

AMEL60-HAGY

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Encapsulated

The AMEL60-HAGY series is an efficient 60W AC-DC power supply module. Offering a commercial input voltage range of 90-264VAC, output voltage ranges from 5-48V, low power consumption, high efficiency, high reliability and safer isolation.

This new series offers great operating temperatures, from -30°C to 70°C with full power up to 50°C and features an isolation of 4000VAC for improved reliability and system safety. Furthermore, a high MTBF of 800,000h, output short circuit protection (OSCP), output over-current protection (OCP) and an output over-voltage protection (OVP) come standard with the series.

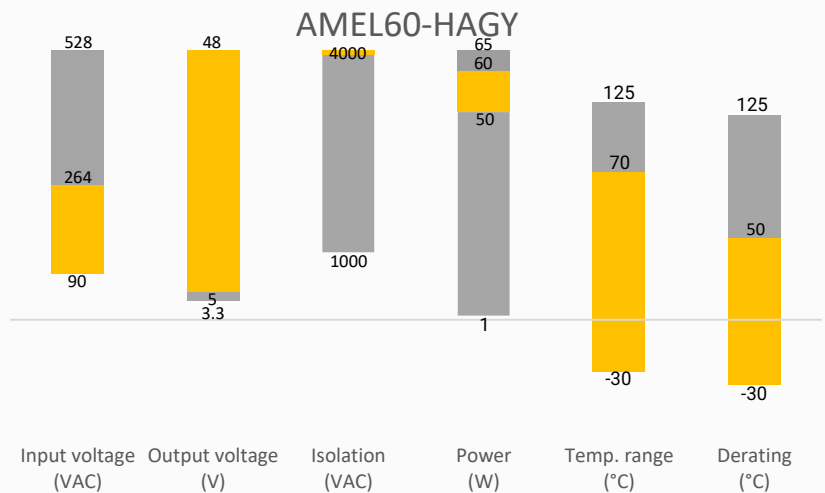
The AMEL60-HAGY is suitable for grid power, industrial instrumentation and controls, communication, and civil applications.

Features

- Universal Input: 90 - 264VAC/120 - 370VDC
- Operating Temp: -30 °C to +70 °C
- High isolation voltage: 4000VAC
- Output short circuit, over-current, over-voltage protection
- Low no-load power consumption of 0.15W
- Designed to meet: IEC/EN/UL62368-1, IEC/EN60335-1, EN61558-1



Summary



Training



Product Training Video
(click to open)



Press Release

Coming Soon!

Application Notes

Applications



Power Grid



Industrial



Telecom

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 (μF)	AVG. Efficiency (%)
AMEL60-5SHAGY	90-264/50-60	120-370	50	5	10	20000	84
AMEL60-12SHAGY	90-264/50-60	120-370	60	12	5	8000	87
AMEL60-15SHAGY	90-264/50-60	120-370	60	15	4	5000	89
AMEL60-24SHAGY	90-264/50-60	120-370	60	24	2.5	4200	90
AMEL60-48SHAGY	90-264/50-60	120-370	60	48	1.25	800	91
Note: Use suffix "ST" for chassis mounting (ex. AMEL60-5SHAGY-ST is chassis mounting version).							

Input Specifications				
Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC		1.8	A
	230VAC		1	A
Inrush current	115VAC, cold start	30		A
	230VAC, cold start	65		A
Leakage	264VAC		0.25	mA

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2.5		%
Line regulation	Full load	±0.5		%
Load regulation	10-100% load, 5Vout and 12Vout	±1		%
	10-100% load, others	±0.5		%
Ripple & Noise*	20MHz bandwidth, 5Vout		80	mV p-p
	20MHz bandwidth, 12Vout		120	mV p-p
	20MHz bandwidth, 15Vout		120	mV p-p
	20MHz bandwidth, 24Vout		150	mV p-p
	20MHz bandwidth, 48Vout		240	mV p-p
Hold up time	115VAC	5		ms
	230VAC	50		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
Overvoltage category	OVC III			

Over current protection	Hiccup, Auto recovery	≥ 115	160	% of Iout
Over voltage protection	5Vout, hiccup, Auto recovery		6.75	VDC
	12Vout, hiccup, Auto recovery		16.2	VDC
	15Vout, hiccup, Auto recovery		20.25	VDC
	24Vout, hiccup, Auto recovery		32.4	VDC
	48Vout, hiccup, Auto recovery		64.8	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		0.15		W
Power Derating	+40 °C to +70 °C, 5Vout	1.67		%/°C
	+50 °C to +70 °C, others	2.5		%/°C
	90VAC to 100VAC	2		%/VAC
Temperature coefficient	(0~50°C)	±0.03		%/°C
Cooling	Free air convection			
Humidity	Non-condensing	10	95	% RH
	Non-condensing, Operating	20	90	% RH
Vibration	10 ~ 500Hz, 5G 10min. /1cycle, period for 60min. each along X,Y,Z axes			
Weight	PCB mountable models	195		g
	With optional -ST mounting plate	260		
Dimensions (L x W x H)	PCB mountable models	3.43 x 2.05 x 1.16 inches (87.0 x 52.0 x 29.5 mm)		
	With optional -ST mounting plate	4.30 x 2.08 x 1.33 inches (109.3 x 52.77 x 33.9 mm)		
MTBF	> 800 000 hrs (MIL-HDBK -217F, t=+25°C)			

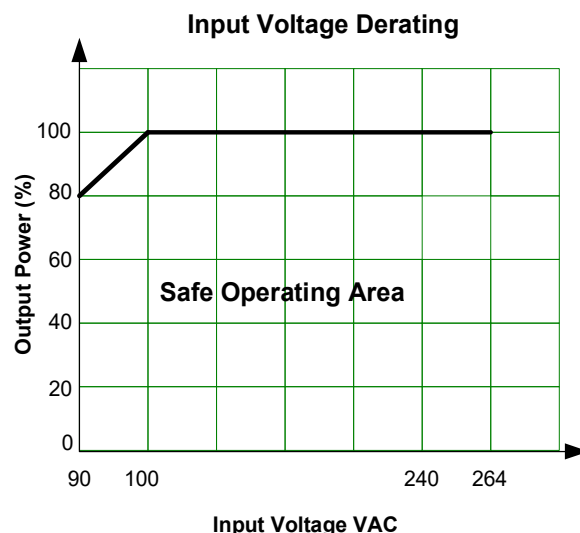
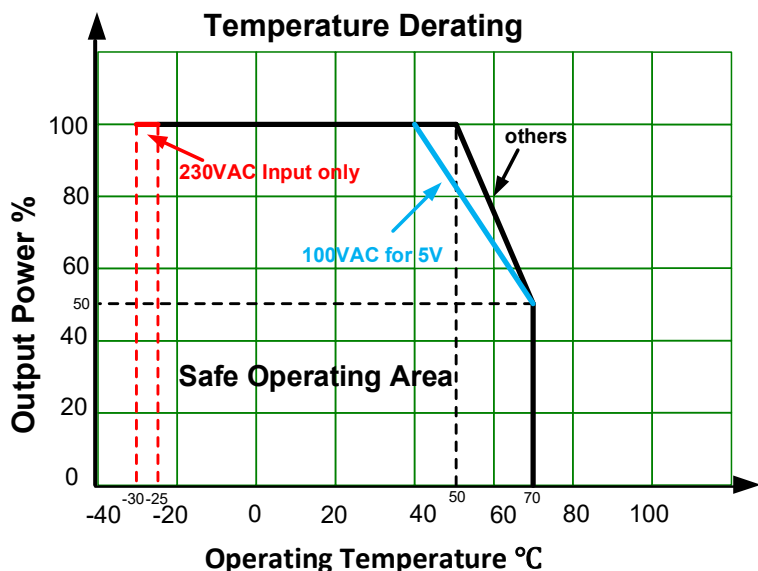
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

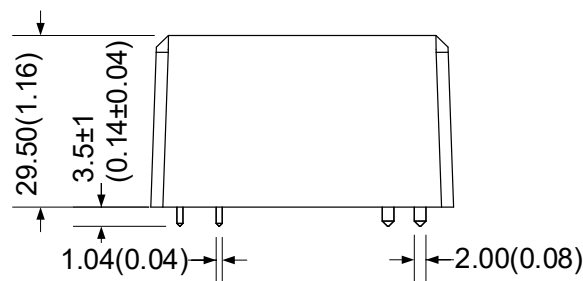
Safety Specifications

Parameters

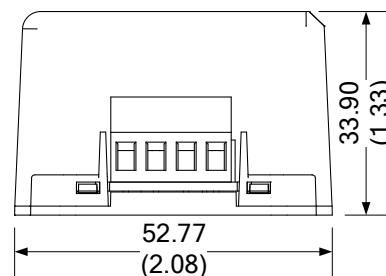
Agency approval	UL/EN/TUV BS EN 62368-1		
Standards	Information technology Equipment	Design to meet IEC62368-1, IEC/EN60335-1, EN61558-1	
	EMC Emission	EN55032 (CISPR32) CNS13438 Class B, EN61000-3-2 Class A, EN61000-3-3	
	EMC Immunity	BS EN/EN61000-4-2,3,4,5,6 Level 3, criteria A; BS EN/EN61000-4-8 Level 4, criteria A; BS EN/EN61000-4-11	

Derating





Note:
Unit: mm(inch)
General tolerance: ± 0.5 (± 0.02)



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

Note:
Unit: mm(inch)
General tolerance: ± 0.50 (± 0.02)

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