504 to 1512W Power Factor Correction Modules

https://product.tdk.com/en/power/pf-a

www.emea.lambda.tdk.com/pf



Industrial Test Semi-Fab

The PF-A power factor correction (PFC) modules convert AC in to a regulated 360Vdc for use in distributed power systems utilizing isolated high voltage DC-DC converters, or loads requiring a high voltage source. The PF500A-360 is rated at 504W for a 115Vac and 756W for 230Vac inputs and the PF1000A-360 1008W for 115Vac and 1512W for 230Vac inputs. The modules have a 0.95 power factor and efficiencies of up to 95%. The baseplates can be conduction cooled via a cold-plate or using an optional heatsink and external airflow. Modules can be connected in parallel for additional power. The remote on/off function can be used to enable DC-DC converters via the ENA (DC good) signal. An auxiliary output and inverter good signal are also provided for control and monitoring.

Features	Benefits
• Suitable For Developing Custom Supplies	• Module Solution Reduces Risk, Time and Cost
• Current Share Function	• Can be Connected in Parallel for Higher Power or Redundancy
• Up to 95% Efficient	• Less Waste Heat to Manage and Reduced AC Power Consumption
• Up to 100°C Rated Baseplate Temperature	• Suitable for Rugged Environments
• Conduction Cooled Via Baseplate	• For Use in Convection Cooled or Sealed Enclosures

Model Selector

Model	Output Voltage (V)	Maximum Current (A) 85-265Vac Input	Maximum Power (W) 85-265Vac Input	Maximum Current (A) 170-265Vac Input	Maximum Power (W) 170-265Vac Input
PF500A-360	360	1.4	504	2.1	756
PF1000A-360	360	2.8	1008	4.2	1512

Related Products

Type	Part Number(s)	Size (mm) / Description
Heatsink	HAA-083	86 x 22 x 83
Heatsink	HAA-146	86 x 22 x 146
Newer generation product series	PF1500B-360	1500W PFC module
DC-DC Converters	PH-A series	50 to 1200W, 200-425V input

Specifications

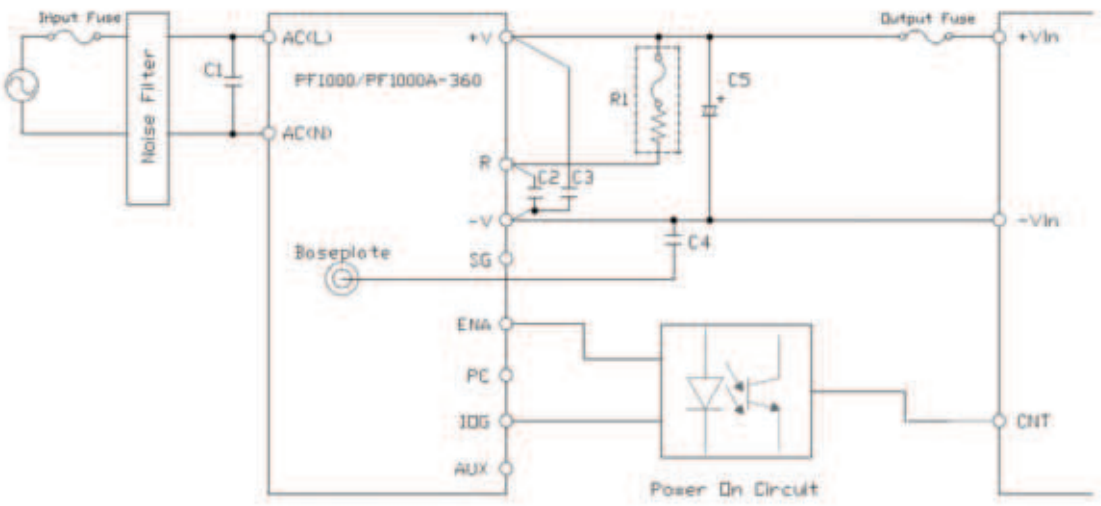
Model		PF500A-360	PF1000A-360
Input			
Input Voltage Range (Operating)	Vac	85 - 265V	
Nominal Input Voltage Range	Vac	100 - 240 (Note: Safety certified for 90 - 264Vac only)	
Input Frequency	Hz	47 - 63	
Input Current (100/200Vac)	A	5.6 / 4	11.2 / 8
Inrush Current (100/230Vac typ) (Cold Start)	A	30 / 60 - See Instruction Manual	
Leakage Current	-	External circuitry - See Instruction Manual	
Power Factor	-	>0.95	
Harmonic Compliance	-	Meets IEC61000-3-2	
Hold Up Time	-	External circuitry - See Instruction Manual	
Efficiency (100 / 200Vac)	%	90 / 94	
Conducted & Radiated EMI	-	External circuitry - See Evaluation Data on website for EN55032 class A/B circuitry	
Immunity	-	See website for Immunity report	
Safety Certifications and Markings	-	IEC/UL/CSA/EN62368-1, CE Mark and UKCA Mark	
Output			
Output Voltage Tolerance	%	±2	
Output Voltage Adjustment	-	Fixed output voltage	
Switching Frequency	kHz	140	
Line Regulation	V	5 (typical)	
Load Regulation	V	10	
External Load Capacitance (see manual)	uF	120 - 1200	240 - 2000
Ripple & Noise (Peak to Peak)	V	20	
Temperature Coefficient	%/°C	0.02	
Minimum Load	-	No minimum load required	
Overcurrent Protection	-	External fuse (See instruction manual)	
Overvoltage Protection	V	390 - 420	
Overtemperature Protection	°C	85 - 115	
Remote Sense	-	No	
Power ON (ENA Signal)	-	Open collector, low when output voltage is >350V	
IOG (Inverter Operation Good)	-	Opto-isolated signal, low when inverter is good	
Auxiliary Voltage	V / mA	12 - 20V 10mA	
Indicators	-	None	
Parallel Operation	-	Up to 5 modules	
Environmental			
Operating Temperature	°C	-20 to +85 (Baseplate)	
Storage Temperature	°C	-40 to +85	
Humidity (non condensing)	%RH	30 - 95 Operating, 10 - 95 Storage	
Cooling	-	Conduction	
Altitude	m	3,000	
Withstand Voltage (For 1 minute)	Vac	Terminal pins to baseplate 3,000. (Input is not isolated from the output)	
Isolation Resistance	MΩ	>100 at 25°C, 70%RH & 500Vdc	
Vibration (Non-operating)	-	10-55Hz (Sweep for 1min.) Amplitude 0.825mm constant (maximum 49m/s^2) X, Y, Z 1 hour each	
Shock (In Package)	-	Less than 196.1m/s^2	
Other			
Weight (Typ)	g	160	250
Size (LxWxH)	mm	86 x 83 x 12.7	86 x 146 x 12.7
Size (LxWxH)	Inches	3.39 x 3.27 x 0.5	3.39 x 5.75 x 0.5
MTBF*	Hours	MIL-STD-217: 493,124	Telcordia TR-332 Issue 5): 331,169
Warranty	Years	2	

Notes

See website for detailed specifications, test methods and installation manual

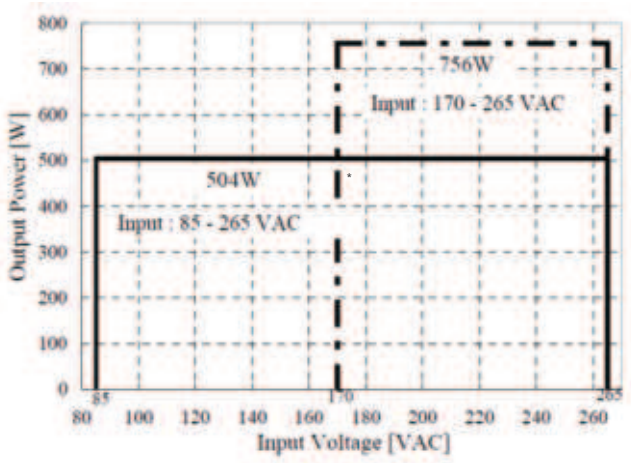
*PF500A; Ground fixed. PF1000A; 100Vac 100% Load, 85°C baseplate, full load, 230Vac input

Basic Connection



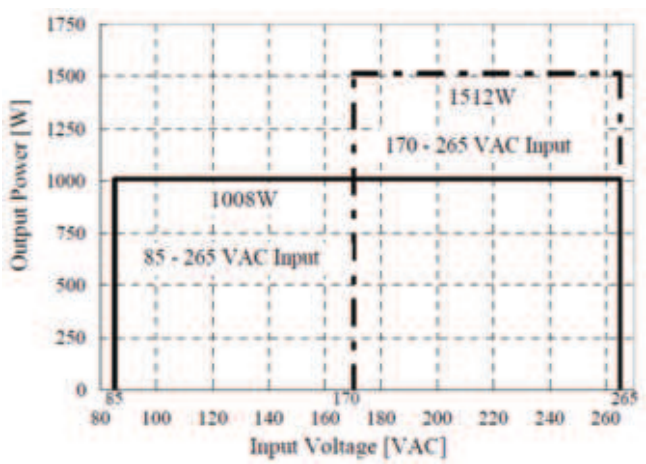
PF500A-360 Derating Curve

Input Voltage vs. Output Power (85°C baseplate)

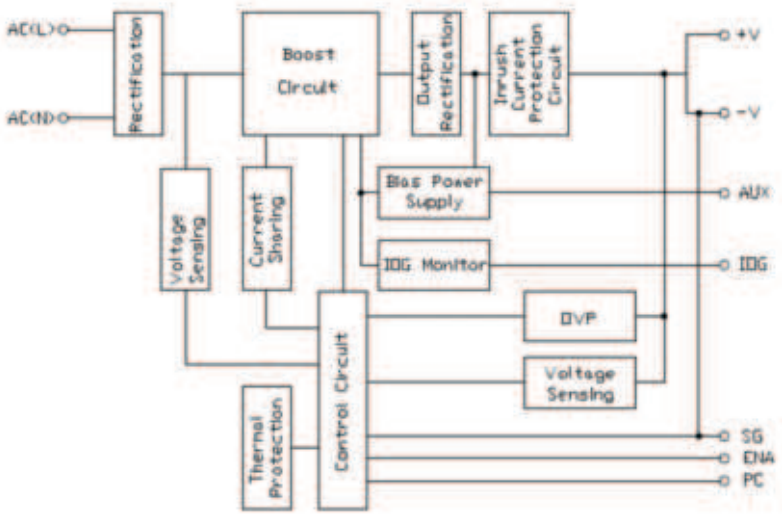


PF1000A-360 Derating Curve

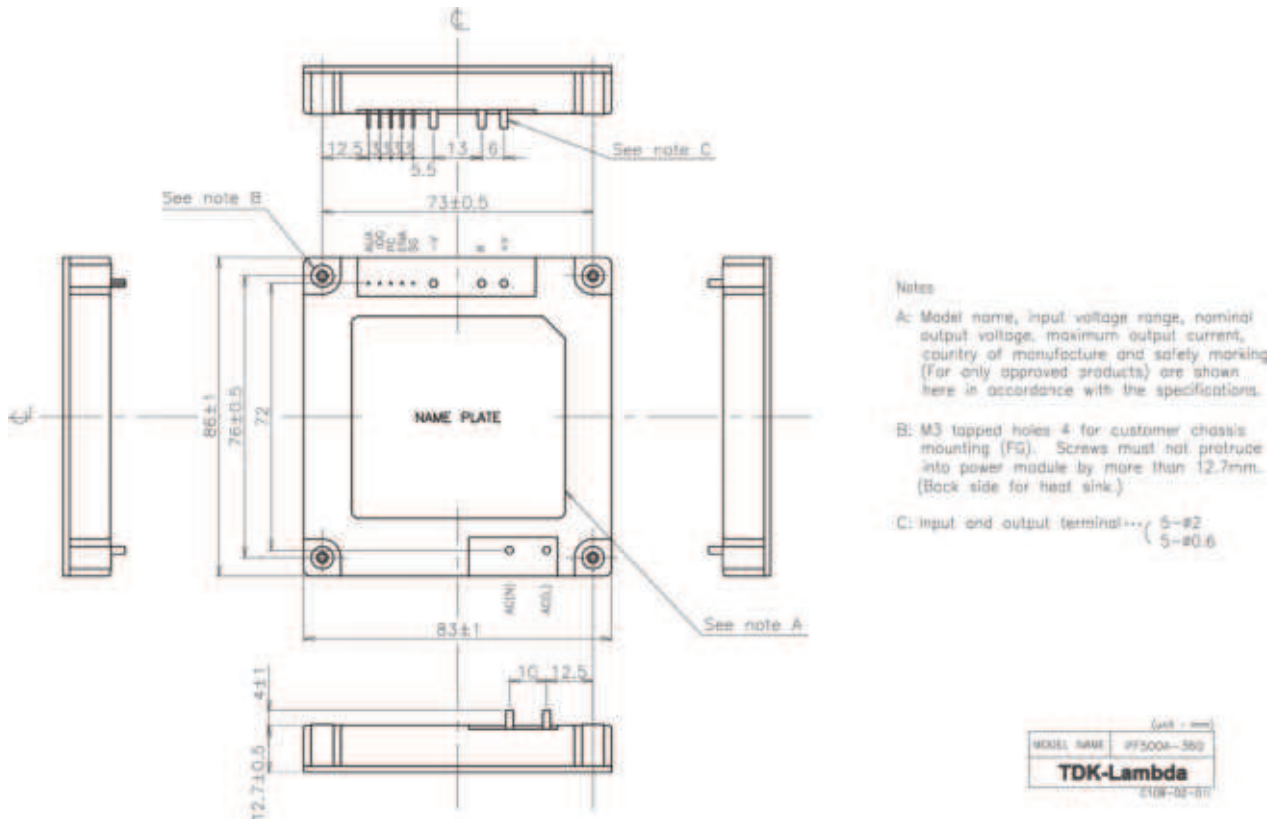
Input Voltage vs. Output Power (85°C baseplate)



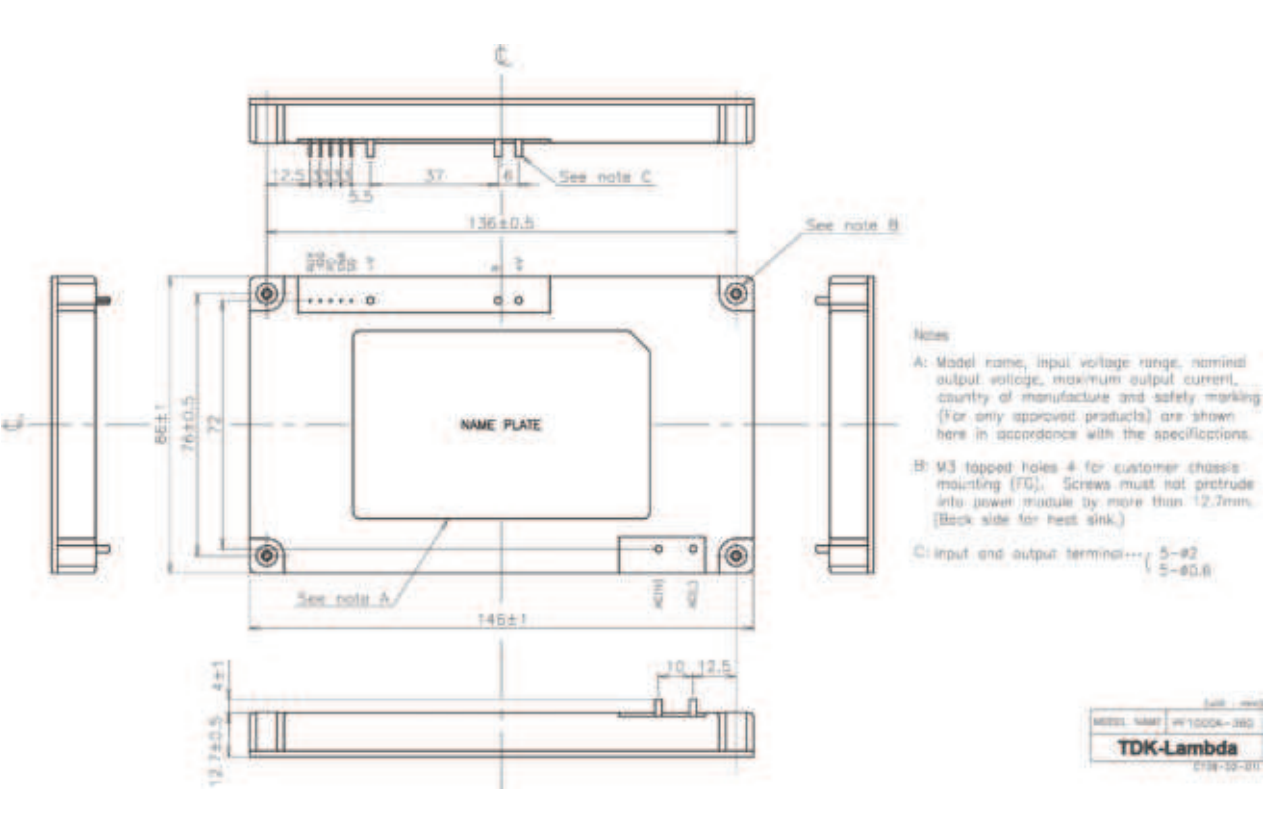
Block Diagram



PF500A Outline Drawing & Pin Out



PF1000A Outline Drawing & Pin Out





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