

# DCMOD® AM-120D

## DC INPUT / ITE APPROVALS

### 120 WATT POWER PLATFORM

5.0 x 3.3 x 1.5" | 127 x 83.8 x 38.1mm



## DESCRIPTION

UNIPOWER's DCMOD® AM-120D is a 120 Watt DC Input Power Supply platform with output voltage(s) that are quickly configured to order with international safety approvals.

These power supplies are available in a single to quad output configurations with out voltages ranging from 1.5 to >48 VDC and 12 / 24 / 48 VDC inputs. The AM-120D offers Class B emissions, is CE marked, delivers continuous full power output to 50°C, and is capable of operation up to 70°C.

DCMOD® UPGRADES include a multitude of output voltage configurations, optional covers (with or without fan), extended temperature operating range, isolated outputs, attached wire harnesses and much, much more. All these modifications are available without any impact on safety approvals to reduce both development cost and time to market.

## FEATURES

- ◆ 12V, 24V or 48V DC Inputs
- ◆ Optional 4:1 Input Range
- ◆ Small 3.3 x 5.0 x 1.5" U-Frame Package
- ◆ 1-4 Outputs configurable from 1.5~48VDC
- ◆ Remote Sense Option (VI Only)
- ◆ Optional Overtemperature Protection
- ◆ >500k Hours MTBF, Demonstrated
- ◆ Optional -40°C Guaranteed Start-Up
- ◆ Double Sided PC Board



**Contact UNIPOWER to discuss  
your application and define  
the right part number for your  
specific application:**

**Tel: +1-954-905-1070**

**Email: [the.power.solution@unipowerco.com](mailto:the.power.solution@unipowerco.com)**



## FIVE YEAR WARRANTY

## INTERNATIONAL STANDARDS

UL/cUL 60950-1 2nd Ed.  
 EN60950-1 2nd Ed.  
 CB Report, IEC60950-1  
 CE Mark (LVD)

[www.unipowerco.com](http://www.unipowerco.com)

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For the AC input version see [EASYSMOD AM-120U](#) datasheet

For the Medical Approved version see [MEDIMOD AM-120UM](#) datasheet

**"IF WHAT YOU SEE IS WHAT YOU DON'T WANT, IT CAN EASILY BE CHANGED."** The DCMOD® family of switching power supplies has been designed with two precepts; (1) the laws of physics are immutable, and (2) the satisfaction of customer requirements and needs is paramount.

A host of modifications, only some of which are listed below, can and will be performed on products for customer programs requiring as few as 250 units per year. These "mods" are available at nominal premium (if any), normally without non-recurring engineering costs (although a one time documentation fee may be incurred), and usually with all safety agency approvals in place. This minimizes both product development cost and new product time to market. Effectively, DCMODs® allow small program requirements the luxury of costly custom power supply designs.

**TYPICAL MODIFICATIONS**

- Unique Output Combinations from 1.5 to >48 volts
- Power Fail / Power Good Signals
- Enable / Inhibit
- Isolated Outputs
- Low Output Ripple and Noise
- Cover & Fan Assembly
- Extended Temperature Operating Range
- -40°C Start-Up
- Zero Load Operation
- Remote Sense
- Remote On / Off

**FLEXIBLE OUTPUT CONFIGURATION GUIDELINES**

with 12, 24 or VDC Input and -20-50°C Operation

**Single Output Capabilities**

OUTPUT CURRENT	1.5~3.3V	5V	12V	15V	24V	48V
MINIMUM	0A	0A	0A	0A	0A	0A
CONVECTION <sup>(3)</sup>	18A	18A	7.5A	6A	3.76A	1.87A
30 CFM AIR <sup>(4)</sup>	24A	24A	10A	8A	5A	2.5A
PEAK <sup>(5)</sup>	27A	27A	11A	9A	7A	3A

**Multiple Output Capabilities**

OUTPUT	DC OUTPUT	MIN	CON <sup>(3)</sup>	AIR <sup>(4)</sup>	PEAK <sup>(4, 5)</sup>
V1	1.5 ~ 48V <sup>(7)</sup>	1.8A <sup>(2, 13)</sup>	18A	24A	27A
V2	1.5 ~ 48V <sup>(8)</sup>	0.5A <sup>(2, 13)</sup>	5A	6A	8A
V3	1.5 ~ 48V <sup>(8)</sup>	0.2A <sup>(2, 13)</sup>	1.8A	2A	3A
V4	1.5 ~ 48V <sup>(8)</sup>	0.2A <sup>(2, 13)</sup>	1.8A	2A	3A

(1) Full power out on V3-V4 with minimal V1 and V2 loading—Option.  
 (2) 10% minimum load for stated regulation on multiple O/P units.  
 (3) Convection cooling.  
 (4) 30 CFM forced air cooling conditions.  
 (5) 30 seconds maximum duration.  
 (6) Most output combinations from 1.5 to 48 Volts possible; up to maximum rated Current / Power...Consult UNIPOWER.

(7) Specify 01V increments.  
 (8) Specific output voltage is current dependent.  
 (9) Regulation may degrade under some output Consult UNIPOWER.  
 (10) Consult UNIPOWER for Model #.  
 (11) For outputs >48 Volts, consult UNIPOWER.  
 (12) Cover and custom sheet metal available.  
 (13) 10% minimum of marked rating

**Contact UNIPOWER to discuss your application and define the right part number for your specific application:**

**Call: +1-954-905-1070 • Email: [the.power.solution@unipowerco.com](mailto:the.power.solution@unipowerco.com)**

For the Medical Approved version see [MEDIMOD Am-120UM](#) datasheet | For the AC Input version see [EASYSMOD Am-120U](#) datasheet.

# SPECIFICATIONS

Typical at Nominal Line, Full Load and 25°C Unless Otherwise Noted.

### INPUT

Input Voltage Range Options ..... 12 = 9-18VDC  
 ..... 24 = 18-36VDC  
 ..... 48 = 36-72VDC  
 EMI Filter, Conducted ..... FCC Class B & VDE Class B  
 Fusing ..... 20A @ 12VDC | 15A @ 24VDC | 8A @ 48VDC

### OUTPUT

Output Power ..... 90W Convection / 120W with 30 cfm Airflow  
 Efficiency ..... 75% Typical  
 Adjustment Range (V1 Only) ..... ±5% (min)  
 Ripple / Noise, max ..... 1% pk-pk max  
 Line Regulation ..... Max ±0.2%  
 Load Regulation @60% ±40% Full Load ..... V1-V2 = ±3% | V3-V4 = ±5% (max)  
 Cross Regulation @ 60% ± 40% Full Load  
 V1: Change in V2 - V4 ..... ±0.5%  
 V2 - V4: Change in V1 @75 ±25% F/L ..... ±5% max  
 Transient Load / Slew Rate ..... 0.5A/µs  
 Overvoltage Protection ..... >130% (Latch Off)  
 Power Limit ..... >120% (Auto-Recovery)  
 Response Time ..... 500 µSec (25-75% step load)

### STATUS / CONTROL

Remote Sense (Option) ..... >250mV (V1 Only)  
 Power Good (Option) ..... TTL Compatible

### ENVIRONMENTAL

Operating Temp. Range ..... -20°C to +50°C (Full Load)  
 Consult factory for -40°C Guaranteed Start-Up  
 and Industrial Temperature Range options  
 Output Current Derating ..... 2.5%/°C, 50°C to 70°C  
 Storage Temp. Range ..... -40°C to + 85°C  
 Humidity ..... 5% to 95%, Non-Condensing  
 MTBF, Demonstrated ..... >500,000 Hours  
 Cooling ..... 30 cfm Airflow for Full Power  
 Immunity ..... EN61000-4-2: -3: -4: -5: -6: -8: -11

### PHYSICAL SPECIFICATIONS

Case Dimensions ..... 5.00 x 3.30 x 1.50" / 127 x 83.8 x 38.1mm  
 Weight ..... 1.2 lbs. (0.6 kg.)  
 Vibration 4 from 10 - 55Hz ..... 1.0G Peak

### SAFETY STANDARDS

UL60950-1 2nd Ed., EN60950-1 2nd Ed., CB REPORT (IEC 60950-1),  
 CE MARK (LVD)  
 (not including 12VDC input models)

### EMI STANDARDS

FCC Class B & VDE Class B, CISPR 22; EN 55022 Class B

# OUTLINE DRAWING

### CONNECTOR 1

(MOLEX#09-65-2058 OR EQUIVALENT;  
 MATING CONNECTOR= MOLEX#09-50-3051)

PIN1 ..... GROUND  
 PIN2 ..... -VIN  
 PIN3 ..... -VIN  
 PIN4 ..... +VIN  
 PIN5 ..... +VIN

### CONNECTOR 2

(MOLEX#09-65-2148 OR EQUIVALENT;  
 MATING CONNECTOR= MOLEX#09-50-3141)

### SINGLE OUTPUT MODELS

PIN 1-5 ..... V1  
 PIN 6-10 ..... RET  
 PIN 11-14 ..... N/C

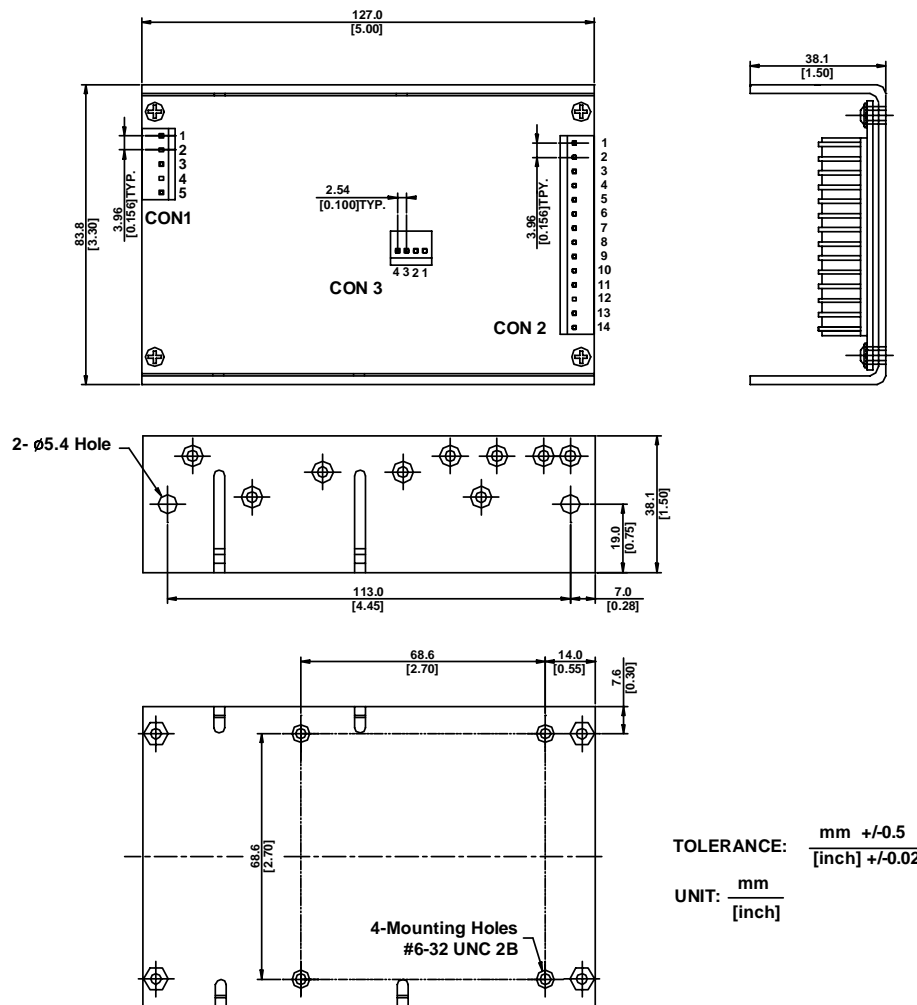
### MULTIPLE OUTPUTS

PIN1-PIN3 ..... V1  
 PIN4-PIN7 ..... RET  
 PIN8-PIN9 ..... V2  
 PIN10 ..... NC  
 PIN11 ..... V3  
 PIN12 ..... KEY  
 PIN13 ..... -V4  
 PIN14 ..... RET or +V4

### CONNECTOR 3 (OPTIONAL)

(MOLEX#22-27-2041 OR EQUIVALENT;  
 MATING CONNECTOR= MOLEX#22-01-3047)

PIN1 ..... S-  
 PIN2 ..... S+  
 PIN3 ..... RET  
 PIN4 ..... PG



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