



INDOOR APPLICATIONS



**FEATURES**

Output:	Constant Voltage
Range:	100-277VAC
PFC design:	Built-in active PFC function
Efficiency:	Up to 91%
Protections:	Short circuit/ over load/ over temperature
Heat dissipation:	Cooling by free air convection
Waterproof performance:	Full plastic protection housing, for dry & damp locations (US)
Dimming function:	Phase dimming: work with forward phase /leading edge, MLV and Reverse phase /trailing edge, ELV, TRIAC dimmers. 0-10V dimming: 0-10V/1-10V/Potentiometer/10V PWM 4 in 1
Min load	Min load is 20%
Dimming range:	0-100% dimming depth 0.1%
Application:	Suitable for LED lighting and moving sign applications
Warranty:	5 years warranty

**SPECIFICATIONS**

<b>Model</b>		<b>SMT-24096-VTD-P</b>
<b>Certificate</b>		UL / cUL / FCC / Class P / Class 2/SELV/RoHS
<b>Output</b>	DC Voltage	24V
	Voltage Tolerance	±4%
	Voltage Regulation	≤1%
	Load Regulation	≤1%
	Rated current	4A
	Rated power	96W
	Voltage Ripple	296mVp-p
	Overshoot voltage	<3% (full load) <4%(no load)
	Output volt Adjustment	24-26V 
	Output mode selection	<p>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.</p> <p>Switching the output mode requires the power to be cut off for 3 seconds and then powered on again for the mode switching to take effect.</p> 
<b>Input</b>	Voltage Range	100-277VAC
	Frequency Range	47 - 63Hz
	Power Factor (Typ.) @ full load	>0.98@120VAC >0.96@277VAC
	THD(Typ. ) @ full load	<15%@120V <15%@277V
	Efficiency(Typ.) @ full load	≥88.0%@120VAC ≥91.5%@277VAC
	AC Current (Max.)	≤1.0A @120VAC ≤0.43A@277VAC
	Standby power	≤0.5W
	Inrush Current (Typ.)	51A@50%Ipeak 208us @120VAC, 118A@50%Ipeak 452us @277VAC.
	Leakage current	<0.5mA
<b>Protection</b>	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°C ±5°C, the output is turned off
<b>Environment</b>	Working TEMP.	-40~+40°C (see below derating curve)
	Working Humidity	20 - 90%RH non-condensing
	Storage TEM.,Humidity	-40 - +80°C,10 - 95% RH non-condensing
	TEMP.coefficient	±0.03%/°C(0 - 50°C)
	Vibration	10 ~ 500Hz, 2G 12 minutes/cycle, X Y Z axis 72 minutes each
<b>Safety &amp; EMC</b>	Safety standards	UL8750 CAN/CSA-C22.2 No.250.13
	Withstand voltage	I/P-O/P:1.88KVAC
	Isolation resistance	I/P-O/P:100MΩ / 500VDC / 25°C / 70% RH
	Surge Immunity Test	AC Power Line:Differential Mode 2KV
	EMC Immunity	FCC/ICES do not request this test

	EMC Emission	FCC Part15 Subpart B; ANSI C63.4:2017; ICES-005 Issue 5
<b>Others</b>	Net Weight	0.36KG
	Dimension	178*61.1*24mm(L*W*H)
	Packing	290*215*140mm 20 pcs / CTN
<b>Notes</b>	<p>1. All parameters NOT specially mentioned are measured at 120VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Tolerance: includes set up tolerance and load regulation .</p> <p>3. The power supply is considered as a component that will be operated in combination with final Equipment. Since EMC performance will be affected by the complete installation, the final equipment manufactures must be-qualify EMC Directive on the complete installation again.</p> <p>4. Default states: The output mode is PWM output by default. The dimming curve is a gamma2.2 curve.</p> <p>5. Regarding LED driver load types where the driver meets the harmonic emissions requirements of ANSI C82.77-0.</p>	

**MCB recommendation**

When the input voltage is 120Vac,the number of LED Driver matched by circuit breakers is as follows:		
MCB Type	Level	The number of LED Driver
C type	10A	6
	13A	7
	16A	9
	20A	12
	25A	15
When the input voltage is 277Vac,the number of LED Driver matched by circuit breakers is as follows:		
MCB Type	Level	The number of LED Driver
C type	10A	14
	13A	18
	16A	22
	20A	28
	25A	30

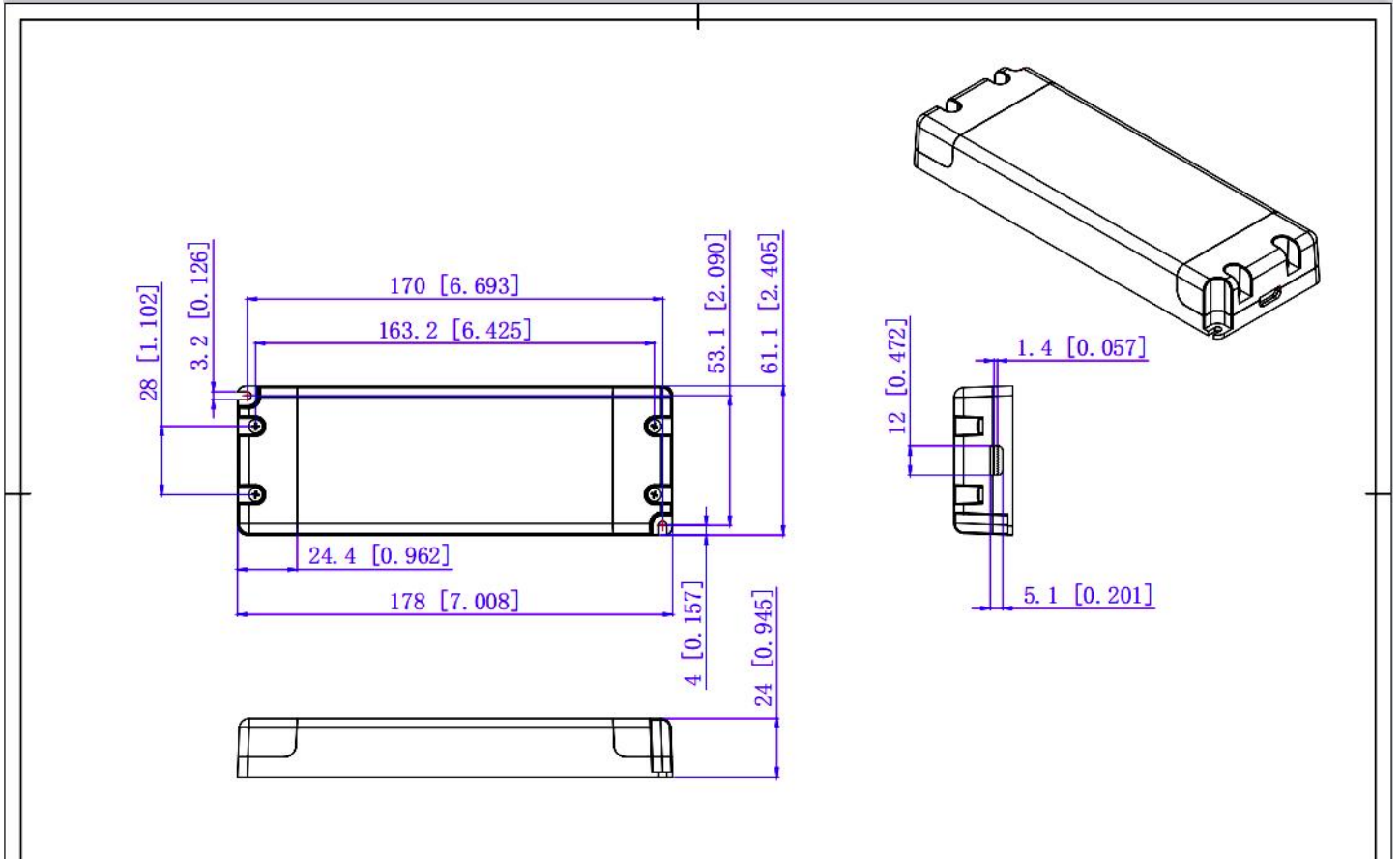
**Note:**

1. The above quantities of the led drivers connected on the Type C is recommended base on the maximum ambient temperature is 50 °C.
2. The breaker should be selected according to the input rated voltage, input rated current, ambient temperature, and trip characteristic curve.

**DIMENSIONS**

Unit: mm

Tolerance: P 0.5-2mm



Notes	American wire gauge
Enclosure model	SD8
Input wire	DG128-3P
Output wire	DG128-2P
Dimming wire	DG128-2P

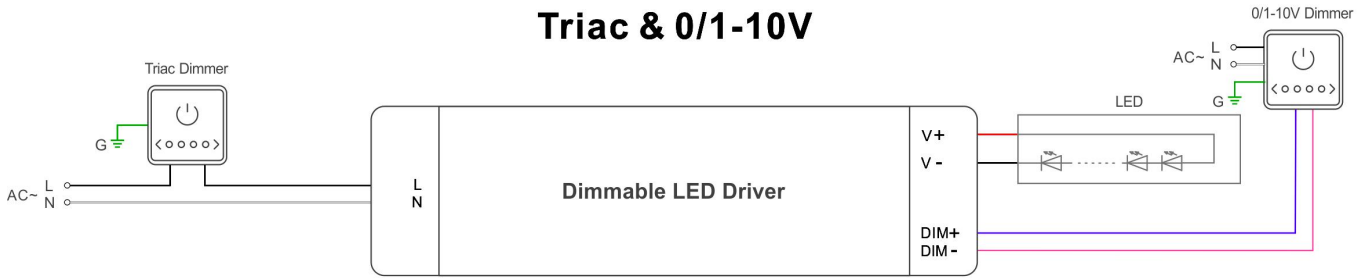
**Warm tips:**

- Recommended Max. Carrying Current (A) =  $\text{wire diameter}(\text{mm}^2) \times 10\text{A}/\text{mm}^2$   
 For example:  $1\text{mm}^2$  output cable, Recommended Max. Carrying Current (A) =  $1\text{mm}^2 \times 10\text{A}/\text{mm}^2 = 10\text{A}$
- Any other requests for cable, we can customized. Any other requests for cable, we can customized

**■ Dimming Operation and Connecting Diagram**

Using two ways of dimming at the same time, you must be assured that LED lighting is up to the max. Brightness then you could operate with the other dimming;

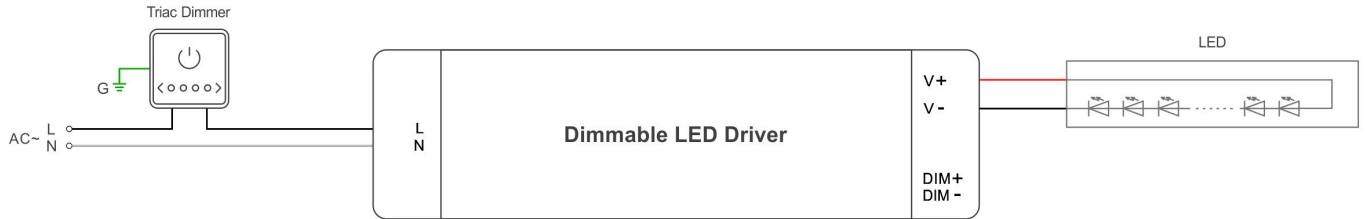
**Triac & 0/1-10V**



**● Using one dimming ---TRIAC/Phase cut dimming**

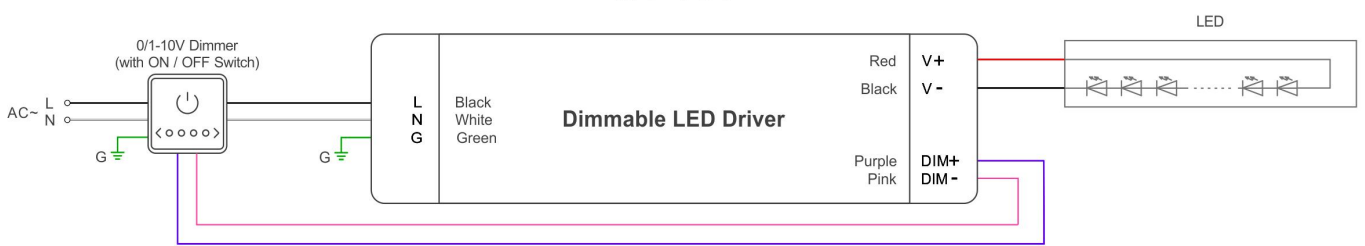
1. The Pulse-Width Modulation (PWM) of output voltage can be adjusted through input terminal of the AC phase line(L) by connection a phase /Triac dimmer or lighting system.
2. Working with forward phase /leading edge, MLV and Reverse phase /trailing edge, ELV, TRIAC dimmers or light system.
3. Min. loading is about 20%
4. Please try to use dimmers with power at least 1.5 times as the output power of the driver.

**Triac**

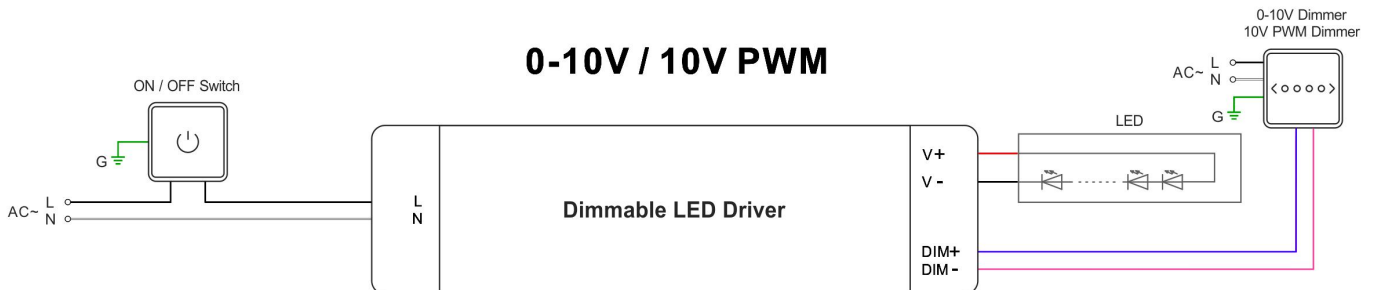


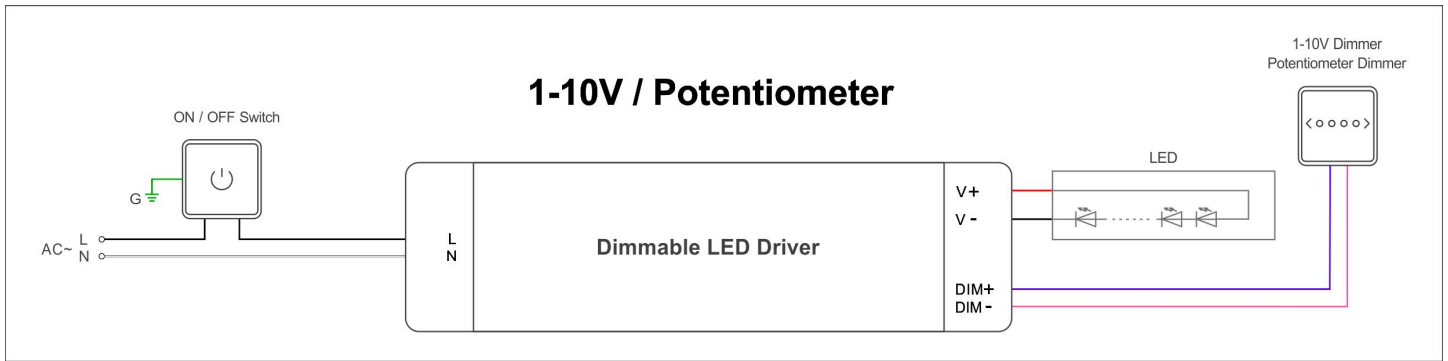
**● Using one dimming ---0-10/ 1-10V/ 10V PWM/ Potentiometer dimming**

**0/1-10V**

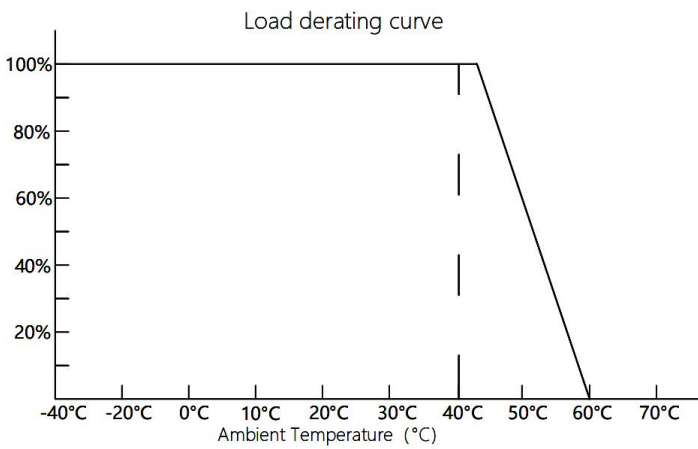


**0-10V / 10V PWM**



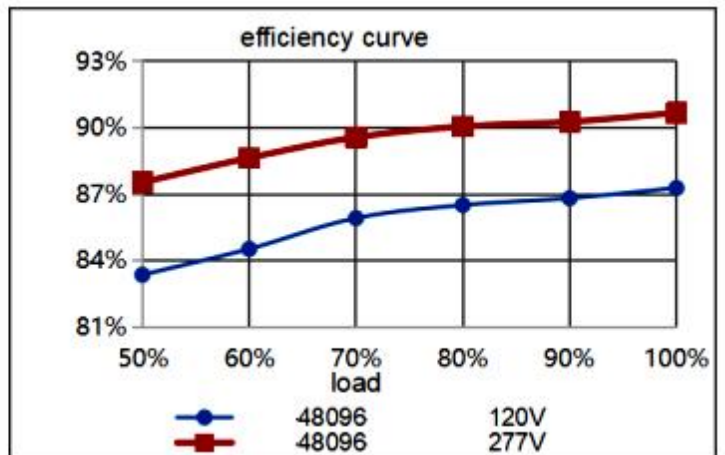
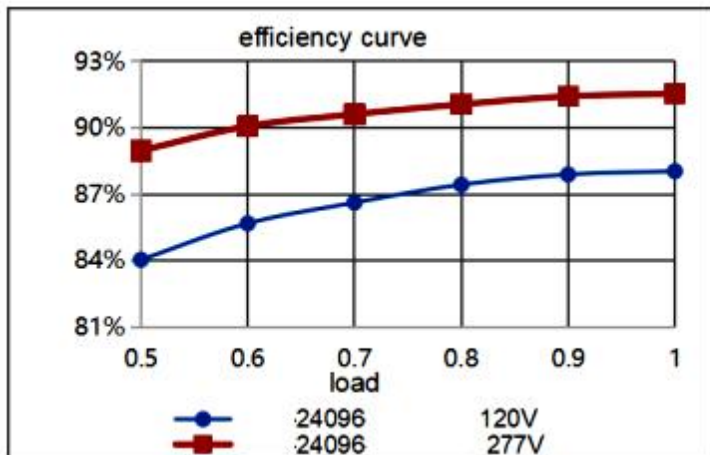


■ **Derating Curve (output load vs TEMP.)**

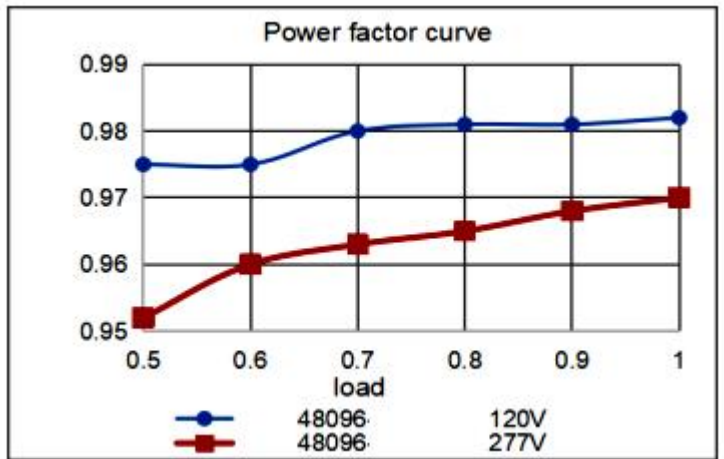
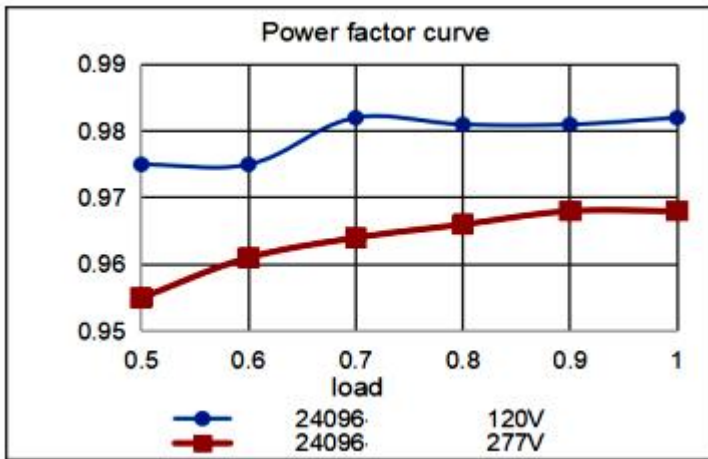


1. To extend their life, please refer to the Derating Curve and derate according to the temperature.
2. Please note that the rise in temperature of LED fixtures over a long period of time will cause their power to rise. Therefore, we recommend the power supply to reserve a certain amount of load to avoid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

■ **Efficiency Curve (efficiency vs output load)**



■ **Power factor curve(Power factor vs output load)**



■ **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 °C during use; For example, distribution boxes, etc.
- 4. In order to extend the service life of the power supply, the power supply should be installed in an environment that is conducive to heat dissipation as much as possible;
- 5. As the ambient temperature increases, the power used by the power supply gradually decreases, and the lifespan of the power supply also gradually shortens.
- 6. 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.
- 7. To ensure safety and reduce interference, please ensure that the grounding wire is reliably grounded