

AIF-500

500 WATT LOW-PROFILE AC/DC POWER CONVERSION UNIT



The AIF-500 is a 500 W AC/DC board-mounted power-conversion unit that enables realizing application designs quickly and easily.

The feature set of the PMBus digital communication that allows control and monitoring via AE's GUI, along with analog functions of O/P-Sense, Power-good, Active-share and Aux-O/P enable the simplest design implementations.

The module is designed to be contact-cooled via the baseplate, so any applications where the enclosure is to be used as a heatsink as in IP-sealed, outdoor applications, like wireless telecom systems and remote radio units, display systems and industrial system) are ideal for this full brick that delivers 100% power-rating at 100°C baseplate temperature.

The patented internal inrush-limiting function means that the external component design is reduced in complexity, cost, and physical size with no impact on power-conversion efficiency, which for the 12 V version exceeds 93.3%.

The wide-range input voltage specification of 85-264 with the external hold-up function equip this unit to be used in applications intended for global deployment.

TYPICAL SPECIFICATIONS

Power

- 500 W
- 85 to 264 V AC input voltage

Output

12 V DC

Environmental

- Wide temperature range of -40 to +100°C baseplate
- Application is usually conduction cooled

Features

- High efficiency >93%
- PMBus control/monitoring
- Internal Inrush current limiting
- Auxiliary output
- Active current sharing
- Output voltage sense and voltage adjust
- Accurate current-monitoring function

Compliance requirements

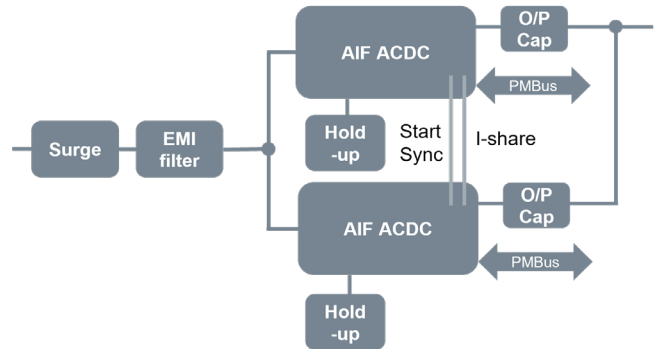
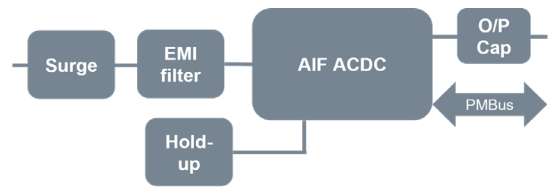
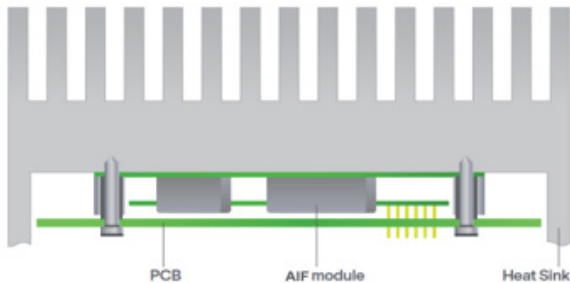
- IEC62368 adhered to
- UL certified

Size

Industry standard baseplate full brick footprint

The block diagrams (right) show the simple realization of a single-unit or two-unit sharing application requiring only external EMI, Hold-UP and O/P-Capacitors.

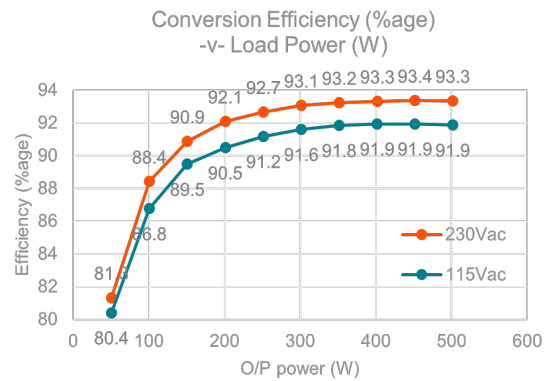
The cross sectional diagram (below) shows the intended cold-wall-cooled application.



Core Features & Benefits

When assessing AE's new AIF-500W units, consider the following key functions.

- Much higher efficiency, the 12 V version of the product is greater than 93.3%.
- Internal inrush limiting minimizes external circuitry design and realization.
- Active current share enables accurate sharing between modules in higher power applications.
- Analogue functions enable easy application design, those being: O/P-sense, V-adjust, and PSU-good.
- The auxiliary output provided enables simplified application-housekeeping circuitry to be powered.
- PMBus control – allows integration with industry standard control and monitoring functions.
- AE's GUI allows for simplified and easy control and monitoring of the module(s) in development and in application deployment.



Summary

The AIF-500 family of full bricks offers a modular approach to building a power source where a highly-dense, contact-cooled solution is needed and is particularly suited to IP-sealed applications. Along with new and innovative functions and features, this product enables easy realization of intended applications.



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