AMC05S Series

FiDUS
power in motion...

5 Watts

- 90-305VAC Input, 47-440Hz
- IEC 62368-1 ITE approval & designed to meet IEC60335-1 Home Appliance
- Encapsulated PCB mount
- -40 to +70°C Operation
- EN55032 Level B conducted & radiated
- 3 Year warranty

The AMC05S series of compact encapsulated AC-DC power modules are PCB mount and have low emissions, meeting EN 55032 level B for both conducted and radiated noise. The units are suitable for home appliances designed to meet EN 60335-1, also they are approved to the latest EN 62368-1 safety standard. They provide 5W of power in a 1.46" x 1" package and have a wide temperature range from -40 to +70°C. The series offers low no-load power consumption of <0.1W and outputs are available from 3.3 to 24V. The All models have a FiDUS 3 year warranty.

Dimensions:

1.46 x 1.08 x 0.69" (37.08 x 27.43 x 17.53mm)

Models & Ratings

Model Number[2]	Output Power	Output voltage	Output Current	Efficiency	Capacitive Load	Ripple / Noise[1]
AMC05S03	5W	3.3V	1.515A	73%	3500uF	<100mV
AMC05S05	5W	5V	1A	77%	2200uF	<100mV
AMC05S12	5.04W	12V	0.420A	81%	470uF	<150mV
AMC05S24	5.04W	24V	0.210A	83%	150uF	<200mV

Notes

1. Ripple and noise measured with 20MHz bandwidth and with 0.1uF and 47uF parallel capacitors

Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	90		305	VAC	No derating
Operating temperature	-40		70	°C	Derate linearly from 100% power at 50°C to 50% power at 70°C. 80% power max at -40°C, full power from –30°C. See derating curve
Efficiency	73		83	%	See model table above. At 230VAC full load
Dimensions	1.46 x 1.08 x 0.69" (37.08 x 27.43 x 17.53mm)				
EMC	EN55032 Level B Conducted and Radiated. EN61000-3 and EN61000-4, harmonics, flicker, Surge, EFT, ESD, conducted and radiated.				
Safety	UL / IEC / EN 62368-1, Designed to meet IEC / EN 60335-1 CE				

Input

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Input voltage	90		305	VAC	No derating
	127		430	VDC	DC fuse required
Input frequency	47		440	Hz	
Power factor					EN61000-3-2 class A compliant
Input current	90		150	mA rms	150mA 115VAC and 90mA at 230VAC
Inrush current	30		60	A	30A at 115 and 60A at 230VAC. Cold start at 25°C
No load input power			0.1	W	
Earth leakage current					Class II construction, no earth

Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	3.3		24	VDC	See Model & Ratings table
Set point accuracy			±2	%	
Line regulation	±0.1		±0.2	%	Low line to High line. ±0.2% for 3.3V and 5V model 0.1% for all others
Load regulation	±0.5		±1	%	0 to 100% load. ±1% for 3.3V ±0.5 for all others
Minimum load	0			%	
Ripple & Noise	100		200	mV pk-pk	See model table. Noise and ripple measured with 0.1uF ceramic and 47uF electrolytic. 20 MHz band-width.
Hold up time	15			mS	At 230VAC. Full load
Overload protection	115			%	Trip & restart. Automatic recovery
Short circuit protection					Trip & restart. Automatic recovery
Overvoltage protection					Latch reset

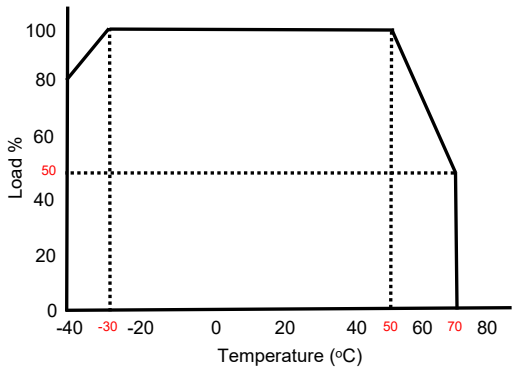
General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	73		83	%	See models & Ratings table. At 230VAC full load
Isolation	4000			VAC	Input to output
Power density			5	W/In^3	
MTBF		>450		KHrs	As per MIL-HDBK-217F, 25°C GB
Weight		24		g	

Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		70	°C	Derate linearly from 100% power at 50°C to 50% power at 70°C. 80% power max at -40°C, full power from –30°C. See derating curve
Storage temperature	-40		85	°C	
Cooling					Convection cooled
Temperature coefficient			±0.02	%/°C	
Humidity			95	% RH	

Derating curve



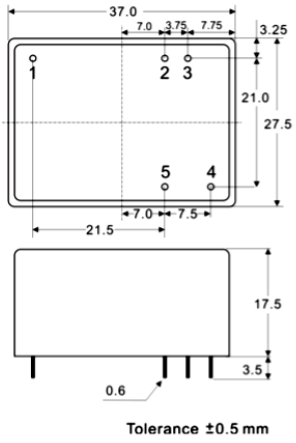
EMC: Emissions

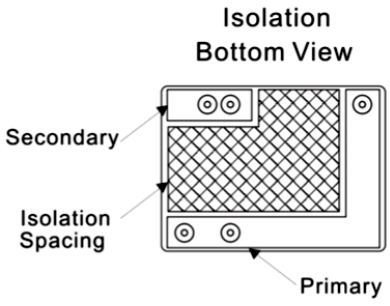
	Standard	Test level	Criteria	Notes & Conditions
Conducted	EN55032	B		
Radiated	EN55032	B		
Harmonic current	EN61000-3-2	Class A		
Voltage flicker	EN61000-3-3			

Safety Approvals

	Safety standard	Notes & Conditions
UL	UL 62368-1	
CB	IEC 62368-1, Designed to meet IEC 60335-1	
TUV	EN 62368-1, Designed to meet EN 60335-1	
CE		2014/35/EU Low voltage directive
Equipment protection class		Class II

Mechanical Details





Pin Connections	
Pin	Function
1	N/C
2	+Vout
3	-Vout
4	AC IN (L)
5	AC IN (N)

Dimension notes

1. All dimensions shown in millimetres
2. Pin diameter 0.5 ±0.05 (0.02 ±0.002)
3. Case tolerance ±0.5 (±0.002)