

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



FIVE YEAR WARRANTY

INTERNATIONAL STANDARDS

UL/cUL 62368-1 2nd ED
 EN62368-1 2nd ED
 CB Report IEC62368-1
 CE Mark (LVD)

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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



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

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

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

www.unipowerco.com

“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 ⁽³⁾	10A	10A	4.2A	3.3A	2.1A	1.1A
10 CFM AIR ⁽⁴⁾	14A	14A	5.9A	4.6A	3.0A	1.4A
PEAK ⁽⁵⁾	15A	15A	6.5A	5.0A	3.5A	1.5A

Multiple Output Capabilities

OUTPUT	DC OUTPUT	MIN	CON ⁽³⁾	AIR ⁽⁴⁾	PEAK ^(4, 5)
V1	1.5 ~ 48V ⁽⁷⁾	0.80A ^(2, 12)	8.0A	14.0A	15.0A
V2	1.5 ~ 48V ⁽⁸⁾	0.40A ^(2, 12)	4.0A	7.0A	8.0A
V3	1.5 ~ 48V ⁽⁸⁾	0.20A ^(2, 12)	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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SPECIFICATIONS

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

INPUT		ENVIRONMENTAL	
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
OUTPUT		MTBF, Demonstrated	>500,000 Hours
Output Power	50W Convection / 70W with 15 cfm Airflow	Cooling	15 cfm Airflow for Full Power
Hold-up Time	16mSec	Immunity	EN61000-4-2; -3; -4; -5; -6; -8; -11
Efficiency	70% Typical	Altitude	10,000 feet
Adjustment Range (V1 Only)	±5%	PHYSICAL SPECIFICATIONS	
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	SAFETY STANDARDS	
Cross Regulation @ 60% ± 40% Full Load		UL/cUL 62368-1 2nd ED, EN62368-1 2nd ED, CB Report IEC62368-1, CE Mark (LVD)	
V1: Change in V2 - V3	±0.5%	EMI STANDARDS	
V2 - V3: Change in V1 @75 ±25% F/L	±5% max	FCC Class B & VDE Class B, CISPR 22; EN 55022 Class B	
Overvoltage Protection (V1 Only)	>125% (Latch Off)		
Power Limit	>120% (Auto-Recovery)		
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

