

AC-DC Converter

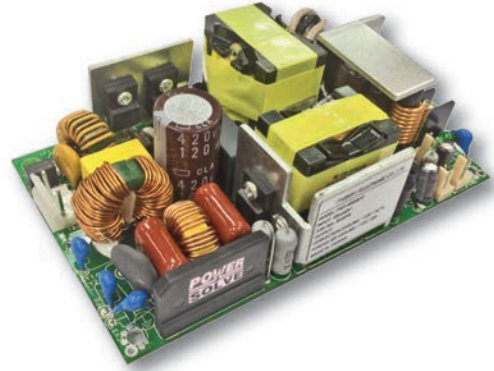
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PSY300 Series, single output 200/300 watts output power

Features

- Compact 3 x 5" footprint
- 90-264VAC input with active PFC
- 200W convection cooled 300W with fan cooling
- Wide operating temperature range of -30° to +85°C
- High efficiency up to 92%
- Built in remote sense and power fail signal
- Short circuit, over current, overvoltage and over temperature protection
- 12V 0.3A fan supply



Electrical Specification

AC input:	90-264VAC, 47-63Hz
AC input current:	3.6A max at 100VAC input, max load output
AC inrush current:	70A max for 1mS at 230VAC input
Efficiency at 25-100% load:	90-92% depending on output voltage version
Efficiency at 10% load:	80-83% depending on output voltage version
No load power consumption:	0.25W max without fan & LED
DC output voltage:	see table below
DC output current:	see table below
DC output power:	200 Watts convection and 300 Watts fan cooled
Turn on delay time:	1 second max
Output hold up time:	20mS minimum at 100VAC input to 95% output V
Rise time:	25mS max from 10 to 90% output V at full load and nominal input
Total output regulation:	±2% including line, load & temperature
Over voltage protection:	latch off protection mode
Over load protection:	110-125% max load with auto recovery
Short circuit protection:	output can be shorted without damage with auto recovery
Over temperature protection:	latch off protection mode
Output remote sense:	compensates for 0.5V lead drop
Power fail signal:	Logic 0 8mS before loss of regulation
Fan output:	12V 0.3A
LED indicator:	shows output power
Operating temperature:	-30° to +85°C see derating curves below
Storage temperature:	-30° to +85°C
Relative humidity:	10-90% non condensing
Operating altitude:	5000 metres
Mean time between failures (MTBF):	calculated 170k to 189k hours depending on output model

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Electrical Specification (continued)

Electrostatic discharge (ESD):	EN61000-4-2 ±8kV air discharge, ±4kV contact, no damage	
Low voltage dips:	EN61000-4-11	
100V AC	95% dips 10mS	Criterion A
	30% dips 100mS	Criterion B
	60% dips 100mS	Criterion B
	95% dips 5000mS	Criterion B
240V AC	95% dips 10mS	Criterion A
	30% dips 100mS	Criterion A
	60% dips 100mS	Criterion A
	95% dips 5000mS	Criterion B
Lightning surge immunity:	IEC61000-4-5 Line-Line ±1kV, Line-Earth ±2kV Criterion A	
Fast transients:	IEC61000-4-4 ±2kV Criterion A	
Radiated susceptibility:	EN61000-4-3 10V/M, 80% AM Criterion A	
Conducted Immunity:	IEC61000-4-6 10V/M, 80% AM, Criterion A	
Harmonic current:	IEC61000-3-2 input power >75W, Class D	
Electromagnetic interference (EMI):	Radiated & Conducted EN55032'B', FCC part 15-B, CISPR32-B	
Safety approvals:	CB EN60950-1, CE, UL/cUL60950-1	
Dielectric strength (HI-POT):	4000VAC I/P to O/P, 2500VAC I/P to Earth, 1000VAC O/P to Earth	
Earth leakage current:	100µA max at 264VAC 60Hz	
Insulation resistance:	500VDC between primary & secondary for 1 min >100MΩ	

Models & Output Voltages & Current

Model Number	Output Voltage	Output Current (Convection)	Output Current (Fan cooled)	Output Current (peak for 160mS)	Ripple & Noise (max mV pk-pk)
PSY300S12	12V	16.67A	25.00A	33.33A	120mV
PSY300S18	18V	11.10A	16.60A	22.20A	110mV
PSY300S24	24V	8.33A	12.50A	16.66A	100mV
PSY300S30	30V	6.66A	10.00A	13.30A	100mV
PSY300S36	36V	5.55A	8.33A	11.10A	120mV
PSY300S48	48V	4.16A	6.25A	8.33A	130mV
PSY300S54	54V	3.70A	5.55A	7.40A	130mV

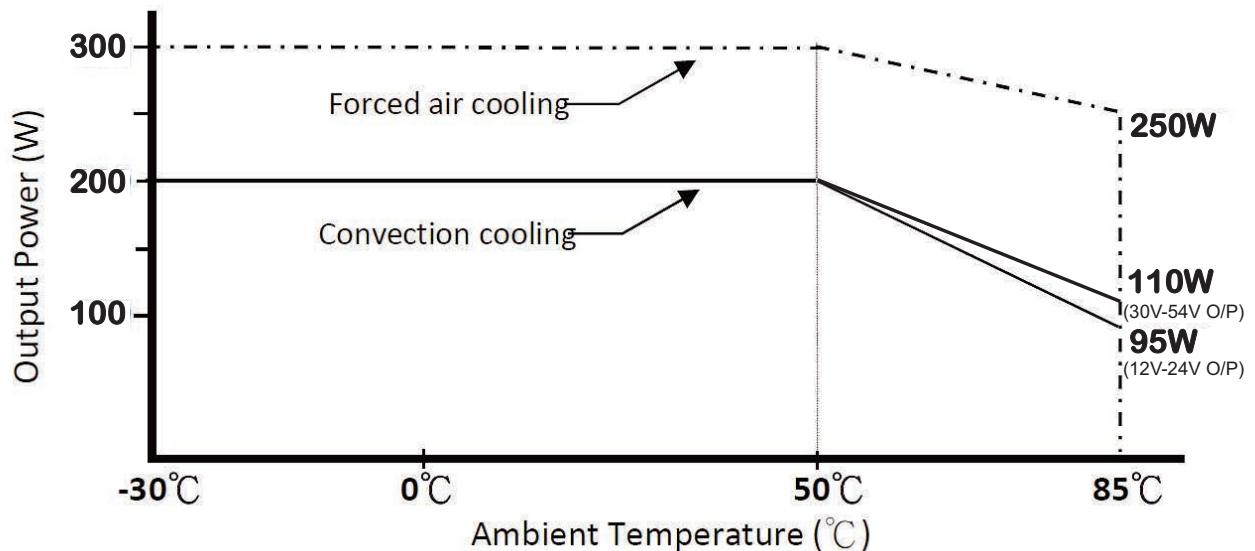
NOTE: Other models are available with output voltages from 9V to 57V DC still within the safety approvals. These will be subject to minimum order quantities and specifications may differ to above depending on output voltage required. Consult sales office for further details.

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Temperature Derating Curves



Thermal Considerations

Under ambient temperature range of -30°C to +85°C with or without fan cooling the key components listed in the table below **MUST NOT** exceed the maximum temperature stated

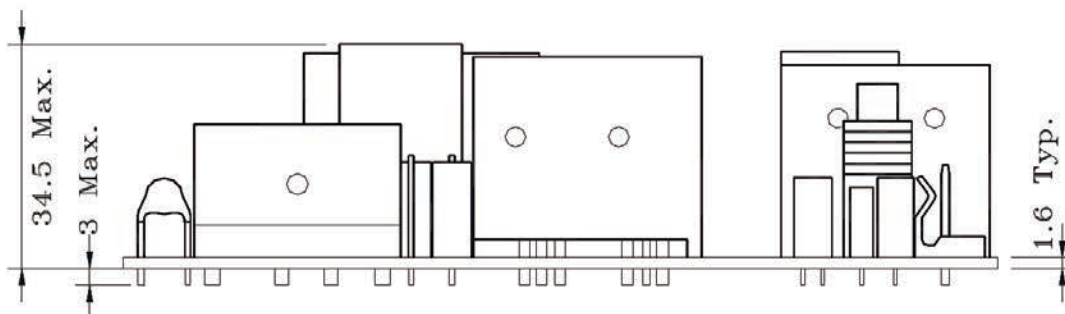
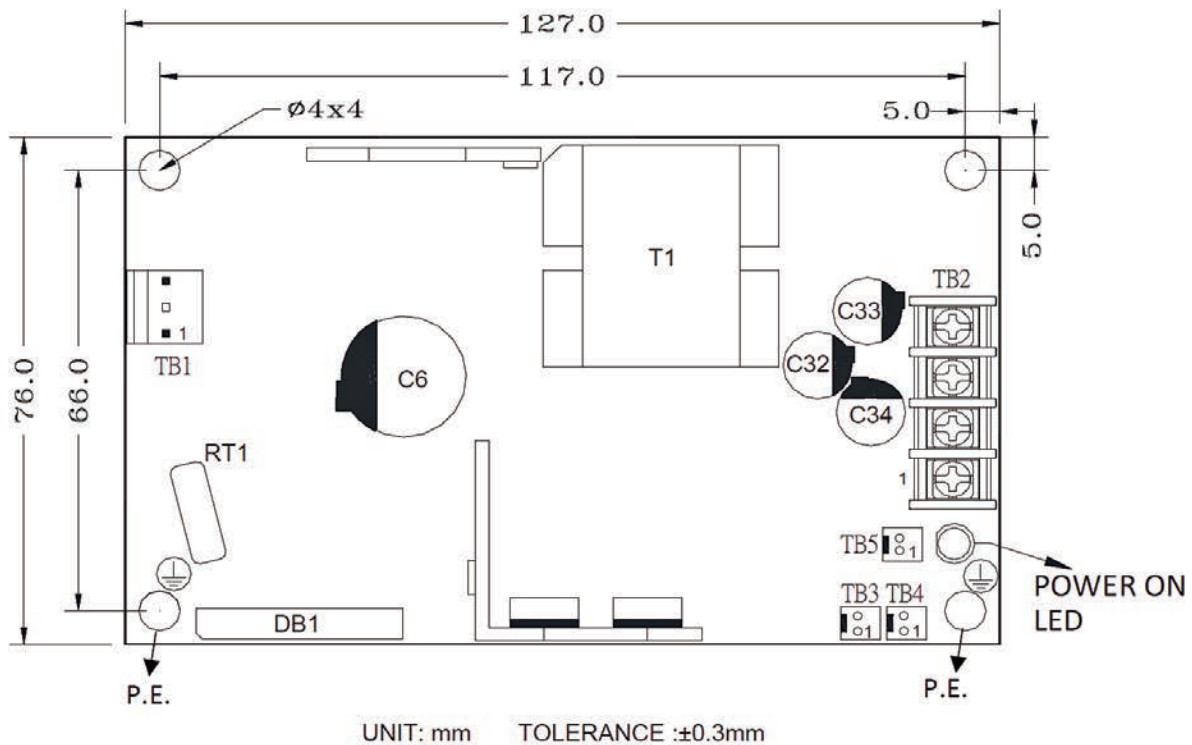
Key Component Location	Max Body Temperature °C
RT1	115°C
C6	100°C
TI	110°C
C32, C33, C34	100°C

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Mechanical (mm)



Note : Mounting Holes with should be grounded for safety and EMI purpose.

Matching Connectors

TB1 AC Input Connector	
PIN 1	Neutral
PIN 2	Line
Molex 5277-02A or equivalent, mates with Molex 5239-03 or equivalent	

TB2 DC Output Connector	
PIN 1	+V OUT
PIN 2	+V OUT
PIN 3	0V OUT
PIN 4	0V OUT
4 Pole Terminal Blocks Pitch 8.25mm	

TB3 FAN Output	
PIN 1	+12V Out
PIN 2	0V Out
TB4 Power Fail Signal	
PIN 1	Signal +
PIN 2	Signal -
TB5 Remote Sense	
PIN 1	Sense +
PIN 2	Sense -
Molex 5046-02A or equivalent, mates with Molex 5051 or equivalent	