

200V to 400VDC Input Full brick DC-DC Converters



- ◆ Output Voltages from 7.2V to 57V
- ◆ 450W to 600W Output Power
- ◆ Current Share
- ◆ Operation to 100°C Baseplate
- ◆ Wide Adjustable Output Range

RoHS

Key Market Segments & Applications

Servers & Rail Systems
High End Computers
Custom Power Supplies

PAF Features and Benefits

Feature	Benefit
◆ Wide Adjustment Range	◆ Reduces need for custom modules
◆ Parallel Pin	◆ Modules can be connected together for higher current
◆ High Efficiency - up to 91%	◆ Reduced heat losses

Specifications

MODEL		PAF450F280-12 PAF600F280-12	PAF450F280-24 PAF600F280-24	PAF450F280-28 PAF600F280-28	PAF450F280-48 PAF600F280-48
ITEMS					
Nominal Output Voltage	VDC	12	24	28	48
Output Current (Max)	450W 600W	38 50	19 25	16.5 21.5	9.5 12.5
Max Output Power	450W 600W	456 600	456 600	462 602	456 600
Efficiency (Typ)	%	89-90	91	91	91
Input Voltage Range	VDC	200-400VDC			
Output Voltage Accuracy	%	±1			
Output Voltage Adjustment	VDC	7.2 - 14.4	14.4 - 28.8	16.8 - 33.6	28.8 - 57.6
Max Ripple & Noise	mV	120	240	280	480
Max Line Regulation	mV	48	56	56	96
Max Load Regulation	mV	48	56	56	96
Temperature Coefficient	°C	0.02%/°C			
Overcurrent Protection	%	105 - 140%			
Overvoltage Protection	%	125 - 145%			
Signals & Control	-	Remote Sense, Remote On/Off, Parallel Pin, Inverter Good, 11-14V Auxiliary voltage			
Baseplate Temperature	-	-40°C to +100°C Baseplate: (See derating chart)			
Humidity (non condensing)	-	5 - 95% RH Operating, 5 - 95% RH Non Operating			
Cooling	-	Conduction (See Installation Manual for heatsink selection)			
Isolation Voltage	-	Input to Baseplate: 2500VAC (20mA); Input to Output 3000VAC for 1 min.; Output to Baseplate: 500VDC for 1 min			
Shock	-	196.1m/s ²			
Vibration	-	Non Operating, 10-55Hz (sweep for 1 min.) Amplitude 0.825mm constant (Max 49 m/s ²) X,Y,Z 1 hour each			
Safety Agency Approvals	-	UL60950-1, CSA60950-1, EN60950-1, CE LVD			
Weight (Typ)	g	200			
Size (WxHxD)	mm	2.4 x 0.5 x 4.6 (61 x 12.7 x 116.8) See outline drawing			
Warranty	yr	2 years			

Note: See Installation Manual for full details, test methods of parameters and application notes.

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Pin	Description	Function
-Vin		Negative Input Terminal
+Vin		Positive Input Terminal
CNT		Remote On/Off
+V		Positive Output Terminal
-V		Negative Output Terminal
AUX		11-14V Aux Voltage
PC		Parallel Control Connection
TRIM		Output Adjustment Trim Pin
+S		Positive Remote Sense
-S		Negative Remote Sense
SG		Remote ON/OFF Return

PAF	400-700W Full brick DC-DC
PAH300/450	300-450W Half Brick 24 & 48V Input
PH-F	Full function 200-400V Input DC-DC
PH-S	Simple function 200-400V Input DC-DC
PF	Power factor AC - 380VDC Front End
PFE	300-700W, AC-DC Power module

Graph showing Load (%) vs. Baseplate Temperature (°C) for PAF450F280-12, -24, -28 and PAF450F280-48. The solid line represents PAF450F280-12, -24, -28 and the dashed line represents PAF450F280-48. Both lines show a sharp drop in load at 100°C, with the dashed line dropping to 0% and the solid line dropping to approximately 85%.

Baseplate Temperature (°C)	PAF450F280-12, -24, -28 Load (%)	PAF450F280-48 Load (%)
-40	100	100
0	100	100
20	100	100
40	100	100
60	100	100
80	100	100
94	100	100
100	85	0

Input >380V

Graph showing Load (%) versus Baseplate Temperature (°C) for PAF600F280 series capacitors. The solid line represents PAF600F280-12,-24,-28 and the dashed line represents PAF600F280-48. The input voltage is $V_{input} > 380V$.

Baseplate Temperature (°C)	Load (%) - PAF600F280-12,-24,-28	Load (%) - PAF600F280-48
-40 to 85	100%	100%
85 to 100	100% to 80%	100% to 60%
100 to 105	80% to 0%	60% to 0%

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

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