TDK·Lambda

PFE300-1000

300 to 1008W AC-DC Power Module

RoHS

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

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

ITEMS \ MODEL		PFE300S PFE500S	PFE700S	PFE500F	PFE1000F
AC Input	VAC	85 to 265VAC, 47-440Hz (Reduced PFC above 63Hz)			
Input Current (100 / 220VAC) Model dependant	A	4.0 / 2.0 6.2 / 3.2	8.8 / 4.4	6.8 / 3.4	13.6 / 6.6
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)			105 - 140% 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			
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/s²), X, Y, Z 1 hour each			
Shock		196.1m/s²			
Safety Certifications		UL60950-1, CSA60950-1 (cUL), EN60950-1, CE mark (LVD)			
Weight	g	250	250	300	500
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"	100 x 13.4 x 160mm 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

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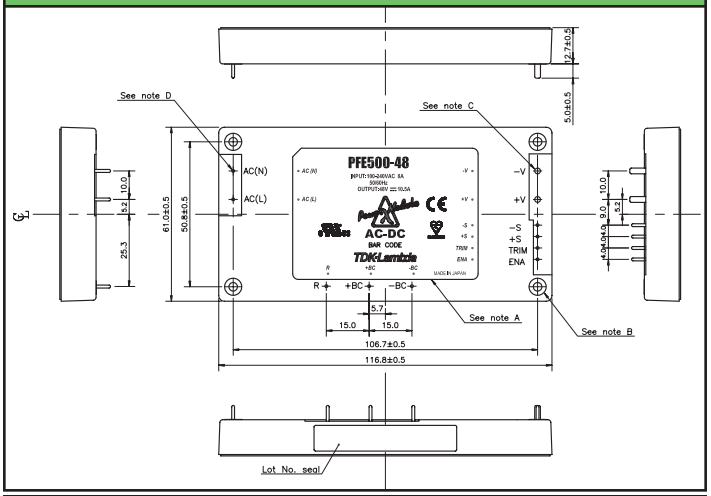
Model Selector

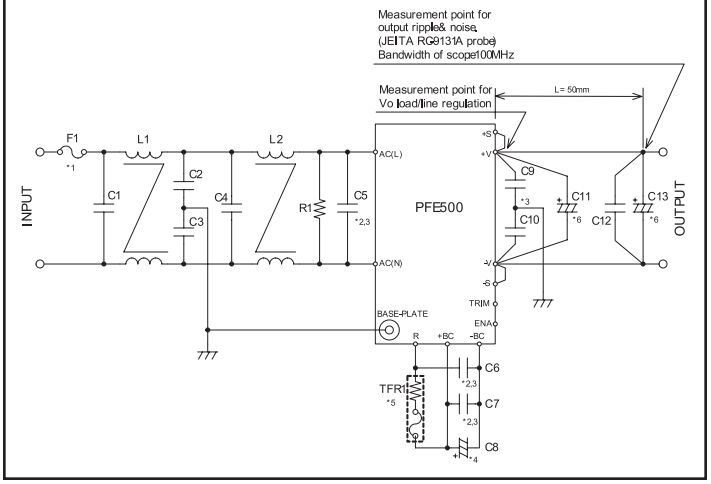
Model	Output Voltage (V)	Adjust. Range (V)	Maximum Current (A)	Maximum Wattage (W)	Load Reg. (mV)	Line Reg. (mV)	Efficiency typ (4)
PFE300S-12	12	9.6 - 14.4	25	300	48	48	81 / 83
PFE500S-12	12	9.6 - 14.4	33	396	48	48	82 / 83
PFE500F-12	12	9.6 - 14.4	42	504	48	48	81 / 83
PFE1000F-12	12	9.6 - 14.4	60	720	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 (5)		86 / 89

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

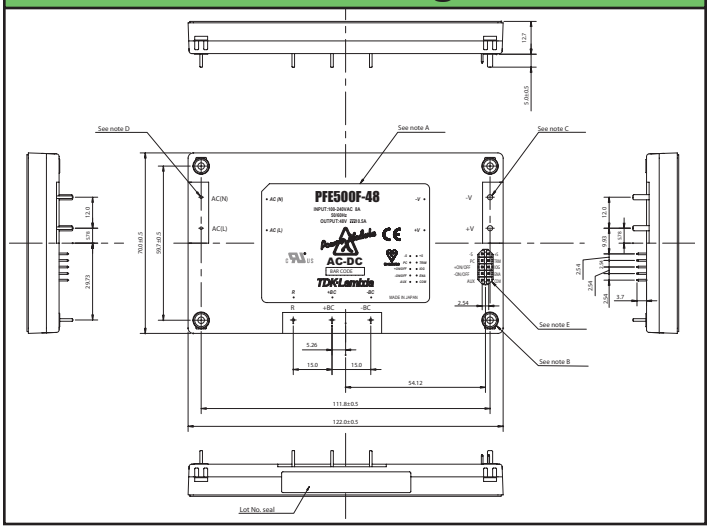
PFE500S & PFE700S Outline Drawing



PFE500S Basic connection



PFE500F Outline Drawing



Heatsink Table (PFE-S Models only)

Heatsink	Size (mm)	PFE Module
HAF-10L	116.8 x 25.4 x 61	PFE300/500S
HAF-15L	116.8 x 38.1 x 61	PFE300/500S
HAF-15T	116.8 x 38.1 x 61	PFE300/500S
HAL-F12T	122 x 35 x 69.9	PFE500F
HAL-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
us.tdk-lambda.com/lp/products/pfe-series.htm

3055 Del Sol Blvd • San Diego, CA 92154 • 1-800-LAMBDA-4

Revision B9: Nov 2009