TRIAC & 0-10V Dimmable LED Driver - Constant Voltage Output - KVE-TMW Series 30W

U.S. Patents No. 9,942,959; 10,039,167; 9,661,710; 9,961,724

KVE-TMW Series 30W

Whole Family: KVE-XX030-TMW-BA (XX=12/24/48VDC) [30W 60W 80W 96W 100W]

c UL us LISTED E495946 FC ICES-005 Class P Class 2 SELV RoHS Reach

Features

Output:	Constant Voltage
Range:	100-277VAC
PFC design:	Built-in active PFC function
Efficiency:	Up to 79%
Protections:	Short circuit / Over load / Over temperature
Heat dissipation:	Cooling by free air convection
Waterproof performance:	Full plastic protection housing, for dry & damp locations.
Design features:	Output mode selection: Pulse-Width Modulation (PWM) & Voltage Reduce (VR) mode can be switched.
Dimming function:	Phase dimming: work with Forward phase, MLV and Reverse phase, ELV, TRIAC dimmers. 0-10V dimming: 0-10V/1-10V/Potentiometer/10V PWM 4 in 1.
Min load	Min load is 20%
Dimming range:	PWM: 0-100% VR: 12V: 0~12V 24V: 0~24V 48V: 0~48V
Dimming depth:	PWM: 0.1% VR: 12V: 7V±0.5V 24V: 14V±0.5V 48V: 28V±1V
Application:	Suitable for the application of LED lighting
Warranty:	5 years warranty

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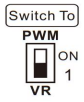
Specification

Model		KVE-12030-TMW-BA	KVE-24030-TMW-BA	KVE-48030-TMW-BA
Certificate		UL / cUL / FCC / ICES-005 / Class P / Class 2 / SELV / ROHS / REACH		
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 at the "ON" position represents the PWM (Pulse - Width Modulation) mode, and at the "1" position represents the VR (Modulation of DC Voltage) mode. 		
		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.		
Input	Voltage Range	100-277VAC		
	Frequency Range	50 / 60Hz		
	Power Factor (Typ.) @ full load	>0.95		
	THD(Typ.) @ full load	<15%@120VAC <15%@277VAC		
	Efficiency(Typ.) @ full load	⩾77%@120VAC ⩾79%@277VAC	⩾78%@120VAC ⩾79%@277VAC	⩾78%@120VAC ⩾79%@277VAC
	AC Current (Max.)	0.4A		
	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	105%~120% Constant - Current Mode, automatic recovery after exception.		
	Over temperature	When the ambient temperature exceeds 55℃ ±5℃, shut down o/p voltage and automatically recover after cooling.		
Environment	Working TEMP.	-40~+40℃ (see below derating curve)		
	Working Humidity	20 - 90%RH non-condensing		
	Storage TEM.,Humidity	-40 - +80℃,10 - 95% RH non-condensing		
	TEMP.coefficient	±0.03%/℃(0 - 50℃)		
	Vibration	10 ~ 500Hz, 2G 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		
	Isolation resistance	I/P-O/P:100MΩ / 500VDC / 25℃ / 70% RH		
	Surge Immunity Test	AC Power Line:Differential Mode 2KV		

	EMC Immunity	FCC/ICES do not request this test.
	EMC Emission	FCC Part 15 Subpart B; ANSI C63.4a-2017; ICES-005 Issue 5
Others	Net Weight	0.25KG
	Dimension	155*54*19.7mm(L*W*H)
	Packing	350*240*135mm 40pcs/CTN
Notes	1. All parameters NOT specially mentioned are measured at 120VAC input, rated load and 25℃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 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. 4. Default states: The output mode is PWM output by default. The dimming curve is a gamma2.2 curve. 5. Regarding LED driver load types where the driver meets the harmonic emissions requirements of ANSI C82.77-10.	

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	22
	13A	29
	16A	35
	20A	44
	25A	50
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	9
	13A	12
	16A	15
	20A	18
	25A	21

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.

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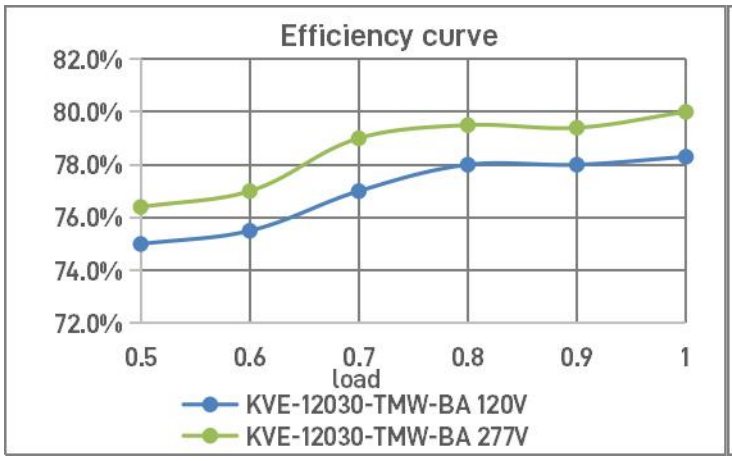
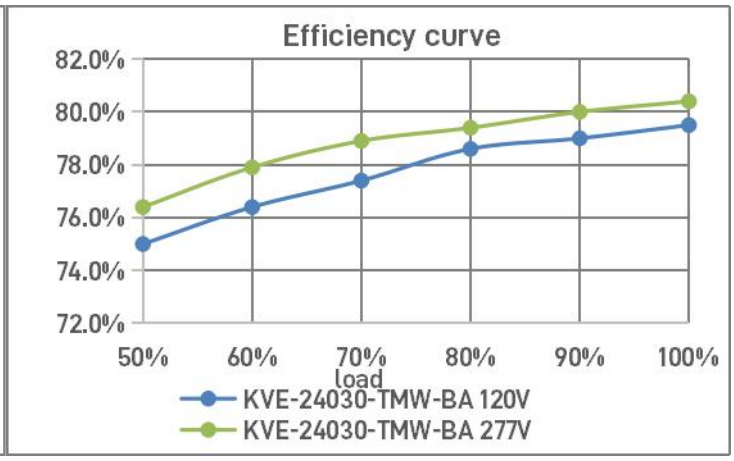
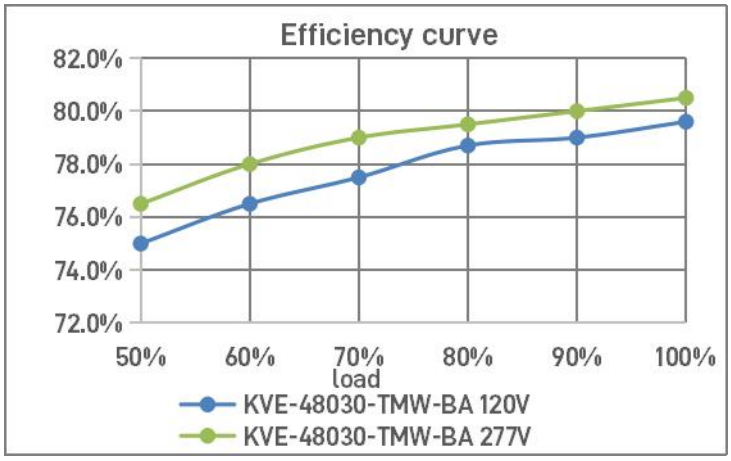
Efficiency Curve (efficiency vs output load)







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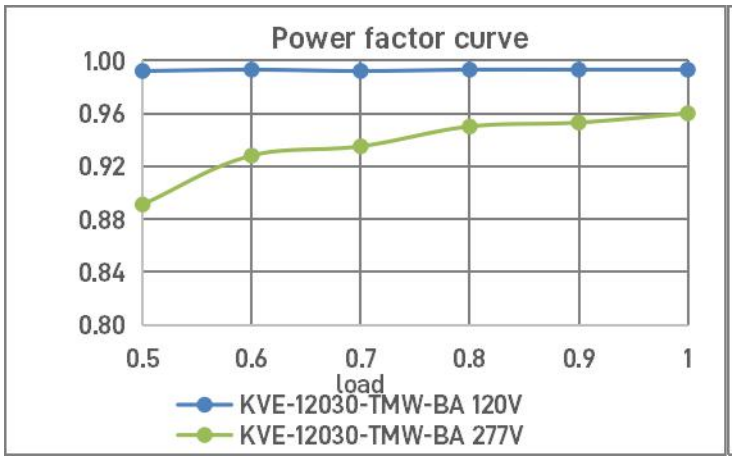
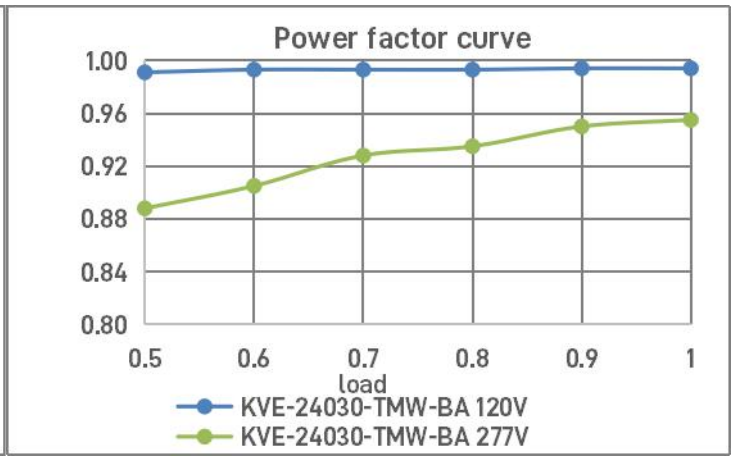
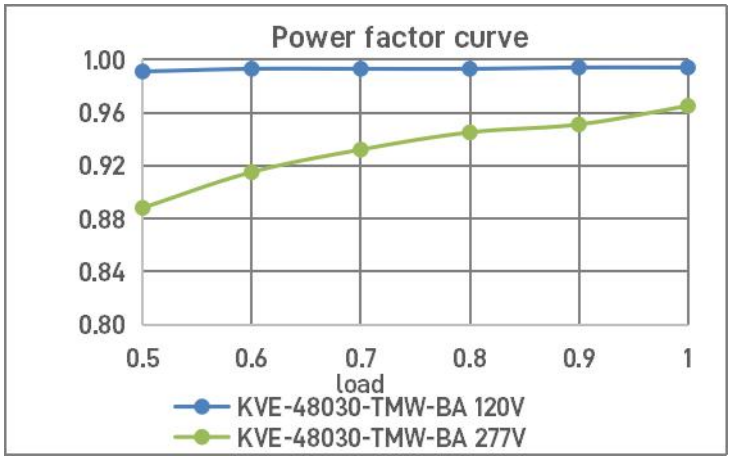
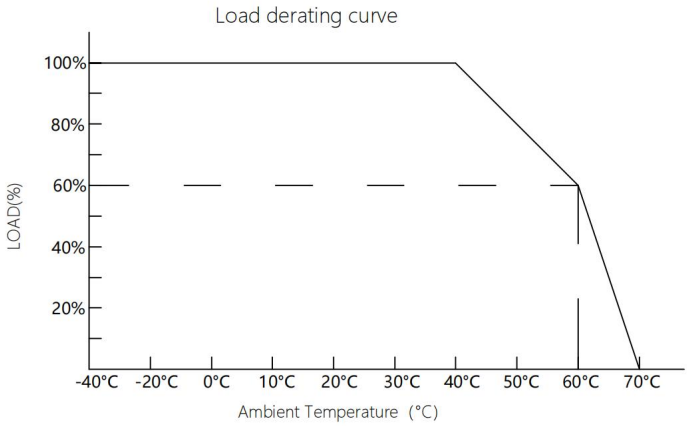
Power Factor Curve (power factor vs output load)







Derating Curve (output load vs TEMP.)



1. To extend their life, please refer to the Derating Curve and derate according to the temperature.
2. The output current of the LED driver should be selected according to the rated current of the lamp and the ambient temperature. Normally, we recommend the power supply to reserve a certain amount of load to extend LED driver's life.

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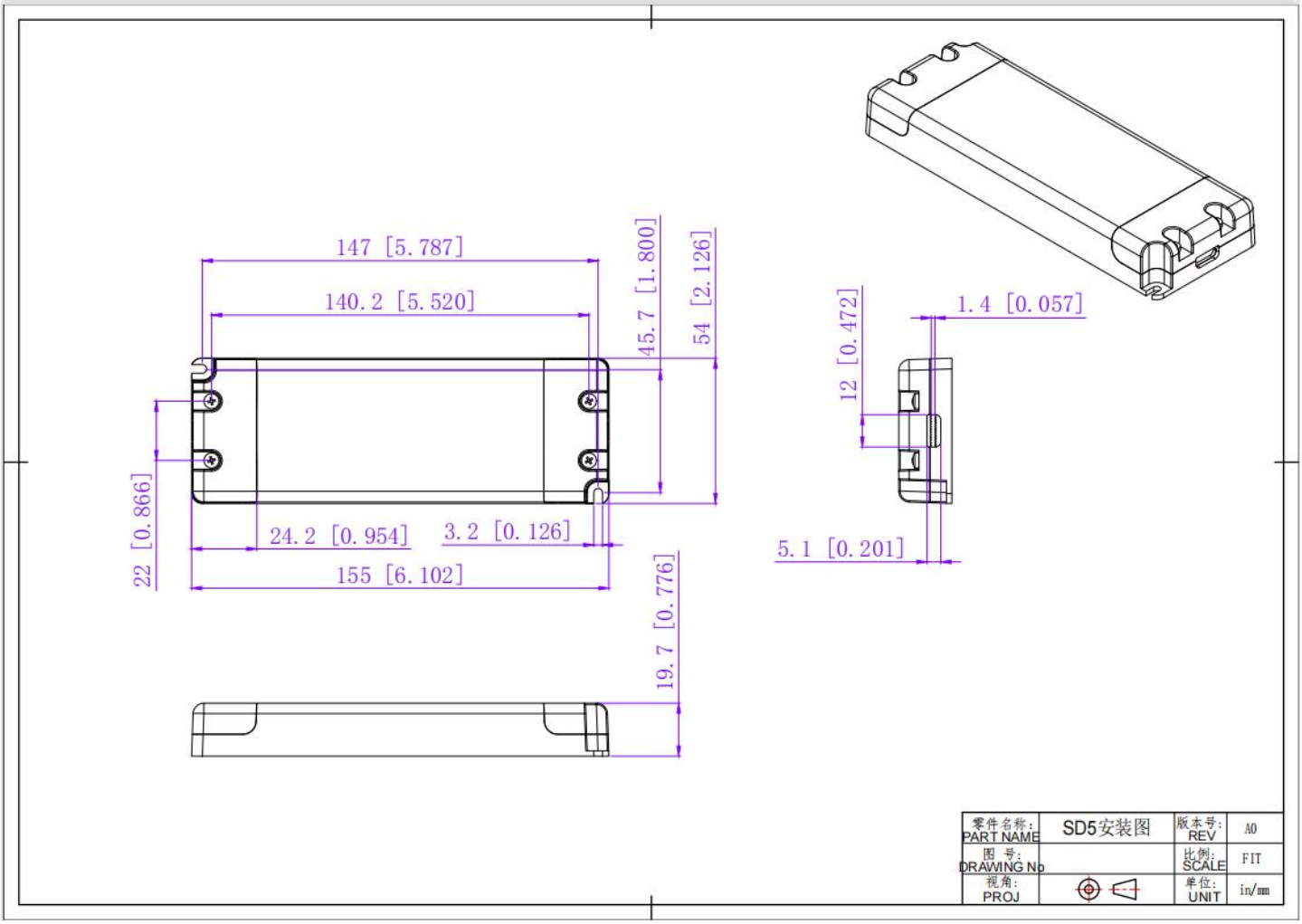
Mechanical Specification



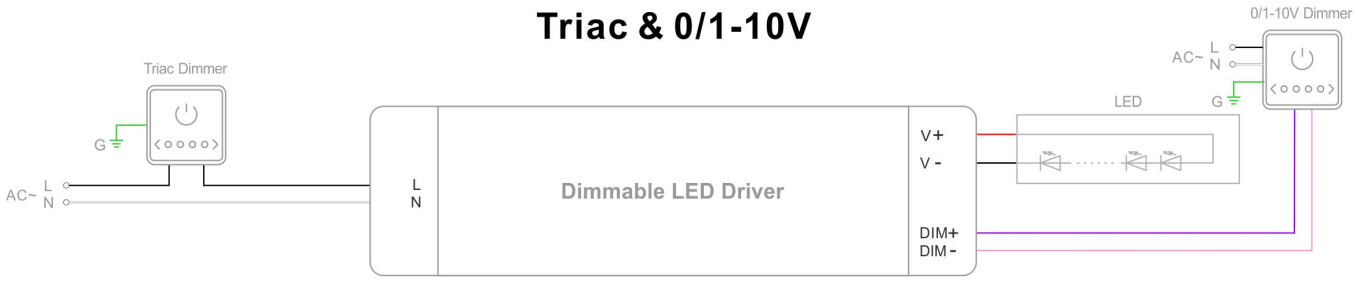
American wire gauge	
SD5	
Input wire	DG126-3P
Output wire	DG126-2P
Dimming wire	DG126-2P

Warm tips:

1. Recommended Max. Carrying Current (A) = wire diameter(mm^2) x 10A/mm^2
   For example: 1mm^2 output cable, Recommended Max. Carrying Current (A) = 1mm^2 x 10A/mm^2=10A
2. Any other requests for cable, we can customize.

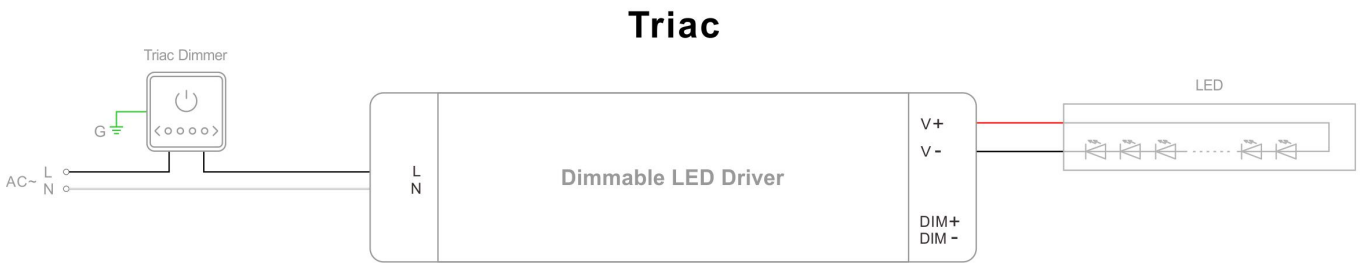
Dimming Operation and Connecting Diagram

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;



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.



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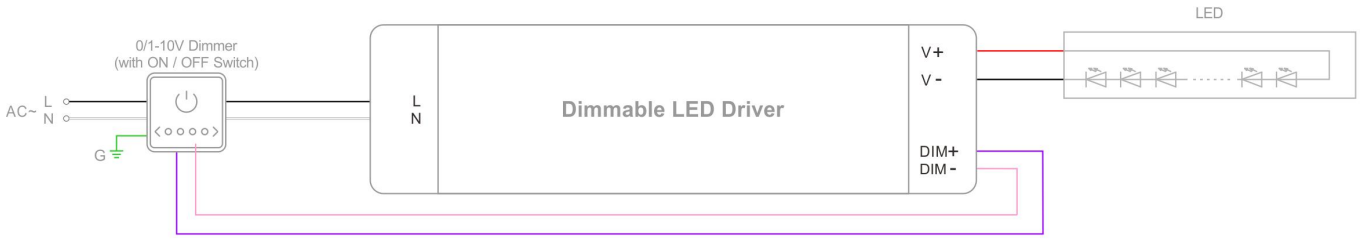
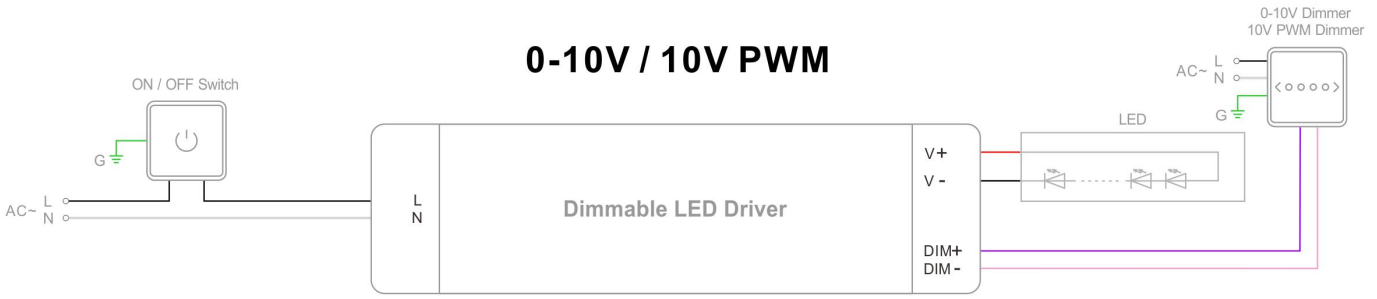
Using one dimming ---0-10/ 1-10V/ 10V PWM/ Potentiometer dimming

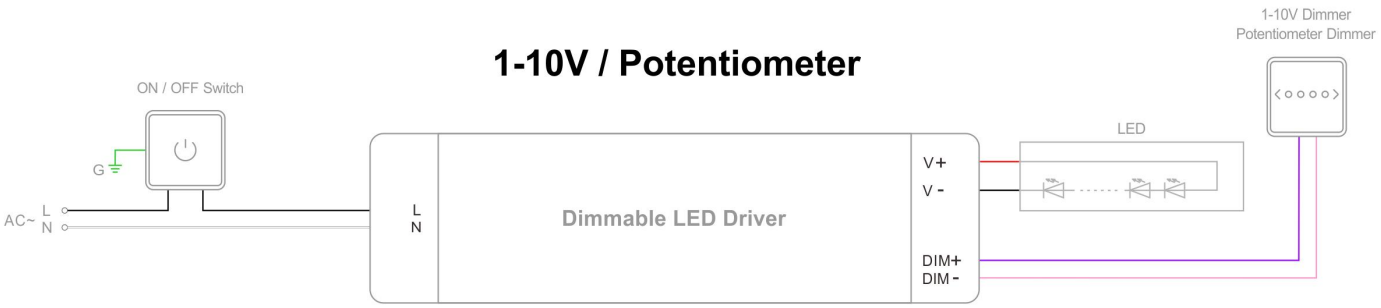
0/1-10V



0-10V / 10V PWM



1-10V / Potentiometer



Instructions

1. This driver should be installed by qualified and professional person.
2. Please make sure the driver is installed with adequate ventilation around it to allow for heat dissipation.
3. Ensure that wiring is correct before test in order to avoid light and power supply damage.
4. If driver Cannot work normally, don't maintain privately.

Have any questions, please contact SCPOWER/SURETRON.

Please visit our website or contact us for more information! www.scpower.net.cn/en