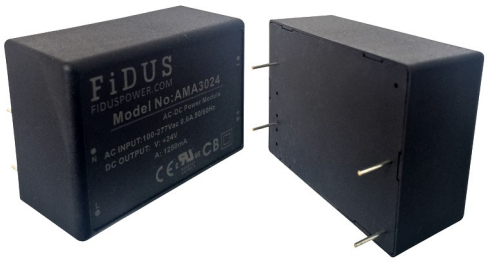
AMA30 Series

FiDUS
power in motion...

30 Watts

- Ultra compact size (2.52 x 1.77 x 0.92")
- 90-305VAC Input, 47-63Hz
- No load power <0.3W
- Efficiency up to 89%
- Single output 3.3 to 24V
- EN55022 Level B conducted & radiated
- 5 year warranty



The AMA30 series of ultra compact, encapsulated AC-DC power modules are PCB mount and have low emissions, meeting EN55022 level B for both conducted and radiated noise. The units provide 30W of power and have a wide temperature range from -40 to +70°C. Units offer low no-load power consumption of <0.3W and are available with outputs between 3.3 and 24V. All models have a FiDUS 5 Year warranty.

Dimensions:

2.52 x 1.77 x 0.92" (64.0 x 45.0 x 23.5mm)

Models & Ratings

Model Number	Output Power	Output voltage	Output Current	Efficiency
AMA3003	16.5W	3.3V	5A	80%
AMA3005	25W	5V	5A	84%
AMA3012	30W	12V	2.5A	89%
AMA3015	30W	15V	2A	86%
AMA3024	30W	24V	1.25A	86%

Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	90		305	VAC	
Operating temperature	-40		70	°C	Derate linearly from 100% power at 50°C to 40% at 70°C. 100% power at –30°C, 80% at –40°C. All models: derating values vary if AC input under 115VAC, see derating graph.
Efficiency	80		89	%	
Dimensions	2.52 x 1.77 x 0.92" (64.0 x 45.0 x 23.5mm)				
EMC	EN55022 Level B Conducted and Radiated. EN61000-3 and EN61000-4, harmonics, flicker, Surge, EFT, ESD, conducted and radiated,				
Safety	IEC/EN60950-1, UL60950-1, CSA22.2 No 234 as per cUL, CE				

Input

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Input voltage	90		305	VAC	No derating
	120		430	VDC	DC fuse required
Input frequency	47		63	Hz	
Power factor					EN61000-3-2 class A compliant
Input current		600/400		mA rms	115/230VAC
Inrush current		30/60		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	3.15A slow blow fuse				

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Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	3.3		24	VDC	See Model & Ratings table
Set point accuracy			±2	%	
Line regulation			±0.5	%	Low line to High line
Load regulation	±1.5% for 3.3V output. ±1% for all other outputs			%	0 to 100%
Minimum load	0			%	
Transient response			±3	%	For a 25% load change, recovery to within 1% in less than 700uS.
Ripple & Noise	3.3 and 5V output 100mVp-p. 12 and 15V output 150mVp-p. 24V output 240mVp-p.			mV pk-pk	All models measured with 0.1uF ceramic and 47uF parallel electrolytic. 20 MHz bandwidth.
Hold up time	10			mS	Min. at 115VAC and Max at 230VAC. Full load
Overload protection	120		190	%	
Short circuit protection					Trip & restart. Automatic recovery
Overvoltage protection	110		140	%	

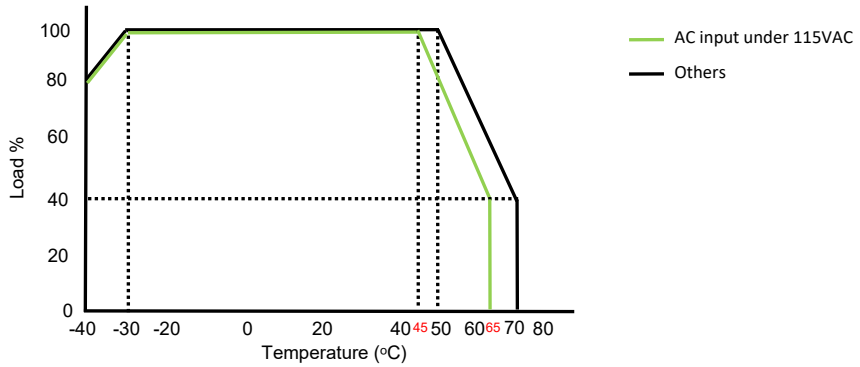
General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	80		89	%	See Model & Ratings table
Isolation	3000			VAC	Input to output
Switching frequency		66		KHz	At 230VAC
Power density			7.3	W/In^3	
MTBF		>400		KHrs	As per MIL-HDBK-217F, 25^{o}C GB
Weight		130		g	

Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		70	°C	Derate linearly from 100% power at 50°C to 40% at 70°C. 100% power at –30°C, 80% at –40°C. All models: derating values vary if AC input under 115VAC, see derating graph.
Storage temperature	-40		85	°C	
Cooling					Convection cooled
Temperature coefficient			±0.02	%/^{o}C	
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			

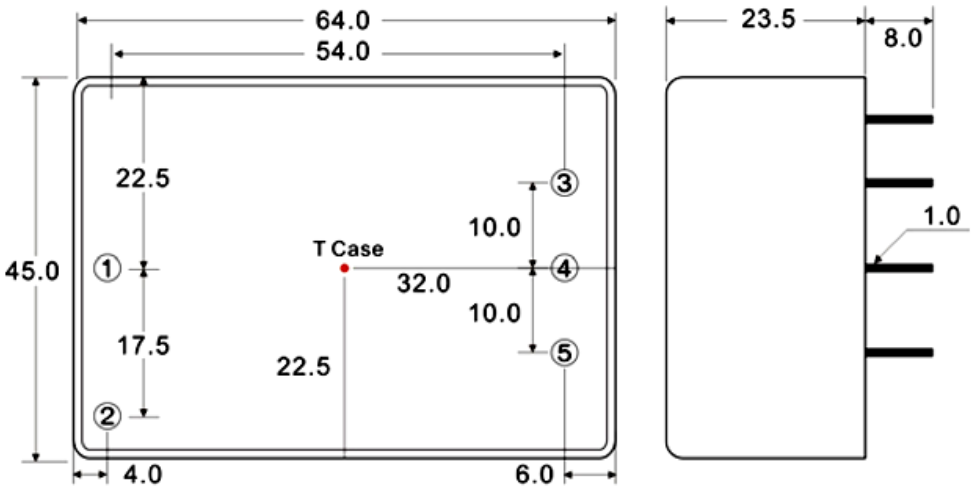
EMC: Immunity

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

Safety Approvals

	Safety standard	Notes & Conditions
UL	UL60950-1, CSA 22.2 No 234 as per cUL	
CB	IEC60950-1 ED2 Am1	
TUV	EN60950-1 A12 2011	
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	NO PIN
5	+DC OUT

Dimension notes

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