FEATURES

- Constant Power design, off-line programmable
- Single-channel with 12V/24V/36V/48V constant voltage output
- 3 in 1 dimming: 0-10V dimming, PWM, Resistor
- Dim-to-Off
- Surge protection: DM 6KV, CM: 10KV
- Multi-Protections: SCP/OVP/OTP/OLP
- IP67
- 5 years warranty

INTRODUCTION

L1-200 series is 200W current adjustable LED intelligent led driver, L1-200 series is a LED dimmable driver with constant voltage output, it can be used outdoor and achieve smooth dimming effect through external 0-10V active signal/PWM signal/adjustable resistor. 1-100% full dimming range,smooth dimming curve, flicker-free, high efficiency up to 93%.

KEY PARAMETERS

Model[1]	Max. Power (W)	Working mode	V.out [2] (Vdc)	I.out Max. (A)	Default Output Current (A)	Typ. Efficiency[3]		Typ. PF	
						120Vac	230Vac	120Vac	230Vac
L1-200X-012	150	C.V	12	12.5	12.5	91%	92%	0.98	0.96
L1-200X-024	200	C.V	24	8.33	8.33	92%	93%	0.98	0.96
L1-200X-036	200	C.V	36	5.56	5.56	92%	93%	0.98	0.96
L1-200X-048	200	C.V	48	4.17	4.17	92%	93%	0.98	0.96

NOTES:

[1] X=N/V/B， N=Non-dimming function,B=3-in-1 dimming function, V=I.out adjustable potentiometer.

[2] The V.out can be set by offline programmer set, For example, 12Vdc, 24Vdc, 36Vdc, 48Vdc
For details, see the Programmer Operation Instructions.

[3] Unless specify noted, all performance parameters are typically measured at 25℃, 230Vac input, full load.

TECHNICAL DATA

Input Characteristics	
Rated Input Voltage	100-240Vac (277Vac for North America only)
Input Voltage Range	90-305Vac
Input Frequency	47~63Hz
Input Current (Typ.)	2.3A @100-277Vac , 100% load
Standby Power	0.5W Max. @120Vac Dimming shutdown
Inrush Current	75A Max.@ 230Vac, 25℃, cold start
Power Factor (Typ.)	0.96 @ 100-240Vac, 100% load
THD	THD<15% @ 100-240Vac, 100% load

Output Characteristics	
Output Voltage	Refer to ‘’KEY PARAMETERS”
Voltage Accuracy	± 5%
Efficiency	92% @120 Vac & full load, 93% @230Vac & full load (typ. value)
Ripple and noise(max)	12V: 150mVp-p 24V: 240mVp-p 36V: 360mVp-p 48V: 480mVp-p
Line Regulation	3%
Load Regulation	3%
Turn-On Delay Time	0.5S Max. @ 230VAC / 1.0S Max. @120VAC
Programmable Current Output Range	The range of nominal current can be adjusted by controller programming; The total output power exceeds the Max. power (actual output voltage * actual output current=power), which cannot be covered by the warranty.
Protective Function	
Input Over Voltage Protection	When the AC input voltage exceeds 330V, it will stop working, and the voltage will automatically recover when the voltage drops below 305V (optional function)
Output Over Voltage Protection	When the product exceeds the limit range, it enters the protected state. After the fault is removed, the product will resume working state.
Dimming Over Voltage Protection	When the dimming wires is wrongly connected to 230Vac, the product enters the protection state. When the fault is eliminated or the machine is restarted, the power supply returns to normal operation (optional function)
Output Over Current Protection	Hiccup mode. When the fault is removed and the power is restarted, the power supply will return to normal operation.
Short Circuit Protection	Hiccup mode. When the output short circuit is removed and the power is restarted, the power supply will return to normal operation.
Over Temperature Protection	Drop current mode. When the over temperature is removed, the current will automatically resume.
Environmental Conditions	
Operating Temperature	-40℃ ~ +90℃ (T case)
Humidity	10% - 90% RH, (not condensed)
Storage Temperature	-40℃ to +75℃
Storage Humidity	10% - 90%RH, Non-condensing (sea level to 2000 meters)
Vibration	10 - 500Hz X, Y, Z vertical axes vibrate at a constant acceleration of 1.0G (depth 3.5mm) for 1 hour
Degree Of Protection	IP67
Reliability	
Lifetime	≥5 years @230Vac, 100% load. See Life Cycle and Tc Curves for details
MTBF	≥ 200,000H@ 25℃, 230Vac, 80% load (MIL-HDBK-217F)
Warranty	5 years (Tc: 75℃)
Others	
Size	L191*W62*H36mm
Weight	790 ± 75 g
Package (with inner box)	L420mm*W270mm*H195mm 20PCS/Ctn, N.W.: 10.5Kg ± 10%, G.W.: 11.5Kg ± 10%

NOTES

1. It is recommended that customers install over-voltage protection and surge protection devices in the power supply circuit of lamps to ensure the safety of electricity use.
2. The power supply is used as a component of the whole lamp in combination with the terminal equipment. Because the EMC performance is affected by the LED lamps and wiring, the terminal equipment manufacturing,The manufacturer needs to re-confirm the EMC of the whole device.
3. Please use a special programmer to adjust the current of the power supply, and program and write through the dimming light.
4. When adjusting the output current of the power supply, please ensure that the total output power does not exceed the rated maximum power.
5. Unless otherwise specified, the above parameters are the test results under the conditions of ambient temperature 25℃, humidity 50%, 100% load, and input voltage 230Vac.

DIMMING FEATURES

Dimming type	Parameter	Min.	Typ.	Max.	Remark
0-10V Positive logic	Signal level	0V	-	10V	Max Voltage ≤ 12Vdc
	Dimming range	10%	-	100%	Percentage of Output current programmed
	Shutdown level	0.6V	0.7V	0.8V	
	Turn on level	0.75V	0.85V	0.95V	
PWM	High level	9.7V	-	10.3V	
	Low level	0V	-	0.3V	
	Frequency	200Hz	1KHz	2KHz	
	Duty cycle	5%	-	100%	Positive logic dimming
Dimming resistor	Resistance	10kΩ	-	100kΩ	
	Dimming range	10%	-	100%	Positive logic dimming

SAFETY CRITERION

Safety Category	Country / Territory	Criterion	Approved
CCC	China	GB19510.1, GB19510.14	√
CE	Europe	EN61347-1, EN61347-2-13	√
		EN62493	√
ENEC		EN62384	√
CB	CB countries	IEC61347-1, IEC61347-2-13， IEC62493	√
EAC	Russia	IEC61347-1, IEC61347-2-1，	
BIS	India	IS 15885(PART 2/SEC 13)	
UL	USA	UL 8750， UL1310,UL1012	√
cUL	Canada&USA	CSA C22.2 No.250.13	√
KC	Korea	K61347-1, K61347-2-13	
PSE	Japan	J61347-1, J61347-2-13	
SAA	Australia	AS/NZS IEC 61347.2.13	√
		AS/NZS 61347.1	√
DALI-2	Globe countries	IEC62386-101, IEC63286-102, IEC63286-207	

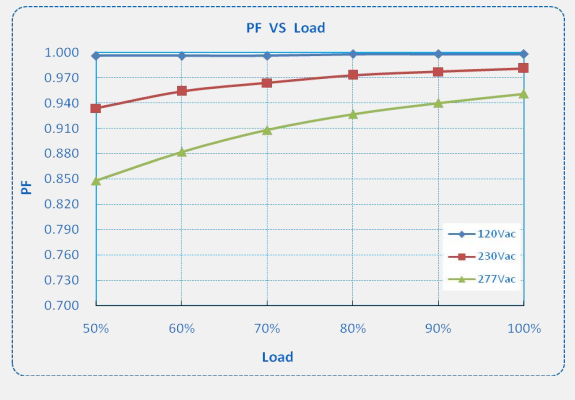
EMC Compliance

EMC Category	Country / Territory	Criterion	Approved
CCC	China	GB/T 17743, GB 17625.1	√
CE	Europe	EN 55015	√
		EN 61000-3-2, EN 61000-3-3	√
		EN61000-4-2,3,4,5,6,11	√
		EN 61547	√
EAC	Russia	IEC 61354,IEC61000-3-2, IEC61000-3-3	
KC	Korea	K61547	
		K00015	
PSE	Japan	J55015	
FCC	USA	FCC part 15	

NOTES:

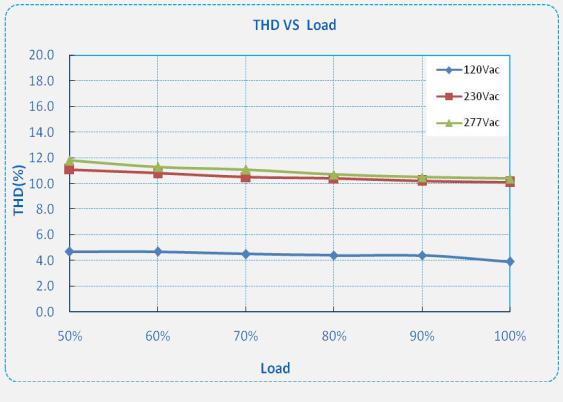
1. The LED Driver itself meets with EMC standard. However, LED Driver's EMC should be re-checked when integrated into lighting systems due to unexpected interference as component.
2. Please short L and N, LED+ and LED-, Dim+ and Dim - when Hi-pot test.

PF VS LOAD CURVE



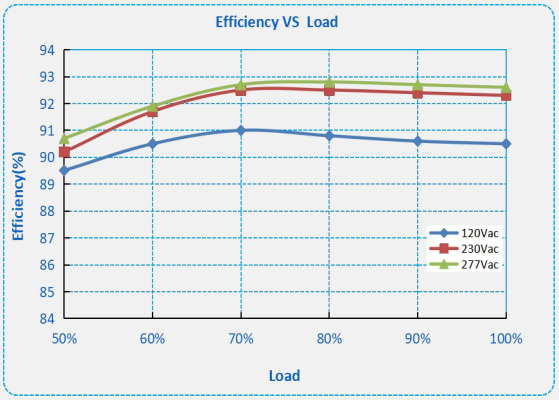
L1-200X Series

THD CURVE

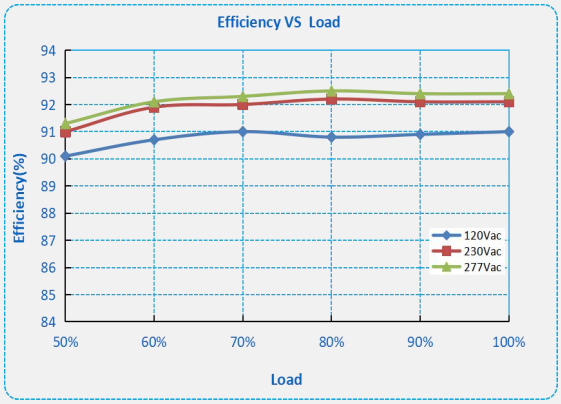


L1-200X Series

EFFICIENCY VS. LOAD

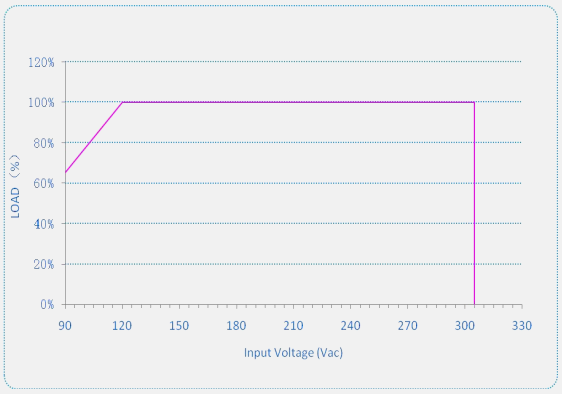


L1-200X-012/024

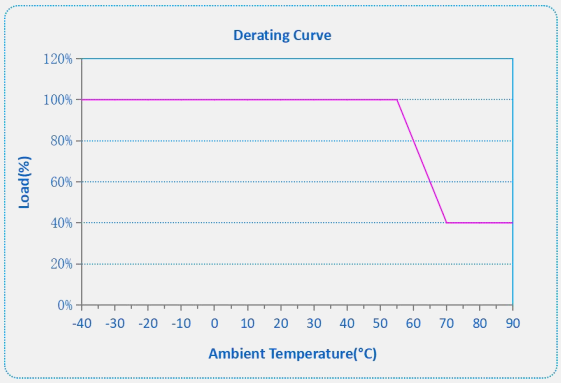


L1-200X-036/048

DERATING CURVE

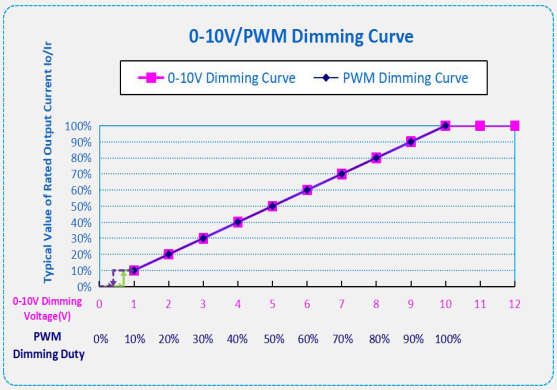


Output Power Vs.Input Voltage



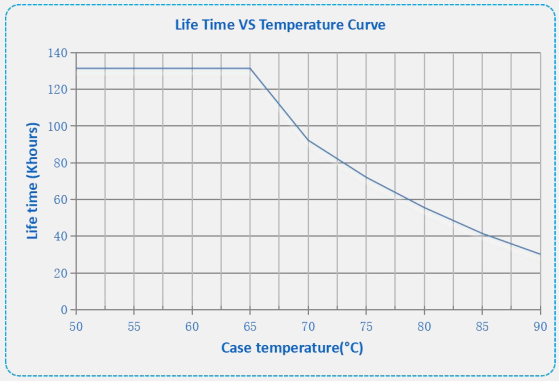
Output Power Vs. Tcase

Dimming Curve



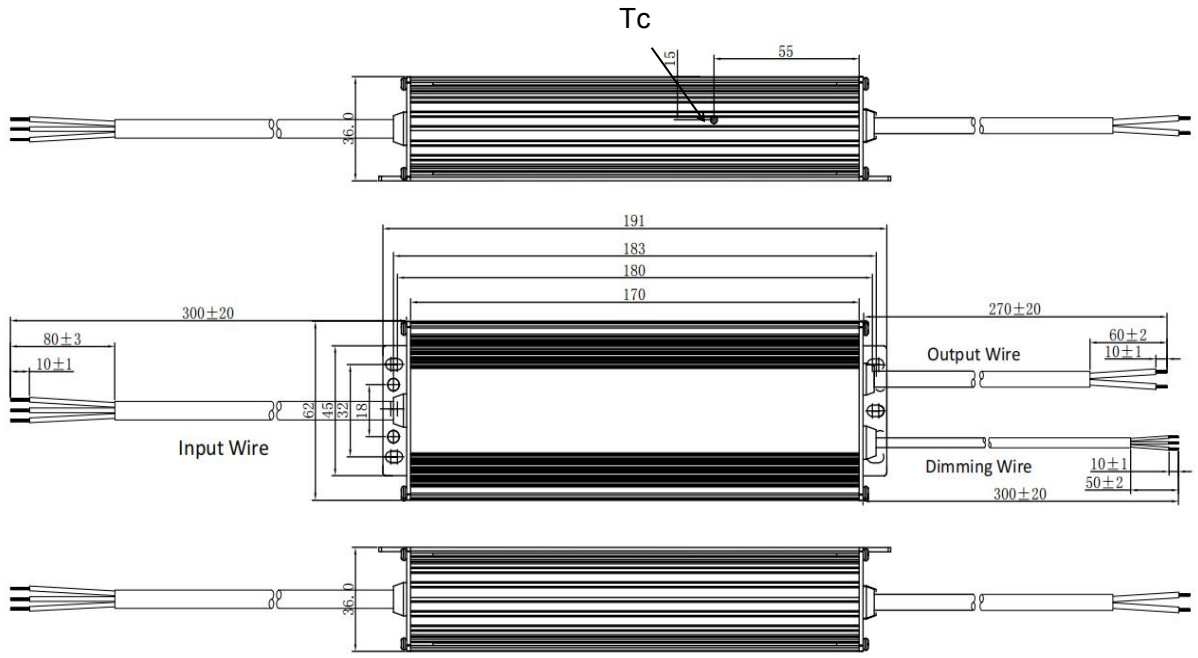
0-10V/PWM/Rx

Life Vs Tc



Life Vs.T case

Mechanical Outline (unit:mm)



Wires	Specification	Remark
Input Wires	H05RN-F 3x1.0mm² 300/500V L=300±20mm Brown: L, Blue: N, Yellow / Green: PE	CCC/VDE or UL
Output Wires	H05RN-F 2x1.0mm²/1.5mm² 300/500V L=270±20mm Red: LED+, Black: LED -	CCC/VDE or UL
Dimming Wires (optional)	UL2517 22AWG*2C L=300±20mm Purple: DIM+, Pink: DIM-	UL

Installation considerations

1. The lightning protection level of the power supply meets the standard requirements of IEC61000-4-5 and other countries. If it is used in lightning-prone areas or areas with relatively complex power grid environment, it is recommended to install a professional lightning protection module on the AC input end of the power supply.
2. Please insulate and waterproof the dimming cable when it is not in use
3. The voltage-withstand of LED chip and Aluminum PCB >3KV
4. Safety space between Aluminum PCB and LED coppers >5mm.
5. The safety distance between LED+ and LED- on Aluminum PCB>1.8mm
6. Minimize copper on Aluminum PCB to reduce junction capacitance and leakage current
7. LED chip is recommended to be designed in parallel first and then in series

REVISION HISTORY

Version	Description of Change		Changed Date	Notes
	Before	Now		
A1.0	Release	---	2023/3/1	