

## 24W EXTERNAL WALL PLUG

AC-DC POWER SUPPLIES

The AMF24 series of wall plug adaptors comply with medical and home-healthcare approvals along with the latest energy efficiency level VI standards with high active mode efficiency and extremely low no load power consumption.

Available with a range of interchangeable AC connectors these adaptors suit a wide variety of cost sensitive industrial and medical applications while maintaining industry leading performance.



### Features

- IP22 ingress protection
- IEC/EN60601-1-11 for home healthcare applications
- Energy efficiency level VI & EU2019/1782
- Medical and home healthcare approvals
- Interchangeable mains connectors
- Input voltage range 80 to 264VAC
- Output voltages from 9V to 48VDC
- Optional white versions
- Class II construction
- 3 Years warranty

### Applications



Healthcare



Home Healthcare



Medical Diagnostic

### Dimensions

3.56" x 1.32" x 2.3" (90.5 x 33.5 x 58.5mm)

### Models & Ratings

Model Number <sup>(1,2,5)</sup>	Output Power	Output Voltage	Output Current	Total Regulation <sup>(3)</sup>	Efficiency <sup>(4)</sup>
AMF24US09	24W	9.0V	2330mA	5%	86.4%
AMF24US12		12.0V	2000mA		87.9%
AMF24US15		15.0V	1600mA		87.3%
AMF24US18		18.0V	1330mA		88.6%
AMF24US24		24.0V	1000mA		88.8%
AMF24US48		48.0V	500mA		88.3%

#### Notes:

1. Model number is for body only. AC input plugs must be ordered separately, see AC input plug section.
2. Other output voltages available, contact sales for details.
3. Total regulation includes initial set accuracy, line and load regulation.
4. Typical average value measured at 25%, 50%, 75% and 100% at 230VAC.
5. For white case version add suffix '-W' e.g. AMF24US12-W. MOQ applies, contact sales for details.

## Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage	80		264	VAC	
Input Frequency	47		63	Hz	
Input Current			0.6	A	Measured at 80VAC
Inrush Current			70	A	240VAC, cold start at 25°C
Power Factor	EN61000-3-2, class A				
No Load Input Power			75	mW	
Input Protection	Internal fuse in line				

## Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	9		48	V	See Models and Ratings table
Minimum Load	0			A	No minimum load required
Start Up Delay			4	s	
Start Up Rise Time	10		40	ms	
Hold Up Time	10			ms	Full load and 100VAC
Total Regulation			5	%	See Models and Ratings table
Transient Response			4	% deviation	Recovery within <1% within 500µs for a 60% step load change at 0.15A/µs
Ripple & Noise			200	mV pk-pk	Measured with 20MHz bandwidth and 10µF electrolytic in parallel with 0.1µF ceramic capacitor
Over Voltage Protection	110		200	%	Auto recovery
Over Load Protection	115		180	%	
Leakage Current			50	µA	At 264VAC, 60Hz, from output to ground
Temperature Coefficient			0.05	%/°C	

## General

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		88		%	Typical average of efficiencies measured at 25%, 50%, 75% and 100% load and 230VAC input
Energy Efficiency					Level VI
Isolation	4000			VAC	Input to Output, 2 x MOPP Suitable for BF applications
Switching Frequency	24		80	kHz	Variable
Mean Time Between Failure	200			khrs	MIL-HDBK-217F at 25°C GB
Weight		0.37 (170)		lb (g)	Body only

## Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	0		+60	°C	Derate from 100% load at 45°C to 50% load at 60°C. Agency approval to 45°C max.
Storage Temperature	-20		+85	°C	
Operating Humidity			90	%RH	Non-condensing
Operating Altitude			5000	m	
Vibration	10		300	Hz	2g, 0.3 decades/min, 15 mins for each of 3 axes
Cooling	Natural convection				
Shock	1m drop onto concrete on each of 6 axes, non operating				

## EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Emissions	EN55011	Level B	Conducted and radiated
Harmonic Current	EN61000-3-2	Class A	
Voltage Flicker	EN61000-3-3		

## EMC: Immunity

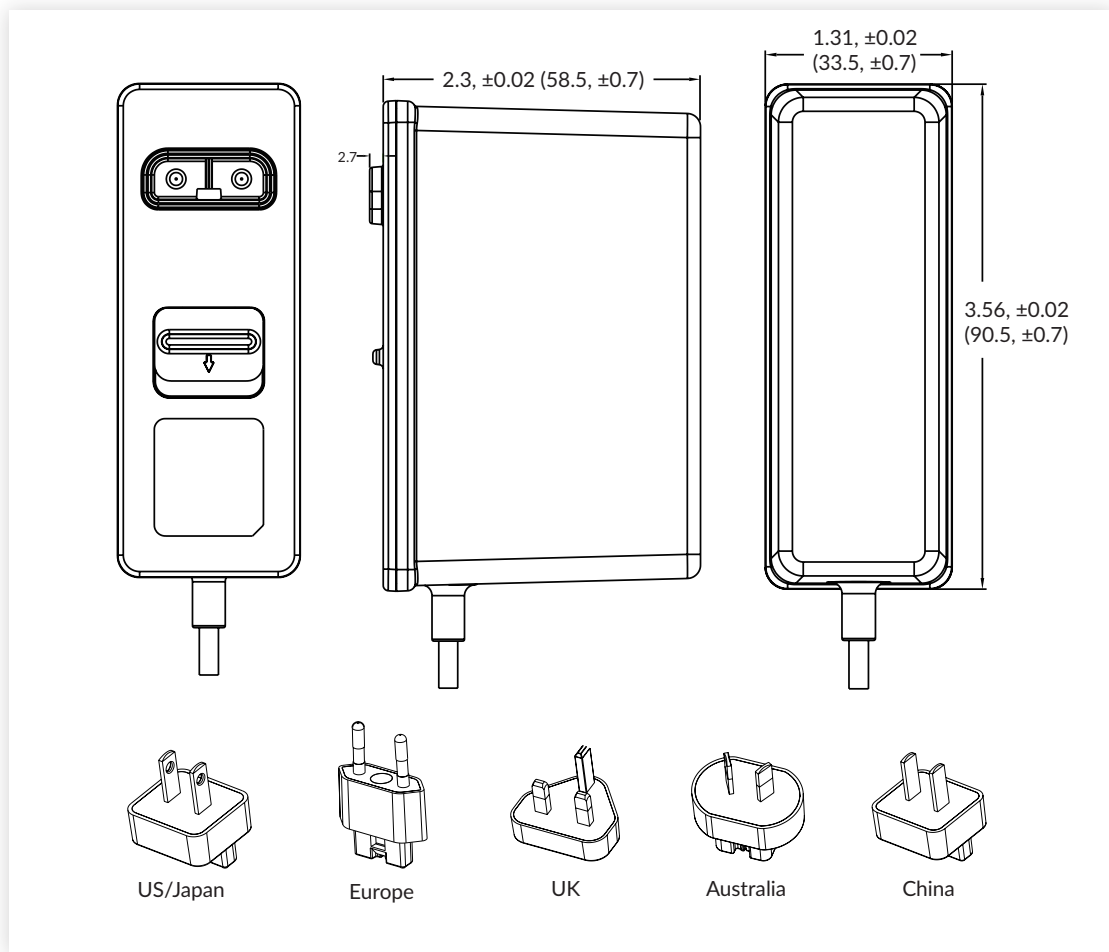
Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
Medical Device EMC	IEC60601-1-2	Ed.4.0 : 2014	as below	
ESD Immunity	EN61000-4-2	±8kV contact, ±15 V air	A	
Radiated Immunity	EN61000-4-3	10 V/m	A	80 to 2700mHz, IEC60601-1-2 Ed. 4.0 at other frequencies
EFT/Burst	EN61000-4-4	Level 3	A	
Surge	EN61000-4-5	Level 3	A	
Conducted Immunity	EN61000-4-6	6V	A	
Magnetic Fields	EN61000-4-8	30A/m	A	
Dips and Interruptions	EN60601-1-2	Dip: 30% 25 AC Cycles	A/B	High Line/Low Line
		Int: 100% 0.5 AC Cycle	A	At 8 angles
		Int: 100% 1 AC Cycle	B	
		Int.: >95% 5000ms	B	

## Safety Approvals

Certification	Safety Standard	Notes & Conditions
UL	ANSI/AAMI ES60601-1	Medical, 2 x MOPP
EN	EN62368-1	Information Technology
	EN60601-1, EN60601-1-11	Medical, 2 x MOPP
CB	IEC60601-1, IEC60601-1-11	Medical, 2 x MOPP
CSA	CSA C22.2 No. 60601	Medical, 2 x MOPP
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

## Mechanical Details

### AMF24USXX



### Notes:

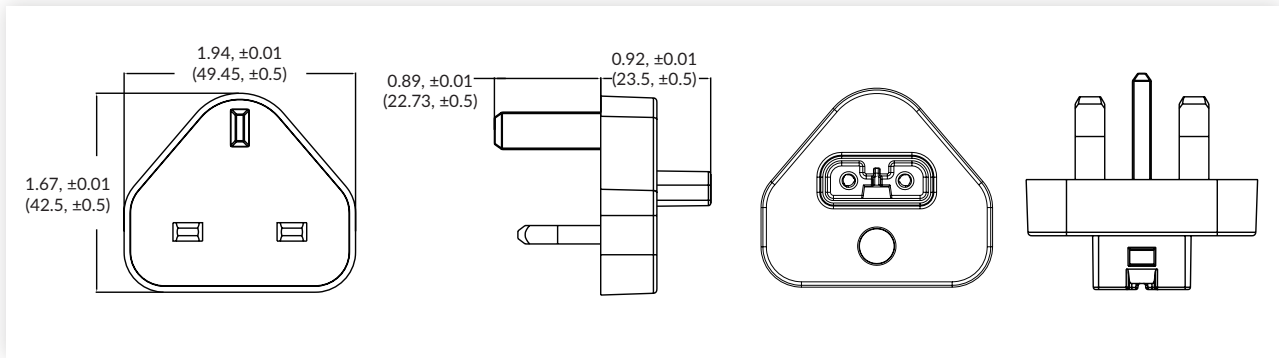
- All dimensions shown in inches (mm). Tolerance:  $\pm 0.02$  ( $\pm 0.7$ )
- Weight: 0.37lb (170g)
- Output plug: barrel jack connector,  $\phi 5.5 \times \phi 2.5 \times 11.0$ mm, centre positive
- Output lead: UL2468, 18AWG

## Mechanical Details

### AC Input Plugs

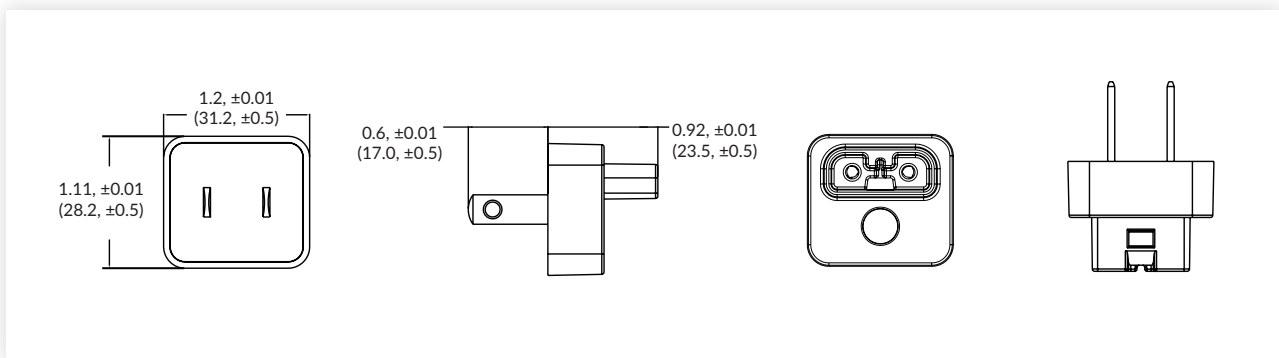
Black UK Plug: AMF PLUG UK

White UK Plug: AMF PLUG UK W



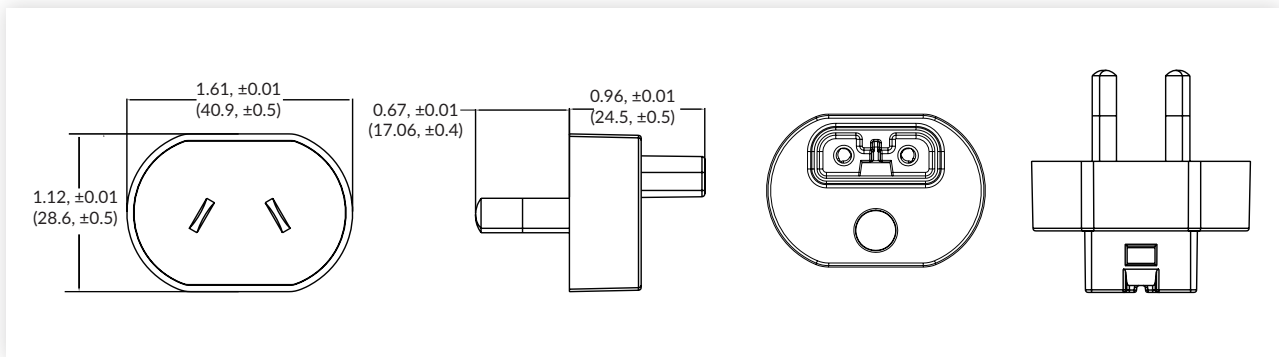
Black USA Plug: AMF PLUG US

White USA Plug: AMF PLUG US W



Black Australian Plug: AMF PLUG AU

White Australian Plug: AMF PLUG AU W

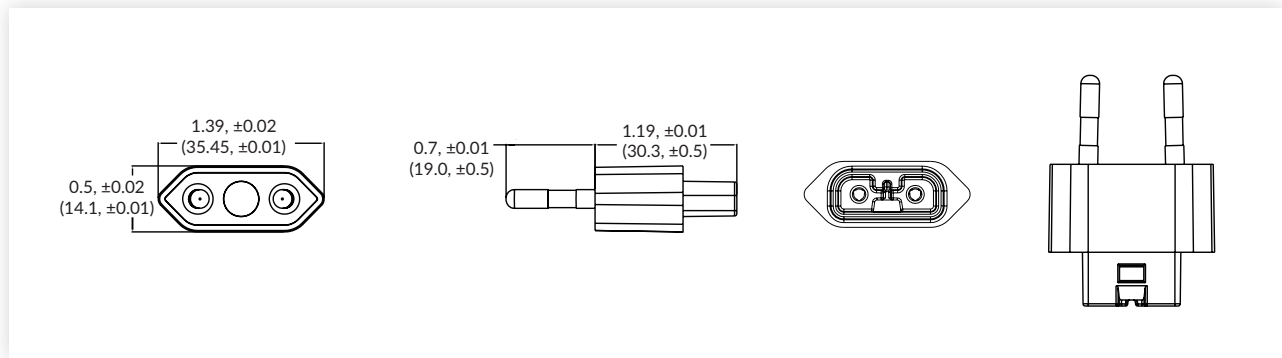


## Mechanical Details

### AC Input Plugs

Black European Plug: AMF PLUG EU

White European Plug: AMF PLUG EU W



Black China Plug: AMF PLUG CN

White China Plug: AMF PLUG CN W

