



## FEATURES

- ✓ Constant Power design, off-line programmable
- ✓ Single-channel with 12V/24V/36V/48V constant voltage output
- ✓ Class 2 Power ( $\leq 75W$ )
- ✓ 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

L1-075 series is 75W current adjustable LED intelligent led driver, L1-075 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 88%.

## KEY PARAMETERS

| Model <sup>[1]</sup> | Max. Power (W) | Working mode | V.out <sup>[2]</sup> (Vdc) | I.out Max. (A) | Default Output Current (A) | Typ. Efficiency <sup>[3]</sup> |        | Typ. PF |        |
|----------------------|----------------|--------------|----------------------------|----------------|----------------------------|--------------------------------|--------|---------|--------|
|                      |                |              |                            |                |                            | 120Vac                         | 230Vac | 120Vac  | 230Vac |
| L1-075X-012          | 75             | C.V          | 12                         | 6.25           | 6.25                       | 86%                            | 87%    | 0.98    | 0.96   |
| L1-075X-024          | 75             | C.V          | 24                         | 3.12           | 3.12                       | 86%                            | 87%    | 0.98    | 0.96   |
| L1-100X-036          | 75             | C.V          | 36                         | 2.08           | 2.08                       | 87%                            | 88%    | 0.98    | 0.96   |
| L1-100X-048          | 75             | C.V          | 48                         | 1.56           | 1.56                       | 87%                            | 88%    | 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°C, 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.)  | 1.0A @100-277Vac, 100% load                |
| Standby Power         | 0.5W Max. @120Vac Dimming shutdown         |
| Inrush Current        | 75A Max.@ 230Vac, 25°C, cold start         |
| Power Factor ( Typ. ) | 0.96 @ 100-240Vac, 100% load               |



|                                   |  |
|-----------------------------------|--|
| THD                               | THD<15% @ 100-240Vac, 100% load  |
| <b>Output Characteristics</b>     |  |
| Output Voltage                    | Refer to "KEY PARAMETERS"  |
| Voltage Accuracy                  | ± 5%   |
| Efficiency                        | 87% @120 Vac & full load, 88% @230Vac & full load (typ. value)   |
| Ripple and noise(max)             | 12V: 150mVp-p<br>24V: 240mVp-p<br>36V: 360mVp-p<br>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.      |
| <b>Protective Function</b>        |  |
| 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.  |
| <b>Environmental Conditions</b>   |  |
| 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   |
| <b>Reliability</b>                |  |
| 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℃)  |
| <b>Others</b>                     |  |
| Size                              | L133*W62*H32mm   |
| Weight                            | 510 ± 50 g   |



|  |   |
|--|---|
| Package<br>(with inner box)  | L420mm*W270mm*H195mm<br>20PCS/Ctn, N.W.: 10.5Kg ± 10%, G.W.: 11.5Kg ± 10% |
| <b>NOTES</b>   |   |
| <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>3. Please use a special programmer to adjust the current of the power supply, and program and write through the dimming light.</li> <li>4. When adjusting the output current of the power supply, please ensure that the total output power does not exceed the rated maximum power.</li> <li>5. Unless otherwise specified, the above parameters are the test results under the conditions of ambient temperature 25°C, humidity 50%, 100% load, and input voltage 230Vac.</li> </ol> |   |

## ■ DIMMING FEATURES

| Dimming type               | Parameter      | Min.  | Typ.  | Max.  | Remark                                  |
|----------------------------|----------------|-------|-------|-------|---|
| 0-10V<br>Positive<br>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<br>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 |          |

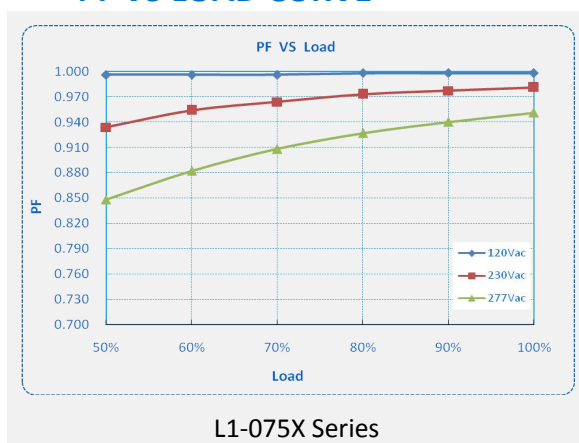
## EMC Compliance

| 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                          |          |

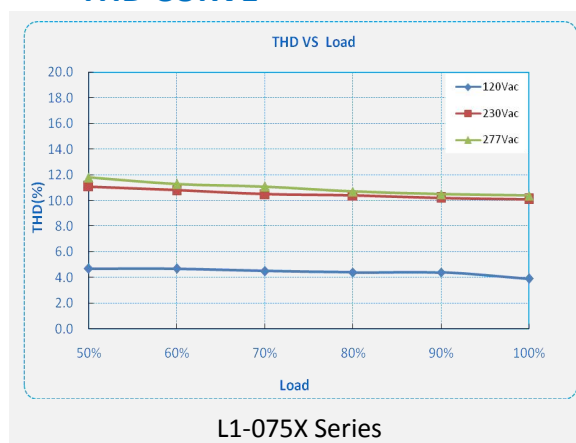
### NOTES:

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.

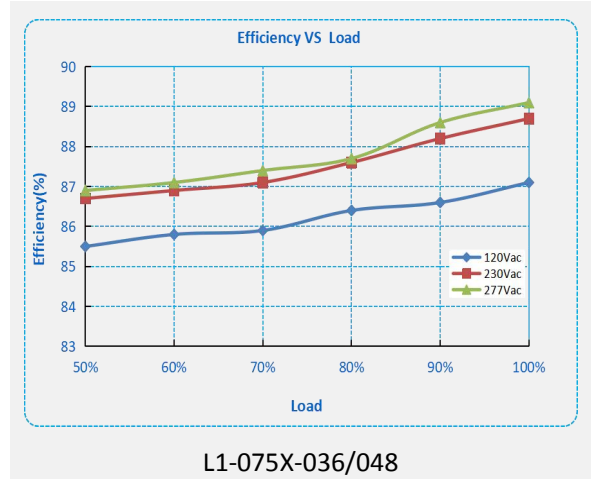
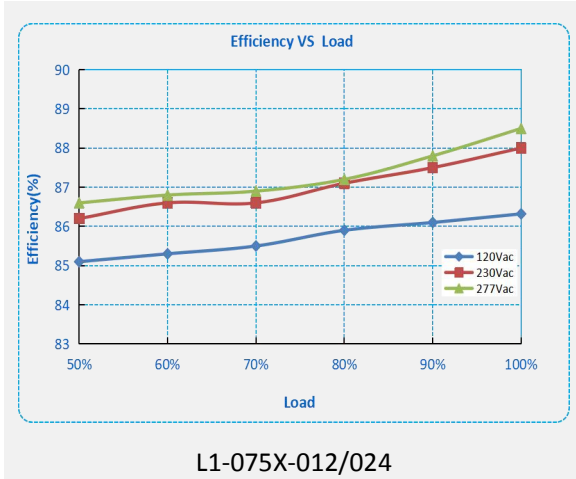
## PF VS LOAD CURVE



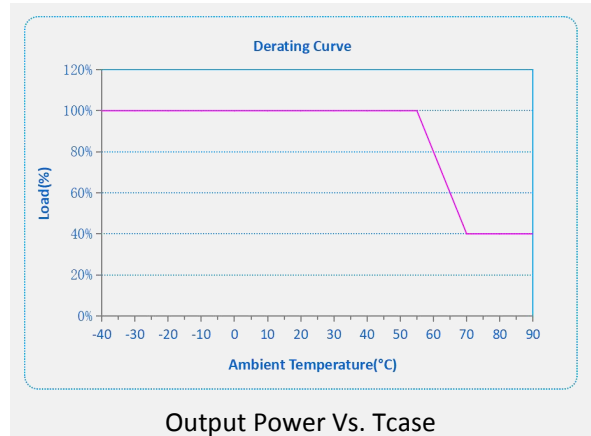
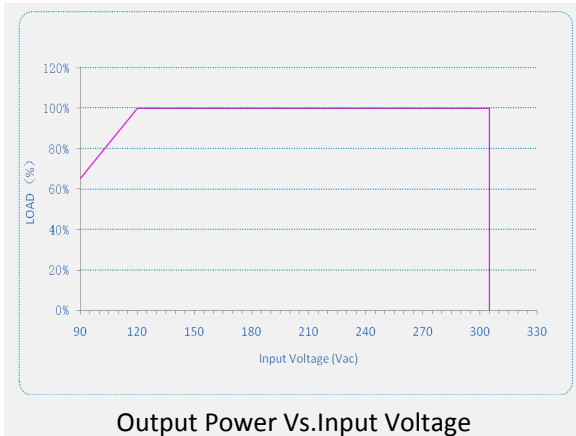
## THD CURVE



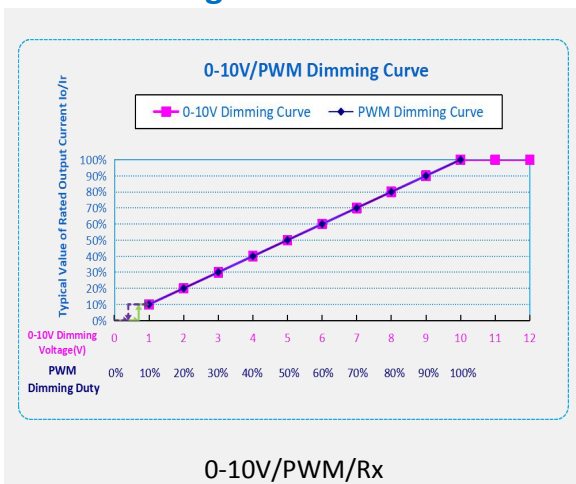
## EFFICIENCY VS. LOAD



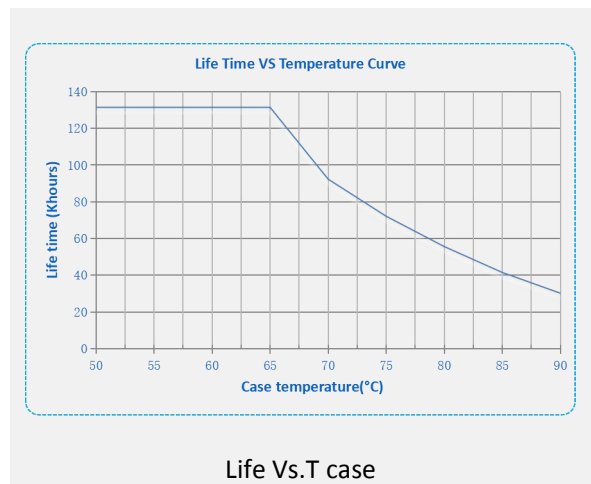
## DERATING CURVE



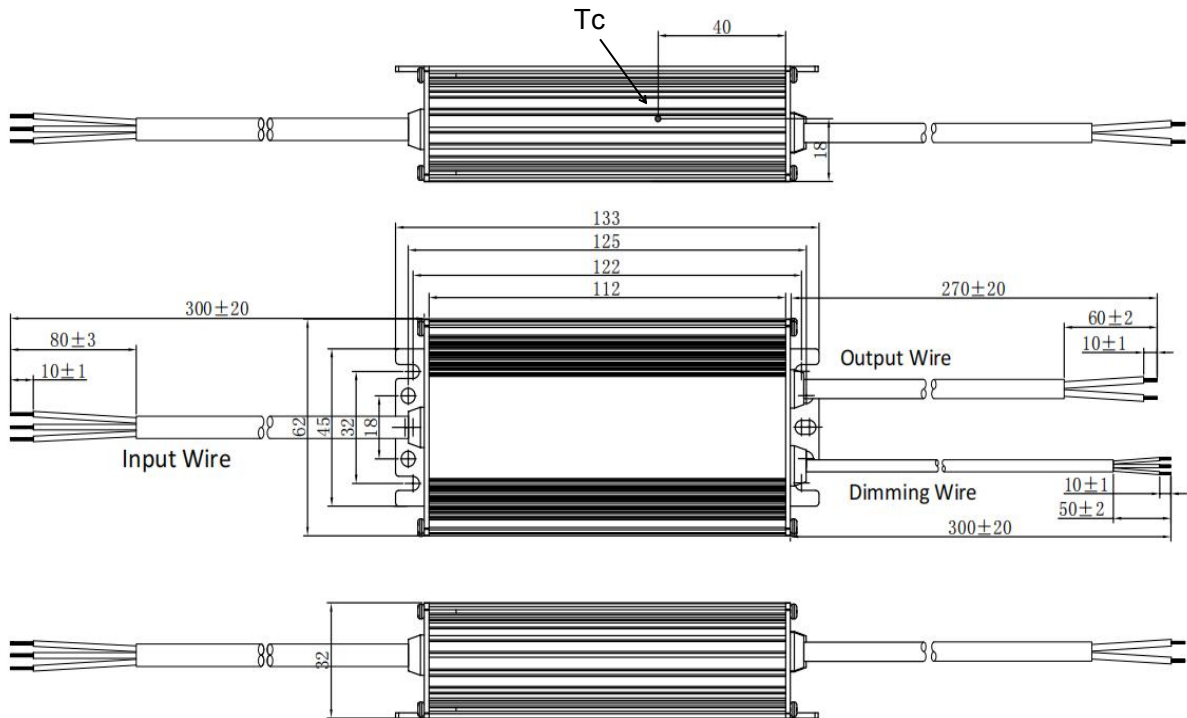
## Dimming Curve



## Life Vs Tc



## Mechanical Outline (unit:mm)



| Wires                       | Specification  | Remark        |
|-----------------------------|--|---------------|
| Input Wires                 | H05RN-F 3x1.0mm <sup>2</sup> 300/500V L=300±20mm<br>Brown: L, Blue: N, Yellow / Green: PE            | CCC/VDE or UL |
| Output Wires                | H05RN-F 2x0.75/1.0mm <sup>2</sup> /1.5mm <sup>2</sup> 300/500V L=270±20mm<br>Red: LED+, Black: LED - | CCC/VDE or UL |
| Dimming Wires<br>(optional) | UL2517 22AWG*2C L=300±20mm<br>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



