

AMM90 SERIES

AC/DC Single Output: 60 - 90 Watts



Features

- Energy Star & CEC 2008 Compliant $\geq 12V$
- Worldwide Medical Approvals
- Small Size/High Power Density
- Class I and Class II Versions
- Operating Temperature up to $+60\text{ }^{\circ}\text{C}$
- High Efficiency
- Locking Output Connector

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 1.2 A rms at 115 VAC, 0.6 A rms at 230 VAC
Inrush Current	• 60 A at 115 VAC, 120 A at 230 VAC, cold start $+25\text{ }^{\circ}\text{C}$
Power Factor	• 0.98 typical
Earth Leakage Current (Class I Versions)	• 90 μA max at 115 VAC/60 Hz, 150 μA max at 230 VAC/50 Hz
Input Protection	• Internal 2.5 A fuse in live & neutral lines

Output

Output Voltage	• 5 to 48 VDC
Output Voltage Trim	• Not user-adjustable
Initial Set Accuracy	• $\pm 2\%$
Minimum Load	• No minimum load required
Start Up Delay	• 2 s max at 115 VAC
Start Up Rise Time	• $< 80\text{ ms}$ at 115 VAC
Hold Up Time	• 15 ms minimum at full load & 115 VAC
Line Regulation	• 0.5% maximum
Load Regulation	• Total regulation $< \pm 5\%$
Transient Response	• 4% max. deviation, recovery to within 1% in 500 μs for a 25% load change
Ripple & Noise	• 2% max pk-pk (see note 1)
Overvoltage Protection	• 112-140% V_{nom} , recycle input to reset
Overtemperature Protection	• Unit shuts down, auto recovery
Overload Protection	• 110-200%, auto recovery
Short Circuit Protection	• Trip and restart (Hiccup mode)
Temperature Coefficient	• 0.04%/ $^{\circ}\text{C}$

General

Efficiency	• 78% min for 5 V, 6 V & 9 V models 85% minimum for all others
Isolation	• 4000 VAC Input to Output 1500 VAC Input to Ground (Class I only) 500 VAC Output to Ground (Class I only)
Switching Frequency	• 50-110 kHz variable
Power Density	• 3.4 W/ In^3
MTBF	• 150 kHrs per MIL-HDBK-217F

Environmental

Operating Temperature	• $0\text{ }^{\circ}\text{C}$ to $+60\text{ }^{\circ}\text{C}$, derate from 100% power at $+40\text{ }^{\circ}\text{C}$ to 50% power at $+60\text{ }^{\circ}\text{C}$
Cooling	• Convection-cooled
Operating Humidity	• 10-95% RH, non-condensing
Storage Temperature	• $-20\text{ }^{\circ}\text{C}$ to $+80\text{ }^{\circ}\text{C}$
Operating Altitude	• 3000 m
Shock	• 30 g, 10 ms on 3 axes
Vibration	• 5-100 Hz, 2.31 m/s^2 , 20 mins, 3 axes

EMC & Safety

Emissions	• EN55011/FCC/VCCI, Class B conducted EN55011/FCC/VCCI, Class B radiated
Harmonic Currents	• EN61000-3-2
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 2 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, level 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, 3 V Perf Criteria A
Magnetic Field	• EN61000-4-8, 3 A/m Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 70% U_T for 10 ms, 40% U_T for 100 ms, $< 5\%$ U_T for 5000 ms Perf Criteria A, B, B (Perf Criteria A, A, B with 70% load)
Safety Approvals	• EN60601-1, UL60601-1, CSA22.2 No. 601-1 per cUL, CE Mark

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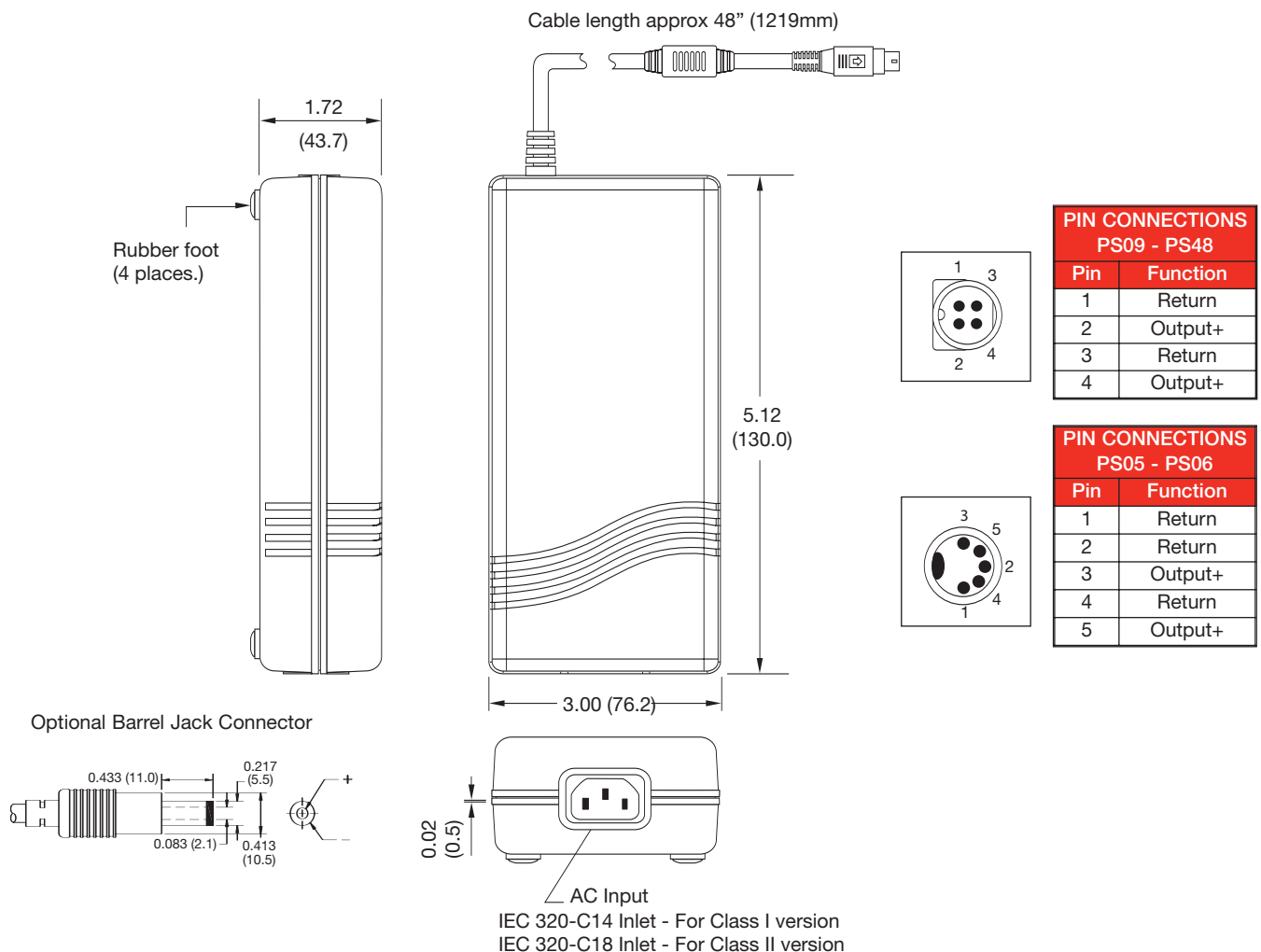
Models and Ratings

Output Power	Output Voltage	Output Current	Total Regulation ⁽²⁾	Model Number ^(3, 4)
60 W	5.0 V	12.00 A	5%	AMM90PS05
60 W	6.0 V	10.00 A	5%	AMM90PS06
70 W	9.0 V	7.78 A	5%	AMM90PS09
80 W	12.0 V	6.67 A	5%	AMM90PS12
85 W	13.5 V	6.30 A	5%	AMM90PS13
85 W	15.0 V	5.67 A	5%	AMM90PS15
90 W	18.0 V	5.00 A	5%	AMM90PS18
90 W	19.0 V	4.74 A	5%	AMM90PS19
90 W	24.0 V	3.75 A	5%	AMM90PS24
90 W	30.0 V	3.00 A	5%	AMM90PS30
90 W	48.0 V	1.87 A	5%	AMM90PS48

Notes

1. Ripple and noise measured at 20 MHz bandwidth with a 10 μ F tantalum and 0.1 μ F ceramic cap connected at the measurement point.
2. Total regulation includes initial set accuracy, line and load regulation.
3. For class II versions, add 'C2' to model number e.g. AMM90PS24C2.
4. For optional Barrel Jack Connector, add 'B1' to model number e.g. AMM90PS24C2B1 (not available on 5 V or 6 V models).

Mechanical Details



Notes

1. Dimensions shown in inches (mm). Tolerance is 0.02 (0.5) maximum, except output cable length.
2. Maximum load per pin on output connector is 7.5 A.
3. Output connector for AMM90PS05 and PS06 is 5 pin 180° DIN.
4. Output connector for AMM90PS09-PS48 is KYCON KPP-4P locking type. For mating half, use KYCON KPJ-4S-S or equivalent.
5. For Class I versions shell is connected to ground. For Class II versions shell is capacitively coupled to input.
6. Weight: 1.46 lb (660 g).