



Size: 5in x 3in x 1.18in

FEATURES

- Both ITE and Medical Approvals
- High Power Density, 280W in 5" x 3" Footprint
- Medical Applications Protection: Means of Patient Protection (MOPP)
- Altitude During Operation: ITE up to 5000m, Medical below 3000M
- Meets Medical BF Rating
- Main Output and Standby Output Power ON LED Indicators
- Remote Control (Inhibit) Function
- RoHS Compliant
- Wide Input Range of 90-264VAC

DESCRIPTION

The PSIM280B series of medical open frame power supplies offers 280 watts of output power in a highly reliable 5" x 3" x 1.18" package. This series consists of single outputs, an input voltage range of 90-264VAC, and a frequency of 47-63Hz. All models are RoHS compliant, have high efficiency above 91%, and meets medical BF rating. Models are equipped with remote control (inhibit) function and LED indicators.

MODEL SELECTION TABLE

Model Number ⁽¹⁾	Input Voltage Range	Output Voltage	Maximum Load (V1)		Ripple & Noise ⁽⁴⁾	Output Regulation (V1)	Output Power ⁽³⁾	Standby Supply (V2)	Fan Output (V3) ⁽²⁾	Efficiency
			Convection	18 CFM Forced Air						
PSIM280B-1Y120Z	90-264VAC	12V	17.5A	23.33A	150mV	±3%	280W	5V/0.5A	12V/0.3A	>91%
PSIM280B-1Y240Z		24V	8.75A	11.66A	240mV	±3%	280W	5V/0.5A	12V/0.3A	
PSIM280B-1Y280Z		28V	7.5A	10A	280mV	±2%	280W	5V/0.5A	12V/0.3A	
PSIM280B-1Y480Z		48V	4.375A	5.83A	300mV	±2%	280W	5V/0.5A	12V/0.3A	
PSIM280B-1Y540Z		54V	3.88A	5.18A	400mV	±2%	280W	5V/0.5A	12V/0.3A	

SPECIFICATIONS

All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
INPUT SPECIFICATIONS					
Input Voltage Range		90		264	VAC
Input Frequency		47		63	Hz
Power Factor	@115VAC		> 0.95		A Peak
	@230VAC @Full Load		> 0.90		
Inrush current	@115VAC		<30		
	@230VAC cold start @25°C		<60		
Input Current (rms)	@115VAC			3.5	A
	@230VAC			2	
Earth Leakage Current	@264VAC		<100		uA
OUTPUT SPECIFICATIONS					
Output Voltage		See Table			
Hold Up Time	@Full Load, 115VAC		>10		ms
Remote Control	Inhibit Function				
Output Power	Forced Air			280	Watts
	Convection Cooling			210	
Maximum Capacitive Load		See Table			
Ripple & Noise (20MHz bandwidth)		See Table			
PROTECTION					
Short Circuit Protection		Auto Recovery			
Over Load Protection	105% to 150% maximum rating	Auto Recovery			
Over Voltage Protection		Latching type. AC Recycle			
ENVIRONMENTAL SPECIFICATIONS					
Operating Temperature	Refer to Derating curve	0		70	°C
Storage Temperature		-20		85	°C
Humidity	Non-Condensing	0		90	%
MTBF	@Full Load and 25°C ambient temperature per Telcordia (Bellcore)		>200,000		hours

SPECIFICATIONS

All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
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SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
GENERAL SPECIFICATIONS					
Efficiency	@Full Load, 230VAC		>91		%
PHYSICAL SPECIFICATIONS					
Weight				0.775 lbs.	
Dimensions (L x W x H)				5in x 3in x 1.18in (127mm x 76.2mm x 30mm)	
SAFETY & EMC CHARACTERISTICS					
Safety Approvals		UL60601-1 3 rd Edition ⁽⁵⁾ UL/c-UL UL60950-1 ⁽⁵⁾ EN60601-1 3 rd Edition TUV EN60950-1 IEC EN60601-1 3 rd Edition CB IEC60950-1			
EMC		EN60601-1-2			
		EN55024			
		EN 55011			Class B
		EN55022			Class B
		FCC Part 15			Class B
		FCC Part 18			Class B
		CE			

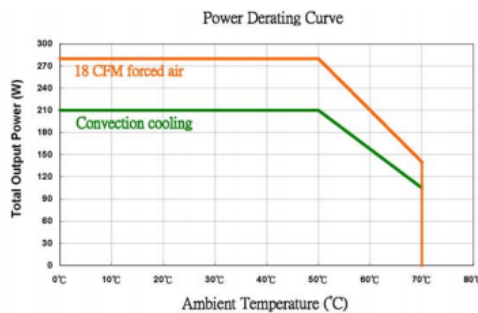
NOTES

- Output connector options: Z=T (Terminal block type, pitch 8.25mm) Suitable for all voltages, Z=M (Mini-fit type, pitch 4.2mm), or Z=C (Connector type, pitch=3.69mm): Suitable for 24V and up.
- All models are equipped with 5Vsb & 12V fan outputs.
 - 5Vsb meets ErP 0.5W @ No Load
- All models have total power 210W max. convection or 280W max. forced air cooling.
- Ripple and noise are measured at oscilloscope 20MHz bandwidth by a 47uF electrolytic capacitor and a 0.1uF ceramic capacitor in parallel at output connector.
- This product is Listed to applicable standards and requirements by UL.

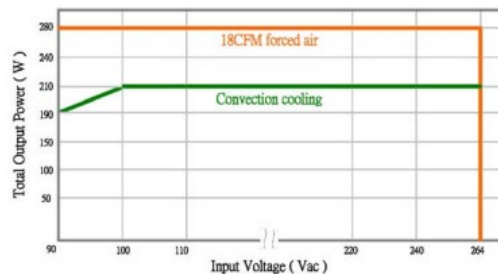
*Due to advances in technology, specifications subject to change without notice.

DERATING CURVES

Power Derating Curve



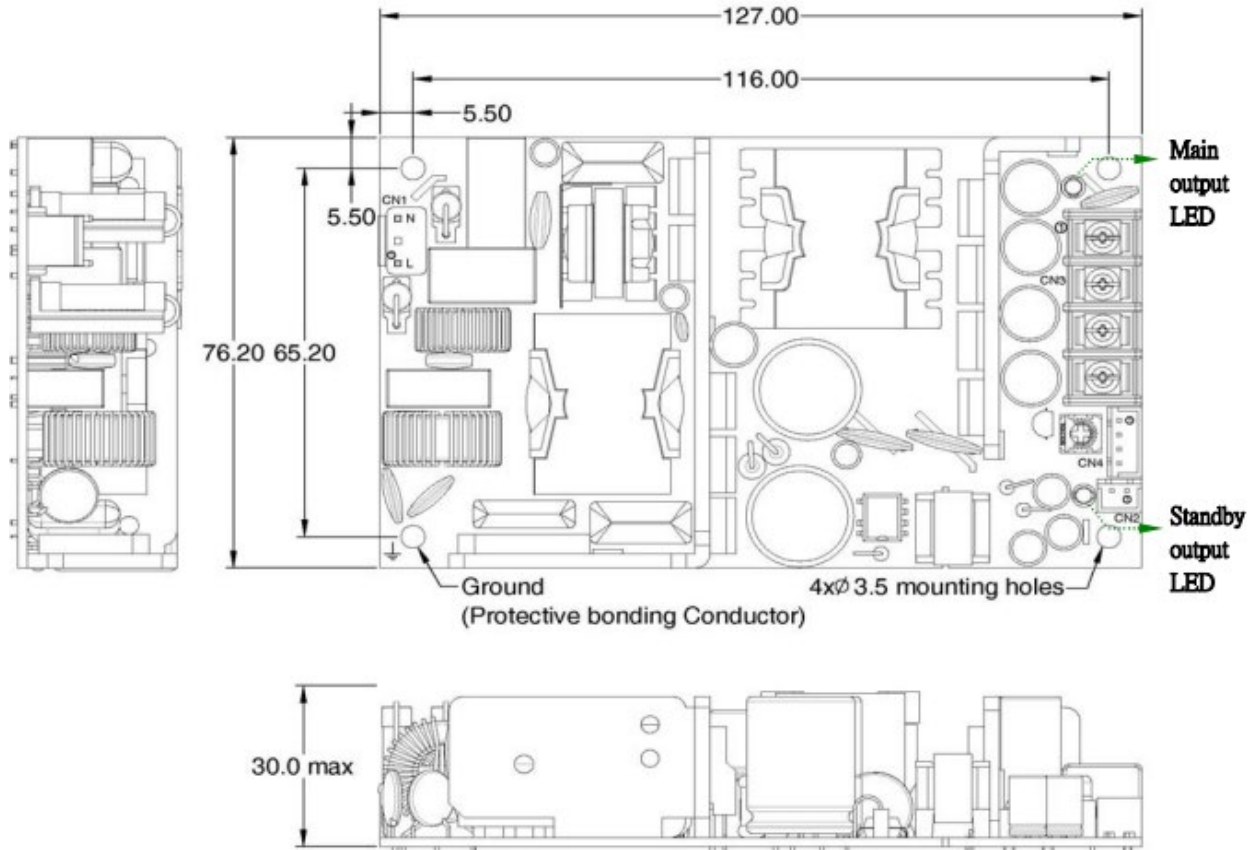
convection cooling and
18CFM forced air cooling
Derate linearly 2.5% per °C from 51 to 70°C



Convection cooling total output 210W
Derate linearly 1% per Vac from 100 to 90Vac

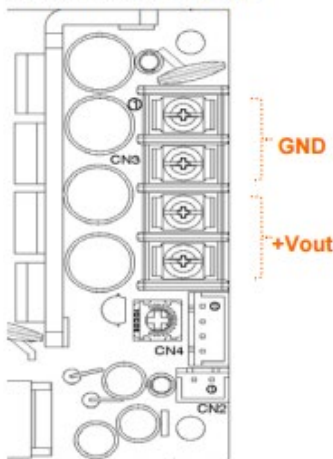
MECHANICAL DRAWINGS

Mechanical Specification

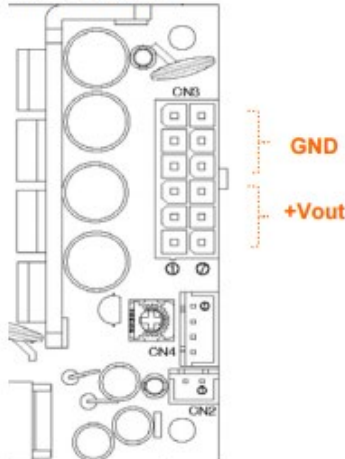


Main Output Optional Type (CN3)

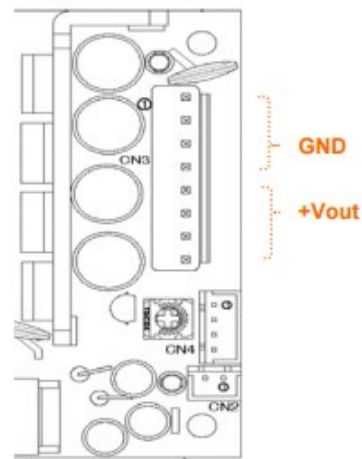
Terminal Block Type



Mini Fit Type



Connector Type



Matching Connectors

CN1: Input Connector

JST B2P3-VH pitch: 3.96mm or equivalent,
mates with JST VAR-2 or equivalent

Pin #	Signal
1	AC Line
2	AC Neutral

CN2: FAN Output Connector

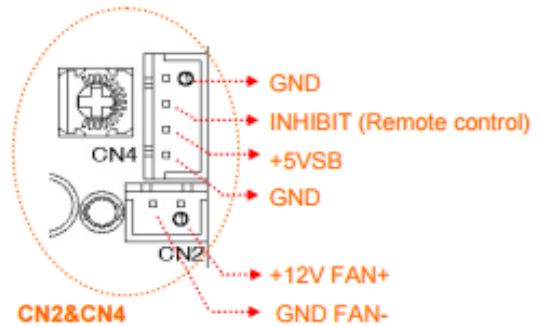
JST B2B-XH-A pitch: 2.5mm or equivalent,
mates with JST XHP-2 or equivalent

Pin #	Signal
1	+12V FAN+
2	GND FAN-

CN4: Remote control & Standby supply

JST B4B-XH-A pitch: 2.5mm or equivalent,
mates with JST XHP-4 or equivalent

Pin #	Signal
1	GND
2	INHIBIT (Remote control)
3	+5VSB
4	GND



INHIBIT→ Logic level HIGH (5V) or Floating : Enable, Logic level LOW : Disable

CN3: Main Output Connector

Terminal Block Type

4-Pole Terminal block pitch: 8.25mm ,
rate 20A/300V or equivalent

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

Connector Type

JST B8P-VH-B pitch: 3.96mm or equivalent,
mates with JST VHR-8N or equivalent

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

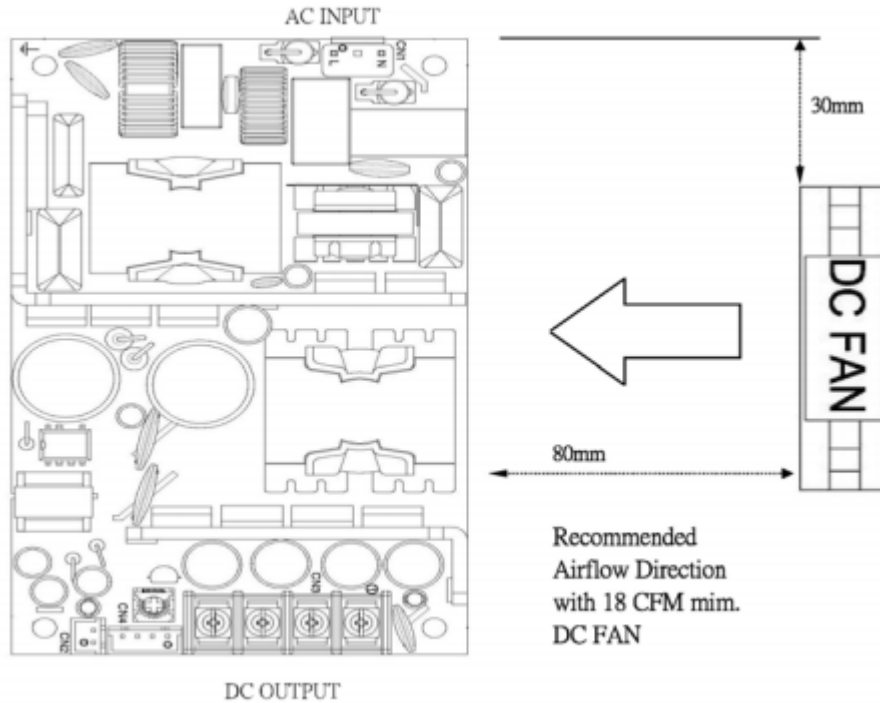
Mini Fit type

12 PIN Min Fit Pitch:4.2mm .

Molex P/N 39-28-1123 or equivalent.

Pin #	Signal	Pin #	Signal
1	+Vout	7	+Vout
2	+Vout	8	+Vout
3	+Vout	9	+Vout
4	GND	10	GND
5	GND	11	GND
6	GND	12	GND

DC Fan Recommended Direction



COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001: 2015 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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