# Specification for Approval

Product Name: 600W Constant Voltage LED Driver

Product Model: V6-600B024

Rev. A.2

| 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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## REVISION HISTORY

| Version | Description of Change | | Changed Date | Notes |
|---|---|---|---|---|
| | Before | Now | | |
| A.2 | | | | |
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**Product Features**

- Universal input voltage / Full range: 90~305Vac;
- Constant Voltage output;
- PF>0.96; THD<10%@230Vac; full load
- Surge protection: 6KV line-line, 10KV line-earth;
- Protections: input UVP, output SCP, OVP, OCP, 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 V6-600Wseries is a 600W constant-voltage, the LED driver that operates from 90~305Vac input with excellent power factor and low THD. It is designed for landscape lighting. The high efficiency of the driver and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge , output over current, over voltage, short circuit.

## MODELS

| Model Number [1] | Max Output Power(W) | Output Voltage Range(Vdc) | Full Power Current(A) | Typical Efficiency[2] | PF | THD |
|---|---|---|---|---|---|---|
| V6-600B024 | 600 | 24 | 25 | 93% | 0.97 | 10% |

**Notes:**

All specifications are measured at 25℃ ambient temperature, input voltage 230Vac, and the typical value tested by full load, if no specific note.

## INPUT SPECIFICATIONS

| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| Input Voltage | 90Vac | 120-277Vac | 305Vac | |
| Input Frequency | 47Hz | 50/60Hz | 63Hz | |
| Leakage Current | - | - | 0.70mA | 240Vac/60Hz |
| Input AC Current | - | - | 7.5A | 100-277Vac & full load |
| Inrush Current | - | - | 75A | 230Vac & full load |
| Power Factor | 0.95 | 0.97 | - | 120Vac, 50-60Hz, 70%-100% load |
| | 0.94 | 0.96 | | 230Vac, 50-60Hz, 70%-100% load |
| | 0.90 | 0.93 | | 277Vac, 50-60Hz, 70%-100% load |
| THD | - | 10% | 15% | 100-240Vac,50-60Hz, 70%-100% load |
| | - | - | 20% | 277Vac, 50-60Hz, 100% load |

## OUTPUT SPECIFICATIONS

| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| Output Voltage Tolerance | -3% | - | 3% | |
| Total Output Voltage Ripple(pk-pk) | -3% | | 3% | Full load, Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor. |
| Startup Overshoot Voltage | - | - | 5% | 100~277Vac &100% Load, load is LED |
| Load Regulation | -3% | - | 5% | 25℃±10℃ambient temperature, Input voltage 230Vac, load changes from 60% to 100%. |
| Turn-on Delay Time | - | - | 1.0S | 230Vac,100% load |

## GENERAL SPECIFICATIONS

| Parameter | | Min. | Typ. | Max. | Remark |
|---|---|---|---|---|---|
| Efficiency @120Vac | | 90% | 92% | - | Measured at full load and 25℃ambient temperature |
| Efficiency @230Vac | | 91% | 93% | - | |
| Efficiency @277Vac | | 91% | 93% | - | |
| Dielectric Strength | Input-Output | - | 3750Vac | - | Max 10mA/60S |
| | Input-PE | - | 1875Vac | - | |
| | Output-PE | - | 1500Vac | - | |
| Grounding Resistance | | - | - | 0.1Ω | 25A/60S, under 25℃±10℃ ambient temperature |
| Insulation Resistance | | 10MΩ | - | - | Input-Output, Input-PE, Output-PE, 500Vdc/60S/25℃/70%RH |
| MTBF | | - | 200000Hrs | - | 25℃±10℃ambient temperature, 230Vac,80% load (MIL-HDBK-217F) |
| Lifetime | | - | 50000Hrs | - | 230Vac&100% load, 75℃ case temperature, refer to lifetime curve for details |
| Ambient Temperature | | -40℃ | | +45℃ | 120Vac-200Vac&100%load |
| | | -40℃ | | +50℃ | 220Vac-277Vac&100%load |
| Operating Case Temperature for Safety Tc_s | | -40℃ | - | +90℃ | |
| Operating Case Temperature for Warranty Tc_s | | -40℃ | - | +75℃ | 5 years warranty case temperature Humidity: 10% to 95% RH |
| Storage Temperature | | -40℃ | - | +90℃ | Humidity: 5% to 100% RH |
| Dimensions (LxWxH)mm | | L276*W144*H47.5mm; | | | |
| Net Weight | | 3600±100g/PCS | | | |
| Package | | L465xW400xH210mm 5PCS/Ctn, Gross Weight:20Kg | | | |

## SAFETY STANDARDS

| Safety Category | Country / Territory | Standards | 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 | |
| BIS | India | IS 15885(PART 2/SEC 13) | |
| UL | USA | UL 8750 | |
| CUL | Canada | CSA C22.2 No.250.13 | |

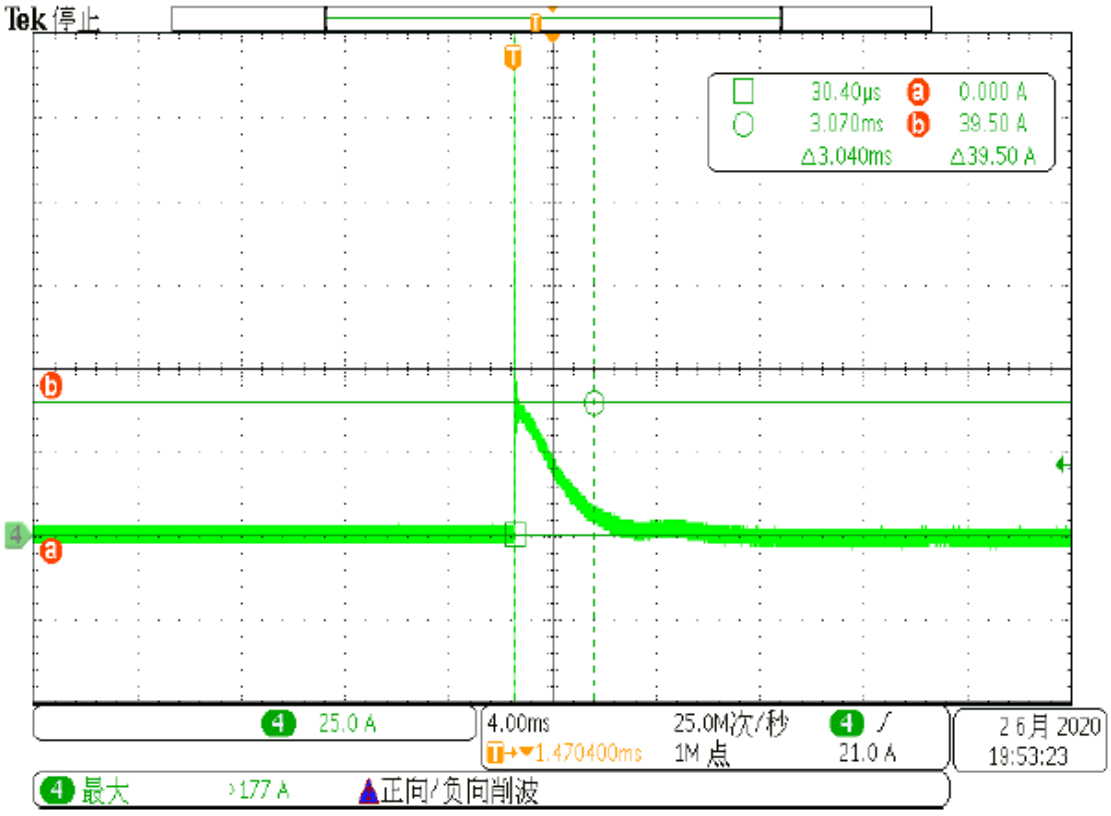
## EMC COMPLIANCE

| 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 | |

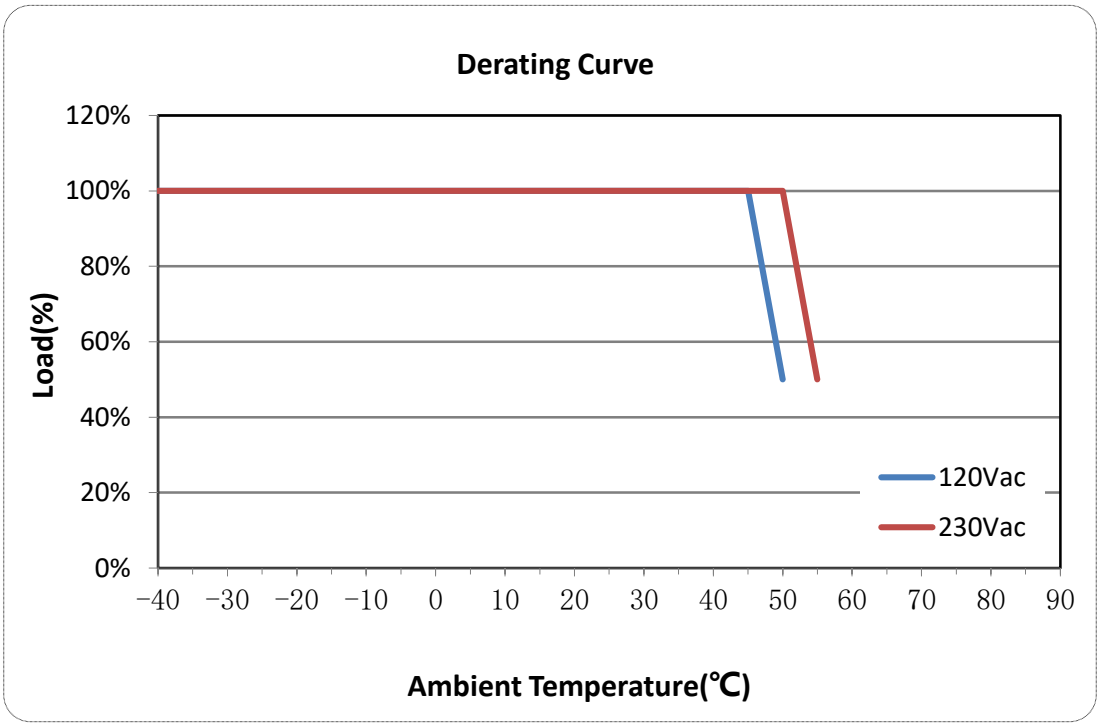
**NOTE:**

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

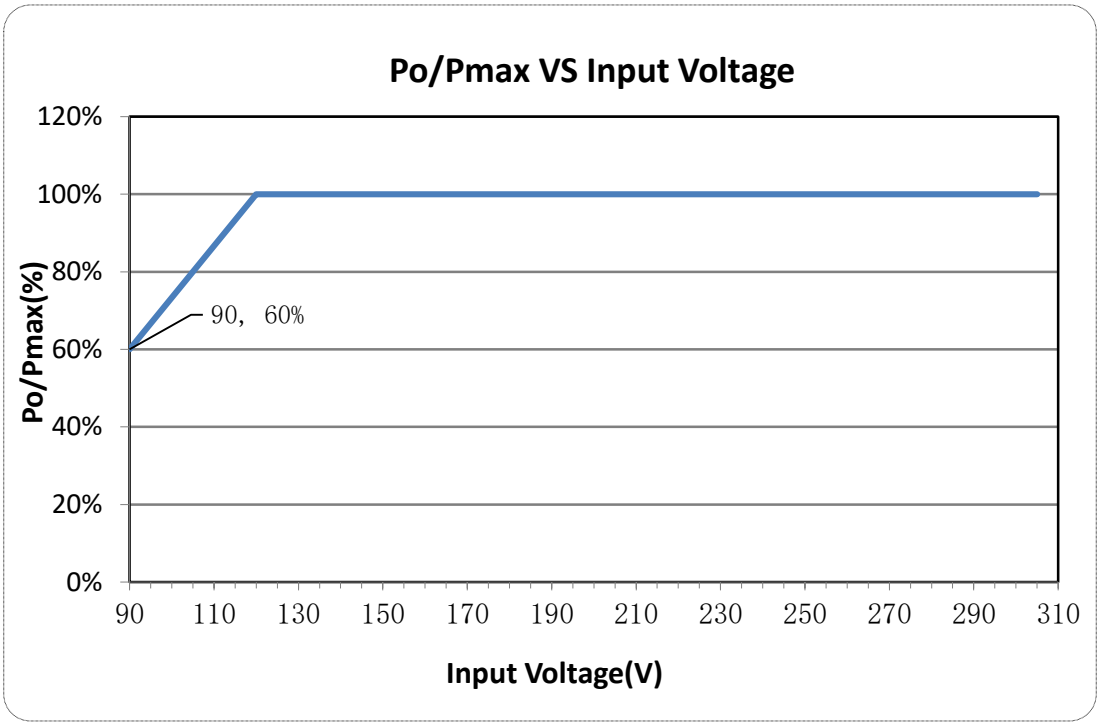
## INRUSH CURRENT WAVEFORM



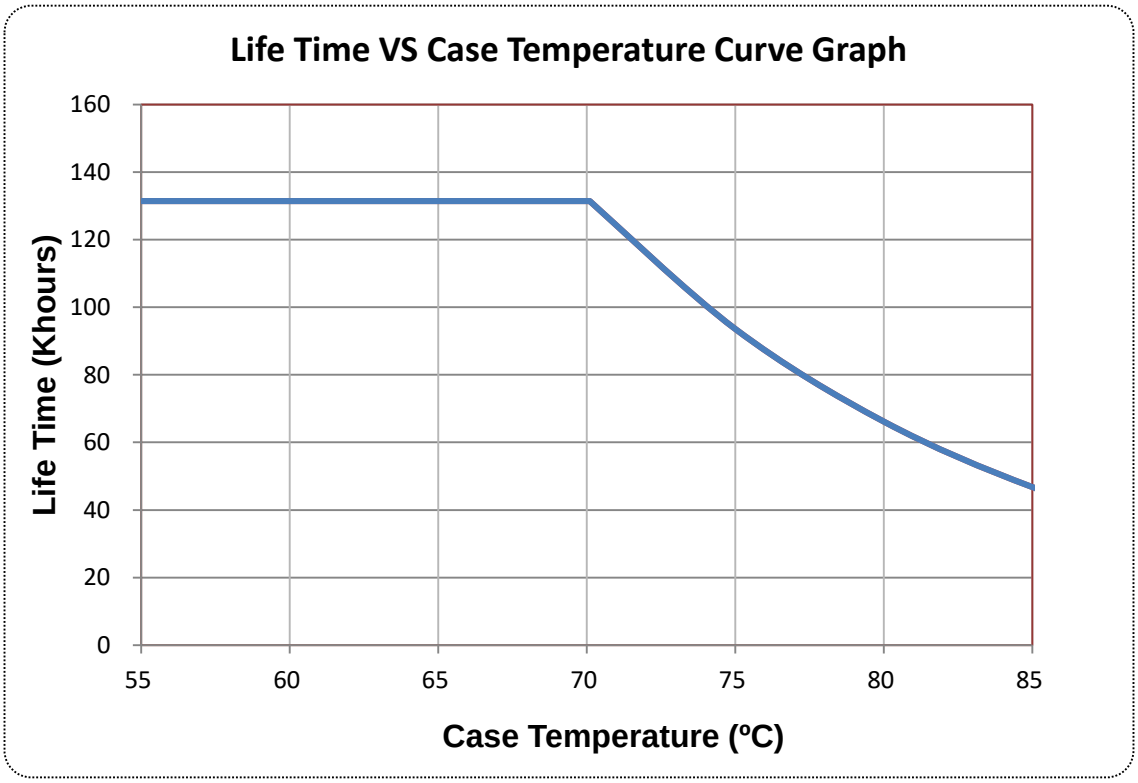

## DERATING CURV



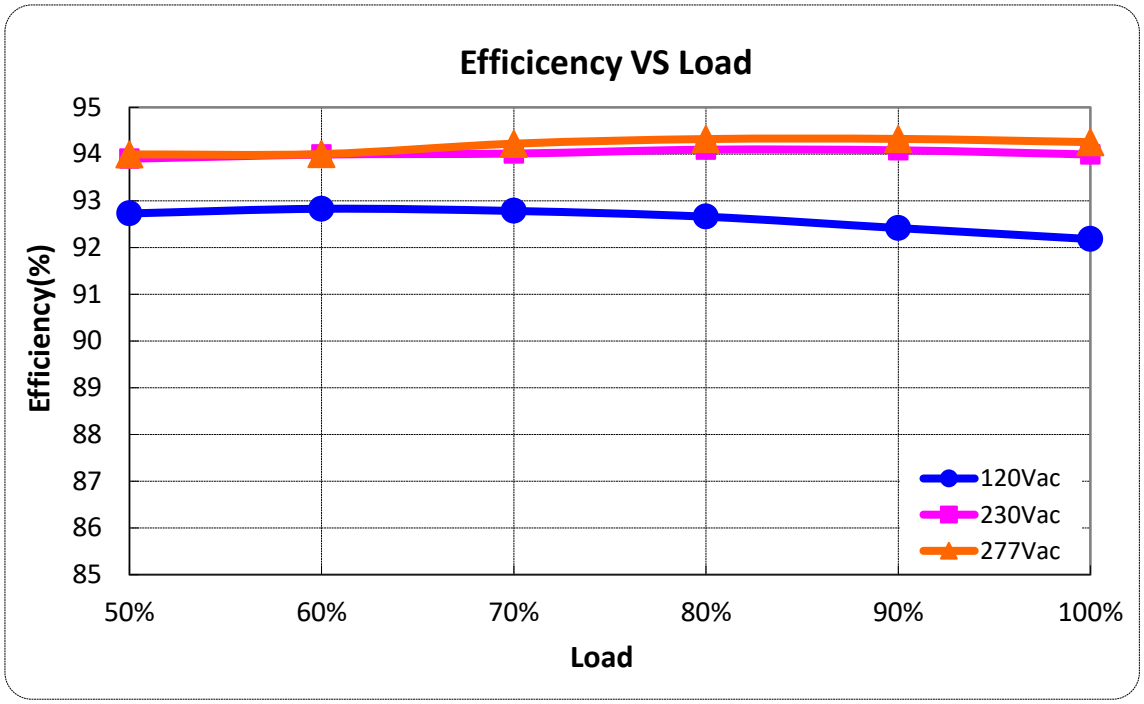
## OUTPUT POWER VS INPUT VOLTAGE



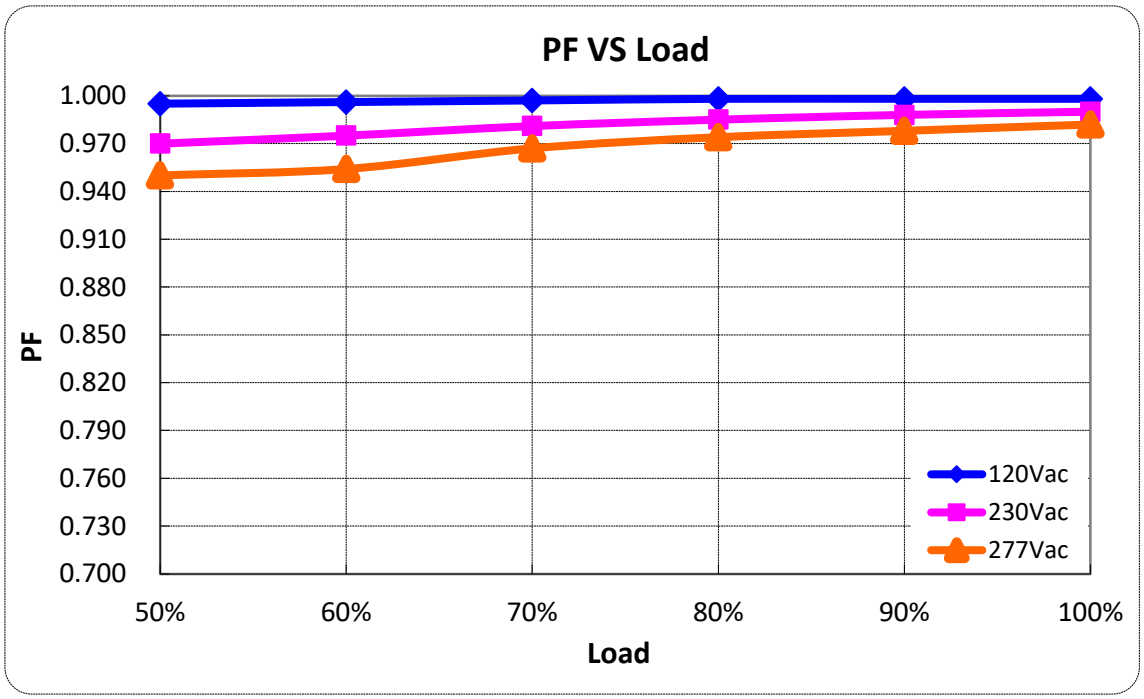

## LIFETIME VS CASE TEMPERATURE



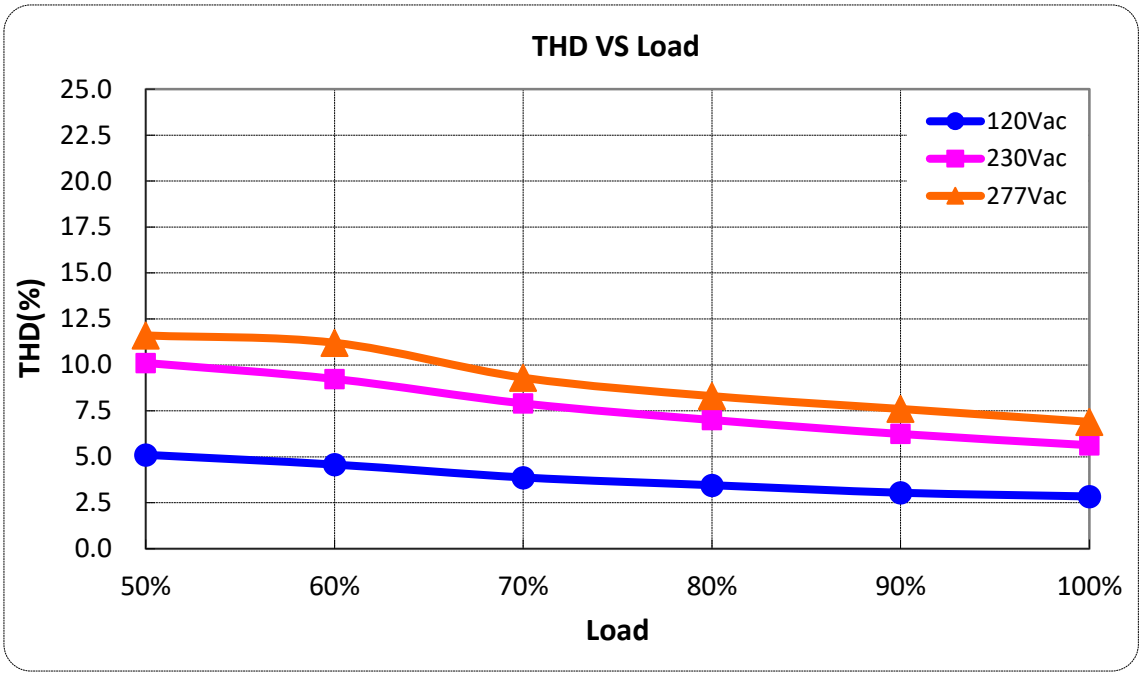
## EFFICIENCY VS LOAD




## POWER FACTOR VS LOAD



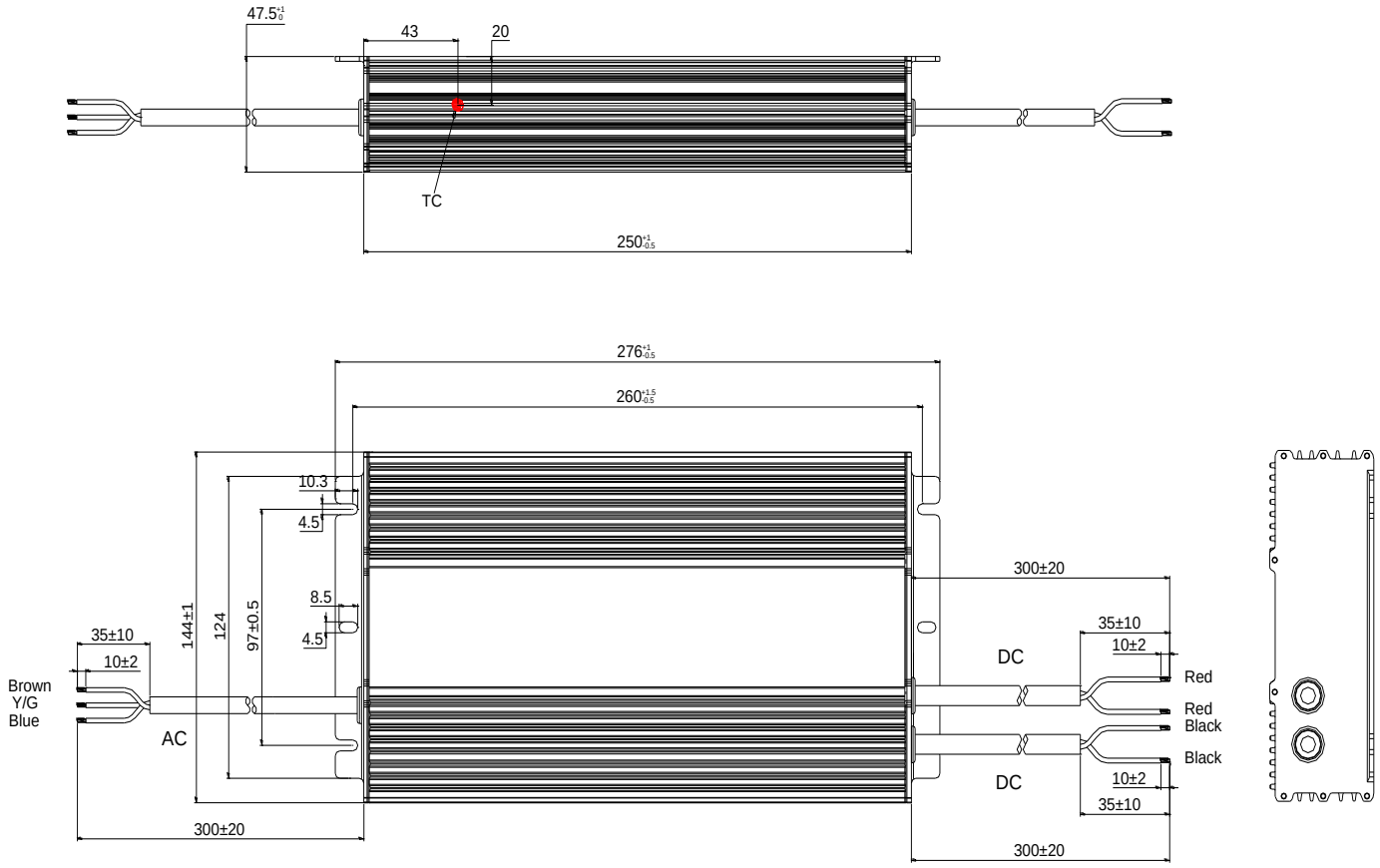
## TOTAL HARMONIC DISTORTION




## PROTECTIONS

| Parameter | Notes |
|---|---|
| Over temperature protection | Decreases output current, returning to normal after over temperature is removed. |
| Short circuit protection | Hiccup mode. The output shall return to normal when the fault condition is removed. |
| Over current protection | When the product exceeds the limited range, it will enter the protection state, and when the fault is resolved, the product will automatically return to normal. |
| Over voltage protection | When the product exceeds the limited range, it enters the protection state, and when the fault is resolved and powered back on, the product will automatically return to normal. |

## MECHANICAL OUTLINE




**Note:**
Two black output wires (Vo-) must be connected to the negative channel of the load end at the same time, and two red output wires (Vo+) must be connected to the positive channel of the load at the same time.

| Wire | Specification | Note |
|---|---|---|
| Input | SJOW 17AWG*3C 3X1.0mm$^2$ L=300±20mm | CCC/VDE |
| Output | CCC+VDE H07RN-F 2X2X2.5mm$^2$ L=300±20mm | CCC/VDE |