

**FEATURES:**



- Accurate Constant Current Output  $\pm 3\%$
- High Efficiency: Up to 91%
- Active Power Factor Correction
- UVLO, Short Circuit, Open Circuit
- Adjustable output current: 50-100%
- IP65/IP67 design for indoor/outdoor
- Over Temperature Protection
- Dimmable output current: 10-100%
- Over Voltage Protection
- 5 Year Warranty



**Models**  
**Single output**

Model	Max Output Power (W)	Input Voltage (VAC/Hz)	Output Voltage Range (V)	Output Current (A)	Efficiency (%)
AMER90C-70120Z-PD	84.0	90-305/47-63	35-70	1.2	90.5
AMER90C-70120Z-P	84.0	90-305/47-63	35-70	1.2	90
AMER90C-70120Z	84.0	90-305/47-63	35-70	1.2	91

**Model Nomenclature functional differences:**

With Suffix “-PD”	With manually adjustable 50-100% & fully dimmable 10-100% (0-10V/10PWM/Resistive) output current
With Suffix “-P”	Only with manually adjustable output current: 50-100%
Without Suffix	Only with fully dimmable 10-100% (0-10V/10PWM/Resistive) output current

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		2.5	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		10.0	W
Power Factor	115 VAC, full load		0.98	
	277 VAC, full load		0.92	
Input Fuse	3.15A/300V			
Start-up Time	115 VAC, full load		1.5	Sec.
	277 VAC, full load		1.0	Sec.

**Output Specifications**

Parameters	Conditions	Typical	Maximum	Units
Current accuracy		$\pm 3$		%
Line regulation	LL to HL	$\pm 1$		%
Load regulation	Full Output Voltage Range	$\pm 1$		%
Ripple & Noise			4.5	V p-p
Output Current Ripple	Full load		800	mA p-p
Current Overshoot	LL to HL, full load at cold start, % of rated output current		10	%
Hold-up time (min.)			0.5	ms
Minimum Load Voltage	See Models Table Above			

**Isolation Specifications**

Parameters	Conditions	Typical	Rated	Units
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			3800	pF

## General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency			130	KHz
Over voltage protection		75		V
Short circuit protection	Continuous, Hiccup mode, auto recovery			
Open circuit protection	Continuous			
Over Temperature Protection	Threshold – Shutdown Output	+106		°C
	Hysteresis – Auto Recovery	+90		°C
Operating temperature	With Derating over 60°C	-40 to +70		°C
Maximum case temperature		90		°C
Warranty case temperature		-40 to 75		°C
Storage temperature		-40 to +85		°C
Temperature coefficient			0.03	% / °C
Cooling	Free Air Convection			
Humidity			95	% RH
Case material	Metal (Aluminum)			
Potting material	polysiloxane			
IP Rating	IP67			
Weight		850		g
Dimensions (L X W+ X H)	6.93 x 2.70 x 1.65 inches		176.0 x 68.7 x 42.0 mm	
MTBF	>400,000 hrs (MIL-HDBK-217F at +25°C)			

## Safety Specifications

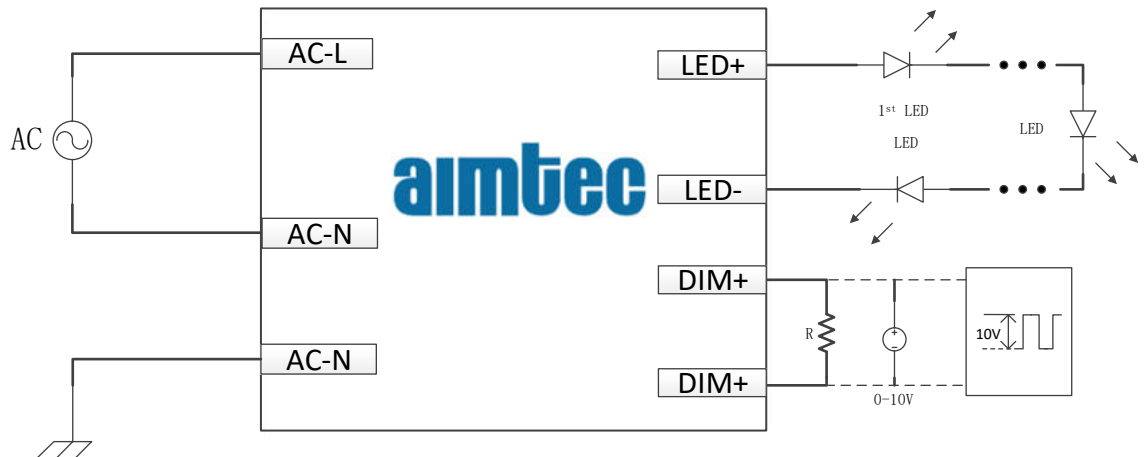
Parameters		
Standards	Electromagnetic Interference	EN55015 / FCC Part 15, Class B
	Harmonic Current Emissions	EN61000-3-2, Class B
	Voltage fluctuations and flicker	EN61000-3-3
	Electrostatic Discharge Immunity	EN61000-4-2, 8kV Air, 4kV Contact, Level 3, Criteria A
	RF, Electromagnetic Field Immunity	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

## Pin Definition

Wire	Pin
Blue	AC-N
Brown	AC-L
Yellow/Green	FG
Red LED+	+V Output
Black LED-	-V Output
Red	DIM+
Black	DIM-

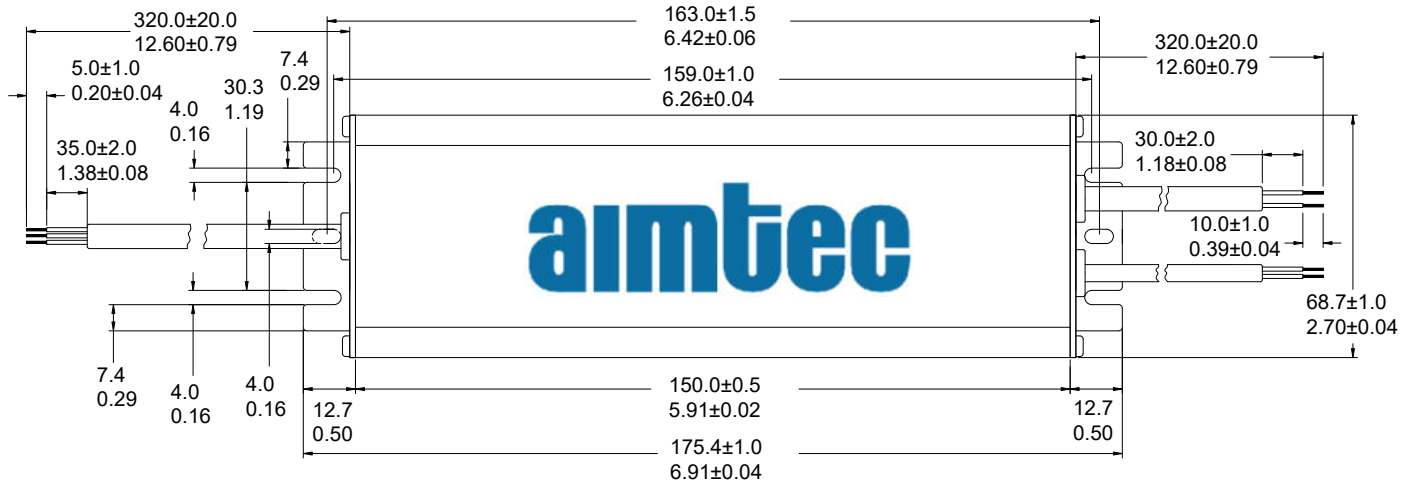
Input wire gauge #18  
Output wire gauge #14

## Block diagram

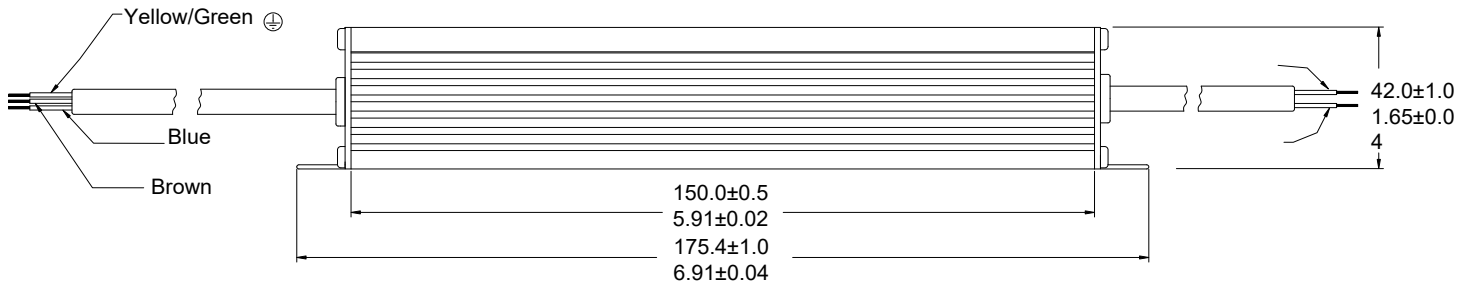


**Dimensions**

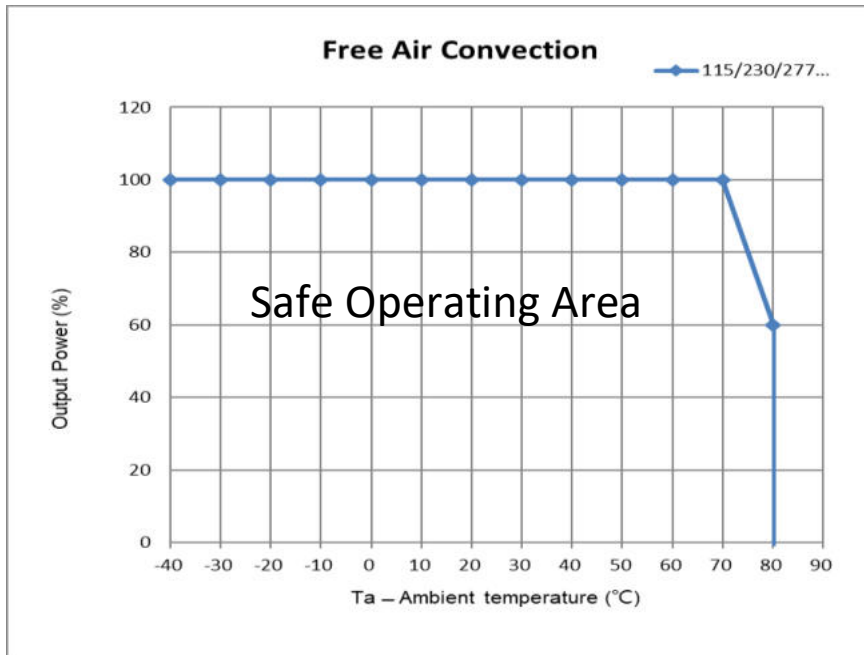
**Top View**



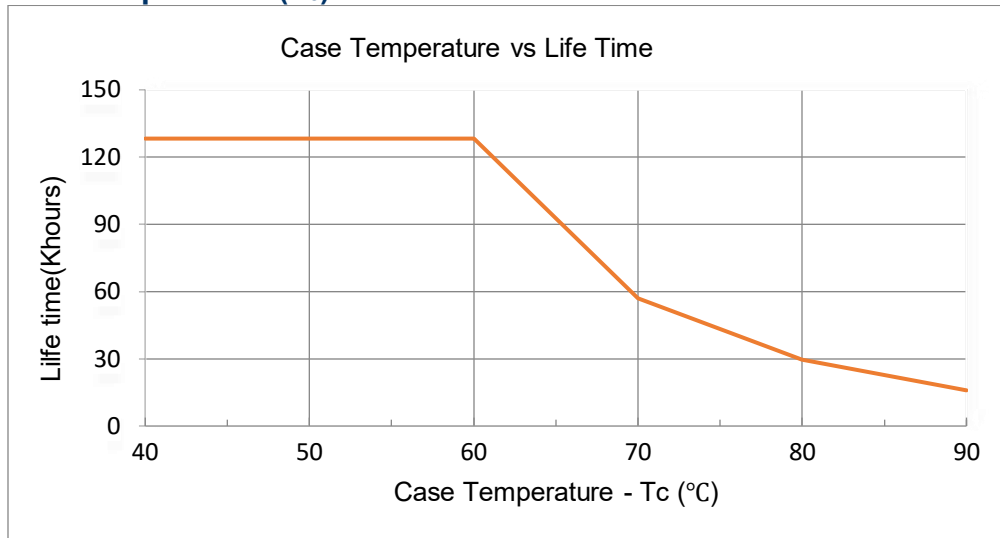
**Side View**



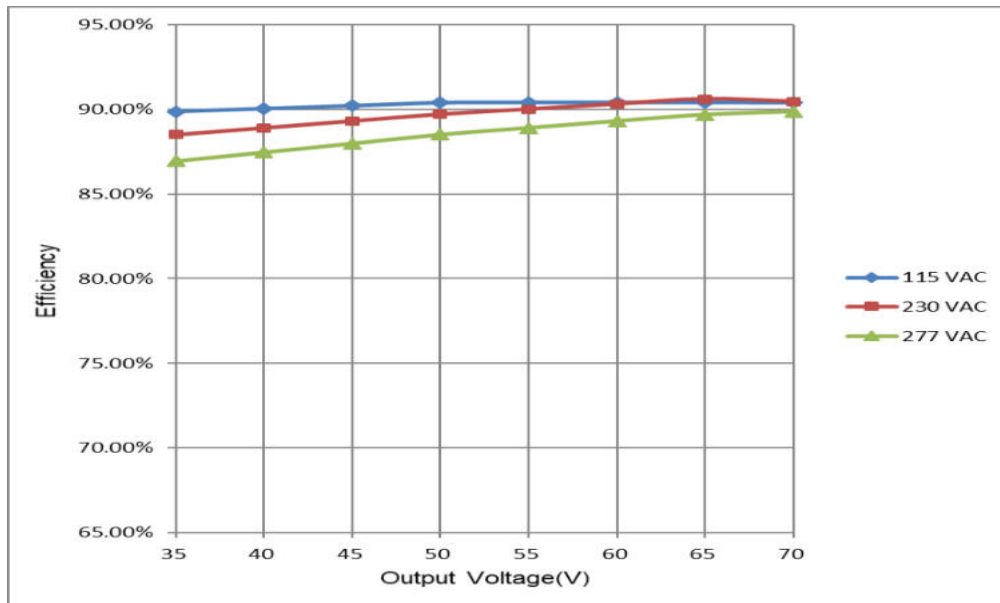
**Derating Graph**



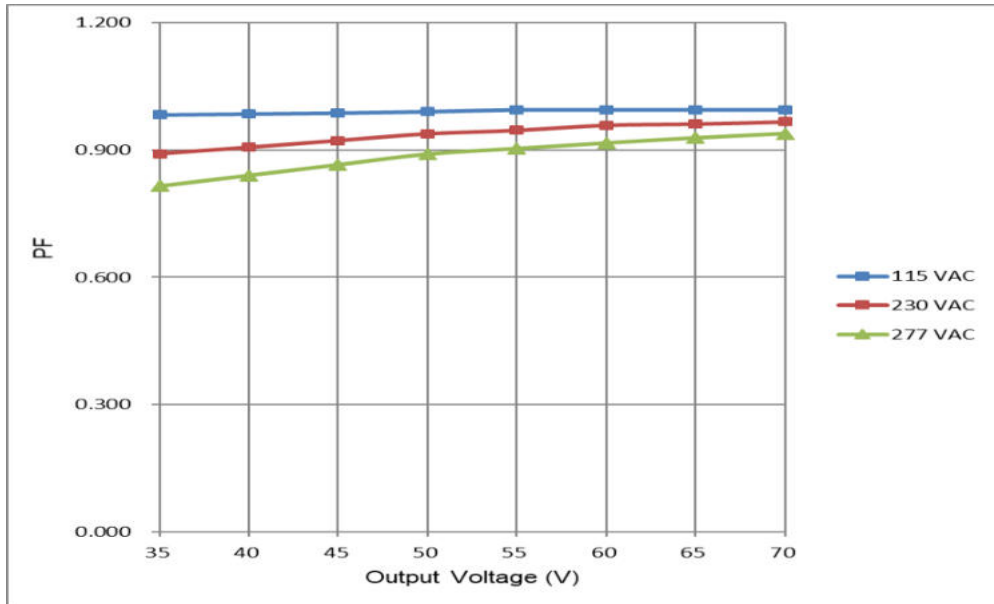
**Life Timer vs. Case Temperature (T<sub>c</sub>)**



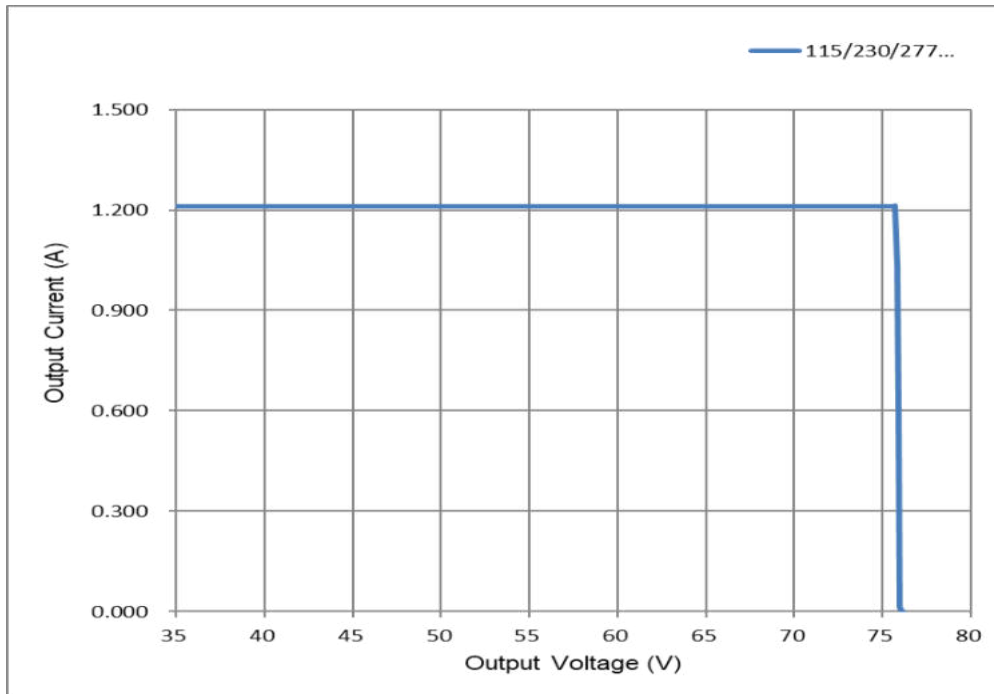
**Efficiency Vs. Input Voltage & Output Voltage (Constant current mode)**



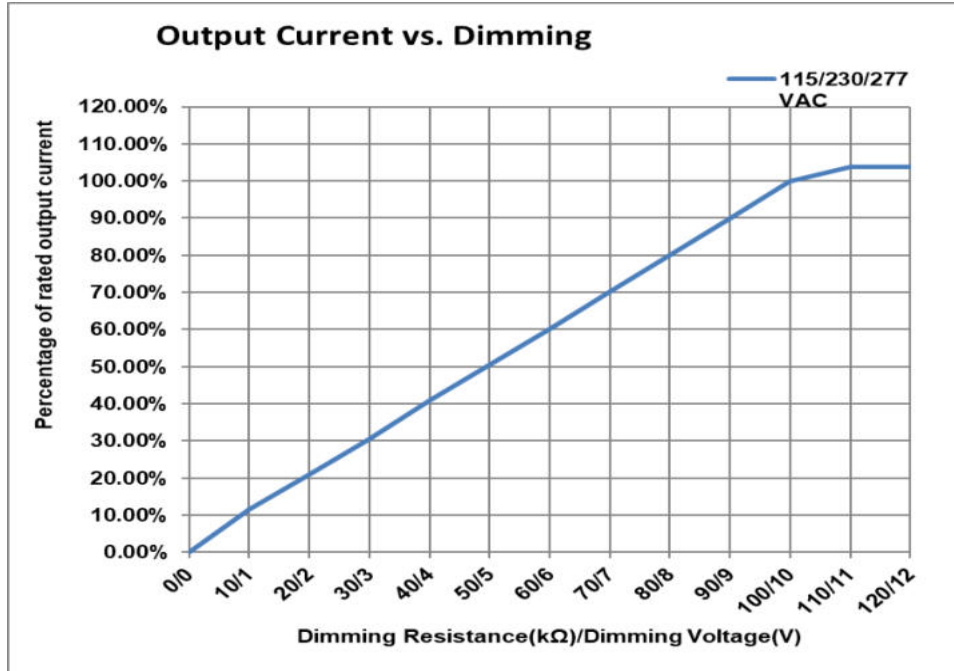
**PF vs. Input Voltage & Output Voltage (constant current mode)**



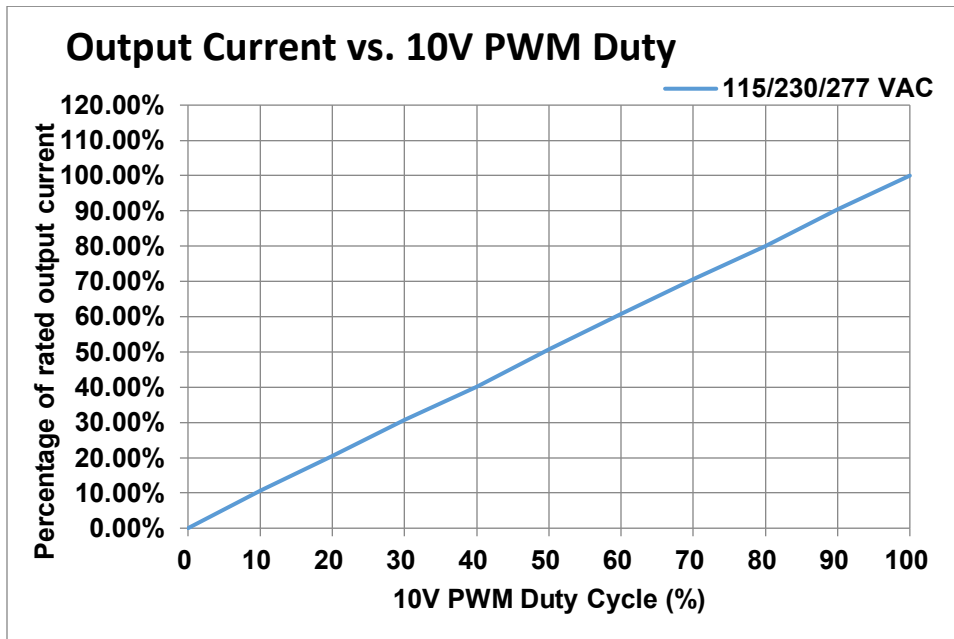
**Output Current vs. Output Voltage**



### Output Current vs. Resistive / 0-10V Dimming



### Output Current vs. 10V PWM Dimming



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