



**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		$\pm 5$		%
Line regulation	LL to HL	$\pm 1$		%
Load regulation	Full Output Voltage Range	$\pm 1$		%
Ripple & Noise			300	mV p-p
Output Current Ripple	Full load		1.0	% Io
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

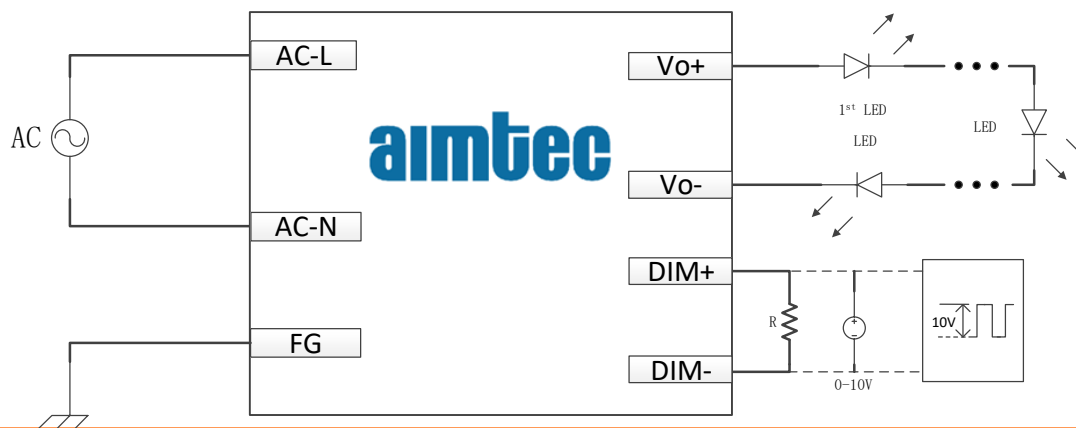
### General Specifications

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

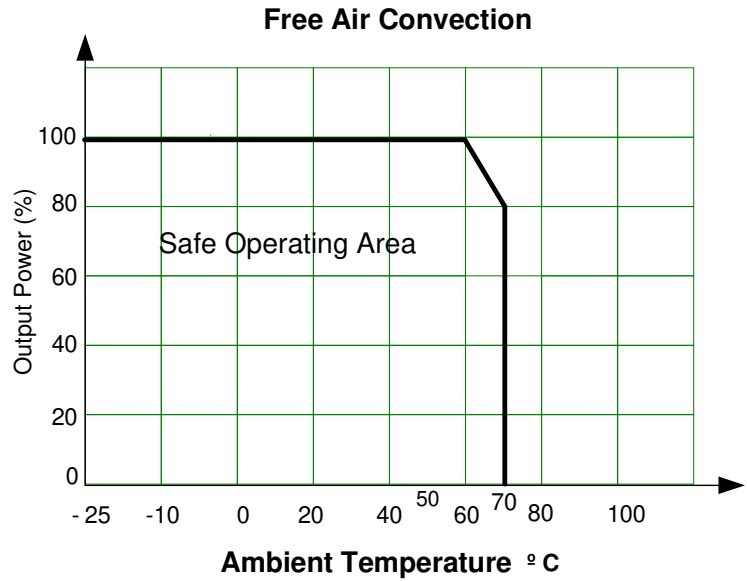
### Application circuit



### Pin Definition

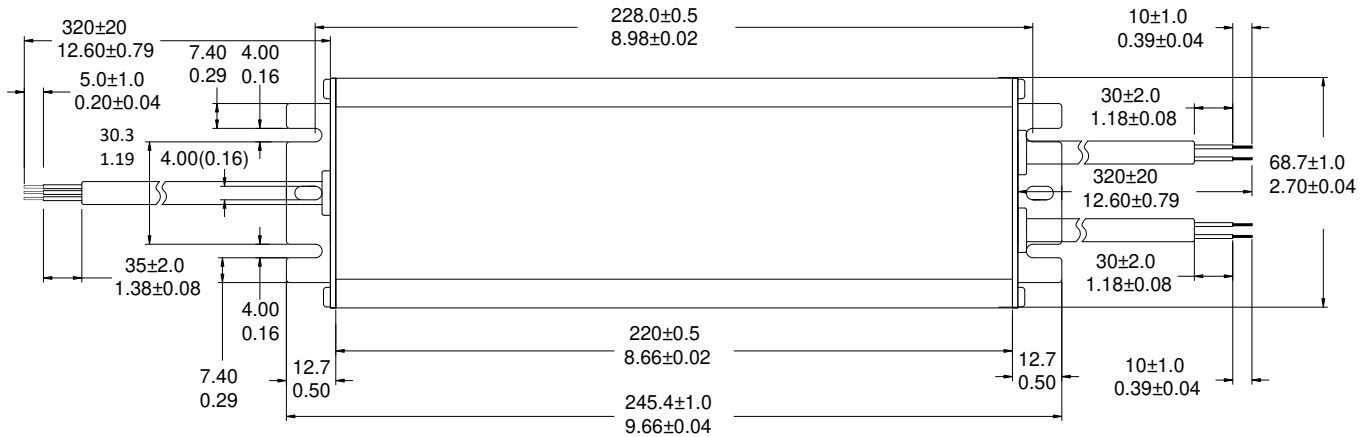
Pin	Specification
AC-N	White Color, Wire Gauge #18
AC-L	Black Color, Wire Gauge #18
FG	Green Color, Wire Gauge #18
Vo+	Red Color, Wire Gauge #14
Vo-	Black Color, Wire Gauge #14
DIM+	Red Color, Wire Gauge #18
DIM-	Black Color, Wire Gauge #18

### Derating

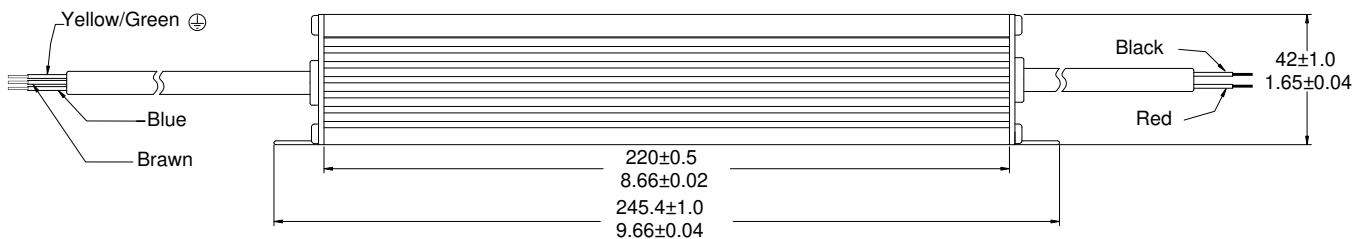


### Dimensions

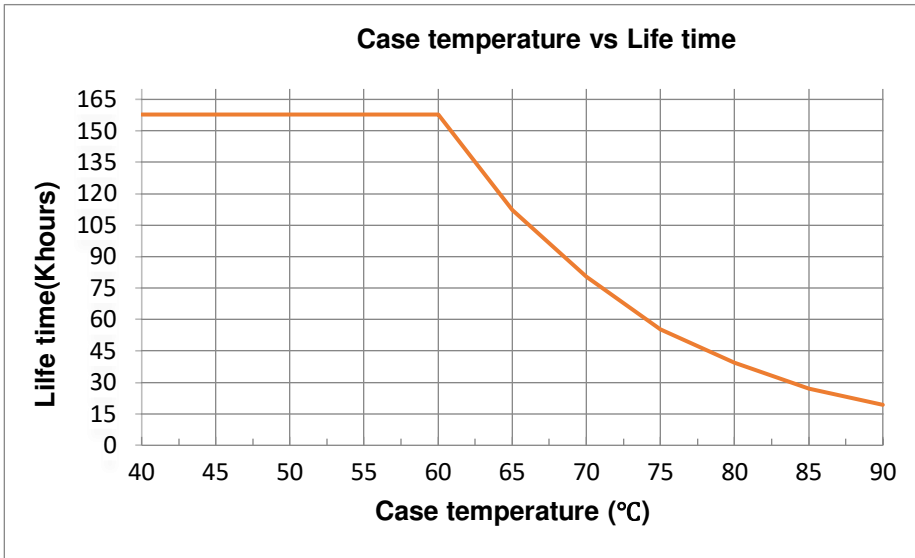
#### Top View



#### Side View

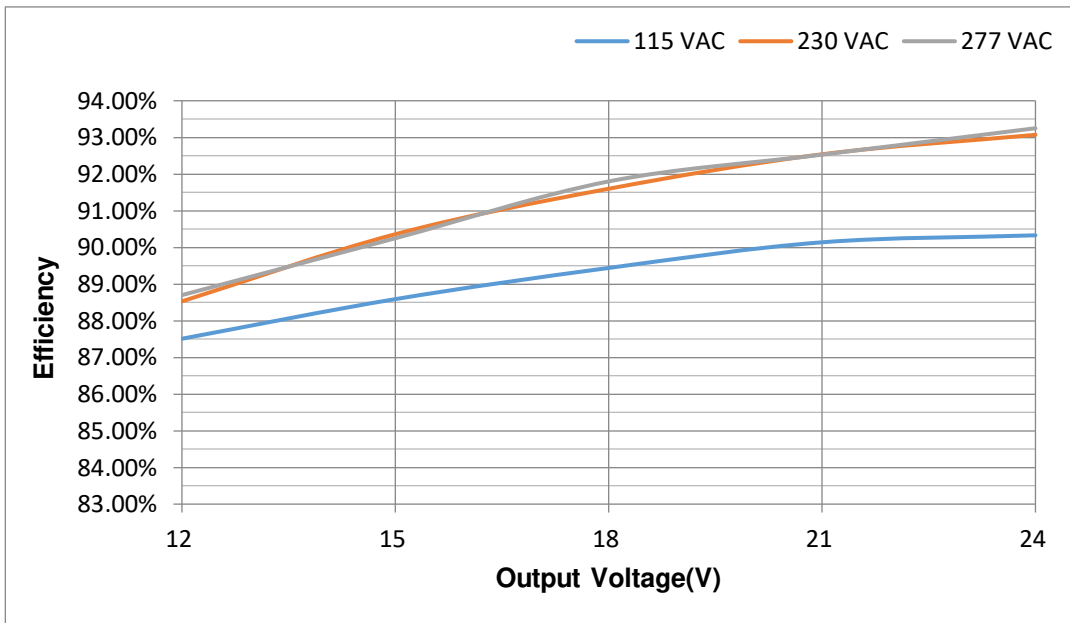


**Case Temperature (Tc) vs Life Time**

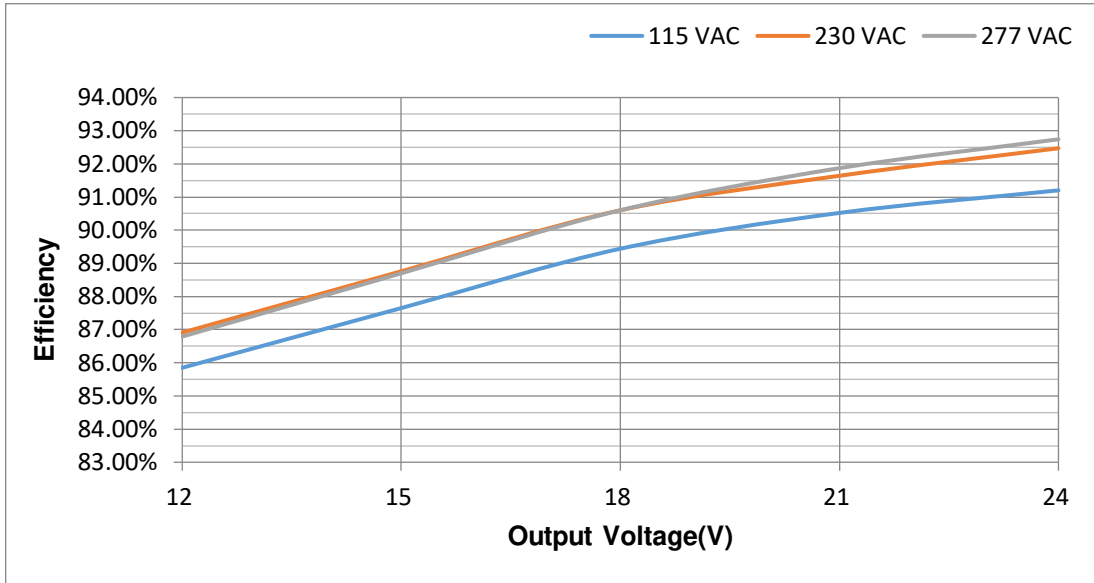


**Efficiency Vs. Input Voltage & Output Voltage (Constant current load)**

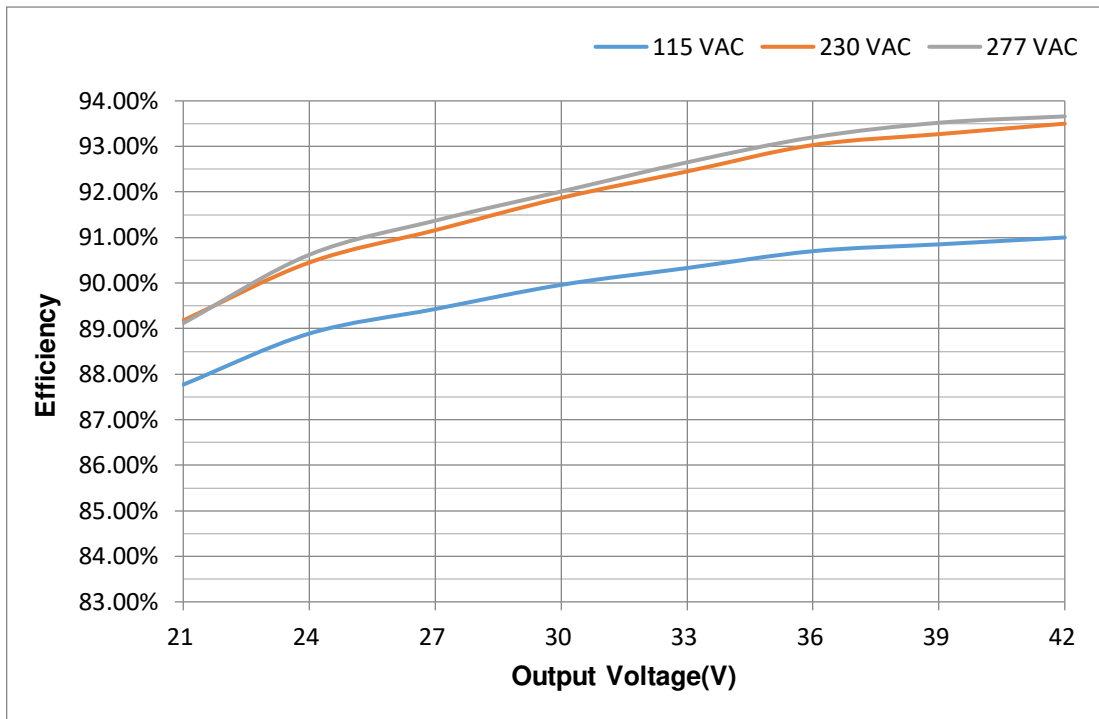
AMER250C-241000Z @ 10000mA



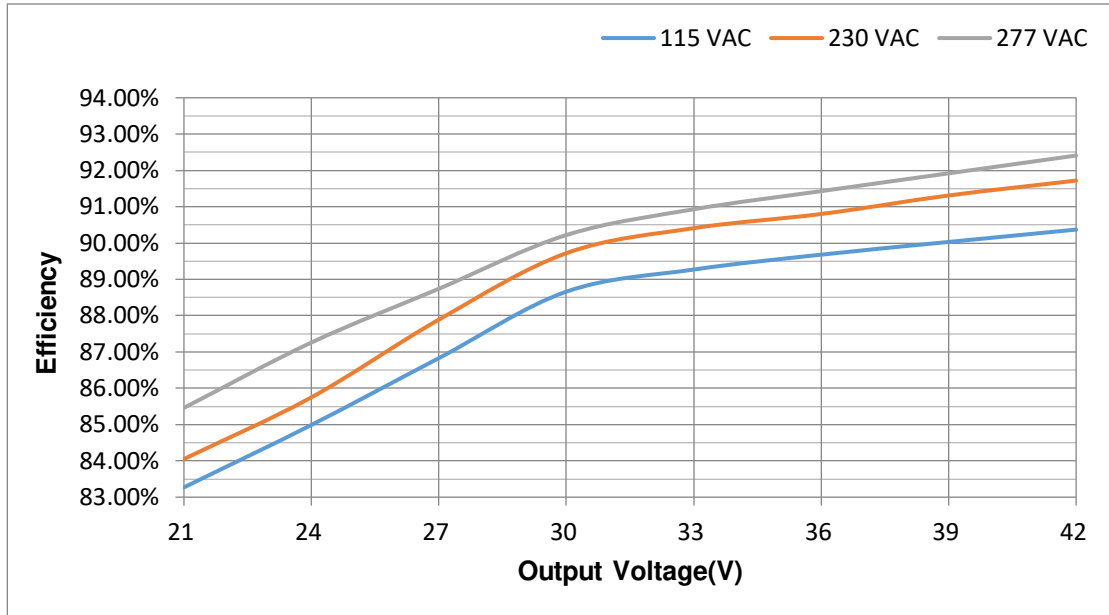
AMER250C-241000Z @ 5000mA



AMER250C-42600Z @ 6000mA

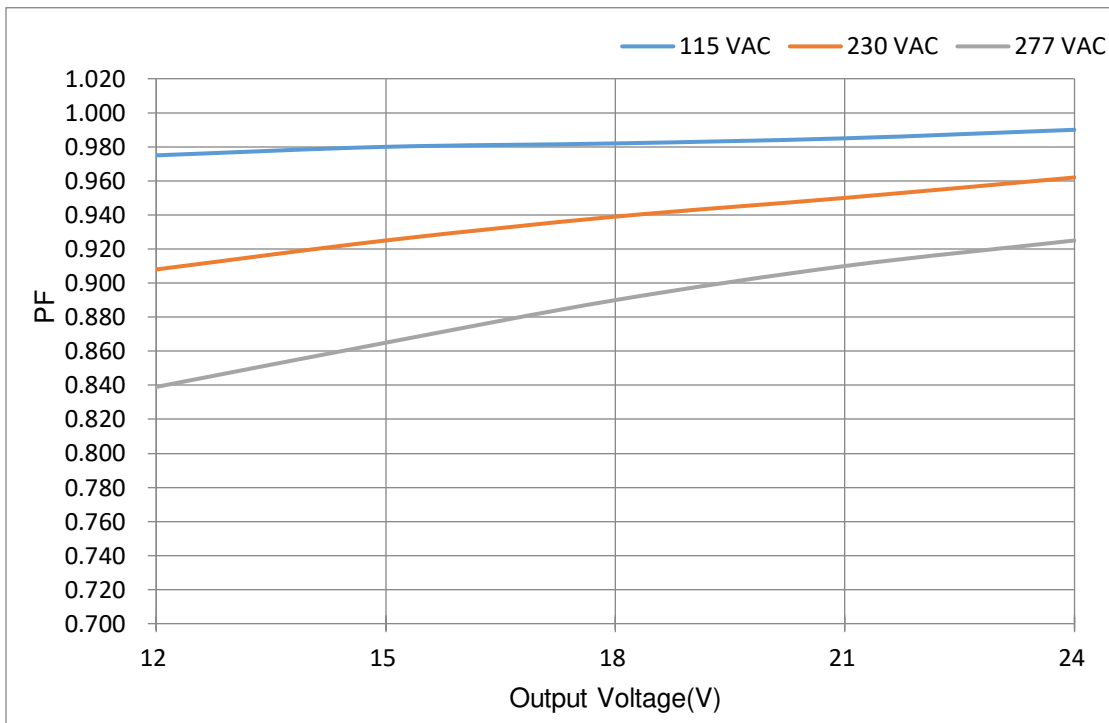


AMER250C-42600Z @ 3000mA

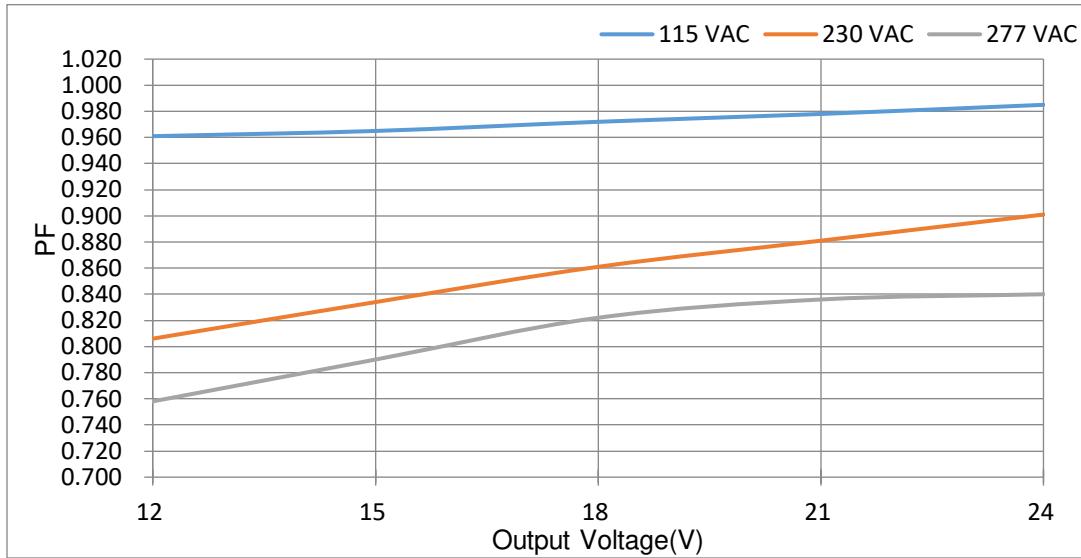


**PF vs. Input Voltage & Output Voltage (constant current mode)**

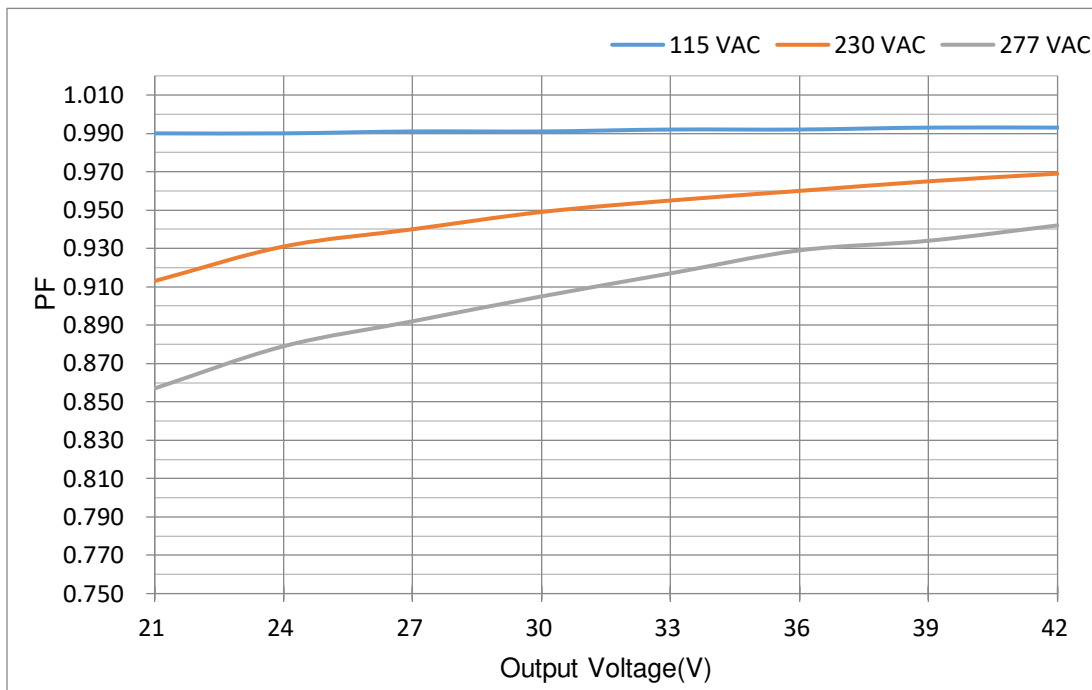
AMER250C-241000Z @ 10000mA



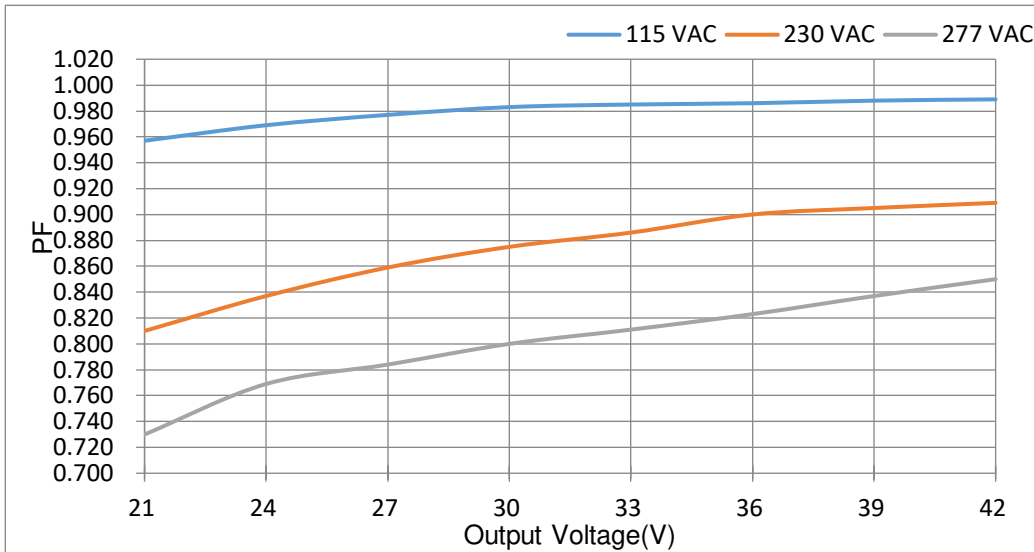
AMER250C-241000Z @ 5000mA



AMER250C-42600Z @ 6000mA

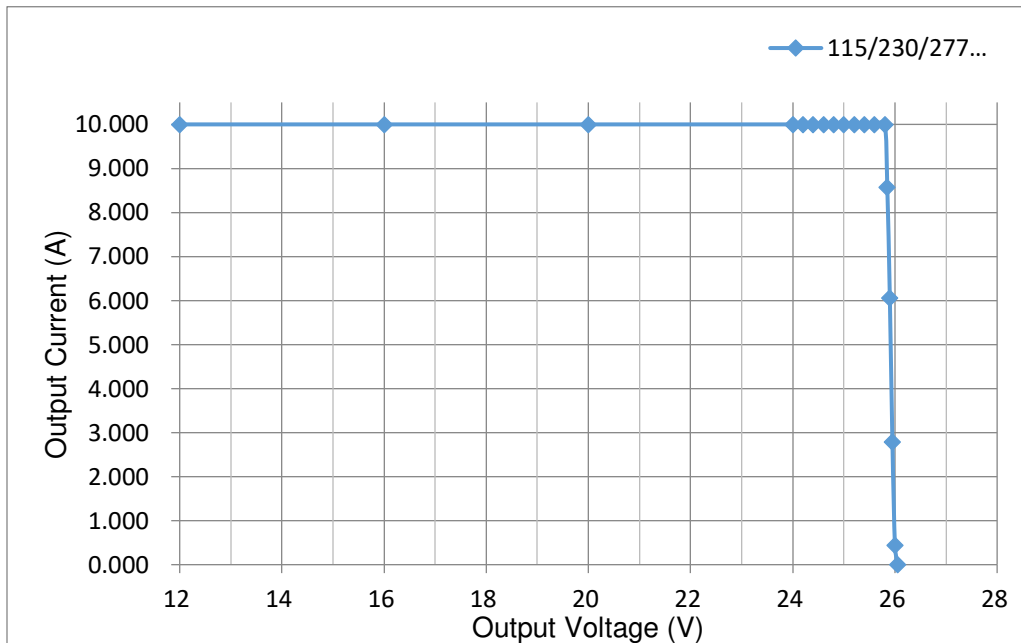


AMER250C-42600Z @ 3000mA



**Constant Current vs. Constant Voltage Mode\***

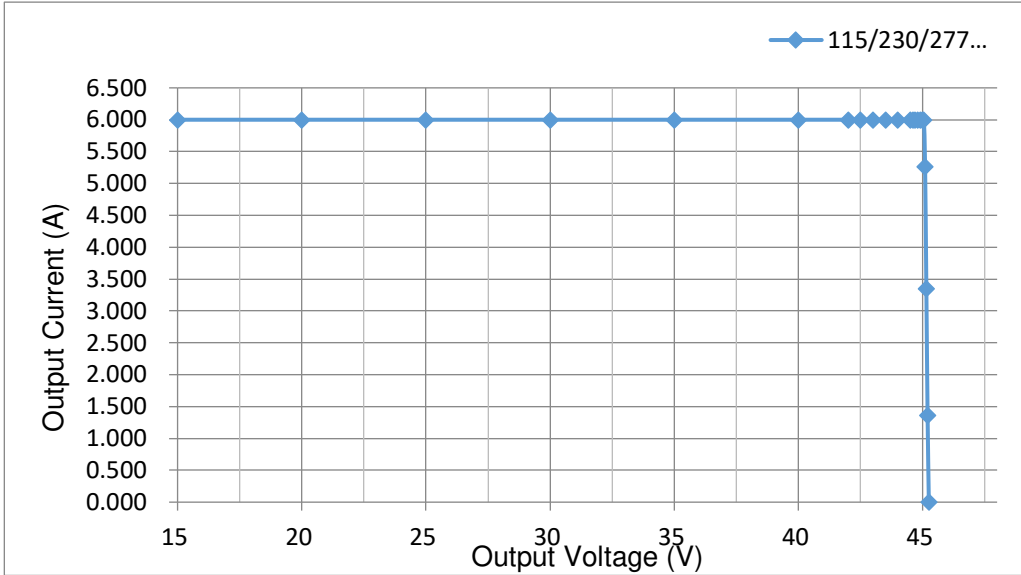
AMER250C-241000Z (5000 / 10000 mA)



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

AMER250C-42600Z (3000 / 6000 mA)

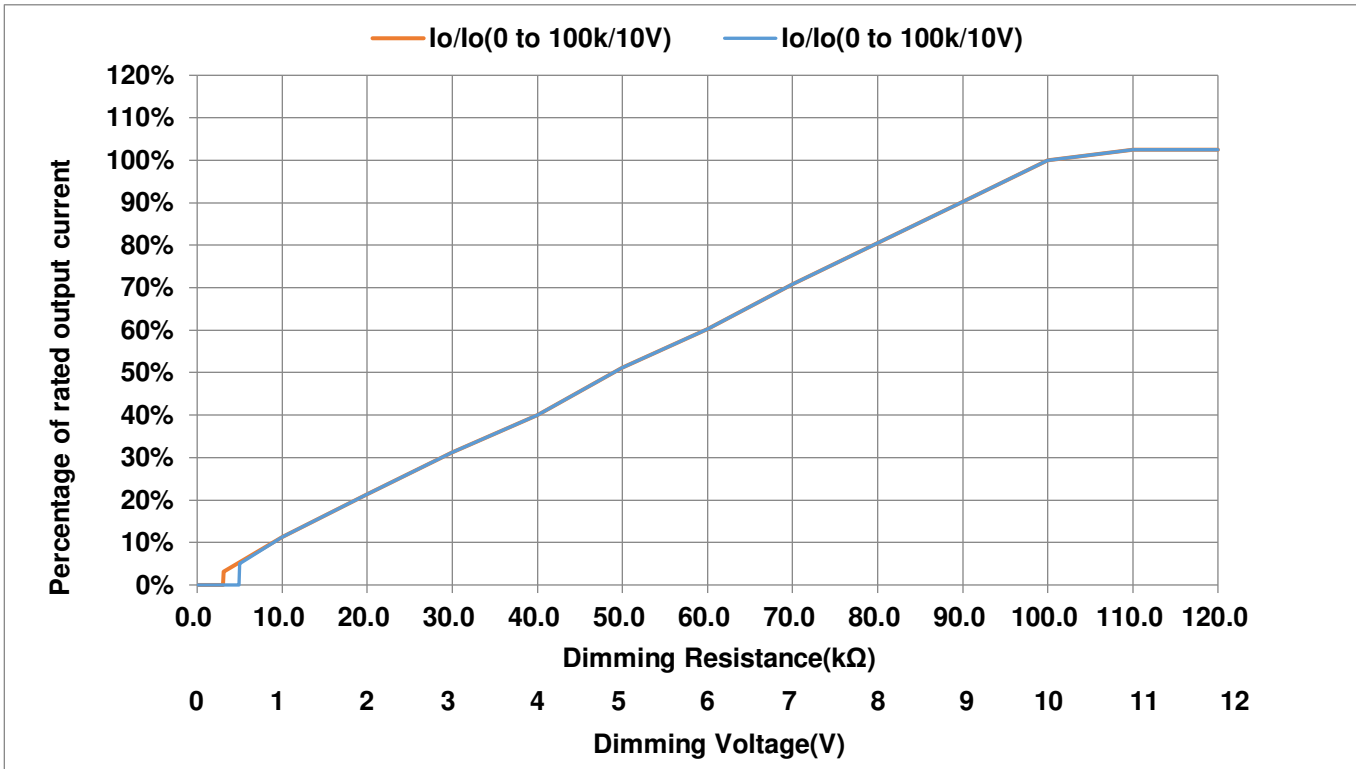




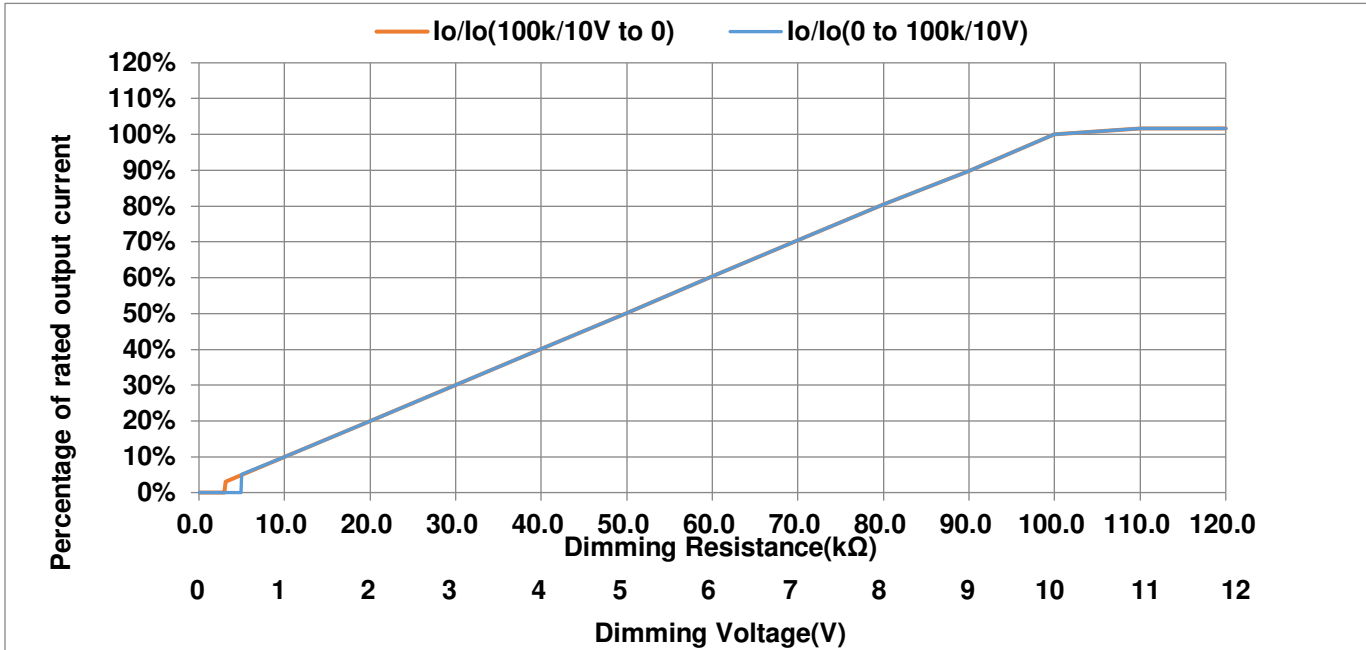
\*Max operating voltage in CC mode as per specifications in the datasheet is 42VDC.

### Dimming Resistor/Dimming Voltage vs Percentage of Output Current

AMER250C-24100Z

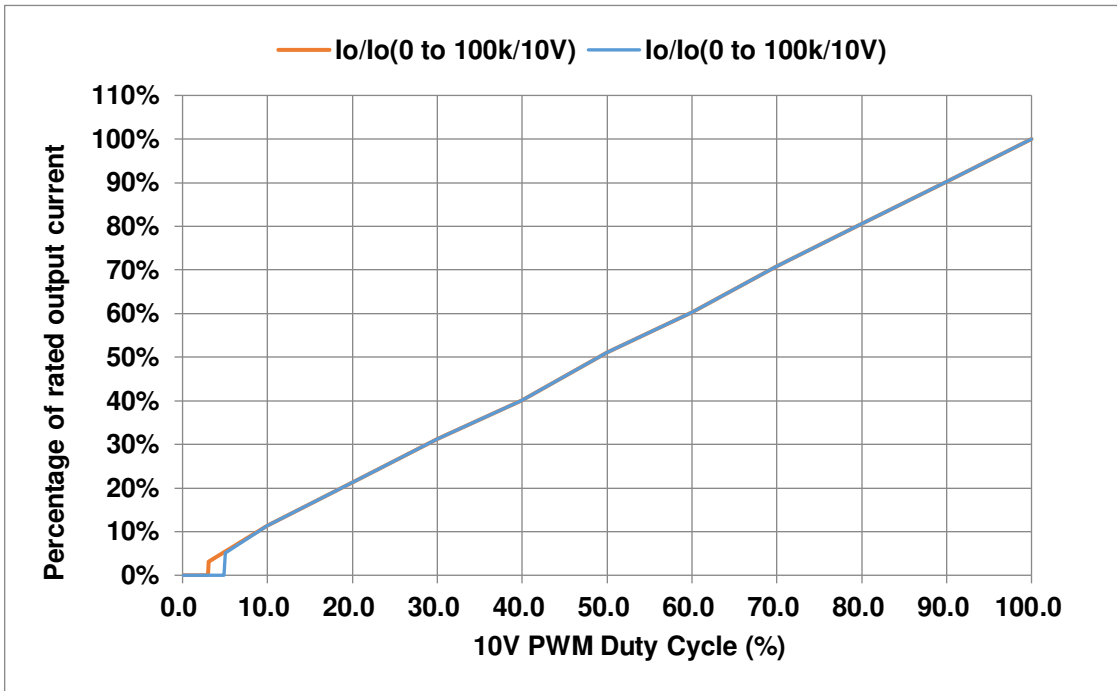


AMER250C-42600Z

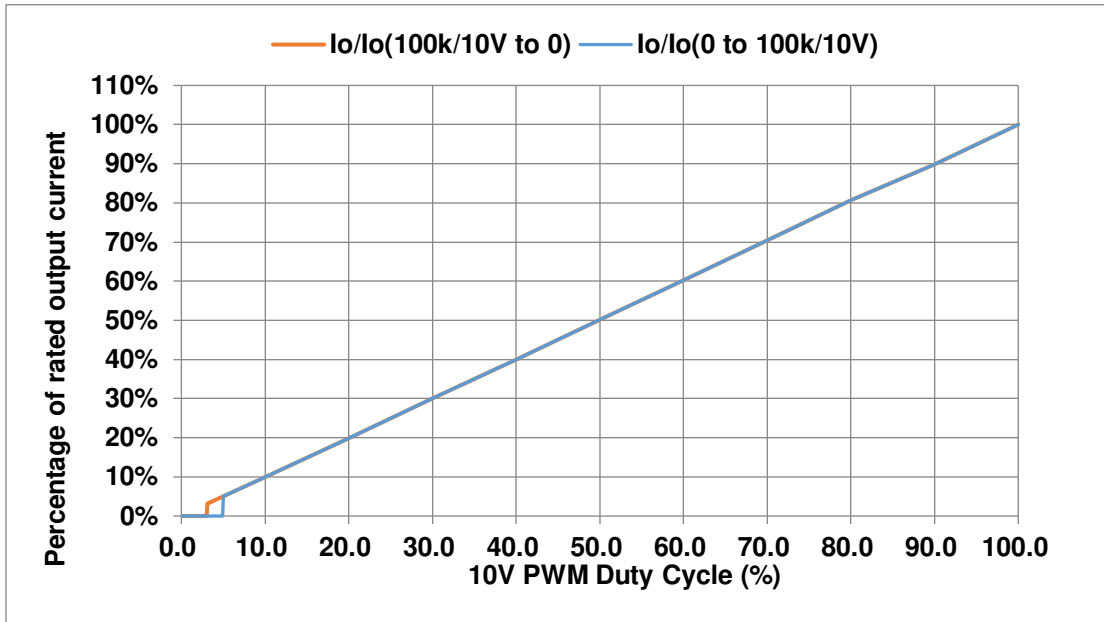


**PWM duty cycle vs Percentage of Output Current**

AMER250C-241000Z



AMER250C-42600Z



**NOTE:** **1.** Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to [www.aimtec.com](http://www.aimtec.com) for the most current product specifications. **2.** Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. **3.** Mechanical drawings and specifications are for reference only. **4.** All specifications are measured at an ambient temperature of 25°C, humidity < 75%, nominal input voltage and at rated output load unless otherwise specified. **5.** Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. **6.** This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other than the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).