# PPWAM360 Power Supply Series (360W)

#### **Features:**

- IEC 60601-1-2 4th Edition Compliant
- High Power Density: 360W in 4" x 6" Footprint
- UL/EN60601-1 3rd Edition and UL/EN60950-1 2nd Edition Medical and ITE Approvals
- <100uA @ 264VAC Earth Leakage Current</li>
- 2 x MOPP Primary to Secondary
- Meets BF (body Floating) Rated Output Requirements
- Short Circuit, Overload and Overvoltage Protection







#### **Description:**

The PPWAM360 series of compact, open-framed AC-DC switching power supplies offers a high power density to fit in a small space. This dense 6" x 4" platform offers up to 360W of continuous power across a wide range of operating temperatures, all while maintaining a low emissions profile. All models meet FCC, EN55011, CISPR11 class B emission limits, and comply with UL, CE, IEC, and more.

Model <sup>1</sup>	Output Voltage	Maximum Load with Convection Cooling <sup>4</sup>	Maximum Load with 20CFM Forced Air <sup>4</sup>	Output Regulation <sup>2</sup>	Ripple & Noise (Vp-p) <sup>3</sup>	Standby Power (V2)	Fan Output (v3)
PPWAM360-12A	12V	20.84A	30.00A	±3%	120mV	5V/0.5A	12V/0.3A
PPWAM360-14A	24V	10.42A	15.00A	±3%	240mV	5V/0.5A	12V/0.3A
PPWAM360-15A	28V	8.93A	12.86A	±3%	280mV	5V/0.5A	12V/0.3A
PPWAM360-18A	48V	5.21A	7.50A	±3%	300mV	5V/0.5A	12V/0.3A
PPWAM360-18-1A	54V	4.63A	6.67A	±3%	300mV	5V/0.5A	12V/0.3A

#### NOTES:

- 1. Output Connector option: terminal block is standard. For Molex header type, part number is PPWAM360-XX-H.
- 2. Output regulation is the total percentage of deviation from nominal output voltage under all operating ranges.
- 3. Measured at 20MHz bandwidth with a  $100\mu F$  electrolytic capacitor and  $0.1\mu F$  ceramic capacitor in parallel at the output connector.
- 4. Total output power is rated for 250W at convection and 360W with 20 CFM forced air. Refer to drawings for proper fan placement.

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Specifications			
Input			
Input Voltage	90-264VAC		
Input Frequency	47-63Hz		
Input Current	5A max. @ 115VAC 2.5A max. @ 230VAC		
Inrush Current	<40A peak @ 115VAC <80A peak @ 230VAC, cold start, 25°C		
No Load Power Consumption	<0.5W		
Power Factor	>0.9		
	Output		
Total Output Power	360W max. See derating chart for details		
Output Voltage	See models and ratings table		
Hold Up Time	10mS typical at 75% and 115VAC nominal line		
Efficiency	88% average minimum,115VAC/230VAC		
inimum Load No Minimum Load			
Output Touch Current	<100uA max. @264Vac		
	Protection Features		
Overvoltage Protection	105-140% of nominal output voltage. Latching type, cycle AC to reset		
Overload Protection	105%-150% of maximum output rating, Auto recovery		
Short Circuit Protection	Auto recovery		
	Environmental		
Operating Temperature	-0°C to +70°C (refer to derating curve for details)		
Storage Temperature	-20°C to +85°C		
Humidity	0% to 90% non-condensing		
Operating Altitude	<3000m for medical use, <5000m for ITE use		
General Specifications			
Dimensions	6"(152.4mm)L x 4"(101.6mm)W x 1.18"(30.0mm)"H		
Weight	1.06lbs		
MTBF	>250K hours per Bellcore TR-332 at full load and 25°C ambient		

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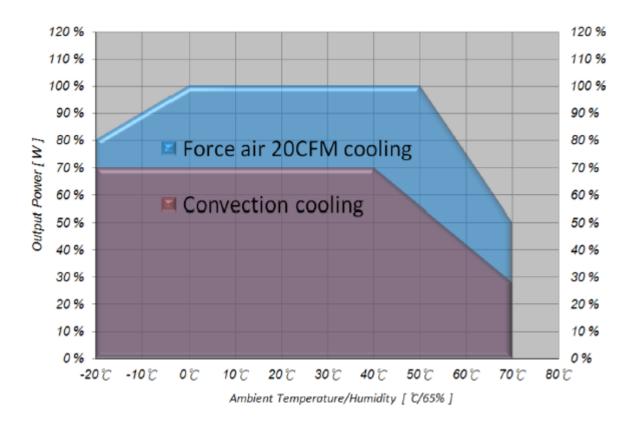
Specifications Continued Safety		
Approvals Europe	TUV EN60601-1 3rd edition CB Report	
Isolation	4000 VAC input to output, 2 x MOPP 1500 VAC input to ground,1 x MOPP 1500 VAC output to ground,1 x MOPP	
Earth Leakage Current	<200μA max. at 264Vac	
*Consult with TT Electronics for information on additional count	try safety approvals	
	EMC	
Emissions	FCC Class B Radiated & Conducted CISPR11 Class B Radiated & Conducted EN55011 Class B Radiated & Conducted	
Su	sceptibility	
Harmonic Currents Voltage Flicker Electrostatic Discharge Radiated Immunity EFT/Burst Surge Immunity Conducted Immunity Magnetic Field Dips/Interruptions	IEC 61000-3-2: Class A IEC 61000-3-3 IEC 61000-4-2: ±15kV Air, ±8kV contact IEC 61000-4-3: 10V/m IEC 61000-4-4: ±2kV IEC 61000-4-5: 1kV diff, 2kV com IEC 61000-4-6: 10Vrms IEC 61000-4-8: 30A/m IEC 61000-4-11: Voltage dip immunity 30% reduction for 500ms, 100% reduction for 10ms	

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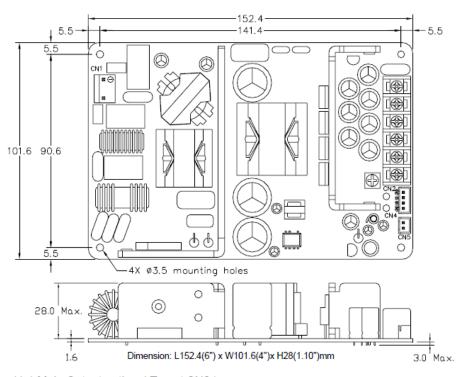


## **Diagrams**

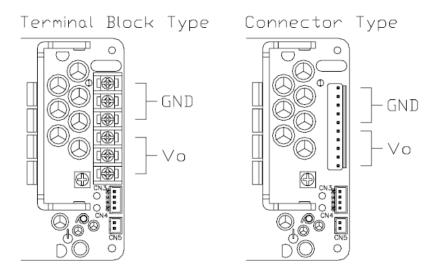
# **Derating Curve**







### 11.1 Main Output optional Type (CN2)





# Pin Assignments

### **CN1: Input Connector**

JST B3P-VH-B (3.96mm pitch) or equivalent. Mates with JST VHR-3N or equivalent

Pin#	Signal
1	AC Line
2	AC Neutral

## CN4: Remote On/Off and Standby

JST B4B-XH-A (2.5mm pitch) or equivalent. Mates with JST XHP-4 or equivalent

Pin#	Signal
1	GND
2	+5VSB
3	Remote on/off
4	GND

Remote on/off: Logic level high (5V) or floating to enable output. Logic level low to disable output.

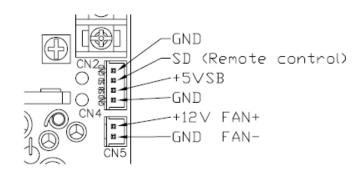
## CN2: Main Output Connector Terminal Block Type (standard)

Pin#	Signal
1	GND
2	GND
3	GND
4	+Vout
5	+Vout
6	+Vout

#### CN5: Fan Output Connector

JST B2B-XH-A (2.5mm pitch) or equivalent. Mates with JST XHP-2 or equivalent

Pin#	Signal
1	+12V Fan
2	Fan Return



#### Connector Type (Option -H)

JST B10P-VH-B (3.96mm pitch) or equivalent. Mates with JST VHR-10N or equivalent

Pin#	Signal
1	GND
2	GND
3	GND
4	GND
5	GND
6	+Vout
7	+Vout
8	+Vout
9	+Vout
10	+Vout



