



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		PFE300S PFE500S	PFE700S	PFE500F
ITEMS				
AC Input		VAC85 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
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 (4)		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 in	61 x 12.7 x 116.8mm 2.4 x 0.5 x 4.6"		70 x 12.7 x 122mm 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) PFE500S-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

4) 500VDC PFE500F

[illegible]

Technical drawing of the PFE500-48 power supply unit, showing front, top, and side views with dimensions and labels.

Front View:

- Overall width: 116.8 ± 0.5
- Overall height: 61.9 ± 0.5
- Input terminals (left): AC(N), AC(L). Dimensions: 50.8 ± 0.5 (height), 25.3 (width), 10.0 (height), 5.2 (width).
- Output terminals (right): -V, +V, -S, +S, TRIM, ENA. Dimensions: 43.0 ± 0.5 (height), 10.0 (width), 5.2 (width).
- Bottom terminals: R, +BC, -BC. Dimensions: 15.0 (width), 5.7 (height), 15.0 (width).
- Bottom overall width: 106.7 ± 0.5
- Bottom overall height: 116.8 ± 0.5

Top View:

- Overall width: 116.8 ± 0.5
- Overall height: 50.8 ± 0.5

Side View:

- Overall height: 17.7 ± 0.5

Labels on Front Panel:

- PFE500-48
- INPUT: 100-240VAC 5A 50/60Hz
- OUTPUT: 48V 10A 480W
- AC-DC
- BAR CODE
- TDK-Lambda
- MADE IN JAPAN

Notes:

- See note A: Points to the output terminals.
- See note B: Points to the bottom terminals.
- See note C: Points to the top terminals.
- See note D: Points to the input terminals.

Lot No. seal: Located on the bottom view of the unit.

Technical drawing of the PFE500F-48 power supply unit, showing front, top, and side views with dimensions and labels.

Front View:

- Unit type: **PFE500F-48**
- Input: **AC IN** (AC 240V, 50/60Hz)
- Output: **AC-DC** (48V, 10A)
- Manufacturer: **TDK-Lambda**
- Dimensions: 111.8±0.5 (mm) width, 127.2±0.5 (mm) height, 54.12 (mm) depth.
- Mounting holes: 9.5±0.15 (mm) diameter, 11.5 (mm) spacing.
- Terminal block: 2.54 (mm) pitch, 12.5 (mm) width.
- Labels: **Save notes A**, **Save notes B**, **Save notes C**, **Save notes D**, **Save notes E**.

Top View:

- Dimensions: 111.8±0.5 (mm) width, 127.2±0.5 (mm) height.
- Mounting holes: 9.5±0.15 (mm) diameter, 11.5 (mm) spacing.
- Label: **Lot No. seal**.

Side View:

- Dimensions: 54.12 (mm) depth, 12.5 (mm) width.
- Terminal block: 2.54 (mm) pitch, 12.5 (mm) width.

INPUT

Measurement point for
output ripple & noise
(JEITA RG8131A probe)
Bandwidth of scope 100MHz

Measurement point for
Vo load line regulation

L = 50mm

PFE500

OUTPUT

BASE-PLATE

TRIM

ENAG

+BC

-BC

TFR1

C6

C7

C8

777

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

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

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

Revision B4: May 2008