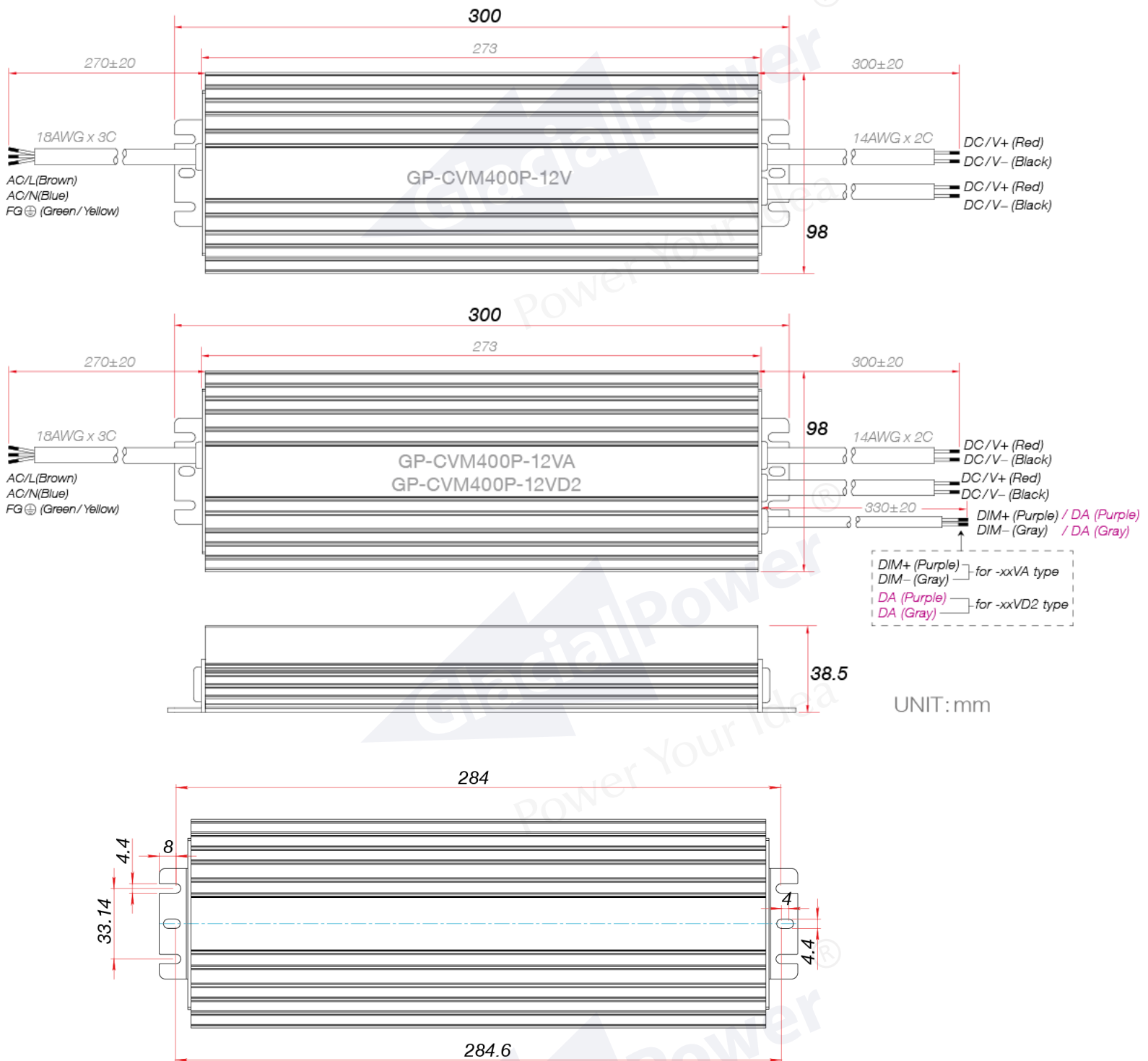
(4) **Wiring diagram**



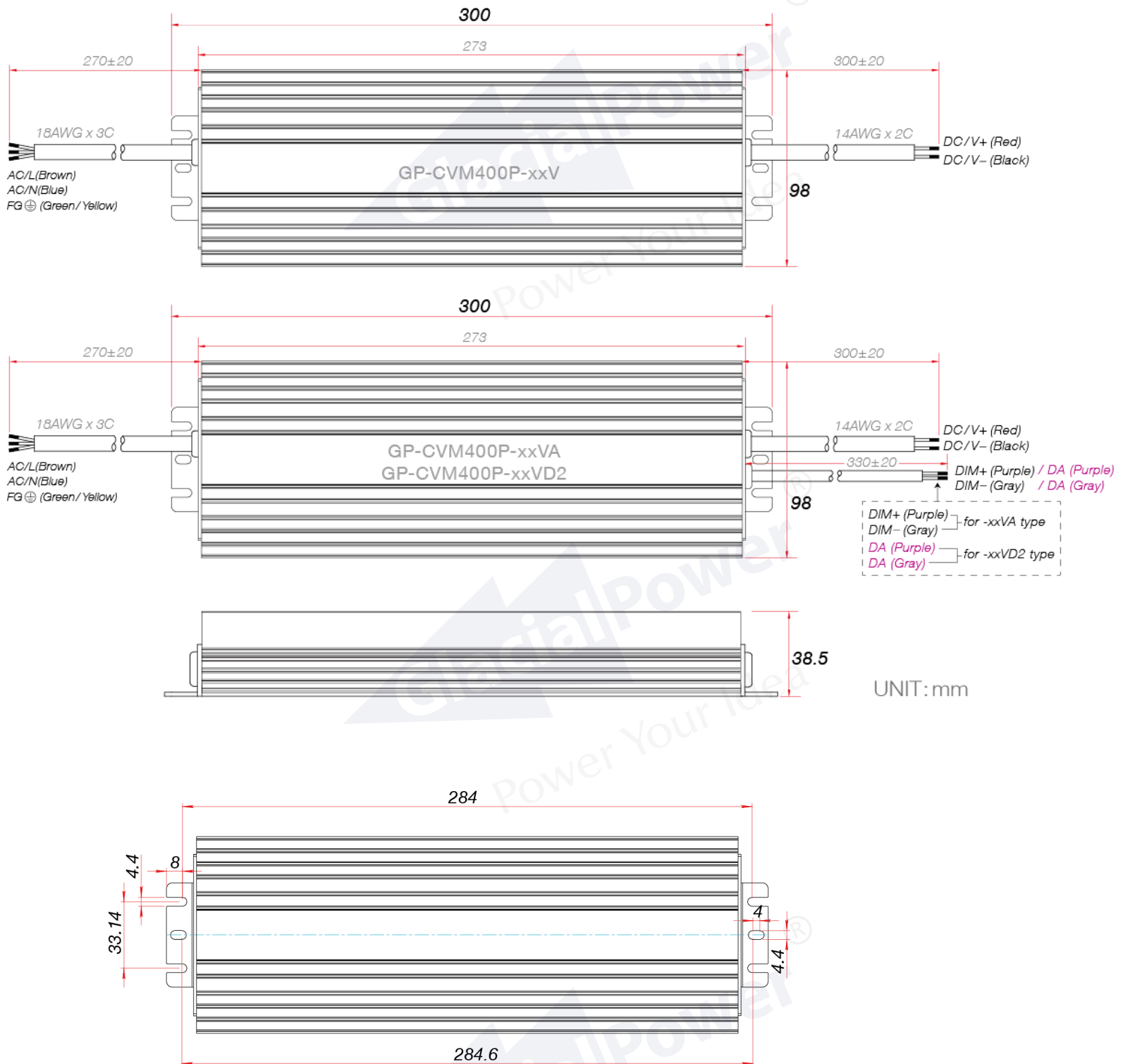
(5) **Application diagram**



■ **Mechanical Specification** : GP-CVM400P-12Vx series



■ **Mechanical Specification** : GP-CVM400P-xxVx series



■ **Photograph**

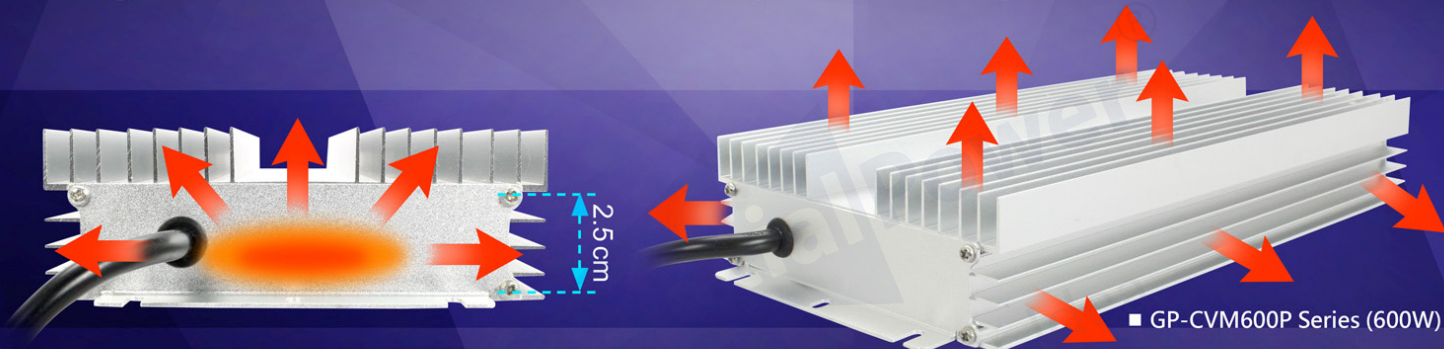
GP-CVM400P-12Vx Series



GP-CVM400P-xxVx series



The excellent heat dissipation design of GlacialPower GP-CVM LED driver to ensure high and stable reliability for long-term use.



Very low profile design of aluminum housing –
Quickly transmit the heat from the inside components to the aluminum housing.

Large area of heat dissipation design –
Quickly dissipate the heat from aluminum fins into the surrounding air.