



FEATURES:

- AC-DC Constant Current or Constant Voltage LED Driver
- Input range 90-305VAC/47-440Hz
- High Efficiency up to 91%
- Operating temperature -40 to 85°C
- Dimming via analog / 0-10V dimming ^②
- Over Temperature 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 (%)
AMER120-50250AZ	125	36-50	0-2.5	90-305/47-440	120-430	Constant Current	91
						Constant Voltage ^②	90
AMER120-36340AZ	122.4	24-36	0-3.4	90-305/47-440	120-430	Constant Current	90
						Constant Voltage ^②	89
AMER120-24500AZ	120	12-24	0-5	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	45		A
	230VAC	60		
Leakage current	115VAC	0.5		mA
	230VAC	0.75		
AC current	115VAC	1.8		A
	230VAC	0.7		
Power Factor	115VAC		0.98	
	240VAC		0.94	
External fuse			250V/3A	
Start up time		400		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	75		mV p-p
Hold-up time		80		ms
Current adjustment range		100-0		%
Minimum Load Voltage	See the models table			

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

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3sec/3.2mA		3000	VAC
Isolation Resistance	500VDC	>1000		MΩ
Isolation Capacitance			1000	pF

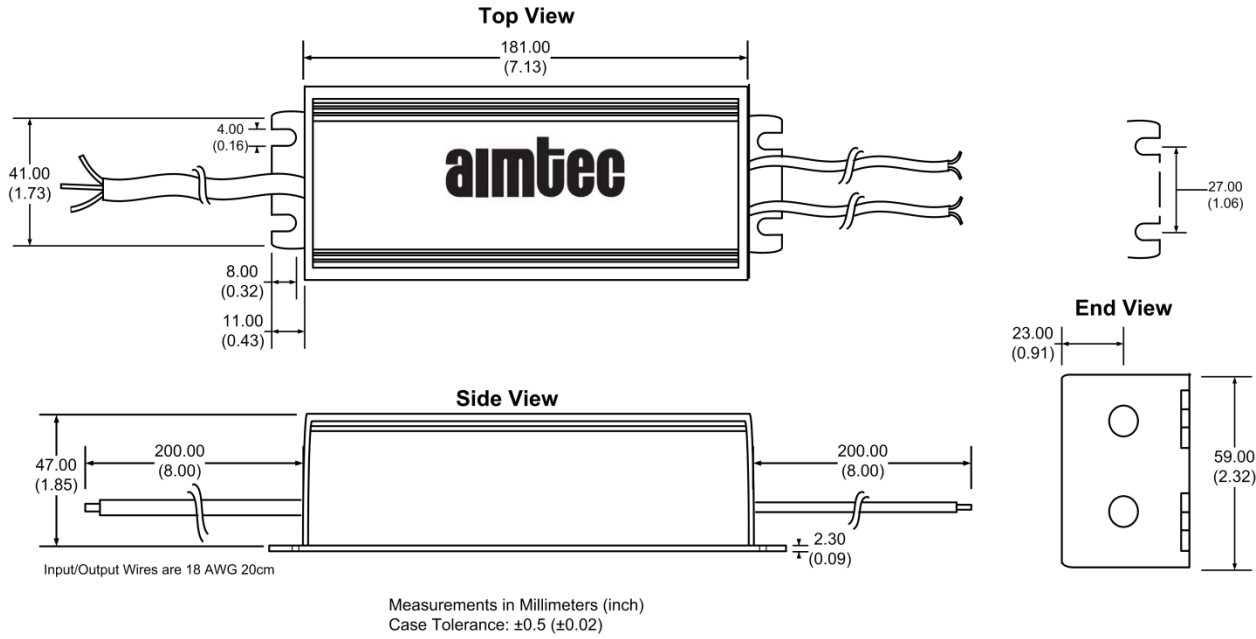
General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		100		KHz
Over current protection		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	-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 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)			

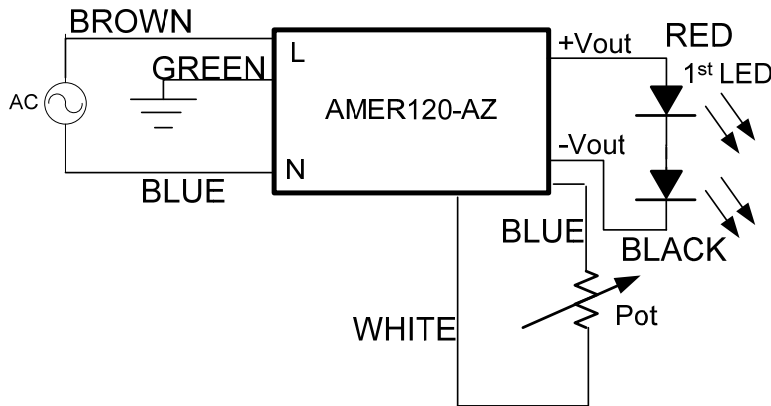
Safety Specifications

Parameters		
Agency approvals	cULus, CE	
Standards	UL8750, UL60950-1, EN55022, class B, EN60529(IP68), EN61347-1, EN61347-2-13	
	Information Technology Equipment	EN55022 Class B
	Harmonic Current Emissions	IEC/EN 61000-3-2, Class C
	Voltage fluctuations and flicker	IEC/EN 61000-3-3, (EN60555-3)
	Electrostatic Discharge Immunity	IEC 61000-4-2
	RF, Electromagnetic Field Immunity	IEC 61000-4-3
	Electrical Fast Transient / Burst Immunity	IEC 61000-4-4
	Surge Immunity	IEC 61000-4-5
	RF, Conducted Disturbance Immunity	IEC 61000-4-6
	Power frequency Magnetic Field Immunity	IEC 61000-4-8
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11

Dimensions

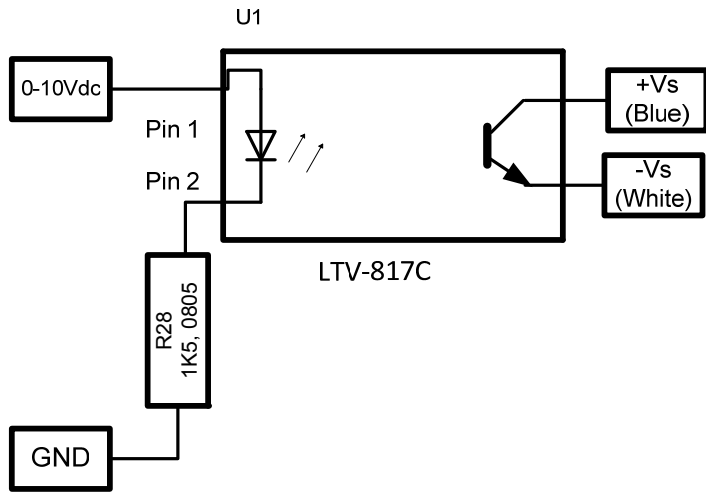


Analog (resistive) Dimming Application Circuit

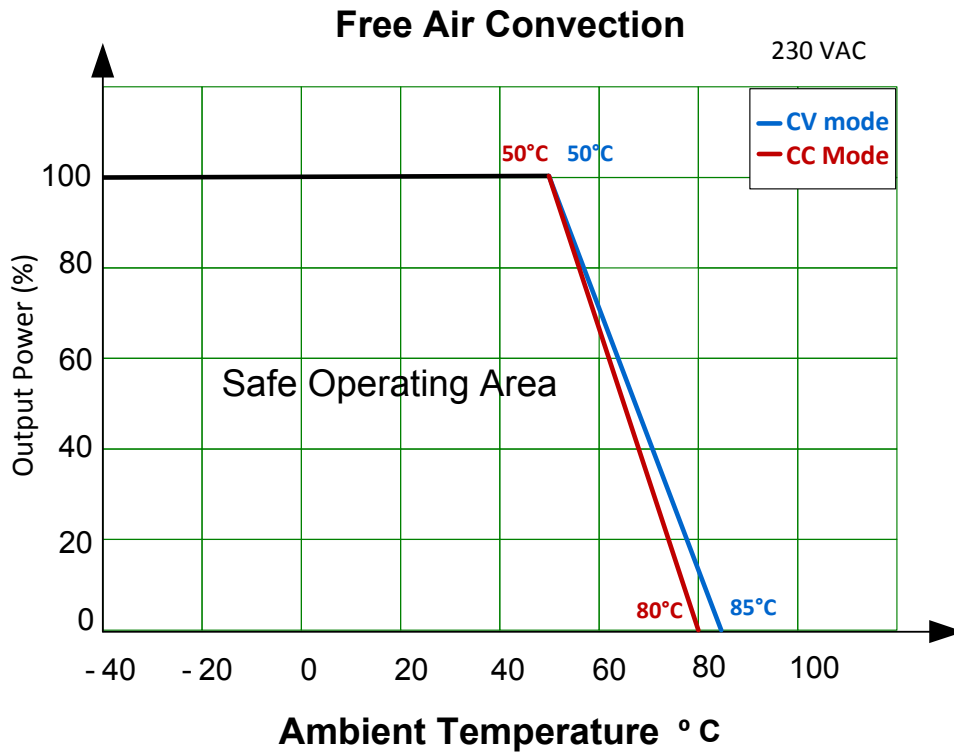


Model Number	Maximum Pot Value (kΩ)
AMER120-50250AZ	31.75
AMER120-36340AZ	25.00
AMER120-24500AZ	26.00

0-10V Dimming Application Circuit

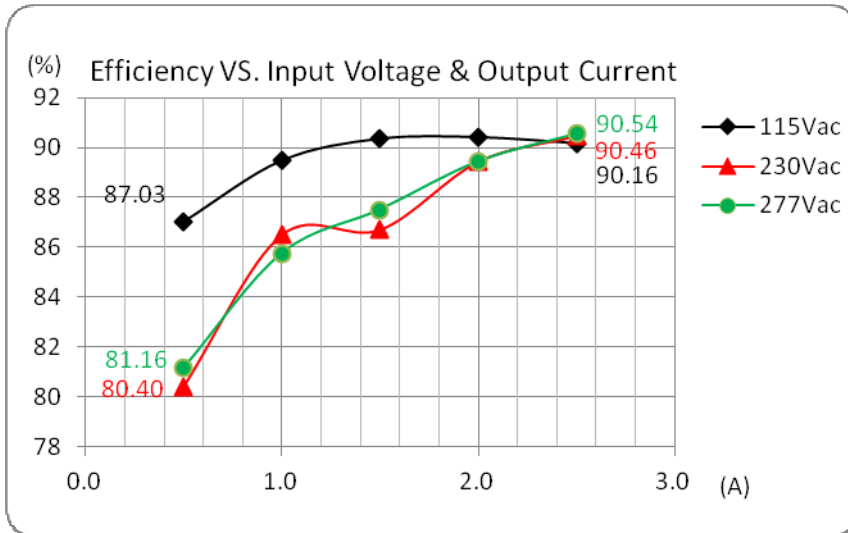


Derating

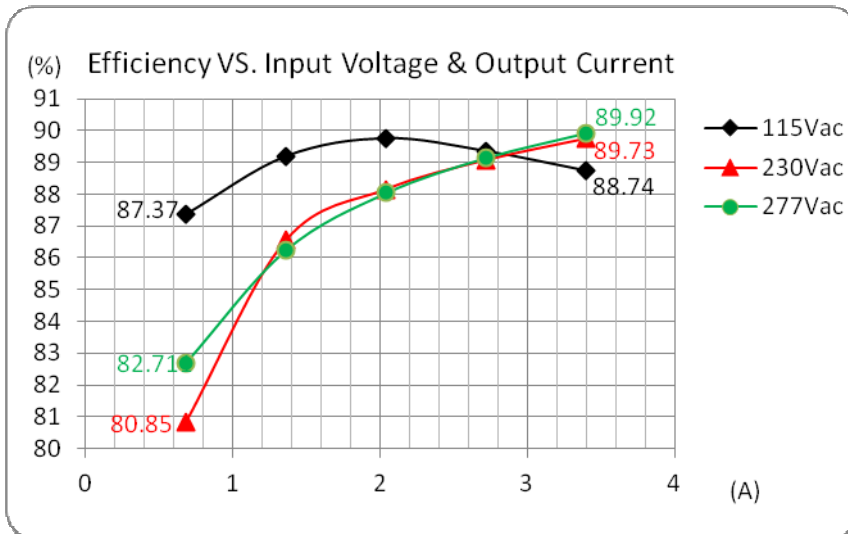


Efficiency vs. Input Voltage and Output Current (CC Load)

AMER120-50250AZ

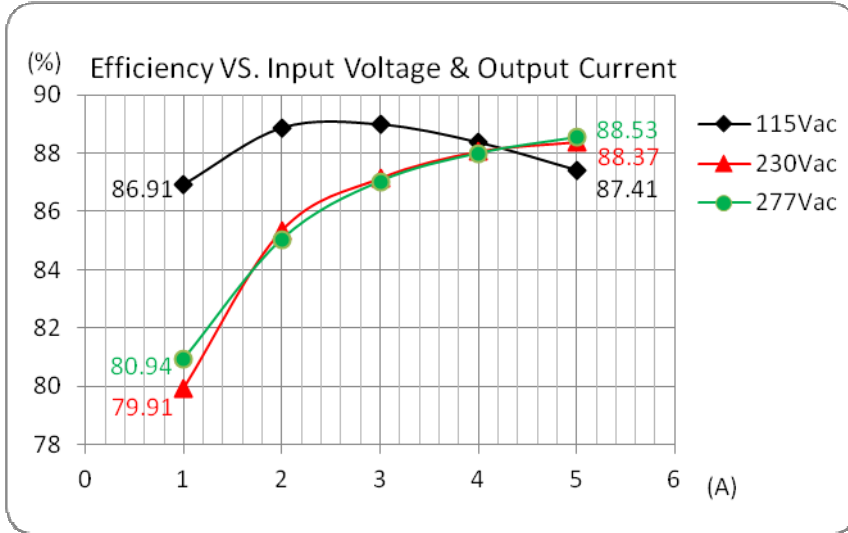


AMER120-36340AZ



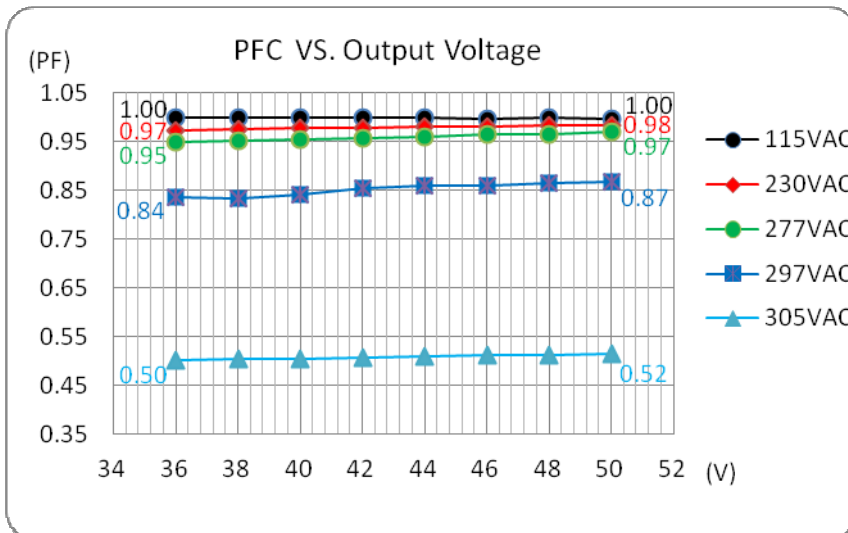
**Efficiency vs. Input Voltage and Output Current (CC Load)
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AMER120-24500AZ



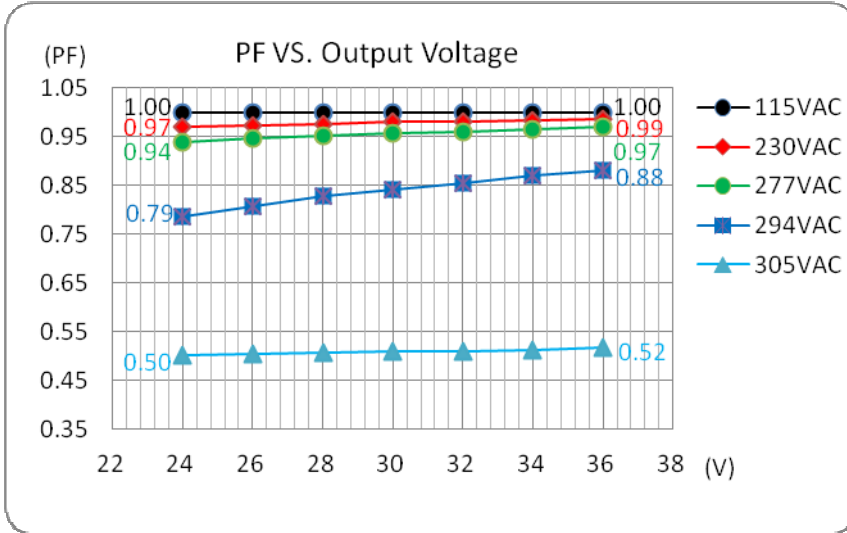
PFC Value vs. Output Load Current (CC Load)

AMER120-50250AZ

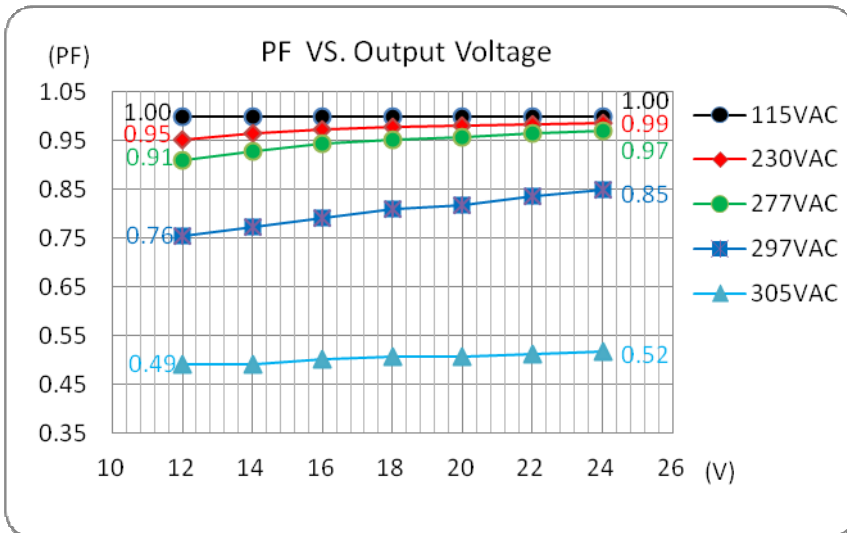


**PFC Value vs. Output Load Current (CC Load)
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AMER120-36340AZ

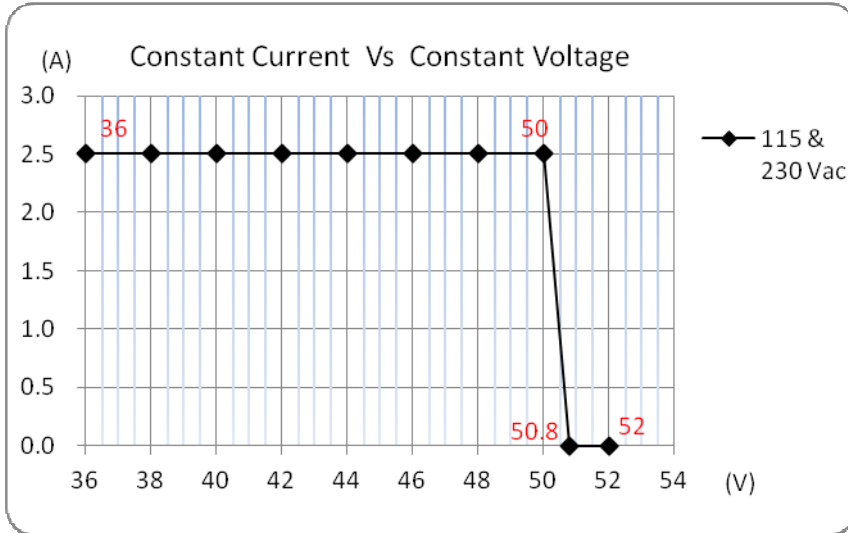


AMER120-24500AZ

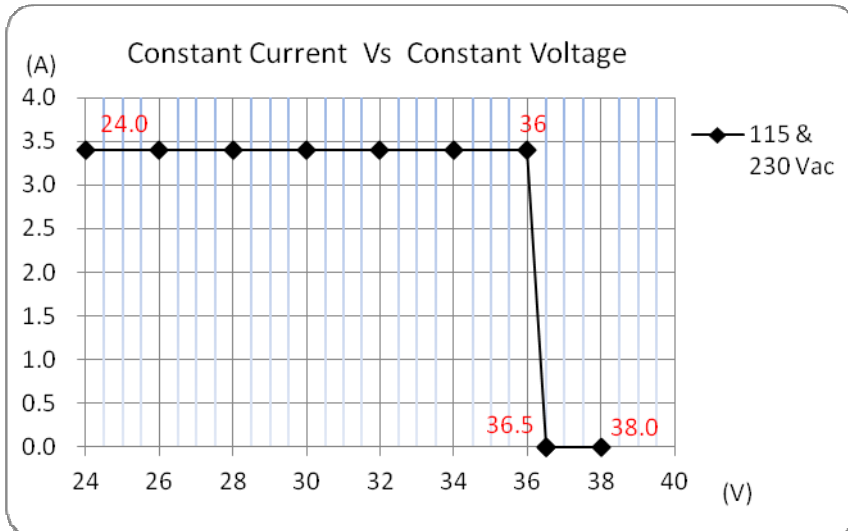


Constant Current Mode vs. Constant Voltage Mode

AMER120-50250AZ

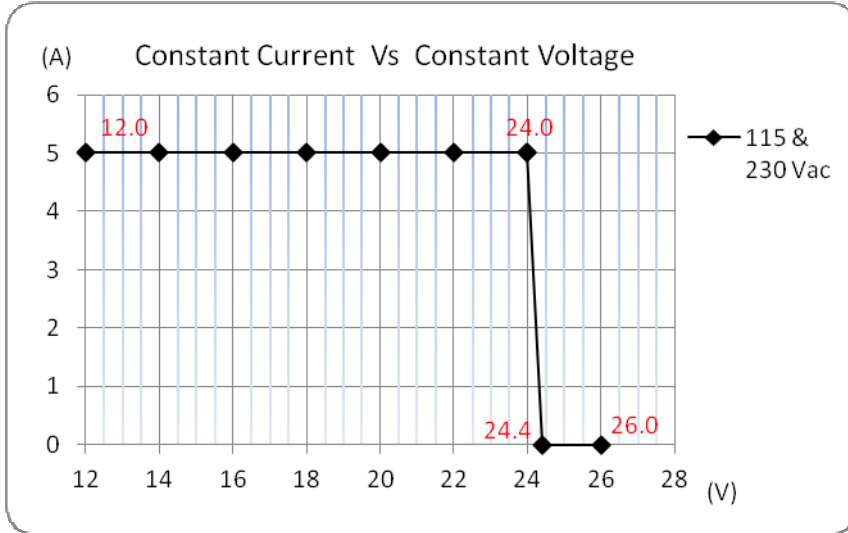


AMER120-36340AZ



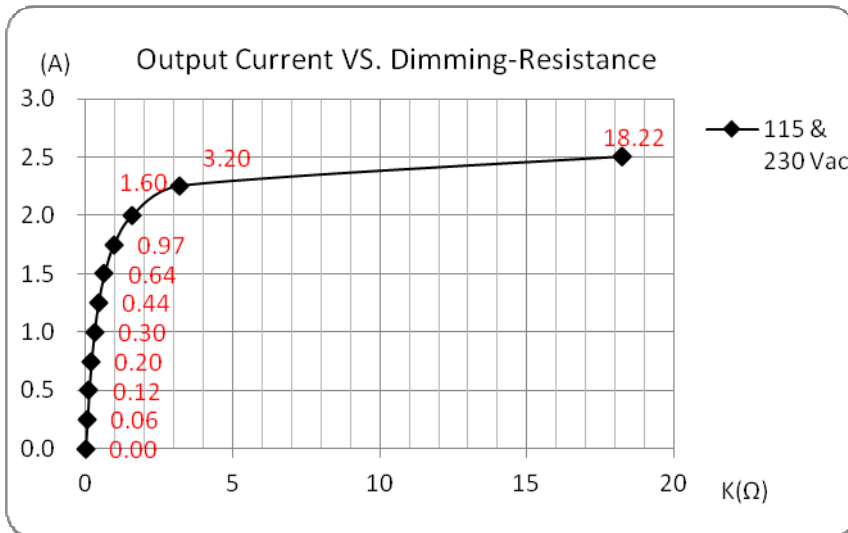
**Constant Current Mode vs. Constant Voltage Mode
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AMER120-24500AZ



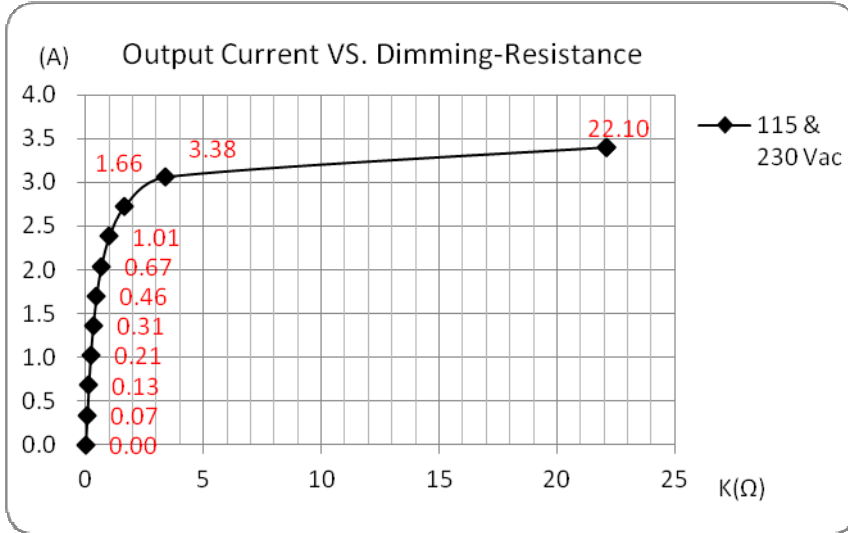
Output Current vs. Radj

AMER120-50250AZ

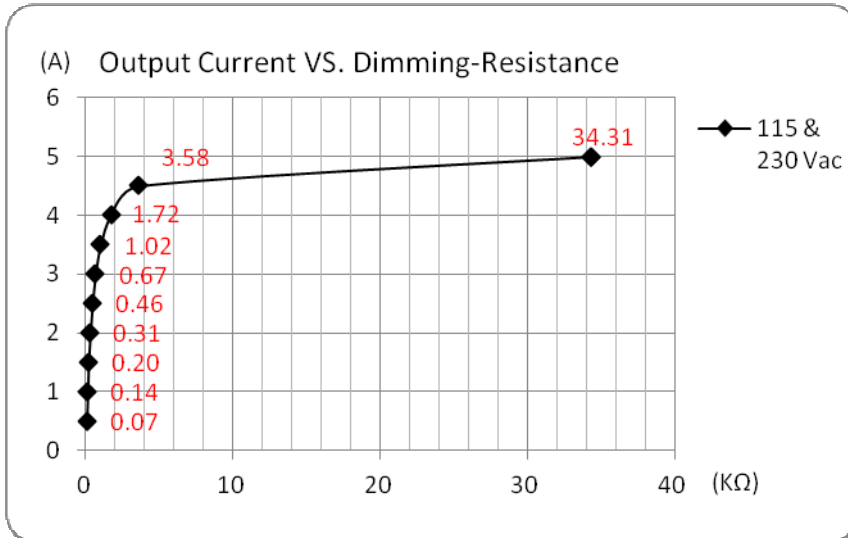


**Output Current vs. Radj
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AMER120-36340AZ



AMER120-24500AZ



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