

## 20 Watts

- US DoE Energy efficiency level VI
- EU CoC Tier 2 requirements, ErP stage 2
- IEC60601-1-2 4th edition EMC
- US / EU / UK plugs
- Single outputs 5 to 48V
- 5 Year warranty



The MPA20 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 17.5-20 watts of output power with output voltages available between 5 and 48VDC. The range is reliable, cost competitive, and comes with an impressive FiDUS 5 year warranty.

**Dimensions:**

US: 1.34 x 2.83 x 2.72" (34 x 72 x 69mm)  
EU: 1.34 x 2.83 x 2.72" (34 x 72 x 90mm)  
UK: 1.97 x 2.83 x 3.19" (50 x 72 x 81mm)

### Models & Ratings

Model Number <sup>(1)</sup>	Output Power	Output voltage	Output Current
MPA2005-UK	17.50W	5V	3.50A
MPA2009-UK	20.00W	9V	2.22A
MPA2012-UK	20.00W	12V	1.67A
MPA2015-UK	20.00W	15V	1.33A
MPA2018-UK	20.00W	18V	1.11A
MPA2024-UK	20.00W	24V	0.83A
MPA2048-UK	20.00W	48V	0.42A

### Notes

1. 5.9V version available on request. For US plug –US, for EU plug –EU
2. Alternative output connectors available for production quantities. Contact sales for details
3. <10uA touch current versions available

### Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	90		264	VAC	No derating
Operating temperature	0		70	°C	100% power at 40°C, derating to 50% power at 70°C
Efficiency	83		86	%	
Dimensions	US: 1.34 x 2.83 x 2.72" (34 x 72 x 69mm), EU: 1.34 x 2.83 x 2.72" (34 x 72 x 90mm), UK: 1.97 x 2.83 x 3.19" (50 x 72 x 81mm)				
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 ES60601-1:2005/(R)2012, CAN/CSA-C22.2 NO. 60601-1:14	
CB	IEC60601-1 2005 +A1 2012	PSE
TUV	EN 60601-1 2006 +A12 2014	
CE		2011/65/EU RoHS Directive and 2014/35/EU Low voltage directive
Equipment protection class		Class II

## 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	0.27		0.45	A	0.27A at 230VAC and 0.45A at 100VAC
Inrush current			120	A	Full load, 25°C cool start
No load input power			0.1	W	230VAC

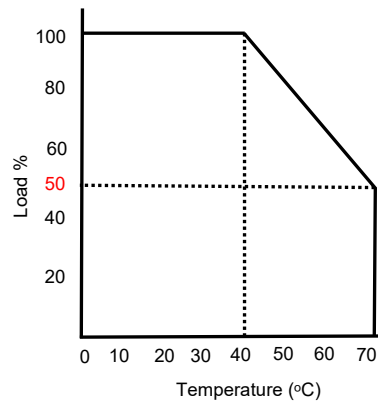
## Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	5		48	VDC	5.9V units also available on request
Total regulation		±5		%	
Minimum load	0			%	
Transient response		0.5		mS	50% load change
Ripple & Noise		2		%Pk-Pk	All models measured with 10uF and 0.1uf capacitor. 20 MHz bandwidth
Hold up time	10			ms	At full load
Overload protection		300		%	Automatic recovery
Short circuit protection					Automatic recovery
Over voltage protection		180		%	Latch off reset
Touch current			100	uA	10uA versions available

## Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	0		70	°C	100% load at 40°C, derating to 50% load at 70°C
Storage temperature	-20		80	°C	
Cooling					Convection cooled
Operating Humidity	20		80	% RH	
Storage Humidity	10		90	% RH	

Derating curve



## General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	83		86	%	
Isolation	Input to Output: 4000			VAC	For 1 minute
Insulation resistance		10		MOhm	500Vdc input to output and output to ground
Power density			1.84	W/in <sup>3</sup>	
MTBF	300			KHrs	As per Telcordia SR-332
Weight		135		g	

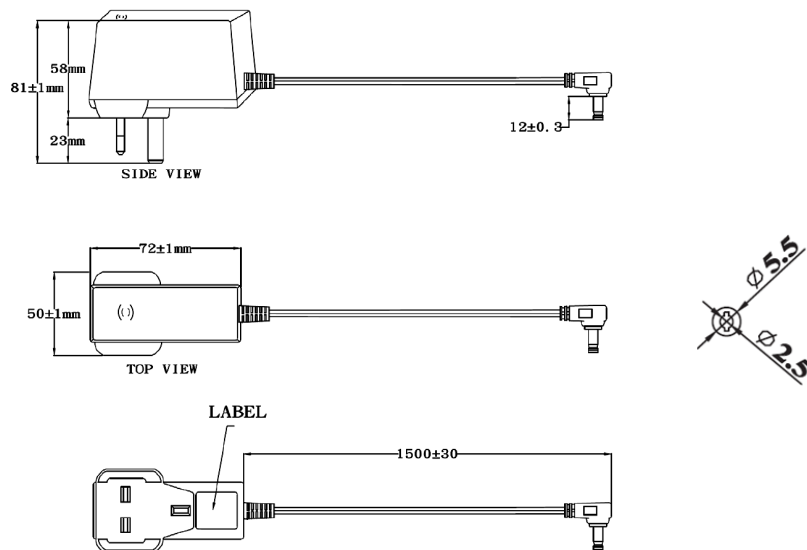
## EMC: Emissions

	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	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	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,B interrupt 250,300 cycles and 30% for 30 cycles: 240VAC B,B,A, 100VAC B,B,B		

## Mechanical Details



## Notes

1. All dimensions in mm
2. Output connector : Tuning fork style 5.5 / 2.5mm
3. 5V to 9V units AWG18, others use AWG22