

# MEDIMOD® AL-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® AL-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 in single or triple output configurations with outputs ranging from 1.5 to 48 VDC. The AL-070UM feature an industry-standard footprint; universal AC input; 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, 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
- ◆ Industry-Standard 3" x 5" Footprint
- ◆ 1 or 3 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)

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

For the ITE Approved version see [EASYMOD AL-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
- 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
10 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 <sup>(2, 12)</sup>	8.0A	14.0A	15.0A
V2	1.5 ~ 48V <sup>(8)</sup>	0.40A <sup>(2, 12)</sup>	4.0A	7.0A	8.0A
V3	1.5 ~ 48V <sup>(8)</sup>	0.20A <sup>(2, 12)</sup>	2.0A	2.5A	3.0A

(1) Full power out on V3 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.

**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)**

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# SPECIFICATIONS

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

### INPUT

Input Voltage Range Options.....	90-264 VAC
Frequency.....	47-63Hz
Inrush Current.....	30A Max (cold start)
Input Current @ 115VAC.....	1.5A max
Leakage Current.....	<100µA @ 264VAC
Fusing, dual fuse.....	Dual 2A / 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-V3.....	±5% max
Cross Regulation @ 60% ± 40% Full Load	
V1: Change in V2 - V3.....	±0.5%
V2 - V3: 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 .....	0.56 lbs. (0.25 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 22: EN 55022 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#09-65-2068 OR EQUIVALENT;  
MATING CONNECTOR= MOLEX#09-50-3061)  
PIN1.....V1  
PIN2.....V1  
PIN3.....V1  
PIN4.....RET  
PIN5.....RET  
PIN6.....RET

### CONNECTOR 2 (multi-output)

(MOLEX#09-65-2068 OR EQUIVALENT;  
MATING CONNECTOR= MOLEX#09-50-3061)  
PIN1.....V2  
PIN2.....V1  
PIN3.....V1  
PIN4.....RET  
PIN5.....RET  
PIN6.....V3

