



300 to 714W AC-DC Power Module

- ◆ Low profile, small size
- ◆ 100°C baseplate temperature
- ◆ High power density
- ◆ High Efficiency
- ◆ Suitable for conduction cooling

RoHS

Features and Benefits

| Feature | Benefit |
|-----------------------------------|----------------------------------|
| ◆ Low profile | ◆ Assists system integration |
| ◆ High Efficiency | ◆ Easier to cool |
| ◆ Power Factor Corrected (PFC) | ◆ Supports Global Use |
| ◆ Operation up to 100°C baseplate | ◆ Operates in harsh environments |

Specifications

| MODEL | | PFE300 PFE500 | PFE700 | PFE500F (Preliminary) |
|----------------------------------|-----|--|------------------|--------------------------|
| ITEMS | | | | |
| AC Input | | VAC 85 to 265VAC, 47-63Hz (Operation to 440Hz possible(3)) | | |
| Input Current (100 / 220VAC) | A | 4.0 / 2.0 | 8.8 / 4.4 | 6.8 / 3.4 |
| Model dependant | | 6.2 / 3.2 | | |
| Inrush Current (100 /200VAC) (1) | A | 20 / 40 peak | | |
| Power Factor | | 0.95 minimum | | |
| Output Voltage Setpoint Accuracy | - | ±2% | ±1V | ±2% |
| Ripple and Noise (1) | - | 1% | 4V | 1% |
| Over Current Protection | % | 105 - 140% (Automatic Recovery) | | |
| Over Voltage Protection | - | 125 - 145% | 60 - 69.6V | 125 - 145% |
| Series Operation | - | Yes | | |
| Parallel Operation | - | No | Yes (Droop mode) | Yes (Single wire) |
| Power On Signal (ENA) | - | Open collector (10mA sink current). Low (on) when output is present | | |
| Auxilliary Supply | - | None | None | 10 - 14V, 20mA |
| Remote On/Off (Opto isolated) | - | None | None | High = On |
| Overtemperature Protection | | Yes | | |
| Operating Baseplate Temp. | °C | -40 to +100°C (2) | | |
| Storage Temperature | °C | -40 to +100°C | | |
| Humidity (non condensing) | | Operating: 20 - 95%RH, Non Operating: 10 - 95%RH | | |
| Cooling | | Conduction | | |
| Withstand Voltage | | Input to Output 3kVAC, Input to Baseplate 2.5kVAC, Output to Baseplate 1.5kVDC | | |
| Isolation Resistance | | Output to baseplate: 100M Ohm at 500VDC, 25°C ambient, 70%RH | | |
| Vibration (non operating) | | 10-55Hz (1 min sweep), constant amplitude 0.825mm (max 49m/s ²), X, Y, Z 1 hour each | | |
| Shock | | 196.1m/s ² | | |
| Safety Certifications | | UL60950-1, CSA60950-1 (cUL), EN60950-1, CE mark (LVD) | | |
| Weight | g | 250 | 250 | 300 |
| Size (WxHxL) | mm | 61 x 12.7 x 116.8mm | | 70 x 12.7 x 122mm |
| | in | 2.4 x 0.5 x 4.6" | | 2.76 x 0.5 x 4.8" |
| Warranty | yrs | 2 years | | |

Notes: (Consult Installation Manual for detailed specifications, test methods and application notes)

1) External components are required, consult Application Notes

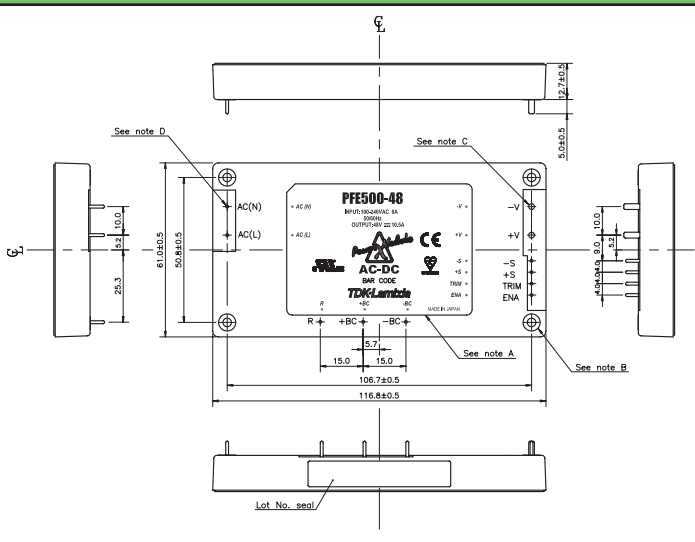
2) PFE500-12 & PFE500F-12: -40 to 85°C. See instruction manuals for derating curves
 3) Requires the use of an undervoltage relay or similar. Contact technical support

Model Selector

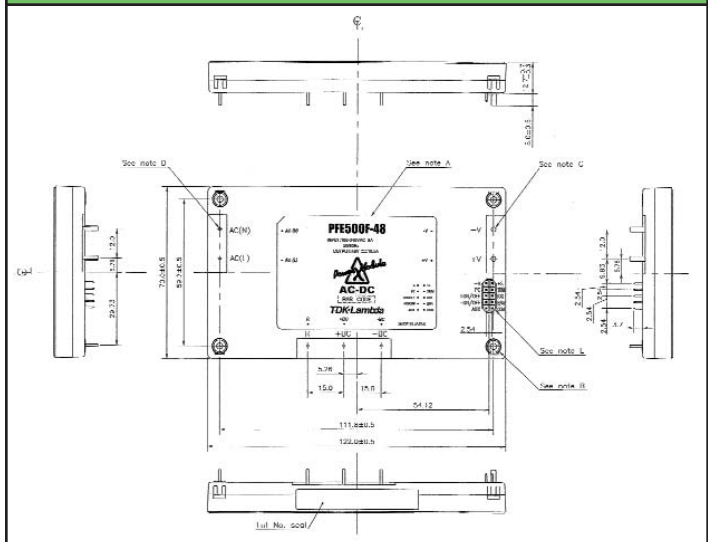
| Model | Output Voltage (V) | Adjust. Range (V) | Maximum Current (A) | Maximum Wattage (W) | Load Reg. (mV) | Line Reg. (mV) | Efficiency typ (4) |
|------------|--------------------|-------------------|---------------------|---------------------|----------------|----------------|--------------------|
| PFE300-12 | 12 | 9.6 - 14.4 | 25 | 300 | 48 | 48 | 81 / 83 |
| PFE500-12 | 12 | 9.6 - 14.4 | 33 | 396 | 48 | 48 | 82 / 83 |
| PFE500F-12 | 12 | 9.6 - 14.4 | 42 | 504 | 48 | 48 | 81 / 83 |
| PFE300-28 | 28 | 22.4 - 33.6 | 10.8 | 302 | 56 | 56 | 83 / 85 |
| PFE500-28 | 28 | 22.4 - 33.6 | 18 | 504 | 56 | 56 | 84 / 86 |
| PFE500F-28 | 28 | 22.4 - 33.6 | 18 | 504 | 56 | 56 | 84 / 86 |
| PFE300-48 | 48 | 38.4 - 57.6 | 6.3 | 302 | 96 | 96 | 84 / 86 |
| PFE500-48 | 48 | 38.4 - 57.6 | 10.5 | 504 | 96 | 96 | 84 / 86 |
| PFE500F-48 | 48 | 38.4 - 57.6 | 10.5 | 504 | 96 | 96 | 84 / 86 |
| PFE700-48 | 51 | None | 14 | 714 | 50 - 57V (5) | | 86 / 89 |

(4) 100 / 200VAC
(5) Total regulation range

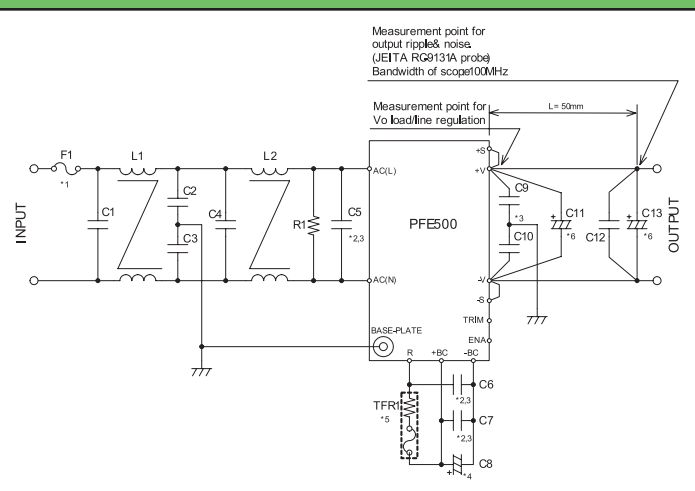
PFE500 and PFE700 Outline Drawing



PFE500F Outline Drawing



PFE500 Basic connection



Heatsink Table

| Heatsink | Size (mm) | Thermal Resistance |
|----------|-------------------|--------------------|
| HAF-10L | 116.8 x 25.4 x 61 | 2.2°C/W |
| HAF-15L | 116.8 x 38.1 x 61 | 1.9°C/W |
| HAF-15T | 116.8 x 38.1 x 61 | 1.5°C/W |

Options

| Suffix | Description |
|--------|--------------------------------|
| Blank | M3 tapped mounting inserts (4) |
| /T | 3.3mm non-threaded inserts (4) |

Other Lambda Products

| | |
|---------------|-----------------------------|
| PAE, PAH, PAF | 50 to 600W DC-DC converters |
| CC-E, PX | 1.5 to 40W DC-DC converters |

For Additional Information, please visit
www.lambdapower.com/products/pfe-series.htm