

LKAD047V-T

UL US E478938 Class2 SELV TYPE HL



Features

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

Specification

Model:		LKAD047DV500012T	LKAD047DV250024T	LKAD047DV125048T
Certificate		UL,CUL		
Output	DC Voltage	12V	24V	48V
	Voltage Tolerance	±0.5V		
	Voltage Regulation	±0.5%		
	Rated current	5A	2.5A	1.25A
	Rated power	60W		
	Load Regulation	±2%	±1%	±1%
Input	Voltage Range	120-277VAC		
	Frequency Range	50/60hz		
	Power Factor(Typ.) @full load	0.99@120VAC 0.98@277VAC	0.99@120VAC 0.97@277VAC	0.99@120VAC 0.91@277VAC
	THD(Typ.) @ full load	<15%@120VAC & 277VAC		
	Efficiency(Typ.) @ full load	≥84.93%@120VAC ≥88.04%@277VAC	≥85.31%@120VAC ≥87.41%@277VAC	≥86.61%@120VAC ≥88.54%@277VAC
	AC Current (Max.)	0.58A		
	Inrush Current (Typ.)	15A, 50%, 1.4ms @120VAC	65A, 50%, 1.4ms @277VAC	
	Leakage current	<0.5mA		
Protection	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		
Environment	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		
Safety & EMC	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		
Others	Net Weight			
	Dimension	160*75*34mm(L*W*H)		
	Packing	1 pc in 1 inner box		
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.			

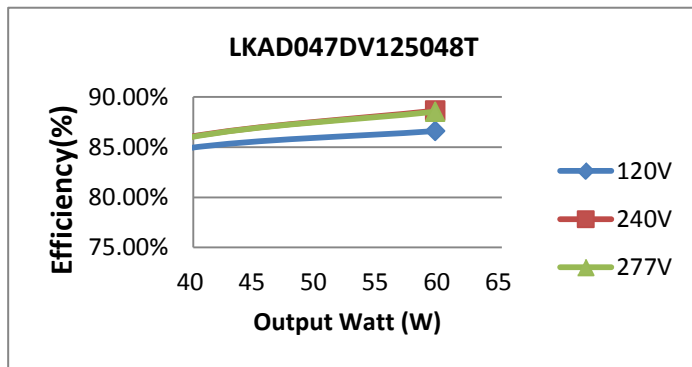
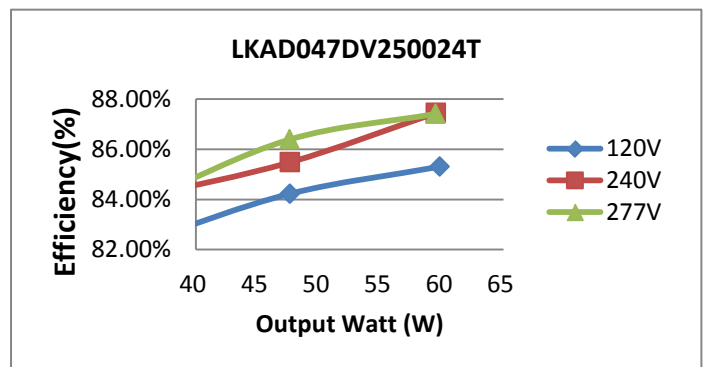
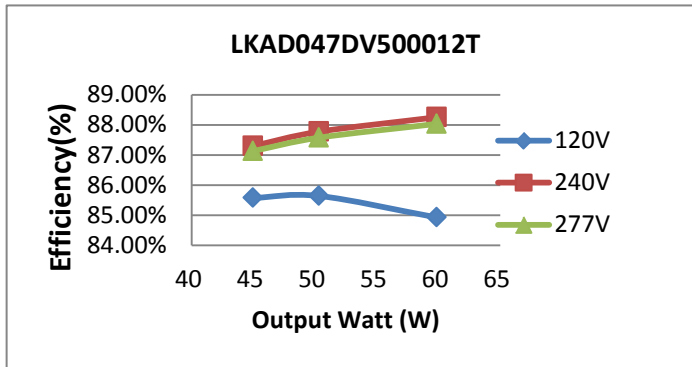
Electrical Characteristics

Model: LKAD047DV500012T							
Input voltage (Vac)	Input Current (mA)	Input Power (W)	Power Factor	Output Voltage (Vdc)	Output Current (MA)	Output Power (W)	Efficiency (%)
120V	574	70.47	0.999	11.97	5000	59.85	84.93%
	479	58.75	0.999	11.98	4200	50.32	85.64%
	428	52.54	0.999	11.99	3750	44.96	85.58%
240V	279	67.81	0.986	11.97	5000	59.85	88.26%
	237	57.32	0.986	11.98	4200	50.32	87.78%
	213	51.50	0.984	11.99	3750	44.96	87.31%
277V	250	67.98	0.984	11.97	5000	59.85	88.04%
	212	57.45	0.981	11.98	4200	50.32	87.58%
	191	51.60	0.977	11.99	3750	44.96	87.14%

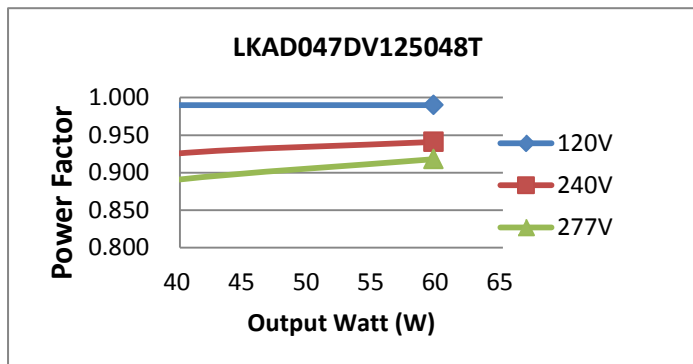
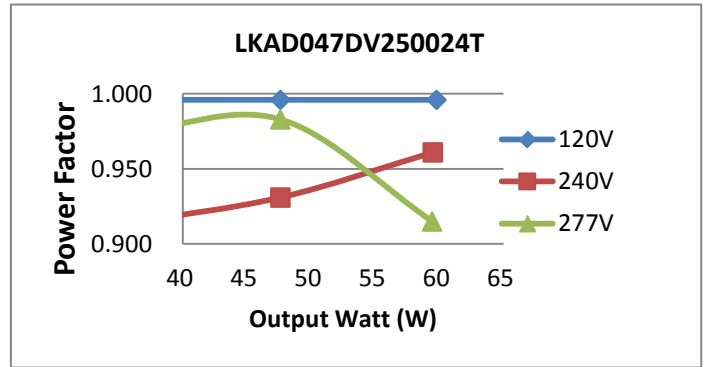
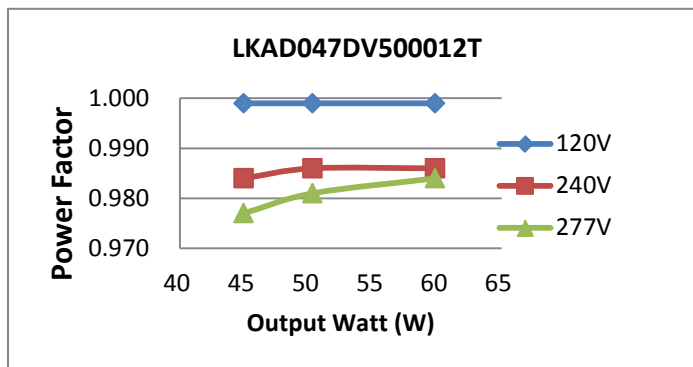
Model: LKAD047DV250024T							
Input voltage (Vac)	Input Current (mA)	Input Power (W)	Power Factor	Output Voltage (Vdc)	Output Current (MA)	Output Power (W)	Efficiency (%)
120V	580	70.10	0.996	23.92	2500	59.80	85.31%
	470	56.54	0.996	23.81	2000	47.62	84.22%
	360	43.40	0.996	23.82	1500	35.73	82.33%
240V	300	68.04	0.961	23.80	2500	59.50	87.45%
	260	55.71	0.931	23.81	2000	47.62	85.48%
	200	42.50	0.914	23.83	1500	35.75	84.11%
277V	270	68.01	0.915	23.78	2500	59.45	87.41%
	210	55.10	0.983	23.80	2000	47.60	86.39%
	160	42.56	0.974	23.82	1500	35.73	83.95%

Model: LKAD047DV125048T							
Input voltage (Vac)	Input Current (mA)	Input Power (W)	Power Factor	Output Voltage (Vdc)	Output Current (MA)	Output Power (W)	Efficiency (%)
120V	580	68.84	0.990	47.70	1250	59.63	86.61%
	390	46.37	0.990	47.70	825	39.35	84.87%
	250	29.54	0.990	47.70	500	23.85	80.74%
240V	290	67.26	0.941	47.70	1250	59.63	88.65%
	200	45.78	0.925	47.70	825	39.35	85.96%
	130	29.48	0.890	47.70	500	23.85	80.90%
277V	260	67.34	0.918	47.70	1250	59.63	88.54%
	180	45.90	0.890	47.80	825	39.44	85.92%
	120	29.69	0.850	47.70	500	23.85	80.33%

Efficiency Curve (efficiency vs ouput watt)



Power Factor Curve



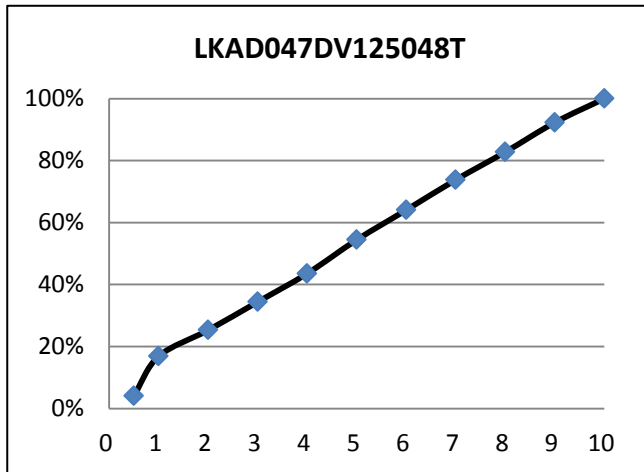
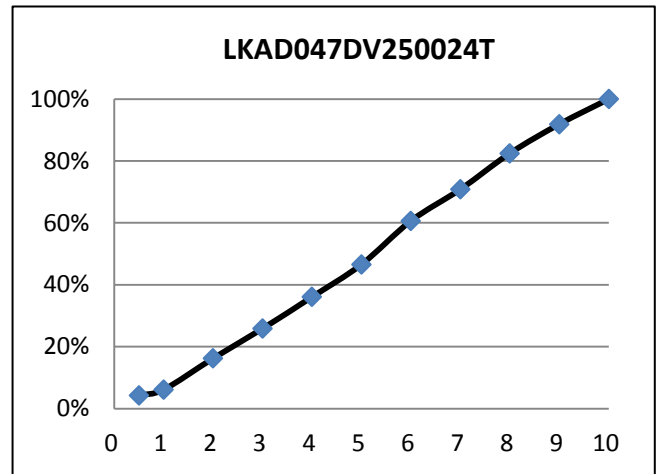
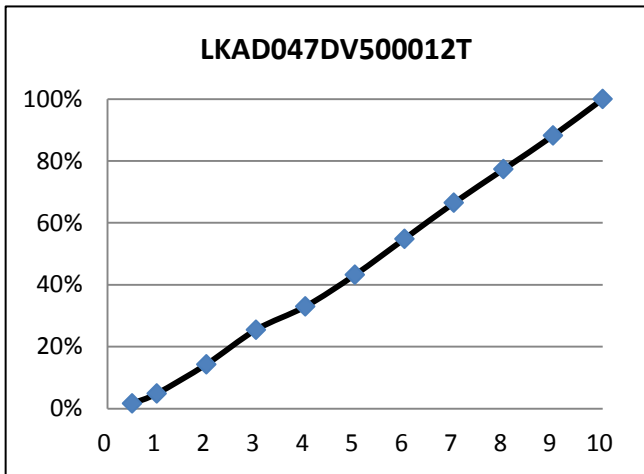


Compatibility Testing for Phase Dimmer

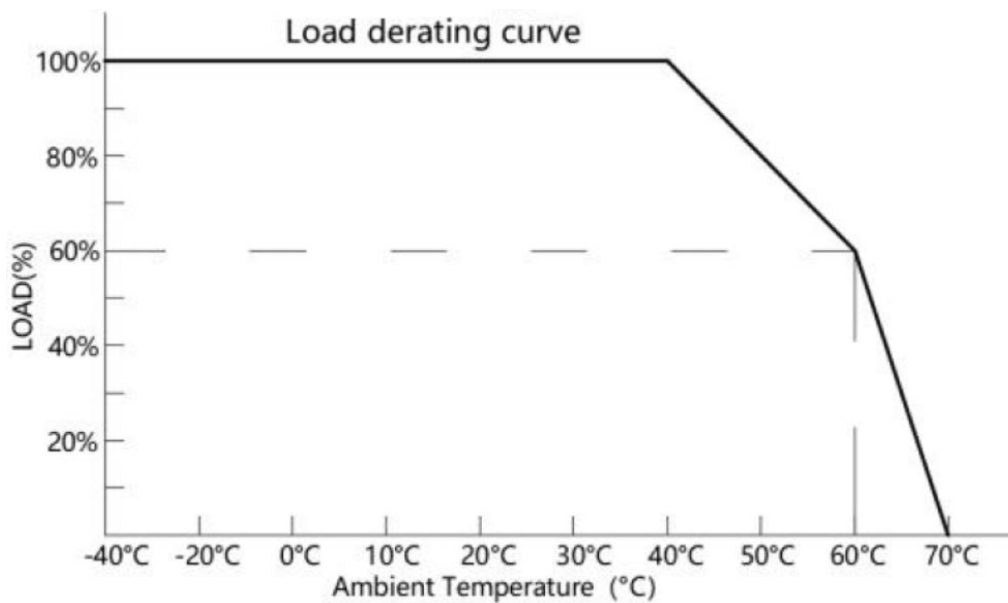
Test by EU Standard 240V dimmers				
Model: LKAD047DV500012T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	T&J 25-1000W	10.00	58.03	17.23%
2	Lautrupvang DK-275D	12.21	53.58	22.79%
3	TENGEN V5-TG/G	12.27	58.20	21.08%
4	Nader	10.30	58.41	17.63%
5	CLIPSAL 500VA	0.16	50.64	0.32%
6	Midea 220V 630W	11.21	58.25	19.24%
7	European-No 1	2.57	58.48	4.39%
8	TCL 630W 220V	0.18	58.40	0.31%
9	SHYUSLC UK-PRD400VA	8.14	53.47	15.22%
Model: LKAD047DV250024T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	T&J 25-1000W	8.25	57.81	14.26%
2	Lautrupvang DK-275D	10.10	50.00	20.20%
3	TENGEN V5-TG/G	10.24	59.95	17.08%
4	Nader	11.47	59.90	19.15%
5	CLIPSAL 500VA	0.12	52.00	0.23%
6	Midea 220V 630W	9.60	60.16	15.96%
7	European-No 1	3.30	59.95	5.50%
8	TCL 630W 220V	0.17	59.95	0.28%
9	SHYUSLC UK-PRD400VA	5.82	47.40	12.28%
Model: LKAD047DV125048T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	T&J 25-1000W	0.27	66.56	0.41%
2	Lautrupvang DK-275D	22.62	67.89	33.32%
3	European-No 2	20.50	60.70	33.77%
4	TENGEN V5-TG/G	13.75	66.94	20.54%
5	Nader	23.71	67.42	35.17%
6	CLIPSAL 500VA	0.13	59.62	0.22%
7	Midea 220V 630W	16.10	67.90	23.71%
8	European-No 1	0.58	68.33	0.85%
9	TCL 630W 220V	0.20	65.80	0.30%

Test by US Standard 120V dimmers				
Model: LKAD047DV500012T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	Lutron SB-1 600W	0.15	52.48	0.29%
2	LC211	2.77	50.10	5.53%
3	Lutron DVCL-253P-WH	3.40	56.70	6.00%
4	TLC-0005	6.15	54.00	11.39%
5	PEC-002	5.06	53.14	9.52%
6	LEVLTON 150W	2.40	49.47	4.85%
7	LEVLTON DSL06	4.80	50.98	9.42%
8	Lutron Scl-153P	4.75	46.61	10.19%
9	Lutron SELV-300P	3.65	52.13	7.00%
Model: LKAD047DV250024T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	Lutron SB-1 600W	1.16	53.05	2.19%
2	LC211	3.30	50.58	6.52%
3	Lutron TTCL100	4.30	52.00	8.27%
4	TLC-0005	6.30	55.00	11.45%
5	PEC-002	5.51	54.21	10.17%
6	TLC-0003	7.57	55.30	13.69%
7	LEVLTON 150W	2.00	51.05	3.92%
8	PanaSonic Wn3020	3.30	53.50	6.17%
9	Lutron scl-153P	4.83	43.36	11.14%
Model: LKAD047DV125048T				
NO	Dimmer Model	Min Watt (W)	Max Watt (W)	Dimming ratio (%)
1	Lutron SB-1 600W	12.15	59.90	20.28%
2	LC211	9.36	64.71	14.46%
3	Lutron DVCL-2539-WH	10.30	62.00	16.61%
4	TLC-0005	14.02	67.85	20.66%
5	PEC-002	14.35	65.80	21.81%
6	TLC-0003	15.30	68.00	22.50%
7	LEVLTON 150W	2.80	59.99	4.67%
8	LEVLTON DSL06	4.30	61.00	7.05%
9	Lutron scl-153P	12.29	59.63	20.61%

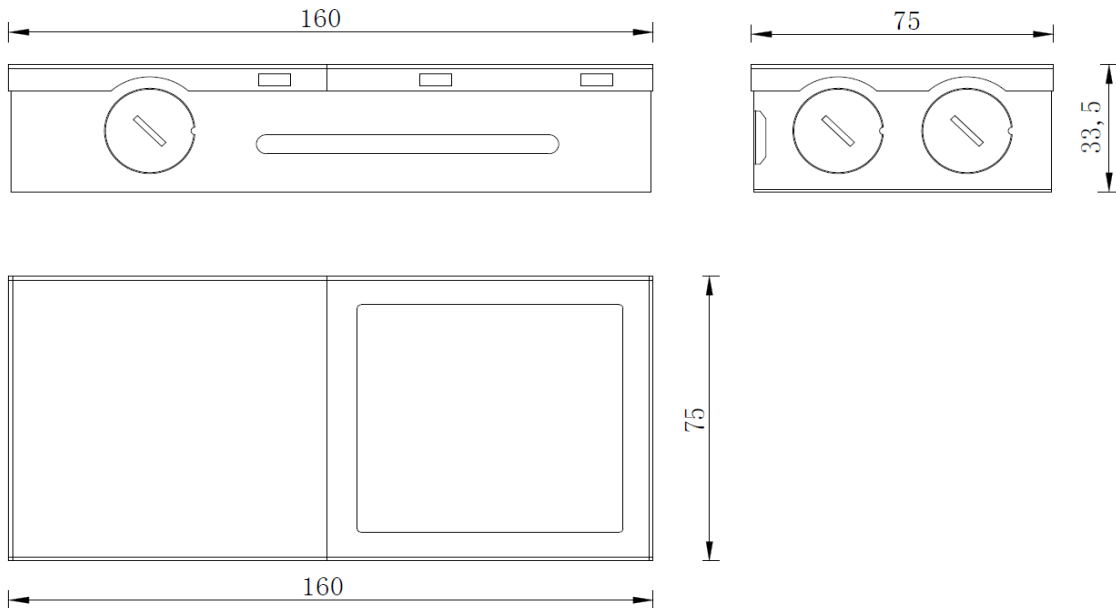
0-10V Dimming Curve



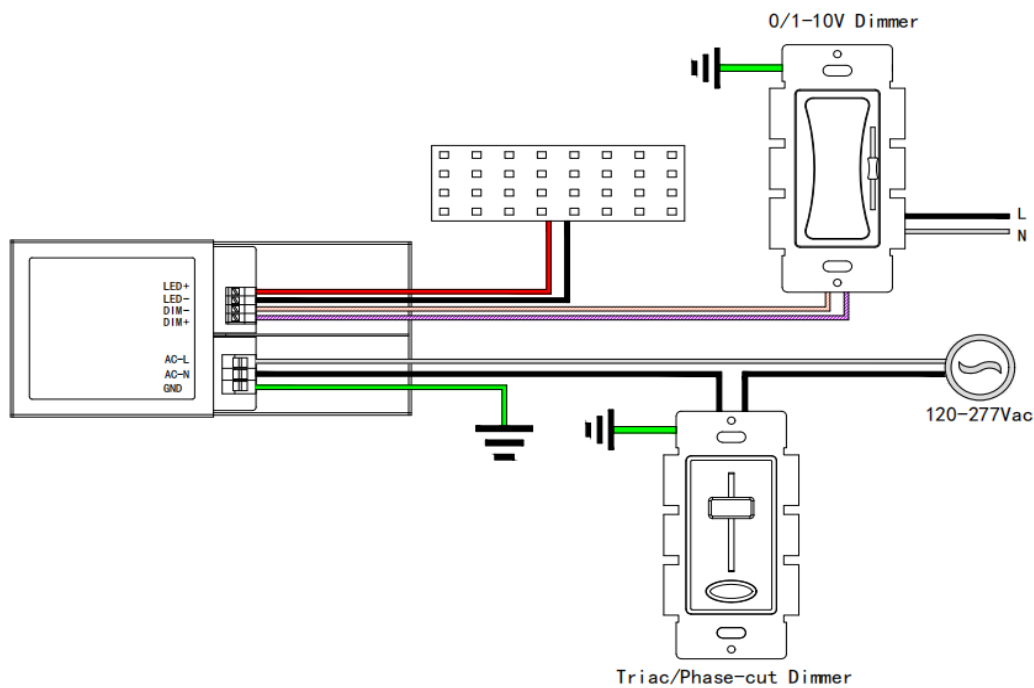
Derating Curve (output load vs TEMP.)



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