# Series AMER150-CAZ

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



### FEATURES:

- Constant Current or Constant Voltage LED Driver or Converter
- Input range 90-305VAC/47-440Hz
- High Efficiency up to 91%
- 115VAC Operating temperature -50 to 80°C
- 230VAC Operating temperature -55 to 80°C
- Dimmable via analog / 0-10V dimming ②
- Over Voltage Protection
- Over Current Protection
- Waterproof Case rated IP68
- Power Factor Correction
- Short Circuit Protection

## Models
## Single output

| Model | Max Output Power (W) ① | Output Voltage Range (V) ③ | Output Current (A) ③ | Input Voltage (VAC/Hz) | Input Voltage (VDC) | Mode of Operation | Efficiency (%) |
|---|---|---|---|---|---|---|---|
| AMER150-50300CAZ | 150 | 36-50 | 0-3 | 90-305/47-440 | 120-430 | Constant Current | 91 |
| | | | | | | Constant Voltage ② | 90 |
| AMER150-36420CAZ | 150 | 24-36 | 0-4.16 | 90-305/47-440 | 120-430 | Constant Current | 90 |
| | | | | | | Constant Voltage ② | 88 |
| AMER150-24630CAZ | 151.2 | 12-24 | 0-6.3 | 90-305/47-440 | 120-430 | Constant Current | 89 |
| | | | | | | Constant Voltage ② | 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.
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

## Input Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---|---|---|---|---|
| Inrush current <2ms | 115VAC | 50 | | A |
| | 230VAC | 75 | | |
| Leakage current | 115VAC | 0.75 | | mA |
| | 230VAC | 1 | | |
| AC current | 115VAC | 2.2 | | A |
| | 230VAC | 0.7 | | |
| Power Factor | 115VAC | 0.98 | | |
| | 230VAC | 0.94 | | |
| External fuse | | | 250V/3.5A | |
| Start up time | | 900 | | ms |
| Surge voltage | 2sec | | 440 | V |

## Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---|---|---|---|---|
| Current accuracy | | ±3 | | % |
| Line regulation | LL-HL | ±1 | | % |
| Load regulation | 0-100% load | ±3 | | % |
| Ripple & Noise ④ | 20MHz Bandwidth | 100 | | mV p-p |
| Hold-up time (min) | | 45 | | ms |
| Current adjustment range | | 100-0 | | % |
| Minimum Load Voltage | See the models table | | | |

④ Tested with 0.1μF (C/C) or (M/C) and 47μF (E/C) parallel capacitors at the end.

## Isolation Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---|---|---|---|---|
| Tested I/P-O/P voltage | 3sec | | 3750 | VAC |
| Tested I/P-FG voltage | 3sec | | 1880 | VAC |
| Tested O/P-FG voltage | 3sec | | 500 | VAC |
| Isolation Resistance | 500VDC | >1000 | | MΩ |
| Isolation Capacitance | | | 1000 | pF |

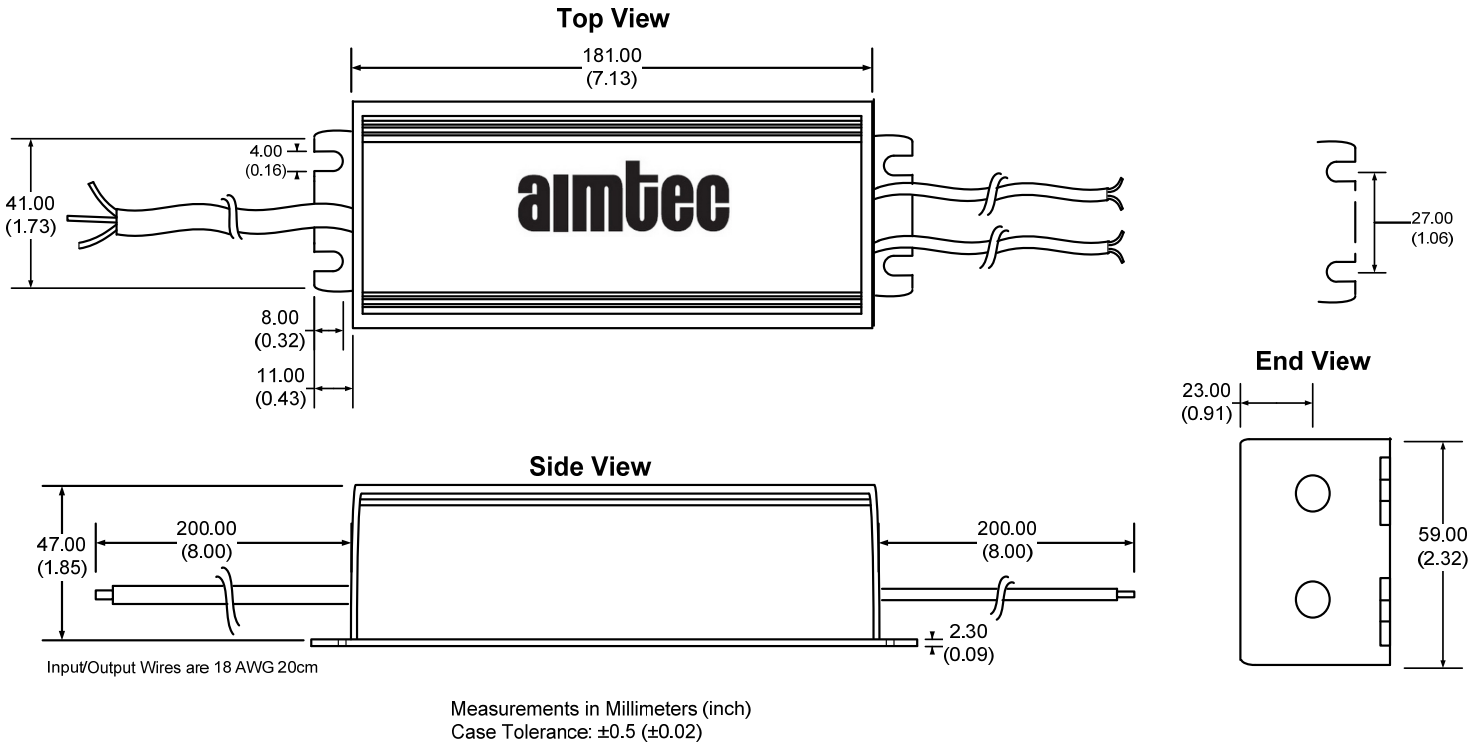
## General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---|---|---|---|---|
| Switching frequency | | 100 | | KHz |
| Over current protection | | 110% of Iout | | |
| Over voltage protection | | 110% of Vout | | |
| Short circuit protection | Continuous | | | |
| Short circuit restart | Auto recovery | | | |
| Over temperature protection | >105°C | | | |
| Operating temperature (See Derating Table) | (115VAC) | -50 to +80 | | °C |
| | (230VAC) | -55 to +80 | | °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 | 750 | | | 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

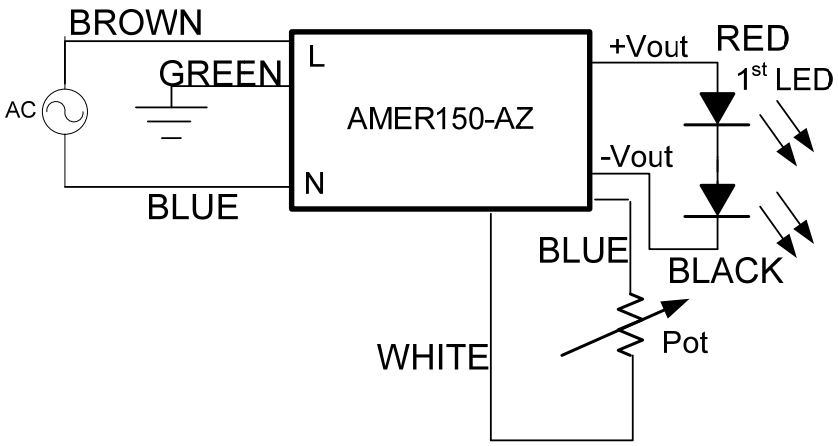
| Parameters | |
|---|---|
| Agency approvals | CE |
| Standards | EN55022, class B, EN60529(IP68), EN61347-1, EN61347-2-13 |
| | NOTE: Also designed to Meet cULus, UL8750, UL60950-1 |

## Dimensions



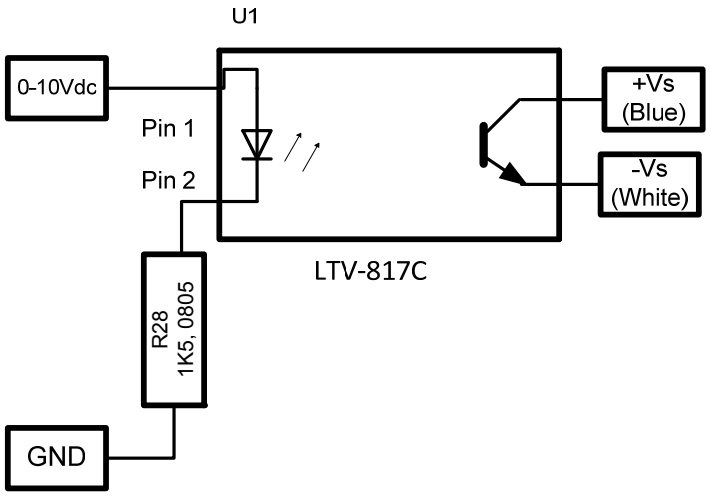

Measurements in Millimeters (inch)
Case Tolerance: ±0.5 (±0.02)

## Analog (resistive) Dimming Application Circuit

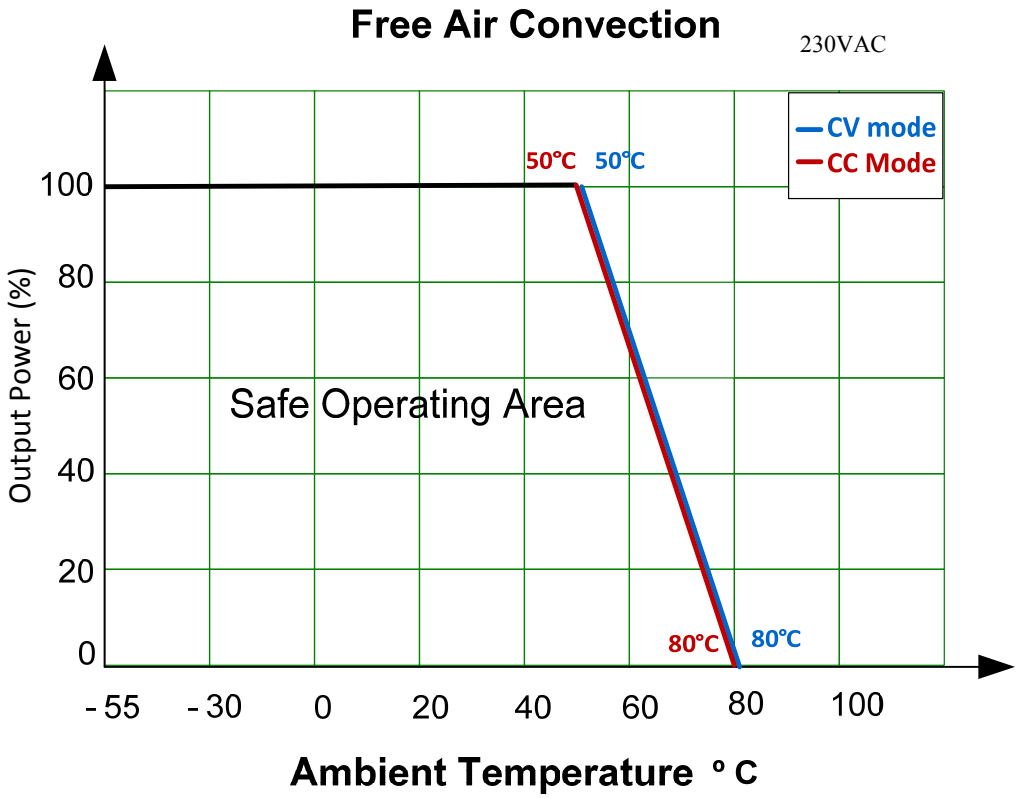



| Model Number | Maximum Pot Value (kΩ) |
|---|---|
| AMER150-50300CAZ | 16.71 |
| AMER150-36420CAZ | 26.70 |
| AMER150-24630CAZ | 11.47 |

## 0-10V Dimming Application Circuit

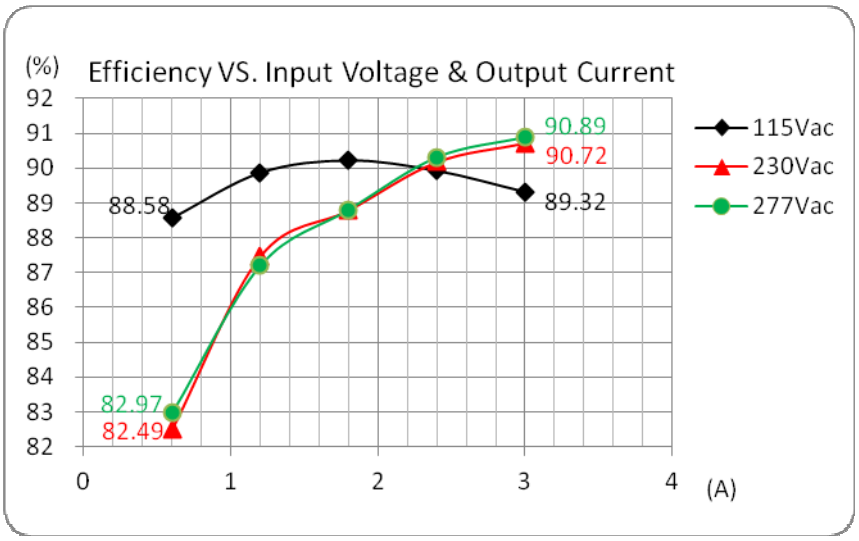



## Derating

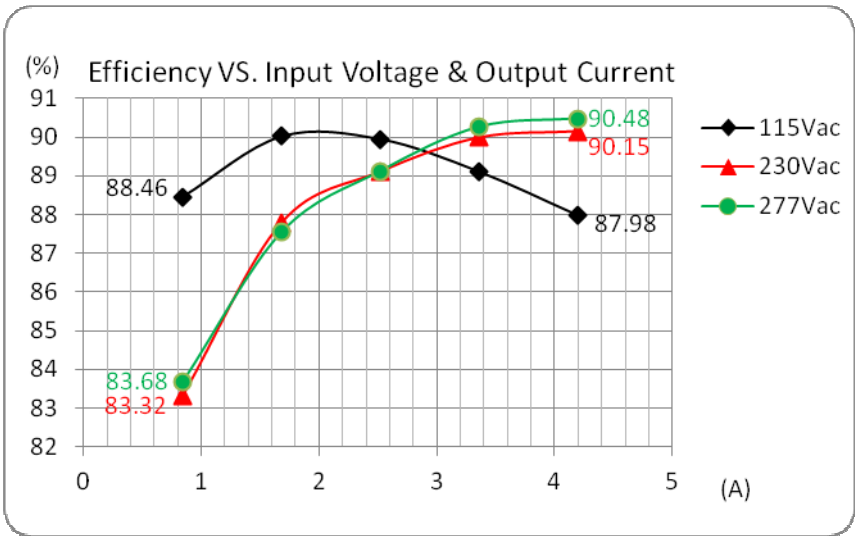


## Efficiency vs. Input Voltage & Output Current (CC mode)

AMER150-50300CAZ

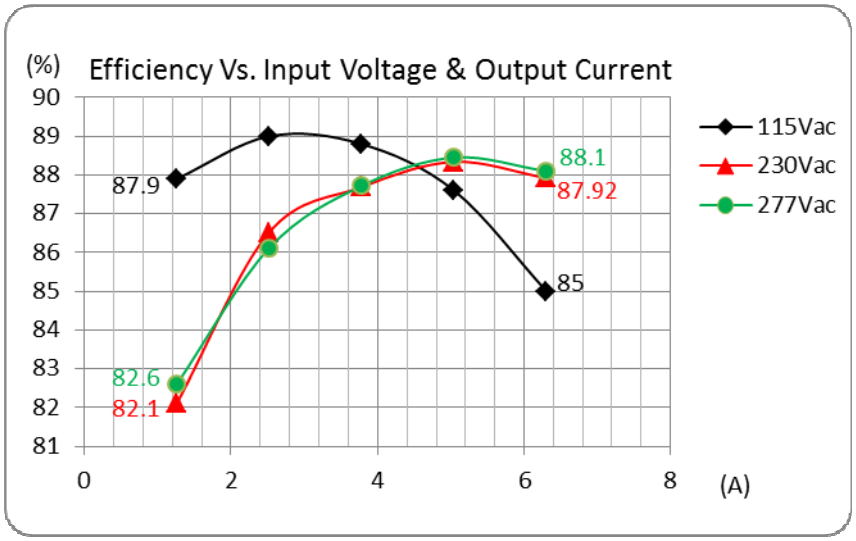



AMER150-36420CAZ



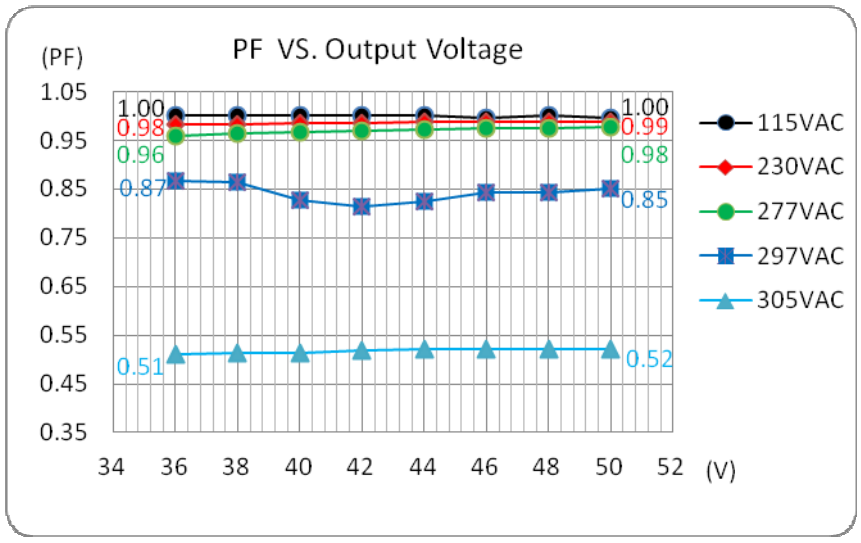
## Efficiency vs. Input Voltage & Output Current (CC mode) Continued

AMER150-24630CAZ



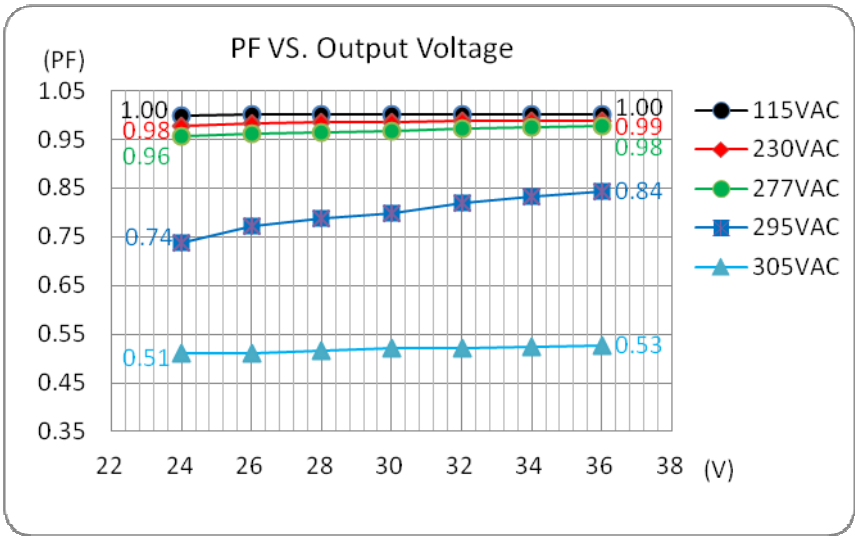

## PFC value vs. Output Load Current (CC mode)

AMER150-50300CAZ

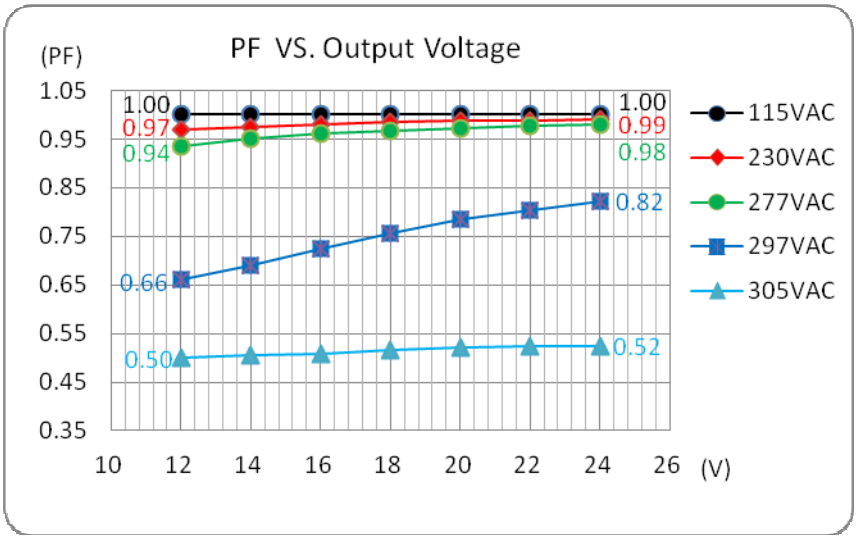


## PFC value vs. Output Load Current (CC mode) Continued

AMER150-36420CAZ

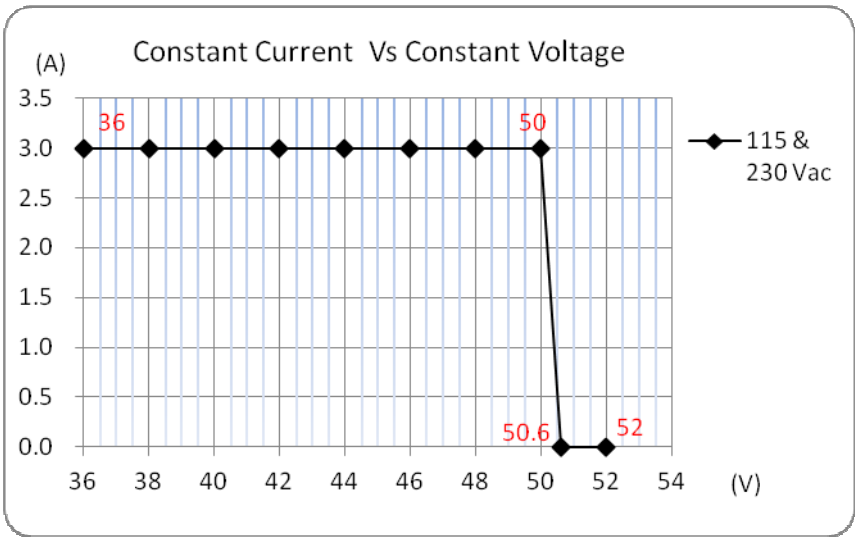



AMER150-24630CAZ

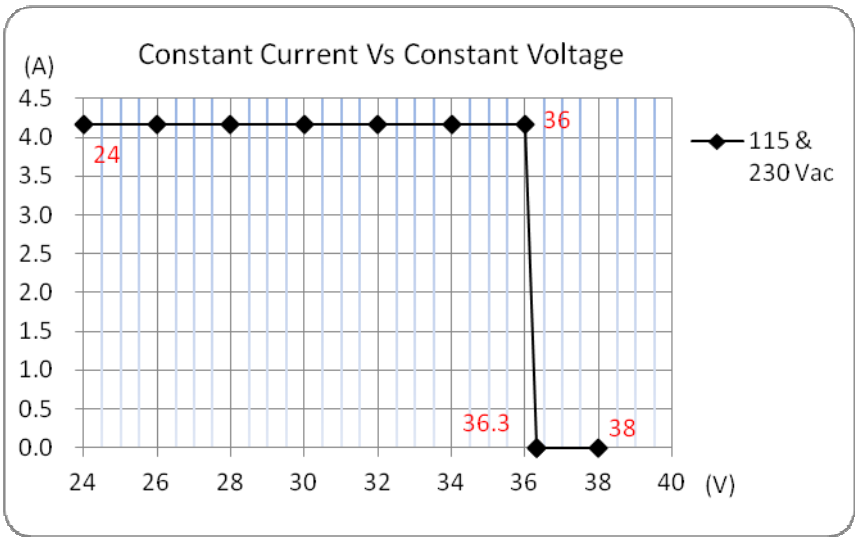


## Constant Current vs. Constant Voltage Mode

AMER150-50300CAZ

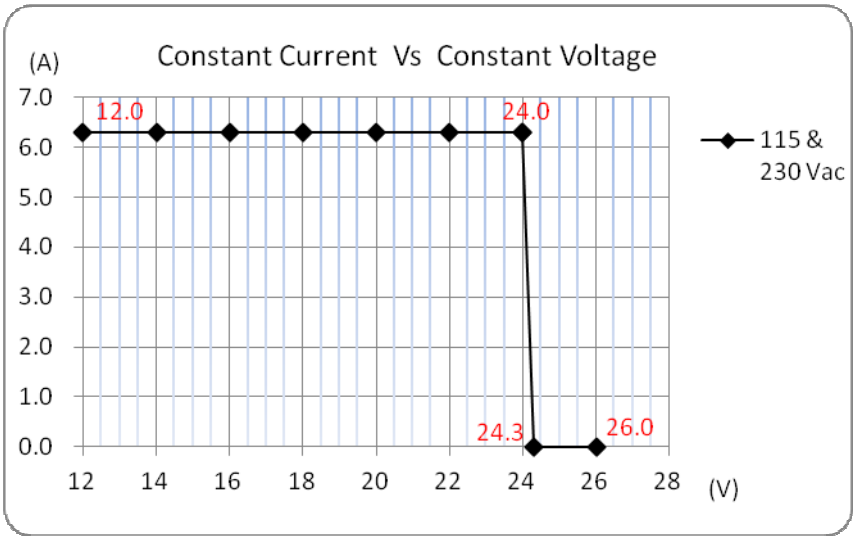



AMER150-36420CAZ



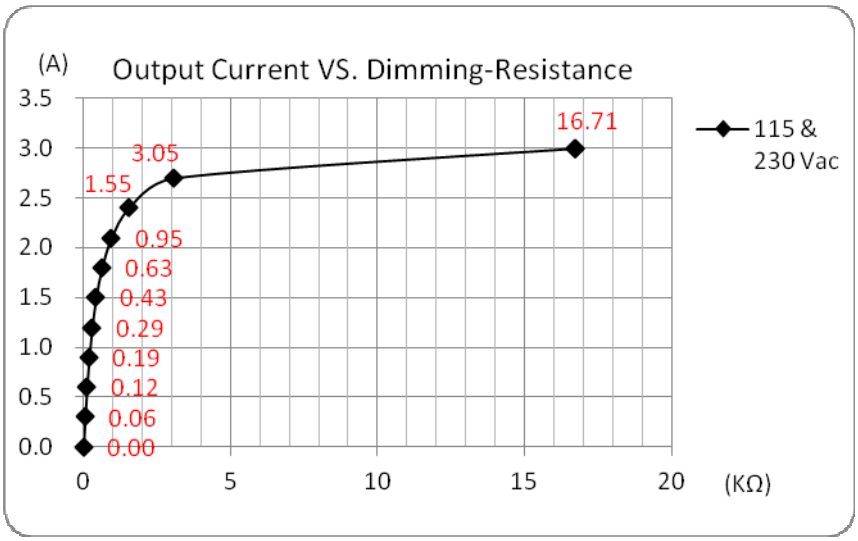
## Constant Current vs. Constant Voltage Mode
## Continued

AMER150-24630CAZ



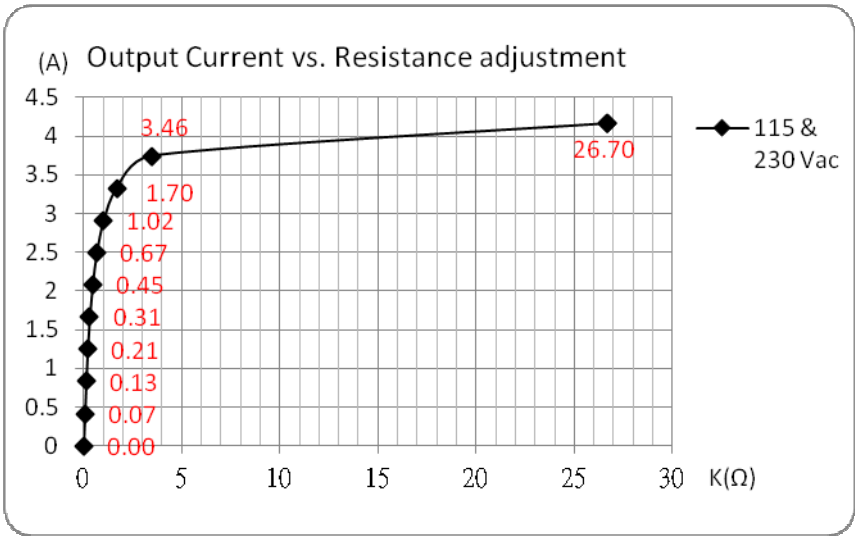

## Output Current vs. Radj

AMER150-50300CAZ

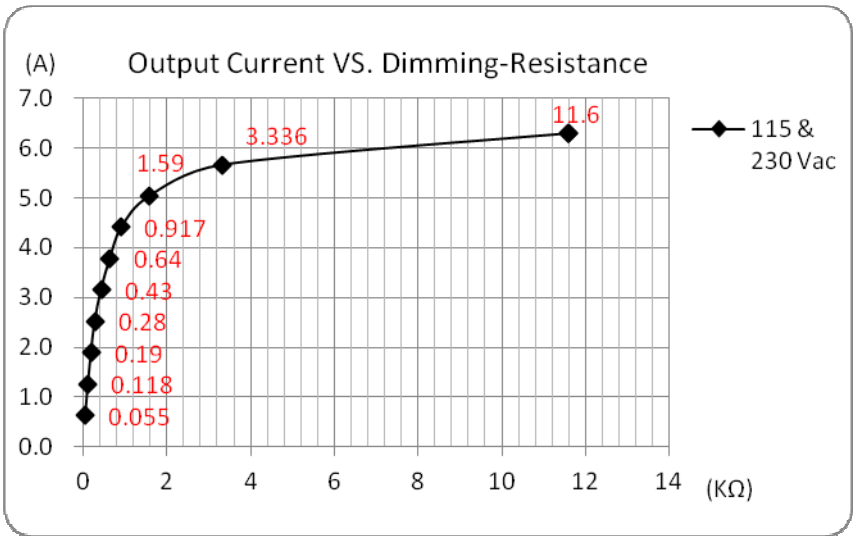


## Output Current vs. Radj
## Continued

AMER150-36420CAZ




AMER150-24630CAZ




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