

# AMM60 Series

## 60 Watts

- IT & Medical safety approvals
- Single output 5 to 24V
- 90-264VAC Input, 47-440Hz
- EN55011 Class B conducted and radiated
- Encapsulated PCB mount
- -40 to +80°C Operation



The AMM60 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 +80°C and offer low no-load power consumption of <0.3W. Available with 5-24V outputs, all come with a FiDUS 5 year warranty.

Dimensions:

3.5 x 2.5 x 1.06" (89.0 x 63.5 x 27.0mm)

### Models & Ratings

Model Number	Output Power	Output voltage	Output Current	Efficiency
AMM6005	51W	5V	10A	87%
AMM6009	60W	9V	6.67A	89%
AMM6012 <sup>(1)</sup>	60W	12V	5A	89%
AMM6015	60W	15V	4A	88%
AMM6024 <sup>(1)</sup>	60W	24V	2.5A	88%

### Notes

1. High stock items

### Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	90		264	VAC	
Operating temperature	-40		80	°C	Derate linearly from 100% load at 50°C to 30% load at 80°C. 80% load max at -40°C.
Efficiency	87		89	%	
Dimensions	3.5 x 2.5 x 1.06" (89.0 x 63.5 x 27.0mm)				
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, 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	No derating
	120		370	VDC	DC fuse required
Input frequency	47		440	Hz	
Power factor					EN61000-3-2 class A compliant
Input current			1.5	A rms	At 115VAC
Inrush current		55/95		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 required				

## Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	5		24	VDC	See Model & Ratings table
Set point accuracy			±2	%	
Line regulation			±0.5	%	Low line to High line
Load regulation	5 and 9V outputs ±1.5%, 12-24V outputs ±1.0%			%	1 to 100%
Minimum load	0			%	
Transient response			4	%	For a 25% load change, recovery to within 1% in less than 500uS.
Ripple & Noise			100	mV pk-pk	5 and 9V models.
			±1.0%	mV pk-pk	All other models. All models measured with 0,1uF ceramic and 47uF electrolytic. 20 MHz bandwidth.
Hold up time	10			mS	
Overload protection	128		199	%	
Short circuit protection					Trip & restart. Automatic recovery
Overvoltage protection	114		141	%	

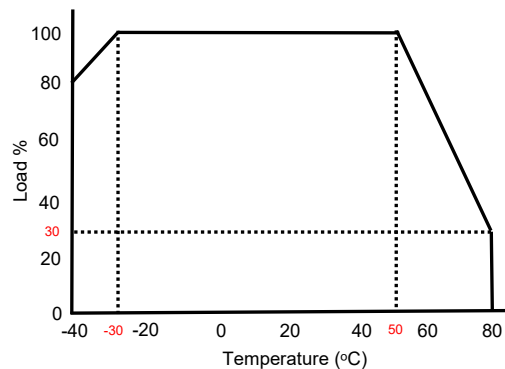
## General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	87		89	%	See Model & Ratings table
Isolation	4000			VAC	Input to output
Switching frequency	50		74	KHz	
Power density			6.5	W/in <sup>3</sup>	
MTBF	200		400	KHrs	At 25°C
Weight		280		g	

## Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		80	°C	Derate linearly from 100% load at 50°C to 30% 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			

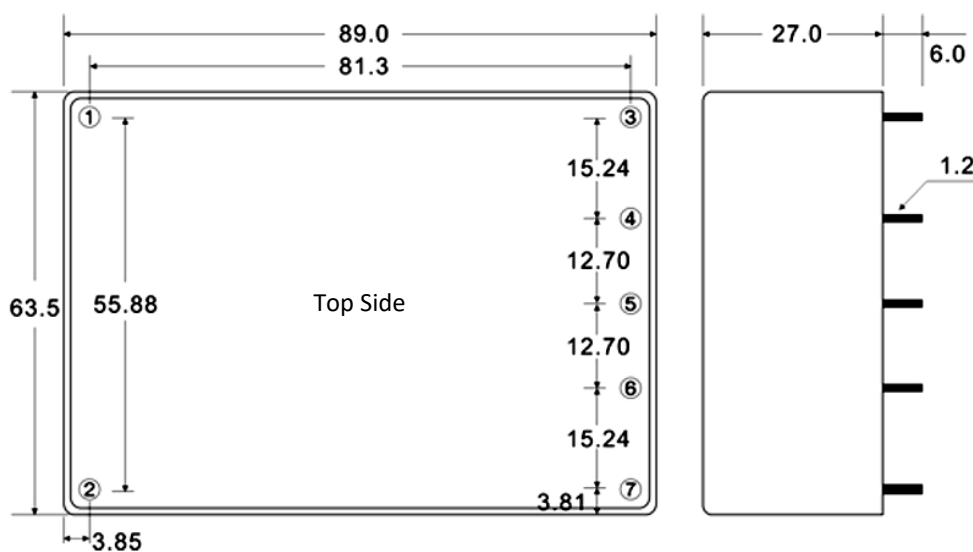
## EMC: Immunity

	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)	
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 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	NO PIN
5	-DC OUT
6	NO PIN
7	NO CONNECT

### Dimension notes

- All dimensions shown in millimetres
- Pin diameter 0.5 ±0.05 (0.02 ±0.002)
- Case tolerance ±0.5 (±0.002)