AKM45 series

XP Power

45W External desktop

AC-DC power supplies

The AKM45 series of desktop adaptors comply with medical, home-healthcare and IT 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 standard jack plug connector these adaptors suit a wide variety of cost sensitive industrial and medical applications while maintaining industry leading performance. The standard class I version has an IEC320-C14 inlet, the class II version with suffix C2 has a polarized IEC320-C8 inlet.

Features

- Regulated single outputs 9 to 48VDC
- Energy efficiency level VI
- European CoC Tier 2
- Medical (2 x MOPP) & ITE approvals
- 4th edition medical EMC
- Class I as standard, Class II optional
- Class B conducted & radiated emissions
- Input voltage range 90 to 264VAC
- 0°C to +60°C operating temperature
- 3 year warranty

Applications

Healthcare

Industrial electronics

Medical diagnostic

Technology

Dimensions

122.4 x 51.4 x 31.5mm (4.82" x 2.02" x 1.24")

Documentation

For further information click the link or scan the code

→ xppower.com

Models & ratings

Model number[3,4]	Output power	Output voltage	Output current	Total regulation[1]	Efficiency[2]
AKM45US09	40.5W	9.0V	4.50A	5%	89.8%
AKM45US12	48W	12.0V	4.00A		90.5%
AKM45US15		15.0V	3.20A		90.5%
AKM45US18		18.0V	2.66A		90.6%
AKM45US24		24.0V	2.00A		90.2%
AKM45US48		48.0V	1.00A		91.2%

Notes:

1. Total regulation includes initial set accuracy, line and load regulation.
2. Typical average value measured at 25%, 50%, 75% and 100% at 230VAC.
3. For white case version add suffix '-W' e.g. AKM45US12-W. MOQ applies, contact sales for details.
4. Model number shown in the table is for Class I version. For Class II version add suffix C2, e.g. AKM45US24C2.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage	80		264	VAC	
Input frequency	47		63	Hz	
Input current			1.3	A	90VAC
Inrush current			100	A	230VAC cold start +25°C
Power factor					EN61000-3-2 Class A
No load input power			75	mW	
Input protection	Internal fuse in both line and neutral				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	9		48	VDC	See models and ratings table
Minimum load	No minimum load required				
Start up delay			4	s	
Start up rise time		30	55	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
Overload protection	130		160	%	
Short circuit protection	Continuous, trip and restart (hiccup mode) with auto recovery				
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 115 VAC input
Energy efficiency	Level VI				
Isolation: Input to output	4000			VAC	Input to output, 2 x MOPP
Input to ground	1500				Class I version only
Output to ground	1500				Class I version only
Leakage current			100	µA	264VAC, 60Hz
Switching frequency	24		70	kHz	Variable
Mean time between failure	250			khrs	MIL-HDBK-217F, at +25°C GB.
Weight		340 (0.75)		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	-25		+70	°C	
Ingress protection	IP22				
Cooling	Natural convection				
Operating humidity	5		90	%	RH, non-condensing
Operating altitude			5000	m	
Shock	1m drop onto concrete on each of 6 axes, non operating				
Vibration	2g, 0.3 decades/min, 15 mins for each of 3 axes				

EMC: emissions

Phenomenon	Standard	Test level	Notes & conditions
Conducted	EN55032	Level B	
Radiated	EN55032	Level B	
Voltage flicker	EN61000-3-3		

EMC: immunity

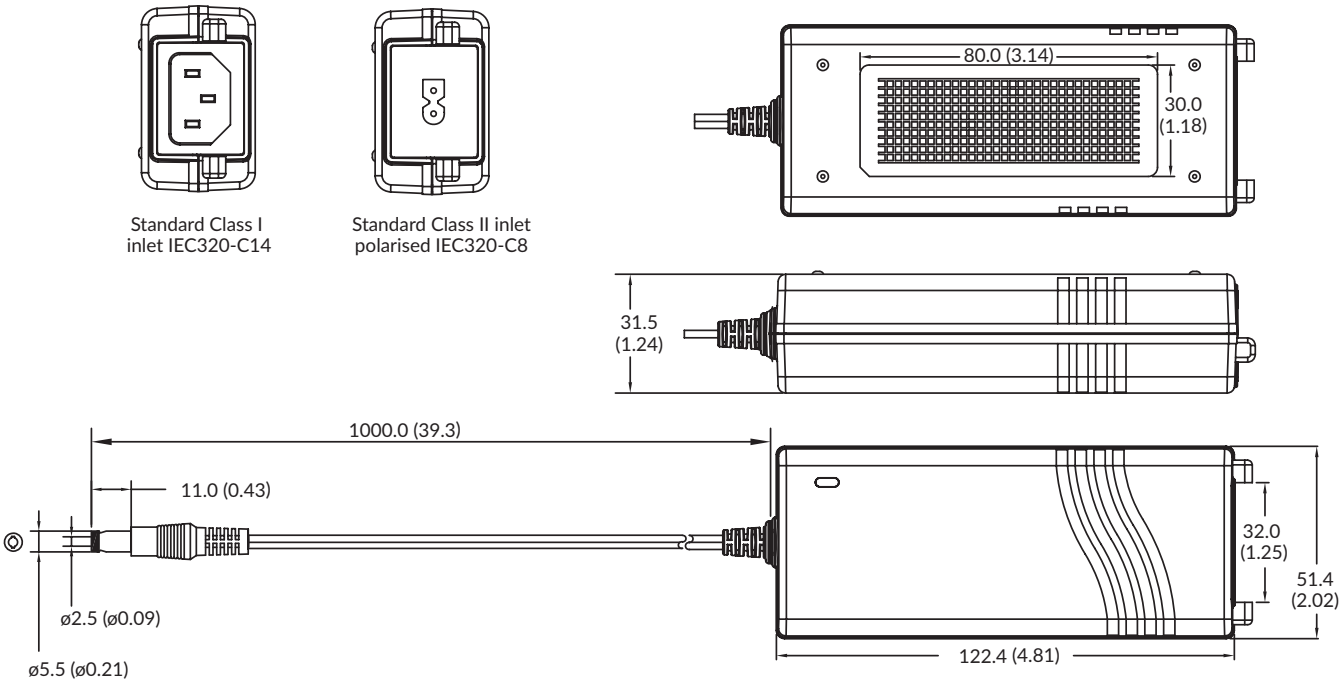
Phenomenon	Standard	Test level	Criteria	Notes & conditions
Medical device EMC	IEC60601-1-2	Ed.4.0 : 2014	as below	
Low voltage PSU EMC	EN61204-3	High severity level	as below	
ESD immunity	EN61000-4-2	±8kV contact, ±15kV air	A	
Radiated immunity	EN61000-4-3	10V/m	A	
EFT/burst	EN61000-4-4	Level 3	A	
Surge	EN61000-4-5	Installation Class 3	A	
Conducted immunity	EN61000-4-6	6V	A	
Magnetic fields	EN61000-4-8	30A/m	A	
Dips and interruptions	EN61000-4-11	Dip: 100% 10ms	A	
		Dip: 70% 500ms	B	High Line/Line
		Int: 100% 5000ms	B	
	EN60601-1-2	Dip: 30% 25AC cycles	A	
		Int: 100% 0.5 AC cycle	A	At 8 angles
		Int: 100% 1 AC cycle	B	
		Int.: >95% 5000ms	B	

Safety approvals

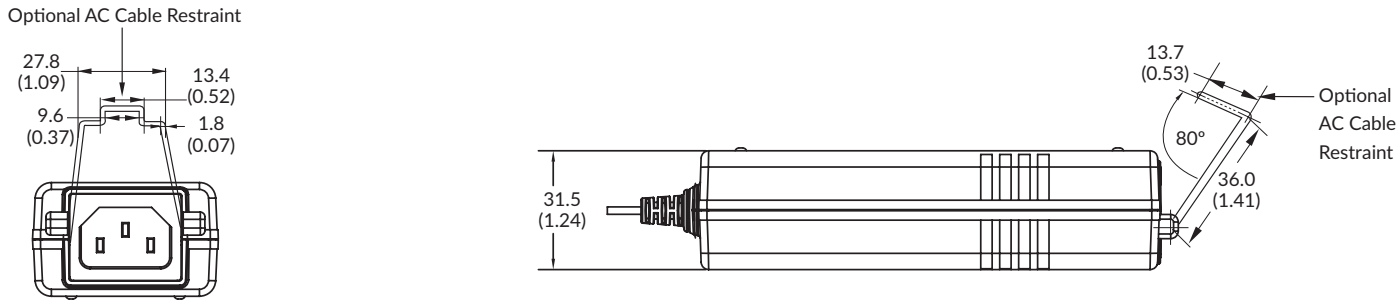
Certification	Safety standard	Notes & conditions
UL	UL 62368-1 & CAN/CSA C22.2 No. 62368-1-14	Information Technology
	ANSI/AAMI ES 60601-1	Medical, 2 x MOPP
EN	EN62368-1	Information Technology
	EN60601-1 (Class I & II versions), EN60601-1-11 (Class II version)	Medical, 2 x MOPP, Home healthcare
CB	IEC60950-1:2005 Ed 2 / IEC62368-1	Information Technology
	IEC60601-1 (Class I & II versions), IEC60601-1-11 (Class II version)	Medical, 2 x MOPP, Home healthcare
CCC	China Compulsory Certification, GB4943, GB17625.1, GB4943.1, GB/T9254	Information Technology
CSA	CSA C22.2 No. 60601	Medical, 2 x MOPP
AU/NZ	AU/NZ 60950.1	Information Technology
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Mechanical details

AKM45USXX



AKM45USXX with optional AC cable restraint



Notes:

1. All dimensions shown in mm (inches).
2. Weight: 340g (0.75lbs) approx.
3. For optional AC cable restraint, order additional part AFM45-65 AC Clip.
4. For correct restraint, AC mains lead must be Interpower Corporation, part number 70006020300.
5. AC cable restraint is not suitable for use on Class II version.
6. Output plug: ø5.5 x ø2.5 x 11.0mm, centre positive.
7. The standard IEC320-C7 cable fits the polarised IEC320-C8 (C8P) connector.