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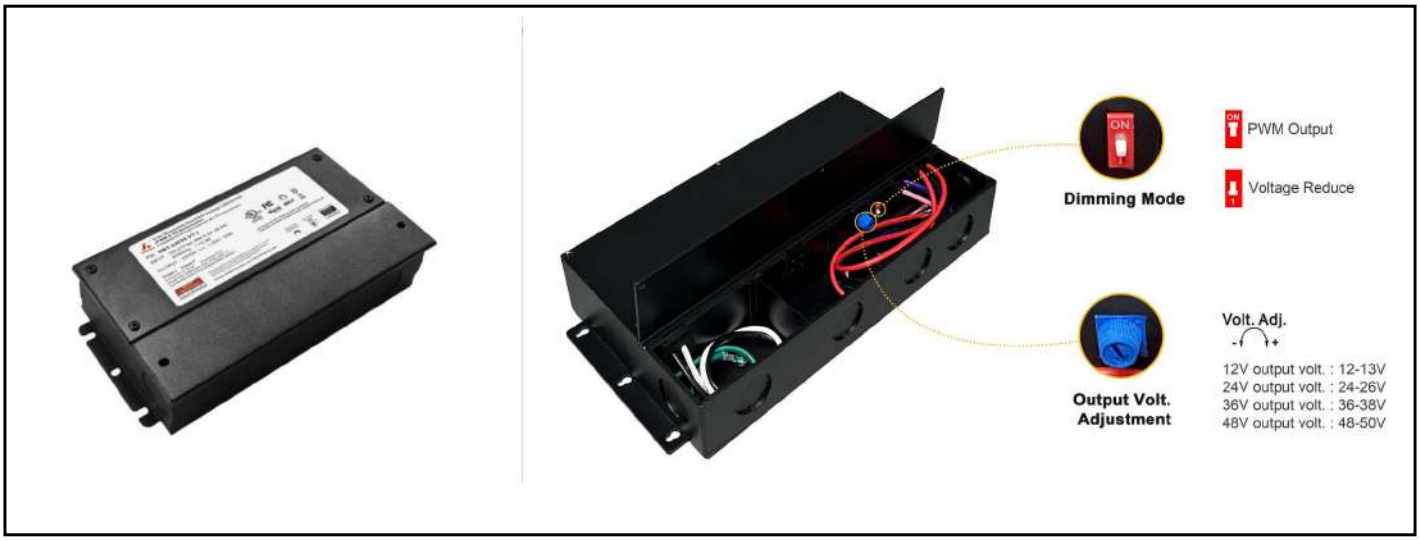
CONSTANT VOLTAGE LED DRIVER — Triac / Dimmable



Class P - Class 2 — **PWM output & VR output Optional**

Models: 12V / 24V / 36V / 48VDC - *[30W 60W 80W 96W 100W 120W 150W 200W 300W]*

FEATURES

Output	Constant Voltage
Range	100-277VAC
PFC Design	Built-in active PFC fuction
Efficiency	Up to 83.5%
Protections	Short Circuit / Over Load / Over Temperature
Heat Dissipation	Cooling by free-air convection
Waterproof Rating	Full Iron protective housing for Dry, Damp or Wet locations.
Dimming Function	Phase Dimming, MLV and Reverse Phase, ELV, Triac Dimmers
Min Load	20%
Dimming Range	0 - 100% (Dimming Depth 0.1%)
Application	LED Lighting and other moving and/or illuminated signs
Warranty	7 Years
Other Notes	High Efficiency, Smaller Size, High Power Factor, Low THD

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Model		D21-12030-VT/J	D21-24030-VT/J	D21-48030-VT/J
Certificate		UL / cUL / FCC / Class P / Class 2		
Output	DC Voltage	12V	24V	48V
	Voltage Tolerance	±5%	±3%	±2%
	Voltage Regulation	≤0.5%	≤0.5%	≤0.5%
	Load Regulation	≤2%	≤1%	≤1%
	Rated current	2.5A	1.25A	0.63A
	Rated power	30W		
	Voltage Ripple	500mVp-p	400mVp-p	350mVp-p
	Overshoot voltage	<10%（full load）	<10%（full load）	<10%（full load）
	Output volt Adjustment	12-13V 	24-26V 	48-50V 
	Output mode selection	The DIP switch in the "ON" position represents the PWM (Pulse - Width Modulation) mode, and in the "1" position represents the VR (Modulation of DC Voltage) mode. 		
Input	Voltage Range	100-277VAC		
	Frequency Range	47 - 63Hz		
	Power Factor (Typ.) @ full load	>0.98@1200VAC >0.95@277VAC	>0.98@1200VAC >0.95@277VAC	>0.98@1200VAC >0.95@277VAC
	THD(Typ.) @ full load	<15%@120V <15%@277V		
	Efficiency(Typ.) @ full load	≥78%@120VAC ≥79.5%@277VAC	≥80%@120VAC ≥82%@277VAC	≥82.5%@120VAC ≥83.5%@277VAC
	AC Current (Max.)	≤0.4A @120VAC ≤0.16A@277VAC		
	Standby power	≤0.5W		
	Inrush Current (Typ.)	25A,120us@50%Ipeak 120VAC 60A,136us@50%Ipeak 277VAC		
	Leakage current	<0.5mA		
Protection	Short Circuit	Hiccup mode, can be automatically restored after abnormal removal		
	Over Load	≥120%,Constant - Current Mode, automatic recovery after exception		
	Over temperature	When the ambient temperature exceeds 55℃ ±5℃, the output is turned off		
Environment	Working TEMP.	-40~+40℃ (see below derating curve)		
	Working Humidity	20 - 95%RH non-condensing		
	Storage TEM.,Humidity	-40 - +80℃,10 - 95% RH non-condensing		
	TEMP.coefficient	±0.03%/℃(0 - 50℃)		
	Vibration	10 ~ 500Hz, 5G 12 minutes/cycle, X Y Z axis 72 minutes each		
Safety & EMC	Safety standards	UL8750 CAN/CSA-C22.2 No.250.13		
	Withstand voltage	I/P-O/P：1.88KVac；I/P-FG:：1.88KVac；O/P-FG：0.5KVac		
	Isolation resistance	I/P-O/P:100MΩ / 500VDC / 25℃ / 70% RH		
	Surge Immunity Test	AC Power Line:Differential Mode 2KV,Common Mode 4KV		
	EMC Immunity	FCC/ICES do not request this test		
	EMC Emission	FCC Part15 Subpart B；ANSI C63.4:2017；ICES-005 Issue 5		
Others	Net Weight	0.85kg		

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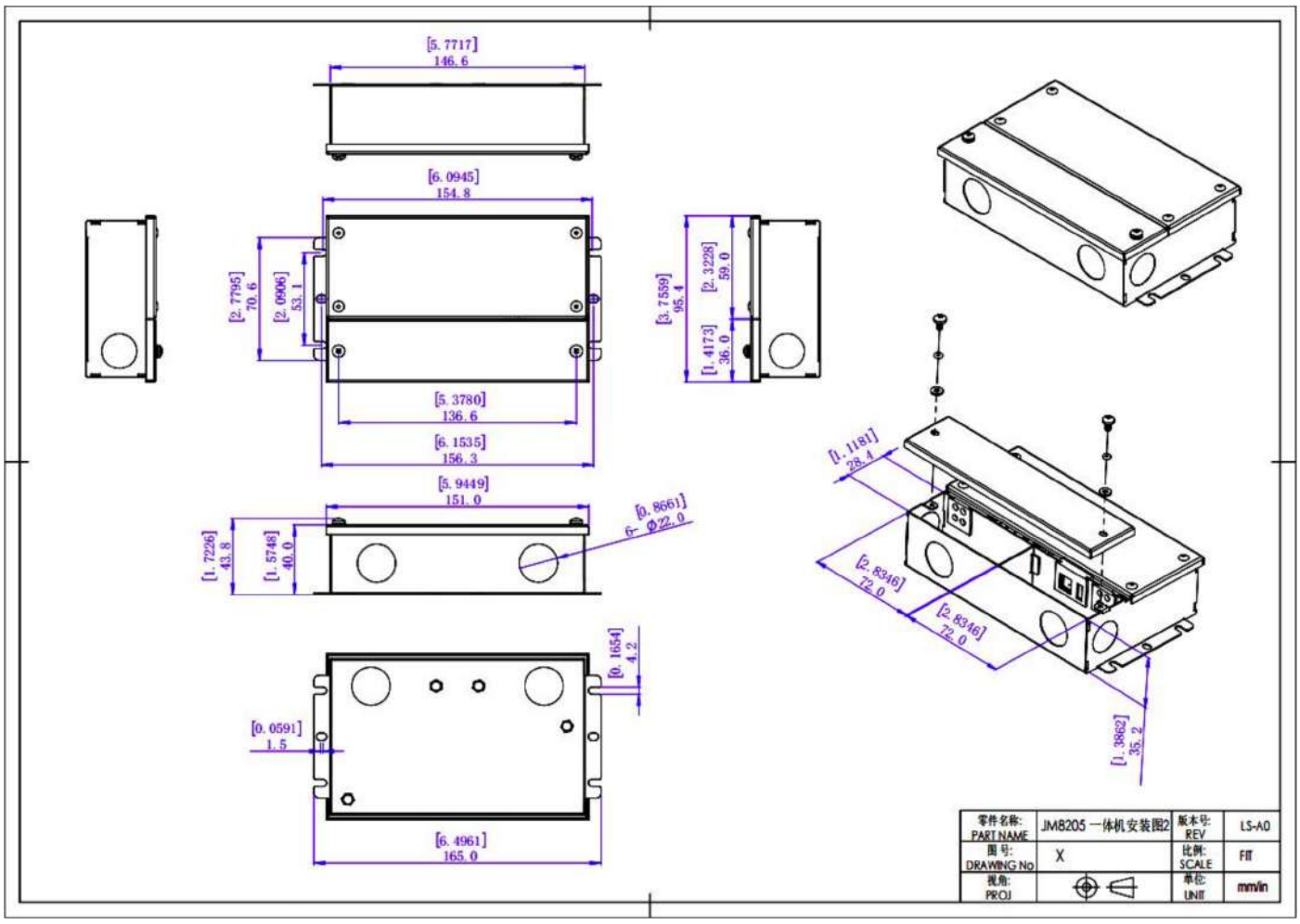
Mechanical Specification



12V & 24V & 48V Versions

Input Wire - Black(L) White(N) Green(G) / (3*18 AWG)

Output Wire - Red(V+) Black(V-) / (2*18 AWG)

Dimming Operation and Connecting Diagram

1. The Pulse-Width Modulation (PWM) of output voltage can be adjusted through input terminal of the AC phase line(L) by connection of a phase / Triac dimmer or system.

2. Working with forward phase / leading edge, MLV, and Reverse phase or Triac dimmers.

3. Min. Load is 20%

4. Ideally, Dimmers should have a Power Output at least 1.5 times the Output Power of the Driver.

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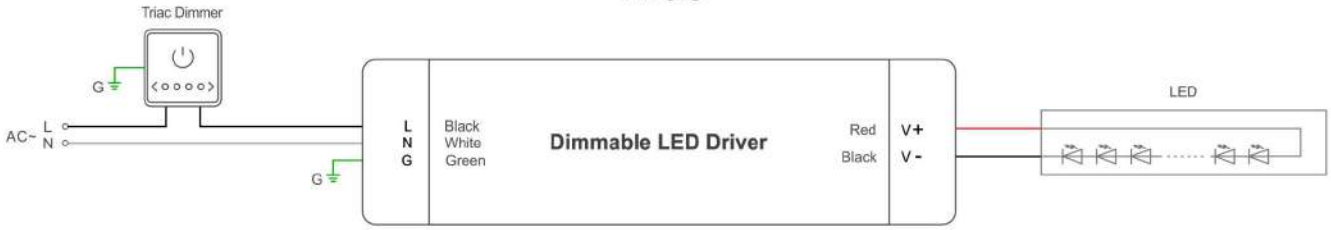
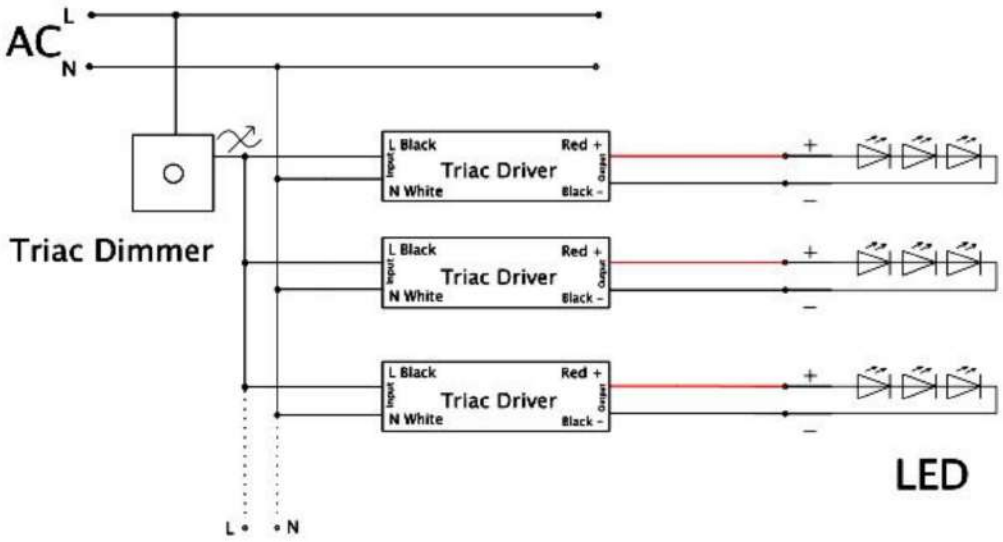
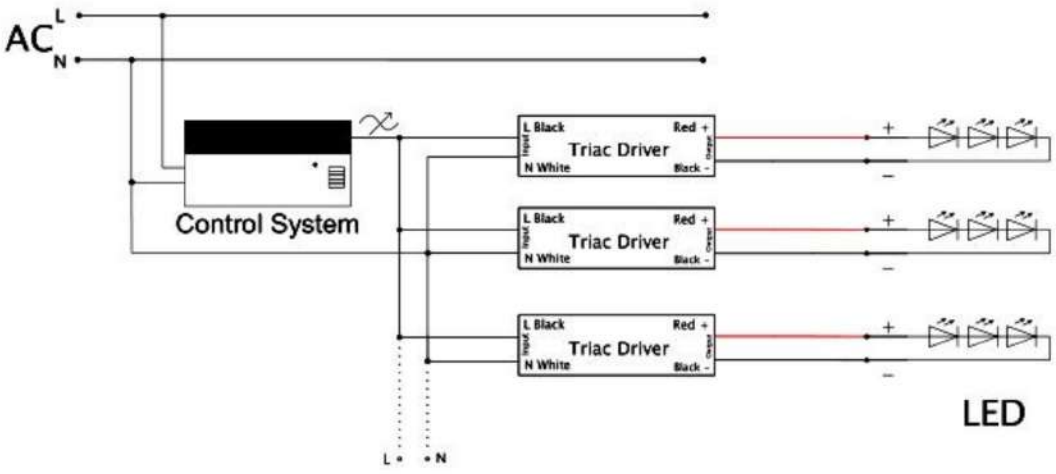
Triac







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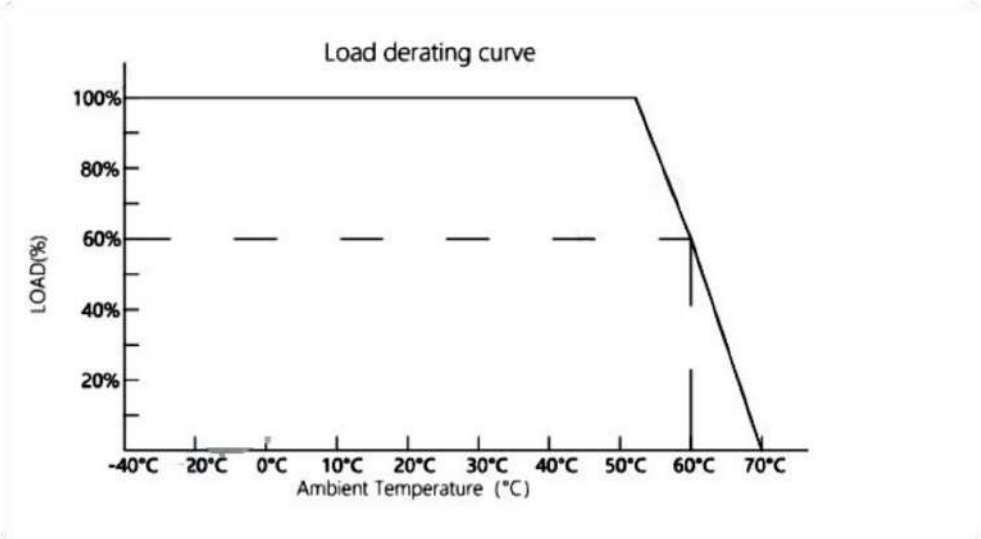
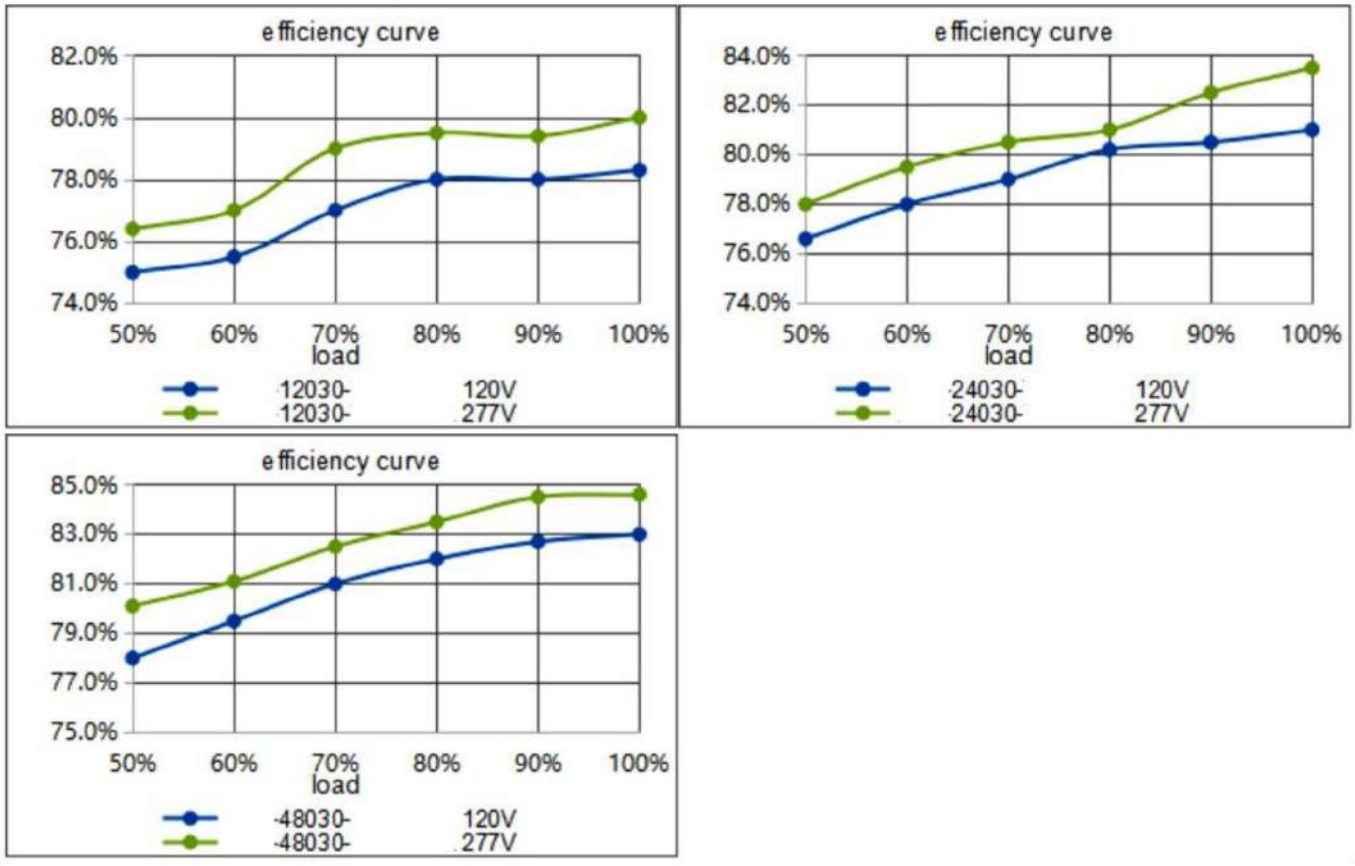
■ Derating Curve (output load vsTEMP.)



1. To extend their life, please refer to the Derating Curve and derate according to the temperature.
2. Please note that the rise in temperature of LED fixtures over a long period of time will cause their power to rise. Therefore, we recommend the power supply to reserve a certain amount of load to avoid overloading.

■ Efficiency Curve (efficiency vs output load)



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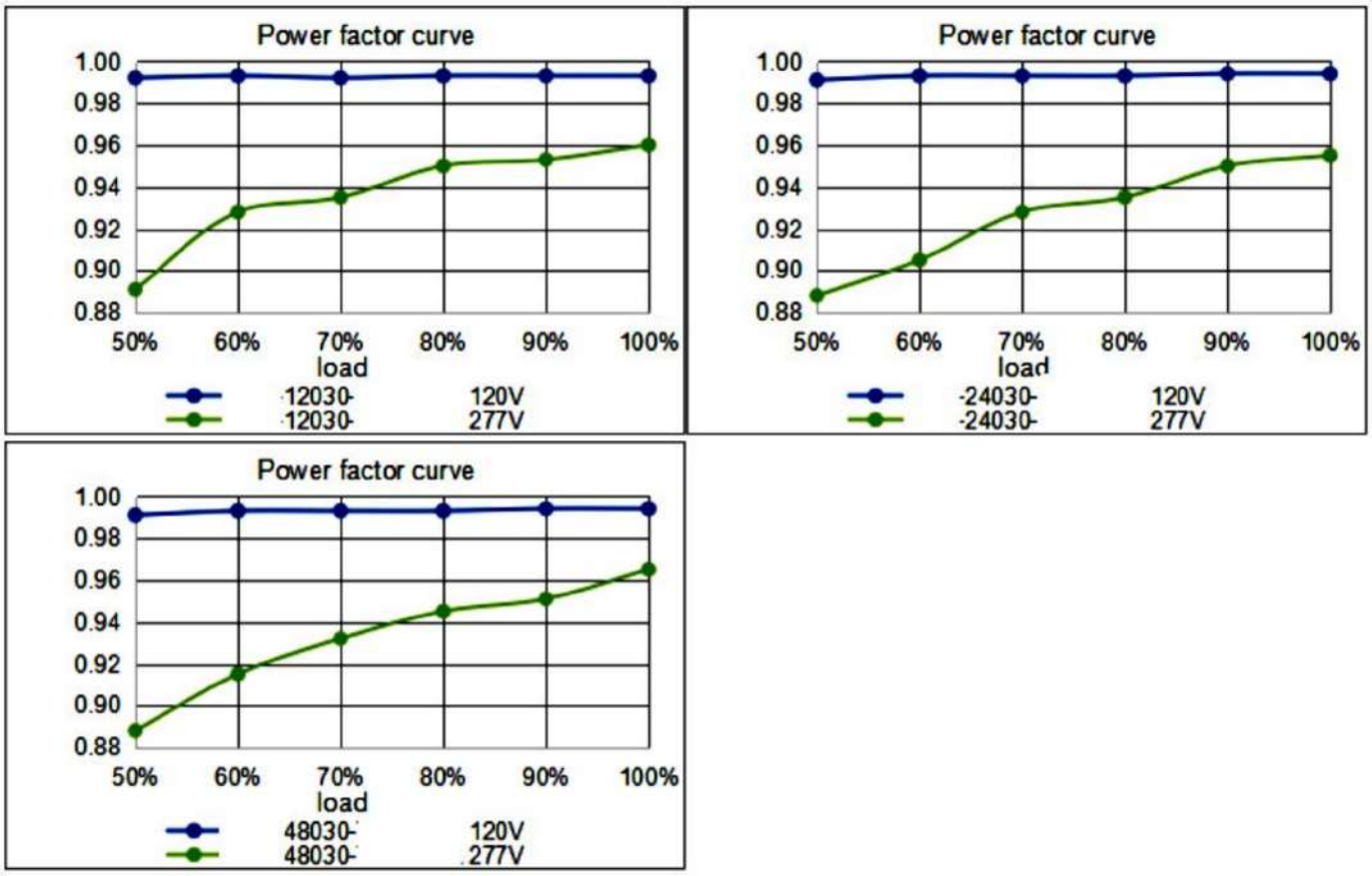
■ Power Factor Curve



■ Instruction:

1. Confirm if the rated input voltage of the power supply is within the range of market voltage before use.
2. Pay attention to the distinction between the input and output lines of the power supply to avoid power damage or unnecessary safety accidents caused by connecting the reverse line.
3. The power supply cannot be stacked for installation (placement), and the installation distance between the power supply and the power supply should be greater than 10cm. Multiple power supplies should be installed in a narrow space, and the environmental temperature should be less than 55 ℃ during use; For example, distribution boxes, etc.
4. In order to extend the service life of the power supply, it is recommended to install the power supply in an environment that is conducive to heat dissipation. As the ambient temperature increases, the power used by the power supply gradually decreases, and the service life of the power supply also gradually shortens.
5. Do not use under abnormal loads: Overloading can cause damage to the power supply, and extremely light loads can cause the power supply to malfunction.
6. To ensure safety and reduce interference, please ensure that the grounding wire is reliably grounded.
7. This driver should be installed by qualified and professional person.
8. Please make sure the driver is installed with adequate ventilation around it to allow for heat dissipation.
9. Ensure that wiring is correct before test in order to avoid light and power supply damage.
10. If driver Cannot work normally, don't maintain privately.

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Notes

1. All parameters that are NOT specifically mentioned are measured at 120VAC input, rated load and 25°C of ambient temperature.

2. Tolerance: Includes set up tolerance and load regulation.

3. The Power Supply is considered as a component that will be operated in combination with other equipment.

4. EMC performance is affected by the complete install.

5. Default States: Output Mode is PWM and the dimming curve is a Gamma 2.2

6. LED Driver load types meet the harmonic emission requirments of ANSI C82.7 7-10