

**FEATURES:**

- Ultra-wide Input Range: 100~347 VAC
- High Efficiency: Up to 86%
- Active Power Factor Correction
- Short Circuit / Over Voltage Protection
- Design to meet UL Class 2 and Class P
- Long Life, High reliability
- Ultra-low ripple without flickering
- 5-year limited warranty

**Models**  
**Single output**



Model	Max Output Power (W)	Output Voltage Range (V)	Output Current (mA)	Input Voltage (VAC/Hz)	Efficiency (%)	
					115VAC	230/277 VAC
AMEHR50-4270Z	30	24-42	700	90-385/47-63	87	86
AMEHR50-4285Z	36	24-42	850	90-385/47-63	86.5	86.5
AMEHR50-42100Z	40	24-42	1000	90-385/47-63	86	86.5
AMEHR50-42120Z	50	24-42	1200	90-385/47-63	85.5	87

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	90/176 VAC, full load		0.35/0.18	Arms
			0.45/0.23	
			0.5/0.25	
			0.6/0.3	
Inrush current	230 VAC, cold start, T<2mS at 50 I <sub>PEAK</sub>		60	A
Leakage current	277VAC		0.75	mA
Input dissipation	Full Input Range, No Load Output Short		1.8	W
			3	
Power Factor	115 VAC, full load, CV≥36V	0.99		
	230 VAC, full load, CV≥36V	0.97		
	277 VAC, full load, CV≥36V	0.92		
	347 VAC, full load, CV≥36V	0.89		
THD	115 VAC, full load, CV≥36V	10	15	%
	230 VAC, full load, CV≥36V	12	20	
	277 VAC, full load, CV≥36V	12	20	
	347 VAC, full load, CV≥36V	15	20	
Input Fuse	Recommended Slow Blow Type		2	A
Start-up Time	230 VAC, full load		1.3	Sec.

**Output Specifications**

Parameters	Conditions	Typical	Maximum	Units
Current accuracy	Full Range	±5		%
Line regulation	LL to HL	±1		%
Load regulation	Full Input Voltage Range	±1		%
Ripple & Noise	Output voltage at 36V		360	mV p-p
Output Current Ripple	Full load		60	mA
Minimum Load Voltage	See Models Table Above			

NOTE: Ripple and Noise are measured at 20MHz bandwidth & 230VAC by using a 0.1µF (M/C) and 10µF (E/C) parallel capacitor.

**Isolation Specifications**

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	<5mA, 60s		3750	VAC
Isolation Resistance	500Vdc	>100		MΩ

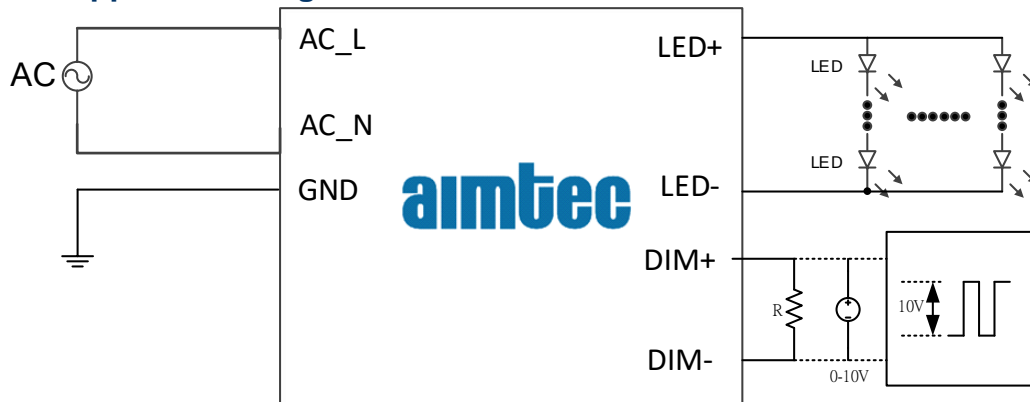
## General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency			150	KHz
Over voltage protection		47.5	50	V
Short circuit protection		Continuous, Hiccup Mode		
Short circuit restart		Auto Recovery		
Operating temperature	Without Derating	-40 to +50		°C
Maximum case temperature	Maximum	80		°C
	5 Years Warranty	60		
Storage temperature		-40 to +85		°C
Temperature coefficient			0.05	% / °C
Cooling		Free Air Convection		
Humidity			90	% RH
Case material		Metal		
IP Rating		IP20		
Weight		520		g
Dimensions (L X W X H)		6.30 x 1.73 x 1.61 inches	210.00 x 86.00 x 41.00 mm	
MTBF		>450,000 hrs (MIL-HDBK-217F at +25°C)		

## Safety Specifications

Parameters		
Agency Approval	Design to meet UL Class II and Class P	
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 2kV, Neutral to FG 4kV
	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

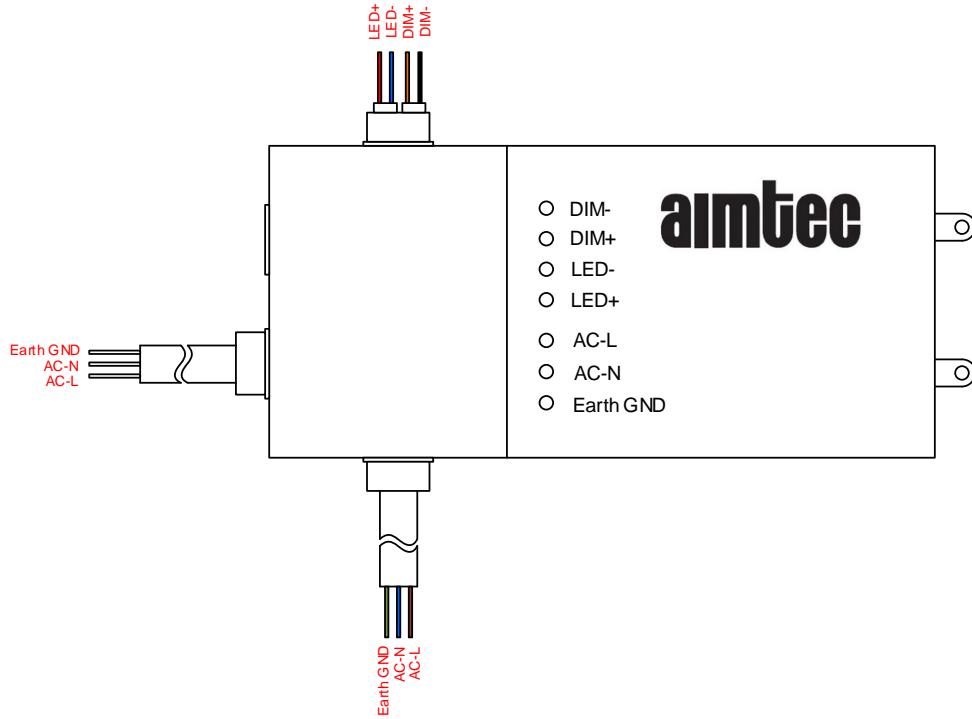
## Typical Application diagram



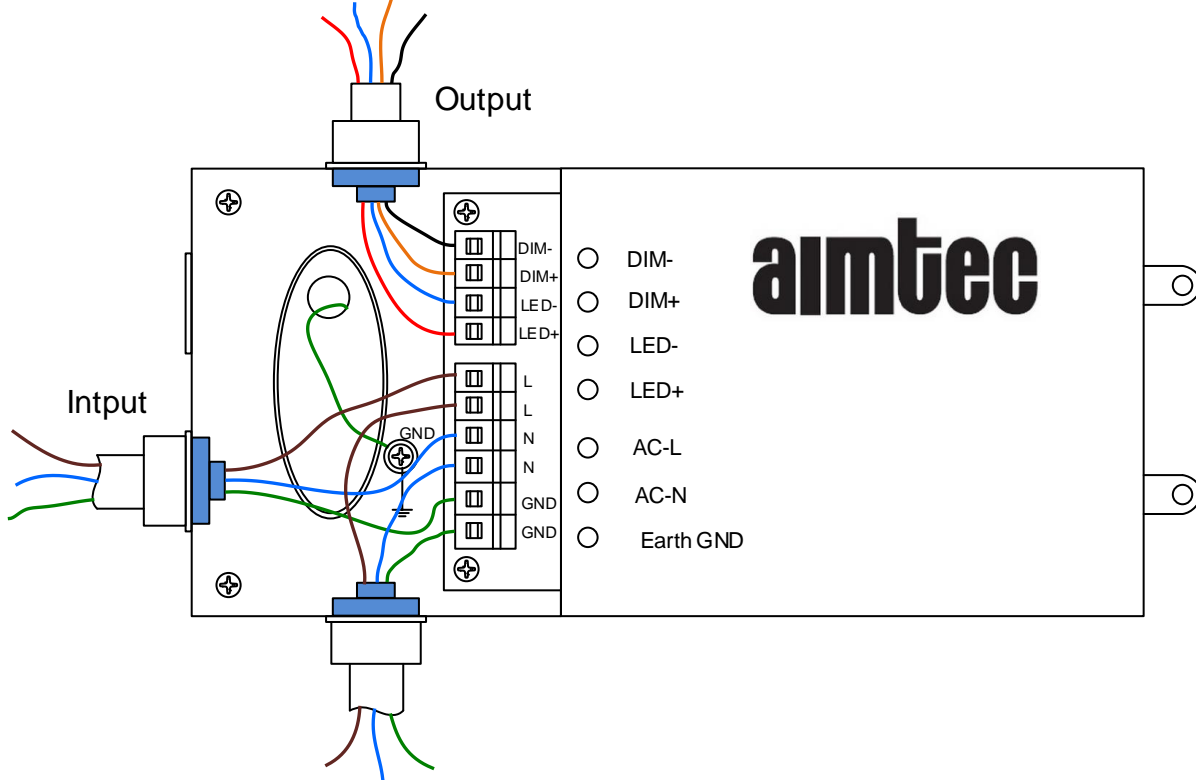
## Pin Definition

Terminal	Specification / Termination
AC-N	Input terminal, Connect to Neutral, Recommended Wire Gauge #20-24
AC-L	Input terminal, Connect to Line, Recommended Wire Gauge #20-24
GND	Input terminal, Connect to Earth Ground, Recommended Wire Gauge #20-24
LED+	Output terminal, Connect to positive pole of LEDs, Recommended Wire Gauge #14-26
LED-	Output terminal, Connect to negative pole of LEDs, Recommended Wire Gauge #14-26
DIM+	Input terminal, Connect to positive pole of Dimming, Recommended Wire Gauge #14-26
DIM-	Input terminal, Connect to negative pole of Dimming, Recommended Wire Gauge #14-26

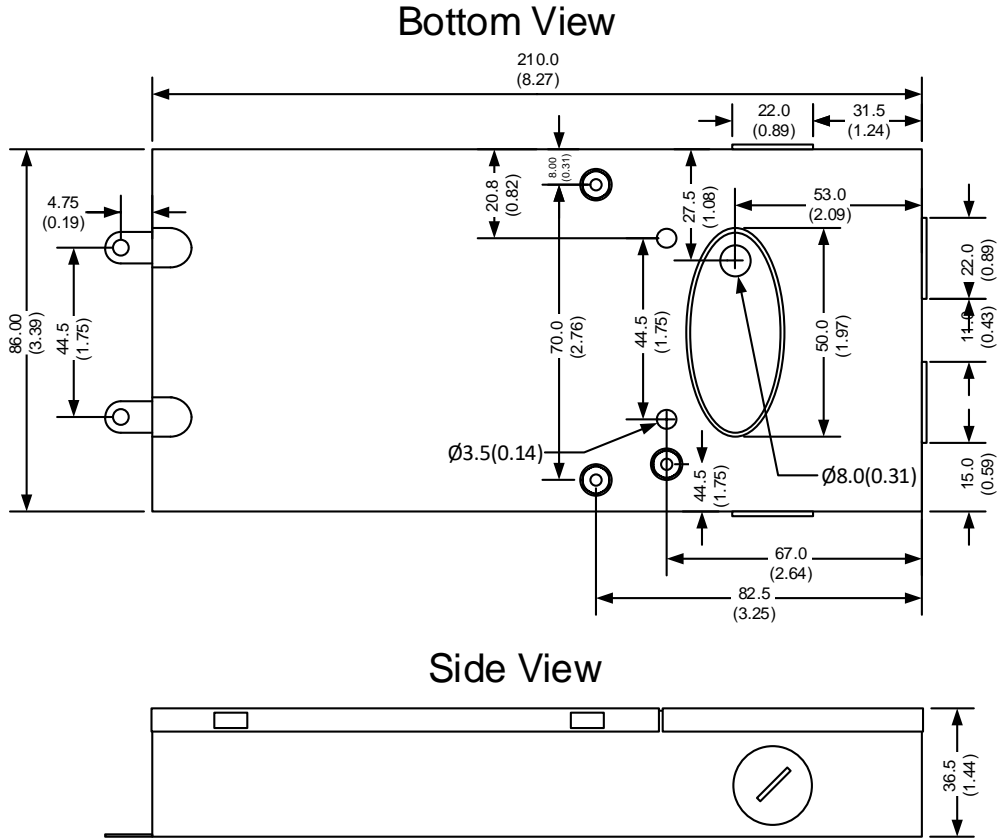
**Reference Wiring Diagram**



**Wire Connection Diagram**

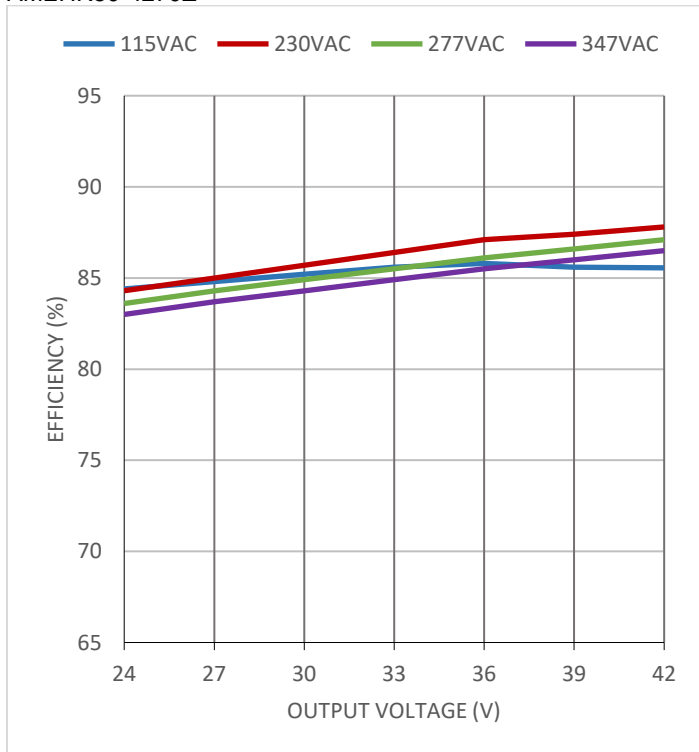


**Dimensions**

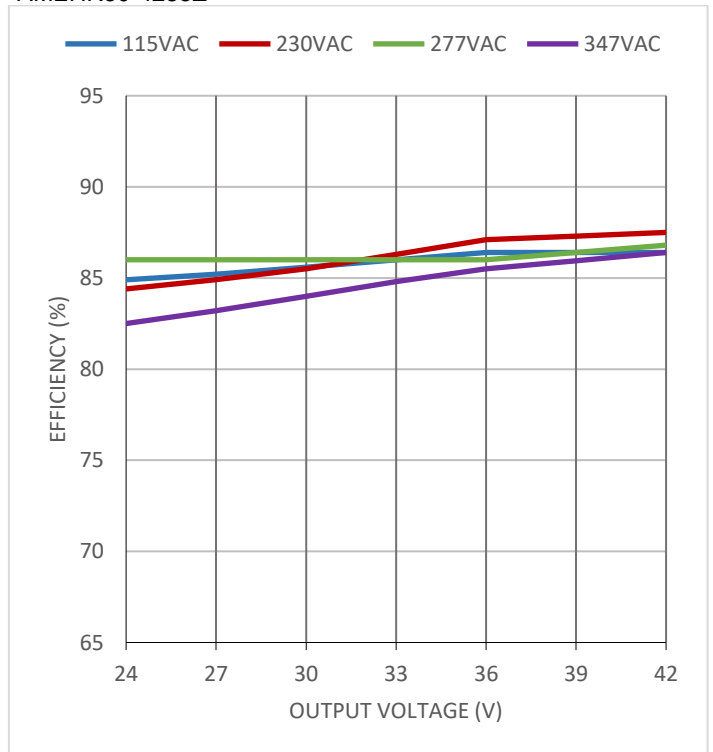


**Efficiency Vs. Input Voltage & Output Load Voltage**

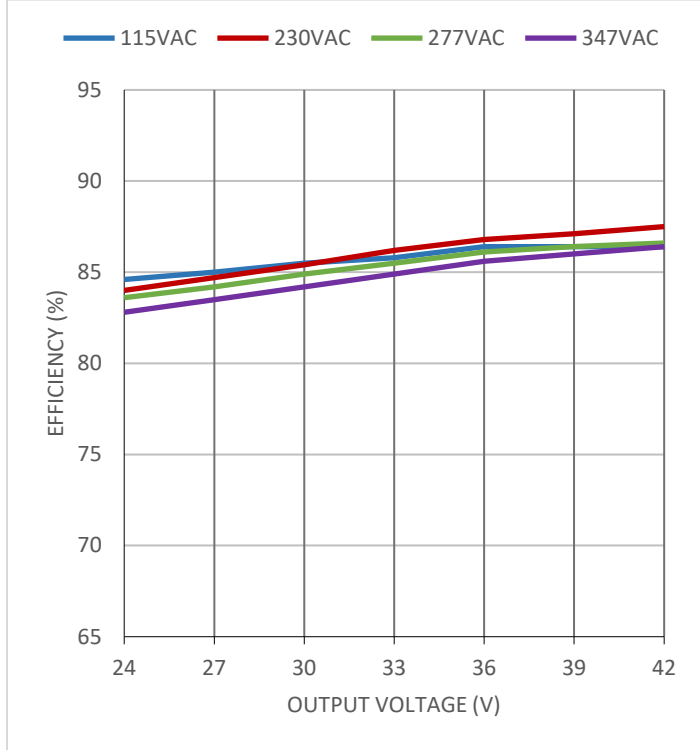
AMEHR50-4270Z



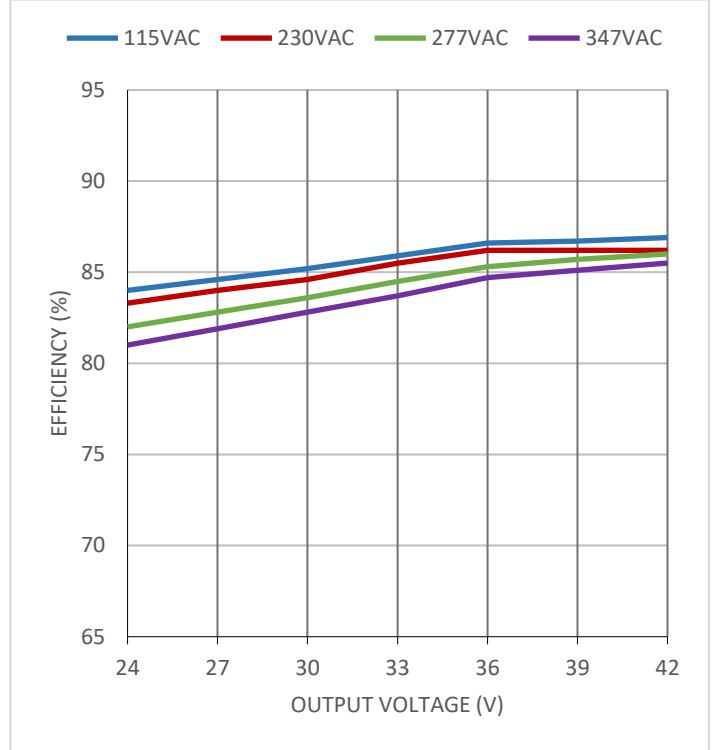
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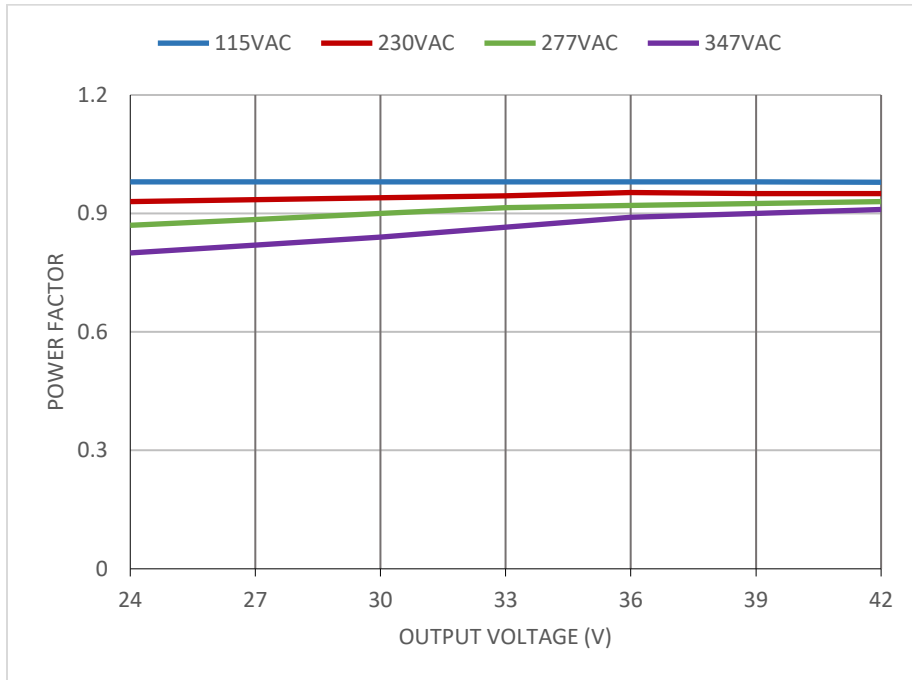
AMEHR50-42100Z



AMEHR50-42120Z

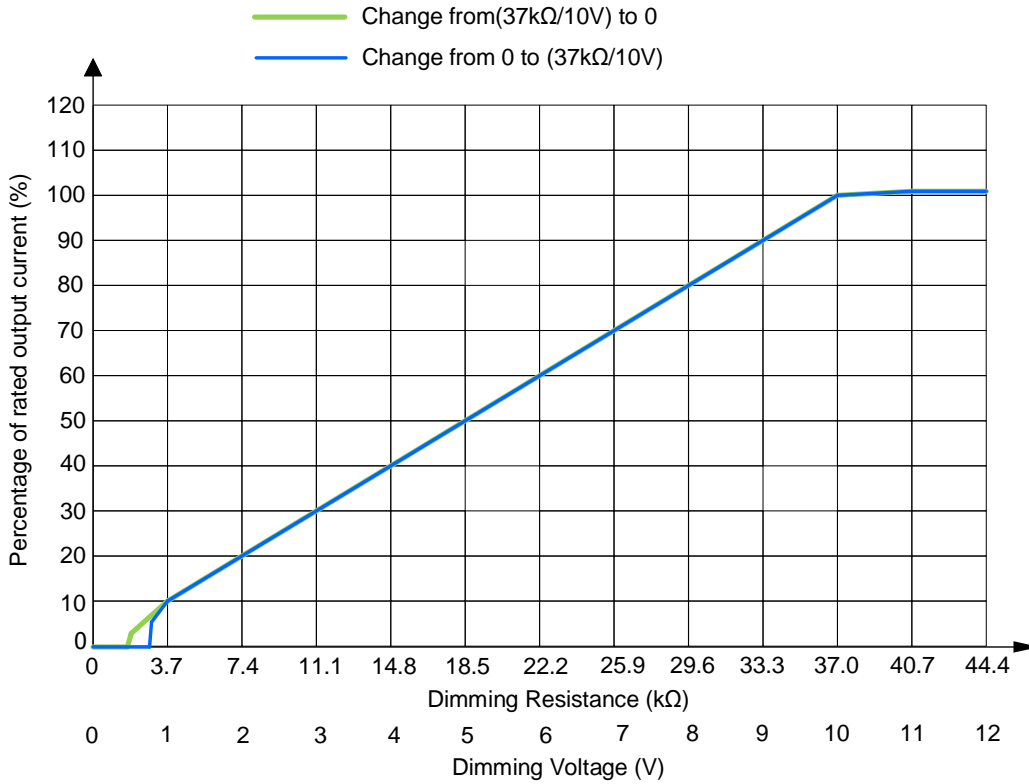


**PF vs. Input Voltage & Output Load Voltage**

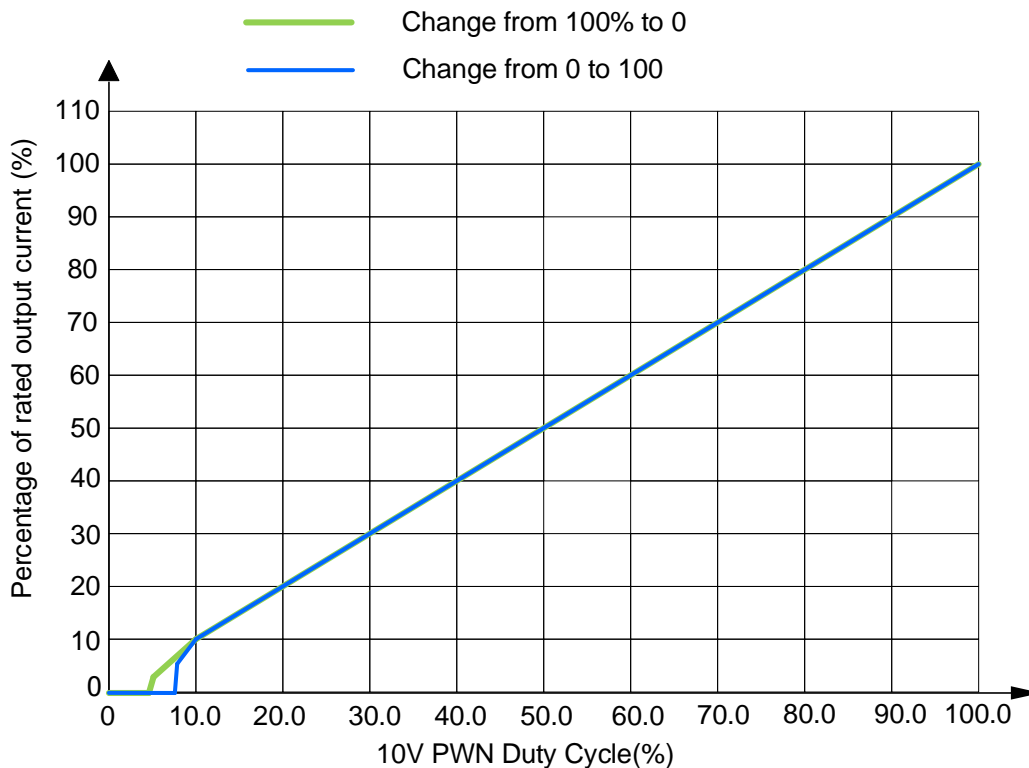


### Dimming Graph

Dimming Resistance/Voltage vs Rated Output Current



Dimming PWM vs Rated Output Current



## Dimming Control Application

### Resistance reference table

Resistance Value (KΩ)	3.7	7.4	11.1	14.8	18.5	22.2	25.9	29.6	33.3	37.0	OPEN
Rated Current (%)	10	20	30	40	50	60	70	80	90	100	95~105

### DC voltage reference table

Voltage (V)	0	0.8	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	OPEN
Rated Current (%)	0	9	10	20	30	40	50	60	70	80	90	100	95~105

### PWM value reference table

Duty Cycle Ratio (%)	10	20	30	40	50	60	70	80	90	100	OPEN
Rated Current (%)	10	20	30	40	50	60	70	80	90	100	95~105

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