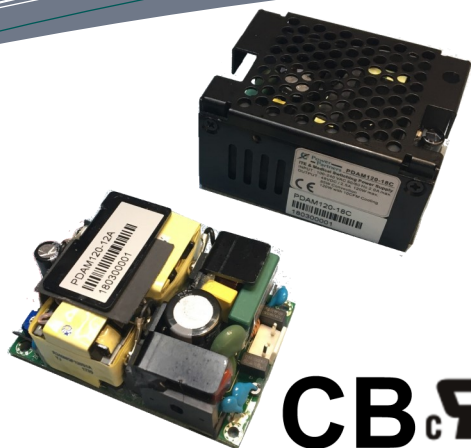




# Power Partners

## PDAM120 Series 120W Power Supply



**CB**  **US** 

- Very High Power Density: 15.27W/in<sup>3</sup>
- Class I or Class II Configuration
- UL/EN60601-1 Medical Approval
- Small 2"x3" package
- Efficiencies up to 91%
- Suitable for BF Applied Part Applications
- Meets Efficiency Level VI Requirements
- No load power consumption <300mW

### Electrical Specifications

#### Input

Input Voltage	90-264VAC <sup>1</sup>
Input Frequency	47-63 Hz
Input Current (RMS)	2A max. @ 115VAC 1A max. @ 230VAC
Inrush Current	45A max @ 115VAC 90A max @ 230VAC
No Load Power Consumption	<300mW
Power Factor	>0.9 @ 240VDC and 120VDC

#### Output

Total Output Power	120W with 10CFM Forced Air 100W Convection Only <sup>2</sup>
Output Voltage	See models and ratings table.
Hold Up Time	10mS minimum
Efficiency	Up to 91%. See models and ratings table.
Line Regulation	±1%
Voltage Adjustability	±4%
Setpoint accuracy	±2%
Minimum Load	No Minimum Load

#### Protection Features

Overvoltage	Latch off.
Overtemperature	Latch off.
Overcurrent	Hiccup Mode. OCP Threshold typically 150%.
Short Circuit	Hiccup Mode.

#### Notes

1. Derate output power by 0.8%/V below 115VAC
2. Derate convection only output power by 10% for U-Channel models. Derate convection only output power by 15% for Enclosed models.
3. See derating curves on the second page for operation above 50°C
4. Dimensions given are those of PCB. I/O conductors extend slightly beyond PCB edge.
5. Testing isolation with an AC generator is not recommended. Either perform isolation testing with a DC voltage, or consult with our engineering staff for AC test considerations.

#### Environmental

Operating Temperature	-30°C to +70°C <sup>3</sup>
Storage Temperature	-30°C to +85°C
Humidity	20% - 90% RH
Operating altitude	<5,000m
MTBF:	>250K hours per MIL-HDBK-217F at full load and 25°C ambient

#### Safety & EMC

##### Safety

##### Approvals

USA/Canada	UL60601-1 3.1 Edition, UL62368-1 (Pending)
Europe	IEC/EN 60601-1 3 <sup>rd</sup> Edition, CB Report, EN62368-1 (Pending)

##### Isolation

Input to Output	4000VAC / 5656VDC <sup>5</sup> (2 x MOPP)
Input to Ground	2000VAC / 2828VDC <sup>5</sup> (1 x MOPP)
Output to Ground	1500VAC / 2121VDC <sup>5</sup> (1 x MOPP)
Touch Current	<100µA at 264Vac

##### EMC (IEC60601-1-2:2014):

Emissions	EN55011 Class B
Conducted	EN55011 Class B (Class I)
Radiated	EN55011 Class A (Class II)
Susceptibility	IEC/EN60601-1-2: 2007
Harmonic Currents	IEC 61000-3-2: Class A
Voltage Flicker	IEC 61000-3-3
Electrostatic Discharge	IEC 61000-4-2: 15kV Air, 8kV contact
Radiated Immunity	IEC 61000-4-3: 10V/m
EFT/Burst	IEC 61000-4-4: +/-2kV
Surge Immunity	IEC 61000-4-5: 2005 1kV diff, 2kV com
Conducted Immunity	IEC 61000-4-6: 10Vrms
Magnetic Field	IEC 61000-4-8: 30A/m
Dips / Interruptions	IEC 61000-4-11: 30% reduction for 500ms, 100% reduction for 10ms.

#### Physical

Dimensions	3.04"L x 2"W x 1.31"H Typical
Weight	6.4oz Typical

Your Partners in Power.....

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Specifications subject to change.  
PDAM120: February 20, 2019



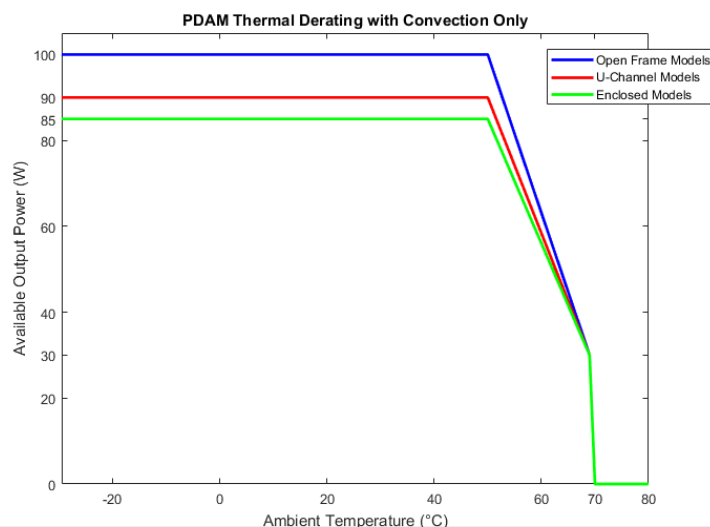
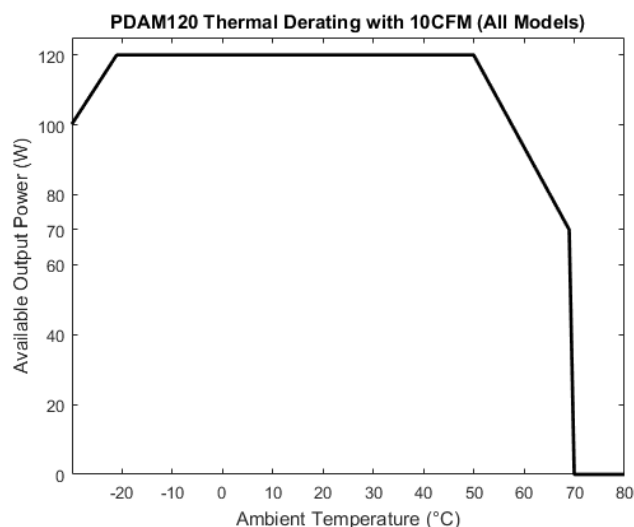
### Models and Ratings

Model Number <sup>6</sup>	Output Voltage	Maximum Load with Convection Cooling <sup>2</sup>	Maximum Load with 10CFM Forced Air	Output Load Regulation	Ripple & Noise (Vp-p) <sup>7</sup>	Max Capacitive Load (μF)	Typical Efficiency at 230VAC
PDAM120-12A	12V	8.333A	10.000A	+/-1%	160mV	3000	90%
PDAM120-14A	24V	4.167A	5.000A	+/-1%	240mV	1500	90%
PDAM120-18A	48V	2.083A	2.500A	+/-1%	480mV	500	91%
PDAM120-12B	12V	7.500A	10.000A	+/-1%	160mV	3000	90%
PDAM120-14B	24V	3.750A	5.000A	+/-1%	240mV	1500	90%
PDAM120-18B	48V	1.875A	2.500A	+/-1%	480mV	500	91%
PDAM120-12C	12V	7.083A	10.000A	+/-1%	160mV	3000	90%
PDAM120-14C	24V	3.541A	5.000A	+/-1%	240mV	1500	90%
PDAM120-18C	48V	1.770A	2.500A	+/-1%	480mV	500	91%

#### Notes (continued from first page):

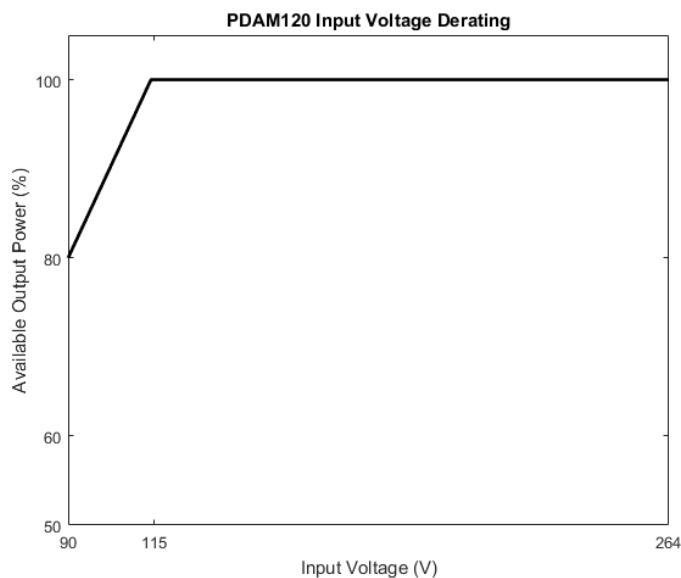
- Model number ending with "A" indicates open frame format. Model number ending with "B" indicates U-channel format. Model number ending with "C" indicates enclosed format.
- Measured at 20MHz bandwidth with a 47μF electrolytic and 0.1μF ceramic capacitor in parallel with the DC output rails.
- Input voltage derating and thermal derating are superimposed. The PDAM120 cannot operate with input voltages below 99VAC in thermal environments below -10°C

### Derating Curves<sup>8</sup>

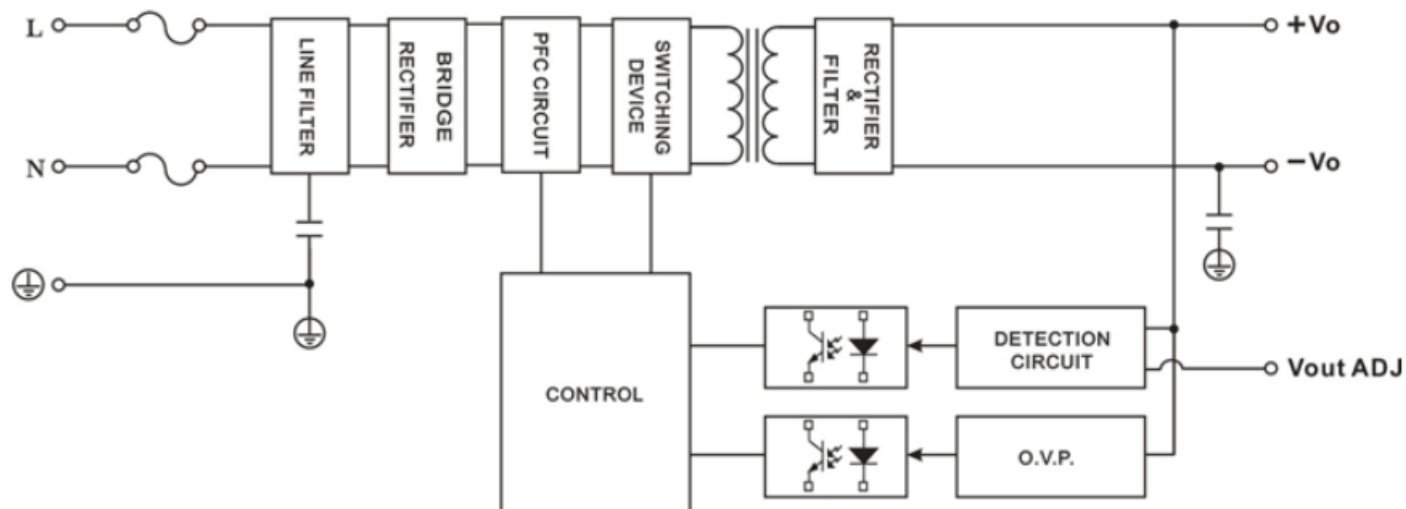




### Derating Curves<sup>8</sup> (Continued)

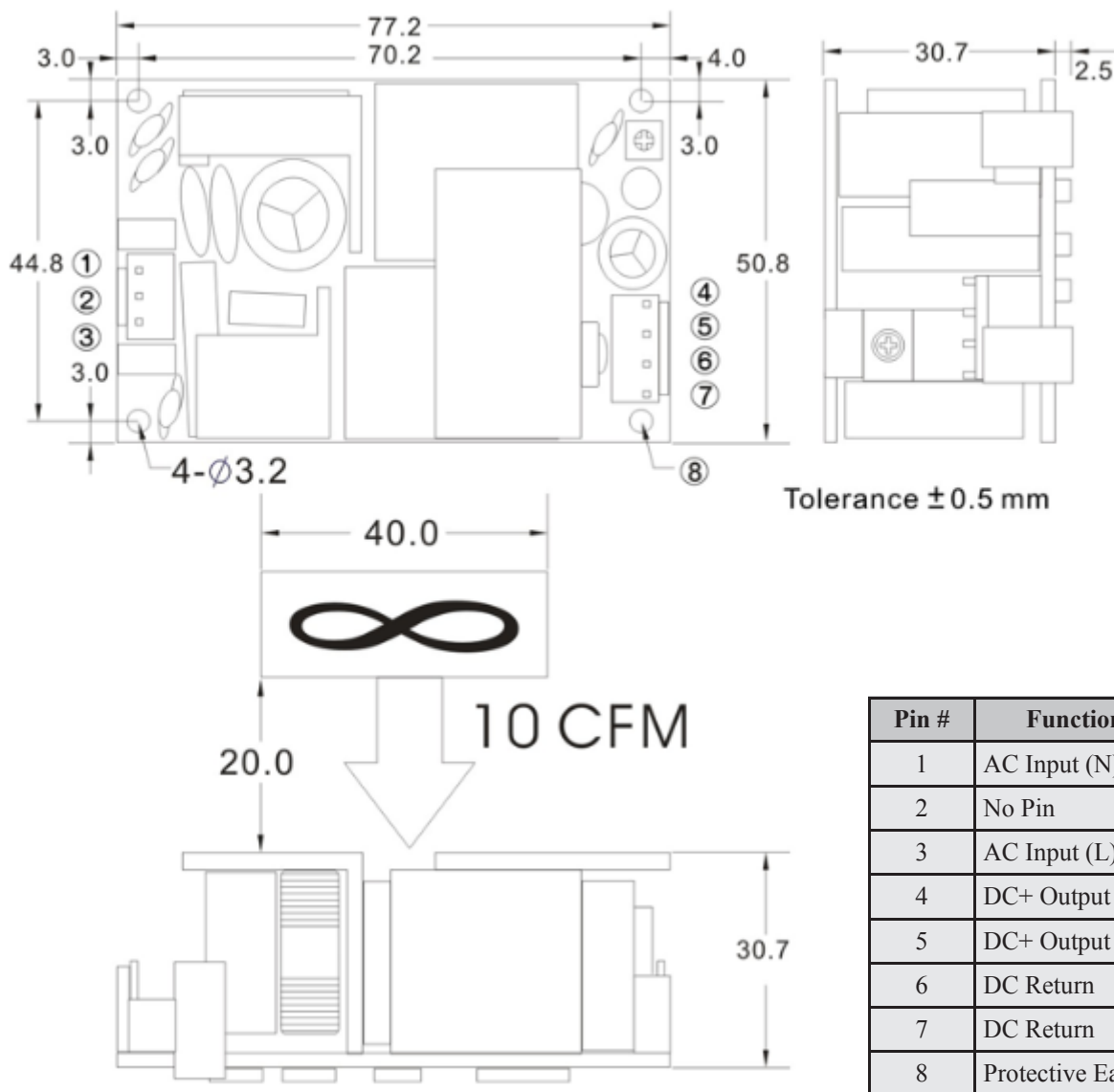


### Simplified Block Diagram





### Mechanical Drawing & Pin-out (Open Frame Models)

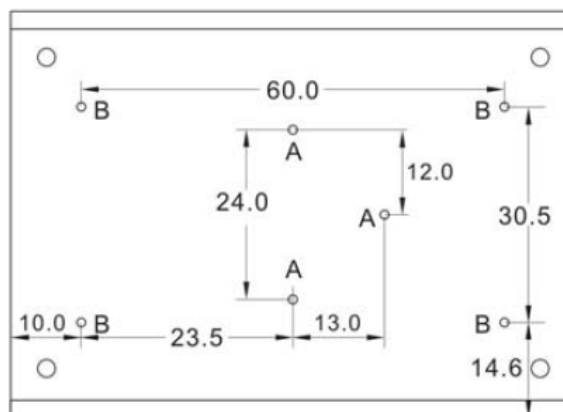
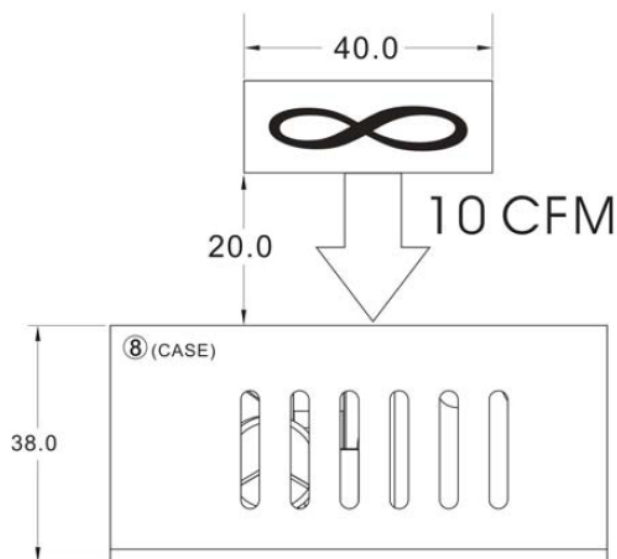
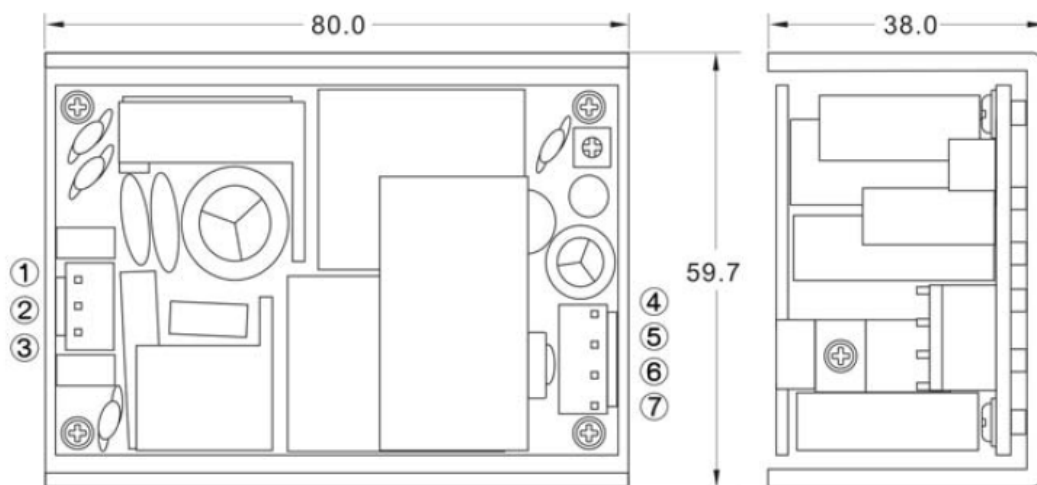


#### Notes (continued from second page):

9. All four mounting holes must be secured to a conductive metal surface to establish protective earth continuity.  
 10. All dimensions in mechanical drawings are given in mm unless otherwise specified



### Mechanical Drawing & Pin-out (U-Channel Models)



A=For fixture to din rail clip only  
 B=For fixture to pcb/chassis only  
 A=M3x0.5P  
 B=M3x0.5P

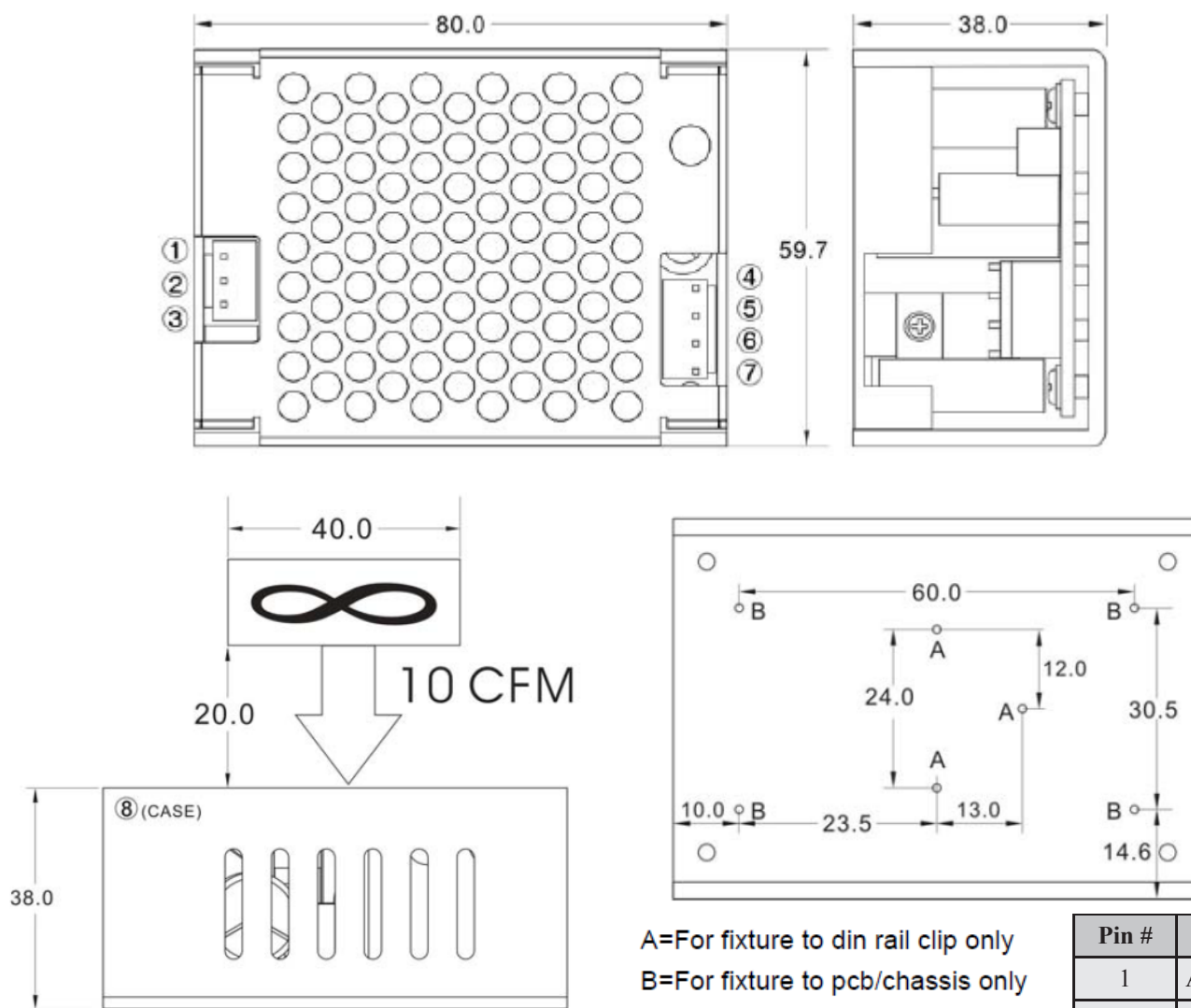
Pin #	Function
1	AC Input (N)
2	No Pin
3	AC Input (L)
4	DC+ Output
5	DC+ Output
6	DC Return
7	DC Return
8	Protective Earth

#### Notes (continued from fourth page):

11. Do not screw more than 2.5mm deep into threads of base plate for U-Channel or Enclosed models.
12. Headers on all models are ALEX 9397 series. Use ALEX 9396 series mates or equivalent.



### Mechanical Drawing & Pin-out (Enclosed Models)



A=For fixture to din rail clip only  
 B=For fixture to pcb/chassis only  
 A=M3x0.5P  
 B=M3x0.5P

Pin #	Function
1	AC Input (N)
2	No Pin
3	AC Input (L)
4	DC+ Output
5	DC+ Output
6	DC Return
7	DC Return
8	Protective Earth

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