

# LKAD089V-T



**Class2 SELV TYPE HL**



## Features

<b>Output:</b>	Constant Voltage
<b>Range:</b>	120-277VAC
<b>PFC design:</b>	Built-in active PFC function
<b>Efficiency:</b>	Up to 85%
<b>Protections:</b>	Short circuit/ over load/ over temperature
<b>Heat dissipation:</b>	Cooling by free air convection
<b>Waterproof Performance:</b>	For dry, damp, wet locations
<b>Dimming function:</b>	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
<b>Dimming Range:</b>	0-100%
<b>Application:</b>	Suitable for LED lighting and moving sign applications
<b>Warranty:</b>	5 years warranty

## Specification

<b>Model:</b>		<b>LKAD089DV833012T</b>	<b>LKAD089DV415024T</b>	<b>LKAD089DV205048T</b>
<b>Certificate</b>		UL,CUL		
<b>Output</b>	DC Voltage	12V	24V	48V
	Voltage Tolerance	±0.5V		
	Voltage Regulation	±0.5%		
	Rated current	8.333A	4.166A	2.083A
	Rated power	100W		
	Load Regulation	±2%	±1%	±1%
<b>Input</b>	Voltage Range	120-277VAC		
	Frequency Range	50/60hz		
	Power Factor(Typ. ) @full load	0.99@120VAC 0.99@277VAC	0.99@120VAC 0.99@277VAC	0.99@120VAC 0.979@277VAC
	THD(Typ. ) @ full load	<15%@120VAC & 277VAC		
	Efficiency(Typ.) @ full load	≥84.06%@120VAC ≥87.327%@277VAC	≥85.8%@120VAC ≥87.85%@277VAC	≥85.21%@120VAC ≥88.57%@277VAC
	AC Current (Max.)	0.58A		
	Inrush Current (Typ.)	15A, 50%, 1.4ms @120VAC	65A, 50%, 1.4ms @277VAC	
	Leakage current	<0.5mA		
<b>Protection</b>	Short Circuit	shut down o/p voltage, re-power on to recover after fault condition removed		
	Over Load	≤120% constant current limiting, auto-recovery after fault condition removed		
	Over temperature	100℃±10℃ shut down o/p voltage, automatically recover after cooling		
<b>Environment</b>	Working TEMP.	-40~+60℃ (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 12min./1 cycle, period for 72min. each along X,Y,Z axes		
<b>Safety &amp; EMC</b>	Safety standards	UL8750 , CAN/CSA-C22.2 No.250.13		
	Withstand voltage	I/P-O/P: 1.8KVAC I/P-FG: 1.8KVAC O/P-FG1.8KVAC		
	Isolation resistance	I/P-O/P: 100MΩ / 500VDC/ 25℃/ 70% RH		
	EMC Emission	FCC 47 CFR Part 15 ,Subpart B		
<b>Others</b>	Net Weight			
	Dimension	217*86*36mm(L*W*H)		
	Packing	1 pc in 1 inner box		
<b>Notes</b>	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.			



### Electrical Characteristics

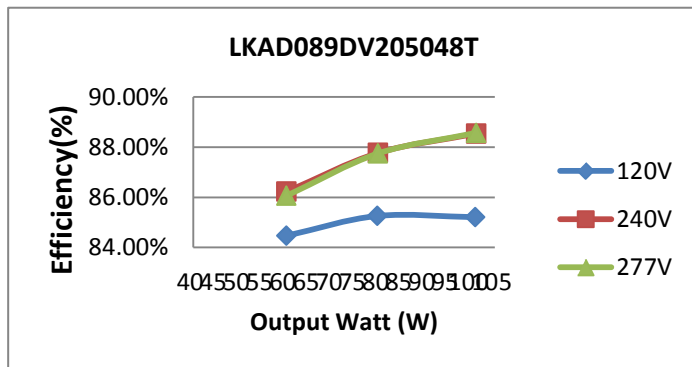
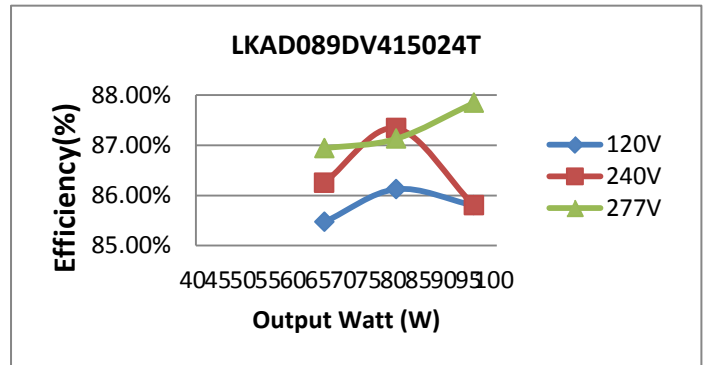
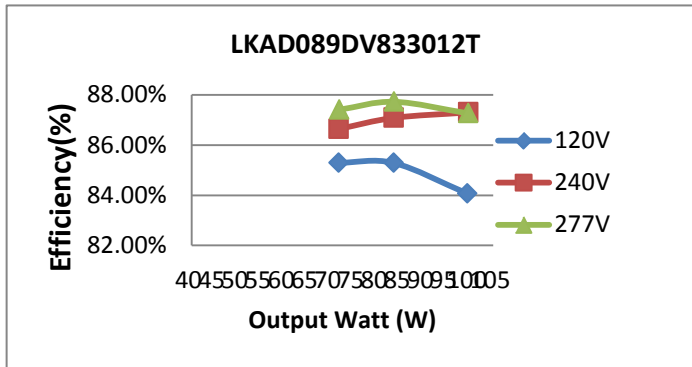
Model: LKAD089DV833012T							
Input voltage ( Vac)	Input Current (mA)	Input Power (W)	Power Factor	Output Voltage ( Vdc)	Output Current ( MA)	Output Power (W)	Efficiency (%)
120V	1012.00	118.30	0.990	11.91	8350	99.45	84.06%
	838.00	98.00	0.990	11.94	7000	83.58	85.29%
	718.90	84.06	0.990	11.95	6000	71.70	85.30%
240V	487.10	114.10	0.990	11.93	8350	99.62	87.31%
	409.50	95.97	0.990	11.94	7000	83.58	87.09%
	353.00	82.75	0.990	11.95	6000	71.70	86.65%
277V	410.90	114.15	0.990	11.93	8350	99.62	87.27%
	346.20	95.35	0.989	11.95	7000	83.65	87.73%
	299.40	82.16	0.985	11.97	6000	71.82	87.41%

Model: LKAD089DV415024T							
Input voltage ( Vac)	Input Current (mA)	Input Power (W)	Power Factor	Output Voltage ( Vdc)	Output Current ( MA)	Output Power (W)	Efficiency (%)
120V	901.20	111.10	0.990	23.84	4000	95.36	85.80%
	752.50	92.77	0.990	23.85	3350	79.90	86.12%
	622.70	76.77	0.990	23.86	2750	65.62	85.47%
240V	438.50	108.30	0.990	23.84	4000	95.40	85.80%
	370.30	91.48	0.990	23.85	3350	79.90	87.34%
	307.70	76.01	0.990	23.84	2750	65.56	86.25%
277V	390.40	108.60	0.990	23.84	4000	95.40	87.85%
	330.00	91.70	0.990	23.85	3350	79.90	87.13%
	275.00	75.44	0.988	23.85	2750	65.59	86.94%

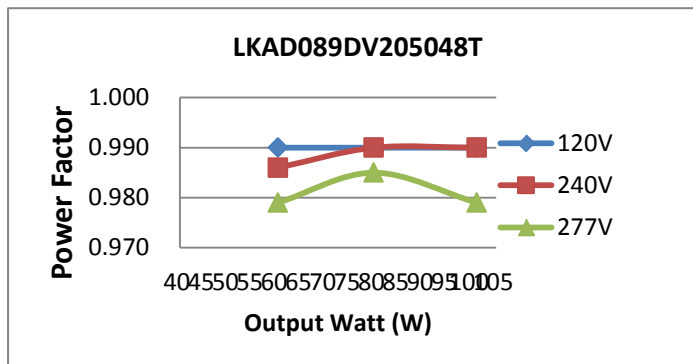
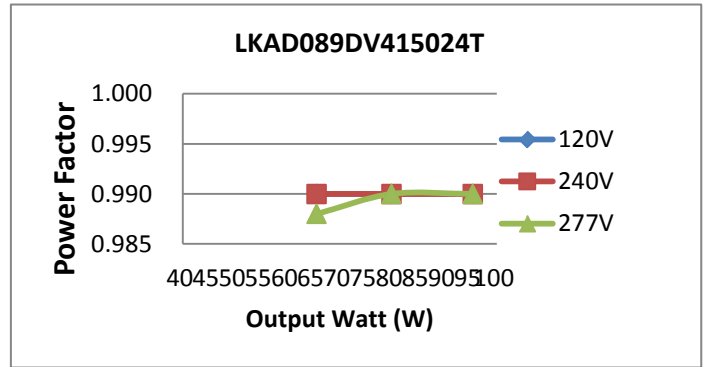
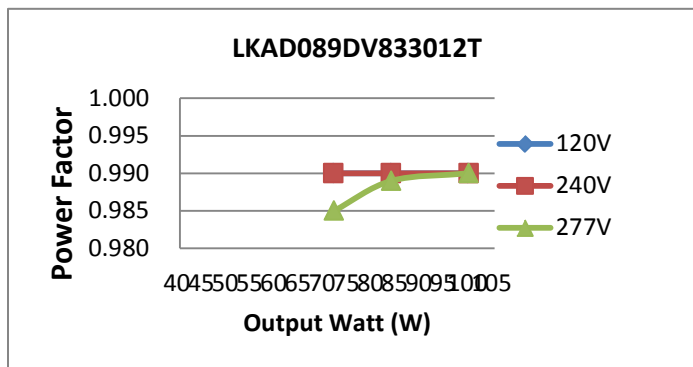
Model: LKAD089DV205048T							
Input voltage ( Vac)	Input Current (mA)	Input Power (W)	Power Factor	Output Voltage ( Vdc)	Output Current ( MA)	Output Power (W)	Efficiency (%)
120V	1000.00	118.30	0.990	48.00	2100	100.80	85.21%
	780.00	93.46	0.990	48.00	1660	79.68	85.26%
	590.00	71.18	0.990	48.10	1250	60.13	84.47%
240V	480.00	114.08	0.990	48.10	2100	101.01	88.54%
	380.00	90.97	0.990	48.10	1660	79.85	87.77%
	290.00	69.73	0.986	48.10	1250	60.13	86.23%
277V	417.00	114.04	0.979	48.10	2100	101.01	88.57%
	330.00	90.99	0.985	48.10	1660	79.85	87.75%
	250.00	69.86	0.979	48.10	1250	60.13	86.06%



### Efficiency Curve (efficiency vs ouput watt)



### Power Factor Curve





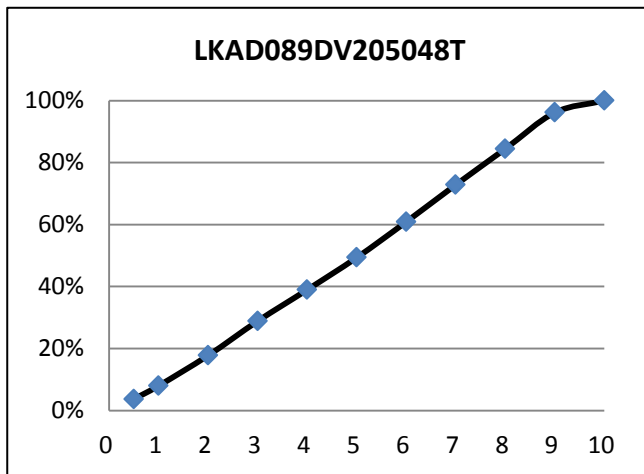
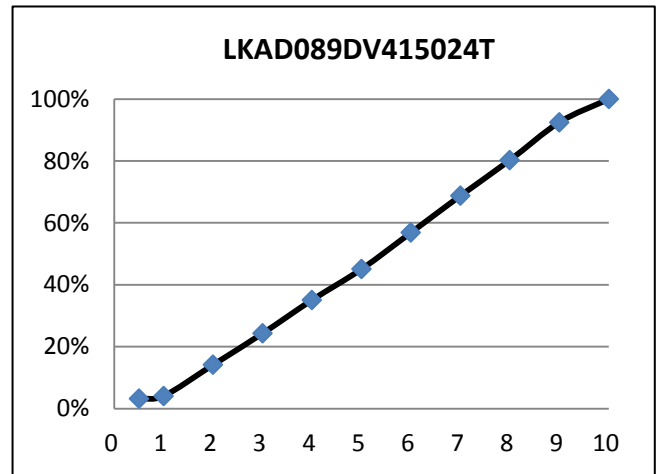
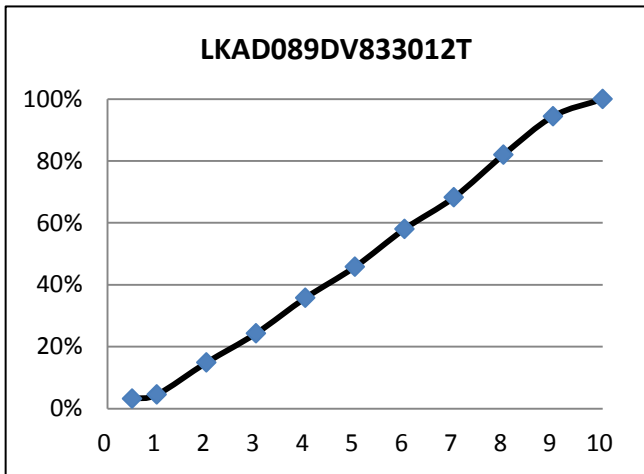
## Compatibility Testing for Phase Dimmer

Test by EU Standard 240V dimmers				
Model: LKAD089DV833012T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	T&J 25-1000W	8.82	98.43	8.96%
2	Lautrupvang DK-275D	15.73	87.55	17.97%
3	JUNON 300W	10.90	103.90	10.49%
4	Nader Cscraider	11.42	104.20	10.96%
5	CLIPSAL 500VA	0.15	85.69	0.18%
6	Midea 220V 630W	12.59	104.30	12.07%
7	European-No 1	1.76	104.00	1.69%
8	TCL 630W 220V	0.15	104.30	0.14%
9	SHYUSLC UK-PRD400VA	9.00	85.77	10.49%
Model: LKAD089DV415024T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	T&J 25-1000W	19.20	105.60	18.18%
2	Lautrupvang DK-275D	20.00	94.99	21.05%
3	TENGEN V5-TG/G	23.96	105.30	22.75%
4	Nader	19.70	105.50	18.67%
5	CLIPSAL 500VA	0.13	92.90	0.14%
6	Midea 220V 630W	23.00	105.50	21.80%
7	European-No 1	2.22	105.30	2.11%
8	TCL 630W 220V	0.16	105.30	0.15%
9	SHYUSLC UK-PRD400VA	12.00	92.92	12.91%
Model: LKAD089DV205048T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	T&J 25-1000W	16.93	115.90	14.61%
2	Lautrupvang DK-275D	28.91	109.90	26.31%
3	European-No 2	20.30	107.30	18.92%
4	TENGEN V5-TG/G	26.60	108.10	24.61%
5	Junnon	10.70	115.00	9.30%
6	CLIPSAL 500VA	0.13	116.26	0.11%
7	Midea 220V 630W	29.71	117.36	25.32%
8	LTECH	2.60	116.24	2.24%
9	TCL 630W 220V	0.17	116.50	0.15%

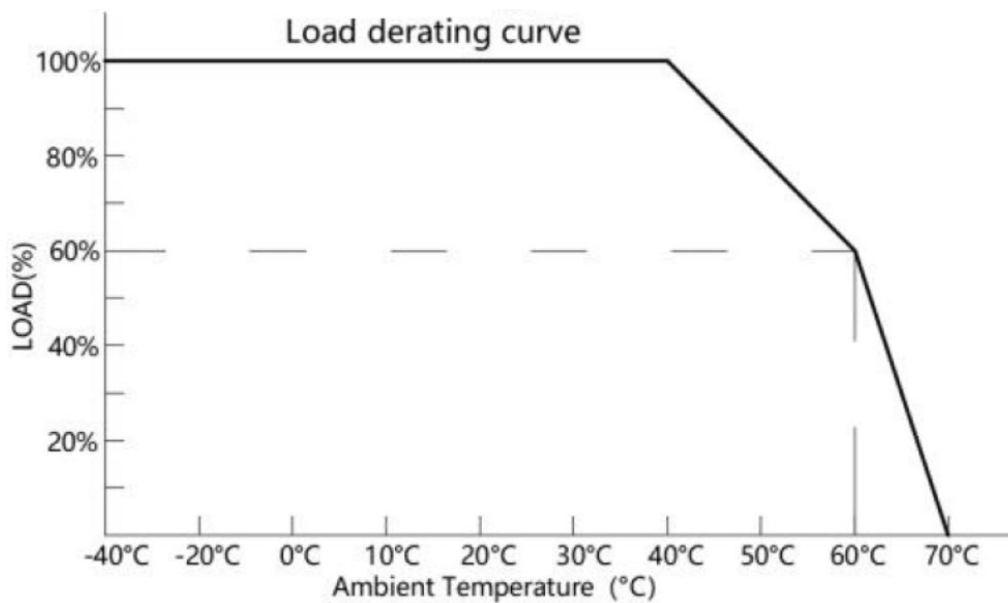
Test by US Standard 120V dimmers				
Model: LKAD089DV833012T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	Lutron SB-1 600W	0.13	88.76	0.15%
2	LC211	2.00	83.50	2.40%
3	Lutron DVCL-253P-WH	2.71	99.90	2.71%
4	TLC-0005	2.56	88.70	2.89%
5	PEC-002	2.13	88.90	2.40%
6	LEVLTON 150W	1.54	83.35	1.85%
7	LEVLTON DSL06	10.00	88.95	11.24%
8	Lutron Scl-153P	1.03	79.29	1.30%
9	Lutron SELV-300P	6.07	83.30	7.29%
Model: LKAD089DV415024T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	Lutron SB-1 600W	0.13	95.91	0.14%
2	LC211	2.45	90.72	2.70%
3	Lutron TTCL100	0.10	106.20	0.09%
4	TLC-0005	9.00	98.14	9.17%
5	PEC-002	9.02	97.38	9.26%
6	TLC-0003	9.26	96.91	9.56%
7	LEVLTON 150W	2.20	87.99	2.50%
8	LEVLTON DSL06	30.99	106.10	29.21%
9	Lutron scl-153P	1.35	84.86	1.59%
Model: LKAD089DV205048T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	Lutron SB-1 600W	3.20	107.00	2.99%
2	LC211	2.80	104.79	2.67%
3	Lutron TTCL100	8.90	106.00	8.40%
4	TLC-0005	17.74	114.20	15.53%
5	PEC-002	17.24	109.90	15.69%
6	TLC-0003	16.70	112.00	14.91%
7	LEVLTON 150W	12.50	106.50	11.74%
8	LEVLTON DSL06	6.50	116.00	5.60%
9	Lutron scl-153P	7.08	101.20	7.00%



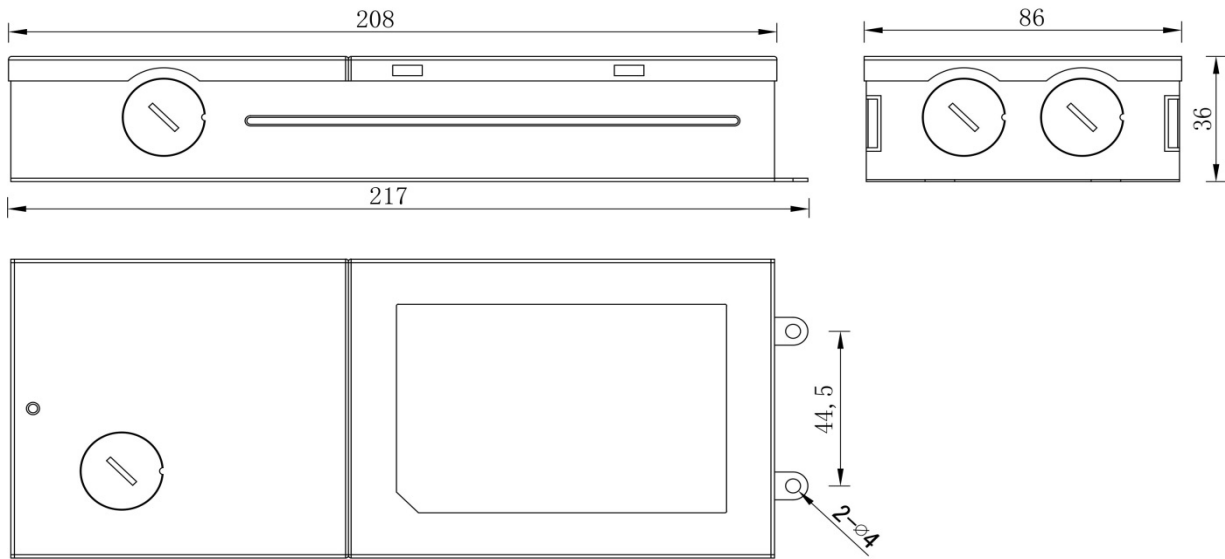
### 0-10V Dimming Curve



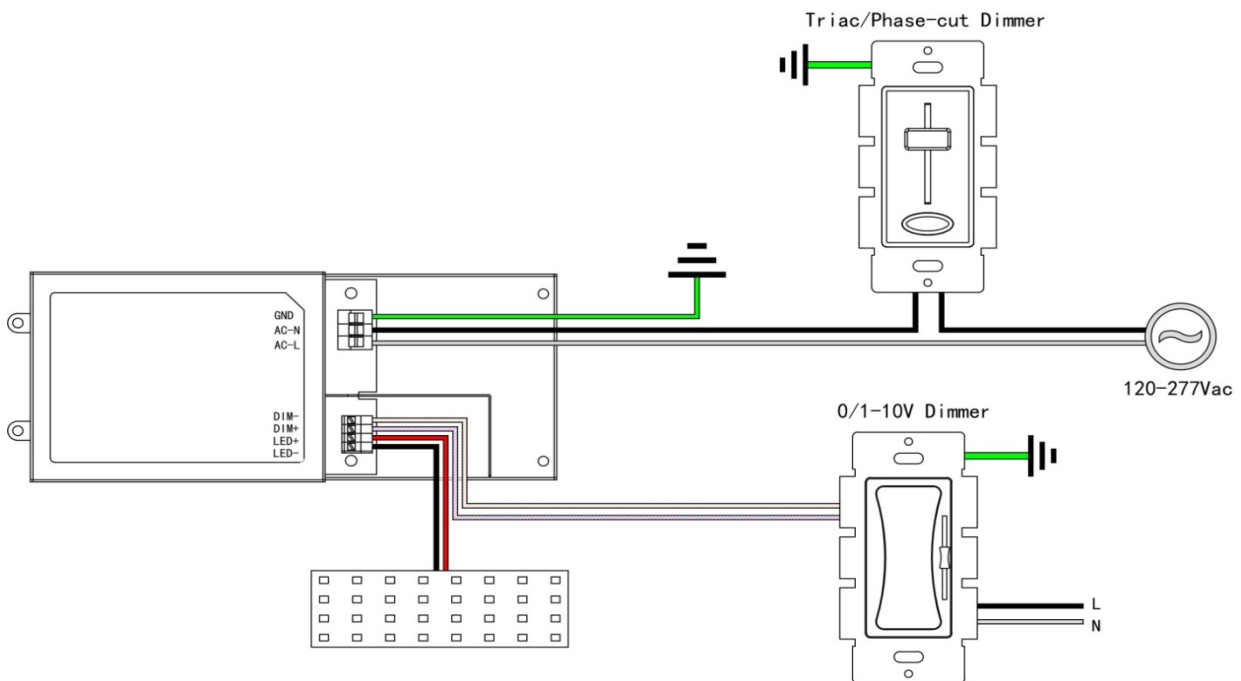
### Derating Curve (output load vs TEMP.)



## Installation Dimension



## Wiring Diagram



1. Input cable 3\*18AWG, the Green cable to GND, Black cable to L, and White cable to N of Mains AC.
2. Output cable 2\*18AWG, Red cable (+) to LED Positive side (+) , Black cable (-) to LED Negative side (-).
3. Dimming cable 2\*22AWG, Purple cable DIM (+) to 0/1-10V dimmer signal(+), Pink cable DIM (-) to 0/1-10V dimmer signal (-).
4. Please DO NOT connect "DIM-" to "LED-", "DIM+" to "LED+", or other incorrect connection.
5. Please make sure your connect these correctly otherwise your product will not function correctly and could be damaged



## Dimming Operation

---

This driver can dimming in two ways 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.

### 1. TRIAC/Phase cut dimming

- 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.
- Working with forward phase, MLV and Reverse phase , ELV, TRIAC dimmers or light system.
- Min. loading is about 10%
- Please try to use dimmers with power at least 1.5 times as the output power of the driver.

### 2. 0-10/ 1-10V/ 10V PWM/ Potentiometer dimming

Working well with most EU and US brands of 0/1-10V dimmers, 10V PWM dimmers or dimming system as well as potentiometer dimming system.

## Notices

---

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.

**\*If still have any questions, please contact us directly\***