

90 Watt

- Energy Efficiency Level VI
- European CoC Tier 2 & EU2019/1782
- Medical and ITE Approvals
- Optional Class II Versions
- Optional White Versions
- Output Voltages from 12 V to 48 V
- Optional AC Cable Restraint
- 3 Years Warranty


Dimensions:
AKM90:

5.96 x 2.36 x 1.46" (151.5 x 60.0 x 37.0 mm)

The AKM90 series of desktop adaptors comply 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.

Models & Ratings

Output Power	Output Voltage	Output Current	Total Regulation ⁽¹⁾	Efficiency ⁽²⁾	Model Number ^(3,4)
84W	12.0 V	7.00 A	5%	90.1%	AKM90PS12
85W	15.0 V	5.67 A	5%	90.9%	AKM90PS15
90W	19.0 V	4.76 A	5%	90.7%	AKM90PS19
	24.0 V	3.75 A	5%	90.5%	AKM90PS24
	48.0 V	1.88 A	5%	89.6%	AKM90PS48

Notes

1. Total regulation includes initial set accuracy, line and load regulation.
2. Typical average value measured at 25%, 50%, 75% and 100% at 230 VAC.
3. For white case version add suffix '-W' e.g. AKM90PS12-W. MOQ applies, contact sales for details.

4. For optional Class II version add suffix C2, e.g. AKM90PS24C2.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage	90		264	VAC	
Input Frequency	47		63	Hz	
Input Current			2.0	A	90 VAC
Inrush Current			100	A	230 VAC, cold start at 25 °C
No Load Input Power			150	mW	
Input Protection	Internal fuse in both line and neutral				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	12		48	V	See Models and Ratings table
Minimum Load	0			A	No minimum load required
Start Up Delay			4	s	
Start Up Rise Time			120	ms	
Hold Up Time	10			ms	Full load and 100 VAC
Total Regulation			5	%	See Models and Ratings table
Transient Response			4	% deviation	Recovery within <1% within 500 µs for a 60% step load change at 0.15 A/µs
Ripple & Noise			150 / 240	mV pk-pk	12V / Others. Measured with 20 MHz bandwidth and 10 µF electrolytic in parallel with 0.1 µF ceramic capacitor
Overload Protection	125		170	%	
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, EU2019/1782, CoC T2
Isolation	4000			VAC	Input to Output, 2 x MOPP
Leakage Current			100	μA	264 VAC, 60 Hz
Switching Frequency	24		85	kHz	Variable
Mean Time Between Failure	250			kHrs	MIL-HDBK-217F at 25 °C GB
Weight		0.93 (420)		lb (g)	

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
Storage Temperature	-40		+80	°C	
Operating Humidity	5		90	%	RH, non-condensing
Operating Altitude			5000	m	
Cooling					Natural convection
Shock					1 m drop onto concrete on each of 6 axes, non operating
Vibration	10		300	Hz	2 g, 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	
Harmonic Current	EN61000-3-2	Class A	
Voltage Flicker	EN61000-3-3		

EMC: Immunity

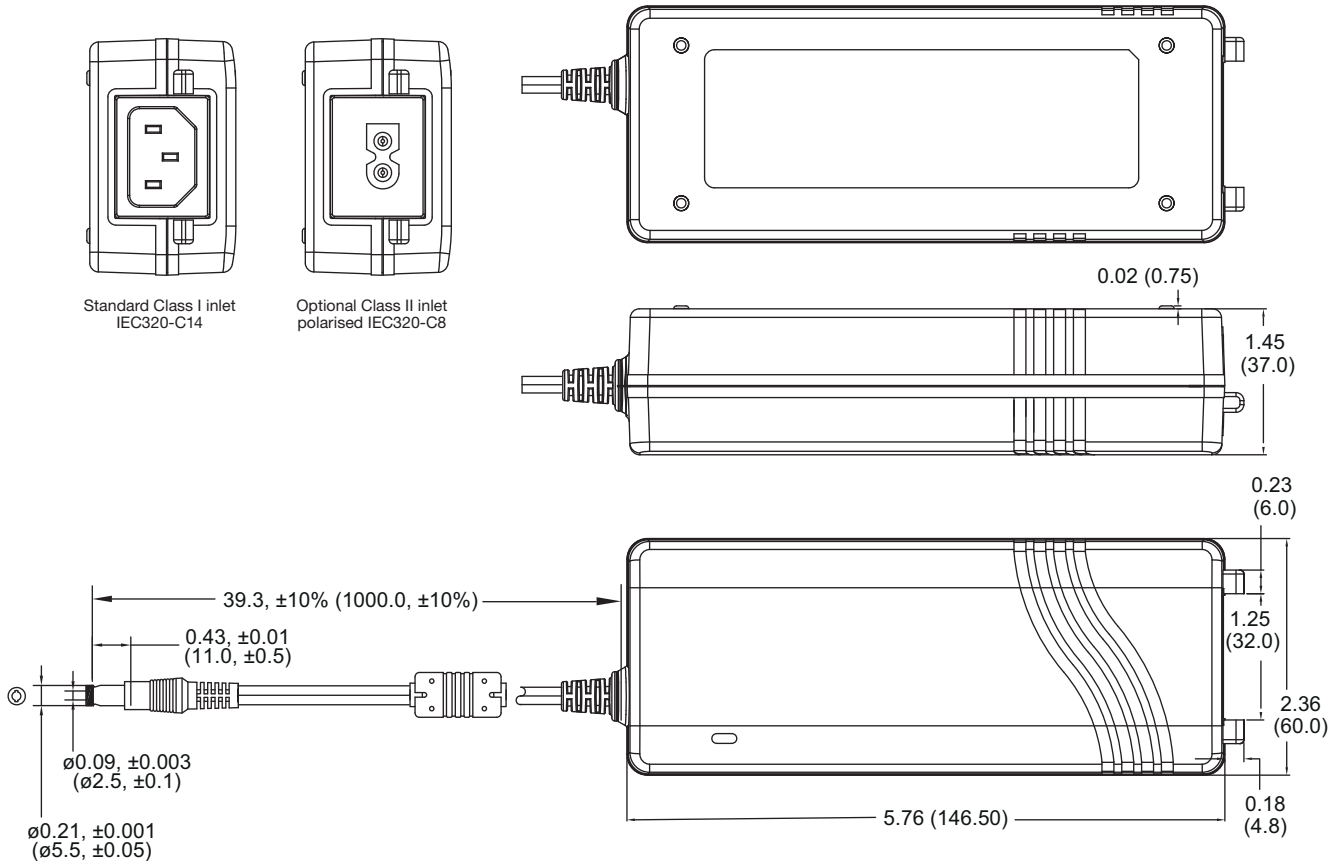
Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
Medical Device EMC	IEC60601-1-2	Ed.4.0 : 2014	as below	
Low Voltage PSU EMC	EN61204-3	High severity level	as below	
ESD Immunity	EN61000-4-2	±8 kV contact, ±15 kV air	A	
Radiated Immunity	EN61000-4-3	10 V/m	A	80-2700MHz. IEC60601-1-2 Ed.4 at other fixed frequencies
EFT/Burst	EN61000-4-4	Level 3	A	
Surge	EN61000-4-5	Installation Class 3	A	
Conducted Immunity	EN61000-4-6	6 V	A	
Magnetic Fields	EN61000-4-8	30 A/m	A	
Dips and Interruptions	EN61000-4-11	Dip: 100% 10 ms	A	
		Dip: 70% 500 ms	B	
		Int: 100% 5000 ms	B	
	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.: >95% 5000 ms	B	

Safety Approvals

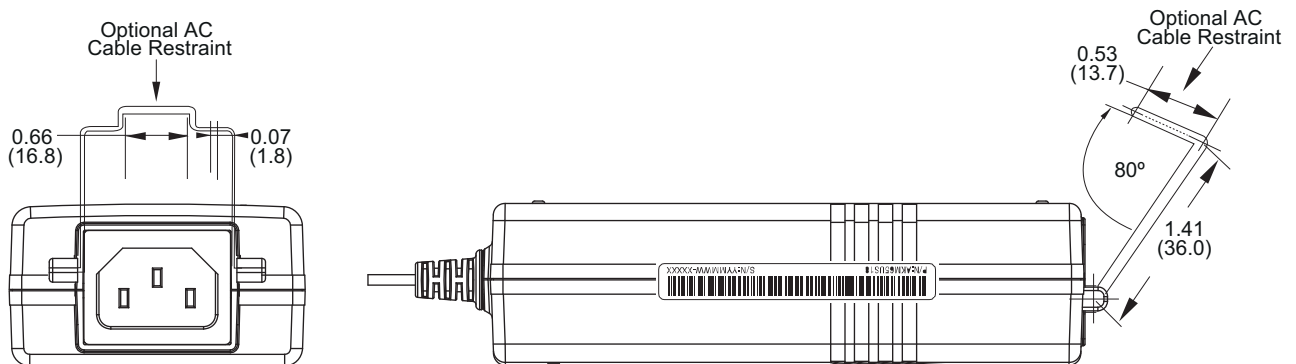
Safety Agency	Safety Standard	Notes & Conditions
UL	UL62368-1	Information Technology. Approved for 0 to 40°C ambient.
TUV	EN62368-1	
CB	IEC62368-1	
CE	LVD, RoHS, EMC	
CCC	China Compulsory Certification, GB4943	
AU/NZ	AU/NZ 62368-1	
UL	ANSI/AAMI ES 60601-1	Medical, 2 x MOPP. Approved for 0 to 40°C ambient.
CSA	CSA C22.2 No. 60601	
TUV	EN60601-1	
CB	IEC60601-1	

Mechanical Details

AKM90PSXX



AKM90PSxx with Optional AC Cable Restraint



Notes

For optional AC cable restraint, order additional part AFM45-60 AC Clip.
 For correct restraint, AC mains lead must be Interpower Corporation, part number 70006020300.
 AC cable restraint is not suitable for use on Class II version.
 Output plug: $\phi 5.5 \times \phi 2.5 \times 11.0\text{mm}$, centre positive.