



**BIS CE**

#### Product Features:

- Universal input voltage / Full range: 110~305Vac;
- Constant power design, Adjustable output current by built-in potentiometer;
- (M type) offline programmable, (V type) output current adjustable by built-in potentiometer;
- 3-in-1 dimmable: 0~10Vdc, PWM, Timer dimming. Dim-to-off;
- (M type)Constant lumen output;
- Output and Dimming Signal Isolating;
- Surge protection: 5KV line-line, 10KV line-earth;
- Protections: Input OVP/Input UVP/SCP/OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty.

#### Application:

- Suitable for LED roadway lighting, plant lighting, industrial lighting, landscape lighting, etc.

## DESCRIPTION

The X6I-240W series is 240W outdoor offline programmable LED driver that operates in constant current with high PF value and universal input voltage range 110~305Vac model. A wide range of output current in a single driver, which delivers maximum flexibility with customized operating settings and intelligent control options for lighting manufacturers, as one driver can be adjusted for many different luminaire designs. X6I also helps clients to improve the management of logistics and stock. The compact metal case and high efficiency enables the driver to operating with high reliability, and extending product lifetime. Overall protection is provided against lightening surge, input over voltage, input under voltage, short circuit, and over temperature, to ensure low failure rate.

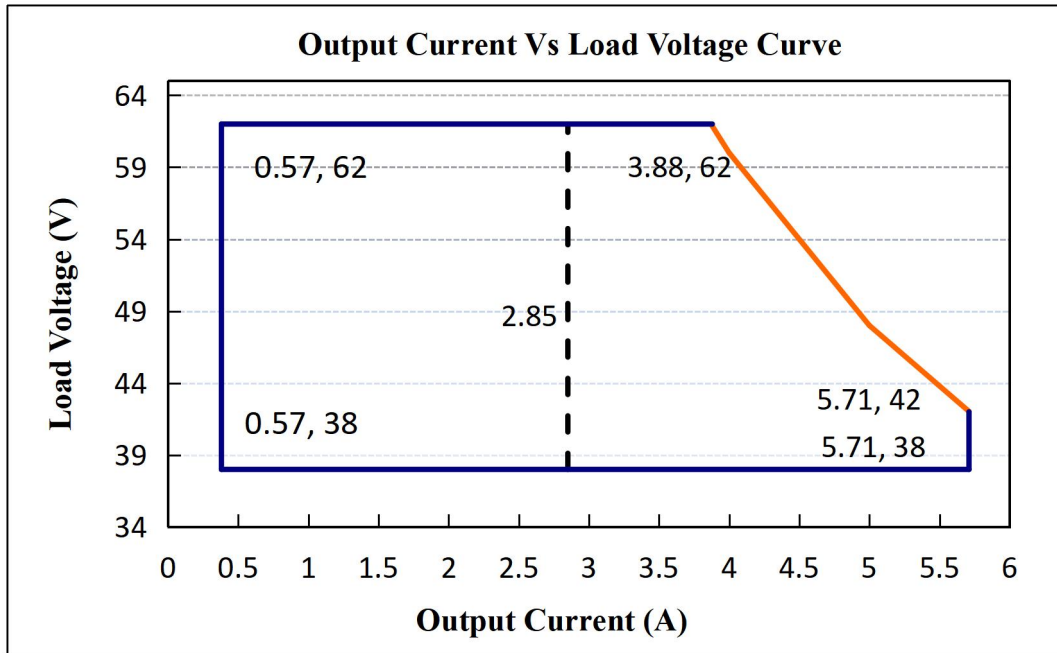
## MODELS

| Model Number [1] | Max Output Power (W) | Output Voltage Range (Vdc) | Full Power Output Voltage Range (Vdc) | Full Power Current Adjustable Range (A) [2] | Default Output Current Setting(A) | Typical Efficiency [3] | PF   |
|------------------|----------------------|----------------------------|---------------------------------------|---------------------------------------------|-----------------------------------|------------------------|------|
| X6I-240Y062      | 240                  | 38-62                      | 42-62                                 | 3.88-5.71                                   | 5.00                              | 92%                    | 0.97 |

#### Notes:

- [1]. Y can be M or V. Y=M means dimmable and offline programmable, the adjustable lout range: 10%-100% I<sub>max</sub>;  
Y=V means non-dimmable and output current adjusted by built-in potentiometer.
- [2]. Output current adjustable range with constant power at max output power;
- [3]. All specifications are measured at 25°C ambient temperature, input voltage 240Vac, and the typical value tested at full load, if no specific note.

## OPERATING AREA I-V



**Notes:** The drivers are not allowed to work in over-load condition, otherwise warranty will expire.

Y=V is suitable for the right area of the dotted line; Y=M is suitable for the solid line contain area.

## INPUT SPECIFICATIONS

| Parameter                           | Min.   |   | Typ.       |   | Max.   |   | Notes                              |
|-------------------------------------|--------|---|------------|---|--------|---|------------------------------------|
| Input Voltage                       | 110Vac |   | 120-277Vac |   | 305Vac |   | Rated Input Voltage is 240Vac      |
| Input Frequency                     | 47Hz   |   | 50/60      |   | 63Hz   |   |                                    |
| Leakage Current                     | -      |   | -          |   | 0.70mA |   | 240Vac/60Hz                        |
| Input AC Current                    | -      |   | -          |   | 3.3A   |   | 120-277Vac & full load             |
| Inrush Current                      | -      |   | -          |   | 75A    |   | 240Vac & full load                 |
| Standby Power Consumption           |        |   |            |   | 3W     |   | 240Vac/50Hz, Dim to off            |
| Power Factor                        | 0.97   |   | 0.99       |   | -      |   | 120Vac, 50-60Hz, full load         |
|                                     | 0.95   |   | 0.97       |   |        |   | 240Vac, 50-60Hz, full load         |
|                                     | 0.93   |   | 0.95       |   |        |   | 277Vac, 50-60Hz, full load         |
| THD                                 | -      |   | 5%         |   | 10%    |   | 120-240Vac, 50-60Hz, 70%-100% load |
|                                     | -      |   | -          |   | 15%    |   | 277Vac, 50-60Hz, 70%-100% load     |
| Max. NO. of PSUs on CIRCUIT BREAKER | B10    | 1 | B16        | 2 | B25    | 2 | 230Vac                             |
|                                     | C10    | 2 | C16        | 3 | C25    | 4 |                                    |

Specification subject to change without notice

## OUTPUT SPECIFICATIONS

| Parameter                                                          | Min.    | Typ. | Max.    | Notes                                                                                       |
|--------------------------------------------------------------------|---------|------|---------|---------------------------------------------------------------------------------------------|
| Output Current Tolerance                                           | -5%Iset | -    | +5%Iset |                                                                                             |
| Output Current Setting Range<br>X6I-240Y062                        | 2.85A   | -    | 5.71A   | The 'M type' adjustable lout range: 10%-100% I <sub>max</sub> .                             |
| Output Current Setting Range with<br>Constant Power<br>X6I-240Y062 | 3.88A   | -    | 5.71A   |                                                                                             |
| Total Output Current Ripple(pk-pk)                                 | -       | 5%   | 10%     | 20MHz BW, full load& LED load, the ripple would be tiny different under different LED load. |
| Startup Overshoot Current                                          | -       | -    | 10%     | 120~277Vac &100% Load, load is LED                                                          |
| No Load Output Voltage<br>X6I-240Y062                              | -       | -    | 70V     |                                                                                             |
| Line Regulation                                                    | -1%     | -    | +1%     | 25°C±10°C ambient temperature, input voltage changes from 120Vac to 277Vac.                 |
| Load Regulation                                                    | -3%     | -    | +3%     | 25°C±10°C ambient temperature, Input voltage 240Vac, load changes from 60% to 100%.         |
| Turn-on Delay Time                                                 | -       | 1 s  | 2 s     | 120Vac,100% load                                                                            |
|                                                                    | -       | -    | 0.5 s   | 240Vac,100% load                                                                            |

## GENERAL SPECIFICATIONS

| Parameter                                                                           |              | Min.       | Typ.       | Max. | Notes                                                    |
|-------------------------------------------------------------------------------------|--------------|------------|------------|------|----------------------------------------------------------|
| Efficiency @120Vac<br>X6I-240Y062<br>I <sub>o</sub> =3.88A<br>I <sub>o</sub> =5.71A |              | 88%<br>88% | 90%<br>90% | -    | Measured at full load and 25°C ambient temperature       |
| Efficiency @240Vac<br>X6I-240Y062<br>I <sub>o</sub> =3.88A<br>I <sub>o</sub> =5.71A |              | 91%<br>91% | 92%<br>92% | -    | Measured at full load and 25°C ambient temperature       |
| Efficiency @277Vac<br>X6I-240Y062<br>I <sub>o</sub> =3.88A<br>I <sub>o</sub> =5.71A |              | 92%<br>92% | 93%<br>93% | -    | Measured at full load and 25°C ambient temperature       |
| Dielectric Strength                                                                 | Input-Output | -          | 3750Vac    | -    | Max 5mA/60s                                              |
|                                                                                     | Input-PE     | -          | 1600Vac    | -    |                                                          |
|                                                                                     | Output-PE    | -          | 1600Vac    | -    |                                                          |
| Grounding Resistance                                                                |              | -          | -          | 0.1Ω | 25A/60s, under 25°C±10°C ambient temperature             |
| Insulation Resistance                                                               |              | 10MΩ       | -          | -    | Input-Output, Input-PE, Output-PE, 500Vdc/60s/25°C/70%RH |
| MTBF                                                                                |              | -          | 200000Hrs  | -    | 25°C±10°C ambient temperature,                           |

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|                                              |                                                 |          |      |                                                                             |
|----------------------------------------------|-------------------------------------------------|----------|------|-----------------------------------------------------------------------------|
|                                              |                                                 |          |      | 240Vac,80% load (MIL-HDBK-217F)                                             |
| Lifetime                                     | -                                               | 50000Hrs | -    | 240Vac&100% load, 75℃ case temperature, refer to lifetime curve for details |
| Ambient Temperature                          | -40℃                                            |          | +60℃ | Refer to the derating curve                                                 |
| Operating Case Temperature for Safety Tc_s   | -40℃                                            | -        | +90℃ |                                                                             |
| Operating Case Temperature for Warranty Tc_w | -40℃                                            | -        | +75℃ | 5 years warranty case temperature<br>Humidity: 10% to 95% RH                |
| Storage Temperature                          | -40℃                                            | -        | +85℃ | Humidity: 5% to 100% RH                                                     |
| Dimensions (L*W*H)                           | L208.W*68*H39mm                                 |          |      |                                                                             |
| Net Weight                                   | 1050±100g/PCS                                   |          |      |                                                                             |
| Package                                      | L502*W372*H222mm; 15PCS/Ctn Net weight: 16.2 KG |          |      |                                                                             |

## DIMMING

| Parameter                                          |             | Min.    | Typ.  | Max.     | Notes                                                                                                            |
|----------------------------------------------------|-------------|---------|-------|----------|------------------------------------------------------------------------------------------------------------------|
| 0~10V Absolute Maximum Voltage on the Vdim (+) Pin |             | -       | 10V   | -        |                                                                                                                  |
| 0~10V Source Current on Vdim(+)Pin                 |             | -       | 200uA | 400uA    |                                                                                                                  |
| Dimming Output Range                               | X6I-240M062 | 10%Imax | -     | 100%Imax | Imax=5.71A                                                                                                       |
|                                                    | X6I-240M062 | 0.57A   | -     | 5.71A    |                                                                                                                  |
| Recommended Dimming Range for 0-10V                |             | 0V      | -     | 10V      | Default 0-10V/ PWM<br>Dimming(0-10V,0-9V,0-5V,0-3.3V<br>Positive and Reverse Logic can be customized as request) |
| 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%      |                                                                                                                  |

## SAFETY STANDARDS

| Safety Category | Country / Territory | Standards                                                                  | Approved |
|-----------------|---------------------|----------------------------------------------------------------------------|----------|
| CCC             | China               | GB/T 19510.213, GB/T 19510.1                                               |          |
| CE              | Europe              | EN61347-1, EN61347-2-13                                                    |          |
|                 |                     | EN62493                                                                    |          |
| ENEC            |                     | EN62384                                                                    |          |
| CB              | CB Countries        | IEC61347-1, IEC61347-2-13                                                  |          |
| BIS             | India               | IS 15885(PART 2/SEC 13)                                                    | √        |
| UL              | USA                 | UL 8750                                                                    |          |
| CUL             | Canada              | CSA C22.2 No.250.13                                                        |          |
| KC              | South 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                                                             |          |
| EAC             | Russia              | ГОСТ Р МЭК 61347-1-2011<br>ГОСТ IEC 61347-2-13-2013<br>ГОСТ IEC 62493-2014 |          |

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|  |  |                                                                                                                                  |  |
|--|--|----------------------------------------------------------------------------------------------------------------------------------|--|
|  |  | CTB EH 55015-2006<br>ГОСТ IEC 61547-2013<br>ГОСТ 30804.3.2-2013 (IEC 61000-3-2:2009)<br>ГОСТ 30804.3.3-2013 (IEC 61000-3-3:2008) |  |
|--|--|----------------------------------------------------------------------------------------------------------------------------------|--|

#### Isolation conditions

| Insulation  | Input/Mains | Dimming | LED Output | Case   |
|-------------|-------------|---------|------------|--------|
| Input/Mains | /           | Double  | Double     | Double |
| Dimming     | Double      | /       | Basic      | Basic  |
| LED Output  | Double      | Basic   | /          | Basic  |
| Case        | Double      | Basic   | Basic      | /      |

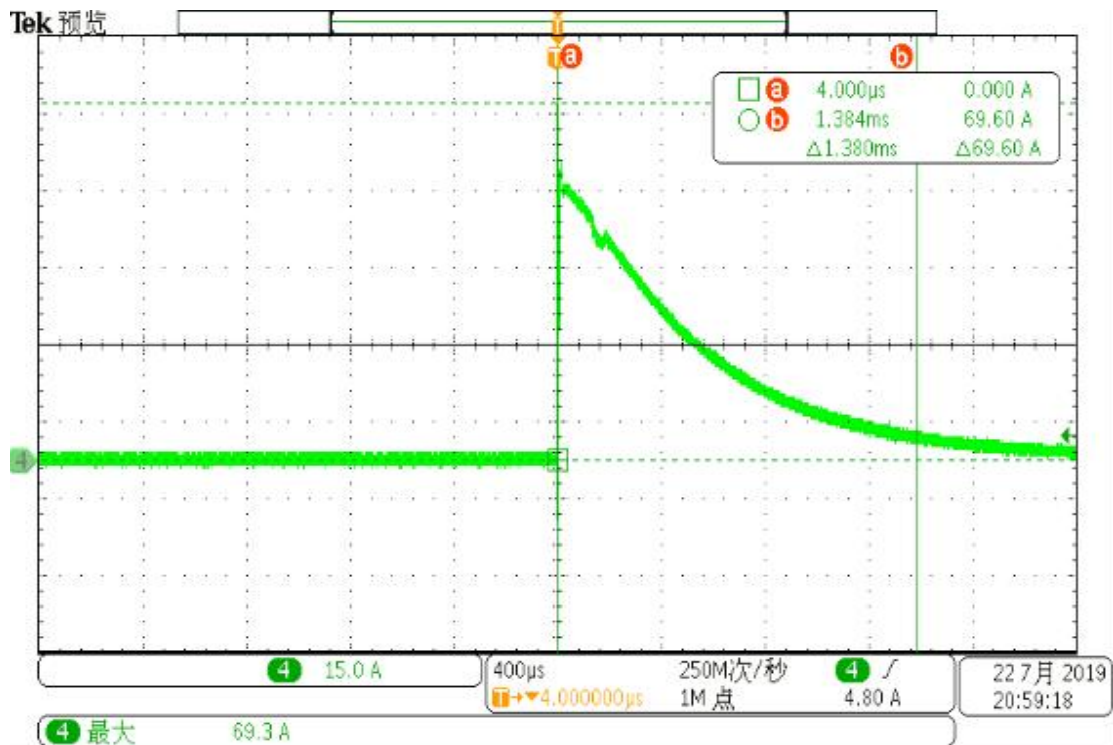
#### EMC COMPLIANCE

| EMC Category | Country / Territory | Standards                  | 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                   |          |
| KC           | South Korea         | K61547                     |          |
|              |                     | K00015                     |          |
| PSE          | Japan               | J55015                     |          |
| FCC          | USA                 | FCC part 15                |          |

#### NOTE:

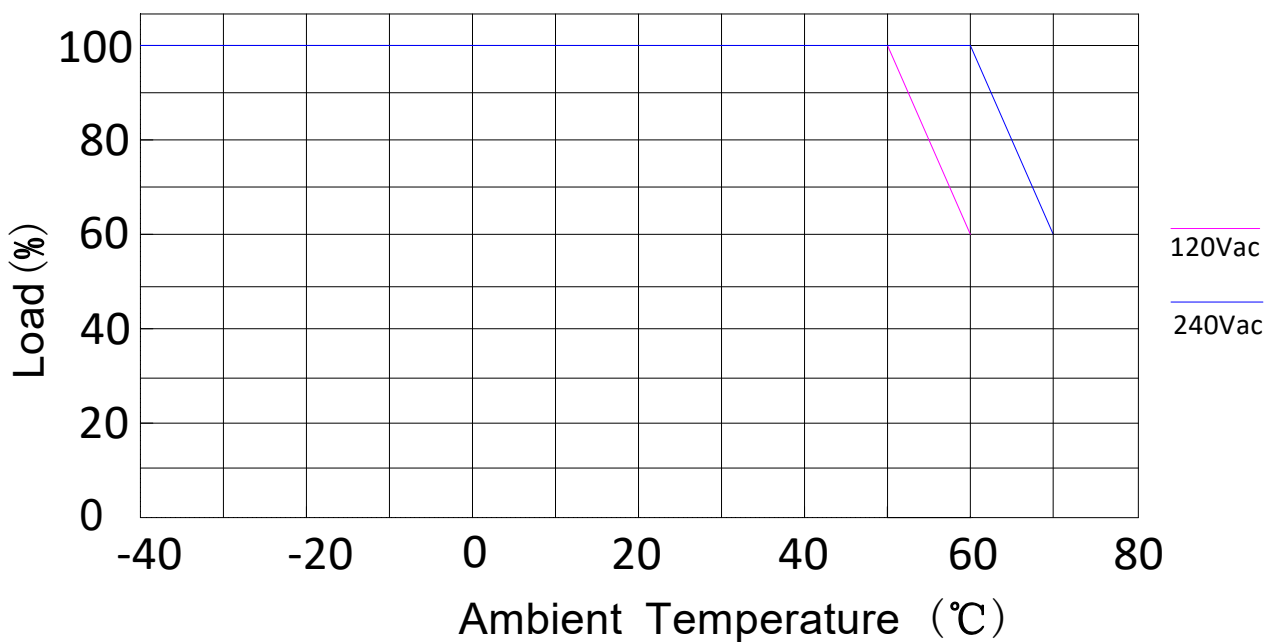
This LED driver meets the EMC specifications above, but as a component of a luminaire, end customer need to identify the EMC performance of a luminaire including LED driver, other devices connected to the driver and the luminaire itself.

## INRUSH CURRENT WAVEFORM

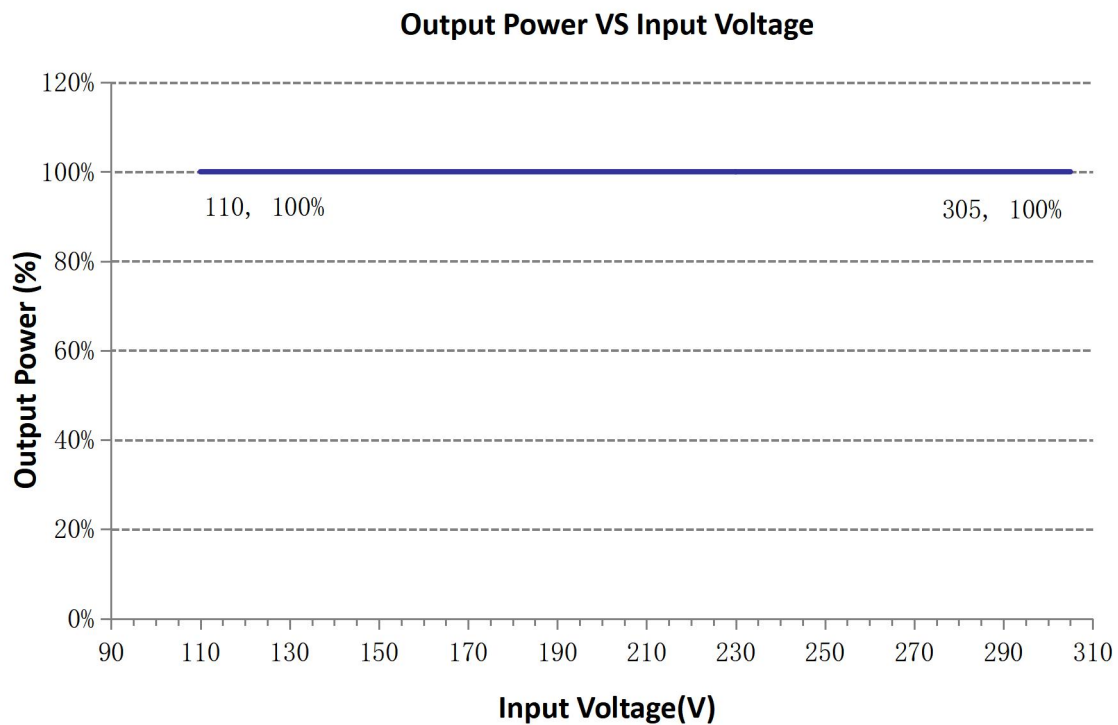


## DERATING CURVE

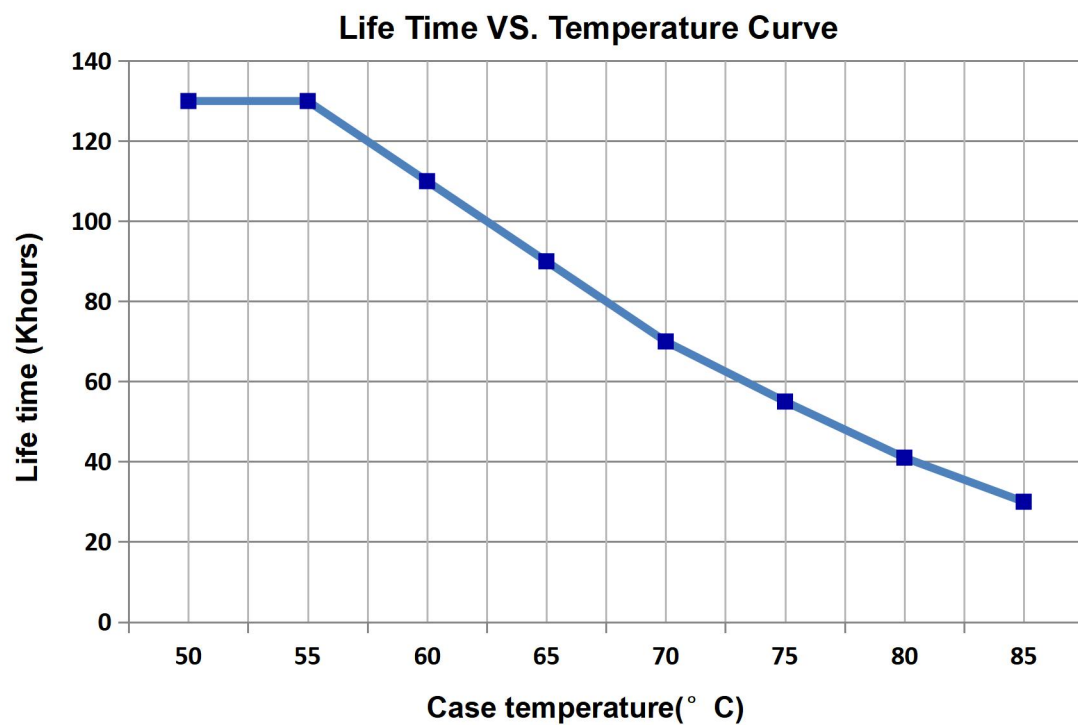
Derating Curve



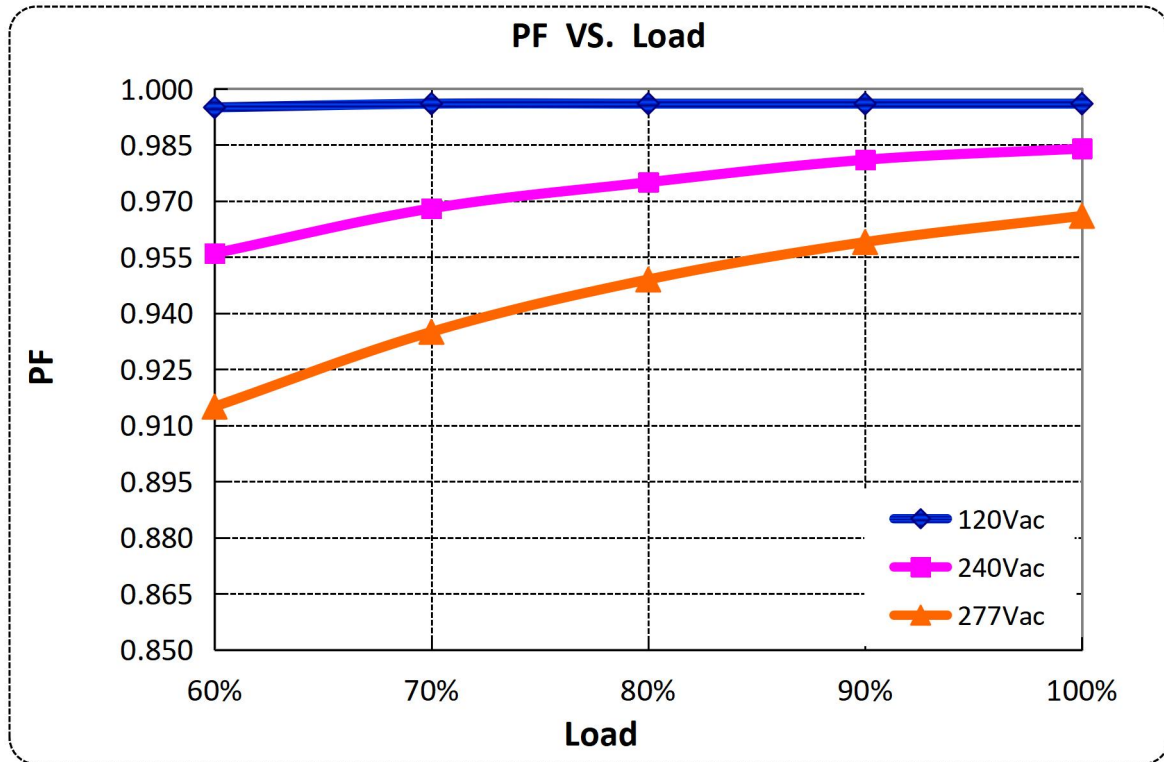
## OUTPUT POWER VS INPUT VOLTAGE



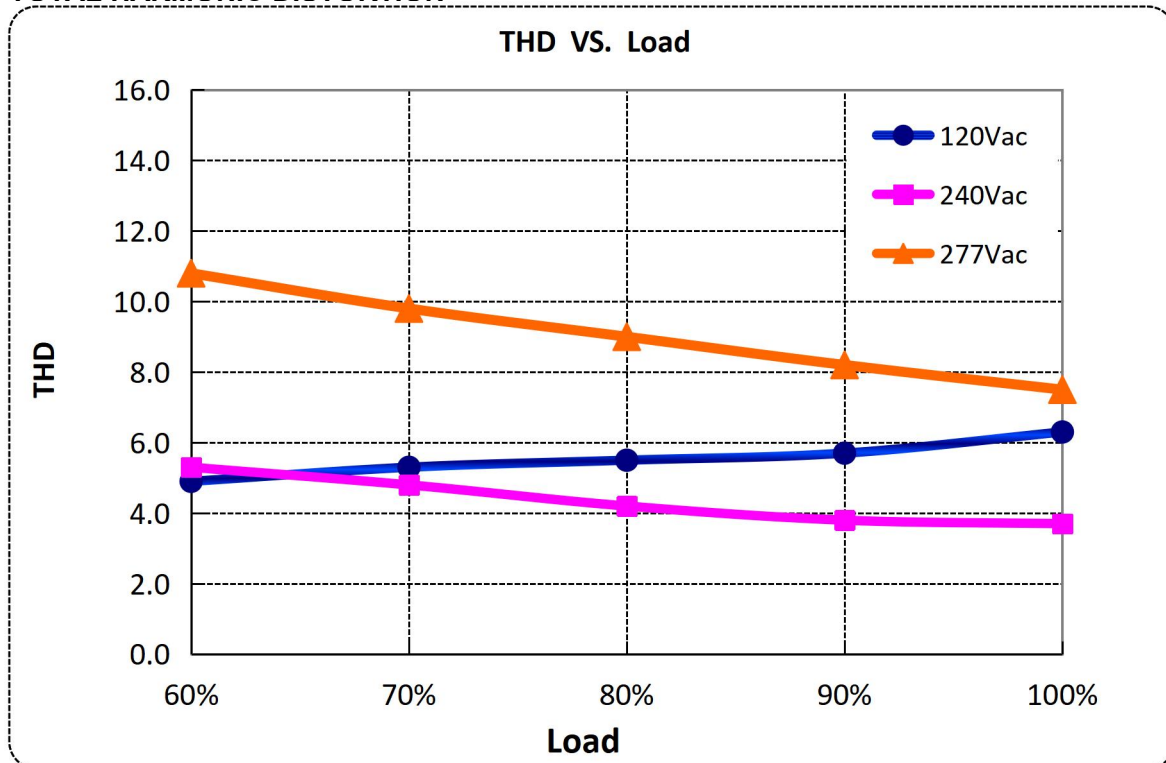
## LIFETIME VS CASE TEMPERATURE



**POWER FACTOR VS LOAD**

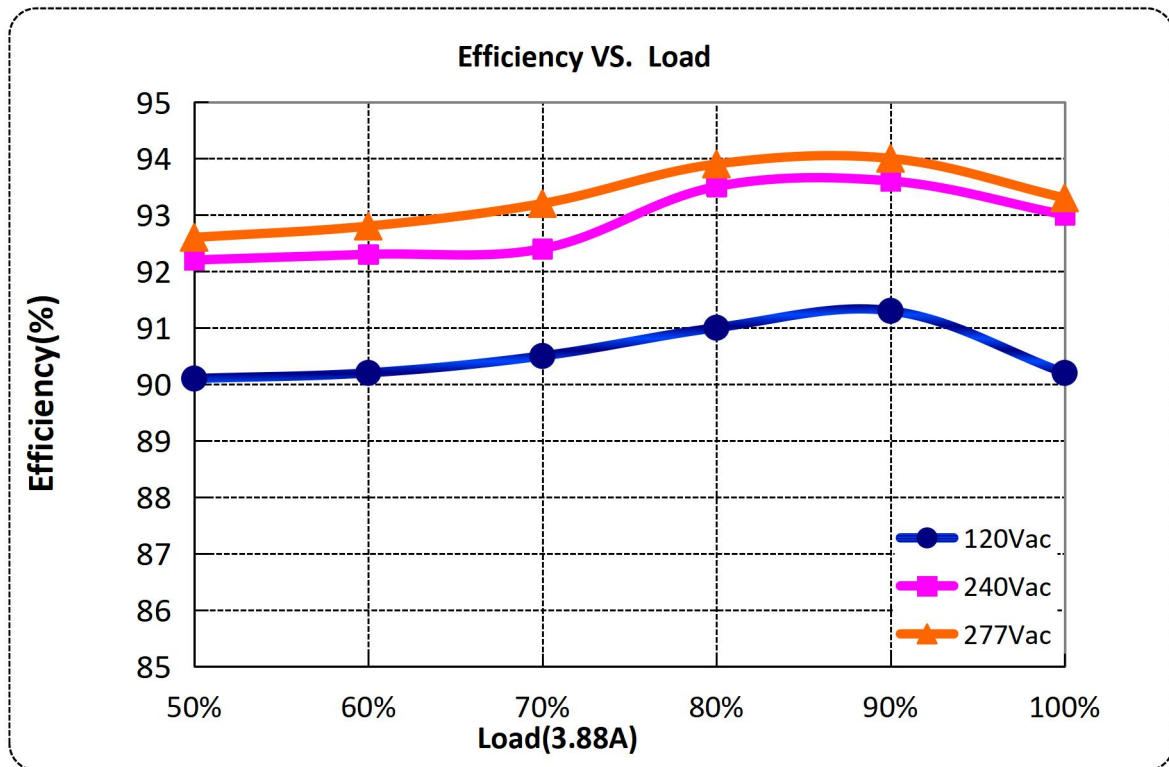


**TOTAL HARMONIC DISTORTION**

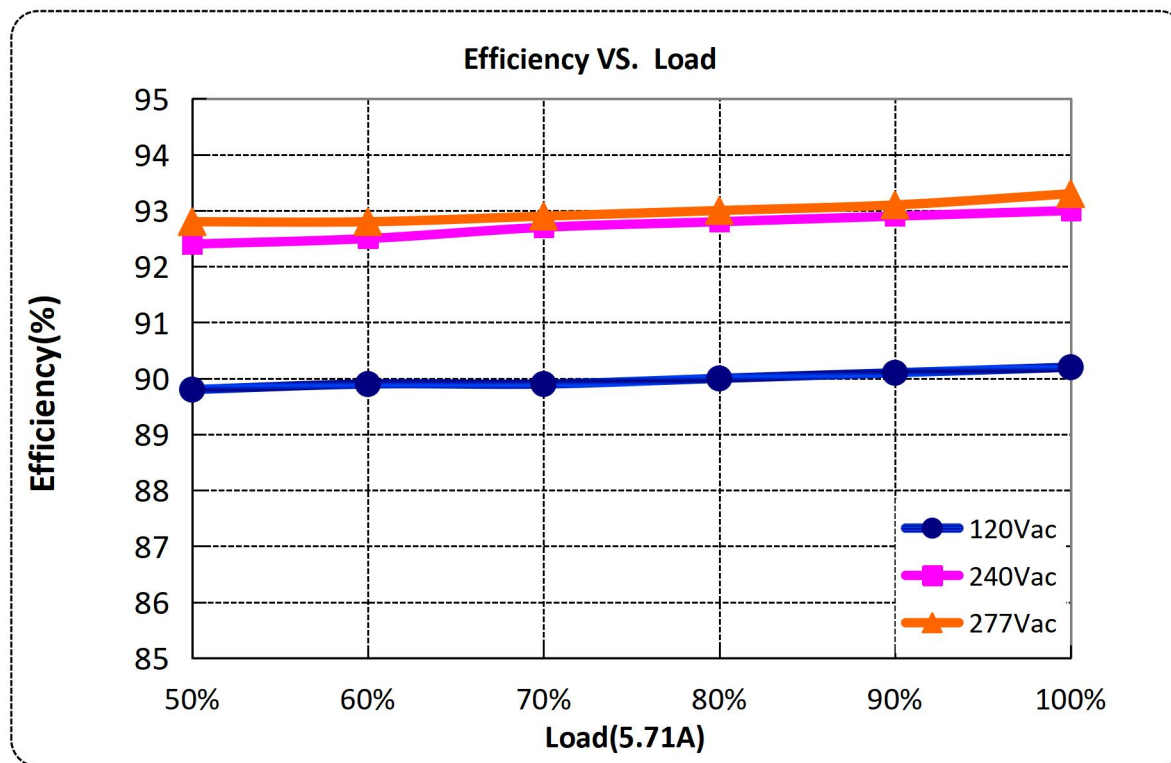


**EFFICIENCY VS LOAD**

**X6I-240Y062 (Io=3.88A)**



X6I-240Y062 (Io=5.71A)

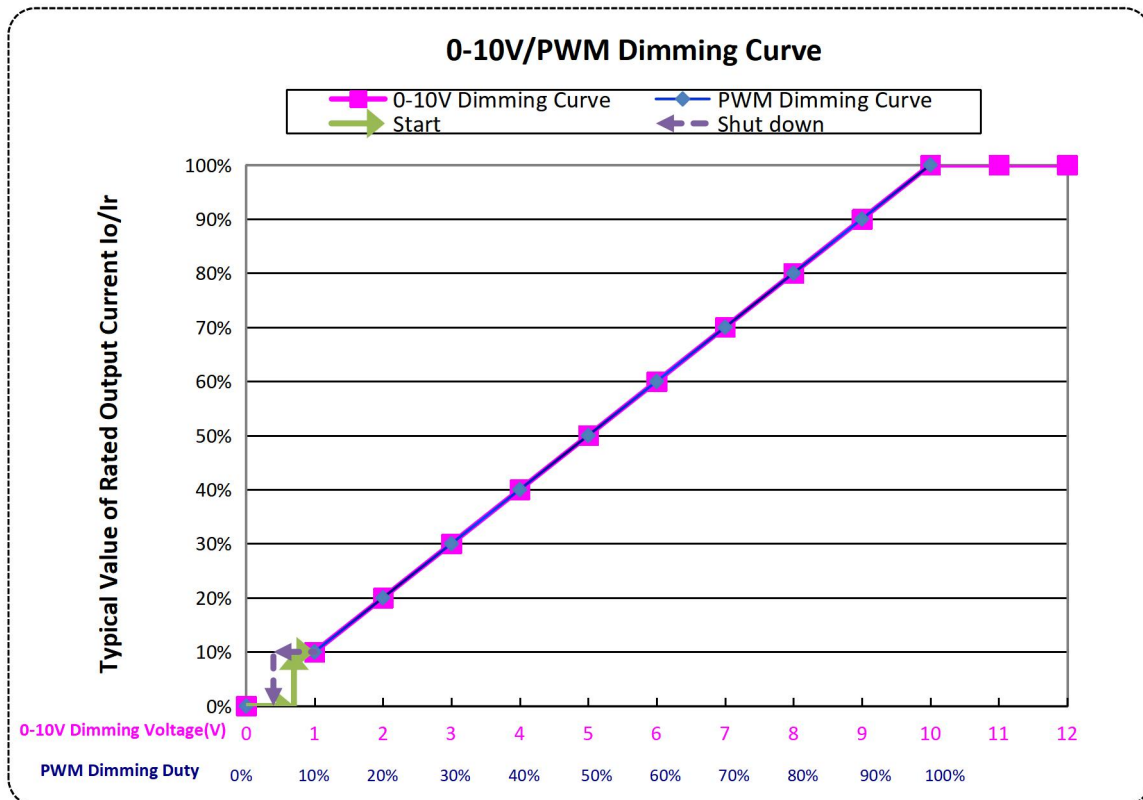


**PROTECTIONS**

| Parameter                       |                            | Min.                                                                                                                                                           | Typ. | Max.   | Notes                                                                                       |
|---------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|---------------------------------------------------------------------------------------------|
| Input Under Voltage Protection. |                            | 75Vac                                                                                                                                                          | -    | 105Vac | Turn off the output when the input voltage falls below protection voltage.                  |
| Input Over Voltage Protection   | Input Protection Voltage   | 340Vac                                                                                                                                                         | -    | 390Vac | Turn off the output when the input voltage exceeds protection voltage.                      |
|                                 | Recovery Voltage           | 300Vac                                                                                                                                                         | -    | 340Vac | Auto Recovery. The driver will restart when the input voltage falls below recovery voltage. |
|                                 | Max. of Input Over Voltage | -                                                                                                                                                              | -    | 440Vac | The driver can survive for 48 hours with input over-voltage of 440Vac.                      |
| Input Under Voltage Protection  |                            | The driver Can Survive input Voltage Stress of 100V for 48 hours                                                                                               |      |        |                                                                                             |
| Over Temperature Protection     |                            | Decreases output current, returning to normal after over temperature is removed.                                                                               |      |        |                                                                                             |
| Short Circuit Protection        |                            | Hiccup mode and auto recovery. No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed. |      |        |                                                                                             |
| Output Over Voltage Protection  |                            | Limits output voltage at no load and in case the normal voltage limit fail                                                                                     |      |        |                                                                                             |

**Notes:** All specifications are measured at 25°C ambient temperature.

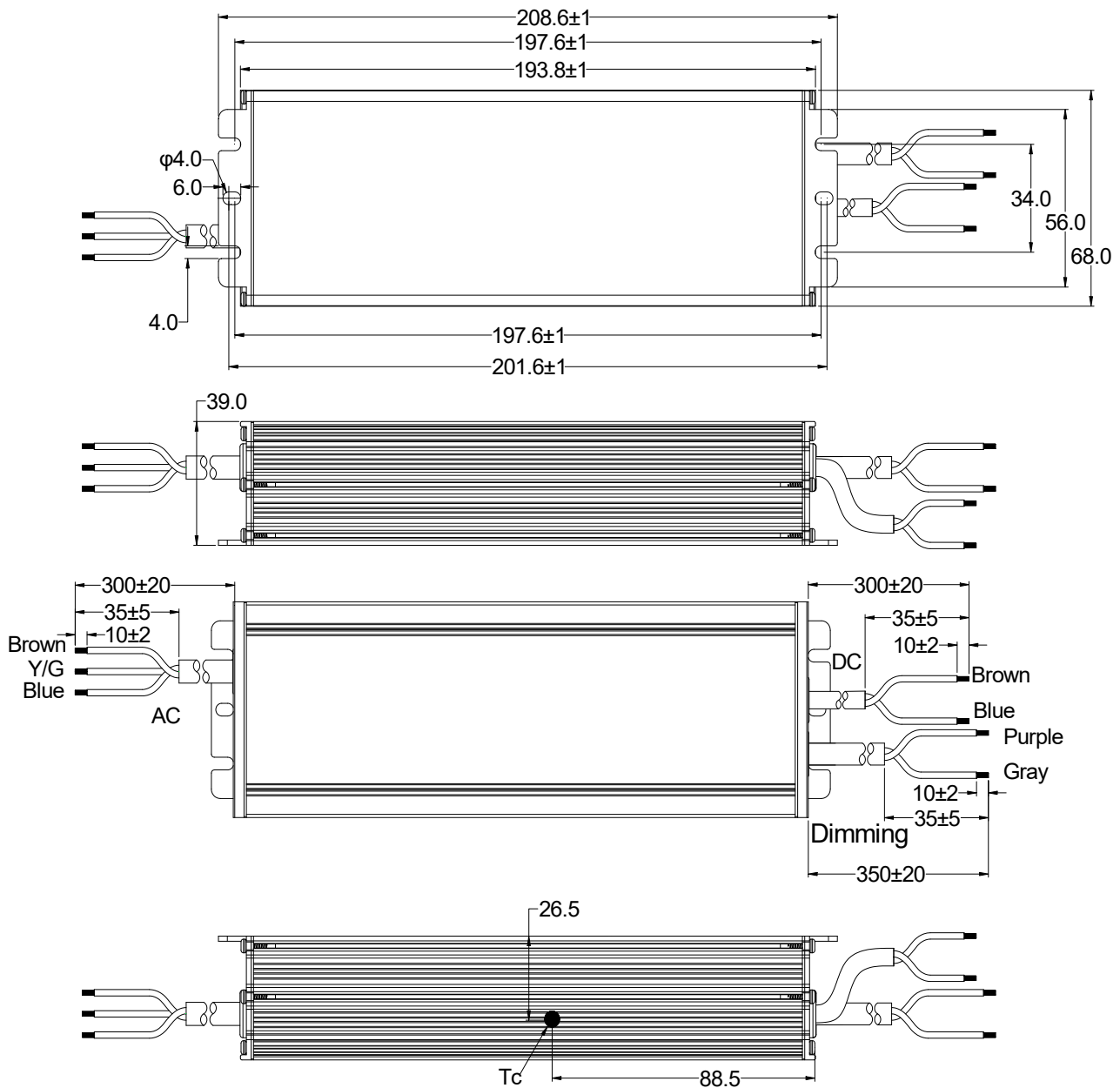
**0-10V/PWM DIMMING**



**Note:** Dim to off model is realized by decreasing the output voltage, the power supply still has residual voltage when dim to off, so the start up voltage of the lamp should be higher than residual voltage.

## MECHANICAL OUTLINE

### X6I-240M062 Types



| Wire    | Specification                | Note      |
|---------|------------------------------|-----------|
| Input   | SJOW 17AWG *3C L=300±20mm    | CCC/CE/UL |
| Output  | SJOW 17AWG *2C L=300±20mm    | CCC/CE/UL |
| Dimming | UL 2733 22AWG *2C L=350±20mm | Y=M       |

Specification subject to change without notice

## Specification for Approval

Product Name: 240W outdoor off-line programmable driver

Product Model: X6I-240M062 ☒

Rev. Initial version

Sample Date: —

| 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  
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E-mail: info@mosopower.com

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

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

## Product Specification

Product Name:            240W outdoor off-line programmable driver

Product Model:           X6I-240M062 

Rev.                        Initial version

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