



FEATURES:

- Accurate Constant Current Output $\pm 3\%$
- High Efficiency: Up to 91%
- Active Power Factor Correction, Low THD
- UVLO, Open Circuit Protection
- 3 in 1 Dimming (0-10V/PWM/Resistor)
- IP65/IP67 design for indoor/outdoor
- Short Circuit Protection
- Over Temperature Protection
- 5 Year Warranty
- Manual Adjustable Output (50%-100%)

Models
Single output



| Model | Max Output Power (W) | Output Voltage Range (V) | Output Current (mA) | Input Voltage (VAC/Hz) | Efficiency (%) |
|------------------|----------------------|--------------------------|---------------------|------------------------|----------------|
| AMER250C-241000Z | 240.0 | 12-24 | 5000 / 10000 | 90-305/47-63 | 90.0 |
| AMER250C-42600Z* | 252.0 | 21-42 | 3000 / 6000 | 90-305/47-63 | 91.0 |

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 |
|---------------------|---------------------|---------|---------|-------|
| Input Current | 90 VAC, full load | | 3.5 | Arms |
| Inrush current <2ms | 115 VAC, cold start | | 40 | A |
| | 305 VAC, cold start | | 75 | |
| Leakage current | | | 0.75 | mA |
| Input dissipation | No Load | | 3.0 | W |
| | Output Short | | 2.8 | W |
| | Dimming OFF | | 3.0 | W |
| Power Factor | 115 VAC, full load | | 0.98 | |
| | 277 VAC, full load | | 0.92 | |
| Input Fuse | 5A/300V | | | |
| Start-up Time | 115 VAC, full load | | 1.2 | Sec. |
| | 277 VAC, full load | | 1.0 | Sec. |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|-------------------------------|--|---------|---------|------------------|
| Current accuracy | | ± 5 | | % |
| Line regulation | LL to HL | ± 1 | | % |
| Load regulation | Full Output Voltage Range | ± 1 | | % |
| Ripple & Noise | | | 300 | mV p-p |
| Output Current Ripple | Full load | | 1.0 | % I _o |
| Current Overshoot | LL to HL, full load at cold start, % of rated output current | 5 | 10 | % |
| Hold-up time (min.) | | 25 | 35 | ms |
| Minimum Load Voltage | See Models Table Above | | | |
| Dimming Turn Off Voltage | DIM+ to DIM- | 0.3 | | V |
| Dimming Turn On Voltage | DIM+ to DIM- | 0.5 | | V |
| Max. Dimming Voltage | 0-10V dimming | | 12 | V |
| Typ. & Max. Dimming PWM Freq. | PWM dimming | | 3 | kHz |
| | | | | |
| Recommended Dimming Resistor | Variable Resistor dimming | | 100 | kOhm |

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|------------------------------|------------|---------|-------|-------|
| Tested I/O Isolation Voltage | I/P – O/P | | 3750 | VAC |
| | I/P – FG | | 2000 | VAC |

| | | | | |
|-----------------------|-------------------|--------|-----|-----|
| | O/P – FG | | 500 | VAC |
| Isolation Resistance | I/P – O/P, 500Vdc | >100MΩ | | VAC |
| Isolation Capacitance | | 9500 | | pF |

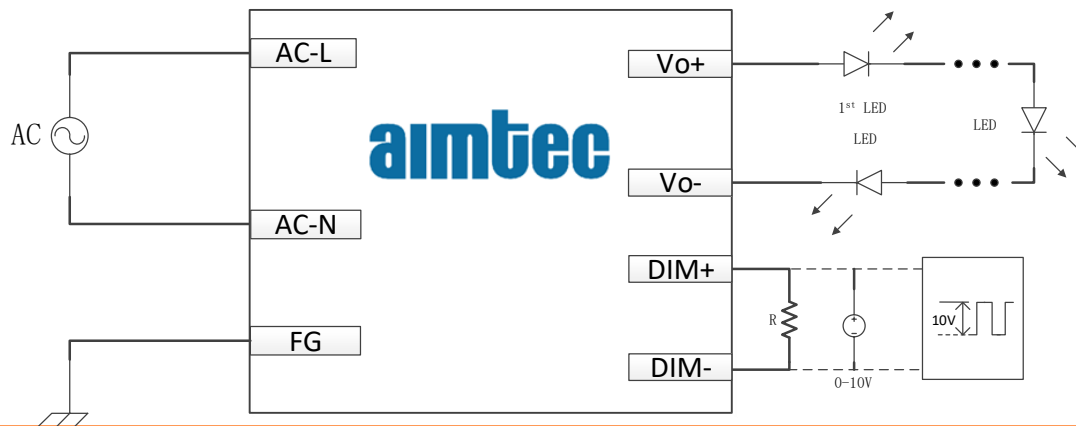
General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|-----------------------------|---|------------|---------|--------|
| Switching frequency | | 90 | 260 | KHz |
| Over current protection | Refer to Constant Current vs. Constant Voltage Mode curve | | | |
| Over voltage protection | Refer to Constant Current vs. Constant Voltage Mode curve | | | |
| Short circuit protection | Continuous, Hiccup Mode | | | |
| Short circuit restart | Auto Recovery | | | |
| Open circuit protection | Continuous, Hiccup Mode | | | |
| Over Temperature Protection | 115Vac Threshold – Shutdown Output | +98 | | °C |
| | 230Vac Threshold – Shutdown Output | +106 | | °C |
| | Hysteresis – Auto Recovery | 85 | | °C |
| Operating temperature | With Derating over 60 °C | -40 to +70 | | °C |
| Storage temperature | | -40 to +85 | | °C |
| Maximum Case temperature | | 95 | | °C |
| Temperature coefficient | | | 0.03 | % / °C |
| Cooling | Free Air Convection | | | |
| Humidity | | | 95 | % RH |
| Case material | Aluminum | | | |
| Potting material | polysiloxane | | | |
| IP Rating | IP65/67 | | | |
| Weight | | 1245 | | g |
| Dimensions (L X W X H) | 9.66 x 2.70 x 1.65 inches 245.4 x 68.7 x 42.0 mm | | | |
| MTBF | >450,000 hrs (MIL-HDBK-217F at +25°C) | | | |

Safety Specifications

| Parameters | | |
|------------------|---|--|
| Agency Approvals | NOM (for part numbers with *) | |
| Standards | Electromagnetic Interference | EN55015 / FCC Part 15, Class B |
| | Harmonic Current Emissions | EN61000-3-2, Class B |
| | Voltage fluctuations and flicker | EN61000-3-3 |
| | Electrostatic Discharge Immunity | EN61000-4-2, 8kV Air, 4kV Contact, Level 3, Criteria A |
| | RF, Electromagnetic Field Immunity | EN61000-4-3, Test-RS Level 3, Criteria A |
| | Electrical Fast Transient / Burst Immunity | EN61000-4-4, Burst EFT Level 3, Criteria A |
| | Surge Immunity | EN61000-4-5, Line to Neutral 4kV, Line/Neutral to FG 6kV |
| | RF, Conducted Disturbance Immunity | EN61000-4-6. Test-CS Level 3, Criteria A |
| | Power frequency Magnetic Field Immunity | EN61000-4-8, Test 3A/m, Criteria A |
| | Voltage dips, Short Interruptions Immunity | EN61000-4-11, Criteria B |
| | Electromagnetic Immunity Requirements Applies to Lighting Equipment | EN61547-2000 |

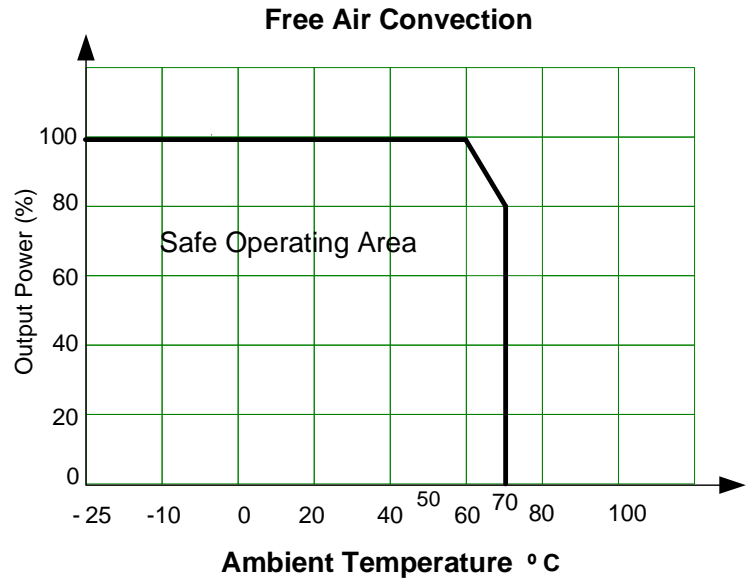
Application circuit



Pin Definition

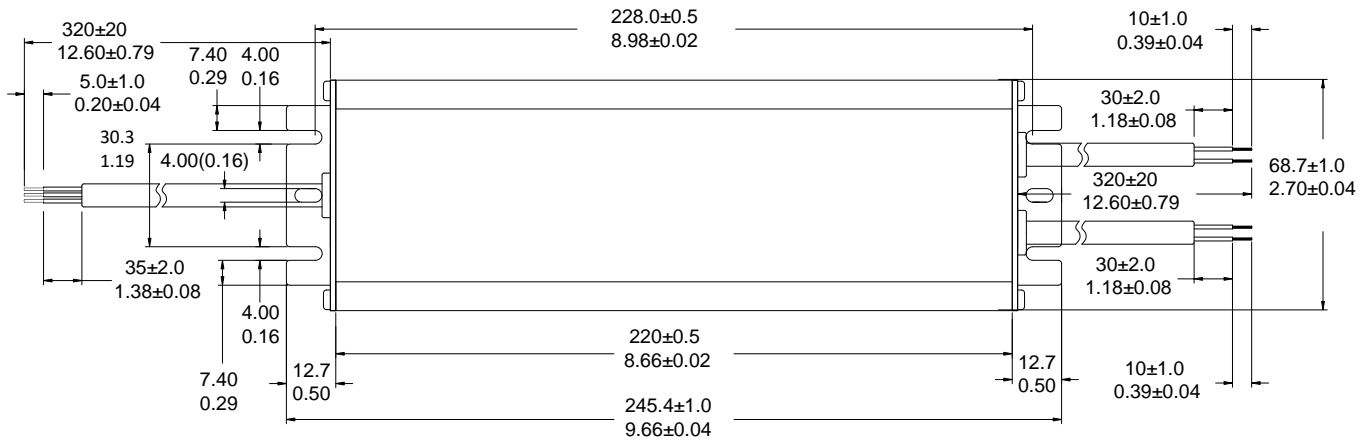
| Pin | Specification |
|------|-----------------------------|
| AC-N | White Color, Wire Gauge #18 |
| AC-L | Black Color, Wire Gauge #18 |
| FG | Green Color, Wire Gauge #18 |
| Vo+ | Red Color, Wire Gauge #14 |
| Vo- | Black Color, Wire Gauge #14 |
| DIM+ | Red Color, Wire Gauge #18 |
| DIM- | Black Color, Wire Gauge #18 |

Derating

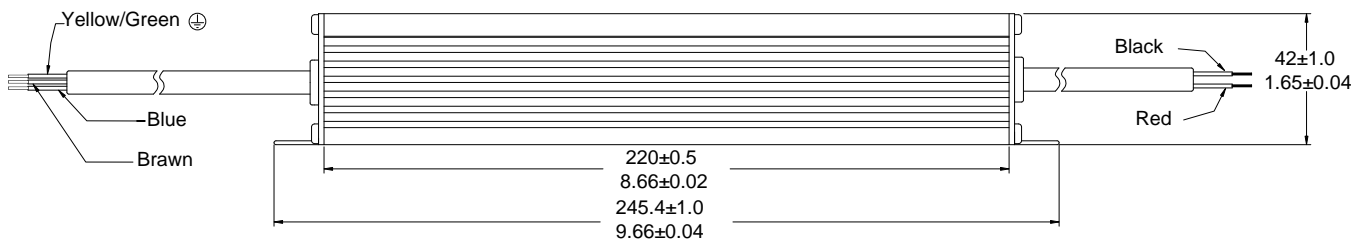


Dimensions

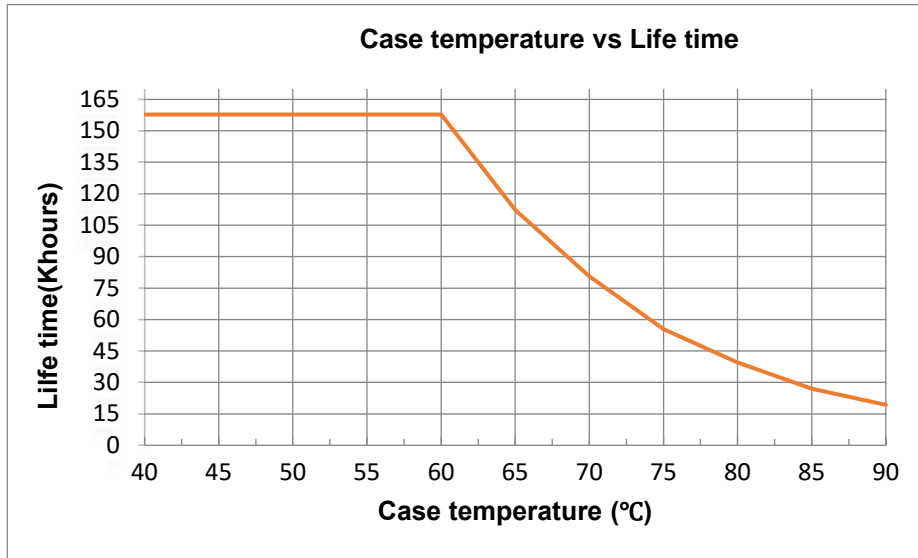
Top View



Side View

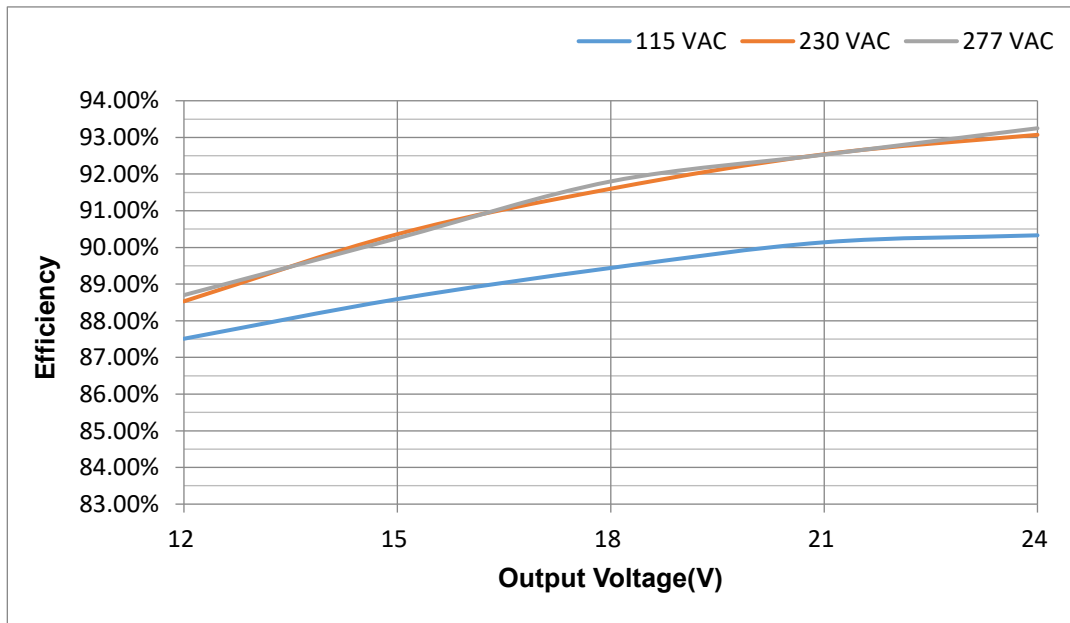


Case Temperature (Tc) vs Life Time

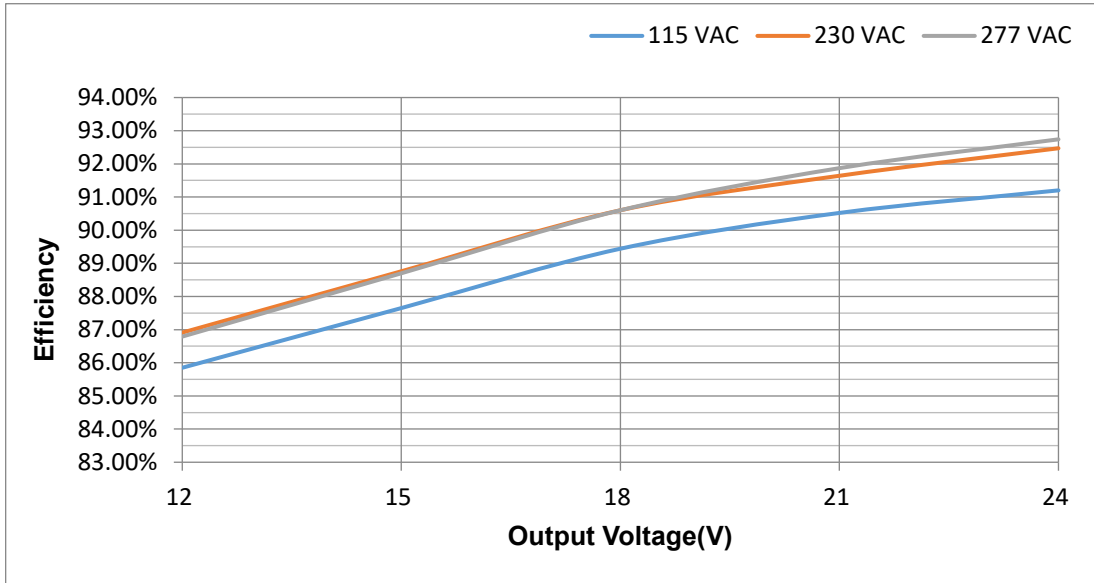


Efficiency Vs. Input Voltage & Output Voltage (Constant current load)

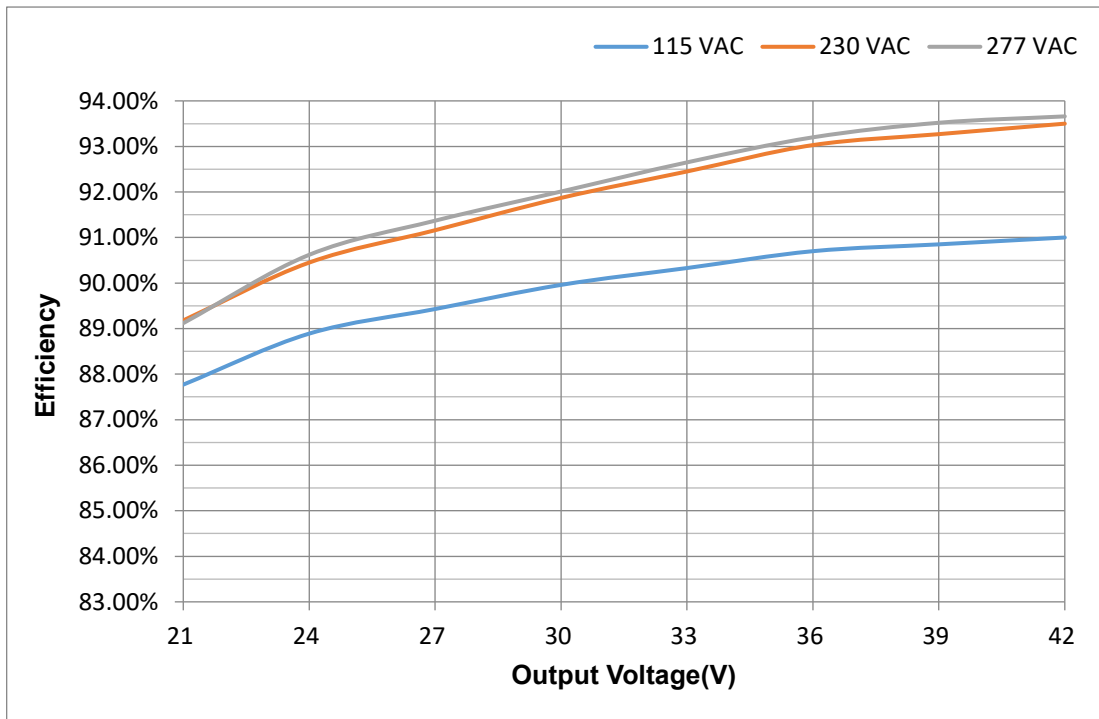
AMER250C-241000Z @ 10000mA



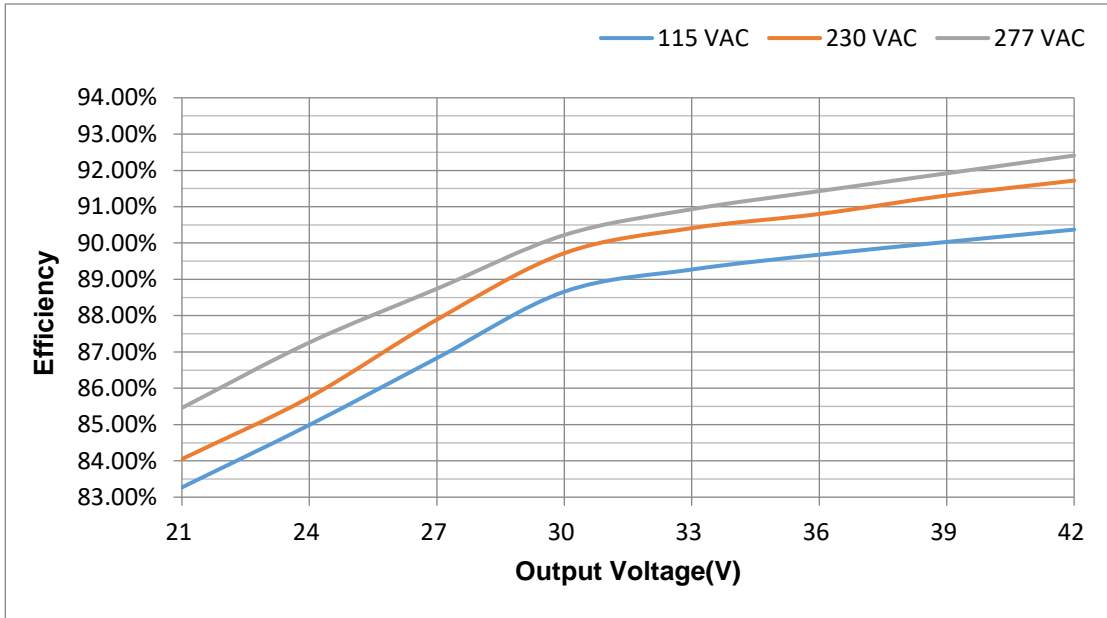
AMER250C-241000Z @ 5000mA



AMER250C-42600Z @ 6000mA

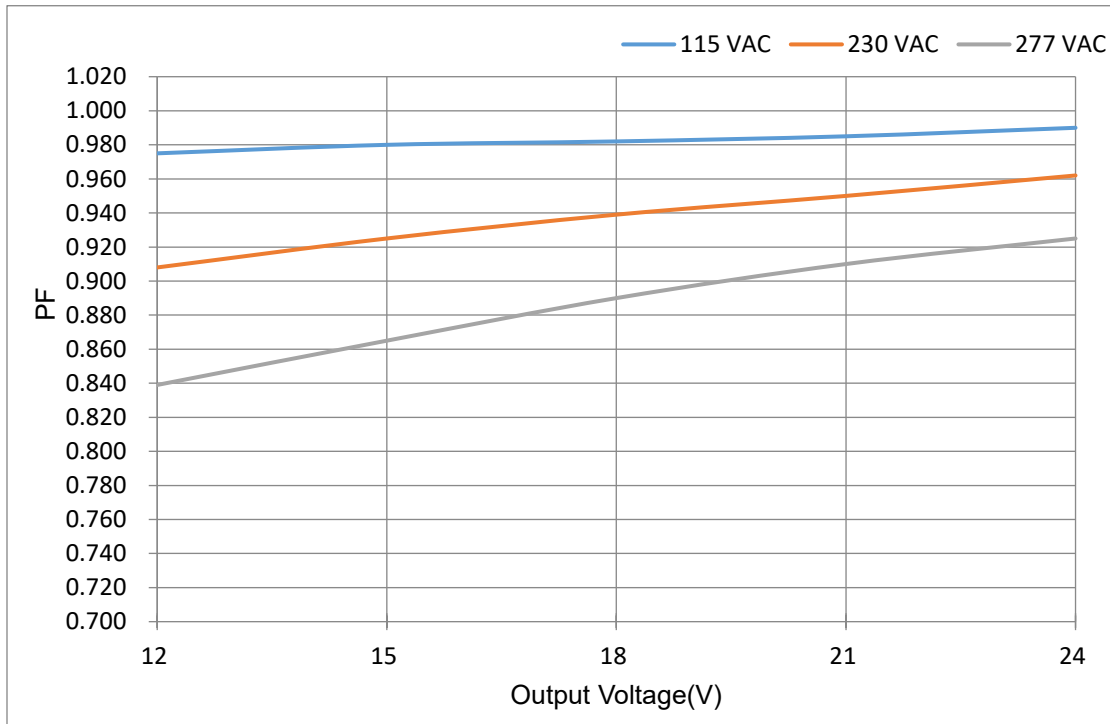


AMER250C-42600Z @ 3000mA

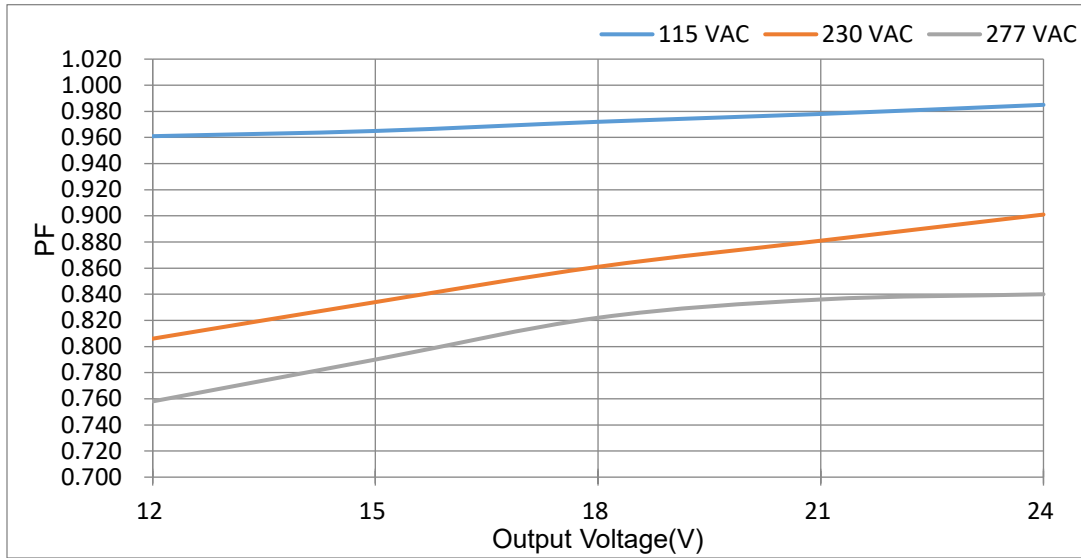


PF vs. Input Voltage & Output Voltage (constant current mode)

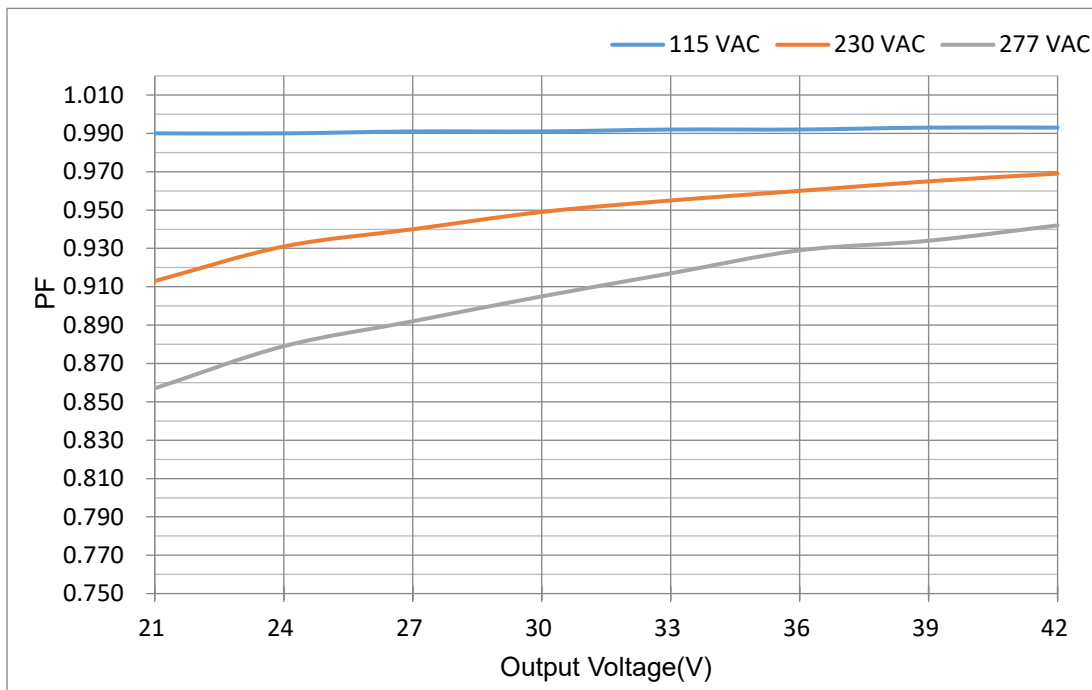
AMER250C-241000Z @ 10000mA



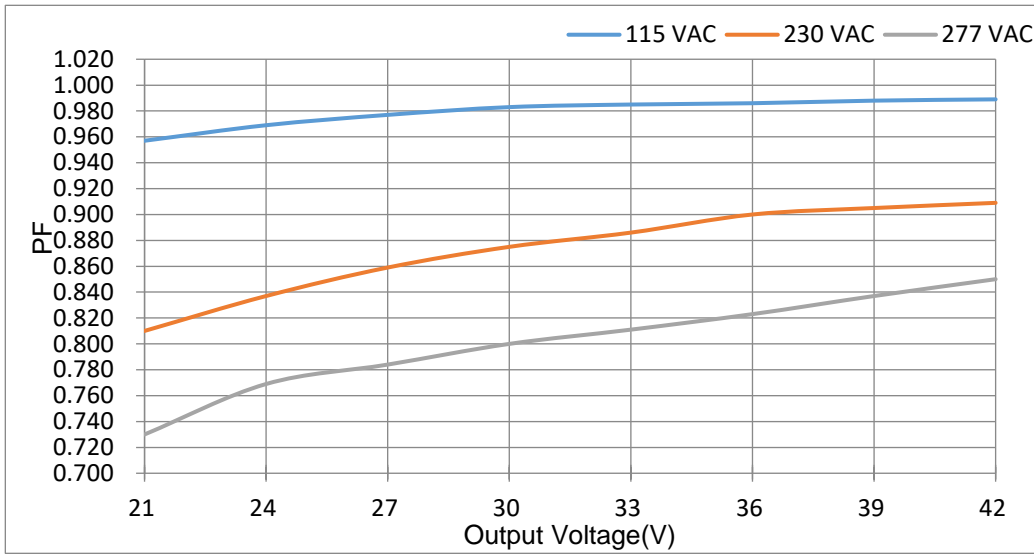
AMER250C-241000Z @ 5000mA



AMER250C-42600Z @ 6000mA

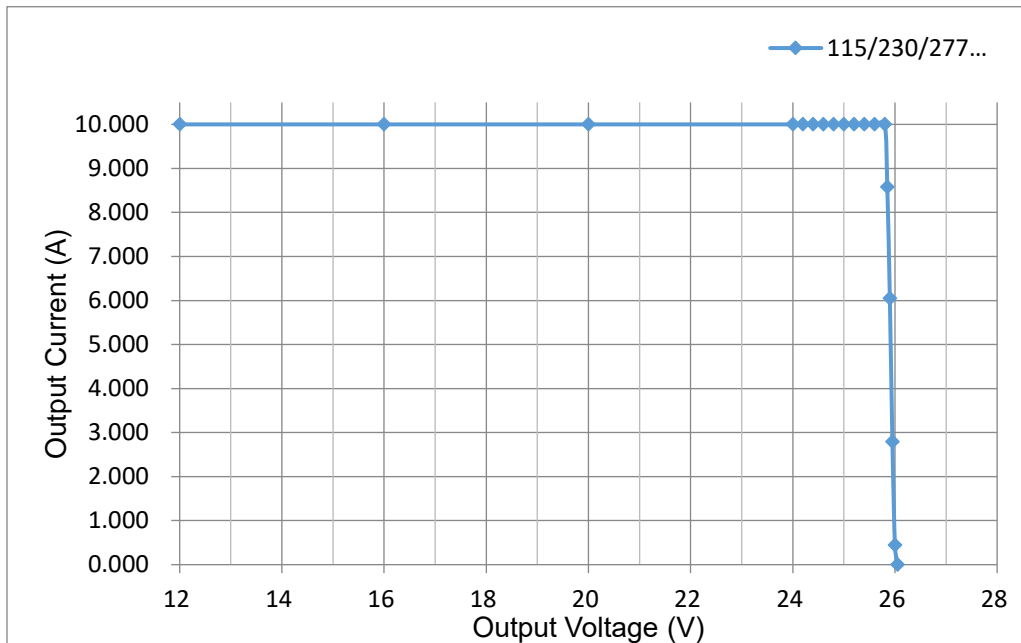


AMER250C-42600Z @ 3000mA



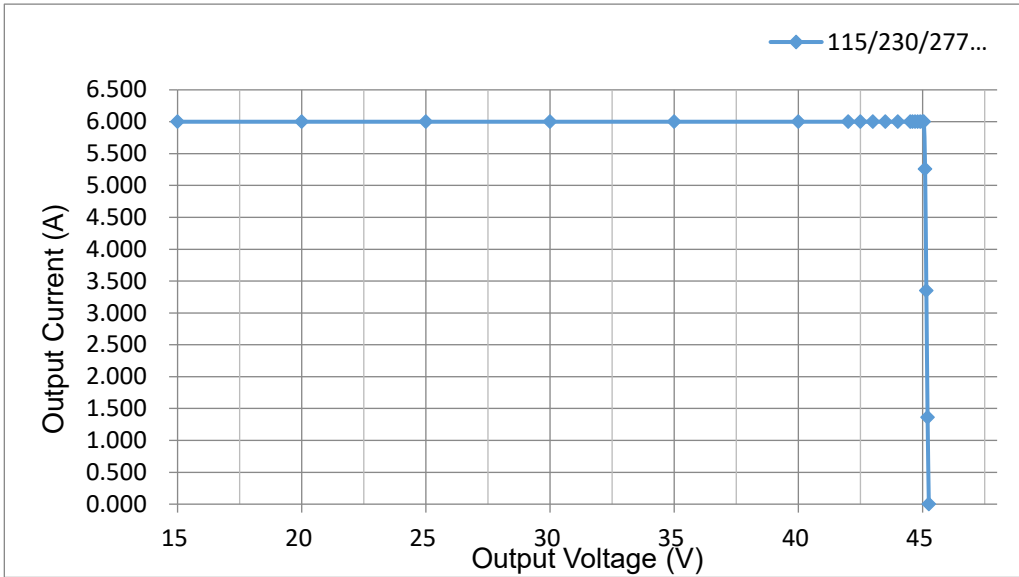
Constant Current vs. Constant Voltage Mode*

AMER250C-241000Z (5000 / 10000 mA)



*Max operating voltage in CC mode as per specifications in the datasheet is 24VDC.

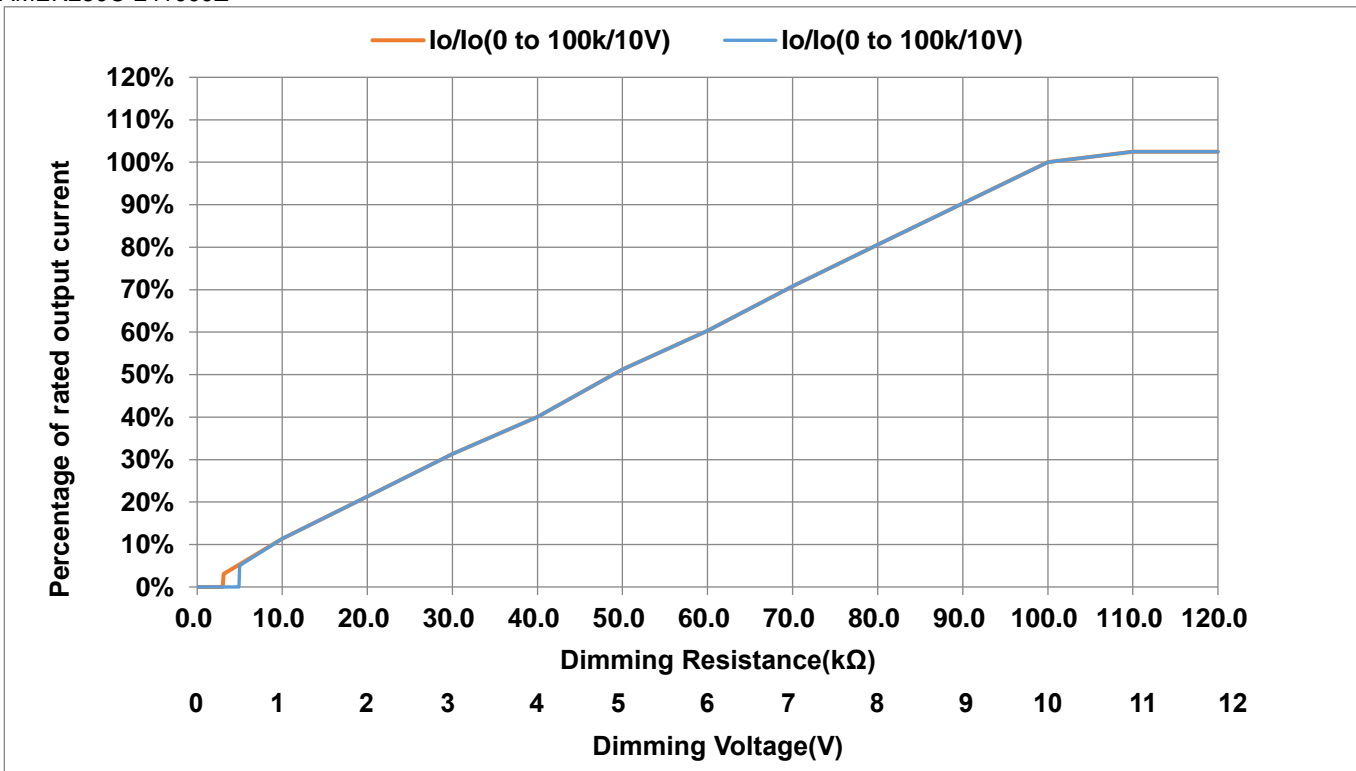
AMER250C-42600Z (3000 / 6000 mA)



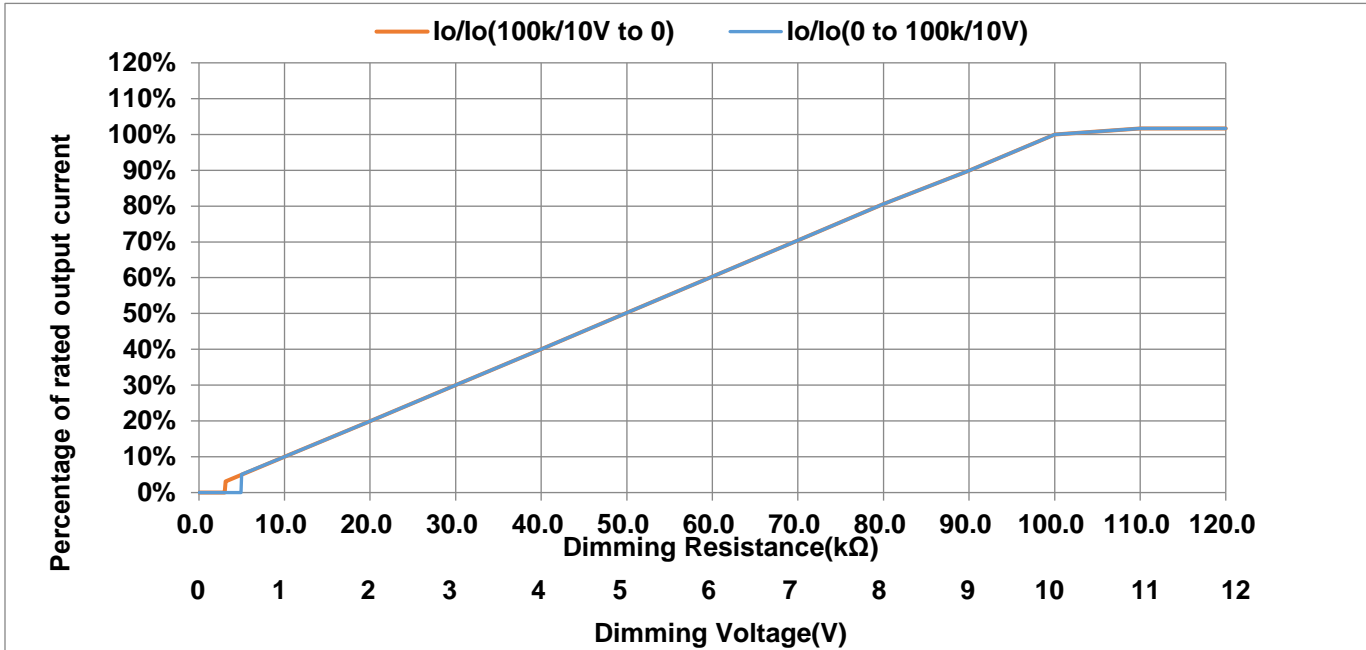
*Max operating voltage in CC mode as per specifications in the datasheet is 42VDC.

Dimming Resistor/Dimming Voltage vs Percentage of Output Current

AMER250C-241000Z

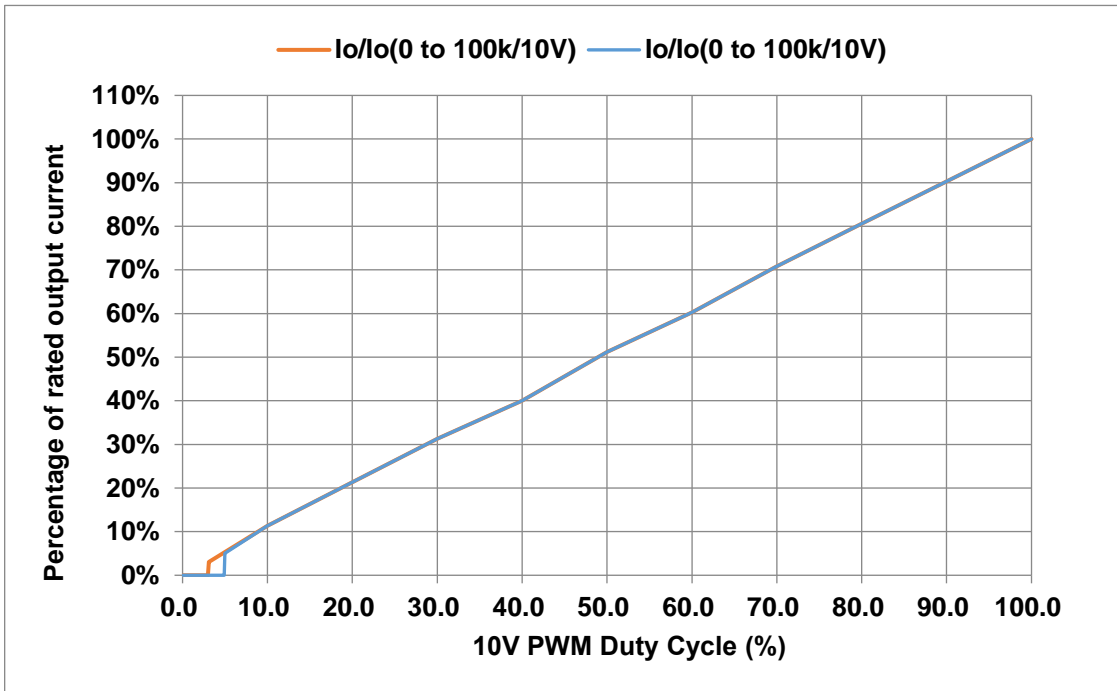


AMER250C-42600Z

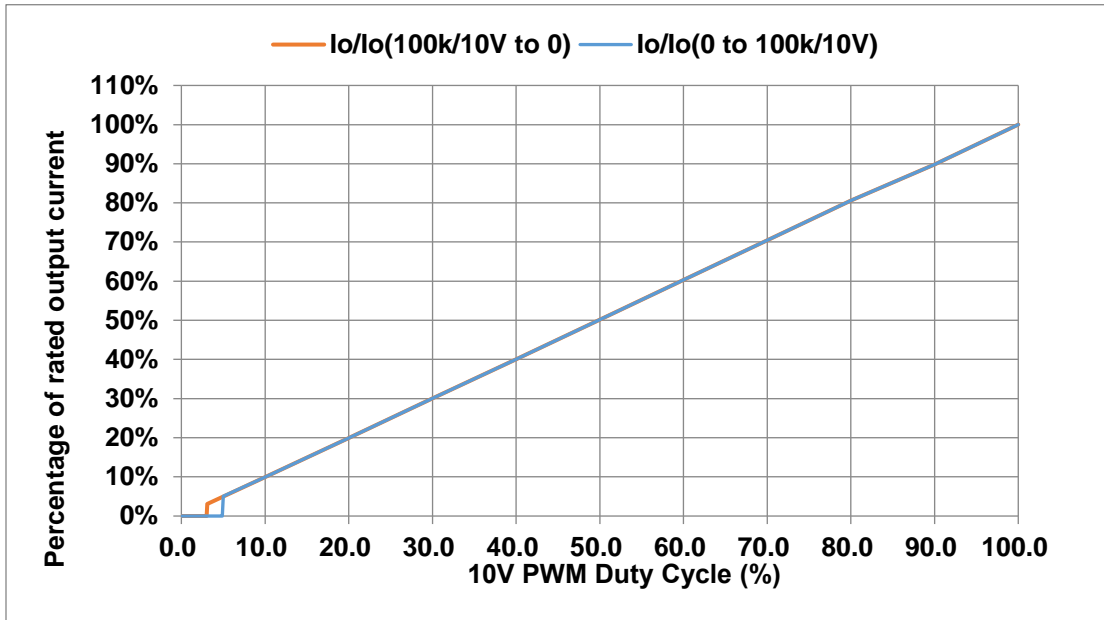


PWM duty cycle vs Percentage of Output Current

AMER250C-241000Z



AMER250C-42600Z



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