

# MEDIMOD® AM-120UM

## AC INPUT / MEDICAL APPROVED

### 120 WATT POWER PLATFORM

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



#### DESCRIPTION

UNIPOWER's MEDIMOD® AM-120UM is a 120 Watt Power Supply platform with output voltage(s) that are quickly configured to order with medical safety approvals.

These power supplies are available in a complete range of single to quad output configurations from 1.5 to >48 VDC. Delivering 120 (135 peak) watts of highly regulated output power, the AM-120UM offers Class B emissions, is CE marked, complies to EN61000-3-2, delivers continuous full power output to 50°C, and is capable of operation up to 70°C.

**MEDIMOD® 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

- ◆ Universal AC Input - meets EN61000-3-2
- ◆ UL-60601 3rd Edition Listed
- ◆ 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 60601-1 3rd Ed.  
 EN60601-1 3rd Ed.  
 CB Report, IEC60601-1  
 CE Mark (LVD)

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

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For the DC input version see [DCMOD AM-120D](#) datasheet

For the ITE Approved version see [EASYSMOD AM-120U](#) datasheet

**"IF WHAT YOU SEE IS WHAT YOU DON'T WANT, IT CAN EASILY BE CHANGED."** The MEDIMOD® 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, MEDIMODs® 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 90-264 VAC 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 DC input version see [DCMOD Am-120D](#) datasheet | For the ITE Approved version see [EASYMOD Am-120U](#) datasheet.

# SPECIFICATIONS

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

### INPUT

|                              |                           |
|------------------------------|---------------------------|
| Voltage Range                | 90-264 VAC                |
| Power Factor                 | EN61000-3-2 Compliant     |
| Frequency                    | 47-63Hz                   |
| Inrush Current Limiting, Max | 35A @ 115VAC (max)        |
| EMI Filter, Conducted        | FCC Class B & VDE Class B |
| Fast Transients              | EN61000-4-4               |
| Surges                       | EN61000-4-5               |
| Fusing, dual                 | 3.5A / 250VAC             |
| Leakage Current              | <100µA @ 264 VAC (max)    |

### 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                                   |
| Holdup Time                            | 16msec                                    |
| Overvoltage Protection (V1 Only)       | >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  |
| Immunity                | EN61000-4-2: -3; -4; -5; -6; -8; -11   |
| 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

UL/cUL 60601-1 3rd Ed., EN60601-1 3rd Ed., CB REPORT (IEC 60601-1), CE MARK (LVD)

### 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 | KEY     |
| PIN3 | NEUTRAL |
| PIN4 | KEY     |
| PIN5 | LINE    |

### 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 |

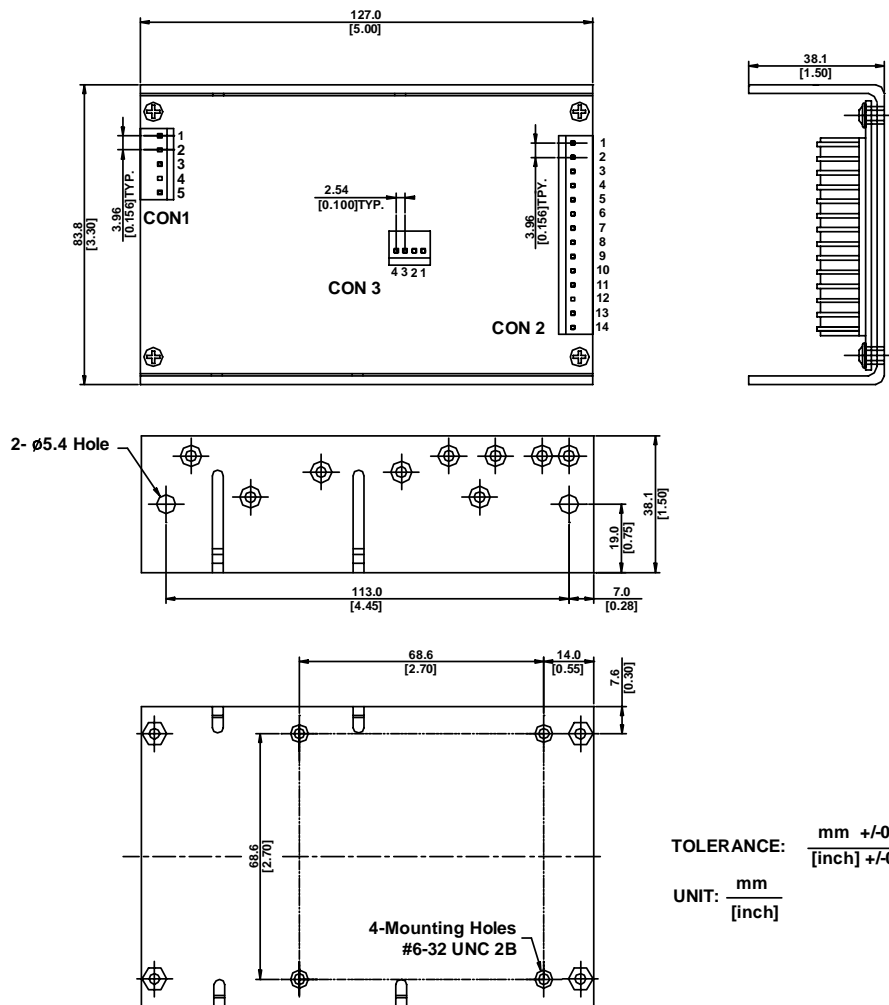
### MULTIPLE OUTPUTS

|           |            |
|-----------|------------|
| 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  |



TOLERANCE: mm +/-0.5  
[inch] +/-0.02

UNIT: mm  
[inch]

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