AMC10S Series

FiDUS
power in motion...

10 Watts

- 90-305VAC Input, 47-440Hz
- IEC 62368-1 ITE approval & designed to meet IEC 60335-1 Home Appliance
- Encapsulated PCB mount
- -40 to +70°C Operation
- EN55032 Level B conducted & radiated
- 3 Year warranty

The AMC10S series of compact encapsulated AC-DC power modules are PCB mount and have low emissions, meeting EN55032 level B for both conducted and radiated noise. The units are suitable for home appliance designed to meet IEC 60335-1, also they are approved to the latest IEC 62368-1 safety standard. They provide 10W of power 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 5 to 24V. All models have a FiDUS 3 year warranty.

Dimensions:

1.46 x 1.08 x 0.79" (37 x 27.5 x 20mm)

Models & Ratings

Model Number	Output Power	Output voltage	Output Current	Efficiency	Capacitive Load	Ripple / Noise[1]
AMC10S05	10W	5V	2A	81%	3500uF	<150mV
AMC10S12	10W	12V	0.833A	85%	700uF	<150mV
AMC10S15	10W	15V	0.667A	86%	390uF	<160mV
AMC10S24	10W	24V	0.417A	86%	180uF	1% Vout

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	120-430 VDC also, connect +V to neutral. Derate at 100VAC to 80% at 90VAC
Operating temperature	-40		70	°C	Derate linearly from 100% power at 50°C to 50% power at 70°C. Full power from –40°C. See derating curve
Efficiency	81		86	%	See model table above. At 230VAC full load
Dimensions	1.46 x 1.08 x 0.79" (37 x 27.5 x 20mm)				
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	Derate at 100VAC to 80% at 90VAC
	120		430	VDC	DC fuse required. Connect V+ to neutral.
Input frequency	47		440	Hz	
Power factor					EN61000-3-2 class A compliant
Input current	140		230	mA rms	230mA 115VAC and 140mA 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

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Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	5		24	VDC	See Model & Ratings table
Set point accuracy			±2	%	
Line regulation		±0.2		%	Low line to High line.
Load regulation		±1		%	0 to 100% load
Minimum load	0			%	
Ripple & Noise	150	160	240	mV pk-pk	See model table. Noise and ripple measured with 0.1uF ceramic and 47uF electrolytic. 20 MHz bandwidth. 240Mv for 24V, 160mV for 15V and 150mV for others
Hold up time		30		mS	At 230VAC. Full load
Overload protection					Trip & restart. Automatic recovery
Short circuit protection					Trip & restart. Automatic recovery
Overvoltage protection					Latch reset

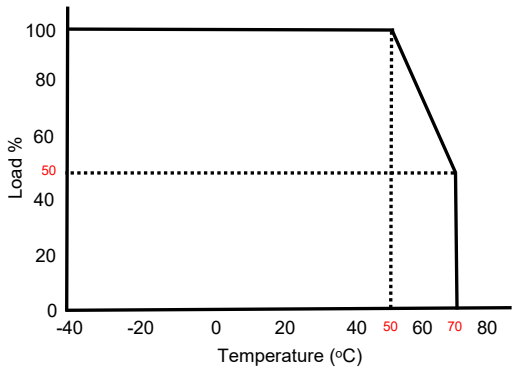
General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	81		86	%	See models & Ratings table. At 230VAC full load
Isolation	4000			VAC	Input to output
Power density			9.02	W/In^3	
MTBF		>450		KHrs	As per MIL-HDBK-217F, 25°C GB
Weight		31		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. Full power from –40°C. See derating curve
Storage temperature	-40		85	°C	
Cooling					Convection cooled
Temperature coefficient			±0.02	%/°C	
Humidity			95	% RH	

Derating curve



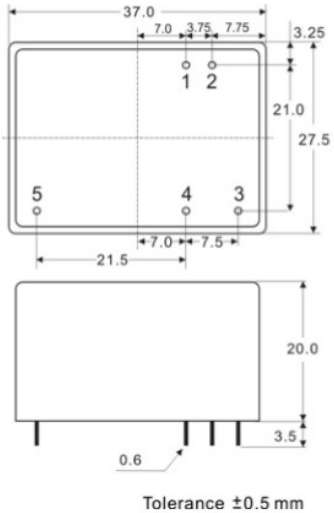
EMC: Emissions

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

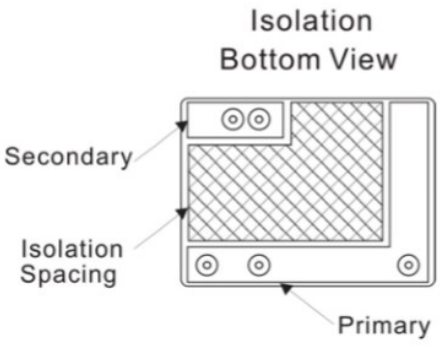
Safety Approvals

	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



Tolerance ±0.5 mm



Pin Connections	
Pin	**Function**
1	+DC OUT
2	GND
3	AC IN (L)
4	AC IN (N)
5	NC CONNECT

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)