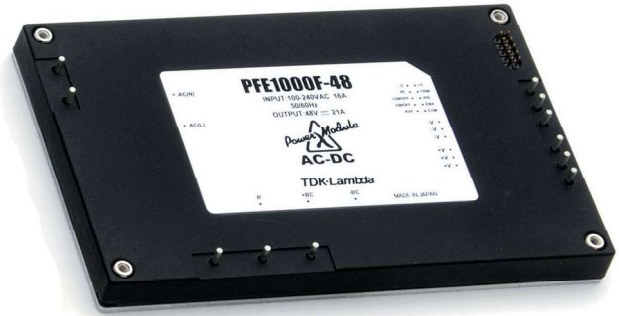


300 to 1008W AC-DC Power Module

Features

- ◆ Low profile, small size
- ◆ 100°C baseplate temperature
- ◆ High power density
- ◆ High Efficiency
- ◆ Suitable for conduction cooling
- ◆ Power Factor Corrected (PFC)



Key Market Segments & Applications



| Specifications | | | PFE300S PFE500SA | PFE700S | PFE500F | PFE1000F |
|----------------------------------|-----|--|--|------------------|-------------------|----------------------------|
| AC Input | VAC | | 85 to 265VAC, 47-63Hz (up to 440Hz) (4) | | | |
| Input Current (100 / 220VAC) | A | | 4.0 / 2.0 | 8.8 / 4.4 | 6.8 / 3.4 | 13.6 / 6.6 |
| Model dependant | | | 6.1 / 2.9 | | | |
| Inrush Current (100 /200VAC) (1) | A | | 20 / 40 peak | | | |
| Power Factor | - | | 0.95 minimum, meets EN61000-3-2 | | | |
| Output Voltage Setpoint Accuracy | - | | ±2% | ±1V | ±2% | ±2% |
| Ripple and Noise (1) | - | | 1% | 4V | 1% | 1% |
| Over Current Protection | % | | 105 - 140% (Automatic Recovery) | | | |
| Over Voltage Protection | - | | 125 - 145% | 60 - 69.6V | 125 - 145% | 105 - 140% Manual reset |
| 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 | | | |
| Auxiliary 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) (3) | - | | 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 | 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) PFE500S-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) PFE500F, PFE1000F: 500VDC Output to baseplate
- 4) Reduced PFC above 63Hz. Contact technical support for 440Hz operation.

OBSOLETE

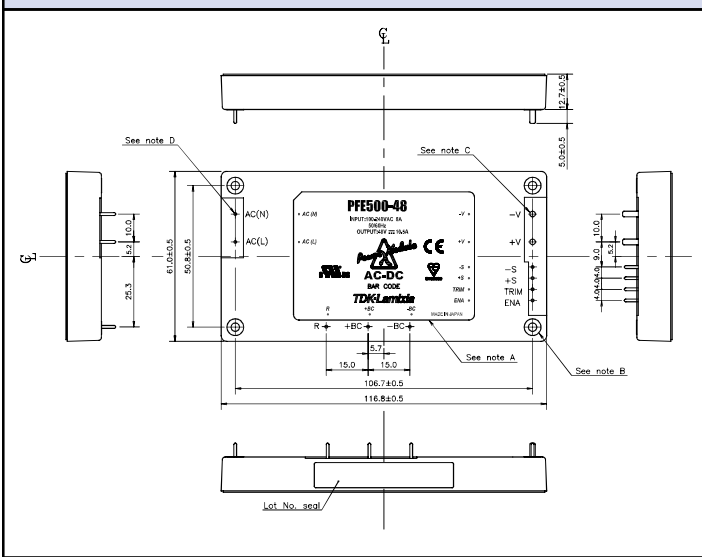
Specifications

| Model | Output Voltage (V) | Adjust. Range (V) | Maximum Current (A) | Maximum Wattage (W) | Load Reg. (mV) | Line Reg. (mV) | Efficiency typ (4) |
|-------------|--------------------|-------------------|---------------------|---------------------|----------------|----------------|--------------------|
| PFE300S-12 | 12 | 9.6 - 14.4 | 25 | 300 | 48 | 48 | 81 / 83 |
| PFE500SA-12 | 12 | 9.6 - 14.4 | 33 | 396 | 48 | 48 | 84 / 86 |
| 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 |
| PFE500SA-28 | 28 | 22.4 - 33.6 | 18 | 504 | 56 | 56 | 86 / 89 |
| PFE500F-28 | 28 | 22.4 - 33.6 | 18 | 504 | 56 | 56 | 84 / 86 |
| PFE1000F-28 | 28 | 22.4 - 33.6 | 36 | 1008 | 56 | 56 | 85 / 87 |
| PFE300S-48 | 48 | 38.4 - 57.6 | 6.3 | 302 | 96 | 96 | 84 / 86 |
| PFE500SA-48 | 48 | 38.4 - 57.6 | 10.5 | 504 | 96 | 96 | 88 / 90 |
| 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 (5) | | 86 / 89 |

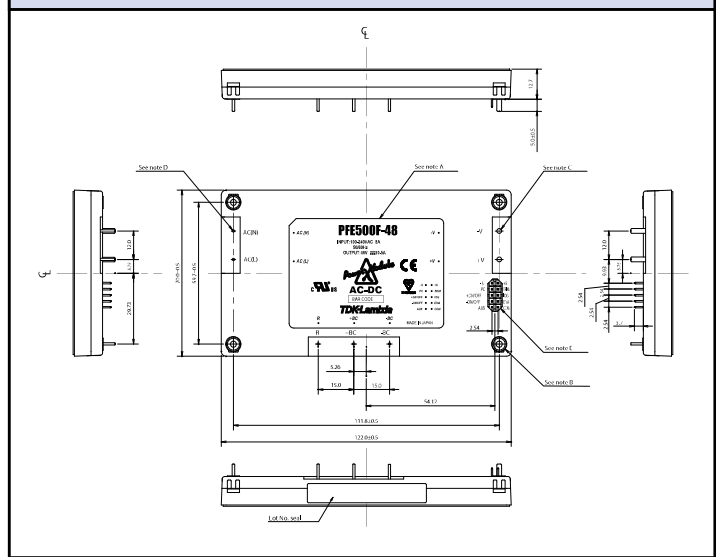
(4) 100 / 200VAC. Efficiency values at 115/230VAC are 1% higher.

(5) Total regulation range

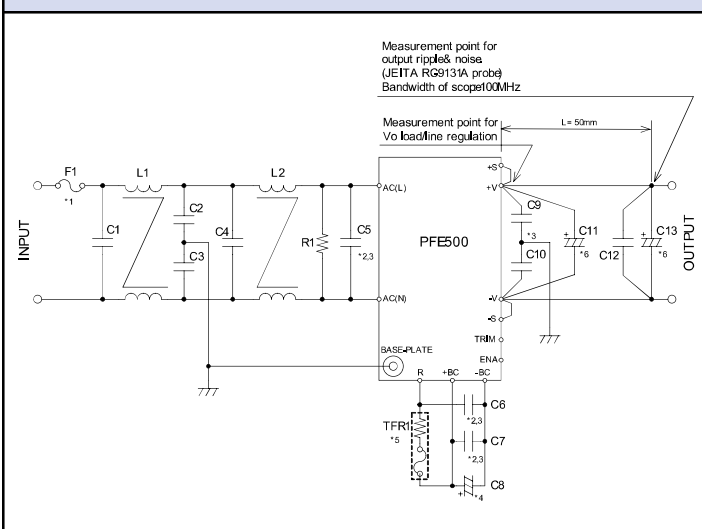
PFE500S & PFE700S Outline Drawing



PFE500F Outline Drawing



PFE500S Basic connection



Heatsink Table

| Heatsink | Size (mm) | PFE Module |
|----------|-------------------|-----------------|
| HAF-10L | 116.8 x 25.4 x 61 | PFE300/500/700S |
| HAF-15L | 116.8 x 38.1 x 61 | PFE300/500/700S |
| HAF-15T | 116.8 x 38.1 x 61 | PFE300/500/700S |
| HAL-F12T | 122 x 35 x 69.9 | PFE500F |
| HAM-F10T | 160 x 33.4 x 100 | PFE1000F |

Options

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

For Additional Information, please visit <https://product.tdk.com/info/en/products/power/index.html>



OBSOLETE

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