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AMEM5-277HAVZ



Encapsulated

AMEM5-277HAVZ series is an efficient 5W AC-DC power supply module. Offering a commercial input voltage range of 85-305VAC, output voltage ranges from 3.3-24V, low power consumption, high efficiency, high reliability, and safer isolation.

This new series offers great operating temperatures, from -40°C to 85°C with full power up to 50°C and features an isolation of 3000VAC for improved reliability and system safety. Furthermore, a higher MTBF of 2,600,000h, output short circuit protection (OSCP), output over-current protection (OCP) and an output over-voltage protection (OVP) come standard with the series.

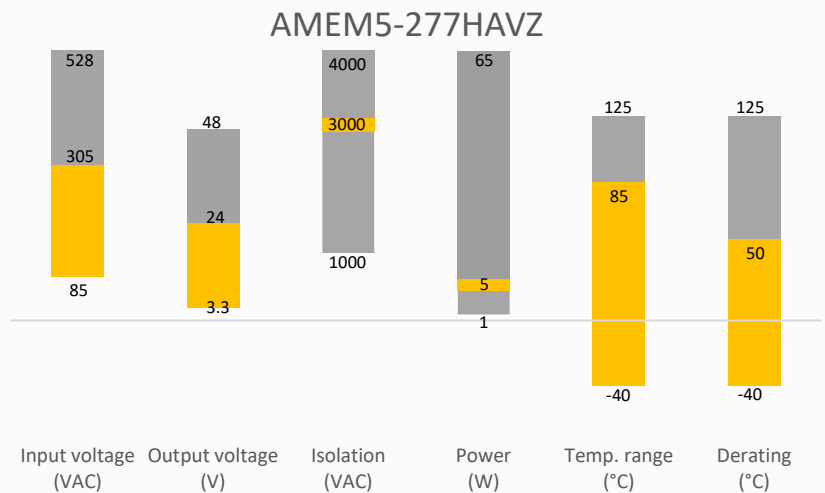
The AMEM5-277HAVZ is suitable for grid power, LED, instrumentation, industrial controls, communication, and civil applications.

Features

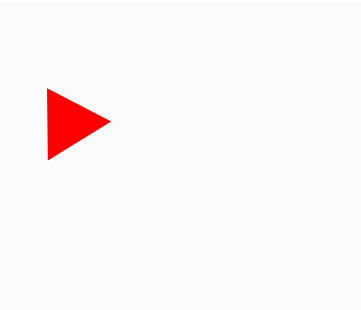
- Universal Input: 85 - 305VAC/100 - 430VDC
- Operating Temp: -40 °C to +85 °C
- High isolation voltage: 3000VAC
- Low ripple & noise, 100mV(p-p), max.
- Output short circuit, over-current, over-voltage protection
- Low no-load power consumption of 0.1W
- Efficiency up to 81.5%
- Designed to meet: IEC/EN/UL62368-1, EN60335-1, EN61558-1, EN61558-2-16



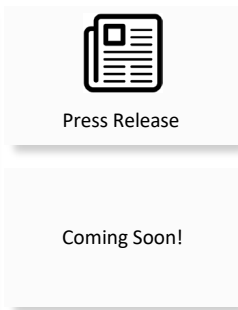
Summary



Training



Product Training Video
(click to open)



Application Notes

Applications



Power Grid



Industrial



Telecom



Instrumentation

Models & Specifications

Single Output							
Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Max Output wattage (W)	Output Voltage (V)	Output Current max (A)	Maximum capacitive load (μ F)	Efficiency @ 230VAC Typ. (%)
AMEM5-3S277HAVZ	85-305/50-60	100-430	5	3.3	1.515	4000	71.5
AMEM5-5S277HAVZ	85-305/50-60	100-430	5	5	1	3000	77.5
AMEM5-9S277HAVZ	85-305/50-60	100-430	5	9	0.555	1200	80.5
AMEM5-12S277HAVZ	85-305/50-60	100-430	5	12	0.416	1200	80.5
AMEM5-15S277HAVZ	85-305/50-60	100-430	5	15	0.333	680	81.5
AMEM5-24S277HAVZ	85-305/50-60	100-430	5	24	0.208	220	81.5

Input Specifications				
Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC		130	mA
	230VAC		70	mA
Inrush current	115VAC	15		A
	230VAC	25		A
Leakage	277VAC, 50Hz		0.25	mA RMS

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Full load	± 3		%
Line regulation	Full load	± 0.5		%
Load regulation	0-100% load	± 1		%
Ripple & Noise*	20MHz bandwidth	100		mV p-p
Start-up time		0.6		S
Hold up time	115VAC	5		ms
	230VAC	50		ms

* Ripple and Noise are measured at 20MHz bandwidth with a 10 μ F electrolytic capacitor and a 1 μ F ceramic capacitor. Please refer to the application note for specific details.

Isolation Specification				
Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, leakage \leq 5mA	3000		VAC

General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Protection class	Class II			
Over current protection	Auto recovery	≥ 130		% of Iout
Over voltage protection	3.3, 5Vout, voltage clamp, hiccup		7.5	VDC
	9Vout, voltage clamp, hiccup		15	VDC

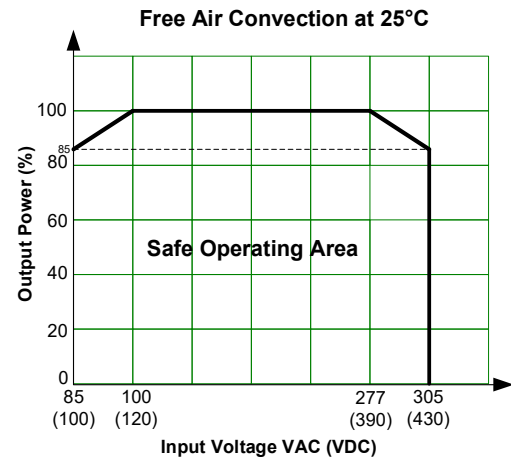
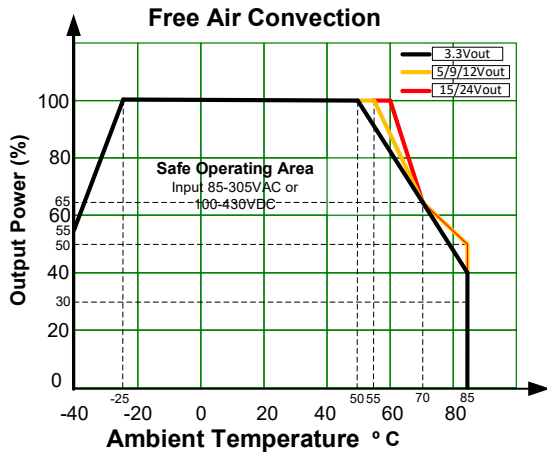
	12Vout, voltage clamp, hiccup		16	VDC
	15Vout, voltage clamp, hiccup		20	VDC
	24Vout, voltage clamp, hiccup		30	VDC
Short circuit protection	Hiccup, Continuous, Auto recovery			
Switching Frequency		65		KHz
Operating temperature	See derating graph	-40 to +85		°C
Storage temperature		-40 to +105		°C
No-load power consumption	230VAC	0.1		W
Power Derating	-40 °C to -25 °C	3.0		%/°C
	+50 °C to +70 °C, 3.3Vout	1.75		%/°C
	+55 °C to +70 °C, 5/9/12Vout	2.33		%/°C
	+60 °C to +70 °C, 15/24Vout	3.5		%/°C
	+70 °C to +85 °C, 3.3Vout	1.67		%/°C
	+70 °C to +85 °C, 5/9/12/15/24Vout	1.0		%/°C
	85VAC to 100VAC	1.0		%/VAC
	277VAC to 305VAC	0.54		%/VAC
Temperature coefficient		±0.02		%/°C
Cooling	Free air convection			
Humidity	Non-condensing		95	% RH
Case material	Plastic (flammability to UL 94V-0)			
Weight		17.5		g
Dimensions (L x W x H)		1.00 x 1.00 x 0.69 inches (25.40 x 25.40 x 17.60 mm)		
MTBF	> 2 600 000 hrs (MIL-HDBK -217F, t=+25°C)			
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.				

Safety Specifications

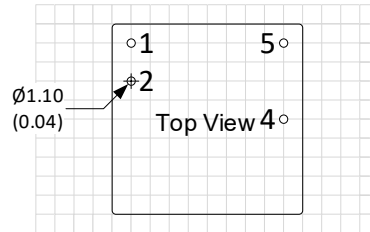
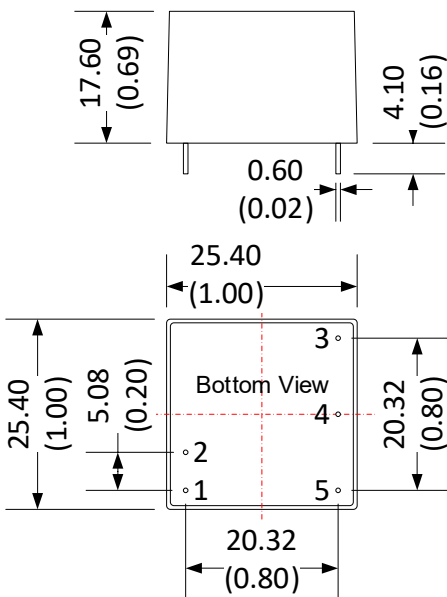
Parameters

Standards	Designed to meet IEC/EN/UL 62368-1, EN60335-1, EN61558-1, EN61558-2-16	
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B EN55014-1
	Electrostatic Discharge Immunity	IEC 61000-4-2 EN55014-2
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 EN55014-2
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 EN55014-2
	Surge Immunity	IEC 61000-4-5 EN55014-2
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 EN55014-2
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 EN55014-2

Derating



Dimensions



Pin Output Specifications	
Pin	Function
1	AC Input (N)
2	AC Input (L)
3	No Pin
4	-V Output
5	+V Output

Note:
 Unit: mm(inch)
 General tolerance: ± 0.5 (± 0.02)
 Pin diameter tolerance: ± 0.1 (± 0.004)

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