

## AMM Series



- CEC2008 & EISA2007 Compliant
- Worldwide Medical Approvals
- Class I and Class II Versions
- High Power Density
- High Efficiency
- Operating Temperature up to +60 °C
- 3 Year Warranty

## Specification

## Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 90 W: 1.2 A at 115 VAC, 0.6 A at 230 VAC 120 W: 1.6 A at 115 VAC, 0.8 A at 230 VAC 150 W: 2 A at 115 VAC, 1.0 A at 230 VAC
Inrush Current	• 60 A max at 115 VAC, 120 A max at 230 VAC, cold start +25 °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	• 90 W: Internal T2.5 A/250 V fuse in line and neutral lines, 120 W: Internal T3.15 A/250 V fuse in line and neutral lines, 150 W: Internal T4 A/250 V fuse in line and neutral lines
No Load Input Power	• <0.5 W

## Output

Output Voltage	• See tables
Output Voltage Trim	• Not user-adjustable
Initial Set Accuracy	• ±2%, set at 60% load
Minimum Load	• No minimum load required
Start Up Delay	• 90/120 W: 2 s max at 115 VAC, 150 W: 3 s max at 115 VAC
Start Up Rise Time	• <80 ms at 115 VAC
Hold Up Time	• 15 ms minimum at full load & 115 VAC
Line Regulation	• 0.5% maximum
Load Regulation	• See tables
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	• 110-140% Vnom, recycle input to reset
Overtemperature Protection	• 90/150 W: Unit shuts down, auto recovery 120 W: Unit shuts down, recycle input to reset
Overload Protection	• 110-180%, auto recovery
Short Circuit Protection	• Trip and restart (Hiccup mode)
Temperature Coefficient	• 0.04%/°C

## General

Efficiency	• 85% typical
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	• 90 W: 3.4 W/In <sup>3</sup> , 120 W: 3.7 W/In <sup>3</sup> 150 W: 2.9 W/In <sup>3</sup>
MTBF	• 150 kHrs typical to MIL-HDBK-217F at 25 °C, GB

## Environmental

Operating Temperature	• 0 °C to +60 °C, derate linearly from 100% power at +40 °C to 50% power at +60 °C
Cooling	• Convection-cooled
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Operating Altitude	• 3000 m
Shock	• 30 g, 10 ms on 3 axes
Vibration	• 5-100 Hz, 2.31 m/s <sup>2</sup> , 20 mins, 3 axes

## EMC &amp; Safety

Emissions	• EN55011/FCC/VCCI, Class B conducted EN55011/FCC/VCCI, Class B radiated
Harmonic Currents	• EN61000-3-2, Class A
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 90/120 W: 70% 10 ms, 40% 100 ms, <5% 5000 ms, Perf Criteria A, B, B (Perf Criteria A, A, B with 70% load) 150 W: >95% 10 ms, 60% 100 ms, <30% 500 ms, Perf Criteria A, B, B
Safety Approvals	• EN60601-1, UL60601-1, CSA22.2 No. 601-1 per cUL

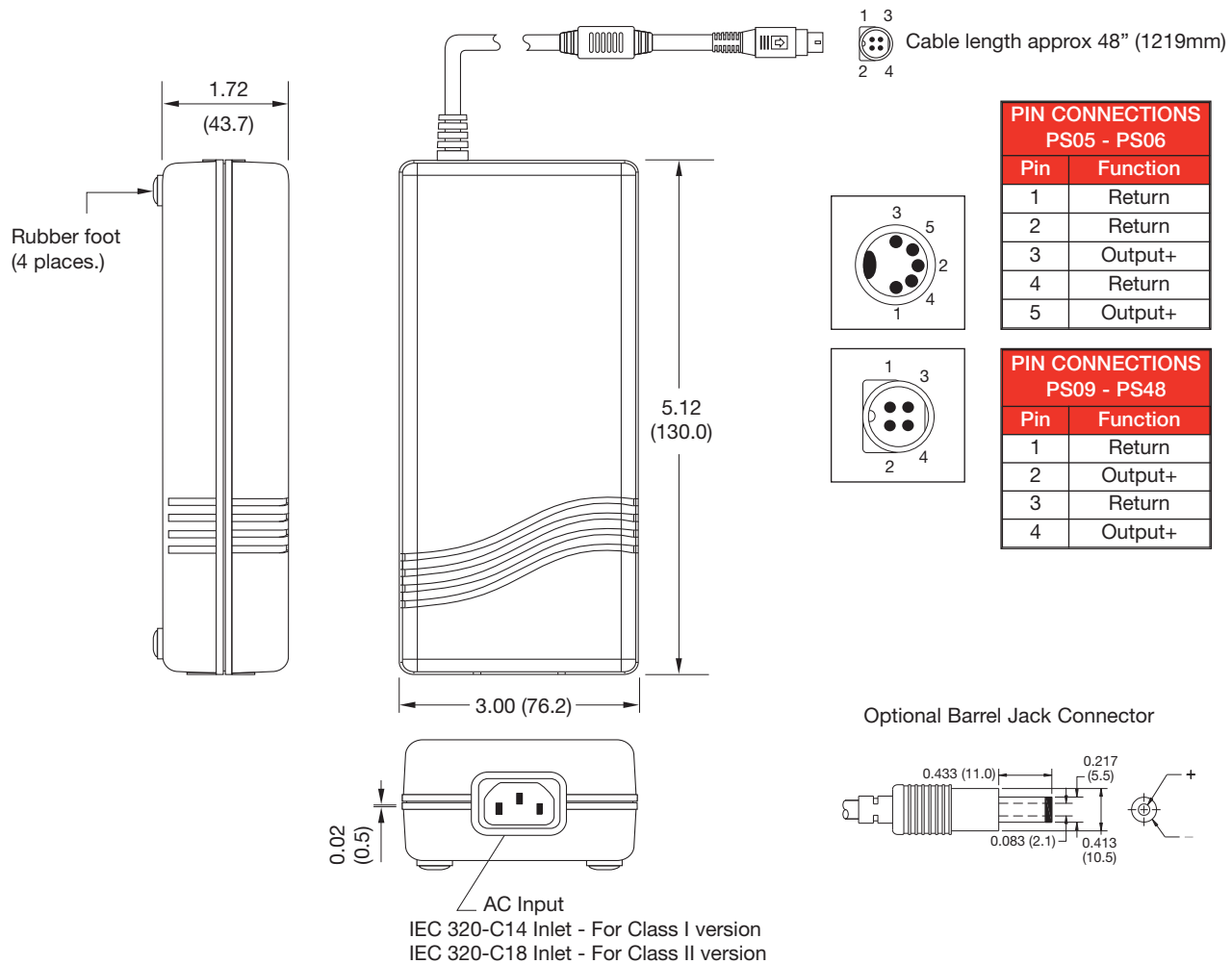
**Models and Ratings**

Output Power	Output Voltage	Output Current	Total Regulation <sup>(2)</sup>	Model Number <sup>(3, 4)</sup>
60 W	5.0 V	12.00 A	5%	AMM90PS05 <sup>(5)</sup>
60 W	6.0 V	10.00 A	5%	AMM90PS06 <sup>(5)</sup>
70 W	9.0 V	7.78 A	5%	AMM90PS09 <sup>(5)</sup>
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 μF tantalum and 0.1 μF 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).
5. Not CEC2008 or EISA2007 compliant.

**Mechanical Details**



**Notes**

1. Dimensions shown in inches (mm). Tolerance is 0.02 (0.5) maximum, except output cable length.
2. Weight: 1.46 lb (660 g).
3. Maximum load per pin on output connector is 7.5 A.
4. Output connector for AMM90PS05 and PS06 is 5 pin 180° DIN.
5. Output connector for AMM90PS09-PS13 is 4 Pin DC Power Plug non locking type. For mating half, use KYCON KPJ-4S-S or equivalent.
6. Output connector for AMM90PS15-PS48 is 4 Pin DC Power Plug locking type. For mating half, use KYCON KPJ-4S-S or equivalent.
7. For Class I versions shell is connected to ground. For Class II versions shell is capacitively coupled to input.
8. For European mains lead order part: EU-MAINS-IEC
9. For UK mains lead order part: UK-MAINS-IEC
10. For US mains lead order part: US-MAINS-IEC
11. Mains lead length is 76" (1930 mm) approx

**Models and Ratings**

Output Power	Output Voltage	Output Current	Total Regulation <sup>(2)</sup>	Model Number <sup>(3, 4)</sup>
96 W	12 V	8.00 A	5%	AMM120PS12†^
105 W	15 V	7.00 A	5%	AMM120PS15†^
120 W	18 V	6.67 A	5%	AMM120PS18†^
120 W	19 V	6.32 A	5%	AMM120PS19†^
120 W	20 V	6.00 A	5%	AMM120PS20†^
120 W	24 V	5.00 A	5%	AMM120PS24†^
120 W	30 V	4.00 A	5%	AMM120PS30†^
120 W	36 V	3.34 A	5%	AMM120PS36†^
120 W	48 V	2.50 A	5%	AMM120PS48†^

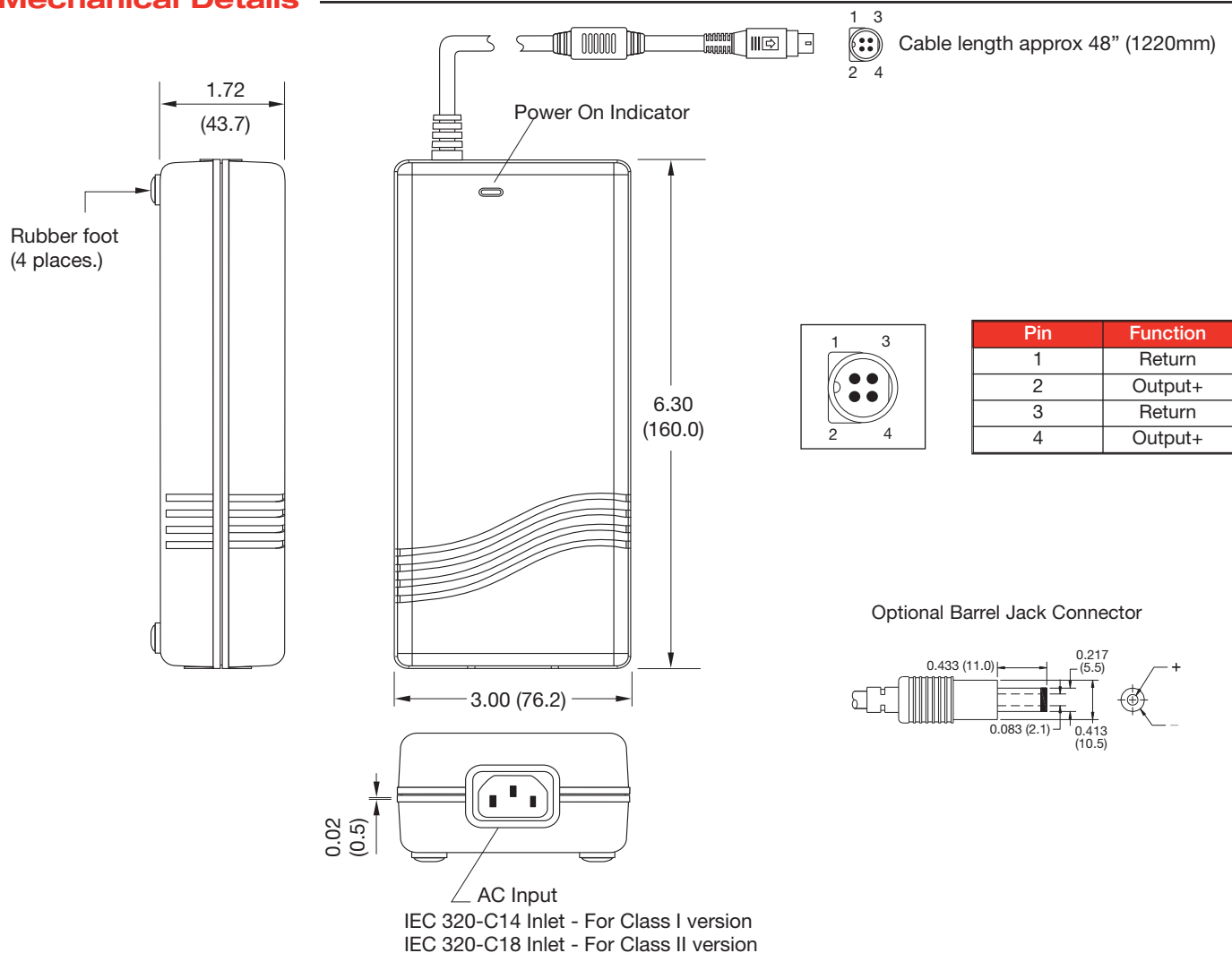
**Notes**

1. Ripple and noise measured at 20 MHz bandwidth with a 10 μF tantalum and 0.1 μF 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. AMM120PS24C2.
4. For optional barrel jack connector add suffix 'B1' to model number e.g. AMM120PS24C2B1.

† Available from Farnell. See pages 266-269.

^ Available from Newark. See pages 270-272.

**Mechanical Details**



**Notes**

1. Dimensions shown in inches (mm). Tolerance is 0.02 (0.5) maximum, except output cable length.
2. Weight 1.72 lbs (780 g).
3. Maximum load per pin on output connector is 5 A.
4. Output connector for AMM120PS12 & PS15 is 4 Pin DC Power Plug, non-locking type. For mating half, use KYCON KPJ-4S-S or equivalent.
5. Output connector for AMM120PS18-PS48 is 4 Pin DC Power Plug, locking type. For mating half, use KYCON KPJ-4S-S or equivalent.
6. For Class I versions shell is connected to ground. For Class II versions shell is capacitively coupled to input.
7. For European mains lead order part: EU-MAINS-IEC
8. For UK mains lead order part: UK-MAINS-IEC
9. For US mains lead order part: US-MAINS-IEC
10. Mains lead length is 76" (1930 mm) approx

**Models and Ratings**

Output Power	Output Voltage	Output Current	Total Regulation <sup>(2)</sup>	Model Number <sup>(4,5)</sup>
132 W	12 V	11.00 A	5%	AMM150PS12†^
144 W	15 V	9.60 A	5%	AMM150PS15†^
150 W	19 V	7.90 A	5%	AMM150PS19†^(6)
150 W	24 V	6.25 A	5%	AMM150PS24†^(3,6)
150 W	27 V	5.56 A	5%	AMM150PS27†^(3,6)
150 W	48 V	3.13 A	5%	AMM150PS48†^(3,6)

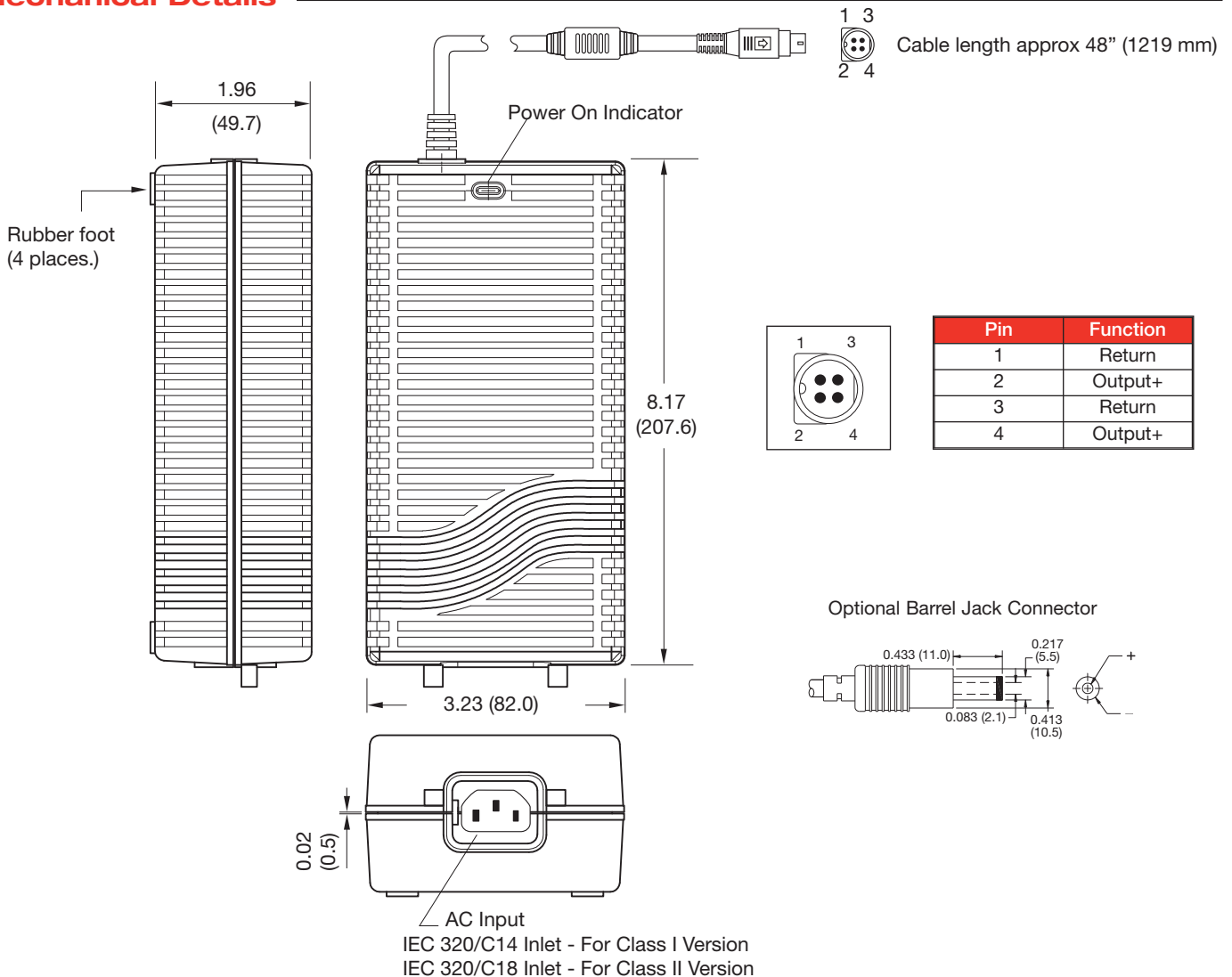
**Notes**

1. Ripple and noise measured at 20 MHz bandwidth with a 10 µF tantalum and 0.1 µF ceramic capacitor connected at the measurement point.
2. Total regulation includes set accuracy, line and load regulation.
3. For optional barrel jack connector, add suffix 'B1' to the model number e.g. AMM150PS24B1 (not available on 12 V models)
4. For optional AC cable restraint on the Class I Version, add suffix 'A' to the model number e.g. AMM150PS24A or AMM150PS24B1A. AC mains lead must be Interpower Corporation, part number: 70006020300. Optional AC cable restraint is not available on the Class II Version.
5. For Class II Versions, and 'C2' to model number, eg. AMM150PS24C2.
6. Energy Star Level V.

† Available from Farnell. See pages 266-269.

^ Available from Newark. See pages 270-272.

**Mechanical Details**



**Notes**

1. Dimensions shown in inches (mm). Tolerance is 0.02 (0.5) maximum, except output cable length.
2. Weight: 2.16 lbs (980 g).
3. Output connector is 4 Pin DC Power Plug, locking type. For mating half, use KYCON KPJX-4S-S or equivalent.
4. For Class I versions shell is connected to ground. For Class II Versions shell is capacitively coupled to input.
5. For European mains lead order part: EU-MAINS-IEC
6. For UK mains lead order part: UK-MAINS-IEC
7. For US mains lead order part: US-MAINS-IEC
8. Mains lead length is 78" (2000 mm) approx