



FEATURES:

- AC-DC Constant current LED Driver
- Input range 90-277VAC/47-440Hz
- High Efficiency up to 91%
- Operating temperature -40 to 85°C
- Dimmable via analog/0-10V dimming
- Over Temperature Protection
- Waterproof Case rated IP68
- Power Factor Correction
- Short Circuit Protection
- Over Current Protection

Models
Single output



| Model | Max Output Power (W) * | Output Voltage Range (V) | Output Current (A) | Input Voltage (VAC/Hz) | Input Voltage (VDC) | Efficiency (%) |
|-----------------|------------------------|--------------------------|--------------------|------------------------|---------------------|----------------|
| AMER90-50180AZ | 90 | 36-50 | 1.8 | 90-277/47-440 | 120-390 | 91 |
| AMER90-36250AZ | 90 | 24-36 | 2.5 | 90-277/47-440 | 120-390 | 90 |
| AMER90-24375AZ | 90 | 12-24 | 3.75 | 90-277/47-440 | 120-390 | 90 |
| Add suffix "-F" | No dimming option | | | | | |

*Exceeding the maximum output power will permanently damage the converter

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 | 40 | | A |
| | 230VAC | 50 | | |
| Leakage current | 115VAC | 0.5 | | mA |
| | 230VAC | 0.75 | | |
| AC current | 115VAC | 1.4 | | A |
| | 230VAC | 0.46 | | |
| Power Factor | 115VAC | | 0.98 | |
| | 230VAC | | 0.94 | |
| External fuse | | | 250V/2.5A | |
| Start up time | | 700 | | 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 | ±0.3 | | % |
| Ripple & Noise * | 20MHz Bandwidth | 75 | | mV p-p |
| Hold-up time | | 100 | | ms |
| Current adjustment range | | 100-0 | | % |
| Minimum Load Voltage | See the models table | | | |

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

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|-----------------------|------------|---------|-------|-------|
| Tested I/O voltage | 3sec | | 3000 | VAC |
| Isolation Resistance | 500VDC | >1000 | | MΩ |
| Isolation Capacitance | | | 1000 | pF |

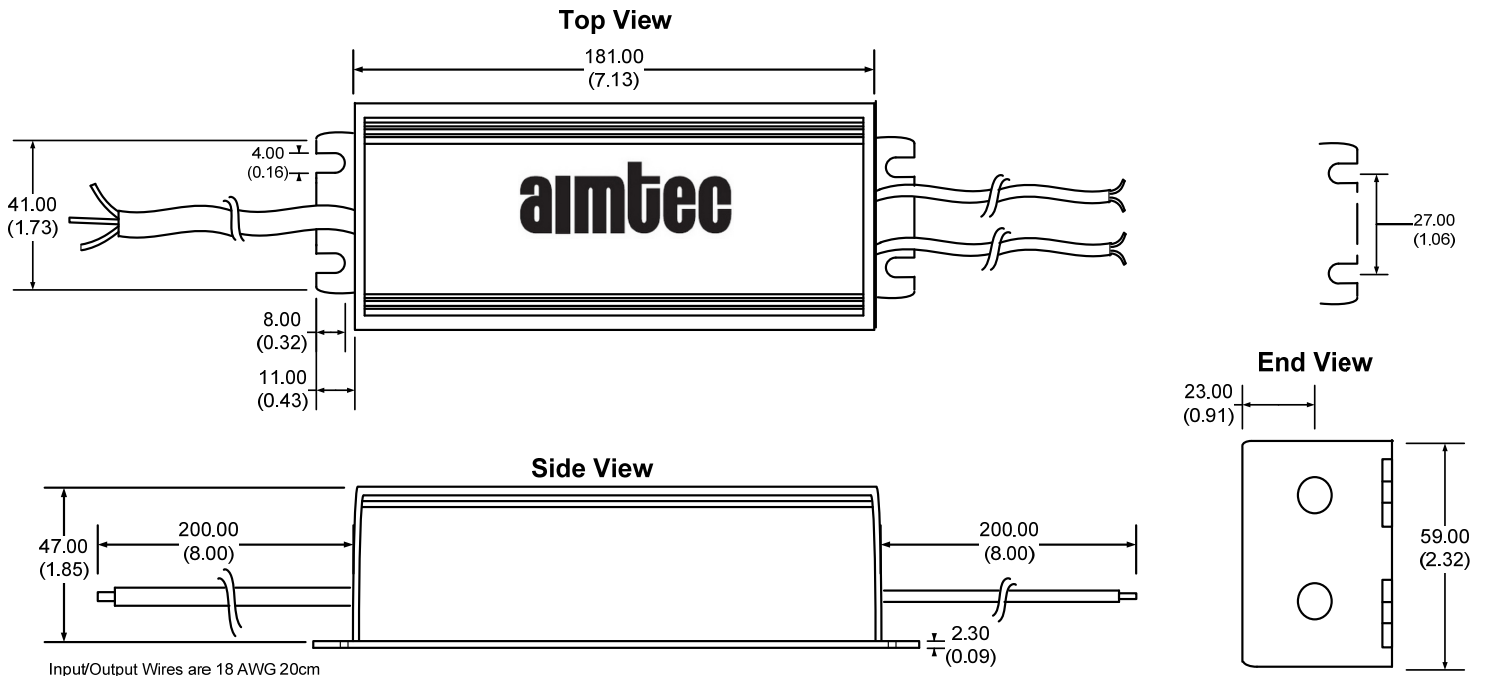
General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|-----------------------------|-------------------------|---------------------------------------|---------------------------|--------|
| Switching frequency | | 100 | | KHz |
| Over current protection | | 95-110% of Iout | | |
| Over voltage protection | | 110% of Vout | | |
| Short circuit protection | | Continuous | | |
| Short circuit restart | | Auto recovery | | |
| Over temperature protection | | >105°C | | |
| Operating temperature | With derating over 55°C | -40 to +85 | | °C |
| Maximum case temperature | | | 100 | °C |
| Storage temperature | | -40 to +95 | | °C |
| Temperature coefficient | | ±0.02 | | % / °C |
| Cooling | | Free air convection | | |
| Humidity | | | 95 | % RH |
| Case material | | Aluminum | | |
| Potting | | Epoxy (IP67 rated) | | |
| Wires | | UL1015 18AWG *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

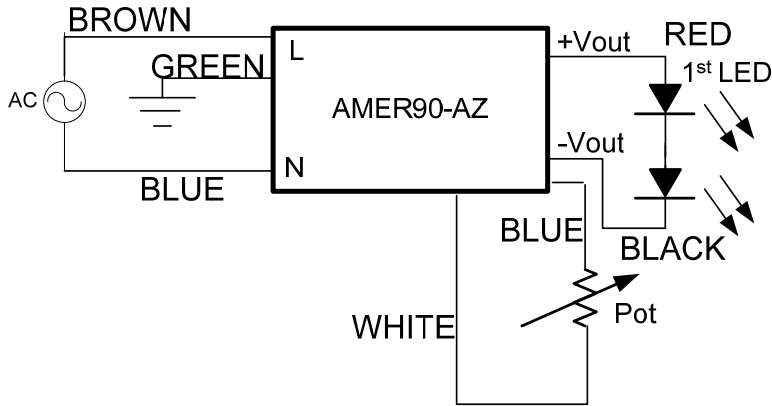
| Parameters | |
|------------------|---|
| Agency approvals | cULus, CE |
| Standards | UL8750, UL60950-1, EN55022, class B, EN60529(IP68), EN61347-1, EN61347-2-13 |

Dimensions



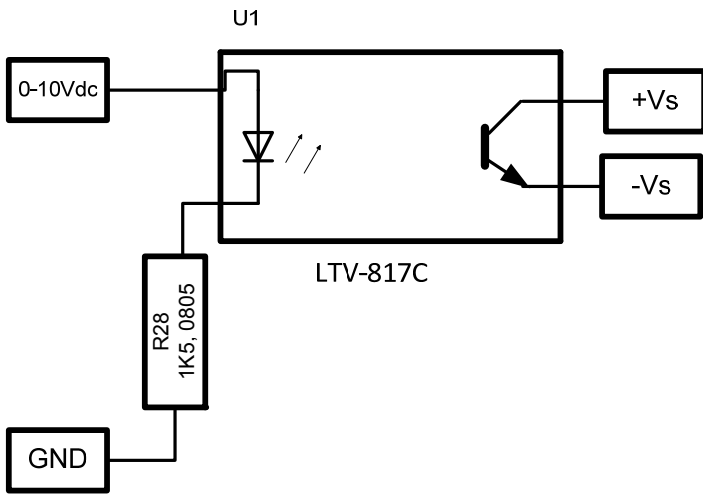
Measurements in Millimeters (inch)
Case Tolerance: ±0.5 (±0.02)

Analog (resistive) Dimming Application Circuit

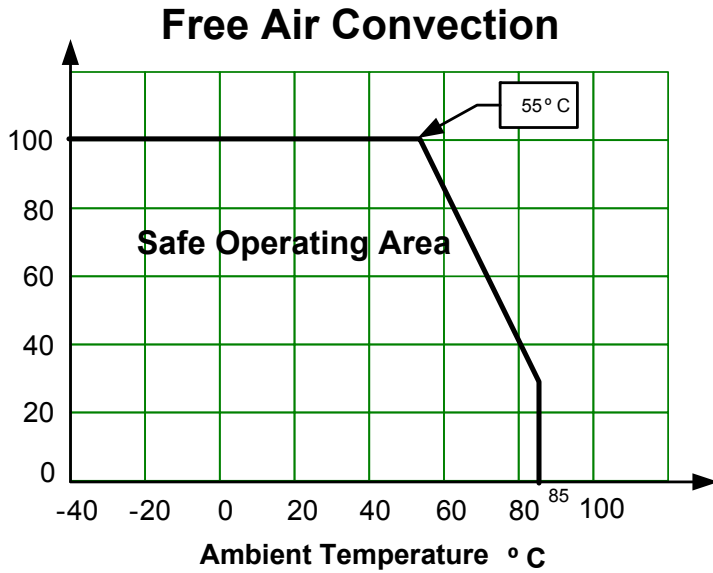


| Model Number | Maximum Pot Value (kΩ) |
|----------------|------------------------|
| AMER90-50180AZ | 15.00 |
| AMER90-36250AZ | 24.00 |
| AMER90-24375AZ | 16.95 |

0-10V Dimming Application Circuit

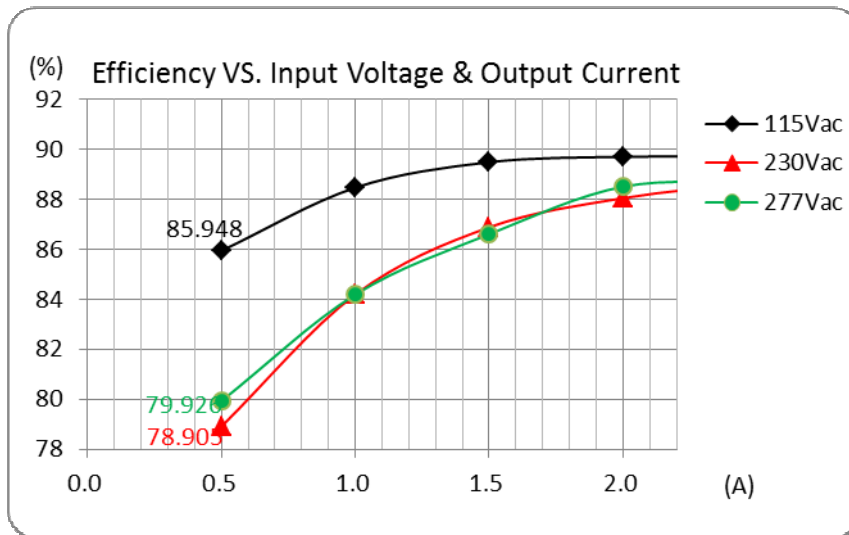


Temperature graph

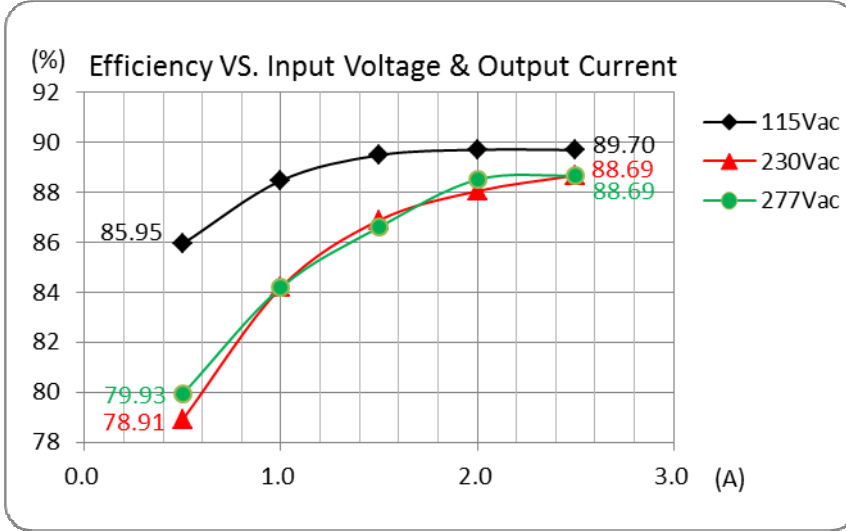


Efficiency vs. Input Voltage and Output Current (CC Load)

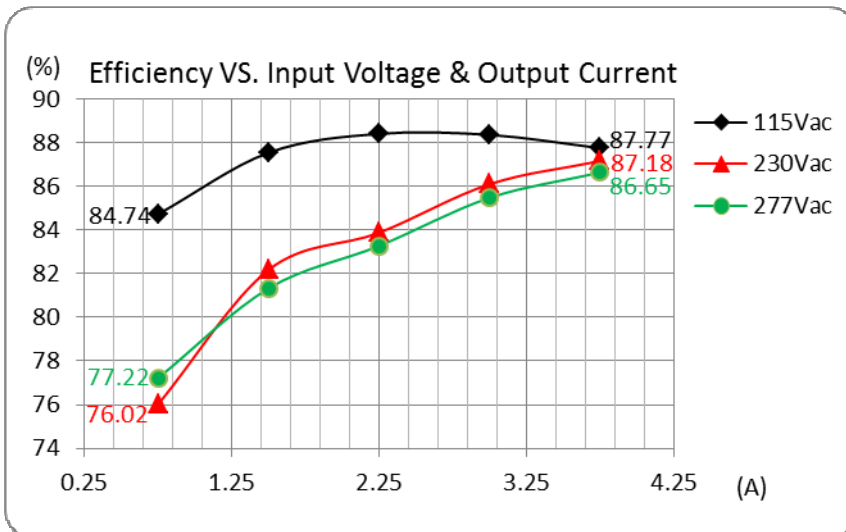
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Efficiency vs. Input Voltage and Output Current (CC Load)
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AMER90-36250AZ

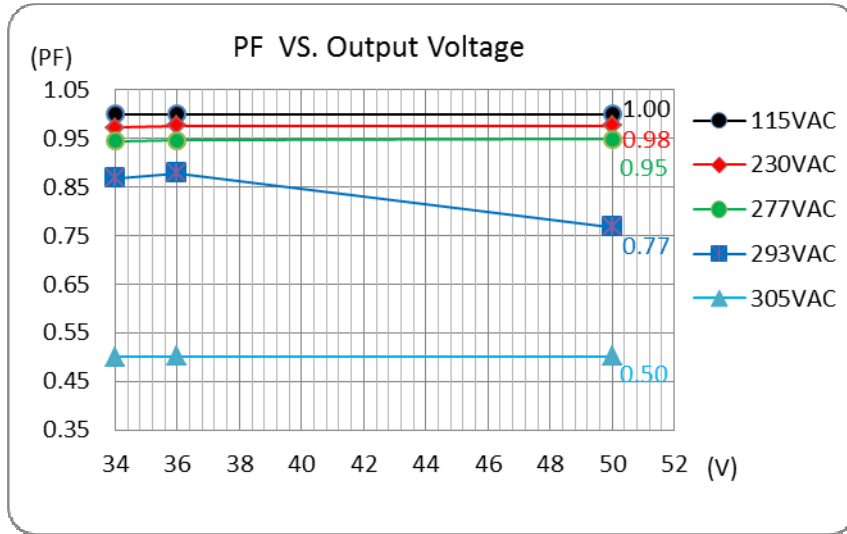


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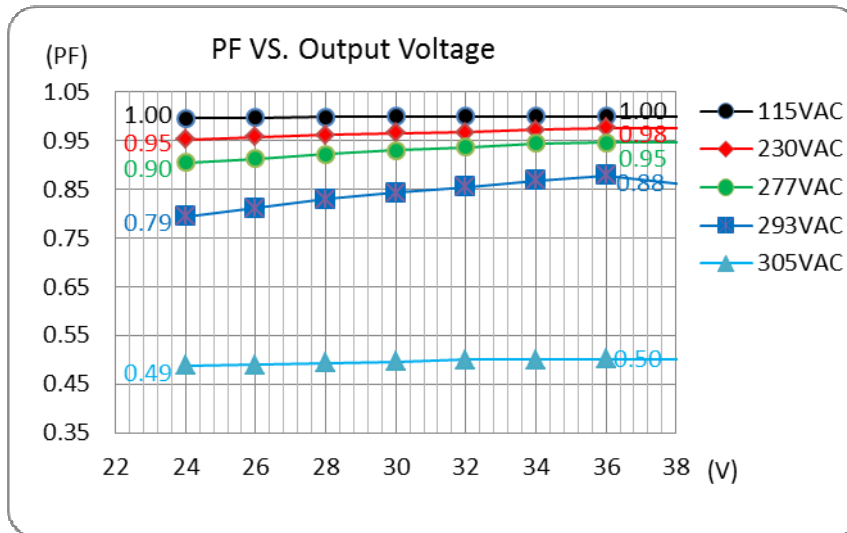


PFC Value vs. Output Load Current (CC Load)

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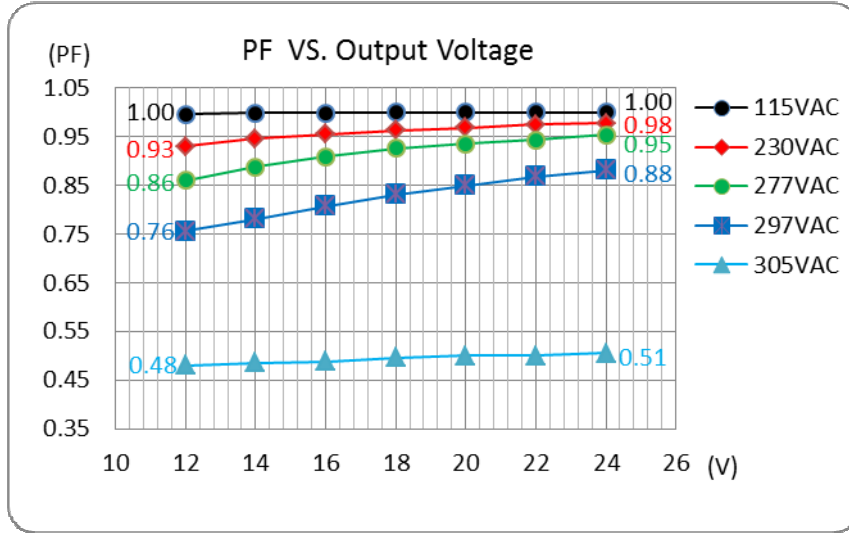
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PFC Value vs. Output Load Current (CC Load)

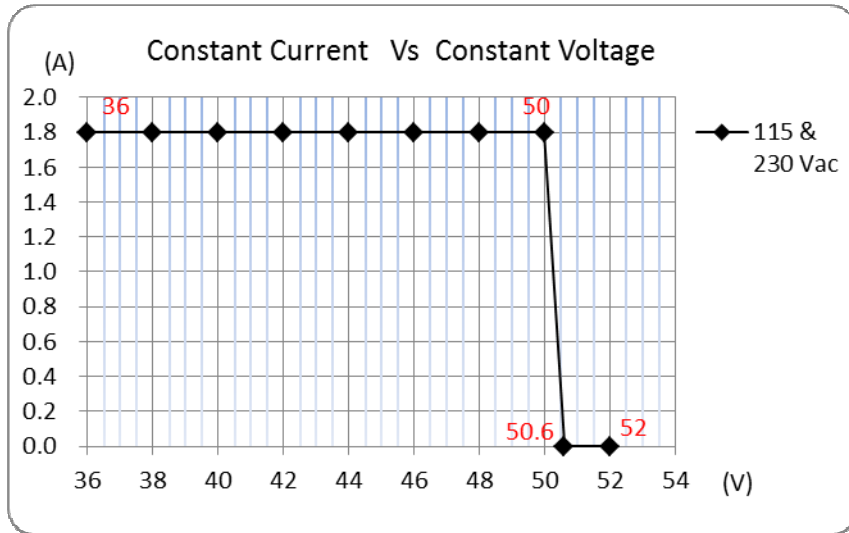
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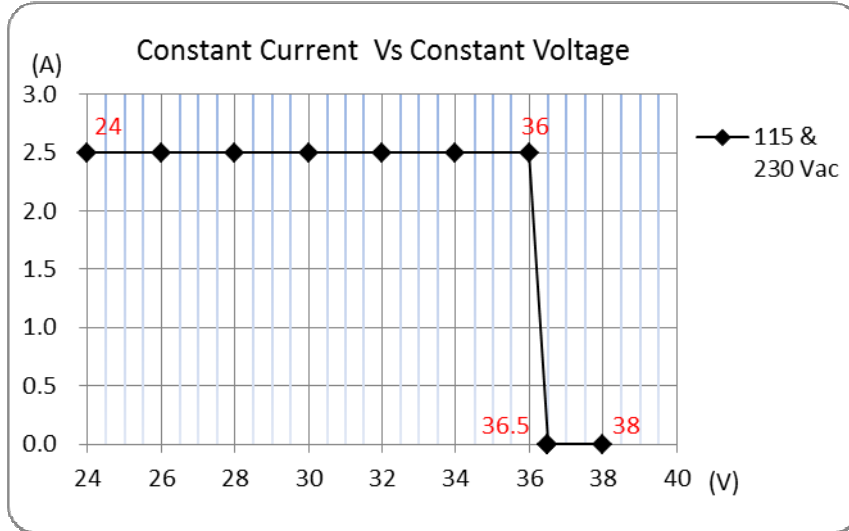
Constant Current Mode vs. Constant Voltage Mode

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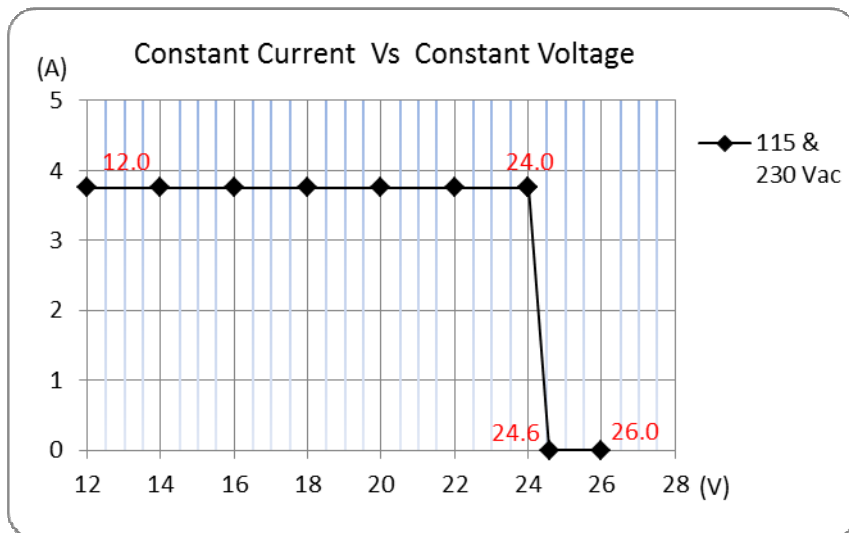


Constant Current Mode vs. Constant Voltage Mode
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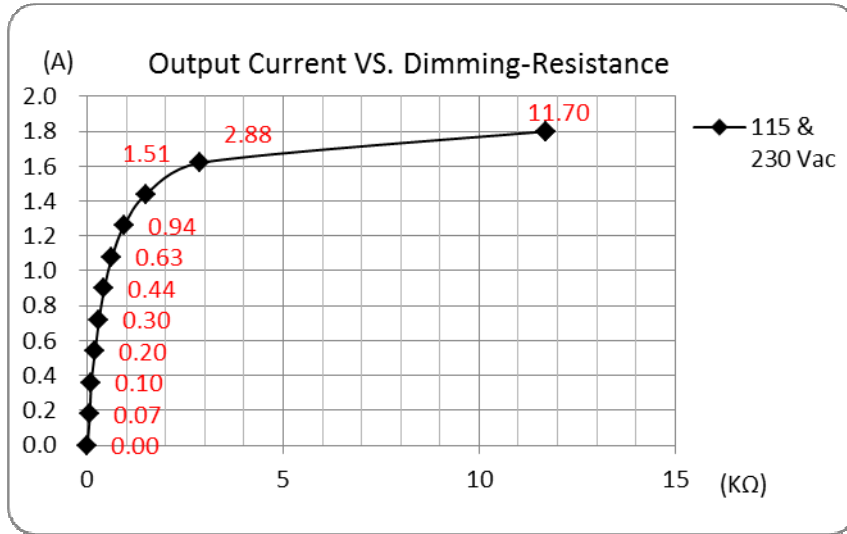


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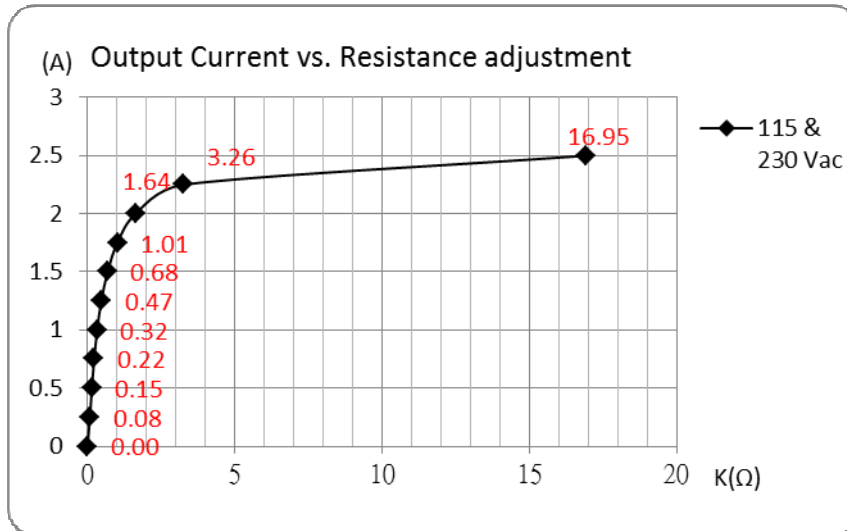


Output Current vs. Radj

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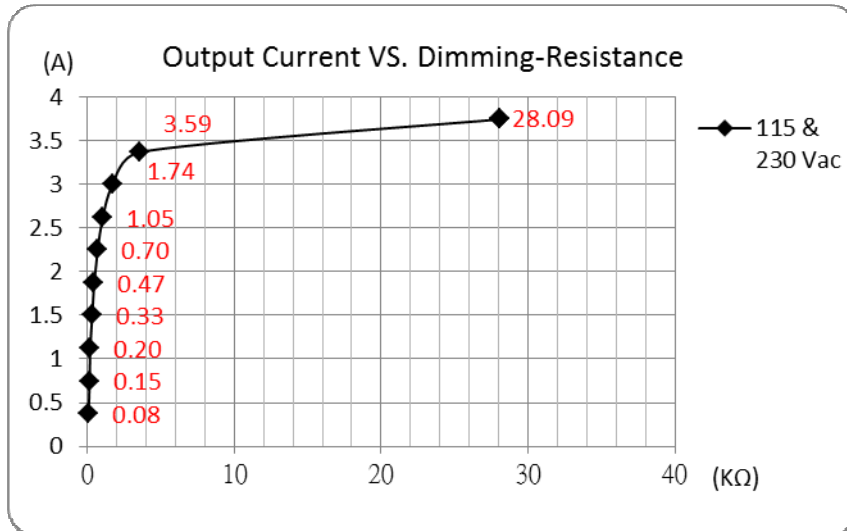


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Output Current vs. Radj
(continued)

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