

# MEDIMOD® AD-070UM

## AC INPUT / MEDICAL APPROVED

### 70 WATT POWER PLATFORM

5.00 x 3.00 x 1.00" | 127.0 x 76.2 x 25.4mm



### DESCRIPTION

UNIPOWER's **MEDIMOD® AD-070UM SERIES** is a 70 Watt Medical Power Supply platform with both standard and configurable models featuring output voltage(s) that can be quickly configured to order while maintaining all international safety approvals.

These power supplies are available Universal AC Input and single or quad output configurations ranging from 1.5 to 48 VDC. The AD-070UM features an industry-standard footprint, international safety approvals, Class B emissions; and -20 ~ +70°C operation (see derating).

**MEDIMOD® UPGRADES** include a multitude of output voltage configurations, 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 Range (90-264 VAC)
- ◆ Industry-Standard 3" x 5" Footprint
- ◆ 1 or 4 Outputs configurable from 1.5-48VDC
- ◆ Medical Safety Approvals
- ◆ >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)

NORTH AMERICA CALL: +1-954-905-1071 • LATIN AMERICA CALL: +1-954-905-1078 • EUROPE CALL: +44 1903 768200

For the DC input version see [DCMOD AD-070D](#) datasheet

For the ITE Approved version see [EASYMOD AD-070U](#) 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
- Isolated Outputs
- Low Output Ripple and Noise
- Extended Temperature Operating Range
- -40°C Start-Up
- Zero Load Operation

**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>	10A	10A	4.2A	3.3A	2.1A	1.1A
15 CFM AIR <sup>(4)</sup>	14A	14A	5.9A	4.6A	3.0A	1.4A
PEAK <sup>(5)</sup>	15A	15A	6.5A	5.0A	3.5A	1.5A

**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>	0.80A	8.0A	12.0A	13.0A
V2	1.5 ~ 48V <sup>(8)</sup>	0.40A	4.0A	5.0A	6.0A
V3	1.5 ~ 48V <sup>(8)</sup>	0.40A	4.0A	5.0A	6.0A
V4	1.5 ~ 48V <sup>(8)</sup>	0.20A	2.0A	2.5A	3.0A

(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) 15 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 0.1V 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) 10% minimum of marked rating.

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# SPECIFICATIONS

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

### INPUT

Input Voltage Range.....	90-264 VAC
Frequency.....	47-63Hz
Power Factor.....	EN61000-3-2 Amendment 14 Compliant
Inrush Current.....	35A Max (cold start)
Leakage Current.....	100µA max @ 264VAC
Input Current @ 115VAC.....	2.5A max
Fusing, dual fuse.....	3.15A / 250VAC

### OUTPUT

Output Power .....	50W Convection / 70W with 15 CFM Airflow
Hold-up Time .....	16mSec
Efficiency.....	70% Typical
Adjustment Range (V1 Only).....	±5%
Ripple / Noise, max .....	1% pk-pk max
Line Regulation.....	Max ±0.2%
Load Regulation @ 60% ±40% Full Load	
V1.....	±3% max
V2-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
Overvoltage Protection (V1 Only).....	>125% (Latch Off)
Power Limit .....	>120% (Auto-Recovery)
Overshoot (all outputs).....	10% max
Response Time.....	500 µSec (25-75% step load)
Switching Frequency.....	60KHz (typical)

### 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 .....	15 CFM Airflow for Full Power
Immunity.....	EN61000-4-2: -3; -4; -5; -6; -8; -11
Altitude.....	10,000 feet

### PHYSICAL SPECIFICATIONS

Case Dimensions .....	5.00 x 3.00 x 1.00" / 127 x 76.2 X 25.4mm
Weight .....	0.6 lbs. (0.27 kg.)
Vibration from 10 - 55Hz .....	1.0G Peak
	(3 orthogonal axes @ 1 octave/min, 5 minute dwell @ 4 major resonances)

### SAFETY STANDARDS

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

### EMI STANDARDS

FCC Class A & VDE Class A, CISPR 11; EN 55011 Class A (Class B optional, consult factory)

## 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 (single output)

(MOLEX#09-65-2088 OR EQUIVALENT;  
MATING CONNECTOR= MOLEX#09-50-3081)  
PIN1 ..... V1  
PIN2 ..... V1  
PIN3..... V1  
PIN4.....RET  
PIN5.....RET  
PIN6.....RET  
PIN7.....NC  
PIN8.....NC

### CONNECTOR 2 (multi-output)

(MOLEX#09-65-2088 OR EQUIVALENT;  
MATING CONNECTOR= MOLEX#09-50-3081)  
PIN1 ..... V2  
PIN2 ..... V1  
PIN3..... V1  
PIN4.....RET  
PIN5.....RET  
PIN6.....V3  
PIN7.....V4  
PIN8.....V4 RET

