# X6 VS Series 36W driver

MOSO®
Stock Code: 002660

## Description

The X6 VS series is intelligent constant current driver with ultra-high PF. This driver is designed for urban public lighting applications such as rail traffic and airport stations. High efficiency and simple metal shell filling design, so that the product has excellent heat dissipation performance and IP65 rating, effectively extend the service lifetime and suitable for wet environment. Overall protection is provided against lightning surge, input under voltage, output over voltage, short circuit and over temperature to ensure high reliability and low failure rate.


## Product Features

- Universal input voltage:176~264Vac;
- Isolate constant power design;
- Flicker free, ripple current 5%;
- Adjustable output current with potentiometer;
- Surge protection: DM 2KV, CM 4KV;
- Protections: Input UVP, output SCP / OVP / OTP;
- IP65
- 5 years warranty;

## Application

Rail traffic
Airport station
Commercial 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.) |
|---|---|---|---|---|---|---|---|---|
| X6-036V048-S | 176-264 | 36 | 24-48 | 0.75~0.95 | 0.88 | 88% | 0.97 | 5% |

**NOTES:**

[1]. V means non-dimmable, adjustable output current with potentiometer;

[2]. All specifications are measured at 25℃ 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 | 176Vac | 220-240Vac | 264Vac | |
| Input Frequency AC | 47Hz | 50/60Hz | 63Hz | |
| Max Input Current | - | - | 0.25A | 220Vac，100% load |
| Max Input Power | - | - | 43W | 220Vac，100% load |
| Leakage Current | - | - | 0.70mA | IEC60598-1;240Vac/60Hz, |
| Inrush Current | - | - | 0.18$A^2S$ | 240Vac, Ta=25℃（cold start） |
| Power Factor (PF) | 0.95 | 0.97 | - | 230Vac, 50Hz, 70%-100% load |
| Total Harmonic Distortion (THD) | - | 5% | 10% | 230Vac, 50Hz, 70%-100% load |
| MCB(B16) | - | 23 | - | 230Vac；100% load |

## Output Specifications

| Parameter | Min | Typ. | Max | Notes |
|---|---|---|---|---|
| Output Voltage Range | 24Vdc | - | 48Vdc | |
| Open Circuit Voltage | - | - | 65Vdc | |
| Output Current Range (Iset) | 0.50A | - | 0.95A | Adjustable output current with potentiometer |
| Current Accuracy | -5%Iset | - | +5%Iset | |
| Total Output Current Ripple (pk-pk) | - | 5% | 10% | 20MHz BW full load＆LED load the LED load ripple is slightly different for different leds |
| Startup Overshoot Current | - | - | 10% | 220-240Vacfull load condition, LED load |
| Line Regulation | -3% | - | +3% | 25℃±10℃ambient temperature, input changes from 200Vac to 264Vac |
| Load Regulation | -3% | - | +3% | Load varies from 70% to 100% with 230VacInput at 25℃±10℃ ambient temperature |
| Turn-on Delay Time | - | - | 1.5s | 240Vac,100% load |

## General Specifications

| Parameter | Min | Typ. | Max | Notes |
|---|---|---|---|---|
| Efficiency @230Vac Io=0.95A | 86% | 88% | - | 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<65℃ |
| Operating Temperature Ta | -40℃ | - | +50℃ | Refer to Output Power vs. Ambient Temperature curve |
| Operating Tc for Safety Tc_s | -40℃ | - | +75℃ | |
| Operating Tc for Warranty Tc_w | -40℃ | - | +65℃ | 5 years warranty case temperature<br>Humidity: 10% to 95% RH |
| Storage Temperature Ta | -40℃ | - | +85℃ | Humidity: 5% to 100% RH |
| Altitude | -60m | - | 4000m | |
| Input Under voltage Protection | 135Vac | 150Vac | 160Vac | Turn off the output or hiccup when the input voltage falls below protection voltage. |
| Over Temperature Protection Tc | - | 80℃ | - | 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) | 129*42.5*36mm | | | |
| Net Weight | 480±50g/PCS | | | |
| Package (L*W*H) | 488*298*200mm; 24PCS/Ctn, Gross Weight: 12.5Kg | | | |

## 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 |
| Grounding Resistance | - | - | 0.1Ω | 25℃±10℃ Ambient Temperature, pass 25A Current, 60s. |
| Insulation Resistance | 10MΩ | - | - | Input-Output, Input-PE, Output-PE, 500Vdc/60s/25℃ |

## Safety Compliance

| Safety Category | Standards | Approved | Notes |
|---|---|---|---|
| CCC | GB19510.1,GB19510.14 | √ | |
| CE | EN61347-1, EN61347-2-13 | | |
| CE | EN62493 | | |
| ENEC | EN62384 | | |
| CB | EN62384 | | |
| 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/NZS IEC 61347.2.13 | | |
| | AS/NZS 61347.1 | | |

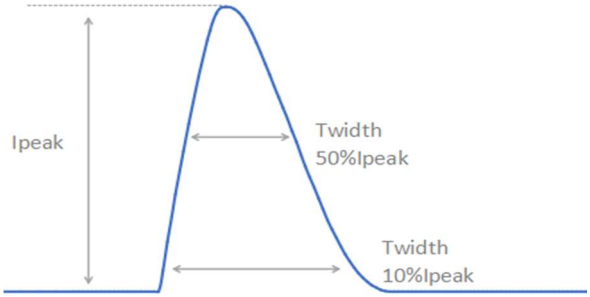
## EMC Compliance

| 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 | | | |

## RoHS

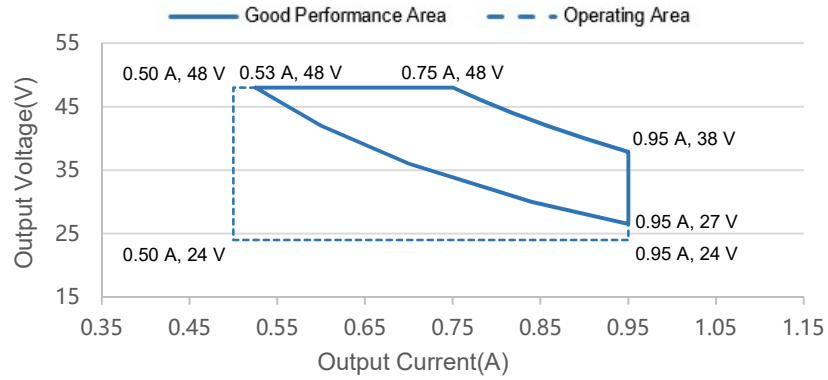
Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

### Inrush Current

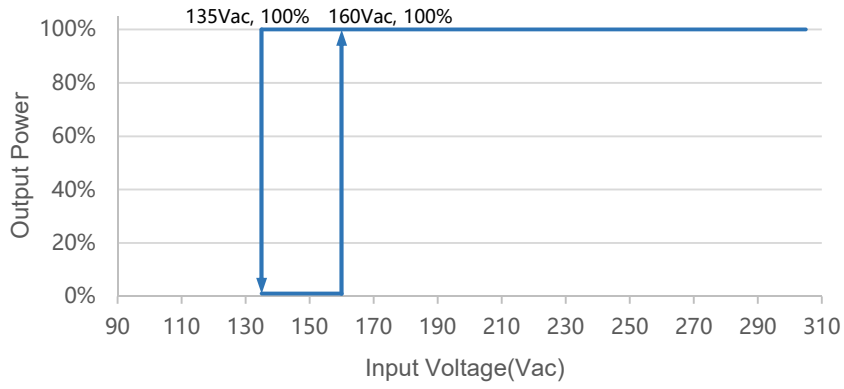



| Vin | Ipeak | T(@10% of Ipeak) | T(@50% of Ipeak) |
|---|---|---|---|
| 230Vac | 33.5A | 180uS | 110uS |

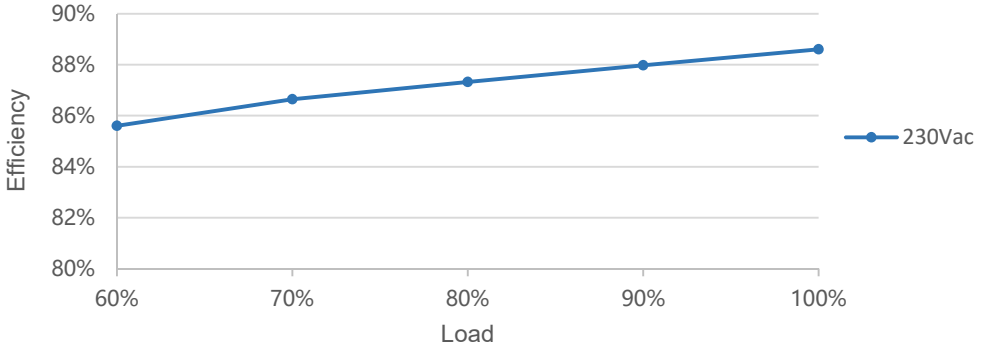
### Output Voltage vs. Output Current



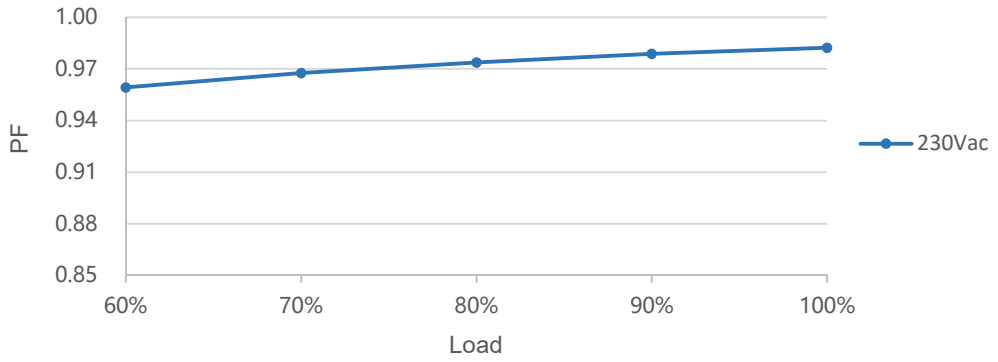

### Output Power vs. Input Voltage



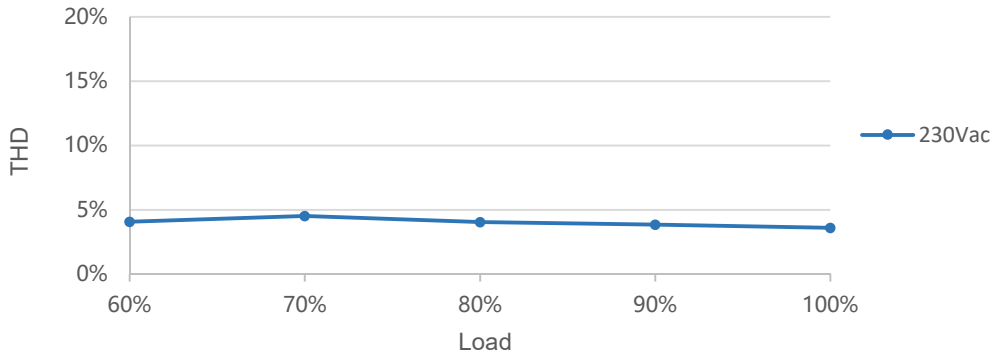

### Efficiency vs. Load



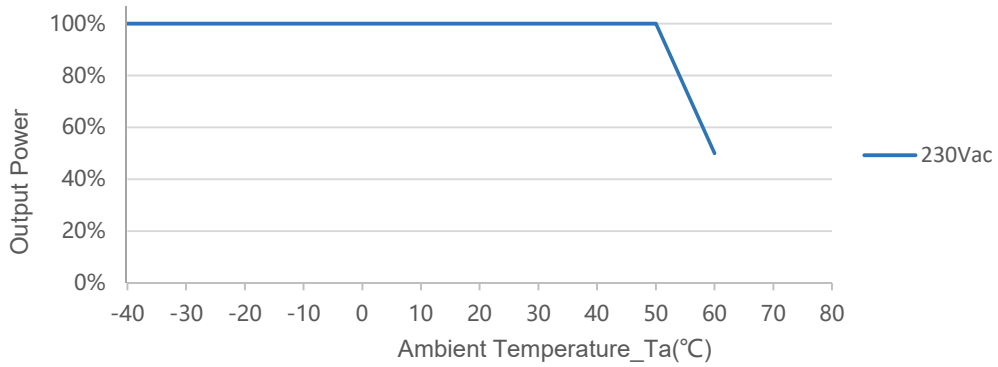
### PF vs. Load



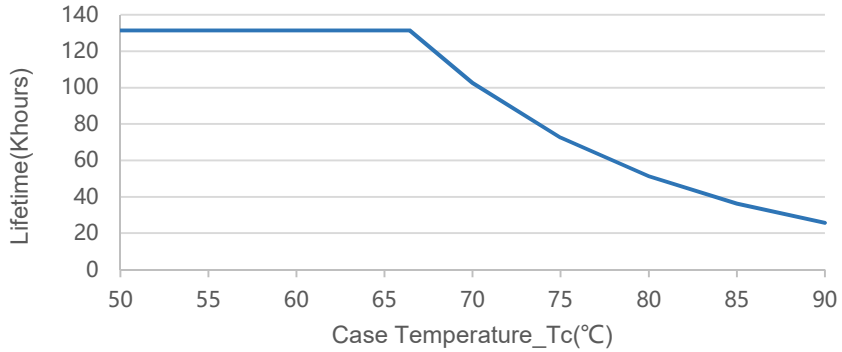

### THD vs. Load



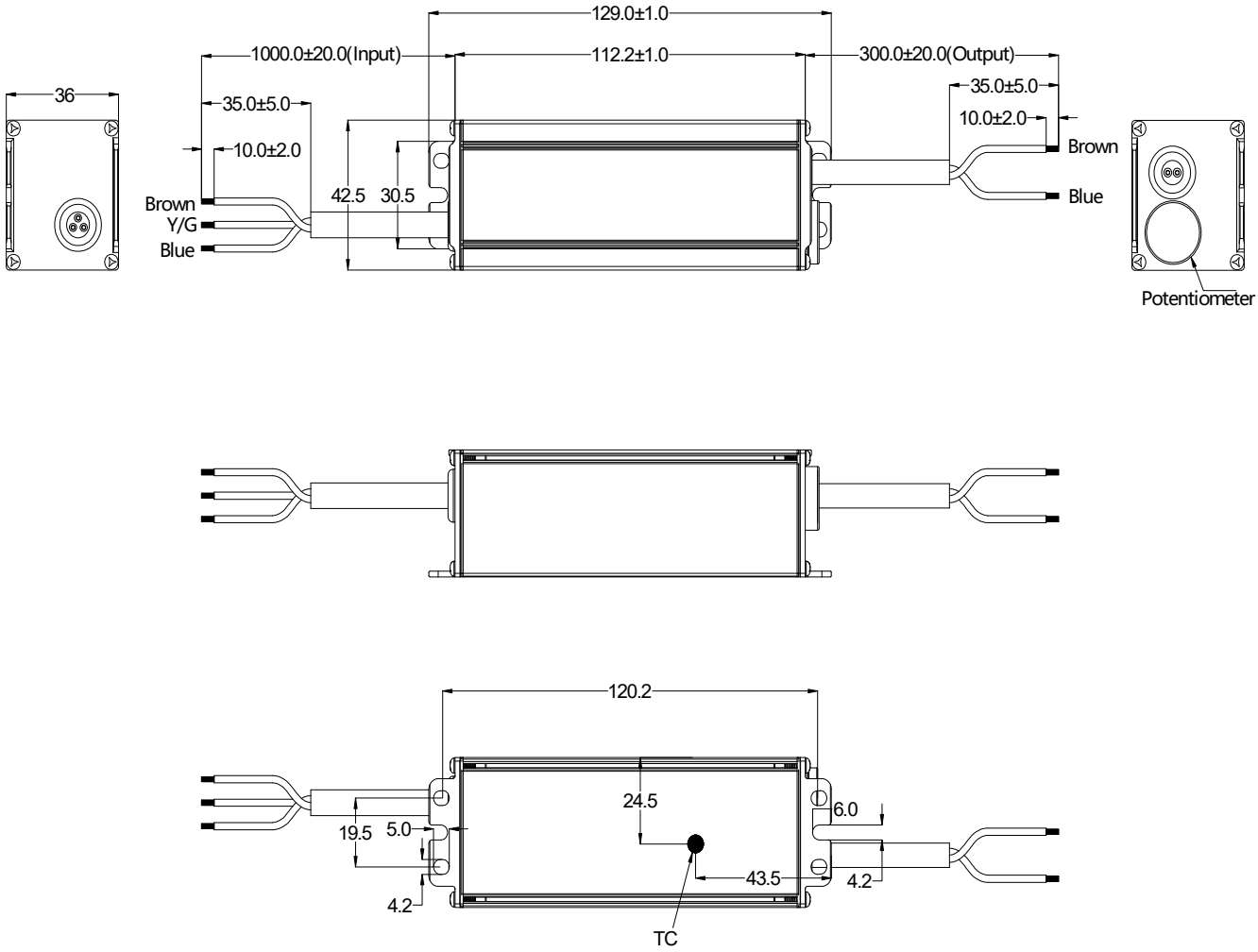

### Output Power vs. Ambient Temperature




### Lifetime vs. Case Temperature



## Mechanical Outline




## Specification

| | | |
|---|---|---|
| Input | WDZA-RYJYJ-125/WDZA-RYJYJ-105 CQC 3x1.5mm² L=1000±20mm | CCC |
| Output | WDZA-RYJYJ-125/WDZA-RYJYJ-105 CQC 2x1.0mm² L=300±20mm | CCC |

## Version

| | | |
|---|---|---|
| A.1 | First release | 2024-05-09 |
| | | |
| | | |
| | | |

MOSO®
Stock Code: 002660

# Specification for Approval

Product Name: 36W LED Driver

Product Model: X6-036V048-S

Rev: A.1

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

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Product Name: 36W LED Driver

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

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