

## AFM Series



  
GREEN XP POWER

- Energy Efficiency Level V
- CEC2008 & EISA2007 Compliant
- IT & Medical Approvals
- China Compulsory Certification (CCC) Qualified
- Optional Class II Versions
- Optional White Case Versions
- 3 Year Warranty

## Specification

## Input

|                       |   |
|-----------------------|---|
| Input Voltage         | • 80-264 VAC, derate output power 25% <90 VAC   |
| Input Frequency       | • 47-63 Hz  |
| Input Current         | • AFM30: 0.8 A rms at 115VAC, AFM45: 1.2 A rms at 115VAC, AFM60: 1.5 A rms at 115 VAC |
| Inrush Current        | • AFM30: 50 A max at 240VAC, AFM45: 120 A max at 240VAC, AFM60: 120 A max at 240VAC   |
| Power Factor          | • EN61000-3-2, class A  |
| Earth Leakage Current | • 150 $\mu$ A max at 264 VAC/60 Hz  |
| No Load Input Power   | • AFM30/45: <0.3 W, AFM60: <0.5 W   |

## Output

|                          |   |
|--------------------------|---|
| Output Voltage           | • See table   |
| Output Voltage Trim      | • Not user-adjustable   |
| Initial Set Accuracy     | • $\pm$ 2%  |
| Minimum Load             | • No minimum load required  |
| Start Up Delay           | • 3 s max at 115 VAC  |
| Hold Up Time             | • 8 ms minimum at 115 VAC   |
| Line Regulation          | • $\pm$ 1.0% maximum  |
| Load Regulation          | • 2.5% maximum  |
| Transient Response       | • 4% max. deviation, recovery to within 1% in 500 $\mu$ s for a 25% load change |
| Ripple & Noise           | • 1% max pk-pk <sup>(1)</sup>   |
| Overvoltage Protection   | • 110-170% Vnom, recycle input to reset   |
| Overload Protection      | • AFM45/60: 110-170%, AFM30: 110-220%, auto recovery                            |
| Short Circuit Protection | • Trip and restart (hiccup mode)  |
| Temperature Coefficient  | • 0.04%/°C  |

## General

|                     |  |
|---------------------|--|
| Efficiency          | • See table  |
| Energy Efficiency   | • Level V  |
| Isolation           | • 4000 VAC Input to Output, 2 x MOPP 1500 VAC Input to Ground, 1 x MOPP* Output 0 V is electrically connected to Input Ground*. *Not C8 version. |
| Switching Frequency | • 30/45 W: 58 kHz typ., 60 W: 52 kHz typ.  |
| Power Density       | • AFM30: 2.8 W/In <sup>3</sup> , AFM45: 4.2 W/In <sup>3</sup> , AFM60: 3.76 W/In <sup>3</sup>  |
| MTBF                | • >250 kHrs to MIL-HDBK-217F at 25 °C, GB, full load   |

## Environmental

|                       |   |
|-----------------------|---|
| Operating Temperature | • 0 °C to +60 °C, derate from 100% power at +40 °C to 60% power at +60 °C |
| Operating Humidity    | • 10-95% RH, non-condensing   |
| Storage Temperature   | • -40 °C to +80 °C  |
| Operating Altitude    | • 2000 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

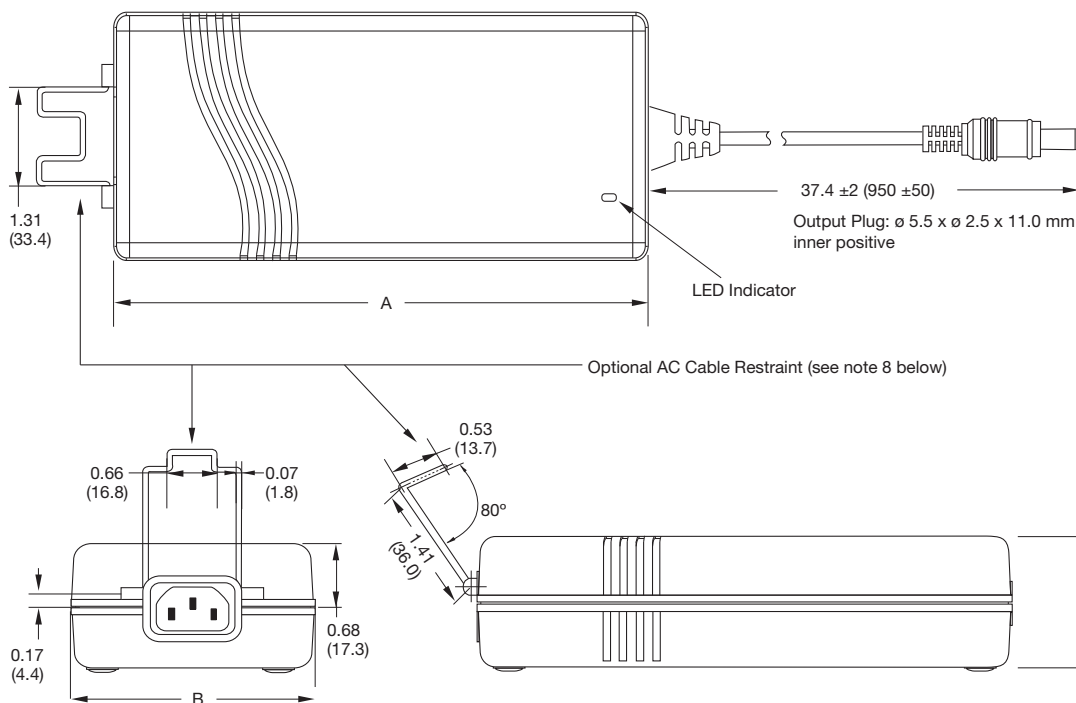
|                      |   |
|----------------------|---|
| Emissions            | • EN55011/32/FCC Class B conducted, EN55011/32/FCC Class B radiated   |
| Harmonic Currents    | • EN61000-3-2, Class A  |
| Voltage Flicker      | • EN61000-3-3   |
| ESD Immunity         | • EN61000-4-2, 6 kV contact and 8 kV air discharge  |
| Radiated Immunity    | • EN61000-4-3, 3 V/m Perf Criteria A  |
| EFT/Burst            | • EN61000-4-4, level 3 Perf Criteria A <sup>(6)</sup>   |
| Surge                | • EN61000-4-5, installation class 3 Perf Criteria A   |
| Conducted Immunity   | • EN61000-4-6, 3 Vrms Perf Criteria A   |
| Magnetic Field       | • EN61000-4-8, 3 A/m, Perf Criteria A   |
| Dips & Interruptions | • EN61000-4-11, 30% for 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B<br>EN60601-1-2, 30% 500 ms, 60% 100 ms, 100% 10 ms, 100% 5000 ms, Perf A, A, A, B <sup>(6)</sup>               |
| Safety Approvals     | • IEC62368-1-1:2014 / IEC60950-1:2005 Ed 2. UL60950-1, EN62368-1:2014/A11:2017 EN60601-1 (3rd Ed.), UL60601-1 (2nd Ed.), IEC60601-1 (3rd Ed.) China Compulsory Certification (CCC) Qualified. |

| Output Power | Output Voltage <sup>(6)</sup> | Output Current | Efficiency <sup>(7)</sup> | Model Number <sup>(3,4,9)</sup> |
|--------------|-------------------------------|----------------|---------------------------|---------------------------------|
| 30 W         | 12 V                          | 2.50 A         | 87.9%                     | AFM30US12                       |
| 30 W         | 15 V                          | 2.00 A         | 88.4%                     | AFM30US15                       |
| 30 W         | 18 V                          | 1.67 A         | 87.6%                     | AFM30US18                       |
| 30 W         | 24 V                          | 1.25 A         | 88.0%                     | AFM30US24                       |
| 48 W         | 12 V                          | 4.00 A         | 87.7%                     | AFM45US12                       |
| 48 W         | 15 V                          | 3.20 A         | 88.0%                     | AFM45US15                       |
| 48 W         | 18 V                          | 2.67 A         | 87.2%                     | AFM45US18                       |
| 48 W         | 24 V                          | 2.00 A         | 87.7%                     | AFM45US24                       |
| 60 W         | 12 V                          | 5.00 A         | 87.3%                     | AFM60US12                       |
| 60 W         | 15 V                          | 4.00 A         | 88.2%                     | AFM60US15                       |
| 60 W         | 18 V                          | 3.34 A         | 88.3%                     | AFM60US18                       |
| 60 W         | 24 V                          | 2.50 A         | 87.8%                     | AFM60US24                       |

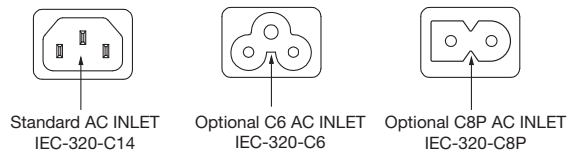
Notes

1. Ripple and noise measured at 20 MHz bandwidth with a 10  $\mu$ F tantalum and 0.1  $\mu$ F ceramic cap connected at the measurement point.
2. Total regulation includes initial set accuracy, line and load regulation.
3. For optional Class II versions with a polarised IEC320-C8 inlet, add suffix 'C2' to the model number, e.g. AFM60US24C2.
4. For alternative IEC320-C6 inlet, add suffix 'C6' to the model number eg. AFM60US24C6.
5. For white case version add suffix -W. MOQ applies, contact sales for details.
6. Other output voltages are available, contact sales for details.
7. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load.
8. A minimum load of 1% is required to meet performance criteria A.
9. Performance criteria given for high line input.

Mechanical Details



|   | AFM30 & 45   | AFM60        |
|---|--------------|--------------|
| A | 4.76 (121.0) | 4.92 (125.0) |
| B | 1.97 (50.0)  | 2.44 (62.0)  |
| C | 1.21 (30.8)  | 1.33 (34.0)  |



Notes

1. All dimensions shown in inches (mm). Tolerance is 0.02 (0.5) maximum, except output cable length.
2. Weight: AFM30/45: 0.56 lbs (256 g), AFM60: 0.78 lbs (360 g) approx.
3. Case material is PC Class 94 V-0.
4. Output Lead: UL1185, 16 AWG
5. For European mains lead order part EU-MAINS-IEC for C14 versions, EU-MAINS-5 for C6 versions or EU-MAINS-8 for C8 versions.
6. For UK mains lead order part UK-MAINS-IEC for C14 versions, UK-MAINS-5 for C6 versions or UK-MAINS-8 for C8 versions.
7. For US mains lead order part US-MAINS-IEC for C14 versions, US-MAINS-5 for C6 versions or US-MAINS-8 for C8 versions.
8. For optional AC Cable Restraint on the standard input version add suffix 'A' to the model number e.g. AFM60US24A. AC Mains Lead must be Interpower Corporation, part number 70006020300. Option AC Cable Restraint is not available on IEC320-C6 inlet or Class II versions.
9. The standard C7 cable fits the C8P connector.