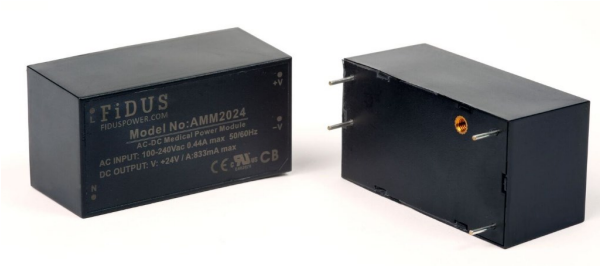
AMM20 Series

FiDUS
power in motion...

20 Watts

- Ultra compact size (2.07 x 1.08 x 0.93")
- IT & Medical safety approvals
- Single output 12 to 24V
- Encapsulated PCB mount
- EN55011 Level B conducted & radiated
- <0.1W No load input power
- 3 Year warranty



The AMM20 encapsulated AC/DC series is designed for use in both IT and medical applications. The units are PCB mount and have low emissions, meeting EN55011 level B for both conducted and radiated noise. They have a wide temperature range from -40 to +80ºC and offer low no-load power consumption of <0.1W. Units are available in 12V & 24V and all come with a FiDUS 3 year warranty.

Dimensions:

2.07 x 1.08 x 0.93" (52.5 x 27.5 x 23.5mm)

Models & Ratings

Model Number	Output Power	Output voltage	Output Current	Efficiency
AMM2012(1)	20W	12V	1.67A	85%
AMM2024(1)	20W	24V	0.83A	86%

Notes

1. High stock items

Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	90		264	VAC	Derate below 100VAC in to 80% power at 90VAC.
Operating temperature	-40		80	°C	Derate linearly from 100% power at 40°C to 20% power at 80°C. 80% power max at –40°C.
Efficiency	85		86	%	
Dimensions	2.07 x 1.08 x 0.93" (52.5 x 27.5 x 23.5mm)				
EMC	EN55011 Level B Conducted and Radiated. EN61000-3 and EN61000-4, harmonics, flicker, Surge, EFT, ESD, conducted and radiated,				
Safety	IEC60601-1 3.1 ed, ES60601-1, CAN/CSA-C22.2 No. 60601-1, IEC60950-1, UL60950-1, CSA C22.2 no. 60950-1 as per cUL, CE				

Input

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Input voltage	90		264	VAC	Derate below 100VAC in to 80% power at 90VAC.
	120		370	VDC	DC fuse required
Input frequency	47		440	Hz	
Power factor					EN61000-3-2 class A compliant
Input current			440	mA rms	At 115VAC
Inrush current		20/40		A	115/230VAC cold start at 25°C
No load input power			0.1	W	
Earth leakage current					Class II construction, no earth

AMM20 Series

FiDUS
power in motion...

Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	12		24	VDC	See Model & Ratings table
Set point accuracy			±2	%	
Line regulation			±0.5	%	Low line to High line
Load regulation			±1	%	5 to 100%
Transient response			4	%	For a 25% load change, recovery to within 1% in less than 500uS.
Ripple & Noise			150	mV pk-pk	12V model
			240	mV pk-pk	24V model. All models measured with o,1uF ceramic and 47uF electrolytic. 20 MHz bandwidth.
Hold up time	6		46	mS	Min. at 115VAC and Max at 230VAC. Full load
Overload protection	111		150	%	
Short circuit protection					Trip & restart. Automatic recovery
Overvoltage protection	119		132	%	

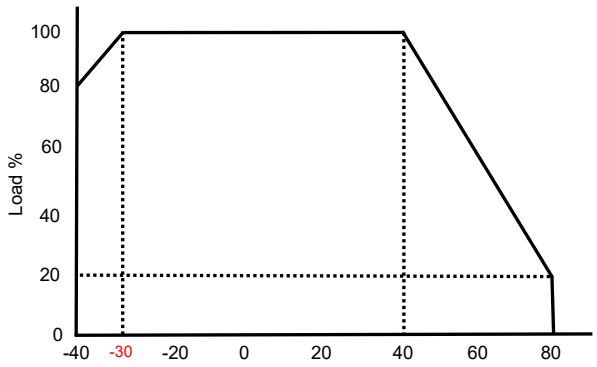
General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	85		86	%	See Model & Ratings table
Isolation	4000			VAC	Input to output
Switching frequency	66		132	KHz	
Power density			9.6	W/In^3	
MTBF		>350		KHrs	As per MIL-HDBK-217F, 25°C GB
Weight		59		g	

Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		80	°C	Derate linearly from 100% load at 40°C to 20% load at 80°C. 80% load max at –40°C.
Storage temperature	-40		90	°C	
Cooling					Convection cooled
Temperature coefficient			±0.05	%/°C	
Humidity			95	% RH	Non-condensing

Derating curve



EMC: Emissions

	Standard	Test level	Criteria	Notes & Conditions
Conducted	EN55011	B		
Radiated	EN55011	B		
Harmonic current	EN61000-3-2	Class A		
Voltage flicker	EN61000-3-3			

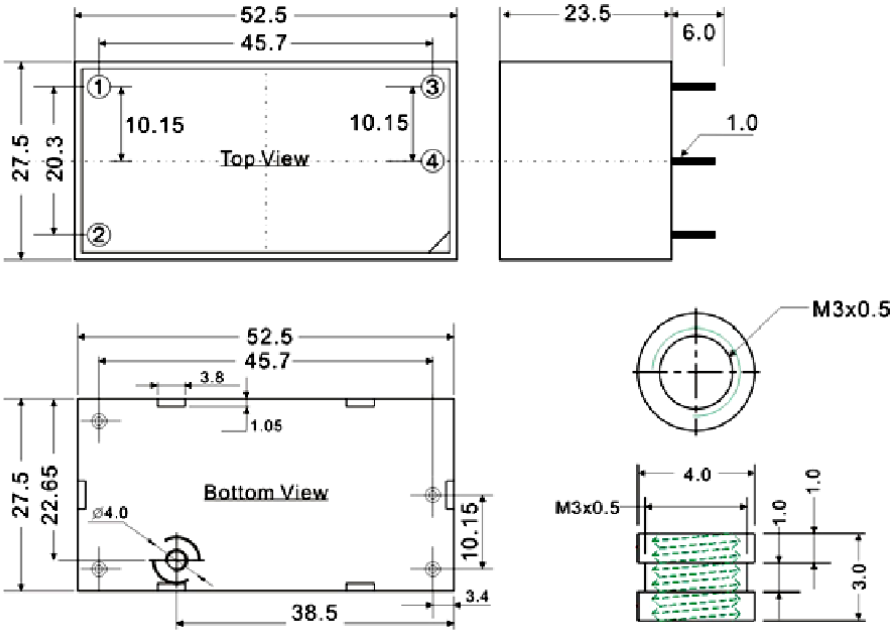
EMC: Immunity

	Standard	Test level	Criteria	Notes & Conditions
ESD	EN61000-4-2	±6kV 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	EN61000-4-8	3A/m	A	

Safety Approvals

	Safety standard	Notes & Conditions
UL	UL 60950-1, CAN/CSA C22.2 No. 60950-1-07 ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10), CAN/CSA-C22.2 No. 60601-1(2008), 2 x MOPP	
CB	IEC 60950-1:2005 (2nd Edition) + A2:2013 IEC 60601-1:3.1 A12:2014	
CE		2011/65/EU RoHS Directive and 2014/35/EU Low voltage directive
Means of patient protection	Input to Output: 2 x MOPP	
Equipment protection class		Class II

Mechanical Details



Pin Connections	
Pin	Function
1	AC IN (L)
2	AC IN (N)
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)