

AMK10 Series

10 Watts

- Ultra compact 10W in 1.46 x 1.08 footprint
- IEC60335-1 Home Appliance
- 90-264VAC Universal input
- Single output 5 to 24V
- -40 to +70°C Operation
- <0.1W No load input power
- 5 Year warranty



The AMK10 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 10W 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 are held in stock for the popular models and all models have a FiDUS 5 Year warranty.

Dimensions:

1.46 x 1.08 x 0.79" (37.0 x 27.5 x 20.0mm)

Models & Ratings

Model Number	Output Power	Output voltage	Output Current	Efficiency
AMK1005 ⁽¹⁾	10W	5V	2000mA	80%
AMK1012 ⁽¹⁾	10W	12V	833mA	84%
AMK1015	10W	15V	667mA	85%
AMK1024	10W	24V	417mA	85%

Notes

1. High stock items

Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	90		264	VAC	No derating
Operating temperature	-40		70	°C	Derate linearly from 100% power at 50°C to 50% power at 70°C. See derating curve.
Efficiency	80		85	%	
Dimensions	1.46 x 1.08 x 0.79" (37.0 x 27.5 x 20.0mm)				
EMC	EN55022 Level B Conducted and Radiated. EN61000-4, flicker, Surge, EFT, ESD, conducted and radiated,				
Safety	UL60950-1, CSA22.2 No 234 as per cUL, CE, IEC60335-1 Home Appliance, IEC/EN60950-1				

Input

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Input voltage	90		264	VAC	No derating
	120		370	VDC	DC fuse required. DC+ to N, DC- to L
Input frequency		47-440		Hz	
Input current		220/140		mA rms	At 115VAC/230VAC
Inrush current		20/40		A	115/230VAC cold start at 25°C
No load input power			0.1	W	
Input protection	2A 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			±0.2	%	Low line to High line
Load regulation	±0.5		±1	%	0 to 100%. 5V-12V ±1, 15V-24V±0.5
Minimum load	0			%	
Ripple & Noise	<150mV for 5V & 12V models. <160mV for 15V models. 1% Vout for 24V models.			mV pk-pk %Vout	All models measured with 0.1uF ceramic and 47uF electrolytic. 20 MHz bandwidth.
Hold up time		30		mS	Min. at 230VAC. Full load
Overload protection	151		200	%	Hiccup- automatic recovery
Short circuit protection					Hiccup- automatic recovery
Overvoltage protection	114		132	%	Latching, requires AC reset.

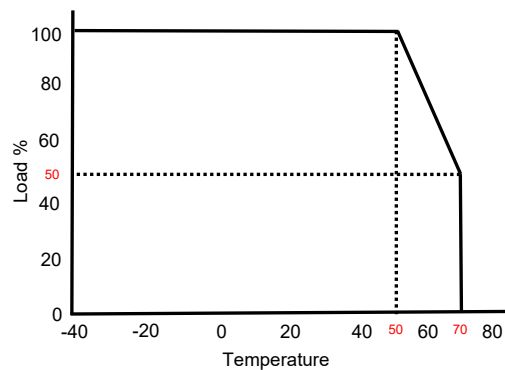
General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	80		85	%	See models & Ratings table
Isolation	3000			VAC	Input to output
Power density			8.03	W/In ³	
MTBF		>450		KHrs	As per MIL-HDBK-217F, 25°C GB
Weight		35		g	

Environmental

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

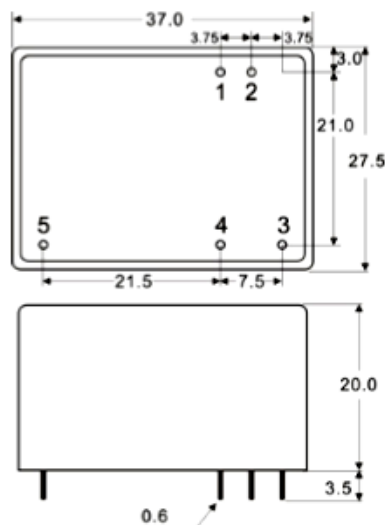
EMC: Immunity

	Standard	Test level	Criteria	Notes & Conditions
ESD	EN61000-4-2	±2kV contact, ±3kV air	A	
Radiated	EN61000-4-3	2V/m	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	UL60950-1, CSA 22.2 No 234 as per cUL	
CE	EN60950-1 A2 2013	2011/65/EU RoHS Directive and 2014/35/EU Low voltage directive
CB	IEC60335-1 Home Appliance. IEC60950-1 A2 2013	
Equipment protection class		Class II

Mechanical Details



Pin Connections	
Pin	Function
1	+Vout
2	-Vout
3	AC IN (L)/ -DC
4	AC IN (N)/ +DC
5	NC

Dimension notes

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