



FEATURES:

- AC-DC Constant current LED Driver
- Input range 90-277VAC/47-440Hz
- High Efficiency up to 91%
- Operating temperature -40 to 85°C
- Over Temperature Protection
- Waterproof Case rated IP68
- Power Factor Correction
- SCP, 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

*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		

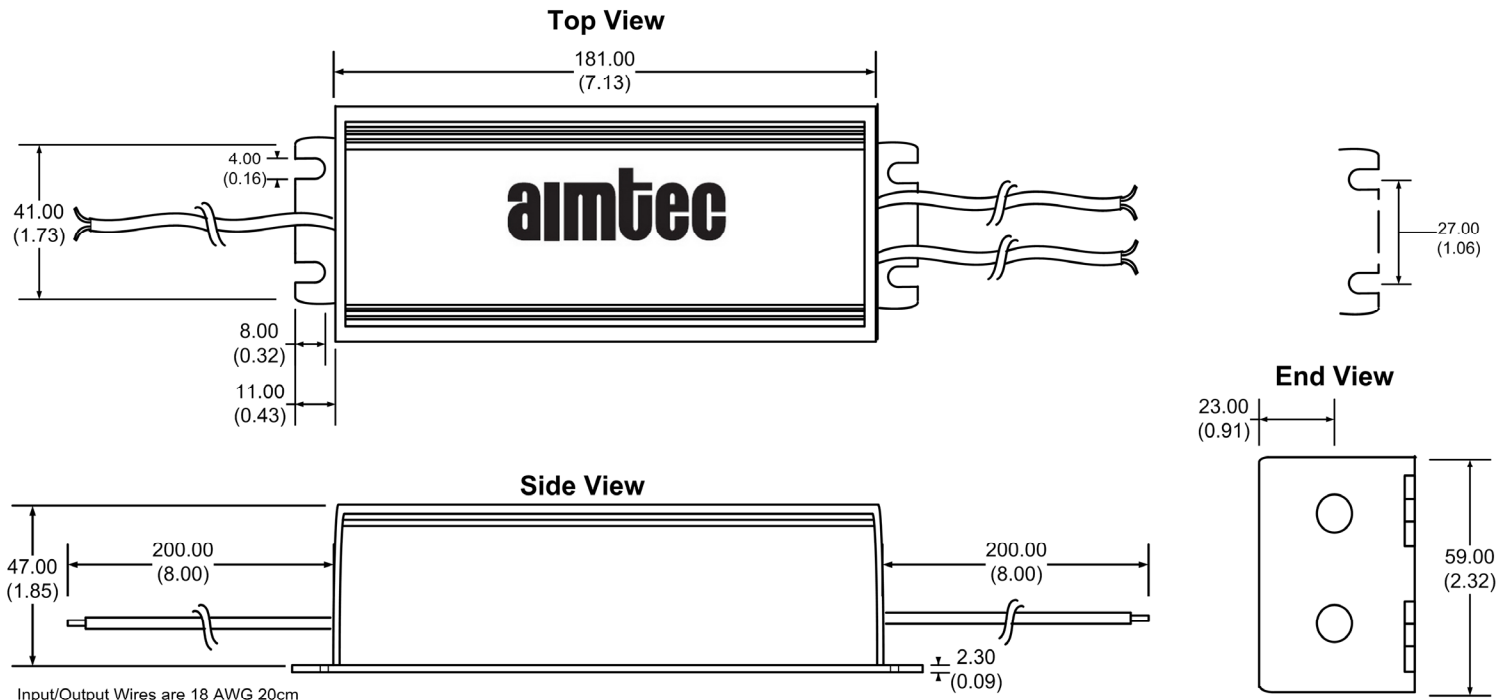
General Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
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

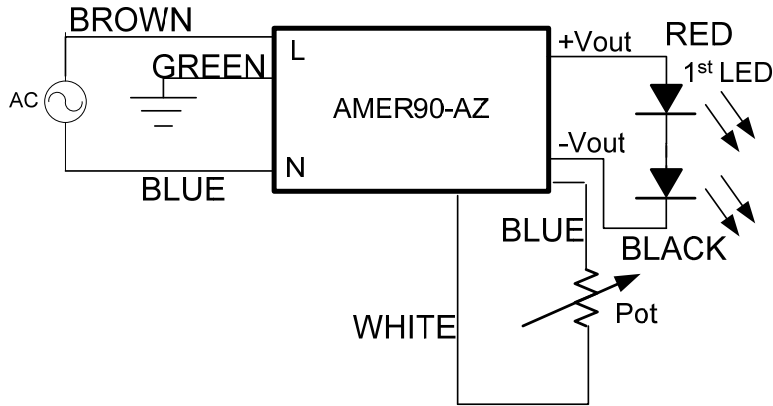
Parameters	
Agency approvals	cULus, CE
Standards	UL8750, UL60950-1, EN55022, class B, EN60529(IP68), EN61347-1, EN61347-2-13

Dimensions



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

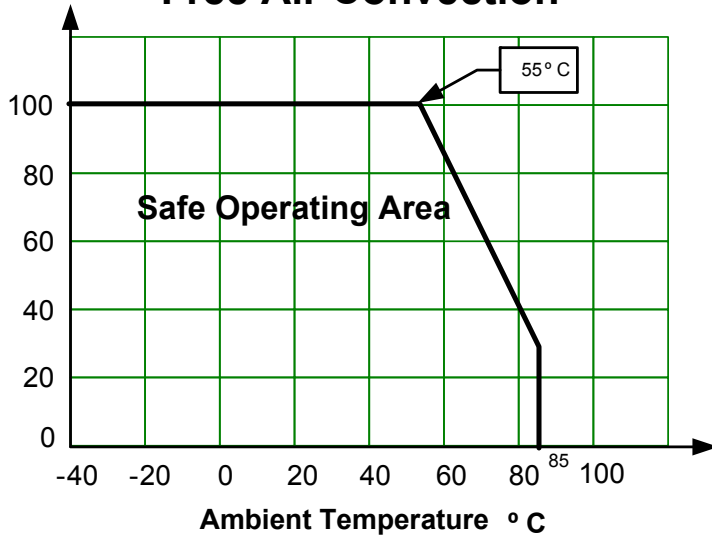
Application Circuit



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

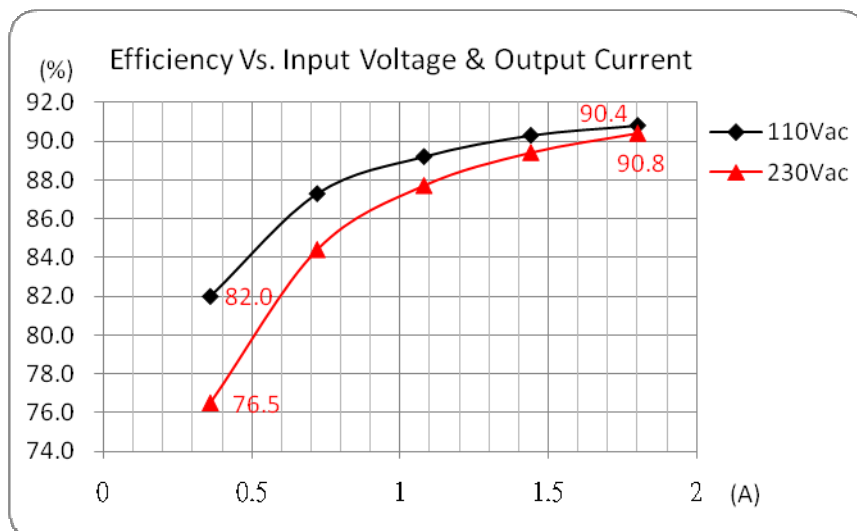
Temperature graph

Free Air Convection

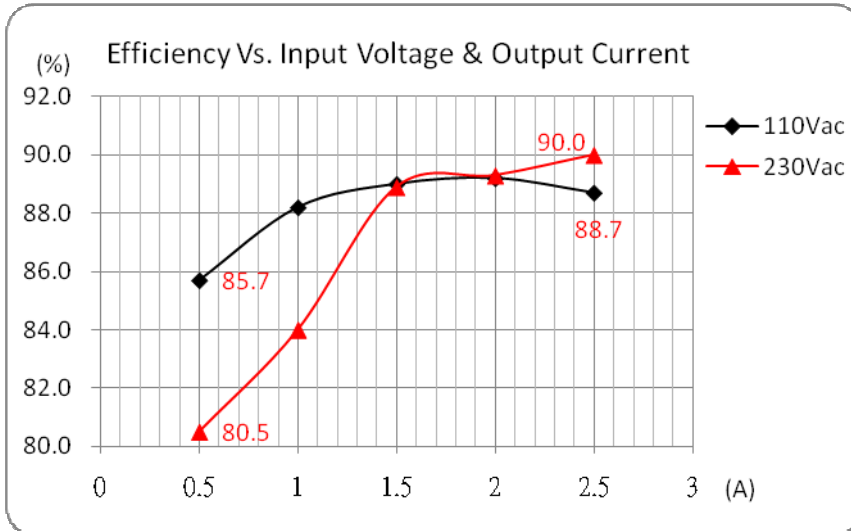


Efficiency vs. Input Voltage and Output Current (CC Load)

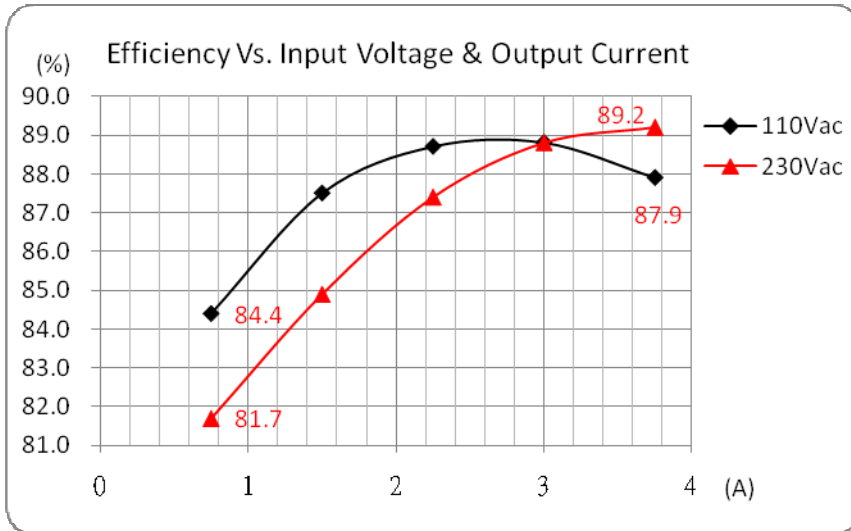
AMEPR90-50180AZ



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

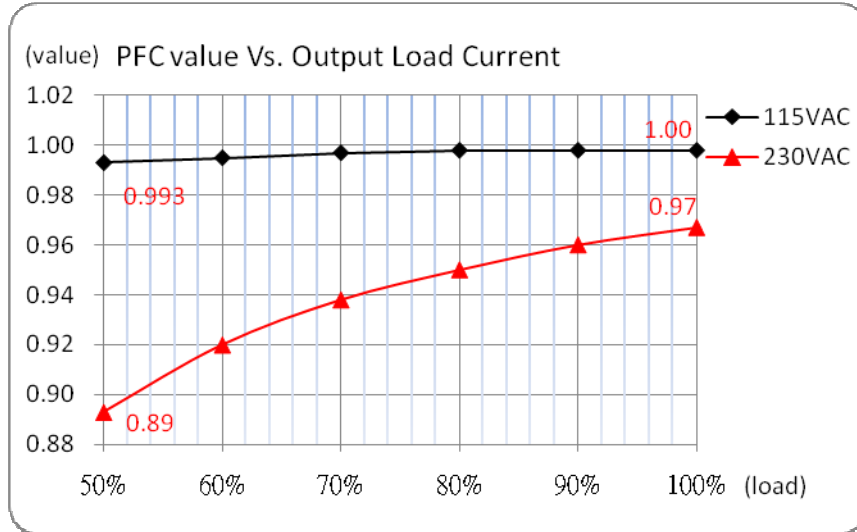


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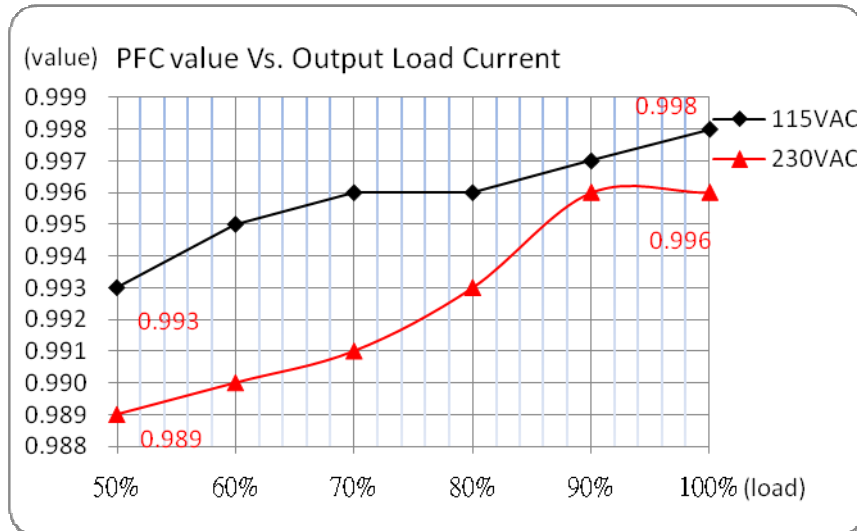


PFC Value vs. Output Load Current (CC Load)

AMEPR90-50180AZ



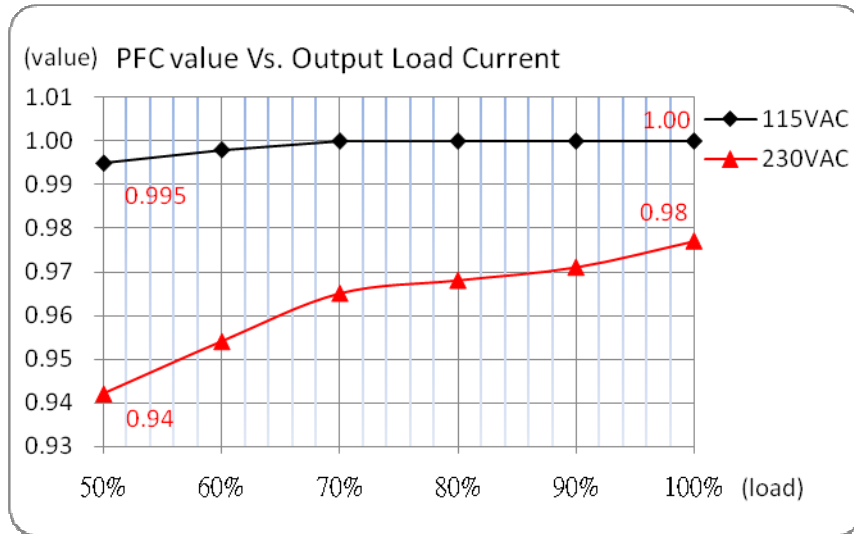
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PFC Value vs. Output Load Current (CC Load)

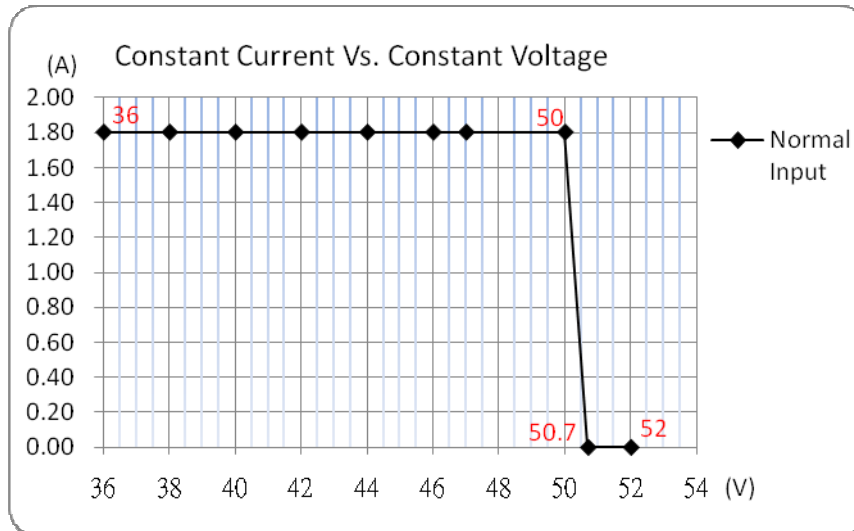
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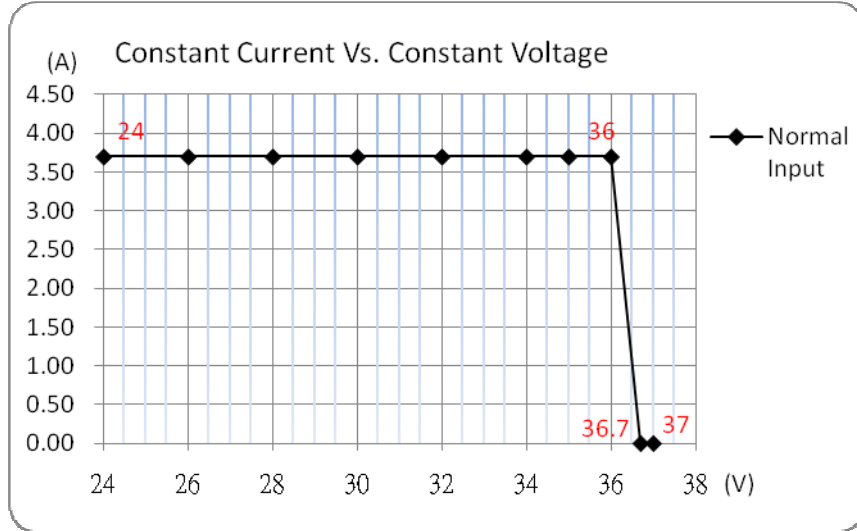
Constant Current Mode vs. Constant Voltage Mode

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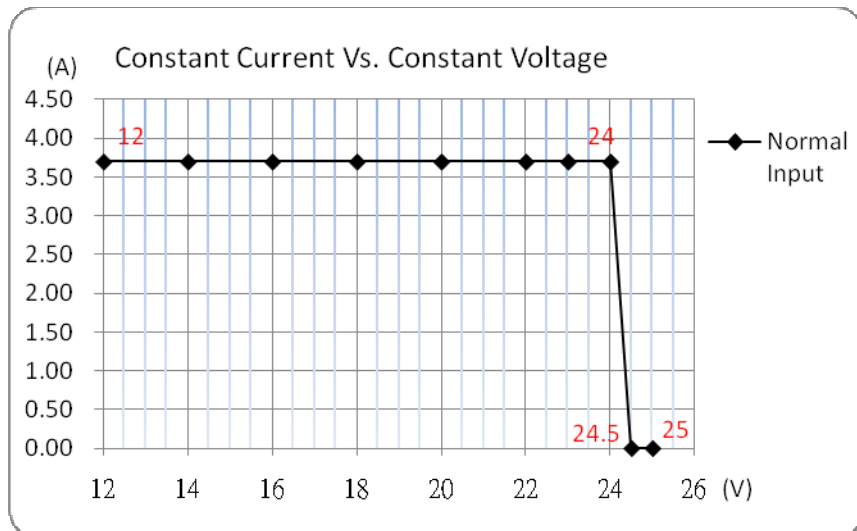


Constant Current Mode vs. Constant Voltage Mode
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AMER90-36250AZ

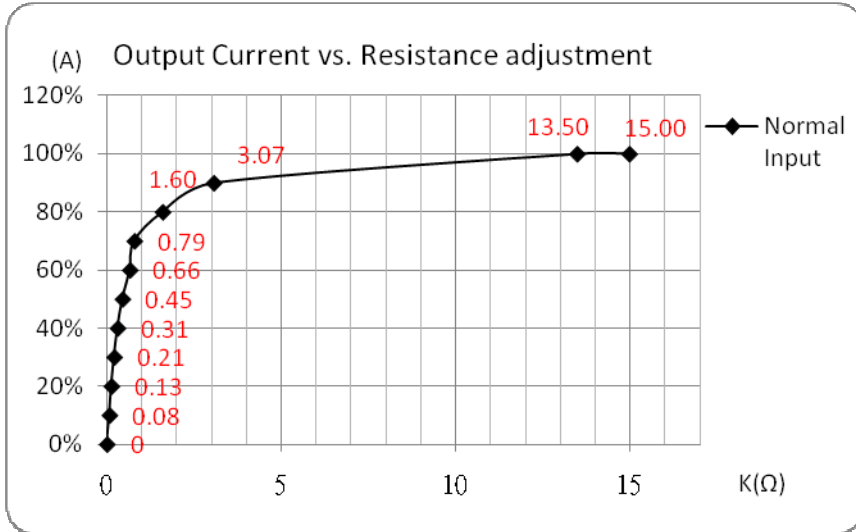


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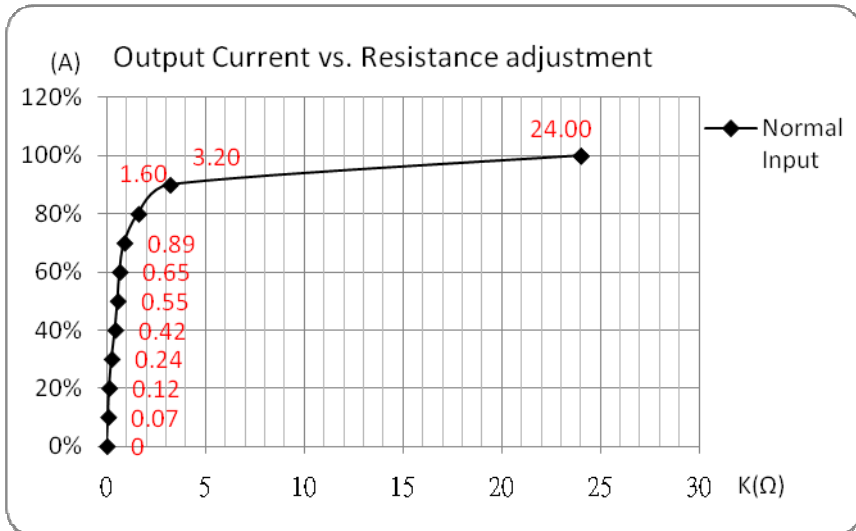


Output Current vs. Radj

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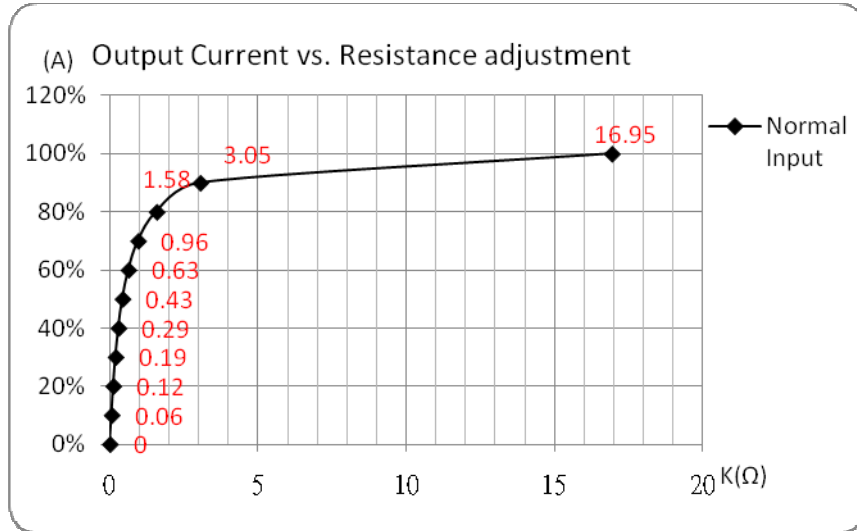


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Output Current vs. Radj
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AMER90-24375AZ



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