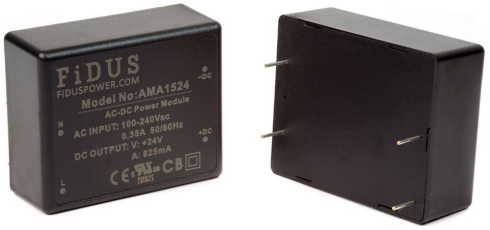
AMA15 Series

FiDUS
power in motion...

15 Watts

- Compact size
- 90-264VAC Universal input
- Single output 5 to 24V
- Encapsulated PCB mount
- -40 to +70°C Operation
- EN55022 Level B conducted & radiated
- 5 year warranty



The AMA15 series of compact, encapsulated AC-DC power modules are PCB mount and have low emissions, meeting EN55022 level B for both conducted and radiated noise. They have a wide temperature range from -40 to +70ºC and offer low no-load power consumption of <0.3W. Outputs are available from 5 to 24V. High volumes are held in stock for the popular models and all models come with a FiDUS 5 Year warranty.

Dimensions:

2.15 x 1.77 x 0.82" (54.7 x 44.9 x 21.0mm)

Models & Ratings

Model Number	Output Power	Output voltage	Output Current	Efficiency
AMA1505	15W	5V	3A	80%
AMA1512	15W	12V	1.25A	84%
AMA1515	15W	15V	1A	85%
AMA1524	15W	24V	0.63A	85%

Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	90		264	VAC	
Operating temperature	-40		70	°C	Derate linearly from 100% power at 50°C to 40% power at 70°C. See derating curve
Efficiency	80		85	%	
Dimensions	2.15 x 1.77 x 0.82" (54.7 x 44.9 x 21.0mm)				
EMC	EN55022 Level B Conducted and Radiated. EN61000-3 and EN61000-4, harmonics, flicker, Surge, EFT, ESD, conducted and radiated,				
Safety	UL60950-1, CSA22.2 No 234 as per cUL, CE				

Input

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Input voltage	90		264	VAC	No derating
	120		370	VDC	DC fuse required
Input frequency		50/60		Hz	
Power factor					EN61000-3-2 class A compliant
Input current			315	mA rms	At 115VAC
Inrush current		15/30		A	115/230VAC cold start at 25°C
No load input power			0.3	W	
Earth leakage current					Class II construction, no earth
Input protection	1.5A Slow blow fuse required				

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Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	5		24	VDC	
Set point accuracy			±2	%	
Line regulation			±0.5	%	Low line to High line
Load regulation			±1	%	10 to 100%
Minimum load	0			%	
Transient response			4	%	For a 25% load change, recovery to within 1% in less than 500uS.
Ripple & Noise	100 at 5V, 120 at 12V, 200 at 15V, 240 at 24V			mV pk-pk	All models measured with o,1uF ceramic and 47uF electrolytic. 20 MHz bandwidth.
Overload protection	144		180	%	
Short circuit protection					Trip & restart. Automatic recovery
Overvoltage protection	114		132	%	

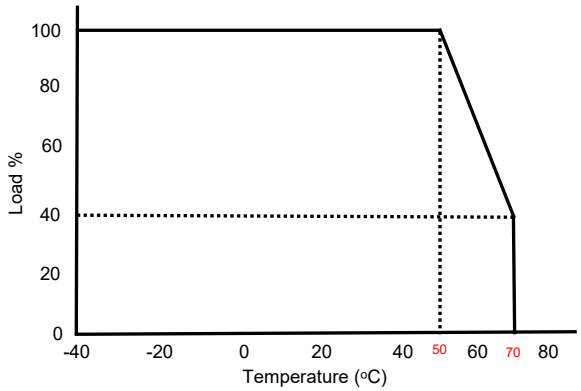
General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	80		85	%	See Model & Ratings table
Isolation	4000			VAC	Input to output
Switching frequency	119		145	KHz	
Power density			4.8	W/In^3	
MTBF		>450		KHrs	As per MIL-HDBK-217F, 25ºC GB
Weight		80		g	

Environmental

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

Derating curve



EMC: Emissions

	Standard	Test level	Criteria	Notes & Conditions
Conducted	EN55022	B		
Radiated	EN55022	B		
Harmonic current	EN61000-3-2	Class A		
Voltage flicker	EN61000-3-3			

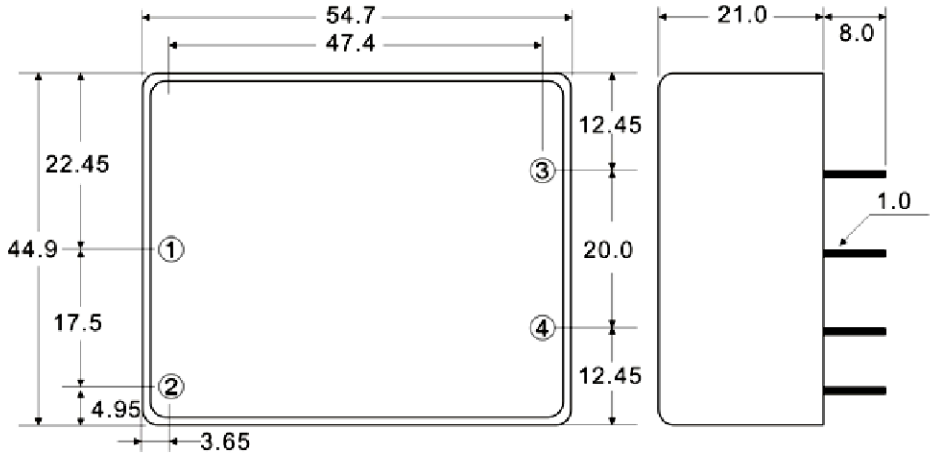
EMC: Immunity

	Standard	Test level	Criteria	Notes & Conditions
ESD	EN61000-4-2	±4kV contact, ±8kV air	A	
Radiated	EN61000-4-3	3V/m	A	
EFT	EN61000-4-4	3	A	
Surges	EN61000-4-5	Installation Class 3	A	
Conducted	EN61000-4-6	3Vrms	A	
Magnetic Fields	EN6100-4-8	1A/m		

Safety Approvals

	Safety standard	Notes & Conditions
UL	UL60950-1, CSA 22.2 No 234 as per cUL	
CE		2011/65/EU RoHS Directive and 2014/35/EU Low voltage directive
Equipment protection class		Class II

Mechanical Details



Pin Connections	
Pin	Function
1	AC IN (N)
2	AC IN (L)
3	-DC OUT
4	+DC OUT

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)