

## Description

The X6E series is outdoor programmable LED driver that operates in constant current with high PF value and full power input voltage range 176~305Vac model, the X6E series also provide multiple isolated dimming controls, Dim-to-Off. It also helps clients to improve the management of logistics and stock. The compact metal case and high efficiency enables the driver to operate with high reliability. It provides extreme durability with an IP67 rating and extends product lifetime. Overall protection is provided against lightning surge, output over voltage, short circuit and over temperature to ensure low failure rate.



## Product Features

- Universal input voltage: 90~305Vac;
- Full power work range: 176~305Vac;
- Isolate constant power design;
- 3-in-1 dimmable: 0~10Vdc / PWM/ Timer dimming;
- Off-line programmable with configurable operating windows;
- Programmable Constant Lumen Output (CLO) ;
- Output and Dimming Signal Isolating;
- High surge protection: 6KV line-line, 10KV line-earth;
- Protections: SCP / OVP / OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty;

## Application

Road and street lighting,  
 Tunnel lighting  
 Area and flood lighting  
 High-bay lighting

## Models

| Model Number | Input Voltage Range (Vac) | MAX Output Power (W) | Output Voltage Range (Vdc) | Full Power Output Current Range (A) | Default Current(A) | Eff. (Typ.) | PF(Typ.) | THD(Typ.) |
|--------------|---------------------------|----------------------|----------------------------|-------------------------------------|--------------------|-------------|----------|-----------|
| X6E-075M075  | 100~277                   | 75                   | 42~75                      | 1.0~1.5                             | 1.5                | 90.5%       | 0.97     | 8%        |

### NOTES:

- [1]. M means 0-10V/PWM dimming.  
 [2]. All specifications are measured at 25°C ambient temperature, input voltage 230Vac, and the typical value tested at full load, if no specific note.

## Input Specifications

| Parameter                       | Min    | Typ.       | Max    | Notes                                         |
|---------------------------------|--------|------------|--------|-----------------------------------------------|
| Input Voltage Range             | 90Vac  | 220~240Vac | 305Vac |                                               |
| Full Power Work Range           | 176Vac | 220~240Vac | 277Vac | Refer to Output Power vs. Input Voltage curve |
| Input Frequency AC              | 47Hz   | 50/60Hz    | 63Hz   |                                               |
| Max Input Current               | -      | -          | 0.7A   |                                               |
| Max Input Power                 | -      | -          | 90W    |                                               |
| Leakage Current                 | -      | -          | 0.70mA | IEC 60598-1; 240Vac/60Hz                      |
| Inrush Current                  | -      | -          | 75A    | 240Vac, 100% load                             |
| Power Factor (PF)               | 0.93   | 0.95       | -      | 220-240Vac, 50-60Hz, 70%-100% load            |
| Total Harmonic Distortion (THD) | -      | 10%        | 15%    | 220-240Vac, 50-60Hz, 70%-100% load            |
| MCB(B16)                        | -      | 9          | -      | 230Vac; 100% load                             |

## Output Specifications

| Parameter                           | Min   | Typ. | Max    | Notes                                                                                      |
|-------------------------------------|-------|------|--------|--------------------------------------------------------------------------------------------|
| Output Voltage Range                | 42Vdc | -    | 75Vdc  | The full power cannot be lower than 50Vdc                                                  |
| Open Circuit Voltage                | -     | -    | 110Vdc |                                                                                            |
| Output Current Range                | 0.15A | -    | 1.5A   | Adjustable Output Current with programmer                                                  |
| Full Power Current Range            | 1.0A  | -    | 1.5A   |                                                                                            |
| Current Accuracy                    | -5%   | -    | +5%    |                                                                                            |
| Total Output Current Ripple (pk-pk) | -     | 10%  | 15%    | 20MHz BW full load & LED load the LED load ripple is slightly different for different leds |
| Startup Overshoot Current           | -     |      | 10%    | 220-240Vac full load condition, LED load                                                   |
| Line Regulation                     | -3%   | -    | +3%    | 25°C±10°C ambient temperature, input changes from 200Vac to 264Vac                         |
| Load Regulation                     | -3%   | -    | +3%    | Load varies from 70% to 100% with 230Vac Input at 25°C ±10°C ambient temperature           |
| Turn-on Delay Time                  | -     | -    | 1.0s   | 240Vac, 100% load                                                                          |

## General Specifications

| parameter                               | Min                                          | Typ.           | Max   | Notes                                                                                         |
|-----------------------------------------|----------------------------------------------|----------------|-------|-----------------------------------------------------------------------------------------------|
| Efficiency@230Vac<br>Io=1.5A<br>Io=1.0A | 90%<br>90%                                   | 90.5%<br>90.5% | -     | 100% load, 25℃ ambient temperature                                                            |
| Mean Time Between Failure               | -                                            | 200Khours      | -     | 25℃±10℃ ambient temperature, 230Vac, 80% load condition (MIL-HDBK-217/SR-332)                 |
| Lifetime                                | -                                            | 50Khours       | -     | 230Vac & 100% load, Tc 75℃, refer to lifetime vs. case temperature curve                      |
| Operating Temperature Ta                | -40℃                                         | -              | +55℃  | Output Power vs. Ambient Temperature curve                                                    |
| Operating Tc for Safety Tc_s            | -40℃                                         | -              | +90℃  |                                                                                               |
| Operating Tc for Warranty Tc_w          | -40℃                                         | -              | +75℃  | 5-year warranty shell temperature, humidity: 10% to 95% RH                                    |
| Storage Temperature Ta                  | -40℃                                         | -              | +85℃  | Humidity: 5% to 100% RH                                                                       |
| Altitude                                | -60m                                         | -              | 4000m |                                                                                               |
| Input Under voltage Protection          | 65Vac                                        | 75Vac          | 85Vac | Turn off the output or hiccup when the input voltage falls below protection voltage.          |
| Over Temperature Protection Tc          | -                                            | 90℃            | -     | Decreases output current, returning to normal after over temperature is removed.              |
| Short Circuit Protection                | -                                            | -              | -     | Constant current mode. The output shall return to normal when the fault condition is removed. |
| Dimensions (L*W*H)                      | 128*68*37mm                                  |                |       |                                                                                               |
| Net Weight                              | 550±50g/PCS                                  |                |       |                                                                                               |
| Package (L*W*H)                         | 488*298*200mm; 15PCS/Ctn, Gross Weight: 10Kg |                |       |                                                                                               |

## Dimming

| Parameter                     | Min                  | Typ.  | Max                   | Notes                                           |
|-------------------------------|----------------------|-------|-----------------------|-------------------------------------------------|
| Absolute Maximum Voltage      | -                    | 10V   | 15V                   | On the Vdim (+) Pin                             |
| Source Current on Vdim (+)Pin | -                    | 200uA | 400uA                 |                                                 |
| Dimming Range                 | 10% I <sub>set</sub> | -     | 100% I <sub>set</sub> | I <sub>set</sub> is set to the full power range |
| Suggest Dimming Input 0-10V   | 0V                   | -     | 10V                   |                                                 |
| Turn-on Voltage               | 0.7V                 | -     | 1.0V                  |                                                 |
| Turn-off Voltage              | 0.4V                 | -     | 0.7V                  |                                                 |
| PWM in High Level             | 9.7V                 | -     | 10.3V                 |                                                 |
| PWM in Low Level              | 0V                   | -     | 0.3V                  |                                                 |
| PWM in Frequency Range        | 300Hz                | -     | 2KHz                  |                                                 |
| PWM in Duty Cycle             | 1%                   | -     | 99%                   |                                                 |
| Turn-on Duty Cycle            | 7%                   | -     | 10%                   |                                                 |
| Turn-Off Duty Cycle           | 4%                   | -     | 7%                    |                                                 |
| Timer dimming                 | -                    | -     | -                     | 3 types, which is set by software               |
| Output lumen compensation     | -                    | -     | -                     | Constant lumen output function                  |

## Safety Specification

|                                      |      |         |      |                                                        |
|--------------------------------------|------|---------|------|--------------------------------------------------------|
| Dielectric Strength (Input-Output)   | -    | 3750Vac | -    | 60S, Current not exceeding 5mA                         |
| Dielectric Strength (Input-Ground)   | -    | 1875Vac | -    | 60S, Current not exceeding 5mA                         |
| Dielectric Strength (Output-Ground)  | -    | 500Vac  | -    | 60S, Current not exceeding 5mA                         |
| Dielectric Strength (Input-Dimming)  | -    | 3750Vac | -    | 60S, Current not exceeding 5mA                         |
| Dielectric Strength (Dimming-Ground) | -    | 500Vac  | -    | 60S, Current not exceeding 5mA                         |
| Grounding Resistance                 | -    | -       | 0.1Ω | 25°C ±10°C Ambient Temperature, pass 25A Current, 60s. |
| Insulation Resistance                | 10MΩ | -       | -    | Input-Output, Input-PE, Output-PE, 500Vdc/60s/25°C     |

## Safety Compliance

| Safety Category | Standards                                 | Approved | Notes |
|-----------------|-------------------------------------------|----------|-------|
| CCC             | GB/T 19510.213, GB/T 19510.1              | √        |       |
| CE              | EN61347-1, EN61347-2-13, EN62493          | √        |       |
| ENEC            | EN61347-1, EN61347-2-13, EN62384          | √        |       |
| CB              | IEC61347-1, IEC61347-2-13                 | √        |       |
| BIS             | IS 15885(PART 2/SEC 13)                   |          |       |
| UL              | UL 8750                                   |          |       |
| CUL             | CSA C22.2 No.250.13                       |          |       |
| KC              | K61347-1, K61347-2-13                     |          |       |
| PSE             | J61347-1, J61347-2-13                     |          |       |
| SAA             | AS 61347.2.13, AS/NZS 61347.1             | √        |       |
| EAC             | ГОСТ Р МЭК 61347-1<br>ГОСТ IEC 61347-2-13 | √        |       |

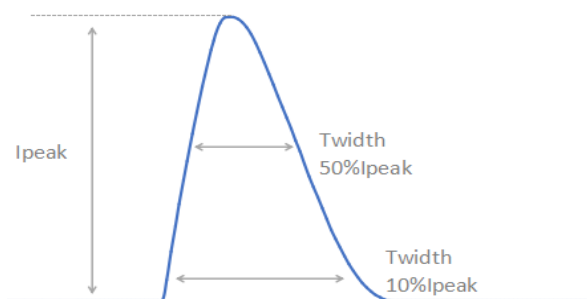
## EMC Compliance

| EMC Category         | Standards                                                        | Approved | Notes |
|----------------------|------------------------------------------------------------------|----------|-------|
| CCC                  | GB/T 17743, GB 17625.1                                           | √        |       |
| CE                   | EN 55015                                                         | √        |       |
| CE                   | EN 61000-3-2, EN 61000-3-3                                       | √        |       |
| CE                   | EN61000-4-2,3,4,5,6,11                                           | √        |       |
| CE                   | EN 61547                                                         | √        |       |
| KC                   | K61547                                                           |          |       |
| KC                   | K00015                                                           |          |       |
| PSE                  | J55015                                                           |          |       |
| FCC                  | FCC part 15                                                      |          |       |
| Surge Shock Immunity | ANSI/C82.77-5-2017                                               |          |       |
| Ringing Wave         |                                                                  |          |       |
| EAC                  | ГОСТ IEC 62493, СТБ EH 55015<br>ГОСТ IEC 61547                   | √        |       |
| EAC                  | ГОСТ 30804.3.2 (IEC 61000-3-2)<br>ГОСТ 30804.3.3 (IEC 61000-3-3) | √        |       |

## RoHS

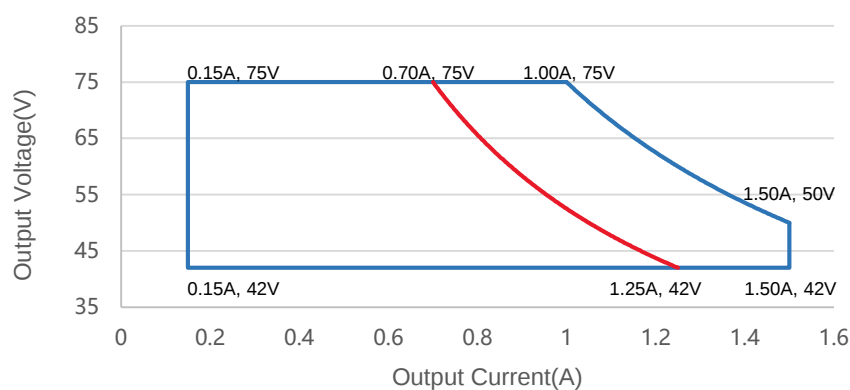
Our products comply with reference to RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

## Inrush Current



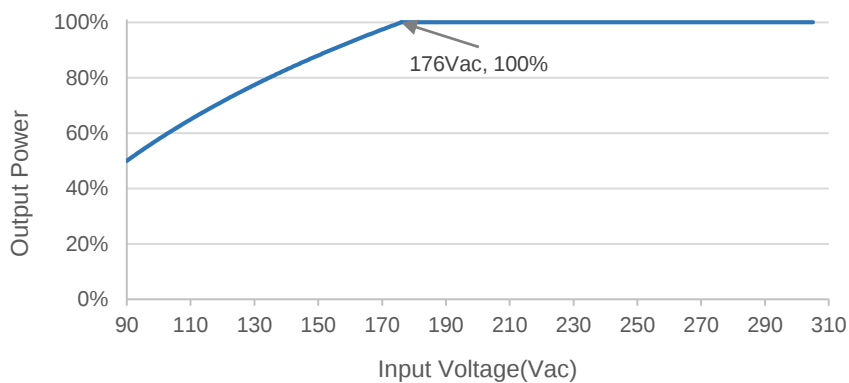
| Vin    | Ipeak | T(@10% of Ipeak) | T(@50% of Ipeak) |
|--------|-------|------------------|------------------|
| 230Vac | 52.5A | 480μs            | 200μs            |

## Output Voltage vs. Output Current

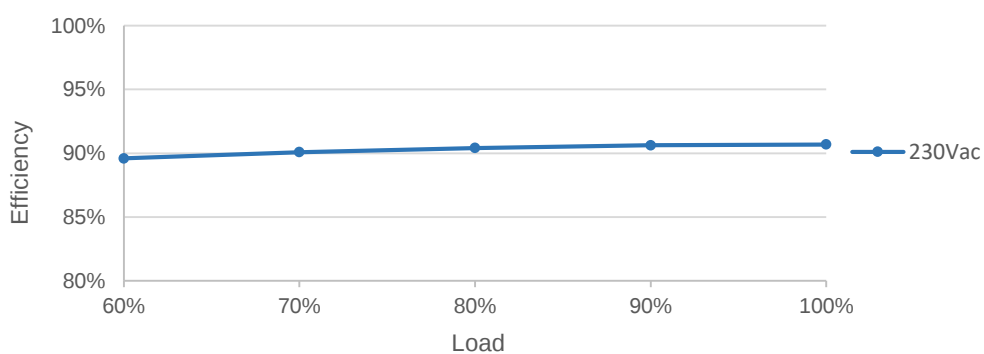


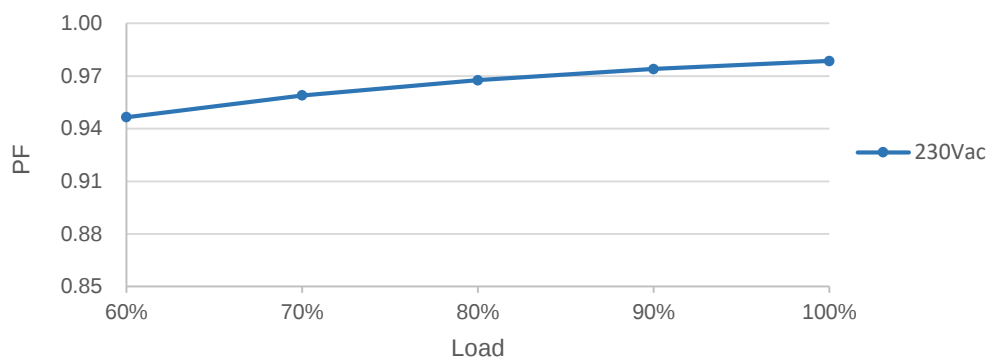
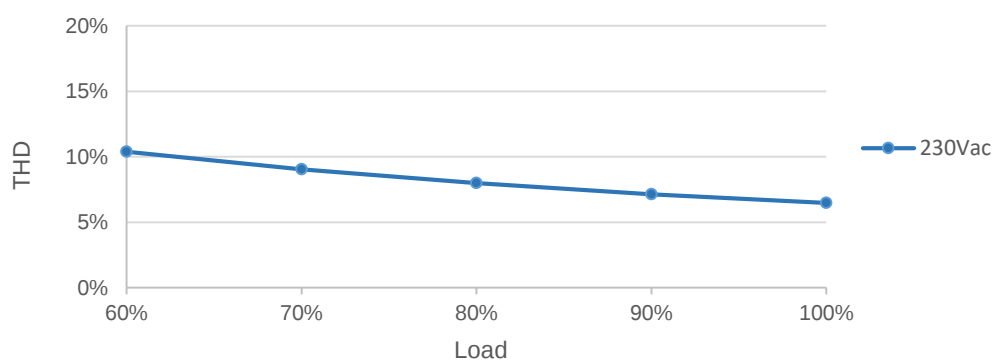
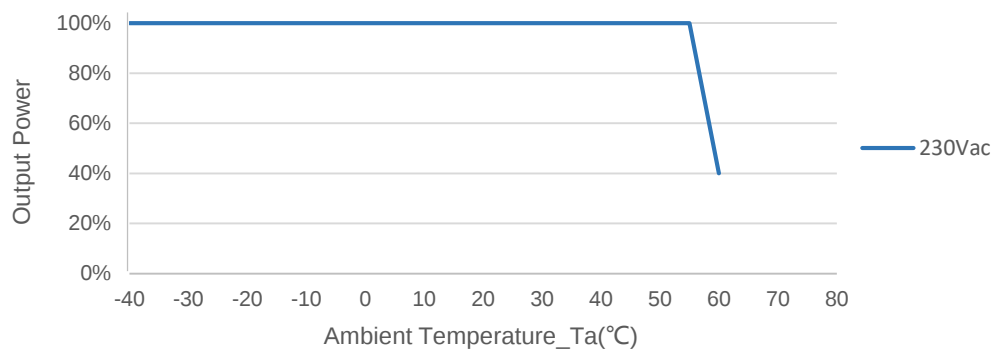
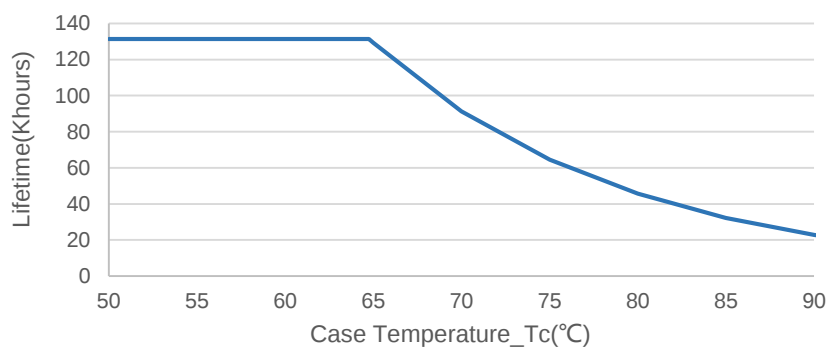
Red curve: good performance area

## Output Power vs. Input Voltage

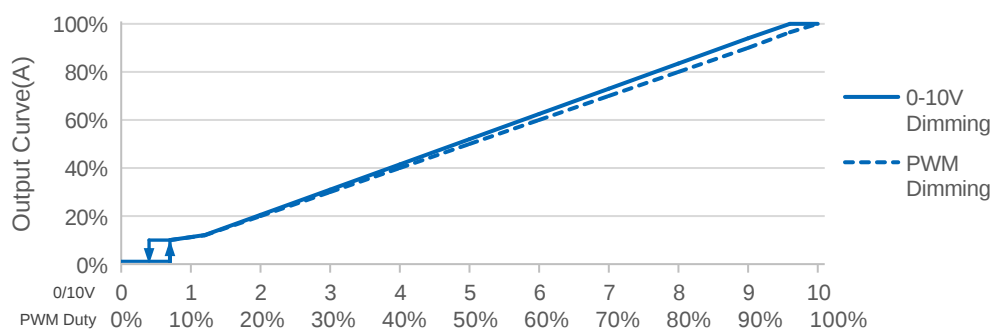


## Efficiency vs. Load



**PF vs. Load****THD vs. Load****Output Power vs. Ambient Temperature****Lifetime vs. Case Temperature**

## 0-10V/PWM Dimming



Note: Afterglow may appear after switching off dimming due to the difference of lamp panel. Thus, lighting fixture grounding test is suggested.

## Off-line Programming

User-friendly connection of programming without necessary to power on device(suitable for X6, X6S, X6I,X6E Series).

### Programming mode 1



#### Visual Intelligent Programming

1. Set the output parameters through the control signal line 0-3.3V/0-5V/0-9V/0-10V optional.
2. Timer dimming. Set the timer control function, support up to 7 segments;
3. Set output CLO;
4. Read the recorded system parameters; Record the working time working temperature, and software version information of the LED driver.
5. Configure the driving parameters. After setting is completed, then click the configured parameters to complete programming.
6. Download it to the offline programmer.

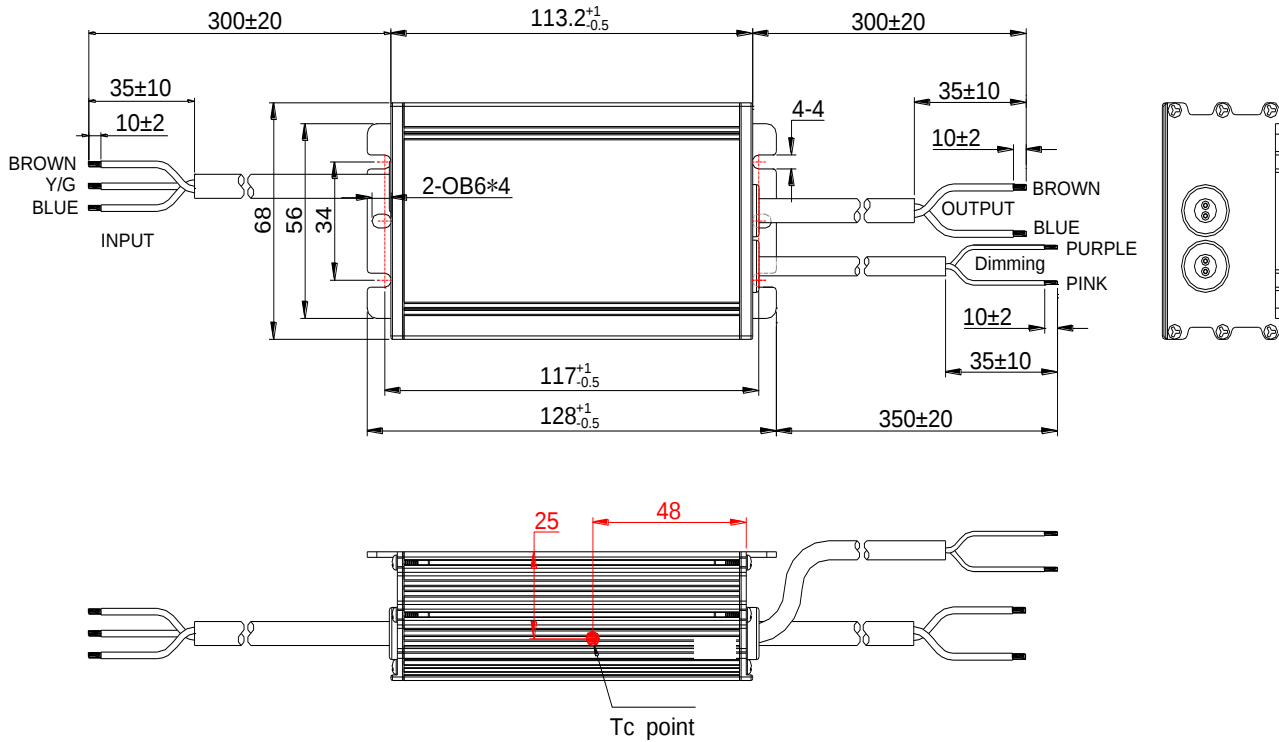
### Programming mode 2



#### Instructions of one touch programmer:

1. Open the software interface and download the program to the offline programmer;
2. Connect the dimming wire with the programmer, press the programmer button, the programmer will give you a subtle reminder "( Beep )" to tell you the installation completed.

## Mechanical Outline



## Specification

|         |                                                  |        |
|---------|--------------------------------------------------|--------|
| Input   | CCC+VDE H05RN-F 3*1.0 mm <sup>2</sup> L=300±20mm | CCC/CE |
| Output  | CCC+VDE H05RN-F 2*1.0 mm <sup>2</sup> L=300±20mm | CCC/CE |
| Dimming | UL 2733/21996 2*22AWG L=350±20mm                 | UL     |

## Label

**X6E-075M075**  
LED DRIVER  
LED 控制装置

Constant current type  
Integrated SPD  
恒流型, 内置防雷管

**INPUT**

L (BROWN 棕)

G (Y/G 黄/绿)

N (BLUE 蓝)

|                      |                                                                                    |
|----------------------|------------------------------------------------------------------------------------|
| INPUT<br>(输入)        | 100-277V ~ 50/60Hz, 90W Max. 0.7A Max.<br>PF: (Pout ≥ 37W) = 0.85C~0.95            |
| OUTPUT<br>(输出)       | 42-75V ~, 0.15-1.50A Max. 75W                                                      |
| tc: 90°C<br>ta: 55°C | 45W Max. 0.15-0.60A (Input: 100-176V ~)<br>75W Max. 0.15-1.50A (Input: 176-277V ~) |

**OUTPUT**

(BROWN 棕) Vo +

(BLUE 蓝) Vo -

(PURPLE 紫) DIM +

(PINK 粉) DIM -

中国制造  
仅适用LED模块  
MADE IN CHINA  
For LED module only

深圳茂硕电子科技有限公司  
SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD  
No.1061, Songbai Road, Xili Town, Nanshan District,  
Shenzhen, CHINA

EESS-230767-0

Version

|     |               |            |
|-----|---------------|------------|
| A.1 | First release | 2024-02-26 |
| B.2 | ECL202503028  | 2025-03-24 |
| C.2 | ECL202511028  | 2025-11-26 |
|     |               |            |
|     |               |            |
|     |               |            |
|     |               |            |

## Specification for Approval

Product Name: 75W LED Driver

Product Model: X6E-075M075

Rev: C.2

Address: XiLi Songbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China

Tel: 0755-27657000

FAX: 755-27657908

E-mail: info@mosopower.com

Web Site: <http://www.mosopower.com>

| Prepared By | Checked By | Approved By |
|-------------|------------|-------------|
|             |            |             |

## Specification for Approval

Product Name: 75W LED Driver

Product Model: X6E-075M075

Rev: C.2

| CUSTOMER AUTHORIZED SIGNATURE                                                   |            |             |
|---------------------------------------------------------------------------------|------------|-------------|
| Tested By                                                                       | Checked By | Approved By |
|                                                                                 |            |             |
| (Company seal)Return one copy to MOSO with approved signature and company seal. |            |             |

Address:XiLi Songbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China

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FAX: 755-27657908

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Web Site:http://www.mosopower.com

| Prepared By | Checked By | Approved By |
|-------------|------------|-------------|
|             |            |             |