



# PFE300 - 1000 Series

300 to 1008W AC-DC Power Module

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

## Key Market Segments & Applications

- Bulk DC Power for DC-DC Converters & POL Converters
- Custom Fanless Power Supplies
- LED Signs
- Traffic Signalling
- Toll Equipment

## PFE300 - 1000 Features and Benefits

### Features

- Low profile
- High Efficiency
- Power Factor Corrected (PFC)
- Operation up to 100°C baseplate

### Benefits

- Assists system integration
- Easier to cool
- Supports Global Use
- Operates in harsh environments

## Specifications

| MODEL                            |     | PFE300S<br>PFE500S   | PFE700S          | PFE500F           | PFE1000F                   |
|----------------------------------|-----|--|------------------|-------------------|----------------------------|
| AC Input                         | VAC | 85 to 265VAC, 47-63Hz (PFE-S Operation to 440Hz possible(3))   |                  |                   |                            |
| Input Current (100 / 220VAC)     | A   | 4.0 / 2.0  | 8.8 / 4.4        | 6.8 / 3.4         | 13.6 / 6.6                 |
| 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%               | ±2%                        |
| Ripple and Noise (1)             | -   | 1%   | 4V               | 1%                | 1%                         |
| Over Current Protection          | %   | 105 - 140% (Automatic Recovery)  |                  |                   | 105 - 140%<br>Manual reset |
| Over Voltage Protection          | -   | 125 - 145%   | 60 - 69.6V       | 125 - 145%        | 125 - 145%                 |
| Series Operation                 | -   | Yes  |                  |                   |                            |
| Parallel Operation               | -   | No   | Yes (Droop mode) | Yes (Single wire) | 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    | 10 - 14V, 20mA             |
| Remote On/Off (Opto isolated)    | -   | None   | None             | High = On         | 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 (1 min) (4)    |     | Input to Output 3kVAC, Input to Baseplate 2.5kVAC, Output to Baseplate 1.5kVDC for S models, 500VDC for F models |                  |                   |                            |
| 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 <sup>2</sup> ), X, Y, Z 1 hour each                 |                  |                   |                            |
| Shock                            |     | 196.1m/s <sup>2</sup>  |                  |                   |                            |
| Safety Certifications            |     | UL60950-1, CSA60950-1 (cUL), EN60950-1, CE mark (LVD)  |                  |                   |                            |
| Weight                           | g   | 250  | 250              | 300               | 500                        |
| Size (WxHxL)                     | mm  | 61 x 12.7 x 116.8mm  |                  | 70 x 12.7 x 122mm | 100 x 13.4 x 160mm         |
|                                  | in  | 2.4 x 0.5 x 4.6"   |                  | 2.76 x 0.5 x 4.8" | 3.94 x 0.53 x 6.3"         |
| 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

PFE1000F28 & PFE1000F48: -40 to 85°C below 170VAC input voltage.

See instruction manuals for derating curves

3) Requires the use of an undervoltage relay or similar. See website Q&A for details

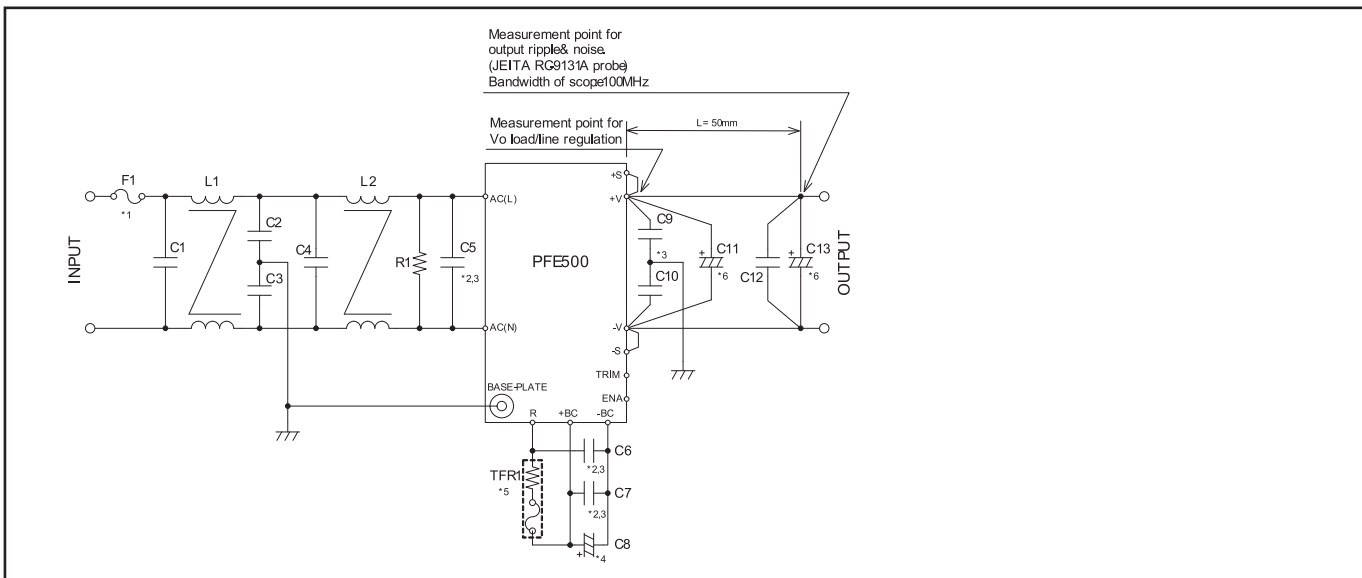
4) PFE500F, PFE1000F: 500VDC Output to baseplate



| Model Selector |                    |                   |                     |                     |                |                |                    |
|----------------|--------------------|-------------------|---------------------|---------------------|----------------|----------------|--------------------|
| Model          | Output Voltage (V) | Adjust. Range (V) | Maximum Current (A) | Maximum Wattage (W) | Load Reg. (mV) | Line Reg. (mV) | Efficiency typ (5) |
| PFE300S-12     | 12                 | 9.6 - 14.4        | 25                  | 300                 | 48             | 48             | 81 / 83            |
| PFE500S-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            |
| PFE1000F-12    | 12                 | 9.6 - 14.4        | 60                  | 720                 | 48             | 48             | 80 / 82            |
| PFE300S-28     | 28                 | 22.4 - 33.6       | 10.8                | 302                 | 56             | 56             | 83 / 85            |
| PFE500S-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            |
| PFE1000F-28    | 28                 | 22.4 - 33.6       | 36                  | 1008                | 56             | 56             | 84 / 86            |
| PFE300S-48     | 48                 | 38.4 - 57.6       | 6.3                 | 302                 | 96             | 96             | 84 / 86            |
| PFE500S-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            |
| PFE1000F-48    | 48                 | 38.4 - 57.6       | 21                  | 1008                | 96             | 96             | 84 / 86            |
| PFE700S-48     | 51                 | None              | 14                  | 714                 | 50 - 57V (6)   |                | 86 / 89            |

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

PFE500S Basic connection

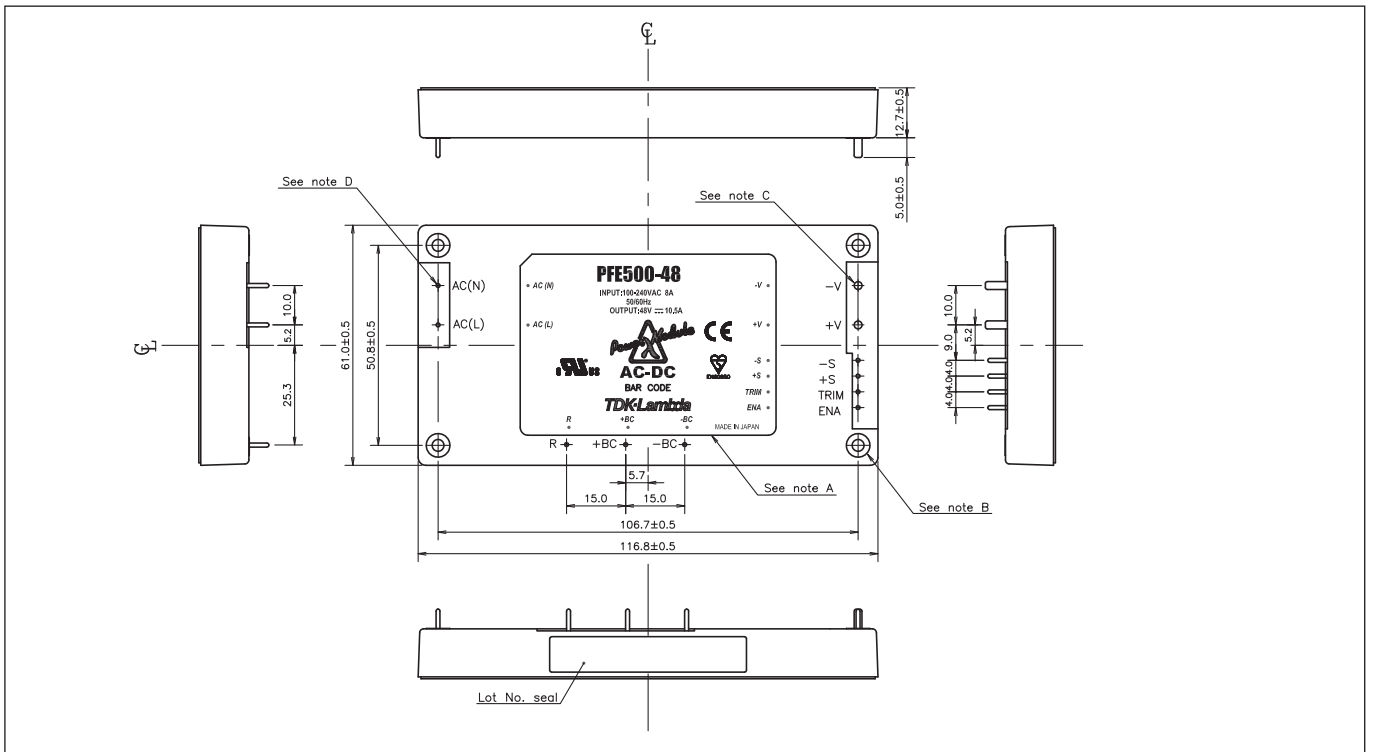


| Heatsink Table (PFE-S Models only)            |                   |                    |
|---|-------------------|--------------------|
| Heatsink                                      | Size (mm)         | Thermal Resistance |
| HAF-10L                                       | 116.8 x 25.4 x 61 | 2.2°C/W            |
| 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            |
| Heatsink Table (PFE 500F & 1000F Models only) |                   |                    |
| Heatsink                                      | Size (mm)         | Thermal Resistance |
| HAL-FT12                                      | 122 x 35 x 69.9   | 0.97°C/W           |
| HAM-F10T                                      | 160 x 33.4 x 100  | 0.78°C/W           |

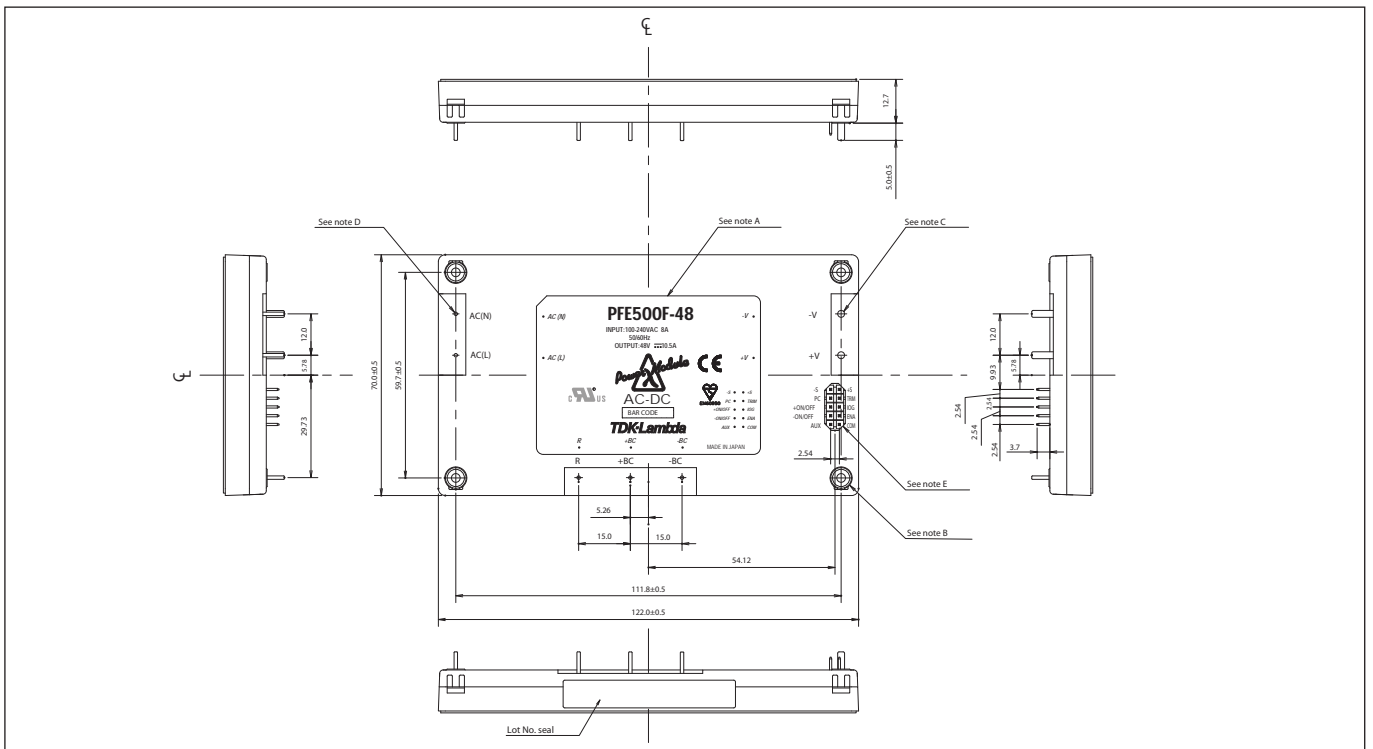
| Options |                                |
|---------|--------------------------------|
| Suffix  | Description                    |
| Blank   | M3 tapped mounting inserts (4) |
| /T      | 3.3mm non-threaded inserts (4) |



Outline Drawing PFE500S & PFE700S



Outline Drawing PFE500F



Please refer to website for outline drawings and additional data for full range  
[www.emea.tdk-lambda/www/pfe](http://www.emea.tdk-lambda/www/pfe)



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