



**FEATURES:**

- Universal Input: 90~305 VAC
- High Efficiency: Up to 88%
- Active Power Factor Correction
- Short Circuit / Open Circuit Protection
- IP65/67 Design for outdoor application
- 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 (%)
AMEQR50N-50100Z	50	36-50	1000	90-305/47-63	88.0

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		0.80	Arms
Inrush current <2ms	115 VAC, cold start		40	A
	230 VAC, cold start		60	
Leakage current			0.75	mA
Input dissipation	No Load		1.5	W
	Output Short		4.5	W
Power Factor	115 VAC, full load		0.98	
	230 VAC, full load		0.95	
Input Fuse	2.0A / 300V			
Start-up Time	115 VAC, full load		1.5	Sec.
	230 VAC, full load		1.0	Sec.

**Output Specifications**

Parameters	Conditions	Typical	Maximum	Units
Current accuracy		±5		%
Line regulation	LL to HL	±3		%
Load regulation	Full Output Voltage Range	±5		%
Ripple & Noise			200	mV p-p
Output Current Ripple	Full load		50	mA
Current Overshoot	LL to HL, full load at cold start, % of rated output current		15	%
Hold-up time (min)			0.5	ms
Current adjustment range		NA	NA	%
Minimum Load Voltage	See Models Table Above			

**Isolation Specifications**

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	I/P – O/P		3750	VAC
	I/P – FG		2000	VAC
	O/P – FG		500	VAC
Isolation Resistance	500Vdc	>100		MΩ
Isolation Capacitance			3000	pF

**General Specifications**

Parameters	Conditions	Typical	Maximum	Units
Switching frequency			150	KHz
Over voltage protection			63	V

Short circuit protection	Continuous, Hiccup Mode		
Short circuit restart	Auto Recovery		
Open circuit protection	Continuous, Hiccup Mode		
Operating temperature	Without Derating	-40 to +60	°C
Maximum case temperature		90	°C
Storage temperature		-40 to +85	°C
Temperature coefficient		0.03	% / °C
Cooling	Free Air Convection		
Humidity		90	% RH
Case material	Metal (Aluminum)		
IP Rating	IP67		
Weight		750	g
Dimensions (L X W+ X H)	4.88 X 3.57 X 1.75 inches	124.0 X 90.6 X 44.5 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, 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

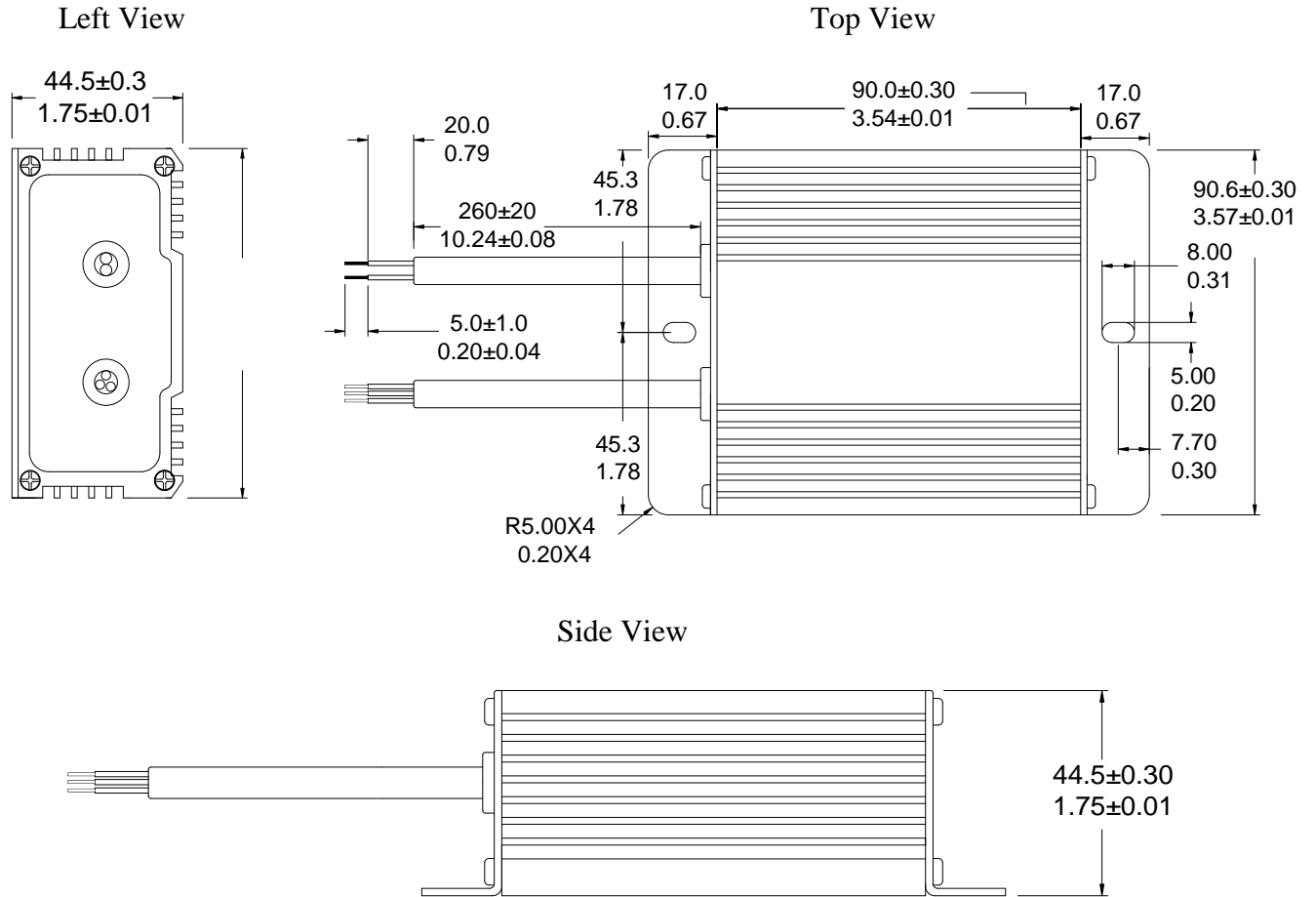
## Pin Definition

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

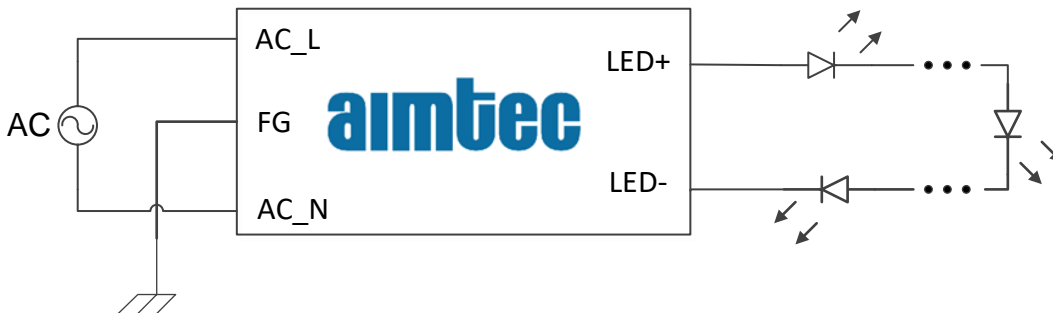
Input Wire specifications: H05RN-F 0.75mm<sup>2</sup>

Output Wire specifications: H05RN-F 1.0mm<sup>2</sup>

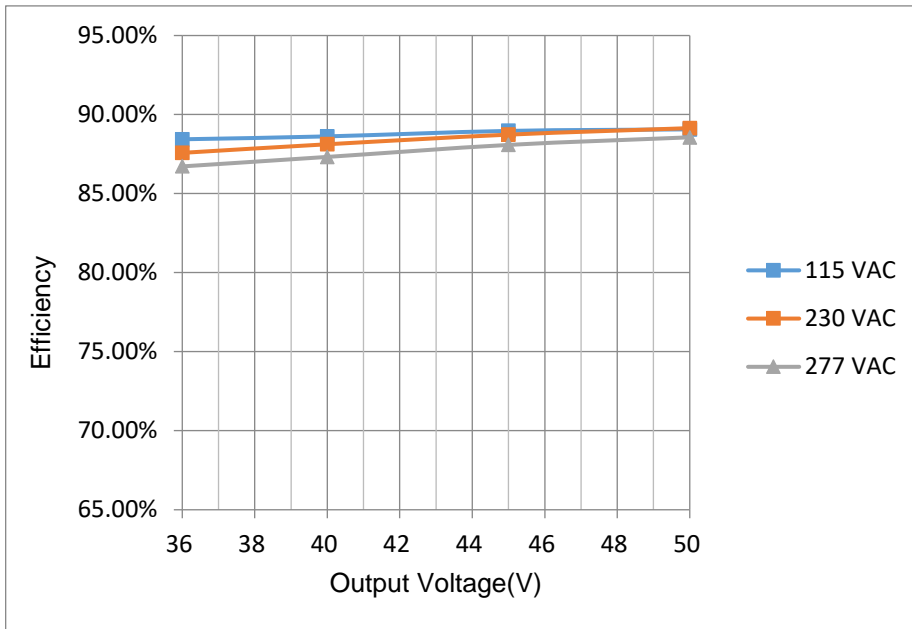
**Dimensions**



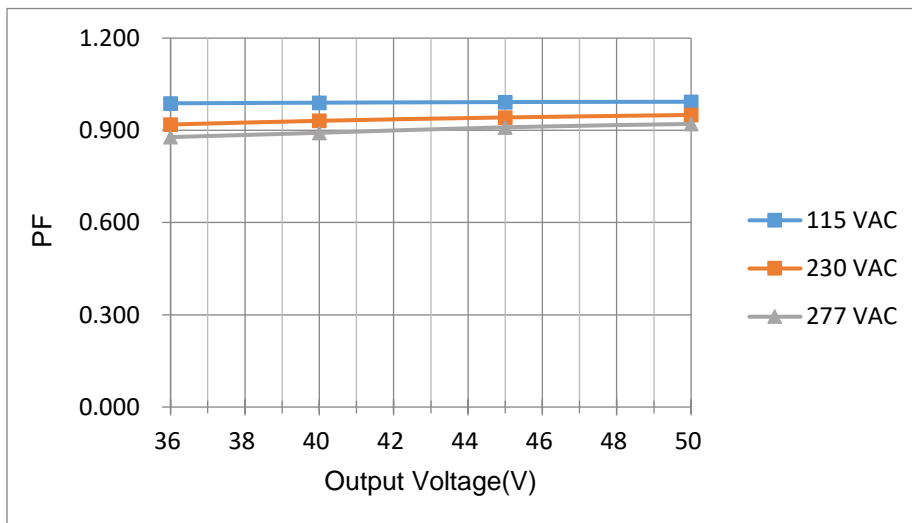
**Application circuit**



### Efficiency Vs. Input Voltage & Output Current (Constant current load)



### PF Vs. Input Voltage & Output Current (Constant current load)



**NOTE:** 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to [www.aimtec.com](http://www.aimtec.com) for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity < 75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other than the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).