

# MPA12 Series

## 12 Watts

- US DoE Energy efficiency level VI
- EU CoC Tier 2 requirements, ErP stage 2
- IEC60601-1-2 4th edition EMC
- US / EU / UK / AU plugs
- Single outputs 3.3 to 24V
- 5 Year warranty



The MPA12 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 6.6-15 watts of output power with output voltages available between 3.3 and 24VDC fitted with US, EU, UK or AU inlet adapter. The range is reliable, cost competitive, and comes with an impressive FiDUS 5 year warranty.

**Dimensions:**

US: 1.81 x 3.16 x 2.27" (46 x 80.2 x 57.7mm)  
 EU: 1.81 x 3.16 x 2.7" (46 x 80.2 x 68.7mm)  
 UK: 1.95 x 3.16 x 2.47" (49.6 x 80.2 x 62.7mm)  
 AU: 2.2 x 3.16 x 1.59" (56 x 80.2 x 40.5mm)

### Models & Ratings

Model Number <sup>(1)</sup>	Output Power	Output voltage	Output Current
MPA1203-UK	6.60W	3.3V	2.00A
MPA1205-UK	10.00W	5V	2.00A
MPA1205U-UK <sup>(4)</sup>	10.00W	5V	2.00A
MPA12051-UK <sup>(5)</sup>	15.00W	5V	3.00A
MPA1209-UK	10.80W	9V	1.20A
MPA1212-UK	12.00W	12V	1.00A
MPA1215-UK	12.00W	15V	0.80A
MPA1218-UK	12.06W	18V	0.67A
MPA1224-UK	12.00W	24V	0.50A

**Notes**

1. For US plug –US, for EU plug –EU, for AU plug –AU for all –ALL
2. Alternative output connectors available for production quantities. Contact sales for details
3. <10uA touch current versions available
4. MPA1205U-UK is USB plug variant
5. MPA12051-UK is high power 15W variant

### 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	79		83	%	
Dimensions	US: 1.81 x 3.16 x 2.27" (46 x 80.2 x 57.7mm), EU: 1.81 x 3.16 x 2.7" (46 x 80.2 x 68.7mm), UK: 1.95 x 3.16 x 2.47" (49.6 x 80.2 x 62.7mm), AU: 2.2 x 3.16 x 1.59" (56 x 80.2 x 40.5mm)				
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, UL60590-1	
CB	IEC60601-1 2005 +A1 2012, IEC60950-1,	PSE, BSMI, RCM
TUV	EN 60601-1 2006 +A12 2014, EN60950-1, EN62368-1	
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

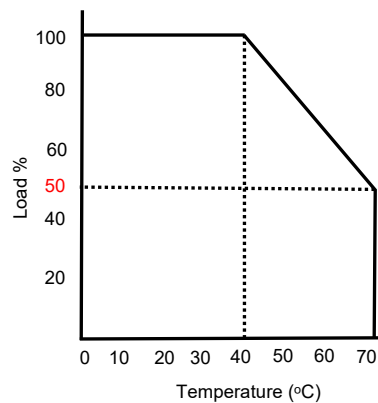
## Output

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	79		83	%	
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			0.92	W/in <sup>3</sup>	
MTBF	300			KHrs	As per Telcordia SR-332
Weight		140		g	

## EMC: Emissions

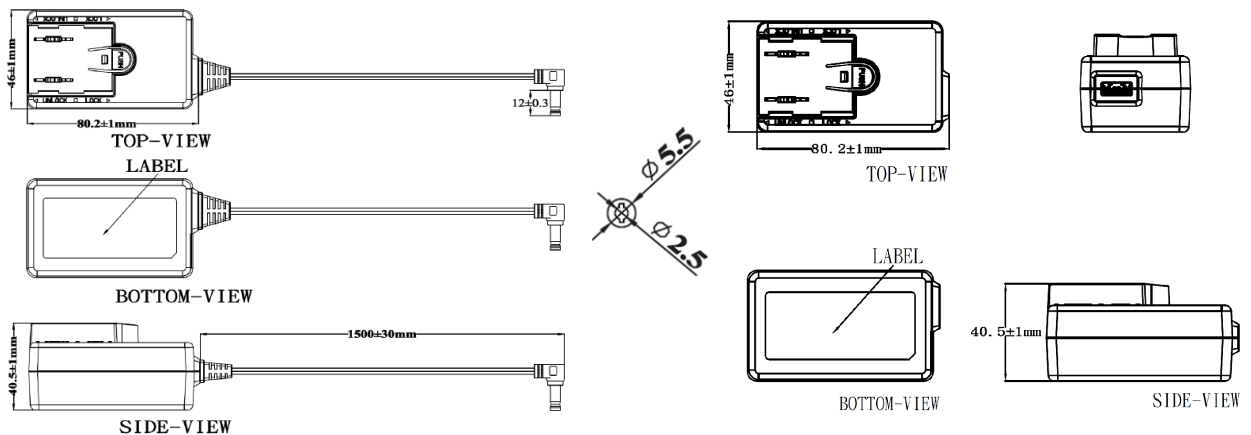
	Standard	Test level	Criteria	Notes & Conditions
Conducted	EN55011	B		
Radiated	EN55011	B		
Harmonic current	EN61000-3-2	Class A		
Voltage flicker	EN61000-3-3			

## 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

MPA1205U –USB plug variant



## Notes

- All dimensions in mm
- Output connector : Tuning fork style 5.5 / 2.5mm
- '03 models-AWG18, '05 models AWG20, '51 models AWG18, '09 models AWG22, all other models AWG24