

## Series AMER150-CAZ

up to 6.3A | AC-DC / DC-DC | LED Driver / Converter



### Models Single output

#### FEATURES:

- Constant Current or Constant Voltage LED Driver or Converter
- Input range 90-305VAC/47-440Hz
- High Efficiency up to 89%
- 115VAC Operating temperature -50 to 75°C
- 230VAC Operating temperature -55 to 75°C
- Dimmable via resistive
- 5 Year Limited Warranty
- Over Voltage Protection
- Over Current Protection
- Waterproof Case rated IP68
- Power Factor Correction
- Short Circuit Protection



| Model            | Max Output Power (W) <sup>①</sup> | Output Voltage Range (V) <sup>③</sup> | Output Current (A) <sup>③</sup> | Input Voltage (VAC/Hz) | Input Voltage (VDC) | Mode of Operation             | Efficiency (%) |         |         |
|------------------|-----------------------------------|---------------------------------------|---------------------------------|------------------------|---------------------|-------------------------------|----------------|---------|---------|
|                  |                                   |                                       |                                 |                        |                     |                               | 115 VAC        | 230 VAC | 277 VAC |
| AMER150-50300CAZ | 150                               | 36-50                                 | 0-3                             | 90-305/47-440          | 130-430             | Constant Current              | 87             | 89      | 89      |
|                  |                                   |                                       |                                 |                        |                     | Constant Voltage <sup>②</sup> | 87             | 88      | 89      |
| AMER150-36420CAZ | 150                               | 24-36                                 | 0-4.16                          | 90-305/47-440          | 130-430             | Constant Current              | 86             | 88      | 88      |
|                  |                                   |                                       |                                 |                        |                     | Constant Voltage <sup>②</sup> | 86             | 88      | 88      |
| AMER150-24630CAZ | 151.2                             | 12-24                                 | 0-6.3                           | 90-305/47-440          | 130-430             | Constant Current              | 85             | 87      | 87      |
|                  |                                   |                                       |                                 |                        |                     | Constant Voltage <sup>②</sup> | 85             | 87      | 87      |

Add Suffix "-F" No dimming option

① Exceeding the maximum output power will permanently damage the converter

② The dimming feature is not supported when units are used in Constant Voltage mode only, Aimtec suggests to order "-F" No dimming option in this case.

③ In constant current mode output current is maximum shown, in constant voltage mode output voltage is the maximum shown.

All models can be ordered with optional North American colour input wires (black (L), white (N), green (GND)). Add "-NA" to part number when ordering.

NOTE: Aimtec limited warranty of 5 years is valid based on product operation at datasheet specifications at ambient temperature of 25°C, humidity<75%, nominal input voltage (115/230/277VAC) and at rated output load unless otherwise specified. See

<http://www.aimtec.com/terms-sale> AMER150-CAZ's AC/DC LED drivers have electrical safeguards designed within to protect it from conventional electrical abnormalities with the levels listed in the safety table. Applications for use within rural agricultural, heavy industrial, and other areas or regions which are prone to 'dirty' electrical conditions which would subject any of the above models to excessive voltages surges or spikes, may damage or cause early life failure of product. In this case consideration should be made by the end user to ensure that adequate line or mains surge suppression is installed in front of Aimtec device to ensure the longevity of the products. Failure to identify excessive line surges violations prior to installation may damage sensitive equipment permanently.

### Input Specifications

| Parameters                       | Conditions                 | Typical | Maximum | Units |
|----------------------------------|----------------------------|---------|---------|-------|
| Current (full load)              | 115 VAC                    |         | 2000    | mA    |
|                                  | 230 VAC                    |         | 1000    | mA    |
|                                  | 277 VAC                    |         | 900     | mA    |
| Inrush current <2ms (cold start) | 115 VAC                    |         | 50      | A     |
|                                  | 230 VAC                    |         | 75      | A     |
|                                  | 277 VAC                    |         | 90      | A     |
| Leakage current                  | I/O                        |         | 0.25    | mA    |
|                                  | I/FG, O/FG                 |         | 3.5     | mA    |
| Power factor                     | 115 VAC                    | 0.98    |         |       |
|                                  | 230 VAC                    | 0.94    |         |       |
|                                  | 277 VAC                    | 0.92    |         |       |
| External fuse                    | Recommended slow blow type | 3.5     |         | A     |
| Start-up time                    |                            | 900     |         | ms    |

## Output Specifications

| Parameters                | Conditions  | Typical | Maximum | Units  |
|---------------------------|-------------|---------|---------|--------|
| Current accuracy          |             | ±3      |         | %      |
| Line regulation           | LL-HL       | ±2      |         | %      |
| Load regulation           | 0-100% load | ±3      |         | %      |
| Ripple & Noise ④          |             | 200     |         | mV p-p |
| Hold-up time (min)        |             | 40      |         | ms     |
| Current adjustment range⑤ |             | 100-10  |         | %      |

④ Ripple and Noise are measured at 20MHz bandwidth by using a 0.1μF (M/C) or (C/C) and 47μF (E/C) parallel capacitor.

⑤Note: from 0% to 10% dimming adjustment signal instability may be present.

## Isolation Specifications

| Parameters           | Conditions | Typical | Maximum | Units |
|----------------------|------------|---------|---------|-------|
| Tested voltage       | I/O        | 3sec    | 3750    | VAC   |
|                      | I/FG       |         | 2000    | VAC   |
|                      | O/FG       |         | 500     | VAC   |
| Isolation resistance | 500 VDC    | >1000   |         | MΩ    |

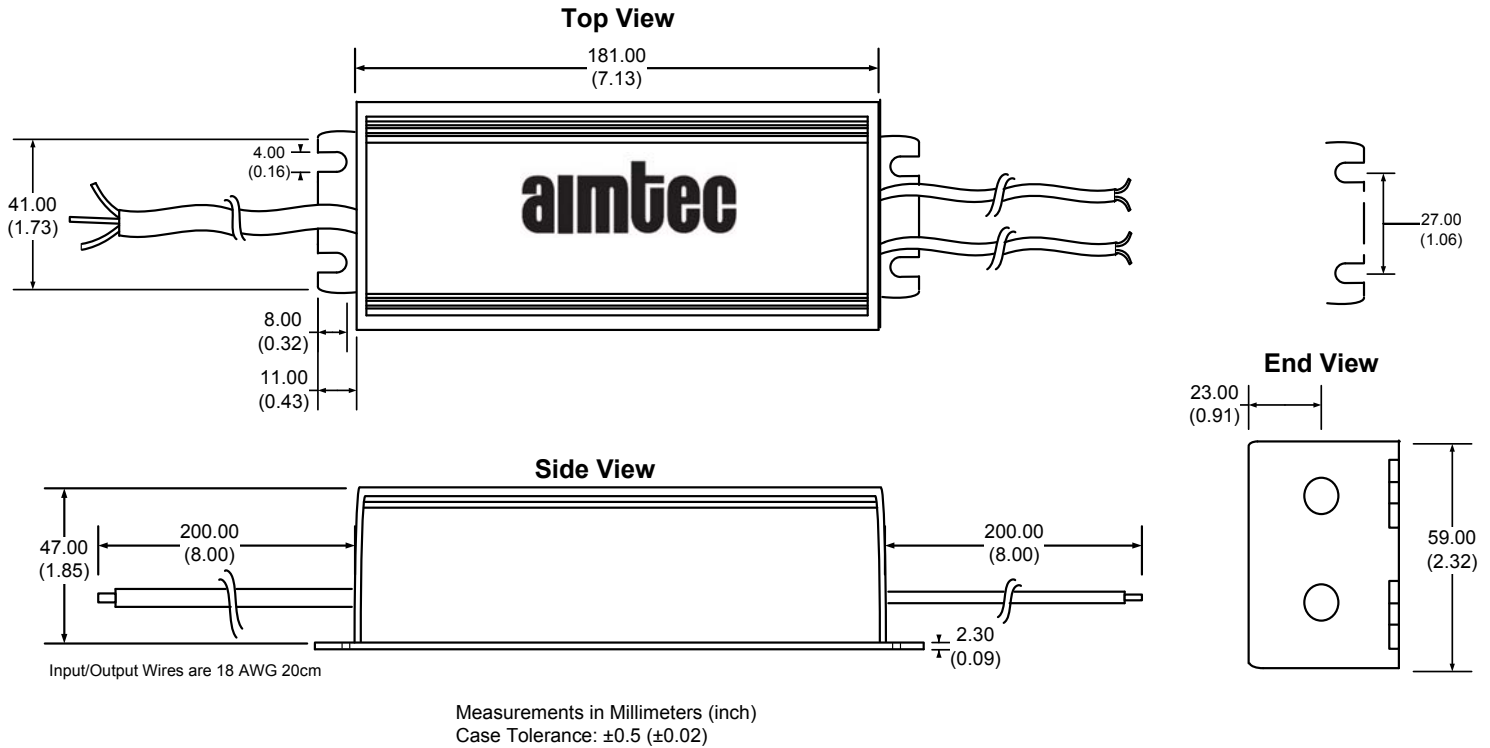
## General Specifications

| Parameters               | Conditions                                                | Typical                   | Maximum | Units  |
|--------------------------|-----------------------------------------------------------|---------------------------|---------|--------|
| Switching frequency      |                                                           | 100                       |         | KHz    |
| Over current protection  | AMER150-50300CAZ                                          |                           | 3.07    | A      |
|                          | AMER150-36420CAZ                                          |                           | 4.27    |        |
|                          | AMER150-24630CAZ                                          |                           | 6.37    |        |
| Over voltage protection  | Refer to Constant Current vs. Constant Voltage Mode curve |                           |         |        |
| Short circuit protection | Auto recovery                                             |                           |         |        |
| Operating temperature    | (115VAC)                                                  | -50 to +75                |         | °C     |
| (See Derating Table)     | (230VAC)                                                  | -55 to +75                |         | °C     |
| Cold Start-up Time       | -55°C                                                     |                           | 20      | Sec    |
| Maximum case temperature |                                                           |                           | 100     | °C     |
| Storage temperature      |                                                           | -55 to +95                |         | °C     |
| Temperature coefficient  |                                                           | ±0.02                     |         | % / °C |
| Cooling                  | Free air convection                                       |                           |         |        |
| Humidity                 |                                                           |                           | 95      | % RH   |
| Case material            | Aluminum                                                  |                           |         |        |
| Potting                  | Epoxy (IP68 rated)                                        |                           |         |        |
| Wires                    | UL1015 18AWG Input & 14AWG Output *20CM                   |                           |         |        |
| Weight                   |                                                           | 900                       |         | g      |
| Dimensions (L X H X W)   | 7.13 x 2.32 x 1.85 inches                                 | 181.00 x 59.00 x 47.00 mm |         |        |
| MTBF                     | >400,000 hrs (MIL-HDBK-217F at +25°C)                     |                           |         |        |

## Safety Specifications

| Parameters       |                                                    |
|------------------|----------------------------------------------------|
| Agency approvals | UL, CE                                             |
| Standards        | UL8750, UL60950-1, EN55022, class B, EN60529(IP68) |
|                  | Information Technology Equipment                   |
|                  | Harmonic Current Emissions                         |
|                  | Voltage fluctuations and flicker                   |
|                  | Electrostatic Discharge Immunity                   |
|                  | RF, Electromagnetic Field Immunity                 |
|                  | Electrical Fast Transient / Burst Immunity         |
|                  | Surge Immunity                                     |
|                  | RF, Conducted Disturbance Immunity                 |
|                  | Power frequency Magnetic Field Immunity            |
|                  | Voltage dips, Short Interruptions Immunity         |

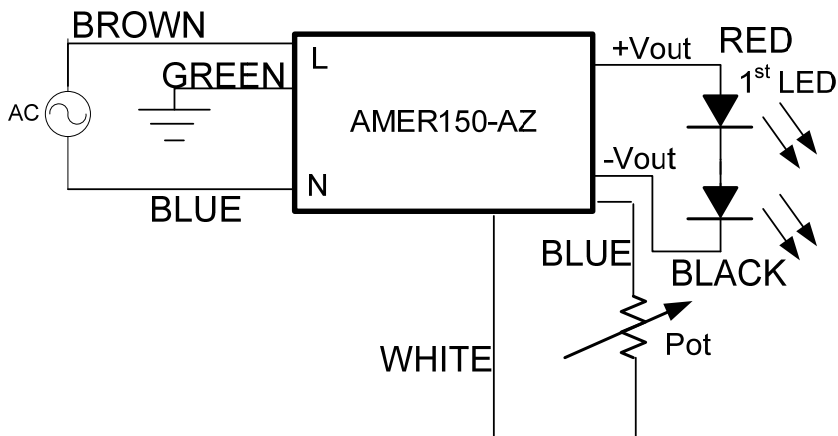
## Dimensions



## Wire connection:

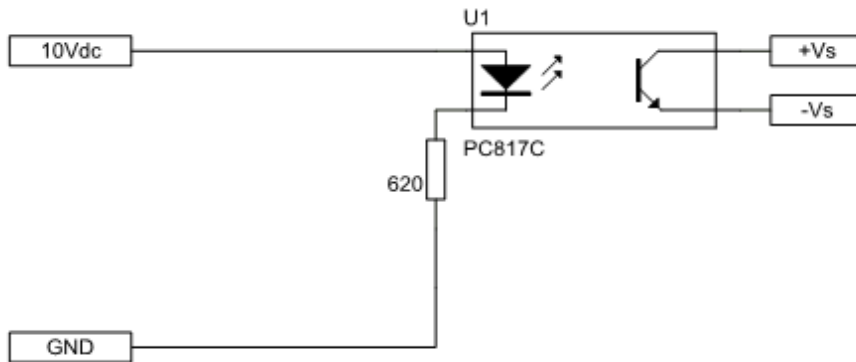
| Wire            | Connection   |
|-----------------|--------------|
| Brown           | AC L         |
| Blue            | AC N         |
| Green           | Ground       |
| Red             | +V output    |
| Black           | -V Output    |
| Blue (Dimming)  | + Vs dimming |
| White (Dimming) | -Vs dimming  |

## Analog (resistive) Dimming Application Circuit

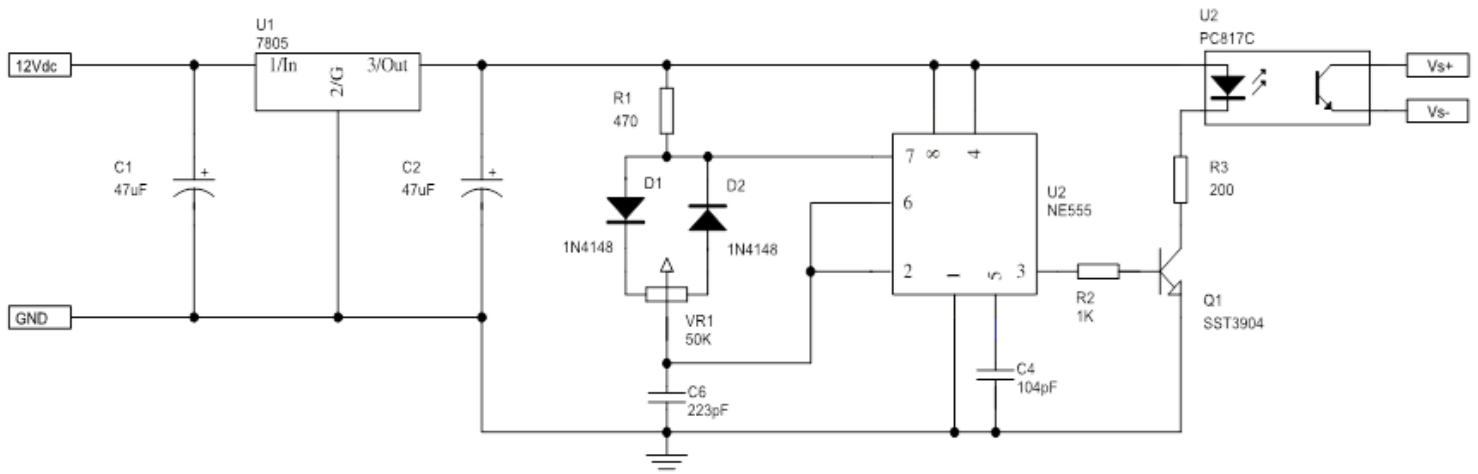


| Model Number     | Maximum Pot Value (k $\Omega$ ) |
|------------------|---------------------------------|
| AMER150-50300CAZ | 16.71                           |
| AMER150-36420CAZ | 26.70                           |
| AMER150-24630CAZ | 11.47                           |

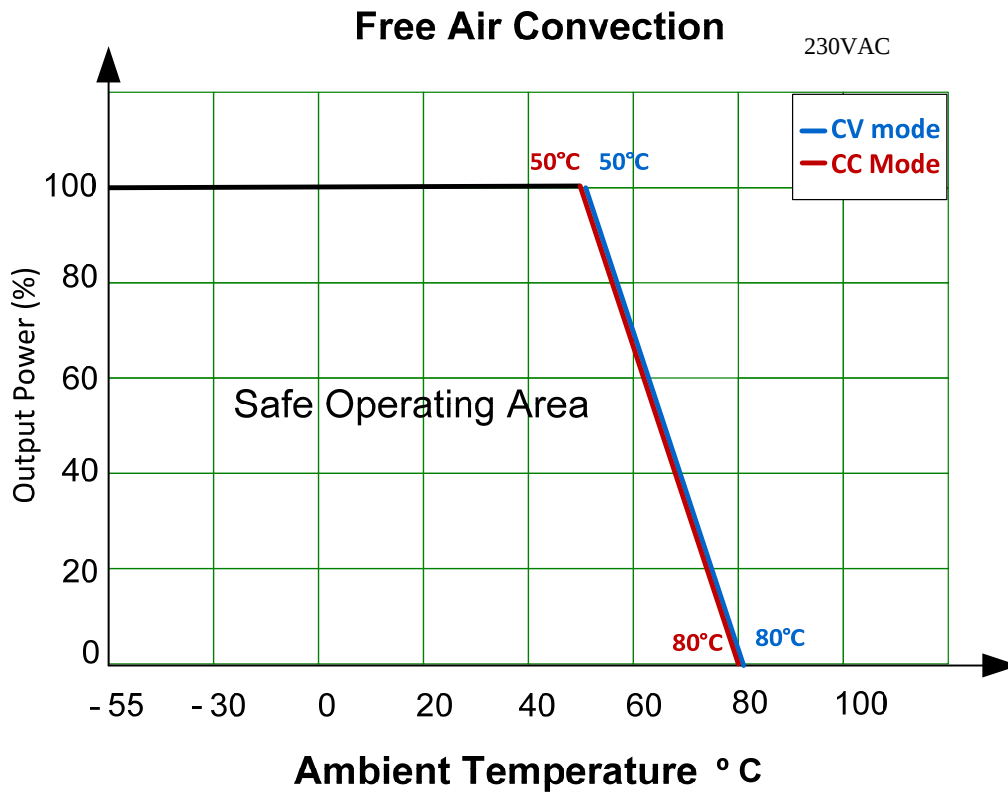
## Analog (0-10V) Dimming Application Circuit



## PWM (1KHz) Dimming Application Circuit

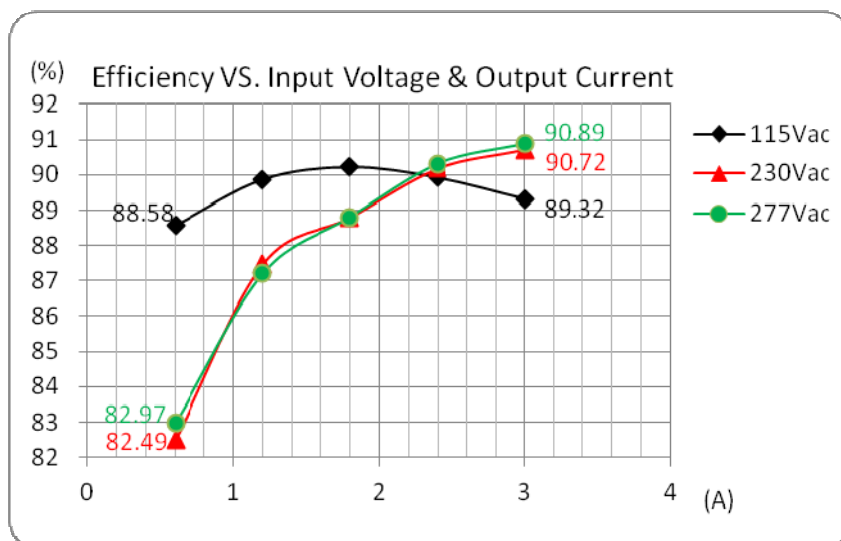


## Derating

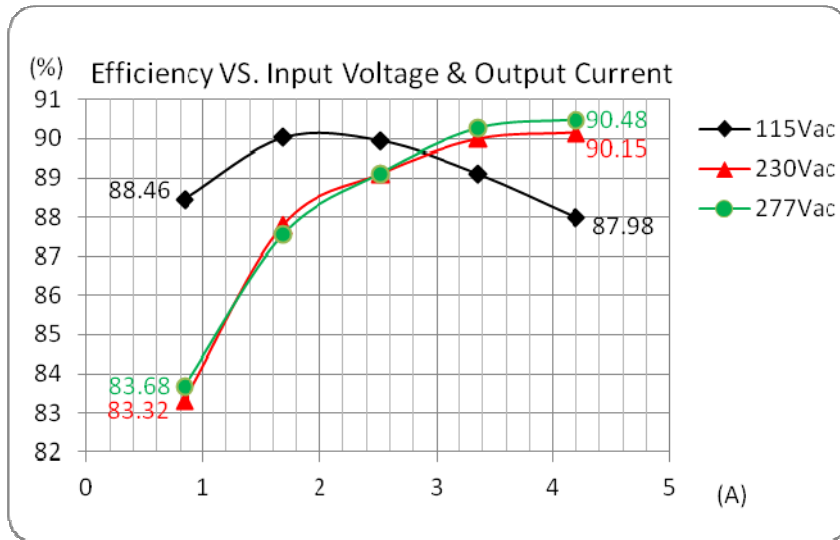


## Efficiency vs. Input Voltage & Output Current (CC mode)

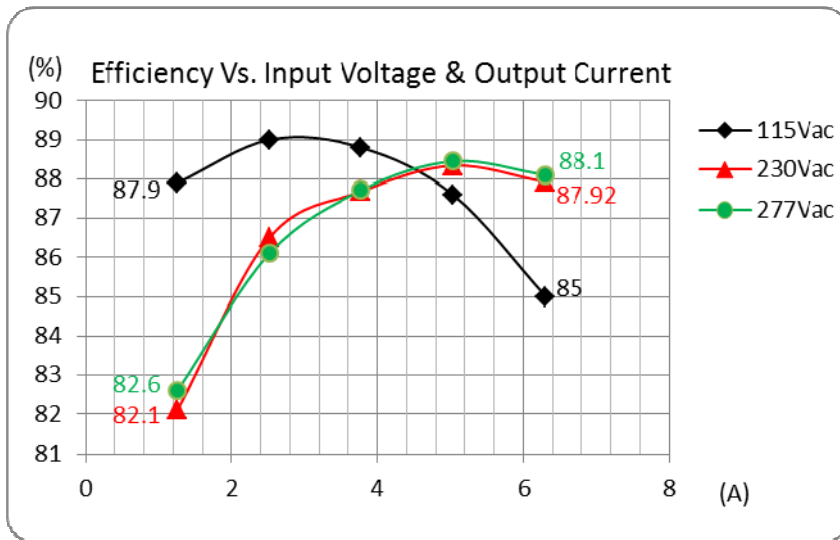
AMER150-50300CAZ



AMER150-36420CAZ

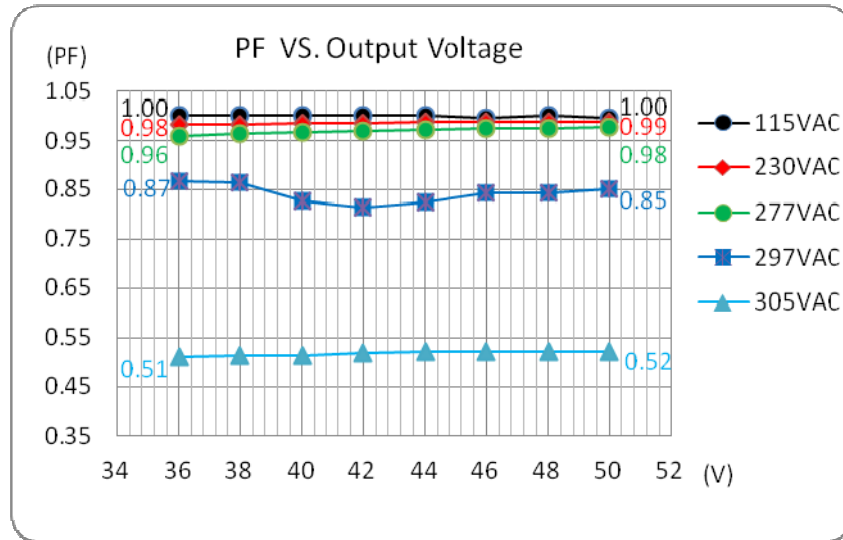


AMER150-24630CAZ

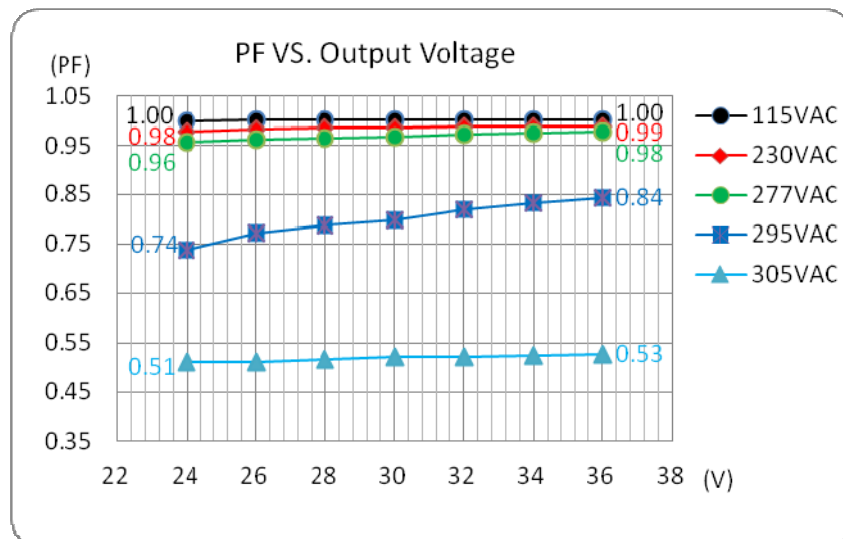


## PFC value vs. Output Load Current (CC mode)

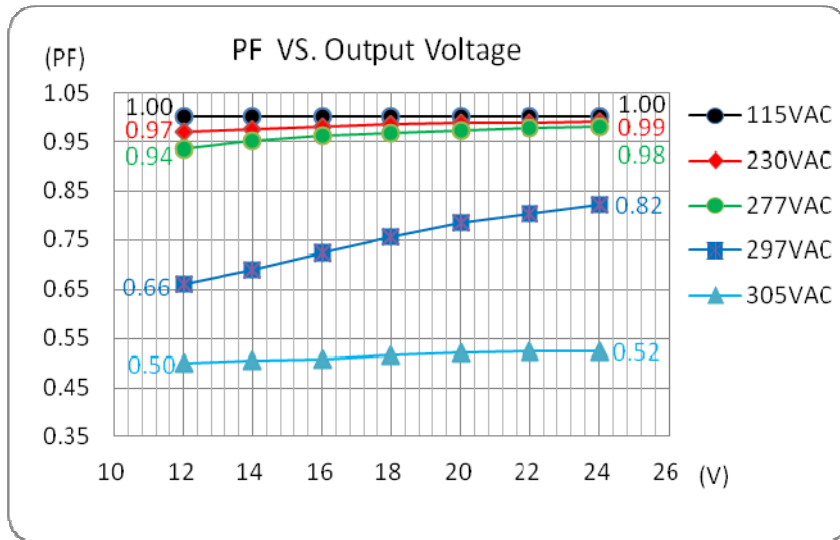
AMER150-50300CAZ



AMER150-36420CAZ

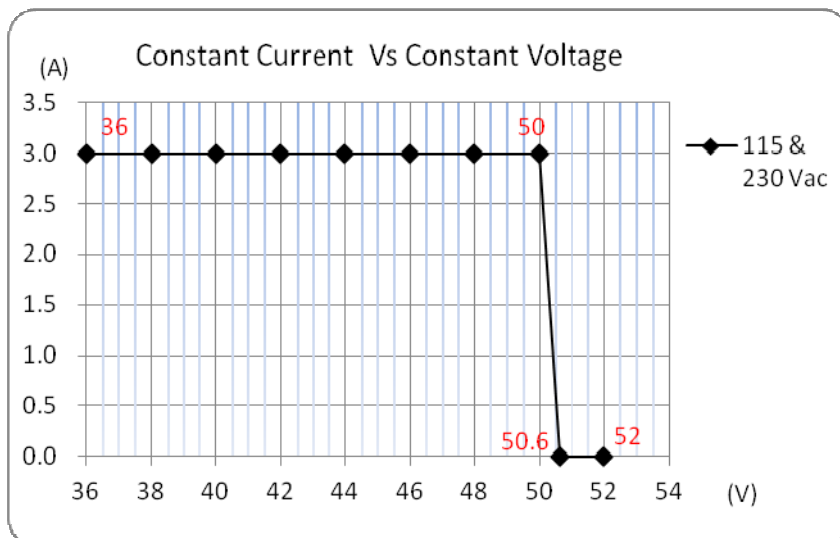


## AMER150-24630CAZ

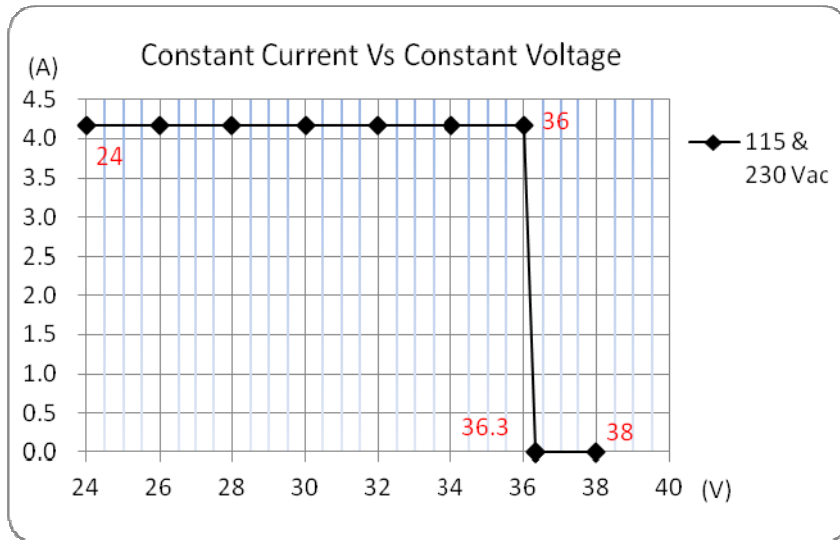


## Constant Current vs. Constant Voltage Mode

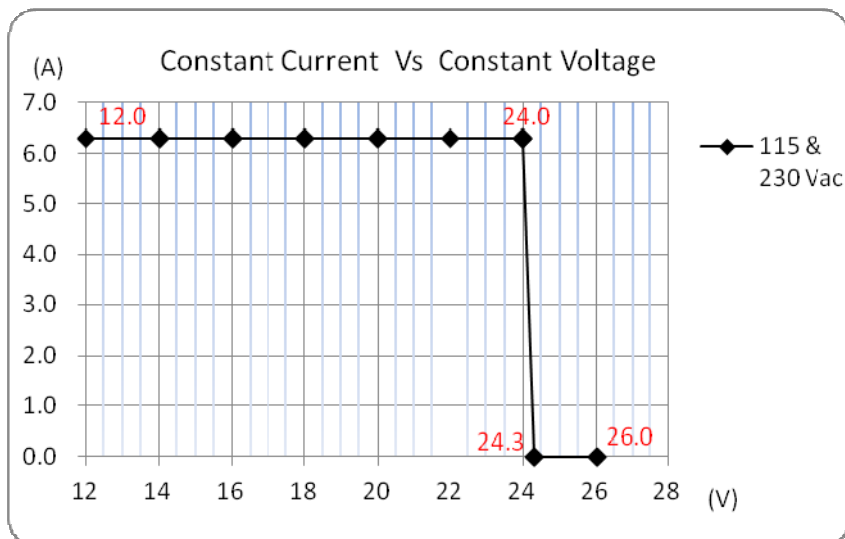
### AMER150-50300CAZ



AMER150-36420CAZ

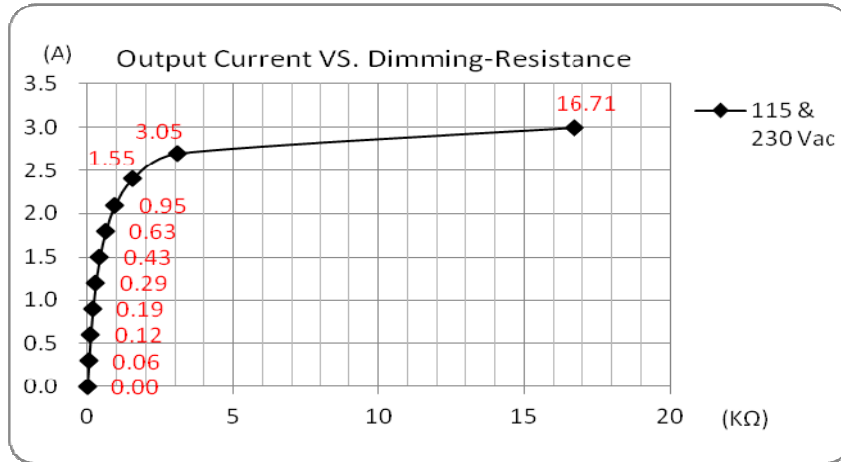


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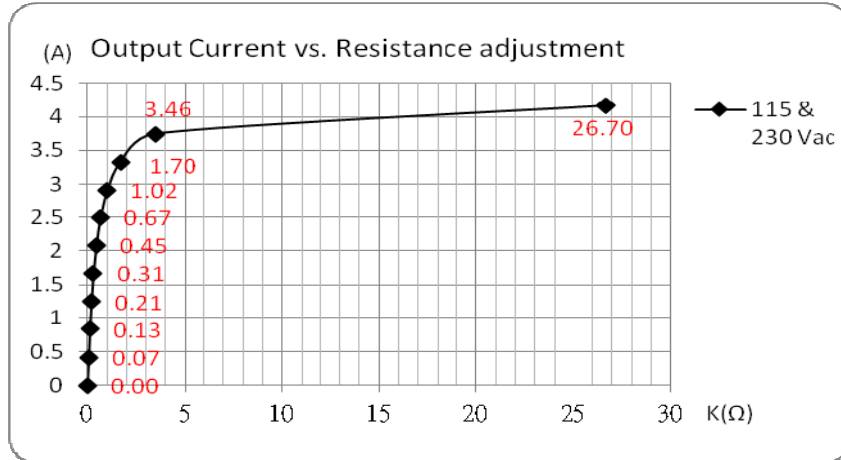


## Output Current vs. Radj

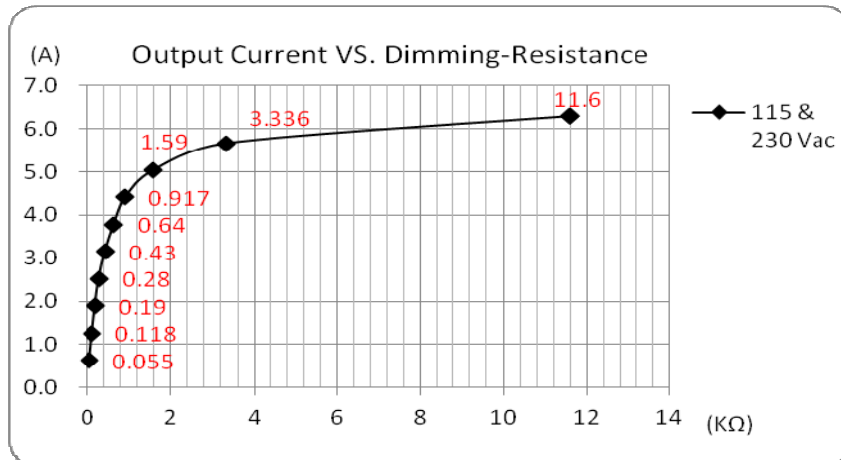
AMER150-50300CAZ



AMER150-36420CAZ



AMER150-24630CAZ



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