

600W, 24V and 48V Input DC-DC Converters

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Industrial



COTS



Test



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The PAF600F24 and PAF600F48 series of isolated full brick DC-DC converters operate from a 24V or 48V nominal dc input and are rated at 600W output. Output voltages are 12V or 28V and can be adjusted using the trim terminal by -40% to +10%. All models feature a parallel function for higher power or N+1 redundant systems. Remote sense, remote on/off, inverter good signal and an auxiliary voltage are also included as standard. The power modules can be conduction cooled to a cold plate or fitted with an optional heatsink. These efficient converters are well suited for distributed power architectures and power systems.

Features	Benefits
• Wide Range Inputs	• Operates From Batteries or DC Power Systems
• Baseplate Cooled	• Can be Conduction or Convection Cooled with a Heatsink
• -40 to +100°C Baseplate Temperature	• Operates in Harsh Environments
• Parallel Function	• Suitable for Higher Power or N+1 Redundant Systems
• Up to 90% Efficient	• Easier To Cool In the End System

Model Selector							
Model	Input Voltage (V)	Output Voltage (V)	Adjustment Range (V)	Maximum Current (A)	Maximum Power (W)	Input Current (A) nominal input, 100% load	Efficiency (%) nominal input, 100% load
PAF600F24-12	20 - 36	12	7.2 - 13.2	50	600	28.9	89
PAF600F24-28	19 - 36	28	16.8 - 30.8	21.5	602.0	28.9	89
PAF600F48-12	36 - 76	12	7.2 - 13.2	50	600	14.2	89
PAF600F48-28	36 - 76	28	16.8 - 30.8	21.5	602.0	14.1	90

PAF	600	F	24	-	28	/T	
Series	Output Power	Full Function	Nominal Input 24 = 24V 48 = 48V		Output Voltage 12, 28	Options	
						Suffix	Description
						Blank	M3 tapped mounting inserts
						/T	3.3mm non-threaded inserts

Related Products

	Part Number	Description
DC-DC Converters	PH50A280 to PH600A280	50W to 600W, 200 to 425V Input DC-DC Converters
DC-DC Converters	i7A	500 to 700W, Non-isolated Step Down DC-DC Converters
Heatsink	HAF-10L	Full brick 25mm longitudinal fins
Heatsink	HAF-15L	Full brick 38.1mm longitudinal fins
Heatsink	HAF-15T	Full brick 38.1mm transverse fins

Specifications

Model		PAF600F24-xx	PAF600F48-xx
Input			
Input Voltage range	-	See model selector	
Input Current	-	See model selector	
Efficiency	-	See model selector	
Conducted & Radiated EMI	-	EN55011/EN55032-A, FCC Class A, VCCI-A (External components are required, consult Evaluation Data on website)	
Immunity	-	IEC61000-4-2, -3, -4, -5, -6 (External component are required, consult Immunity Data on website)	
Safety Certifications and Markings	-	IEC/UL/CSA/EN62368-1, 60950-1, CE Mark and UKCA Mark	

Immunity

Test	Standard	Test Level	Criteria	Notes
ESD	EN61000-4-2	Air $\pm 10\text{kV}$ and contact $\pm 5\text{kV}$	A	External component are required (Consult Immunity Data on website)
Radiated Susceptibility	EN61000-4-3	80M -1GHz: 10V/m 1.4 - 2.0GHz: 3V/m 2.0 - 2.7GHz: 1V/m	A	
Electrical Fast Transient Burst	EN61000-4-4	$\pm 2.4\text{kV}$	A	
Surge	EN61000-4-5	Common, Normal $\pm 600\text{V}$	A	
Conducted Susceptibility	EN61000-4-6	10Vrms	A	

Specifications

Model		PAF600F24-xx	PAF600F48-xx
Output			
Output Voltage Tolerance	%	±1	
Output Voltage Adjustment	-	See model selector	
Switching Frequency	kHz	330	
Line Regulation	mV	12V: 24, 28V: 56	
Load Regulation	mV	12V: 24, 28V: 56	
External Load Capacitance	uF	Contact Technical Sales	
Ripple & Noise	mV	12V: 200, 28V: 280	
Temperature Coefficient	%/°C	0.02	
Minimum Load	-	No minimum load required	
Overcurrent Protection	%	105 - 140 constant current characteristic with automatic recovery	
Overvoltage Protection	%	115 - 135, cycle input or remote on/off to reset	
Overtemperature Protection	°C	105 - 130 base-plate	
Remote Sense	-	Yes	
Remote On/Off	-	Yes; Low = ON, High = OFF	
Module Good Signal	-	Signal is low when converter is operating normally, referenced to - sense terminal	
Auxiliary Voltage	-	7 - 10V, 20mA referenced to - sense terminal	
Parallel Operation	-	Possible, see instruction manual	

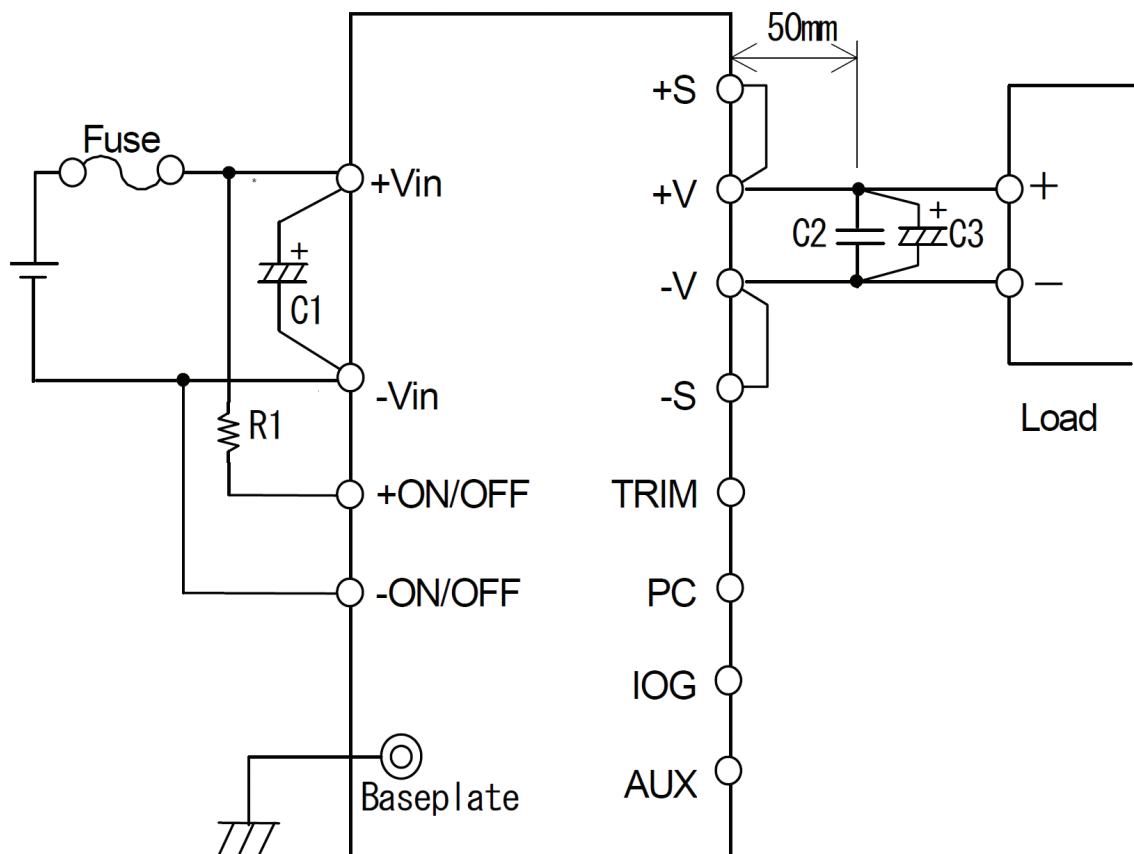
Specifications			
Model		PAF600F24-xx	PAF600F48-xx
Environmental			
Operating Temperature (Baseplate)	°C	-40 to +100, derate linearly to 83% load from +85 to +100	-40 to +100, no derating required
Storage Temperature	°C	-40 to +100	
Humidity (non condensing)	%RH	Operating: 30 - 95, Storage 10 - 95	Operating: 20 - 95, Storage 10 - 95
Cooling	-	Conduction, convection or forced air (See Instruction Manual for heatsink selection)	
Altitude	m	3,000	
Withstand Voltage (For 1 minute)	Vdc	Input to Base-plate: 1,500; Input to Output 1,500; Output to Baseplate: 500	
Isolation Resistance	MΩ	>100 at 25°C, 70%RH & 500Vdc	
Vibration	-	Non Operating, 10-55Hz (sweep for 1 min.) Amplitude 0.825mm constant (Max 49 m/s²) X,Y,Z 1 hour each	
Shock	-	196.1m/s²	
Other			
Weight (Typ)	g	250	
Size (LxWxH)	mm	116.8 x 61 x 12.7	
Size (LxWxH)	Inches	4.6 x 2.4 x 0.5	
MTBF - JEITA (RCR-9102B)*	Hours	299,661	297,989
Warranty	Years	2	

Notes

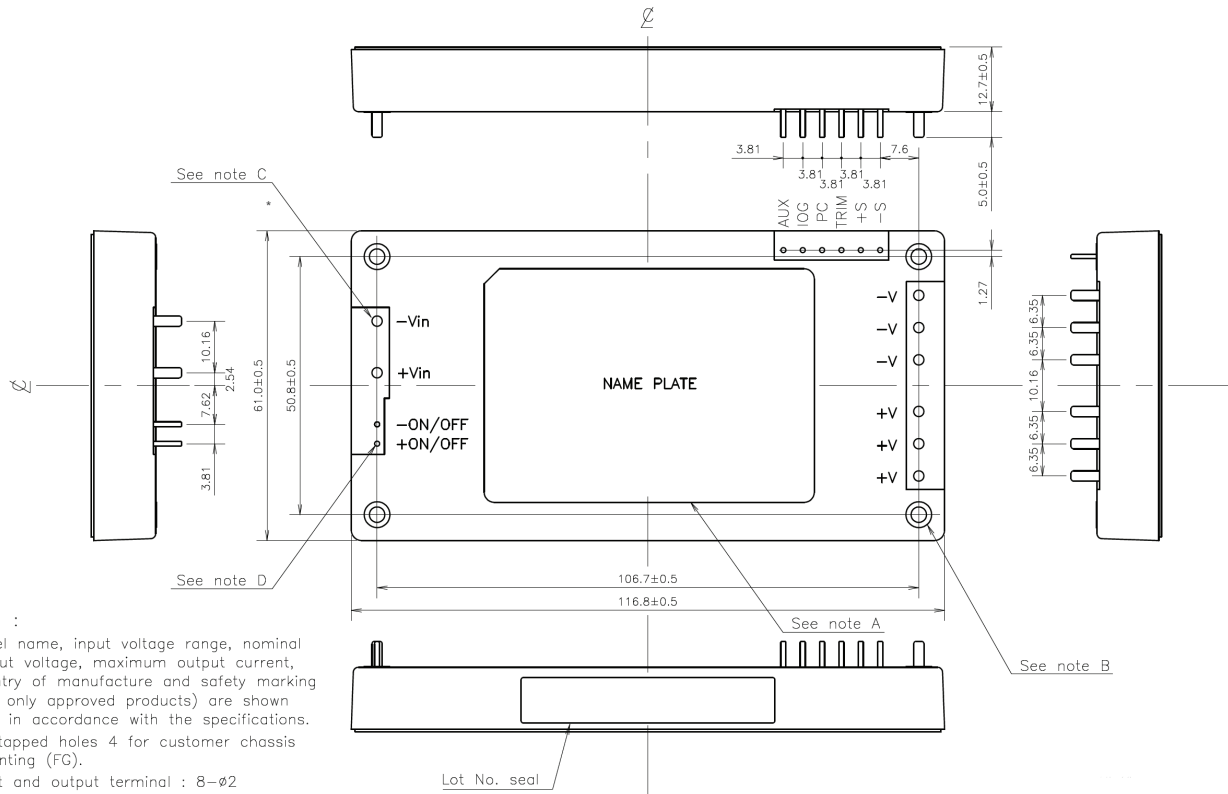
See website for detailed specifications, test methods and installation manual

*Ground fixed. The JEITA RCR-9102B calculation method produces figures significantly lower than Telcordia.

Basic Connection Circuit



Outline Drawing



NOTES :

- A: Model name, input voltage range, nominal output voltage, maximum output current, country of manufacture and safety marking (For only approved products) are shown here in accordance with the specifications.
- B: M3 tapped holes 4 for customer chassis mounting (FG).
- C: Input and output terminal : 8-Ø2
- D: Signal pin : 8-Ø1
- E: Unless otherwise specified dimensional tolerance : ±0.3



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