

90 Watts

- US DoE Energy efficiency level VI
- EU CoC Tier 2 requirements, ErP stage 2
- IEC 60601-1-2 4th edition EMC
- Class I and Class II options available
- Single outputs 12 to 48V
- 5 Year warranty



The MDA90 range of external AC-DC power adapters are compliant with the latest medical immunity IEC60601-1-2, energy efficiency Level VI standard, CoC tier 2 and ErP stage 2. The units offer 84-90 watts of output power with output voltages available between 12 and 48VDC. The range is reliable, cost competitive, and comes with an impressive FIDUS 5 year warranty.

Dimensions:

2.51 x 6.29 x 1.38" (64 x 160 x 35mm)

Models & Ratings

Model Number ⁽¹⁾	Output Power	Output voltage	Output Current
MDA9012-C8	84W	12V	7.00A
MDA9015-C8	90W	15V	6.00A
MDA9018-C8	90W	18V	5.00A
MDA9019-C8	90W	19V	4.74A
MDA9024-C8	90W	24V	3.75A
MDA9048-C8	90W	48V	1.88A

Notes

1. IEC inlets available change C8 for C6/C14 for Class I and C18 for Class II
2. Alternative output connectors available for production quantities. Contact sales for details
3. For UK/ US/ EU mains power cable please order UK-C14, US-C14 or EU-C14 separately

Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	90		264	VAC	No derating
Operating temperature	0		60	°C	100% power at 40°C, derating to 50% power at 60°C
Efficiency	88			%	
Dimensions	2.51 x 6.29 x 1.38" (64 x 160 x 35mm)				
EMC	EN55011 Level B Conducted and Radiated. EN61000-3 and EN61000-4, harmonics, flicker, Surge, EFT, ESD, conducted and radiated to IEC 60601-1-2 4th edition				

Safety Approvals

	Safety standard	Notes & Conditions
UL	ANSI/AAMI 60601-1, UL 60950-1: 2nd edition	
CB	IEC 60601-1, IEC 60950-1:2005 /A2:2013	PSE
TUV	EN 60601-1, EN 60950-1:2006 /A2:2013	
CE		2011/65/EU RoHS Directive and 2014/35/EU Low voltage directive
Equipment protection class		Class I and Class II options available

Input

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Input voltage	90		264	VAC	No derating
Input frequency	47		63	Hz	
Power factor					EN61000-3-2 class A compliant
Input current	0.5		1.2	A	
Inrush current			80	A	High line. Full load, 25°C cool start, Vin=230VAC
No load input power			0.21	W	230VAC

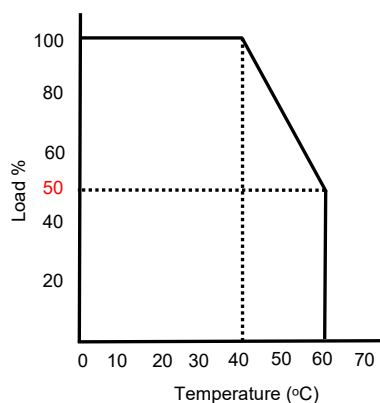
Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	12		48	VDC	
Total regulation		±5		%	
Minimum load	0			%	
Transient response		0.5		mS	50% load change
Ripple & Noise		1		%Pk-Pk	All models measured with 10uF and 0.1uf capacitor. 20 MHz bandwidth
Hold up time	10			ms	At full load
Overload protection			170	%	Automatic recovery
Short circuit protection					Automatic recovery
Over voltage protection			150	%	Latch off reset
Touch current			100	uA	

Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	0		60	°C	100% load at 40°C, derating to 50% load at 60°C
Storage temperature	-20		80	°C	
Cooling					Convection cooled
Operating Humidity	20		80	% RH	
Storage Humidity	10		90	% RH	
Operating altitude			3000	m	

Derating curve



MDA90 Series

General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	88			%	
Isolation	Input to Output: 4000			VAC	For 1 minute. 2 x MOPP
Insulation resistance		10		MOhm	500Vdc input to output and output to ground
Power density			4.13	W/in ³	
MTBF	300			KHrs	As per Telcordia SR-332
Weight		460		g	

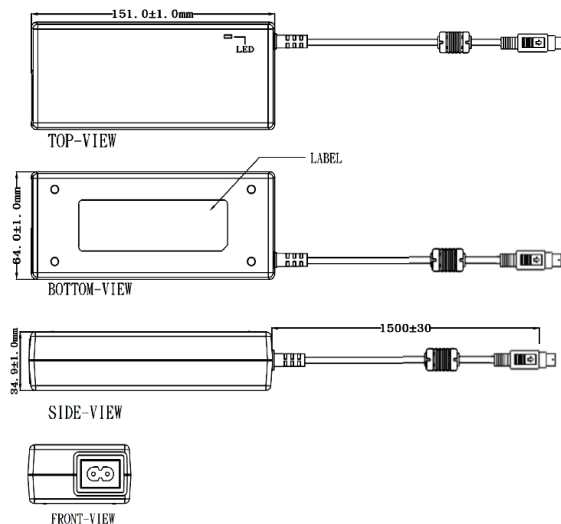
EMC: Emissions

	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	3	A, B	8kV contact, 15kV air
Radiated	EN61000-4-3	3	A	3-28V/m, 80MHz-2700MHz, 1KHz 80% AM Modulation
EFT	EN61000-4-4	3	A	2kV 100KHz
Surges	EN61000-4-5	Installation Class 3	A	2KV L/N to GND, 1KV L to N both at 0°,90°,180°,270°
Conducted	EN61000-4-6	3	A	3/6Vrms, 1KHz 80 AM Modulation 150KHz-80MHz
PFMF	EN61000-4-8	4	A	30A/m
Voltage Dips / Interruptions	EN61000-4-11	100% for 0.5 & 1 cycle, 30% for 25 cycles: 240VAC A,A,A, 100VAC A,A,A interrupt 250,300 cycles and 30% for 30 cycles: 240VAC B,B,B, 100VAC B,B,B		

Mechanical Details



For UK/ US/ EU mains power cable please order UK-C14, US-C14 or EU-C14 separately

Notes

- All dimensions in mm
- Output connector : Kycon 4 pole power adapter, mates with board mount KPJX, panel mount KPJX-PM and cable mount KPJX-CM
- Negative DC output is floating, For earth bonded negative DC output please contact sales
- Output cable for 12V-19V AWG16, 24V and 48V AWG18.
- C14 & C6 inlet versions are 150mm long