

AMK15 Series

15 Watts

- Ultra compact 15W in 1.62 x 1.07 footprint
- Encapsulated PCB mount
- 90-264VAC Universal input
- Single output 5 to 24V
- -40 to +70°C Operation
- <0.1W No load input power
- 5 Year warranty



The AMK15 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. They provide 15W 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. High volumes held in stock for the popular models and all have a FiDUS 5 Year warranty.

Dimensions:

1.62 x 1.07 x 0.75" (41.2 x 27.2 x 19.1mm)

Models & Ratings

Model Number	Output Power	Output voltage	Output Current	Efficiency
AMK1505	13.5W	5V	2.7	80%
AMK1512	15W	12V	1.25A	84%
AMK1515	15W	15V	1A	84%
AMK1524	15W	24V	0.63A	85%

Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	90		264	VAC	No derating
Operating temperature	-40		70	°C	5V model derates linearly from 100% power at 40°C to 30% power at 70°C. 80% power max at -40°C, full power from -25°C. All other models derate linearly from 100% power at 50°C to 40% power at 70°C. 80% power max at -40°C, full power from -25°C. See derating curve
Efficiency	80		85	%	See model table above
Dimensions	1.62 x 1.07 x 0.75" (41.2 x 27.2 x 19.1mm)				
EMC	EN55022 Level B Conducted and Radiated. EN61000-4, Surge, EFT, ESD, conducted and radiated.				
Safety	UL/cUL60950-1, CSA 22.2 No 234 as per cUL & CE, IEC/EN60950-1				

Input

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Input voltage	90		264	VAC	No derating
	120		370	VDC	DC fuse required
Input frequency		47-63		Hz	
Input current		340/220		mA rms	At 115VAC/230VAC
Inrush current		25/45		A	115/230VAC cold start at 25°C
No load input power			0.1	W	
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			±1	%	10 to 100%.
Minimum load	0			%	
Transient response			1	%	For a 25% load change, recovery to within 1% in less than 500µS.
Ripple & Noise	5V model 100mV. 12V model 120mV. 15V model 150mV. 24V model 240mV.			mV pk-pk	All models measured with 0.1µF ceramic and 47µF electrolytic. 20 MHz bandwidth.
Hold up time		35		mS	Min. at 230VAC. Full load
Overload protection	140		165	%	Hiccup Auto-recovery
Short circuit protection					Trip & restart. Automatic recovery (hiccup)
Overvoltage protection	120		125	%	Shutdown and latch off, AC recycle

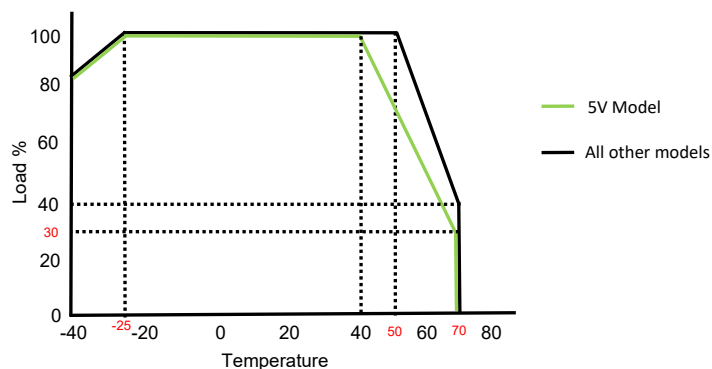
General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	80		85	%	See models & Ratings table
Isolation	4000			VAC	Input to output
Power density			11.5	W/In ³	
MTBF		>450		KHrs	As per MIL-HDBK-217F, 25°C GB
Weight		40		g	

Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		70	°C	5V model derates linearly from 100% power at 40°C to 30% power at 70°C. 80% power max at -40°C, full power from -25°C. All other models derate linearly from 100% power at 50°C to 40% power at 70°C. 80% power max at -40°C, full power from -25°C. See derating curve.
Storage temperature	-40		85	°C	
Cooling					Convection cooled
Temperature coefficient			±0.05	%/°C	
Humidity			95	% RH	

Derating curve



EMC: Emissions

	Standard	Test level	Criteria	Notes & Conditions
Conducted	EN55022	B		
Radiated	EN55022	B		
Voltage flicker	EN61000-3-3			

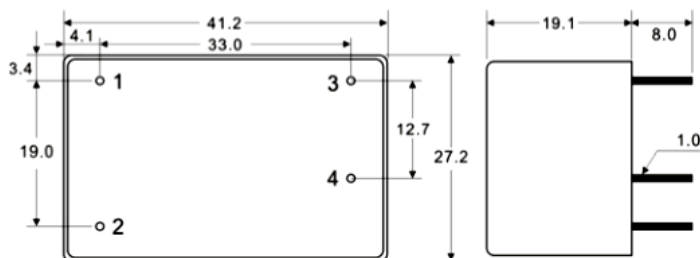
EMC: Immunity

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

Safety Approvals

	Safety standard	Notes & Conditions
UL/cUL	UL60950-1, CSA 22.2 No 234 as per cUL	
CE	EN60950-1 A2 2013	2011/85/EU RoHS Directive and 2014/35/EU Low voltage directive
CB	IEC60950-1 A2 2013	
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

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