

Series AMEPR60-AZ

up to 5A | AC-DC / DC-DC | LED Driver / Converter



FEATURES:

- AC-DC Constant Current or Constant Voltage LED Driver
- Input range 90-305VAC/47-440Hz
- High Efficiency up to 89%
- Operating temperature -40 to 85°C
- Dimmable via resistive / 0-10Vdc / PWM (C version see table)
- Over Temperature Protection
- Over Current Protection
- Waterproof Case rated IP68
- Power Factor Correction
- Short Circuit Protection



Models Single output

Model	Output Voltage Range (V) ③	Output Current (A) ③	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Mode of Operation	OCP / OVP	Max Output Power (W) ①	Efficiency (%)
AMEPR60-50120AZ	36-50	0 - 1.20	90-305 / 47-440	120-430	Constant Current	1.27	60	89
					Constant Voltage ②	50.7	63.8	86
AMEPR60-36170AZ	24-36	0 - 1.70	90-305 / 47-440	120-430	Constant Current	1.77	59.8	88
					Constant Voltage ②	36.6	63.7	86
AMEPR60-24250AZ	12-24	0 - 2.50	90-305 / 47-440	120-430	Constant Current	2.55	60	87
					Constant Voltage ②	24.5	61	85
AMEPR60-12500AZ	5-12	0 - 5.0	90-305 / 47-440	120-430	Constant Current	5.2	60	85
					Constant Voltage ②	12.3	62	82
“C” version supports fully integrated Analog Resistive, PWM, & 0-10Vdc Dimming feature								
AMEPR60C-50120AZ	36-50	0 - 1.20	90-305 / 47-440	120-430	Constant Current	1.27	60	89
						50.7		
AMEPR60C-36170AZ	24-36	0 - 1.70	90-305 / 47-440	120-430	Constant Current	1.77	59.8	88
						36.6		
AMEPR60C-24250AZ	12-24	0 - 2.50	90-305 / 47-440	120-430	Constant Current	2.55	60	87
						24.5		
AMEPR60C-12500AZ	5-12	0 - 5.0	90-305 / 47-440	120-430	Constant Current	5.2	60	85
						12.3		

^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.

^③ In constant current mode output current is maximum shown, in constant voltage mode output voltage is the maximum shown.

^④ Analog resistive dimming supported only

All models can be ordered with optional North American colour input wires (add “-NA” to part number when ordering)

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Inrush current <2ms	115VAC	30		A
	230VAC	50		
Leakage current	115VAC	0.5		mA
	230VAC	0.7		
AC current	115VAC	0.73		A
	230VAC	0.33		
Power Factor	115VAC		0.97	
	230VAC		0.93	
External fuse			250V/1.5A	
Start up time		250		ms
Surge voltage	2sec		440	V

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Current accuracy (CC Mode)		±3		%
Voltage accuracy (CV Mode)		±3		%
Line regulation	LL-HL	±1		%
Load regulation	0-100% load	±3		%
Ripple & Noise ④	20MHz Bandwidth	75		mV p-p
Hold-up time		90		ms
Current adjustment range		100-0		%
Minimum Load Voltage	See the models table			

④ 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	3 sec/3.5mA		3000	VAC
Isolation Resistance	500VDC	>1000		MΩ
Isolation Capacitance		1000		pF

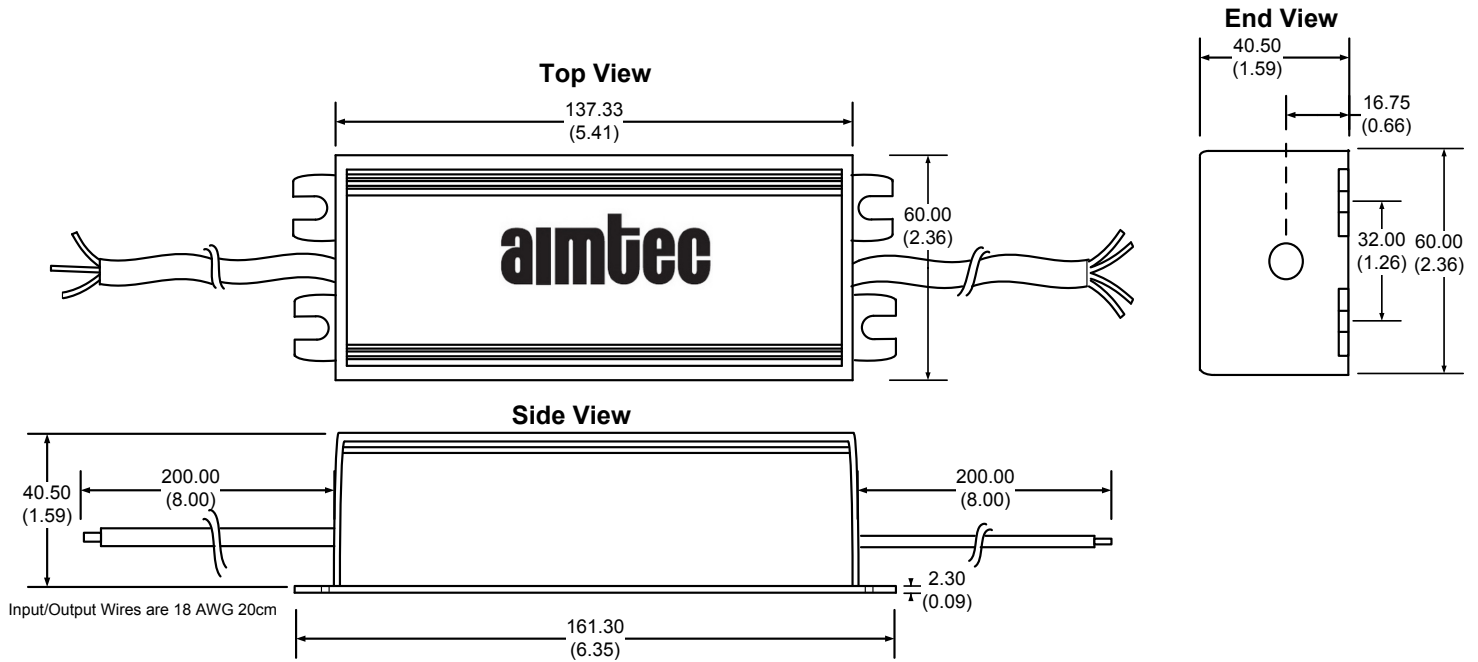
General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		130		KHz
Over current protection		≥105		%
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		Plastic		
Potting		Epoxy (IP67 rated)		
Wires		UL1015 18AWG *20CM		
Weight		530		g
Dimensions (L x H x W)		5.30 x 2.27 x 1.59 inches	134.80 x 57.68 x 40.50 mm	
MTBF		>400,000 hrs (MIL-HDBK-217F at +25°C)		

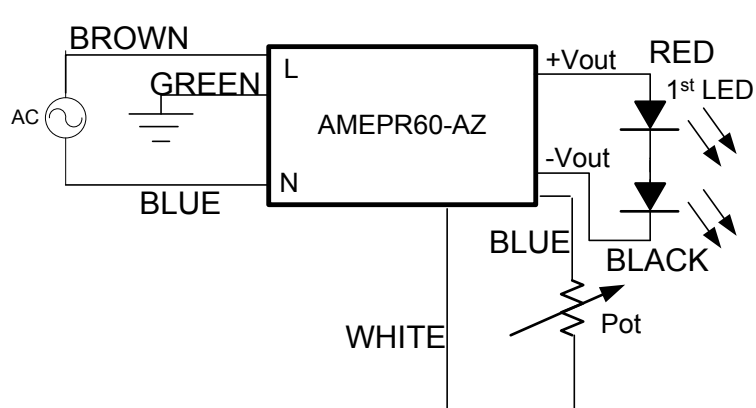
Safety Specifications

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

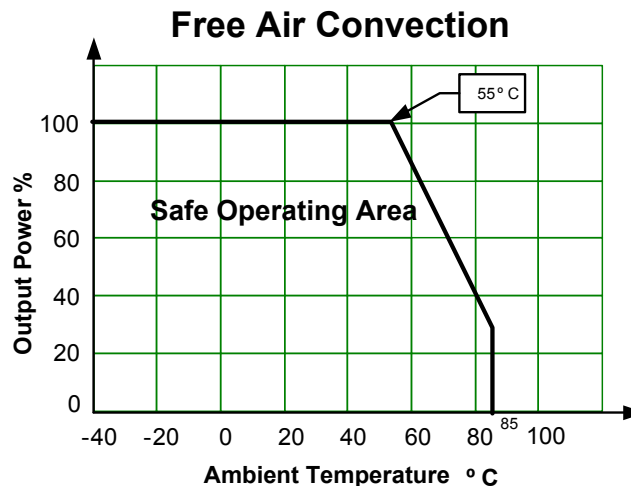


AMEPR60-AZ Analog (resistive) Dimming Application Circuit



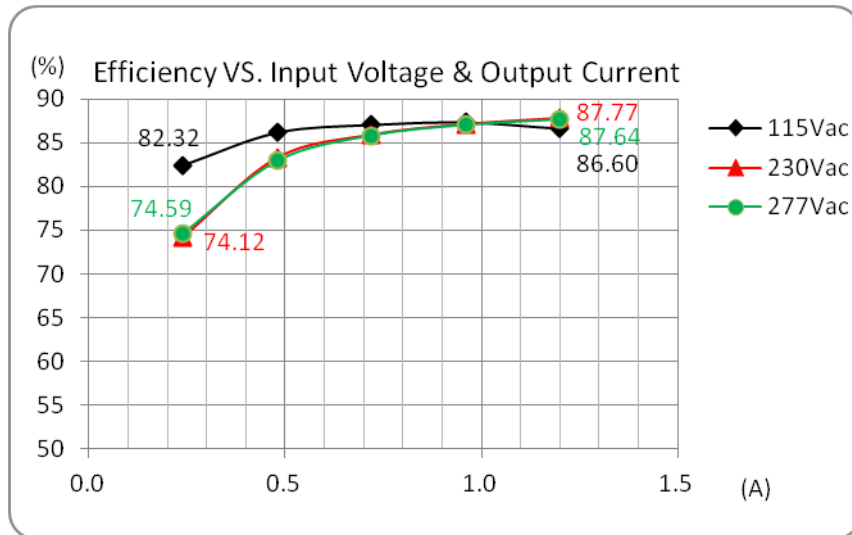
Model Number	Maximum Pot Value (kΩ)
AMEPR60-50120AZ	26.00
AMEPR60-36170AZ	16.95
AMEPR60-24250AZ	26.10
AMEPR60-12500AZ	34.10

Temperature Graph

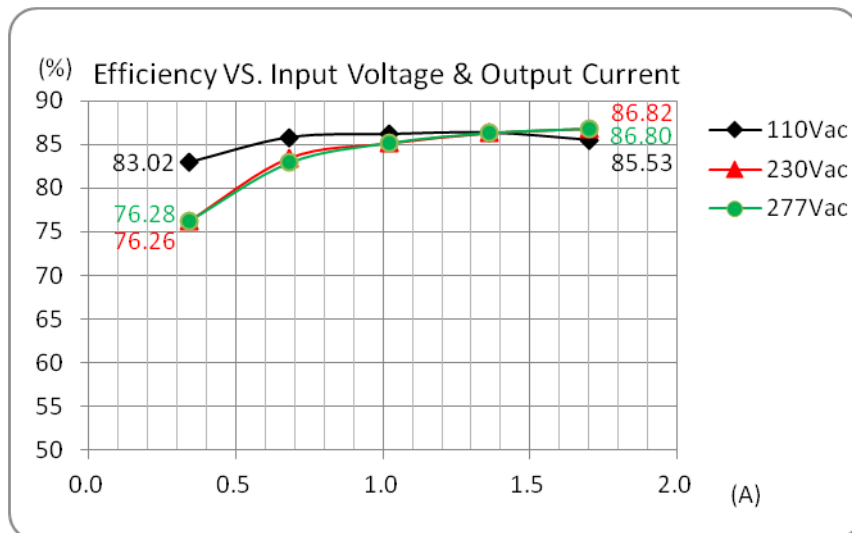


Efficiency Vs. Input Voltage & Output Current (Constant Current Mode)

AMEPR60-50120AZ

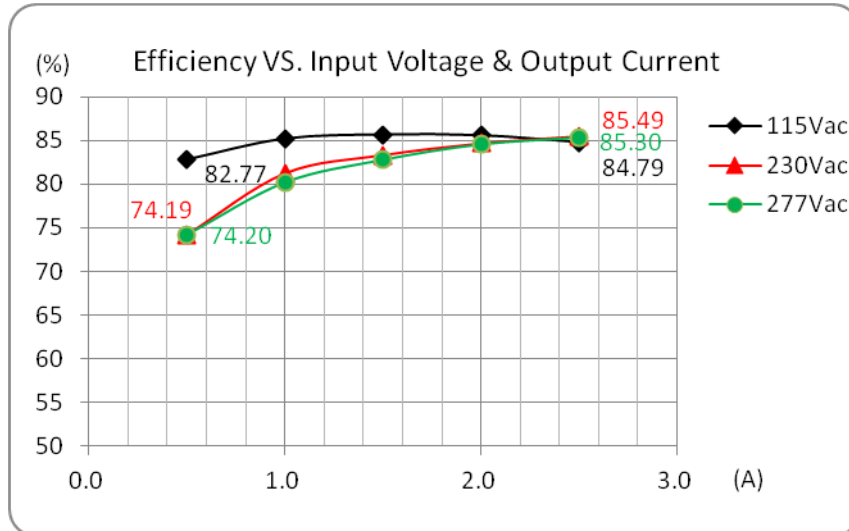


AMEPR60-36170AZ

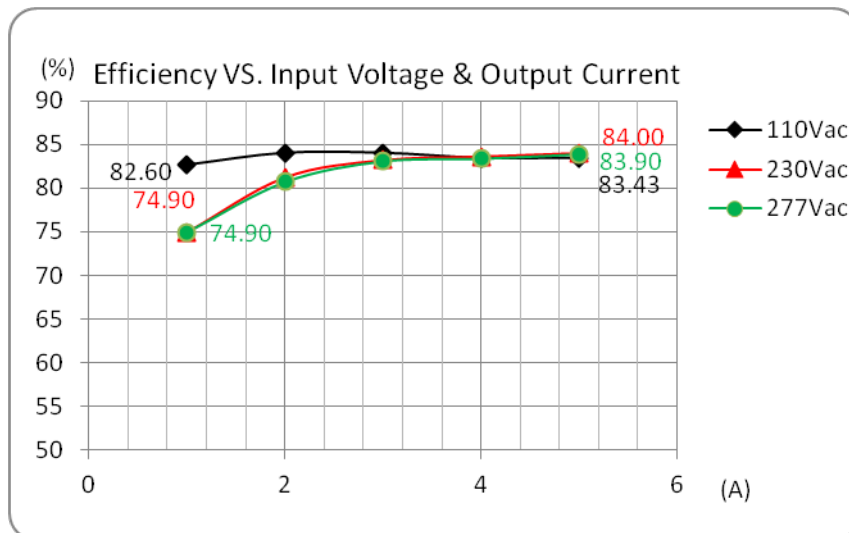


Efficiency Vs. Input Voltage & Output Current (Constant Current Mode) Continued

AMEPR60-24250AZ

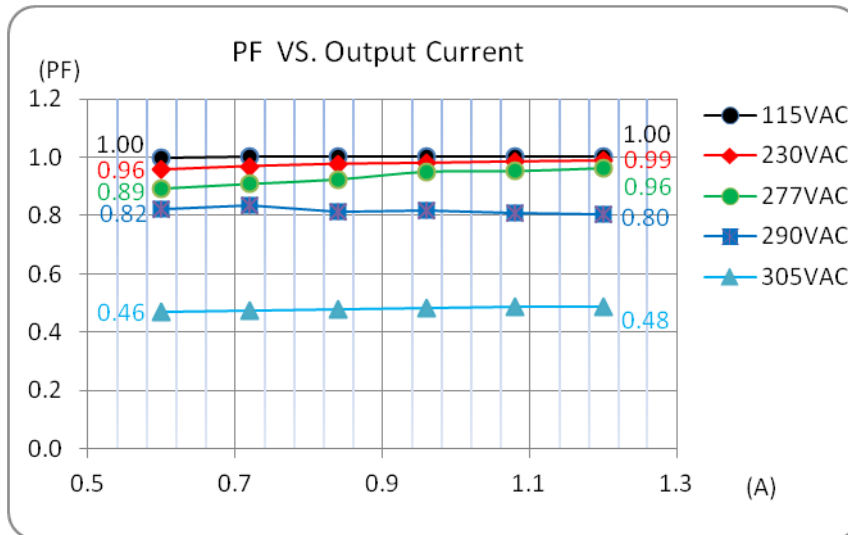


AMEPR60-12500AZ

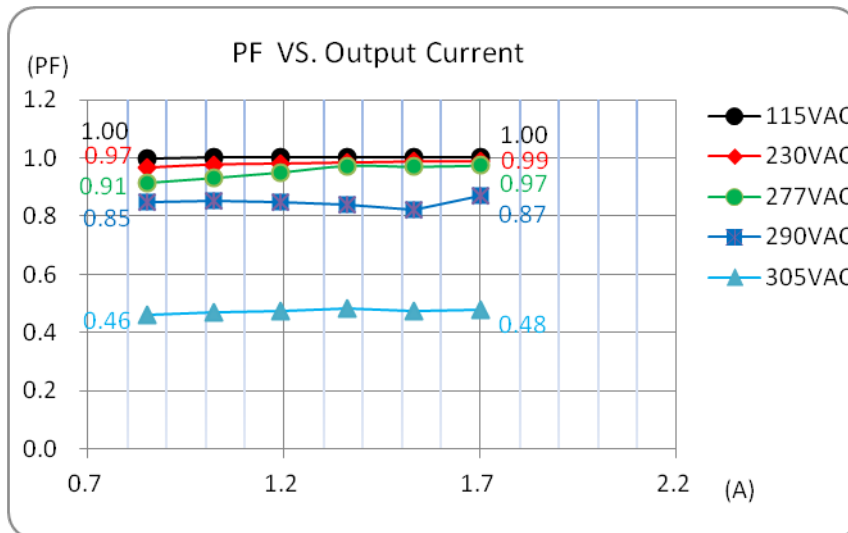


PFC Value vs. Output Load Current (Constant Current Mode)

AMEPR60-50120AZ

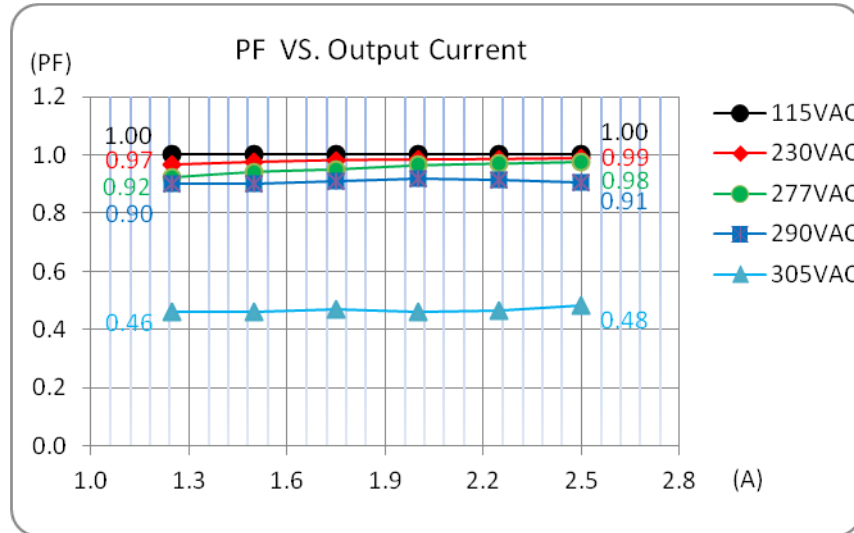


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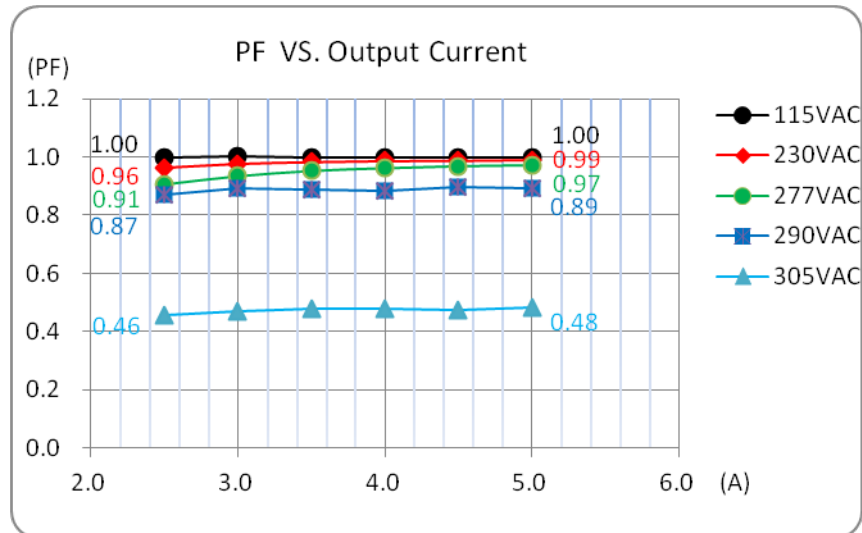


PFC Value vs. Output Load Current (Constant Current Mode) Continued

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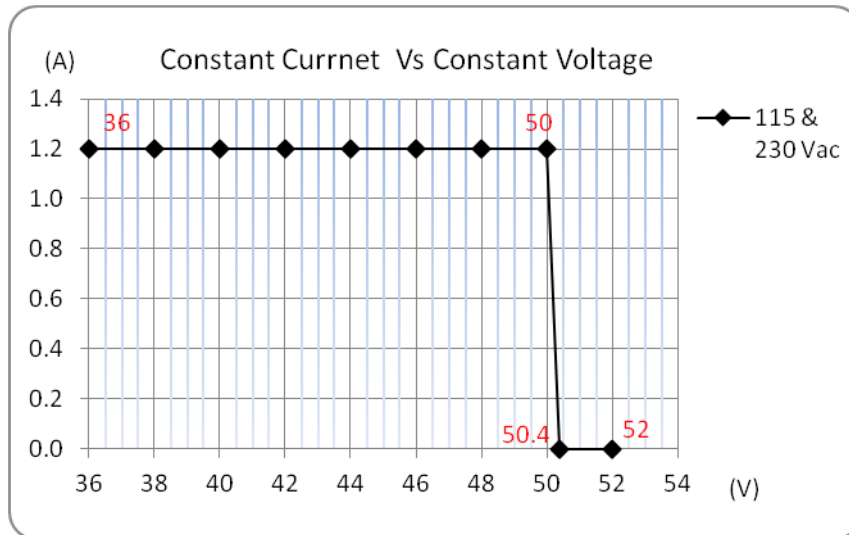


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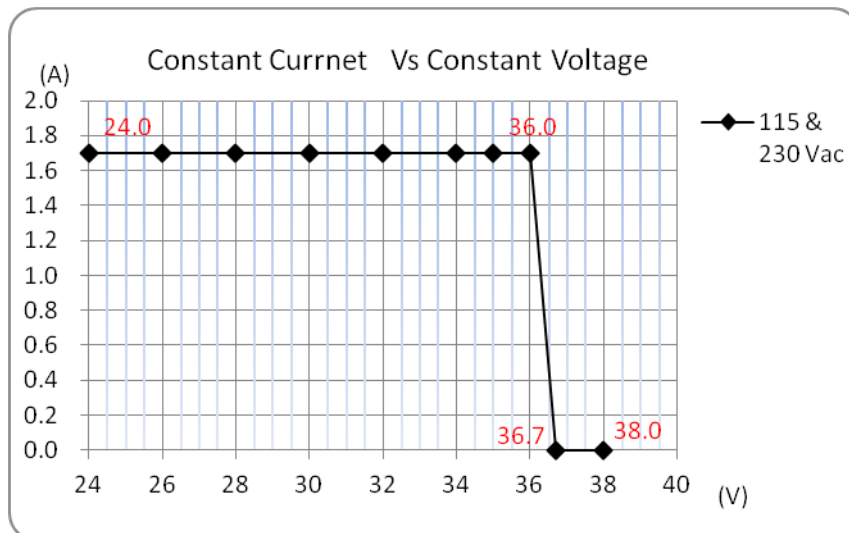


Constant Current vs. Constant Voltage Mode

AMEPR60-50120AZ

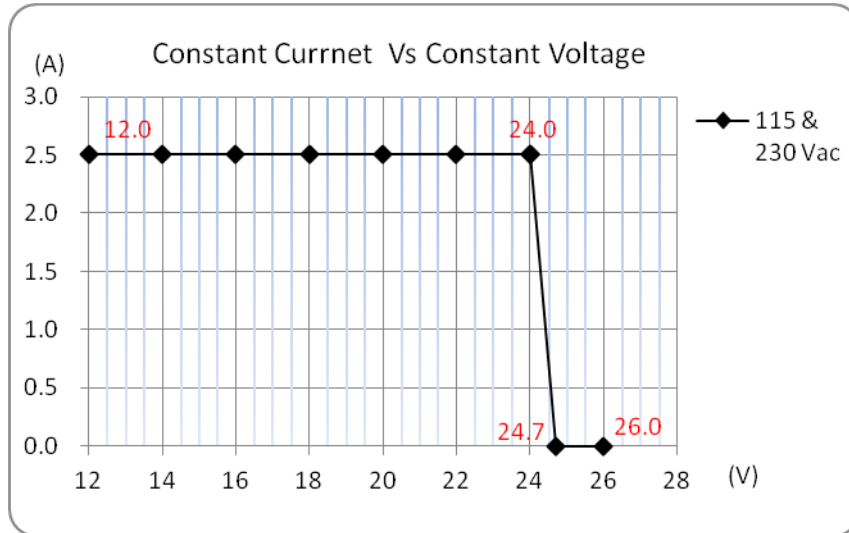


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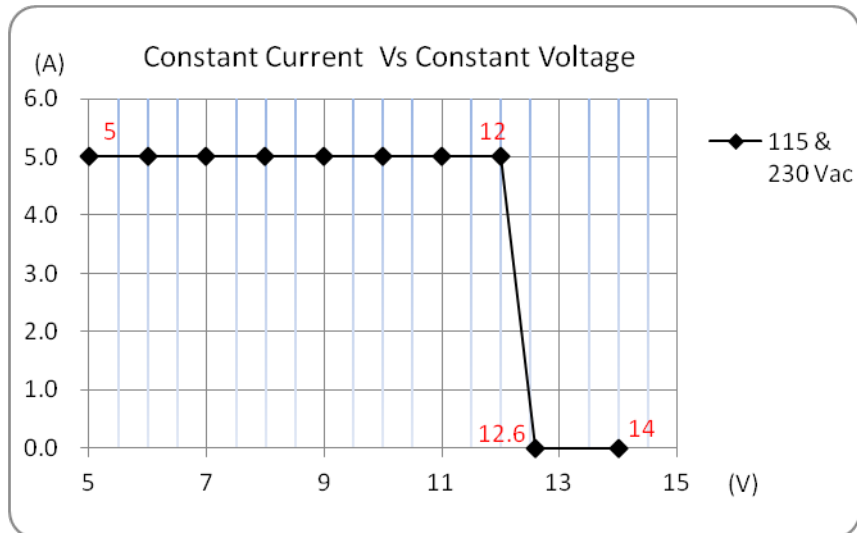


Constant Current vs. Constant Voltage Mode Continued

AMEPR60-24250AZ

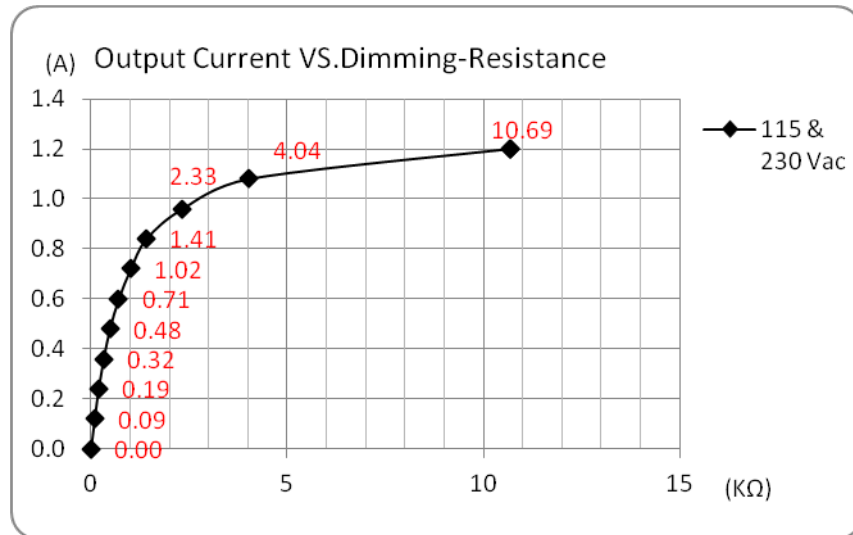


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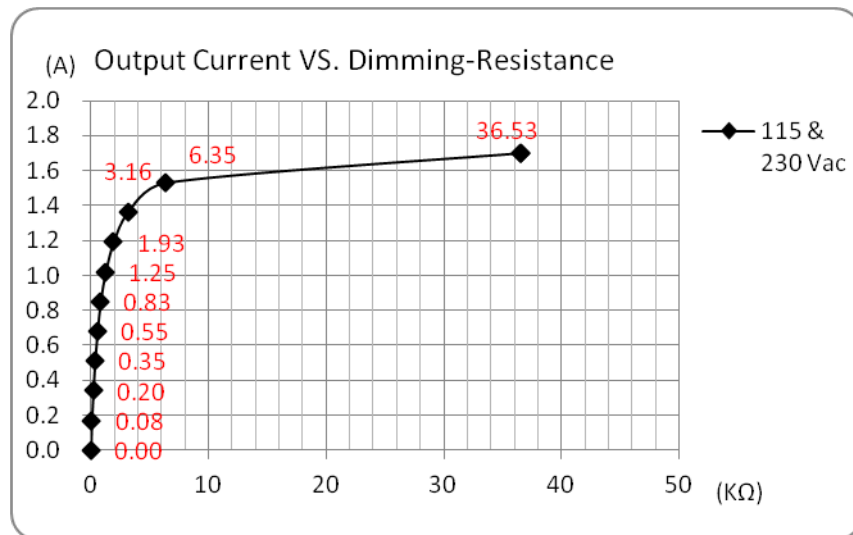


Dimming Control (Output Current vs. R_{adj})

AMEPR60-50120AZ

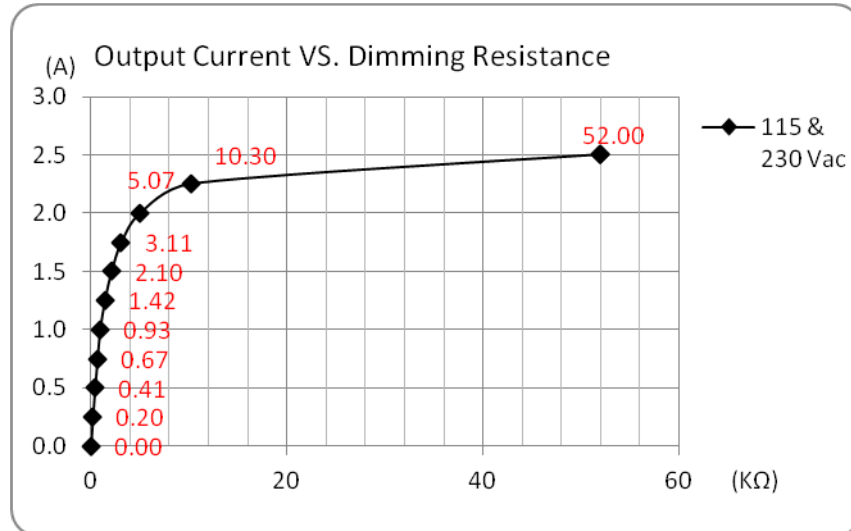


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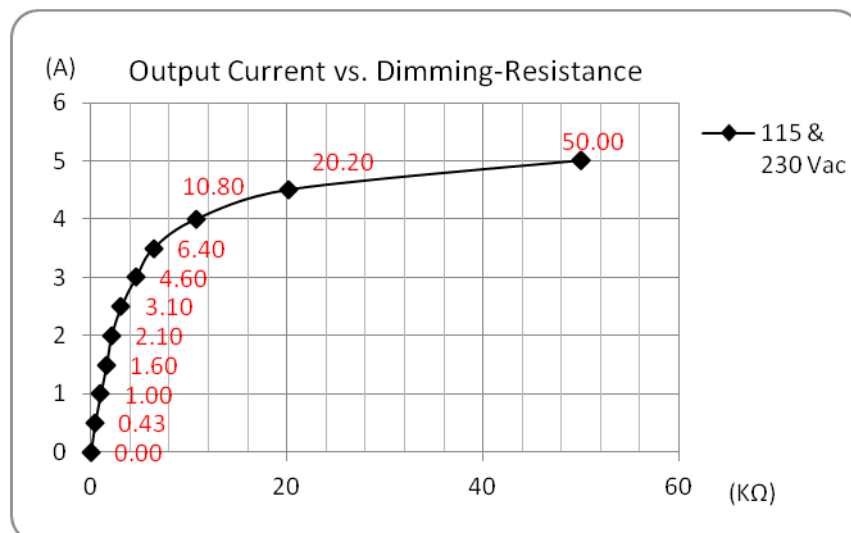


Dimming Control (Output Current vs. R_{adj}) Continued

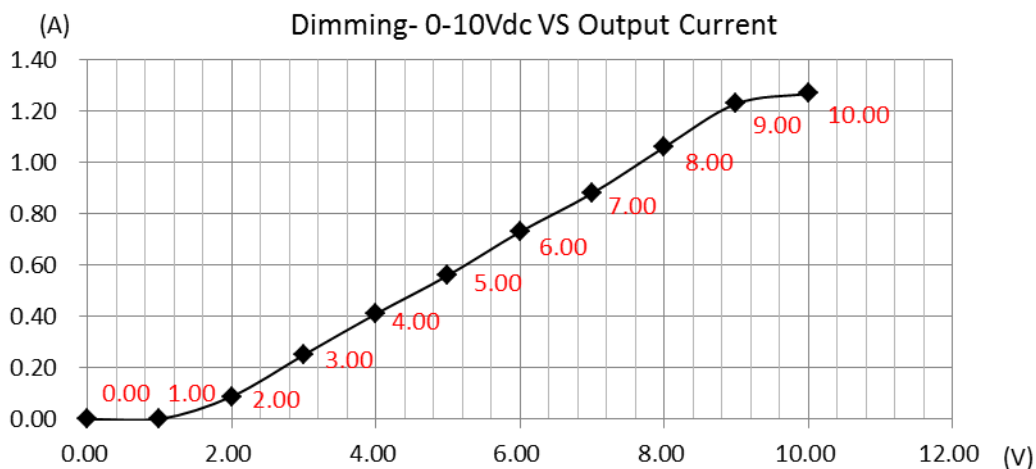
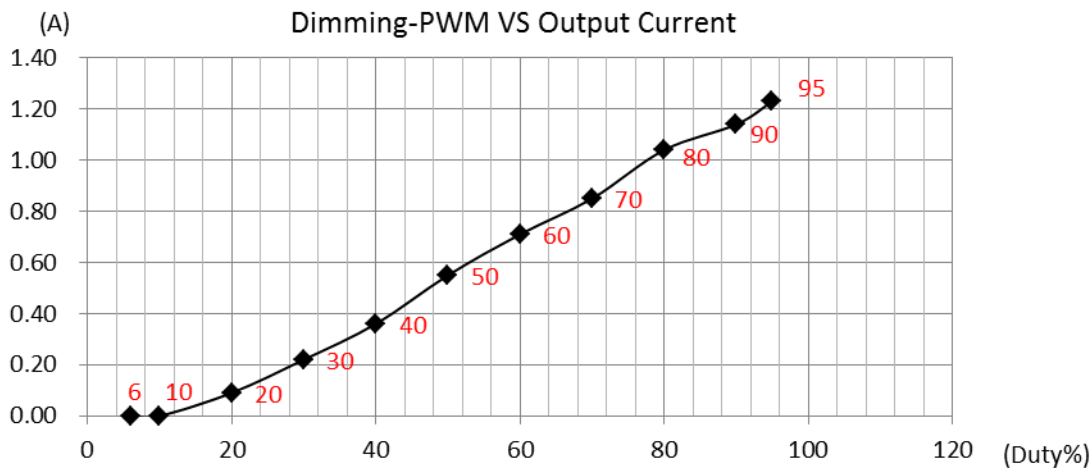
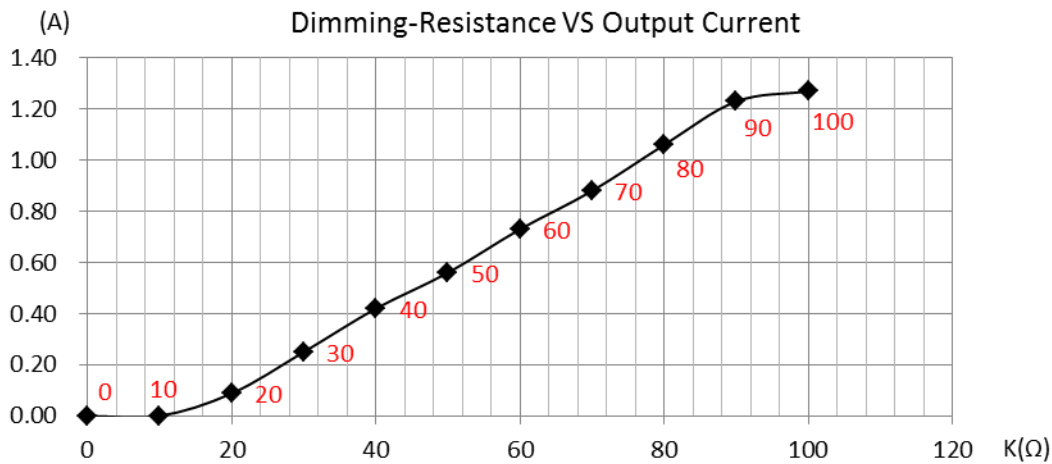
AMEPR60-24250AZ



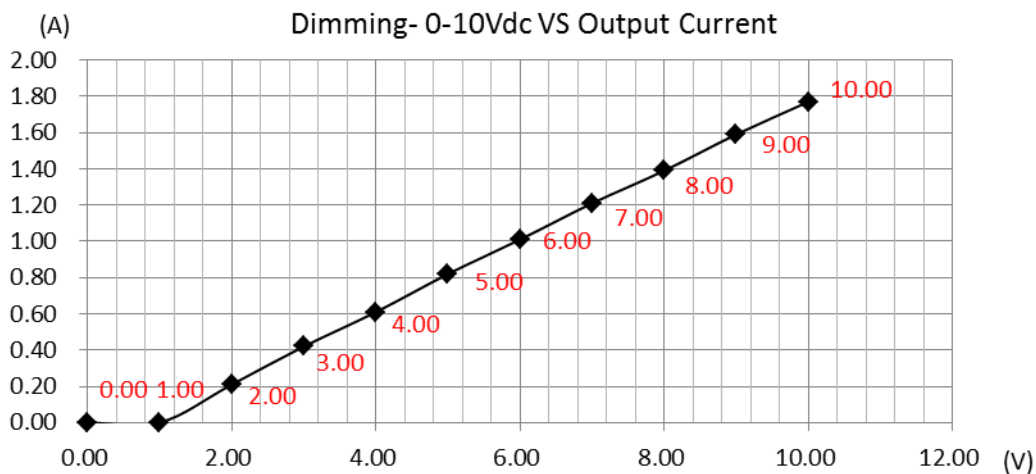
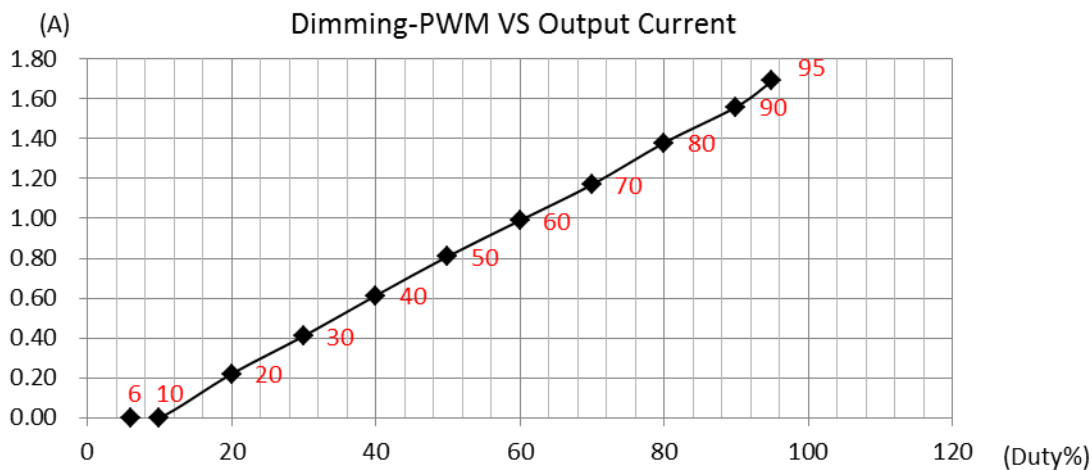
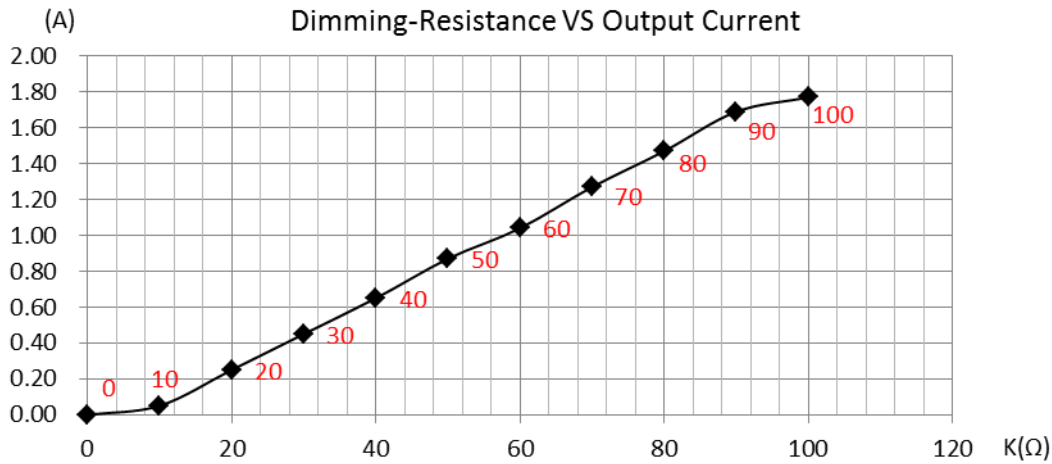
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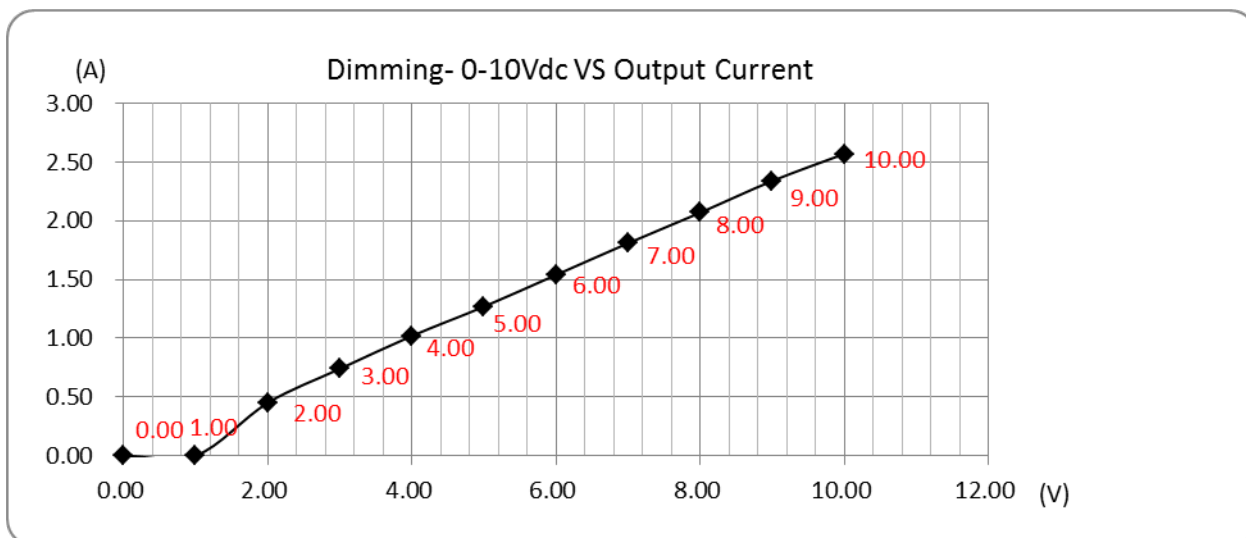
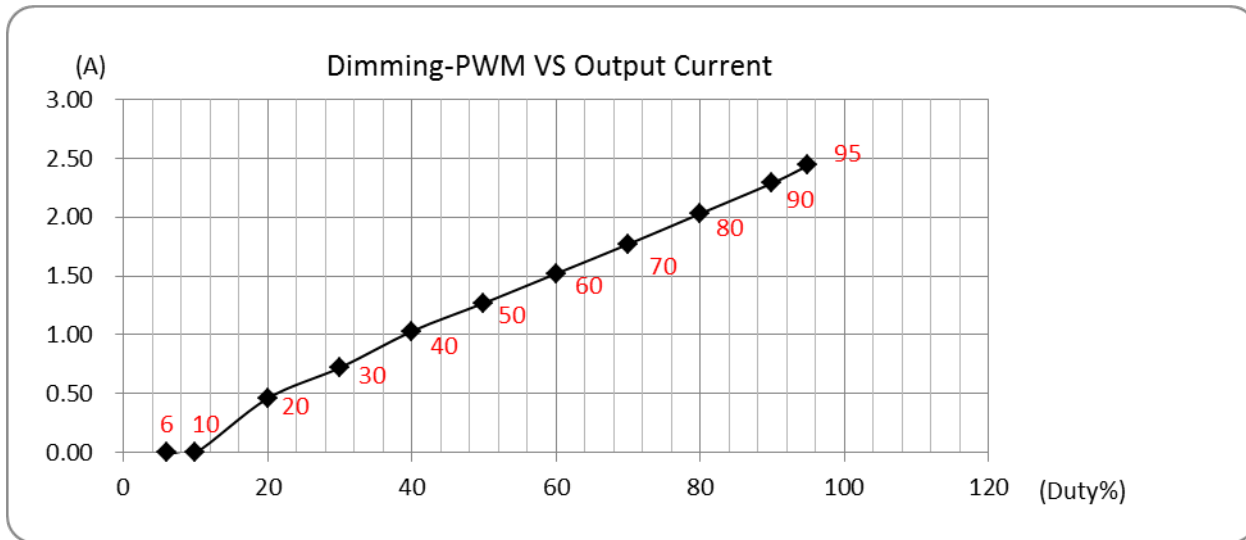
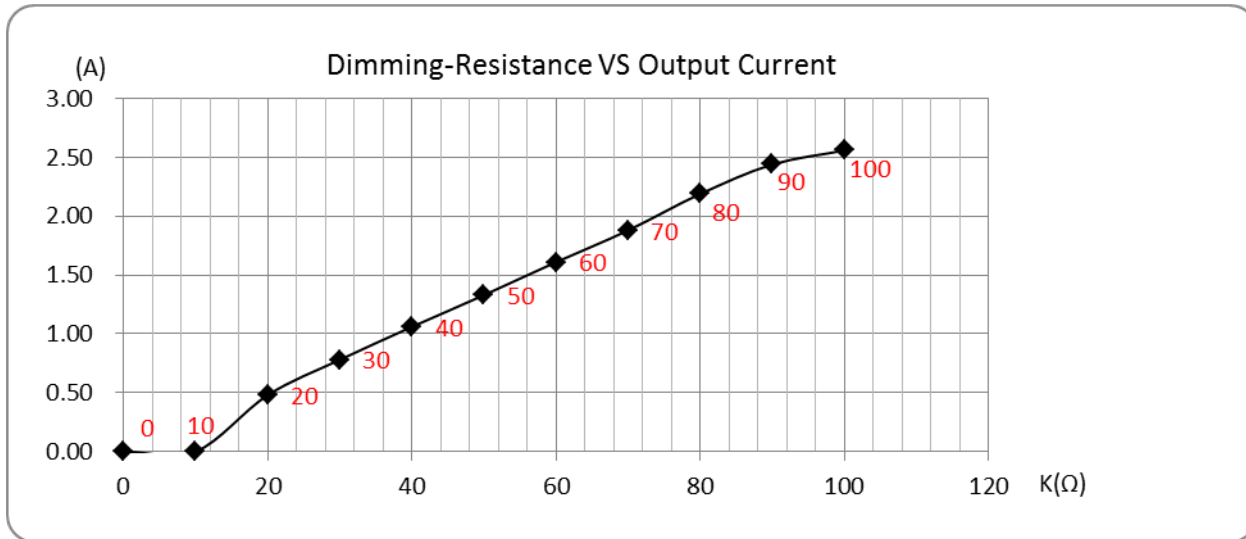
Dimming Control “C” Versions
AMEPR60C-50120AZ



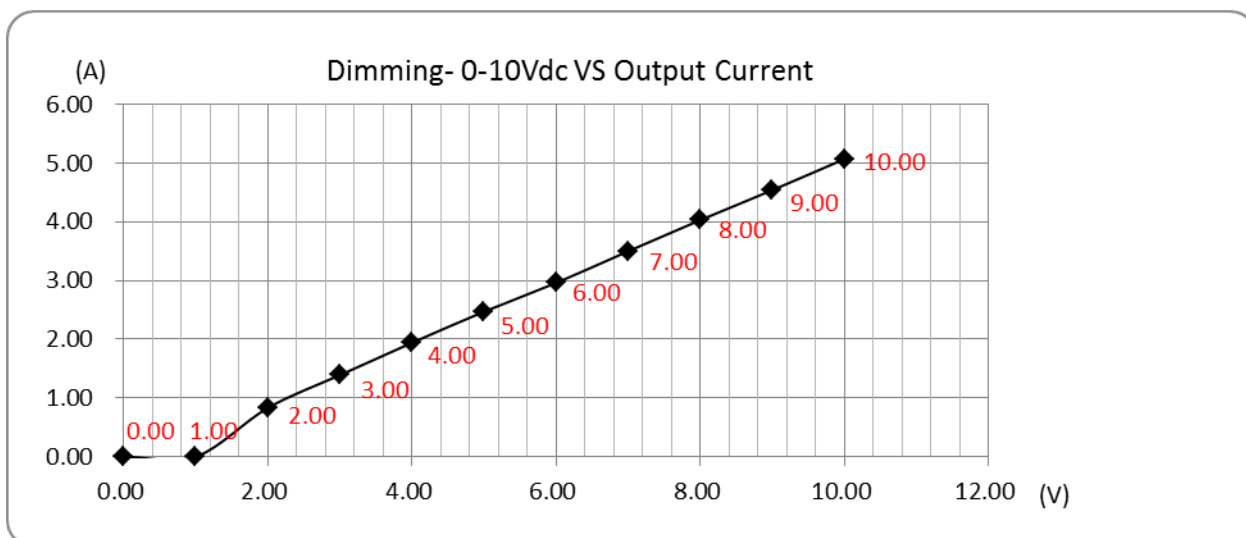
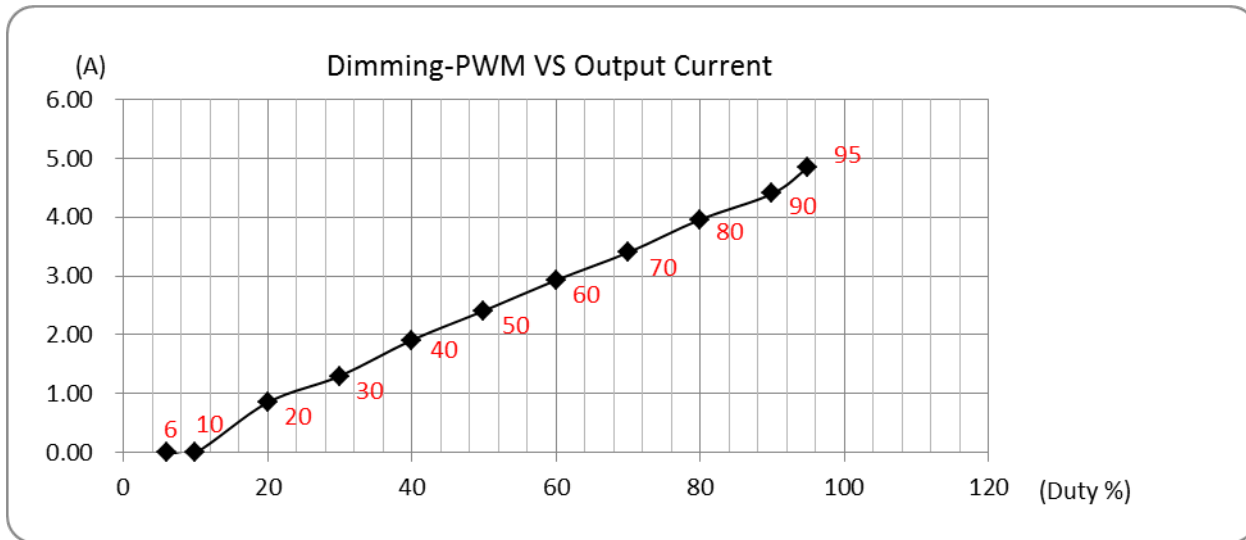
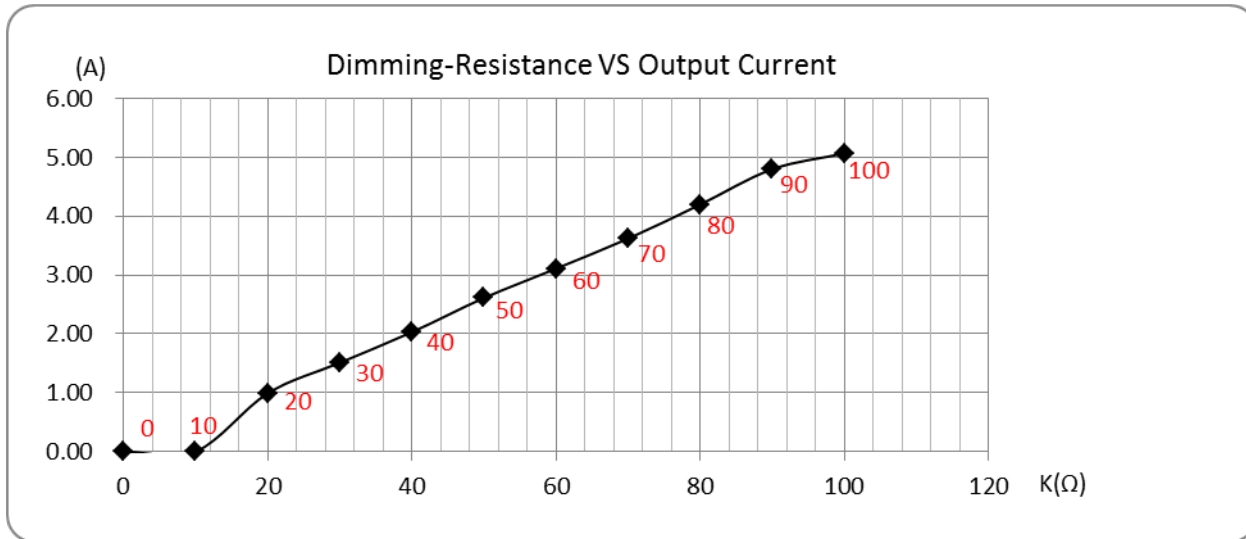
AMEPR60C-36170AZ



AMEPR60C-24250AZ



AMEPR60C-12500AZ



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