

Provisional Product Specification

Representing a major achievement in the development of high power, high-density DC converter modules, the APC500 Series provides up to 500W of power at greater than 90% efficiency in a compact package.

Pin compatible with leading competitors, the industry standard "full brick" size module has fixed frequency operation and low ripple making the APC-F501 is ideally suited for the telecoms and IT industries.

Exceptional power density (90w/in^3 / 5.53cm^3) provides over twice the power output from the same space as the standard range of full brick size converters on the market, while automated production and test ensure high reliability.

The comprehensive list of protection functions such as over voltage and under-voltage protection plus short circuit protection are complemented by features such as isolated ON/OFF control, power good (IOG) signal and auxiliary power output.

The APC500 gives the DPA designer added versatility, space saving capability in a directly compatible, cost effective package.

FEATURES

- Exceptional efficiency of >90%
- Outstanding power density – 5.53cm^3
- Standard "full brick" package (116.8 x 61 x 12.7mm)
- Low input & output ripple currents
- Input transient voltage protection
- IOG (power good) pin provides early warning of system fault.
- Single connection for parallel operation to provide true N+1 redundancy capability
- No need for master/slave operation
- External synchronisation facility
- Hot plug in capability
- Remote sensing provided
- Remote optically isolated shutdown
- Wide input voltage range
- Output current monitor voltage
- Thermal protection & Current limit protection



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APC-F501 Full Brick Single Output DC-DC Converter - 48Vi, 28Vo 500W

General Specifications

Parameters	Specification			Units	Notes
	Min	Typ.	Max		
Output Voltage	27.75	28	28.25	V	
Output Current	0		18	A	Brickwall current limit at 19.3A
Output Power	0		500	W	
Efficiency		90		%	
Input voltage range	35	48	75	V	
Turn on/off hysteresis	30		35	V	
Input current		12.1		A	48Vin, 500W out
Output voltage range	20	28	30	V	
Output setpoint accuracy		±1		%	
Temp coefficient		0.02		%/°C	
Ripple and noise			300	mV	
Line regulation		1		mV	
Load regulation		1		mV	
Dynamic response deviation		±350		mV	
Settling time			300	uS	
Over current protection		110		%	
Over voltage protection		115		%	
Over temperature protection		105		°C	
Remote sensing		Possible			
Remote on/off		Possible			
On/off rise/fall time		20		mS	Ton delay, to Vo 90% point, load 500W resistive
I/OG signal		Possible			I/OG thresholds nominal 26V and 30V
Withstand voltage	see below				
Input-Base	1000			V	
Input-Output	1500			V	
Output-Base	500			V	
Isolation Resistance	100			MΩ	
Environmental Characteristics	Min	Typ	Max	Units	Notes
Operating Temperature	0		+100	°C	
Operating Humidity	30		95	%RH	
Storage Temperature	-40		+85	°C	
Storage Humidity	30		95	%RH	
Shock		196.1		m/s ²	

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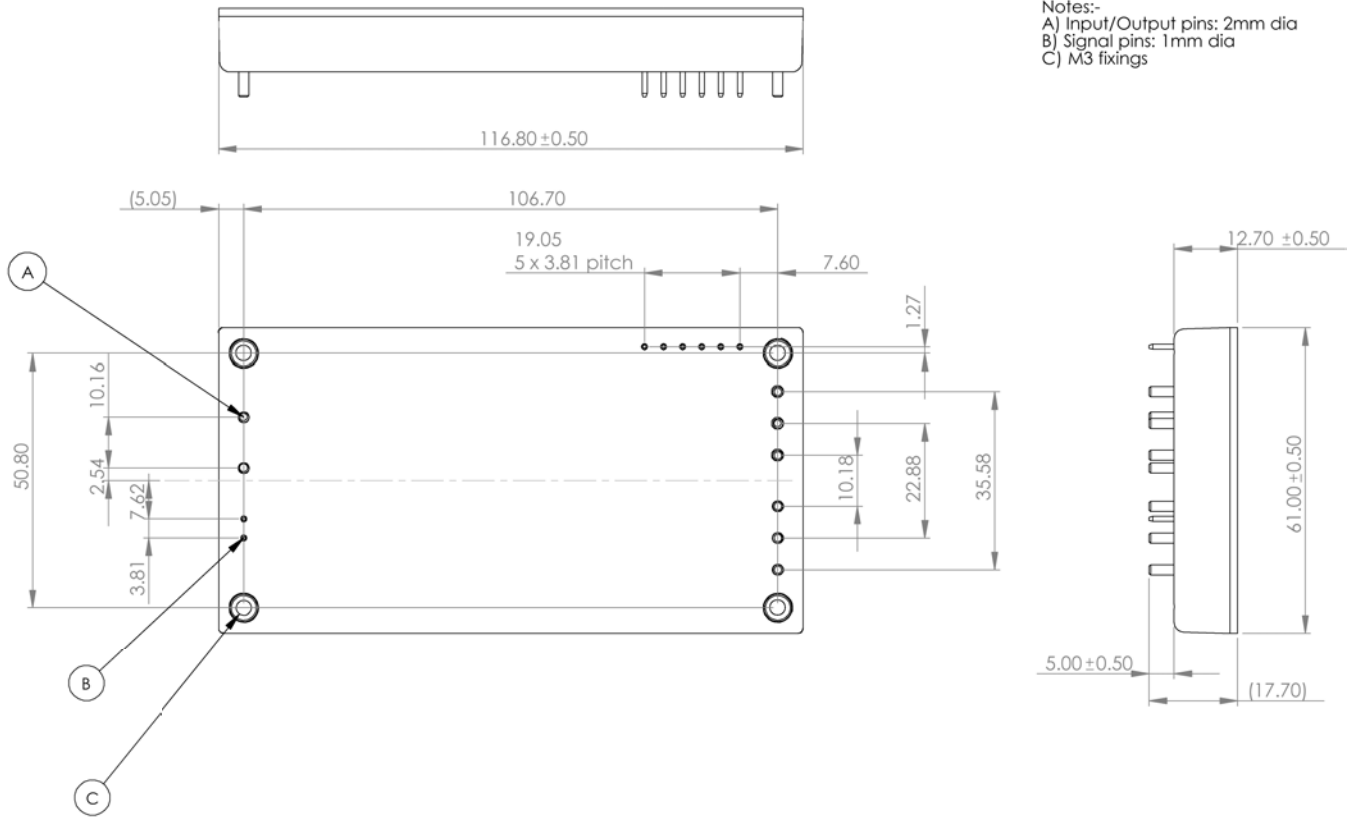
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Mechanical Outline

Dimensions are in millimetres and (inches).

Tolerances: x.x mm ± 0.5mm (x.xx in. ± 0.02 in.)
 x.xx mm±0.25mm (x.xxx in. ± 0.010 in.)

Notes:-
 A) Input/Output pins: 2mm dia
 B) Signal pins: 1mm dia
 C) M3 fixings



Range

Model Reference	Input Voltage (V)	Output Voltage (V)	Output Current (A)
APC-F501-024-120-T	24	12	41.7
APC-F501-024-150-T	24	15	33.3
APC-F501-024-240-T	24	24	20.8
APC-F501-024-280-T	24	28	17.8
APC-F501-024-480-T	24	48	10.4
APC-F501-048-120-T	48	12	41.7
APC-F501-048-150-T	48	15	33.3
APC-F501-048-240-T	48	24	20.8
APC-F501-048-280-T	48	28	17.8
APC-F501-048-480-T	48	48	10.4

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