

## AIF - PFC Series

### 1600 Watts

**Total Power:** 1600 Watts  
/120 - 370VDC  
(Configurable)

**Input Voltage:** 85 - 264VAC

**# of Outputs:** Single



## Special Features

- Unity power factor
- High efficiency - up to 95%
- Universal input voltage and frequency range
- Up to 1600W output power
- Positive and Negative enable function
- Parallelable with accurate current sharing
- <10% harmonic distortion conforming to IEC1000-3-2 Compliance
- 100°C baseplate operating temperature
- DC Input option
- Power fail warning signal
- Enable output to control DC-DC Converter
- EEPROM data storage via I<sup>2</sup>C Interface
- External inrush current limited protection
- Power Density up to 290W/in<sup>3</sup>

## Safety

UL 60950 Recognized  
cUL 60950 Recognized  
TUV EN60950 Licensed

## Electrical Specifications

### Input

|                           |                                                       |
|---------------------------|-------------------------------------------------------|
| Input range               | 85 - 264 Vac / 120 - 370 Vdc (configurable)           |
| Input surge               | 290 Vac / 1s                                          |
| Input Frequency           | 50/60 Hz                                              |
| Efficiency                | 95% @ 230Vac, 1600 W (typical)                        |
| Total Harmonic Distortion | Less than 10%                                         |
| Power Factor              | 0.99 typical (Po ± 500 W); 0.97 typical (Po ± 1000 W) |

### Output

|                          |                                                                                                               |
|--------------------------|---------------------------------------------------------------------------------------------------------------|
| Output Voltage           | 380V typical(Io =4.2A / Vi > 180 Vac); 393V typical (Io = 0A)<br>Note: Vin rms must always be lower than Vout |
| Current Share Accuracy   | 10% max                                                                                                       |
| Overvoltage Protection   | 430 max                                                                                                       |
| Power Limit for AC input | Vin = 85Vac, Pmax = 1000W; Vin = 230Vac, Pmax = 1600W                                                         |
| for DC input             | Vin = 370Vdc, Pmax =1600W                                                                                     |

### Control

|                             |                                      |
|-----------------------------|--------------------------------------|
| Power Fail Warning          | Direct drive output to opto-isolator |
| Power Fail Warning Adjust   | 195 to 355Vdc adjustable             |
| LD Enable                   | Direct drive output to opto-isolator |
| PFC Enable                  | TTL compatible                       |
| Voltage Adjust              | 76% to 100% Vo                       |
| DC Input Enable             |                                      |
| Clock Input (external sync) | 6Vp-p typical @ 1MHz ± 5%            |
| Clock Output (int. clock)   | 6Vp-p typical @ 1MHz ± 5%            |
| Temperature Monitor Output  | 10mV/°C                              |
| Current Monitor Output      | 0 to 1mA (1mA = 4.2A output)         |
| I <sup>2</sup> C Interface  |                                      |

### Notes

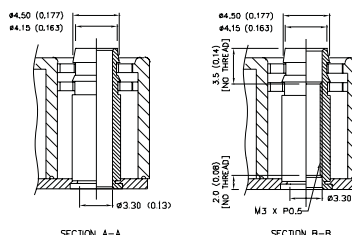
Nominal values apply with sense pins disconnected and other control pin unconnected.



|                            |                                         |
|----------------------------|-----------------------------------------|
| Operating temperature      | -20°C to +100°C (baseplate temperature) |
| Startup temperature        | -40°C to +100°C (baseplate temperature) |
| Storage temperature        | -40°C to +120°C                         |
| Overtemperature protection | 120°C max                               |
| MTBF                       | 1million hours                          |

| Model Number                             | Description                 | Notes                                                                                                     |
|------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------|
| AIF04ZPFC-01L                            | 1600W Low Profile PC Module | For parallel operation the total input current must be <16Arms.                                           |
| AIF04ZPFC-02L                            | 1600W Low Profile PC Module | Designed for parallel operation where the total input current >16Arms, requires external rail rectifiers. |
| AIF04ZPFC-01NL                           |                             | Negative Enable                                                                                           |
| AIF04ZPFC-01NL                           |                             | Negative Enable                                                                                           |
| 1. For Non-thread hole, add suffix "-NT" |                             |                                                                                                           |

| Input (AC) | Output (DC)  | Control Pins  |
|------------|--------------|---------------|
| 31. L1     | 21. Positive | 1. PV Aux -   |
| 32. L1     | 22. Positive | 2. Temp Mon   |
| 33. L2     | 23. Negative | 3. C Mon      |
| 34. L2     | 24. Negative | 4. C Share    |
|            |              | 5. Clk Out    |
|            |              | 6. Clk In     |
|            |              | 7. PV Aux +   |
|            |              | 8. SDA        |
|            |              | 9. SCL        |
|            |              | 10. DC Enable |
|            |              | 11. V Adj     |
|            |              | 12. PFW Adj   |
|            |              | 13. S Gnd     |
|            |              | 14. PFW       |
|            |              | 15. LD Enable |
|            |              | 16. PF Enable |



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