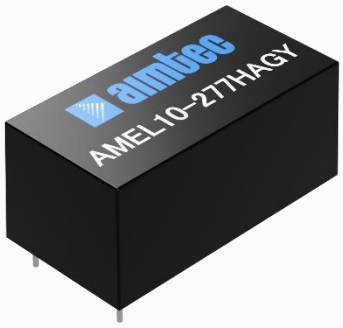
AMEL10-277HAGY

Click to ORDER samples



Encapsulated

AMEL10-277HAGY series is an efficient 10W 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 and high reliability.

This new series offers great operating temperatures, from -30°C to 70°C with full power up to 45°C and features an isolation of 4000VAC for improved reliability and system safety. Furthermore, a high MTBF of 1800,000h, output short circuit protection (OSCP), output over-current protection (OCP) and an output over-voltage protection (OVP) come standard with the series.

The AMEL10-277HAGY is suitable for grid power, instrumentation, industrial controls, communication, and civil applications.

Features

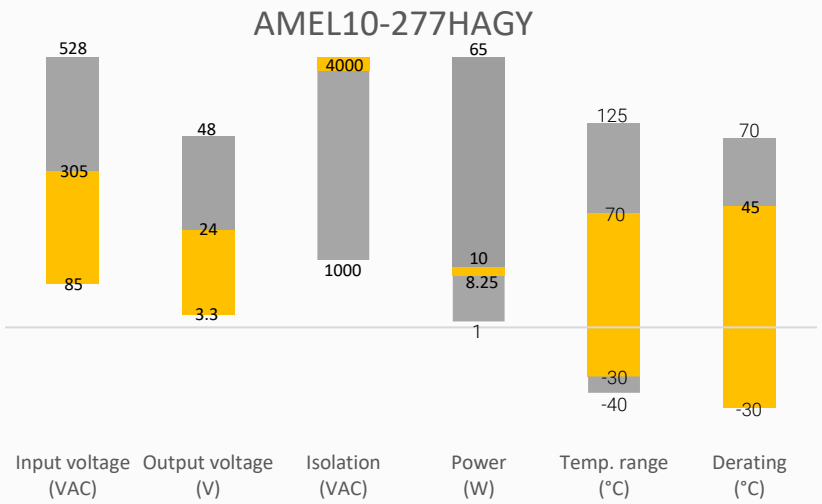
- Universal Input: 85 - 305VAC
- Operating Temp: -30 °C to +70 °C
- High isolation voltage: 4000VAC
- Low ripple & noise, 200mV(p-p), max.
- Output short circuit, over-current, over-voltage protection.
- Regulated Output
- Efficiency up to 82%
- Designed to meet: IEC/EN/TUV BS EN/UL 62368-1, IEC/EN 60335-1

RoHS

3yr Warranty

CE

Summary



Training

Product Training Video (click to open)

Press Release

Application Notes

Coming Soon!

Applications



Power Grid | Industrial | Telecom | Instrumentation

Models & Specifications

Single Output						
Model	Input Voltage (VAC/Hz)	Max Output wattage (W)	Output Voltage (V)	Output Current max (A)	Maximum capacitive load (µF)	Efficiency Average (%)
AMEL10-3S277HAGY	85-305/50-60	8.25	3.3	2.5	6600	74
AMEL10-5S277HAGY	85-305/50-60	10	5	2	5000	77
AMEL10-12S277HAGY	85-305/50-60	10	12	0.84	2000	82
AMEL10-15S277HAGY	85-305/50-60	10	15	0.67	820	82
AMEL10-24S277HAGY	85-305/50-60	10	24	0.42	470	82

Input Specifications				
Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC	250		mA
	230VAC	150		mA
	277VAC	125		mA
Inrush current	115VAC, cold start	20		A
	230VAC, cold start	40		A
Leakage current	277VAC		0.25	mA

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Line regulation	Full load	±0.5		%
Load regulation	10-100% load	±0.5		%
Ripple & Noise*	20MHz bandwidth	200		mV p-p
Start-up time	115VAC/230VAC, full load	1		S
Hold up time	115VAC, full load	8		ms
	230VAC, full load	40		ms

* Ripple and Noise are measured at 20MHz bandwidth with a 47µF electrolytic capacitor and a 0.1µF ceramic capacitor. Please refer to the application note for specific details.

Isolation Specification				
Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec	4000	--	VAC
Resistance	500VDC	>100	--	MΩ

General Specifications

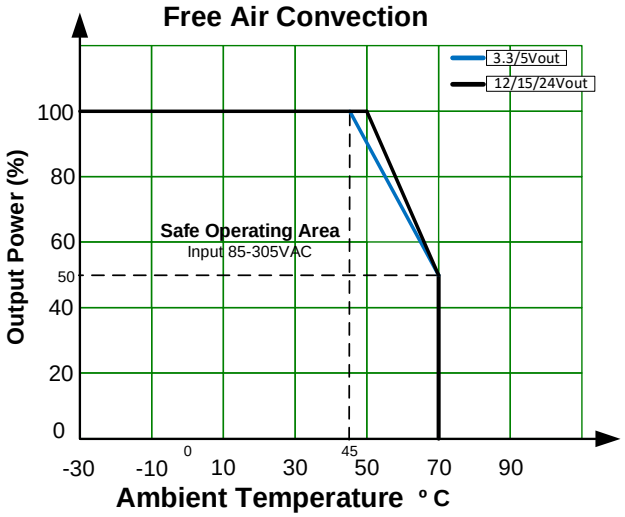
Parameters	Conditions	Typical	Maximum	Units
Protection class	Class II			
Overvoltage category	OVC III			
Over current protection	Hiccup, Auto recovery	≥ 115	190	% of Iout
Over voltage protection	3.3Vout, voltage clamp	3.8	4.95	VDC
	5Vout, voltage clamp	5.75	6.75	VDC
	12Vout, voltage clamp	13.8	16.2	VDC
	15Vout, voltage clamp	17.25	20.25	VDC
	24Vout, voltage clamp	27.6	32.4	VDC
Short circuit protection	Hiccup, Continuous, Auto recovery			
Operating temperature	See derating graph	-30 to +70		°C
Storage temperature		-40 to +85		°C
No-load power consumption	230VAC	0.1		W
Power Derating	85VAC to 100VAC	1.33		%/°C
	+45 °C to +70 °C, 3.3/5Vout	2		%/°C
	+50 °C to +70 °C, 12/15/24Vout	2.5		%/°C
Temperature coefficient	0 °C to 50 °C	±0.03		%/°C
Vibration	10 ~ 500Hz, 5G 10min. /1cycle, period for 60min. each along X, Y, Z axes			
Cooling	Free air convection			
Humidity	Non-condensing	20	90	% RH
Case material	Plastic (flammability to UL 94V-0)			
Weight		65		g
Dimensions (L x W x H)		2.07 x 1.08 x 0.91 inches (52.50 x 27.40 x 23.00 mm)		
MTBF	> 1 800 000 hrs (MIL-HDBK -217F, t=+25°C)			

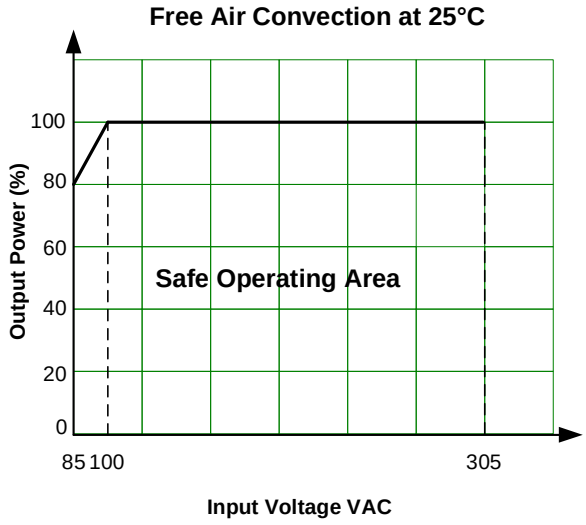
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications

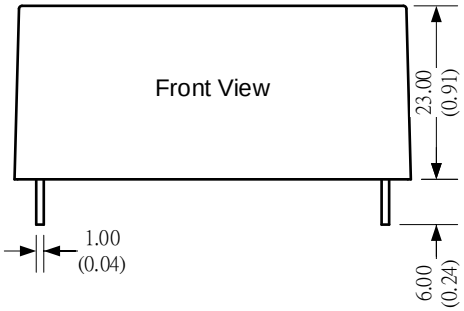
Parameters		
Standards	Design to meet IEC/EN/TUV BS EN/UL62368-1, IEC/EN60335-1	
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B CNS 13438, class B EN61000-3-2, class A EN61000-3-3
	Electrostatic Discharge Immunity	IEC/EN/BS EN 61000-4-2 Level 3, Criteria A
	RF, Electromagnetic Field Immunity	IEC/EN/BS EN 61000-4-3 Level 3, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC/EN/BS EN 61000-4-4 Level 3, Criteria A
	Surge Immunity	IEC/EN/BS EN 61000-4-5 Level 3, Criteria A
	RF, Conducted Disturbance Immunity	IEC/EN/BS EN 61000-4-6 Level 3, Criteria A
	PFM, power-frequency magnetic field immunity	IEC/EN/BS EN 61000-4-8 Level 4, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC/EN/BS EN 61000-4-11

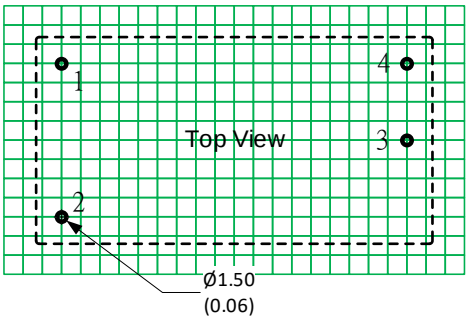
Derating





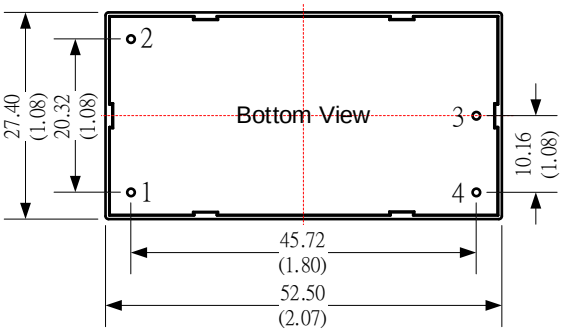
Dimensions





Grid size: 2.54*2.54mm

Pin Output Specifications	
Pin	Function
1	AC Input (N)
2	AC Input (L)
3	-V Output
4	+V Output



Note:
Unit: mm(inch)
Pin diameter tolerance: ±0.25 (±0.001)
Pin distance tolerance: ±0.25 (±0.001)
General tolerance: ±0.5 (±0.02)

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.