Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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220 Watts
AFE220 Series

GREEN XP POWER

- Energy Efficiency Level V
- CEC2008, EISA2007 & ErP Compliant
- High Power Density
- Single Outputs from 12 V to 48 V
- High Efficiency
- Low Earth Leakage Current
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 2.1 A rms at 115 VAC, 1.1 A rms at 230 VAC
Inrush Current	• 110 A typical at 115 VAC, cold start +25 °C
Power Factor	• 0.95 typical at full load, 230 VAC
Earth Leakage Current	• 400 µA max at 264 VAC, 60 Hz
Input Protection	• Internal T4 A/250 V fuse
Standby Power Consumption	• <0.5 W

Output

Output Voltage	• See table
Output Voltage Trim	• Not user-adjustable
Initial Set Accuracy	• ±2% maximum at 100% load
Minimum Load	• No minimum load required
Start Up Delay	• 3 s maximum at 100 VAC
Hold Up Time	• 5 ms minimum at 100 VAC
Line Regulation	• ±0.5% maximum
Load Regulation	• See table
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	• Unit shuts down, auto recovery
Overload Protection	• 110-150%, auto recovery
Short Circuit Protection	• Trip and restart (Hiccup mode)
Temperature Coefficient	• 0.04%/°C maximum

General

Efficiency	• See table
Energy Efficiency	• Level V
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground Output return is electrically connected to Input Earth
Switching Frequency	• PFC: 40 kHz typical PWM: 120-160 kHz
Power Density	• 5.0 W/In^3
MTBF	• >100 kHrs to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• 0 °C to 60 °C, derate from 100% power at 40 °C to 50% power at 60 °C
Operating Humidity	• 10-95% RH, non-condensing
Storage Temperature	• -20 °C to +80 °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	• EN55022, Class B conducted EN55022, Class B radiated
Harmonic Currents	• EN61000-3-2, Class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, ±8 kV contact, ±15 kV air discharge Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
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, 1 A/m Perf Criteria A
Dips & Interruptions	• EN55024, 100% for 10 ms, 30% 500 ms, 100% 5000 ms, Perf Criteria A, A, B High line, A,B,B Low line
Safety Approvals	• EN60950-1, UL60950-1, CSA22.2 No. 60950-1 per cUL, CE Mark

Models and Ratings

AFE220 XP

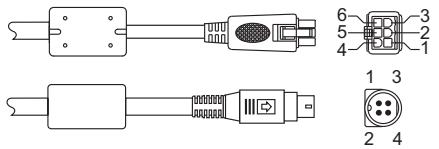
Output Power	Output Voltage	Output Current	Total Regulation[2]	Efficiency[4]	Model Number
180 W	12 V	15.00 A	5%	90%	AFE220PS12 [3]
220 W	19 V	11.57 A	5%	91%	AFE220PS19
220 W	24 V	9.16 A	5%	91%	AFE220PS24
220 W	48 V	4.58 A	5%	93%	AFE220PS48

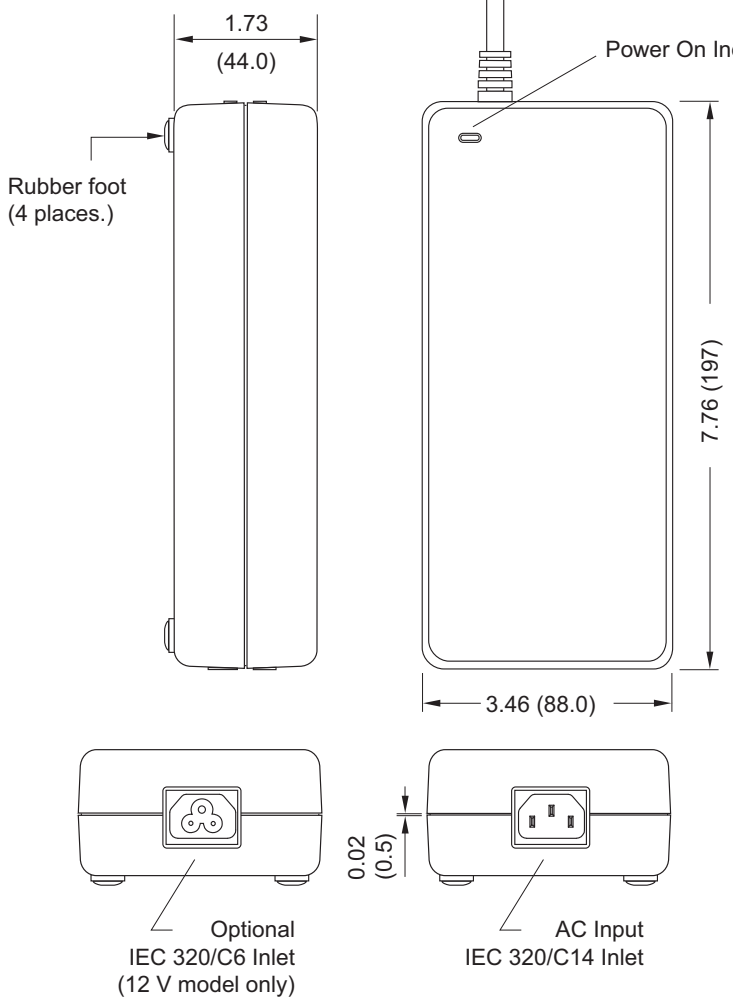
Notes

1. Ripple and noise measured at 20 MHz bandwidth with a 47 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 optional IEC320-C6 input connector, add suffix ' C6' to end of part number (Available on 12 V model only).
4. Average of efficiencies measured at 25%, 50%, 75% and 100% load and 230 VAC input.

Mechanical Details

Mains Leads Order Part:
UK - C14 inlet: UK-MAINS-IEC, C6 inlet: UK-MAINS-5
European - C14 inlet: EU-MAINS-IEC, C6 inlet: EU-MAINS-5
US - C14 inlet: US-MAINS-IEC, C6 inlet: US-MAINS-5





Pin Connector

AFE220PS12

Pin	Function
1	Output +
2	Output +
3	Return/Input Earth
4	Return/Input Earth
Shell	Return/Input Earth

AFE220PS19/24/48

Pin	Function
1	Return/Input Earth
2	Return/Input Earth
3	Return/Input Earth
4	Output +
5	Output +
6	Output +

Cable Length

PS12 - 37.4" ± 1.97" (950 ± 50mm)
PS19 - 37.4" ± 1.97" (950 ± 50mm)
PS24 - 70.9" ± 1.97" (1800 ± 50mm)
PS48 - 70.9" ± 1.97" (1800 ± 50mm)

Notes

1. Dimensions shown in inches (mm). Tolerance is 0.02 (0.5) maximum, except output cable length.
2. Weight: 2.31 lb (1050 g).
3. Optional output connectors available. Consult sales.
4. Output connector for AFE220PS12 is non locking 4 pin DC power plug and mates with Kycon KPJX-4S or equivalent.
   Output connector for AFE220PS19/24/48 is molex Mini-Fit part number 39-01-2060 with 5556 terminals and mates with molex plug 39-01-2066 and 5558 terminals or equivalent.
5. Mains lead length is 76" (1930 mm) approx