

**60W** External wall plug

AC-DC power supplies

The AMF60 series of 60W external wall mount adapters deliver outputs ranging from 12V to 24V and adhere to global medical, home healthcare, and ITE safety standards. Additionally, they conform to the latest energy efficiency level VI (level VII ready) standards, featuring high active mode efficiency and extremely low no-load power consumption, improving reliability.

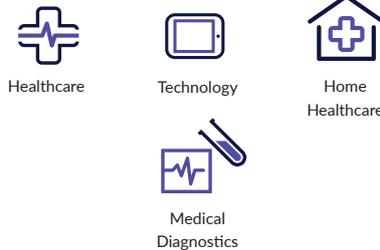
The AMF60 also offers interchangeable US, UK, EU and CN mains connectors for global compatibility. Their Class II construction, gasketed design and reinforced isolation enhance safety in medical devices and home healthcare equipment. Low patient leakage currents, 2 x MOPP isolation, compact design, wide 80-264VAC input for universal use and high efficiency makes the AMF60 ideal for a wide range of industrial technology and BF-rated medical applications.



## Features

- ▶ Output voltages from 12V to 24VDC
- ▶ Universal, single phase input: 80 to 264VAC
- ▶ Energy efficiency level VI (level VII ready) and EU2019/1782
- ▶ Medical, home healthcare & ITE safety approvals
- ▶ IP42 ingress protection
- ▶ Low patient leakage current
- ▶ <0.15W standby power
- ▶ Class B conducted & radiated emissions
- ▶ 0 to +60°C operation
- ▶ 3 year warranty

## Applications



## Dimensions

90.5 x 58.5 x 33.5mm (3.56" x 2.30" x 1.32")

## Documentation

For further information click the link or scan the code

→ [xppower.com](http://xppower.com)



## Models & ratings

Model number <sup>(1,2)</sup>	Output voltage	Output current	Output voltage accuracy	Efficiency <sup>(3)</sup>
AMF60US12	12.0VDC	5.0A	5%	89%
AMF60US15	15.0VDC	4.0A		89%
AMF60US19	19.0VDC	3.15A		89%
AMF60US24	24.0VDC	2.5A		89%

### Notes:

1. Model number is for body only. Individual AC plugs should be ordered separately, see page 5 for order codes. To order body and 4 x AC plugs use order code AMF60USxx-P.

2. Other output voltages available, contact sales for details.

3. Typical average value measured at 25%, 50%, 75% and 100% at 230VAC.



## Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage	80		264	VAC	Derate from 100% load at 90VAC to 90% load at 80VAC
Input frequency	47		63	Hz	
Input current			1.7	A	Measured at 100VAC
Inrush current			100	A	240VAC cold start, +25°C
Power Factor	EN61000-3-2, class A				
No load input power			0.15	W	
Input protection	Internal fuse in line				

## Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	12		24	VDC	See models and ratings table
Minimum load	No minimum load required				
Start up delay			3	s	
Start up rise time			60	ms	
Hold up time	10			ms	Full load and 115/230VAC
Output voltage accuracy			5	%	
Line regulation			±1.0	%	90-264VAC, full load
Load regulation			±5.0	%	0-100% load
Transient response			4	%	Recovery within <1% within 500µs for a 50% step load change at 0.1A/µs
Ripple and noise			200	mV pk-pk	Measured with 20MHz bandwidth and 10µF electrolytic in parallel with 0.1µF ceramic capacitor at +25°C
Overvoltage protection	105		175	%	Auto recovery
Over load protection	105		160	%	
Patient leakage current			90	µA	At 264VAC, 60Hz, from output to ground
Temperature coefficient			0.05	%/°C	

## General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency		89		%	Typical average of efficiencies measured at 25%, 50%, 75% and 100% load and 230VAC input
Energy efficiency	Level VI (level VII ready)				
Isolation	4000			VAC	Input to Output, 2 x MOPP, suitable for BF applications
Switching frequency	24		70	kHz	Variable
Mean time between failure	200			khrs	MIL-HDBK-217F at +25°C GB
Weight		220 (0.485)		g (lb)	

## Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	0		+60	°C	Derate from 100% load at +40°C to 50% load at +60°C, agency approval to +40°C max.
Storage temperature	-20		+85	°C	
Operating humidity			90	%RH	Non-condensing
Operating altitude			5000	m	
Vibration	10		300	Hz	3g, 0.3 decades/min, 30 mins for each 3 axes
Cooling	Natural convection				
Shock	1m drop onto concrete on each of 3 sides, non operating				

## EMC: Emissions

Phenomenon	Standard	Test level	Notes & conditions
Emissions	EN55032 / EN55011	Class B	Conducted and radiated
Harmonic currents	EN61000-3-2	Class A	
Voltage flicker	EN61000-3-3		

## EMC: Immunity

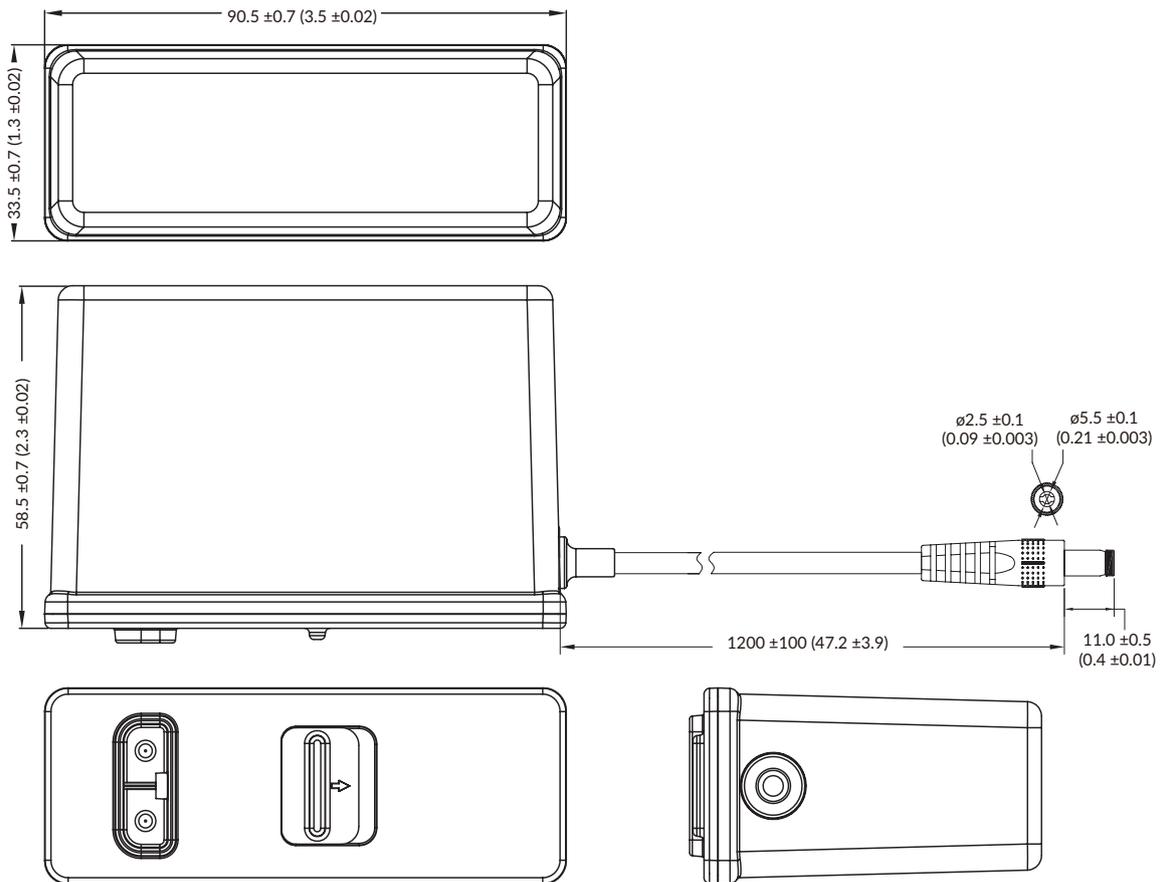
Phenomenon	Standard	Test level	Criteria	Notes & conditions
Medical device EMC	IEC60601-1-2	Ed. 4.1 : 2014	as below	
Low voltage PSU EMC	EN55035		as below	
ESD immunity	EN61000-4-2	±8kV contact, ±15kV air	A	
Radiated immunity	EN61000-4-3	10V/m	A	80 to 2700mHz, IEC60601-1-2 Ed. 4.1 at other frequencies
EFT/burst	EN61000-4-4	±2kV	A	
Surge	EN61000-4-5	±1kV	A	Line to line
Conducted	EN61000-4-6	6V	A	
Dips and interruptions	EN60601-1-2	Dip: 30% 25 AC Cycles	A/B	High line/low Line
		Dip: 100% 0.5 AC Cycle	A	At 8 angles
		Dip: 100% 1 AC Cycle	B	
	EN55035	Int: >95% 5000ms	B	
		Dip: 30% 25 AC Cycles	A/B	High line/low line
		Dip: 100% 0.5 AC Cycle	A	At 8 angles
		Int: >95% 5000ms	B	



## Safety approvals

Safety agency	Standard	Notes & conditions
UL	UL62368-1	Information Technology
	ANSI/AAMI ES60601-1	Medical, 2 x MOPP
EN	EN62368-1	Information Technology
	EN60601-1, EN60601-1-11	Medical, 2 x MOPP, Home healthcare
CB	IEC62368-1	Information Technology
	IEC60601-1, IEC60601-1-11	Medical, 2 x MOPP, Home healthcare
CCC	China Compulsory Certification, GB4943, GB17625.1, GB4943.1, GB/T9254	Information Technology
CSA	CAN/CSA C22.2 No. 62368-1-14	Information Technology
	CSA C22.2 No. 60601	Medical, 2 x MOPP
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

## Mechanical details



### Notes:

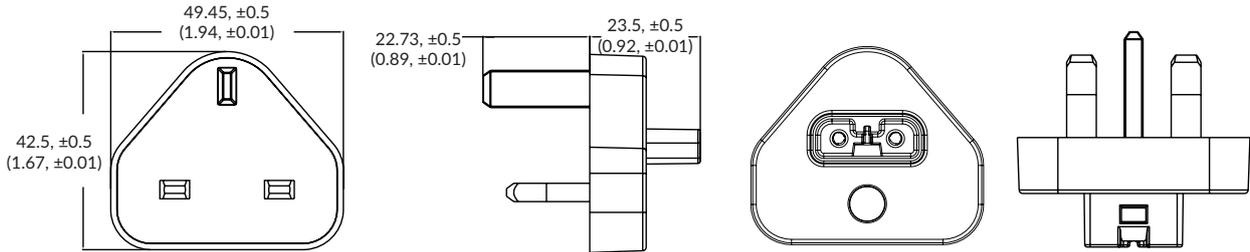
1. All dimensions shown in mm (inches).
2. Weight: 220g (0.485lb) approx.
3. Output plug barrel jack connector,  $\phi 5.5 \times \phi 2.5 \times 11.0$ mm, centre positive.
4. Output lead: UL1185, 16AWG, 1200mm.



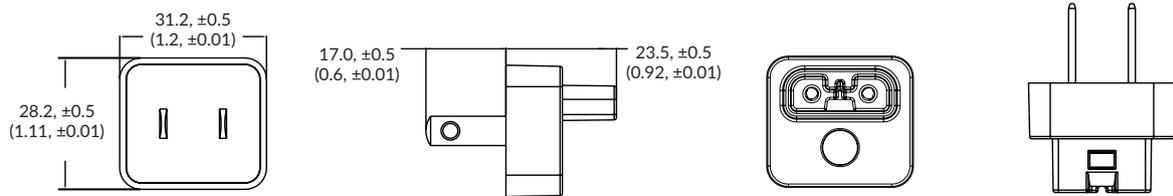
## Mechanical details

### AC Input Plugs

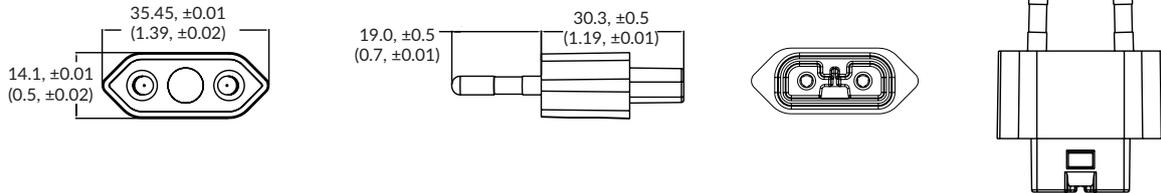
AC plug for UK, to order use part number AMF PLUG UK



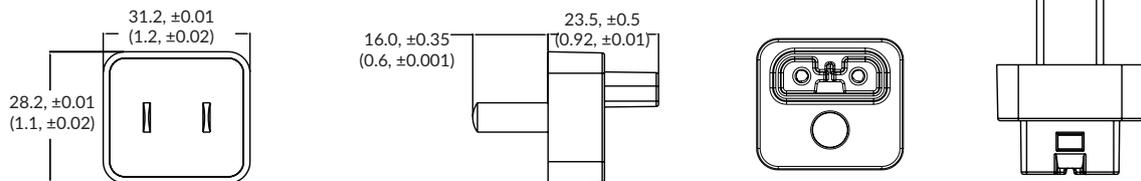
AC plug for US, to order use part number AMF PLUG US



AC plug for EU, to order use part number AMF PLUG EU



AC plug for CN, to order use part number AMF PLUG CN



#### Notes:

1. All dimensions shown in mm (inches).