

# EASYMOD® AL-070U

## AC INPUT / ITE APPROVED

### 70 WATT POWER PLATFORM

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



### DESCRIPTION

UNIPOWER's EASYMOD® AL-070U SERIES is a 70 Watt 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-070U feature an industry-standard footprint; universal AC input; international safety approvals; Class B emissions; and -20 ~ +70°C operation (see derating).

EASYMOD® 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
- ◆ International 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 60950-1 2nd Ed.  
 EN60950-1 2nd Ed.  
 CB Report, IEC60950-1  
 CE Mark (LVD)

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

For the Medical Approved version see [MEDIMOD AL-070UM](#) datasheet

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

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“IF WHAT YOU SEE IS WHAT YOU DON’T WANT, IT CAN EASILY BE CHANGED.” The EASYMOD® 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, EASYMODs® 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.

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For the DC input version see [DCMOD AL-070D](#) datasheet | For the Medical Approved version see [MEDIMOD AL-070UM](#) datasheet.

## SPECIFICATIONS

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

<b>INPUT</b>		<b>ENVIRONMENTAL</b>	
Input Voltage Range Options.....	90-264VAC	Operating Temp. Range .....	-20°C to +50°C (Full Load)
Frequency.....	47-63Hz		Consult factory for -40°C Guaranteed Start-Up and Industrial Temperature Range options
Inrush Current.....	30A Max (cold start)	Output Current Derating .....	2.5%/°C, 50°C to 70°C
Input Current @ 115VAC.....	1.5A max	Storage Temp. Range .....	-40°C to + 85°C
Fusing.....	2A / 250VAC	Humidity.....	5% to 95%, Non-Condensing
		MTBF, Demonstrated .....	>500,000 Hours
<b>OUTPUT</b>		Cooling .....	15 cfm Airflow for Full Power
Output Power .....	50W Convection / 70W with 15 cfm Airflow	Immunity.....	EN61000-4-2; -3; -4; -5; -6; -8; -11
Hold-up Time .....	16mSec	Altitude.....	10,000 feet
Efficiency.....	70% Typical		
Adjustment Range (V1 Only).....	±5%	<b>PHYSICAL SPECIFICATIONS</b>	
Ripple / Noise, max.....	1% pk-pk max	Case Dimensions .....	5.00 x 3.00 x 1.00" / 127 x 76.2 x 25.4mm
Line Regulation.....	Max ±0.2%	Weight .....	0.56 lbs. (0.25 kg.)
Load Regulation @ 60% ±40% Full Load		Vibration from 10 - 55Hz .....	1.0G Peak
V1.....	±3% max	(3 orthogonal axes @ 1 octave/min, 5 minute dwell @ 4 major resonances)	
V2-V3.....	±5% max		
Cross Regulation @ 60% ± 40% Full Load		<b>SAFETY STANDARDS</b>	
V1: Change in V2 - V3.....	±0.5%	UL60950-1 2nd Ed., EN60950-1 2nd Ed., CB REPORT (IEC 60950-1),	
V2 - V3: Change in V1 @75 ±25% F/L .....	±5% max	CE MARK (LVD)	
Overvoltage Protection (V1 Only).....	>125% (Latch Off)	<b>EMI STANDARDS</b>	
Power Limit .....	>120% (Auto-Recovery)	FCC Class B & VDE Class B, CISPR 22; EN 55022 Class B	
Overshoot (all outputs).....	10% max		
Response Time.....	500µSec (25-75% step load)		
Switching Frequency.....	60KHz (typical)		

## 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

