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AMEPR20-Z



Aimtec's AMEPR20-Z is a 20W cost effective AC/DC LED driver series. Incorporating a built-in active PFC design, the AMEPR20-Z provides a high-power factor value greater than 0.9.

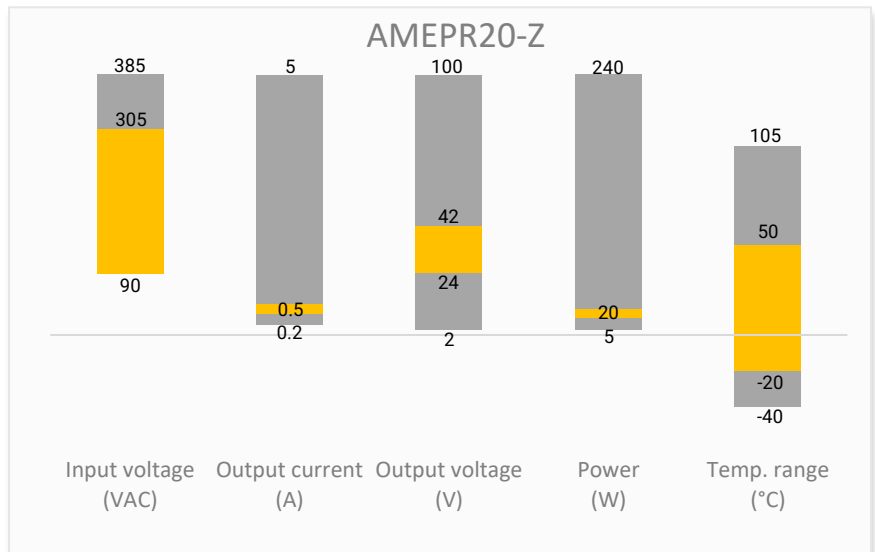
In addition, with the low no load power consumption below 1W, and a setup time of less than 1s, this series is a class 2 (without FG pin) power unit housed in compact size of 93.5 mm x 44.7 mm x 27.0 mm (L x W x H).

The AMEPR20-Z operates from 90~305VAC, has I/O isolation 3750VAC and has a constant current output design with output of 24-42V/500mA.

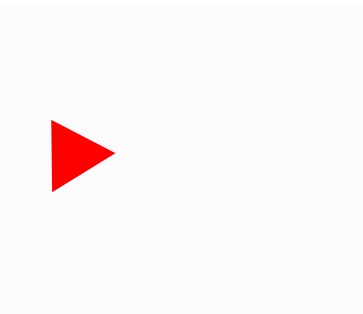
Features

- Accurate Constant Current Output $\pm 5\%$
- Active Power Factor Correction
- Suitable for Indoor LED Lighting
- Short Circuit, Output Open Circuit Protection
- High Efficiency: Up to 88%
- High PF and Low THD

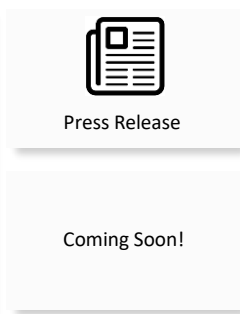
Summary



Training



Product Training Video
(click to open)



Application Notes

Applications



Lighting

Models & Specifications

Single Output

Model	Max Output Power (W)	Output Voltage Range (V)	Output Current (A)	Input Voltage (VAC/Hz)	Efficiency 110/220VAC (%) typ.
AMEPR20-4250Z	20	24-42	0.5	90-305/47-63	88

Input Specification

Parameters	Conditions	Typical	Maximum	Units
Input Current	90 VAC, full load, CV mode		0.3	A rms
Inrush current			40	A
Power Factor	110 VAC	0.98		
	220 VAC	0.95		
Start-up Time	220 VAC		1	Sec.
Total Harmonic Distortion	Load \geq 34V		15	%

Output Specification

Parameters	Conditions	Typical	Maximum	Units
Current accuracy	Full range		± 5	%
Line regulation	Rated output current		± 3	%
Load regulation	110 VAC/ 220 VAC		± 3	%
Ripple & Noise	Full range		12	% of Vout

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Isolation voltage	Input - Output, leakage current \leq 5 mA	3750		VAC
Resistance	Input - Output 500Vdc	100		MOhm

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Over voltage protection	Hiccup	≥ 44	50	V
Short circuit protection	Power limiting, 277 VAC input		2	W
Open circuit protection	Power limiting, 277 VAC input		1	W
Operating temperature			-20 to +50	$^{\circ}$ C
Storage temperature			-30 to +85	$^{\circ}$ C
Temperature coefficient			0.05	% / $^{\circ}$ C
Cooling	Free Air Convection			
Humidity		≥ 10	90	% RH
Atmospheric pressure		≥ 70	106	KPa
Dimensions (L X W X H)	3.68 x 1.76 x 1.06 inches 93.5 x 44.7 x 27.0 mm			

All specifications in this datasheet are measured at an ambient temperature of 25 $^{\circ}$ C, humidity < 75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications

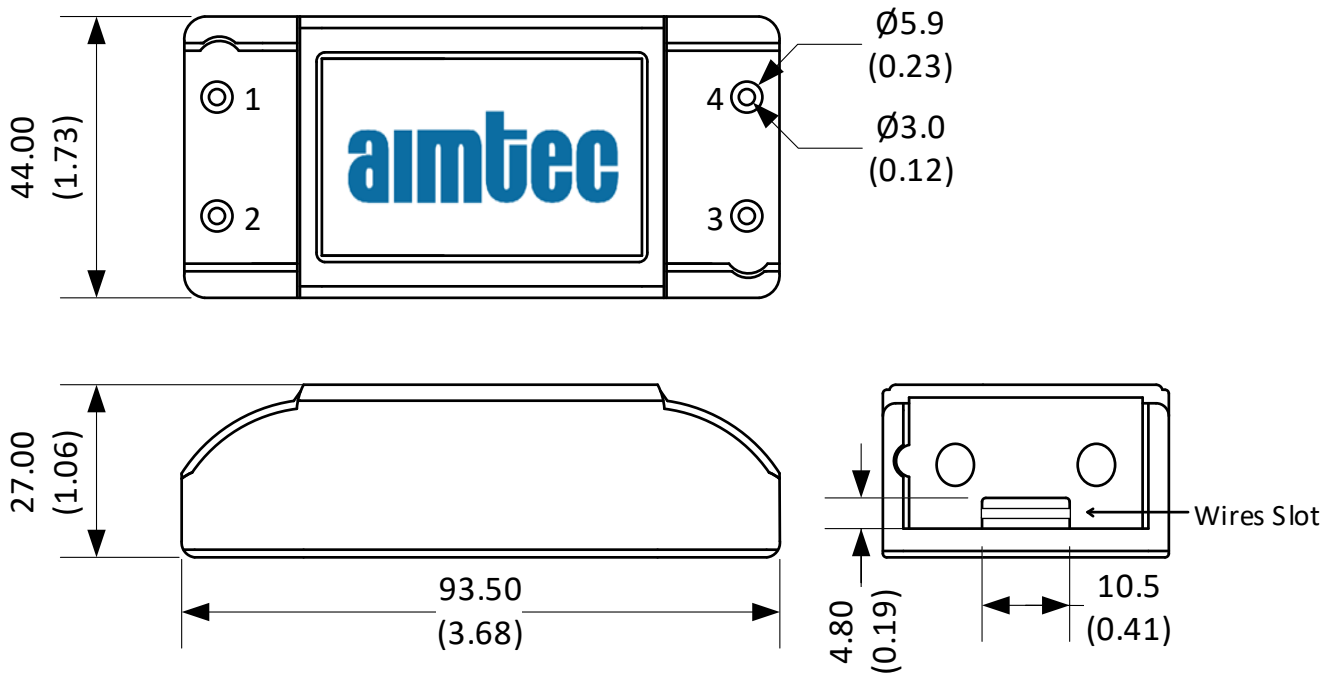
Parameters

Standards	Design to meet IEC61347, UL8750, UL1310	
	EMI – Conducted and radiated emission	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, L-L 2kV
	RF, Conducted Disturbance Immunity	EN61000-4-6. Test-CS Level 3, Criteria A
	Power frequency Magnetic Field Immunity	EN61000-4-8, 3A/m, Criteria A
	Voltage dips, Short Interruptions Immunity	EN61000-4-11, Criteria B
	Electromagnetic Immunity Requirements Applies to Lighting Equipment	EN61547

Application Block Diagram



Dimensions



Unit: mm(inch)

Pin	Recommend Wire Gauge	Strip length
AC-N	#22-14	6-7mm
AC-L	#22-14	6-7mm
Vo+	#22-14	6-7mm
Vo-	#22-14	6-7mm

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 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 the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.