

## EASYMOD AL-070U SERIES SWITCHERS

### 70 watts - 3" x 5" x 1" - Single to Triple Output

IF WHAT YOU WANT IS WHAT YOU NEVER GET IN AC INPUT SWITCHERS, the POWER SOLUTION for up to 70 watts steady state of high reliability, Universal AC input power can be found in the AL-70U family of 3" x 5" PC Card EASYMOD switchers. These models are available as standard in a complete range of single to triple output configurations from 1.5 to >48 VDC. Most models deliver 70W (75W peak) of highly regulated output power. This family has on-board Class B EMI filtering, is EN61000-3-2 compliant, CE certified and delivers continuous full power output to 50°C, and is capable of operation up to 70°C.

EASYMOD simply means: IF WHAT YOU SEE IS WHAT YOU DON'T WANT, IT CAN BE EASILY CHANGED. EASYMODS include; extended temperature operating range, isolated outputs, unique output combinations, available DC inputs, MEDICAL APPROVALS, remote sense, low noise versions, unique cables and harnesses and much, much more. All these modifications are available at nominal (if any) additional cost, and normally without any impact on safety agency approvals which reduces both development cost and time to market. An EASYMOD can be performed on supplies for programs requiring as few as 250 units.

Call EASYMOD Support on (U.S.) +1-954-346-2442 or (U.K.) +44 (0)1903 768204 or email [easymod@unipower-europe.com](mailto:easymod@unipower-europe.com).



#### INPUT SPECIFICATION

Input Voltage .....	47-63 Hz; 90-264 VAC
Power Factor .....	Meets EN61000-3-2 Amendment 14
Inrush Current; 115VAC.....	30A P - P
Input Current .....	1.5A
Fusing .....	2A @ 250 VAC On Board

#### OUTPUT SPECIFICATION

Continuous Output Power <sup>5</sup> .....	70 Watts
Line Regulation Over Input Range; V1-V3 .....	± 0.2%
Load Regulation @ 60% 40% Full Load	
V1 - V2 .....	± 3%
V3 - 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 .....	130% Vout typ
Overshoot, All Outputs .....	10% max
Power Limit .....	Set @120% typ
Response Time <sup>1</sup> .....	500 µSec
Ripple & Noise <sup>3</sup> @ 20 Mhz Band Width ; Full Load	
All Outputs.....	1% P-P max
Output Adjustment Range on V1 .....	5% min

#### FEATURES & OPTIONS

- V1 & V2 REGULATED
- FULL Pout @ MINIMAL V1 LOAD
- 1.5 -48 VDC OUTPUTS
- CLASS B EMI
- CB REPORT AVAILABLE
- UL- cUL; EN60950 APPROVALS
- UL-2601; IEC 601- AVAILABLE
- 40°C START-UP - OPTION
- 24 or 48 VDC INPUT AVAILABLE

#### GENERAL SPECIFICATION

Efficiency .....	75% typ
Switching Frequency .....	60KHz typ
Immunity .....	See Note 6 Below
Operating Temperature Range <sup>3</sup> .....	-20 to +70°C
Minimum Start-up Temperature <sup>7</sup> .....	-20°C
Derating from 50-70°C .....	2.5%/°C
Storage Temperature.....	-40 to +85°C
Cooling .....	See Note 5
Relative Humidity; Non-Condensing .....	5 - 95%
Altitude .....	10,000 ft
EMI .....	FCC Class B & VDE Class B
.....	CISPR 22; EN 55022 Class B; EN55024
Vibration <sup>4</sup> from 10-55Hz .....	1.0G Peak
MTBF per MIL 217.....	> 250,000 hours
Safety Agency Approvals .....	UL & cUL 1950 & 2601;
.....	EN 60950; IEC 601-1; CE

**Notes :**

1. All outputs return within 1% of nominal for load change from 25-75% lo excursion.
2. See overside for steady state and peak ratings for convection and forced air.
3. Ripple & noise may not meet published specifications for 2 min. after start-up below 0°C.
4. Three orthogonal axes @ 1 octave/min. 5 min. dwell @ four major resonances.
5. Rating with 30 CFM air; Rated at 50 watts convection.
6. Meets EN61000-4 -2; -3; -4; -5; -6; -8; -11 Level 3
7. -40°C start up option available
8. All specifications typical at nominal line, full load & 25°C, and are subject to change without notice.

EASYMOD is a Sales Mark of Power Solutions Inc.

# EASYMOD AL-070U FAMILY

## AVAILABLE STEADY STATE CURRENT <sup>1</sup> @ 50°C AMBIENT

MULTIPLE OUTPUT MODELS / OUTPUT CURRENT / AMPS

OUTPUT	DC OUTPUT <sup>1</sup>	MINIMUM	MAXIMUM <sup>3</sup>	MAXIMUM <sup>4</sup>	PEAK <sup>4,5</sup>
V1	1.5 to 48 <sup>7</sup> V	0.5 <sup>2</sup>	8	9	10
V2	1.5 to 48 <sup>8</sup> V	0.5 <sup>2</sup>	4	4	5
V3	1.5 to 48 <sup>8</sup> V	0.2 <sup>2</sup>	2	2.5	2.5

SINGLE OUTPUT MODELS (1.5 to 48VDC <sup>7,11</sup>) / OUTPUT CURRENT / AMPS

OUTPUT CURRENT	1.5V ~ 3.3V	5V	12V	15V	24V	48V
MINIMUM	0	0	0	0	0	0
MAXIMUM <sup>3</sup>	12	12	5	4	2.5	1.25
MAXIMUM <sup>4</sup>	14	14	5.9	4.6	3	1.4
PEAK <sup>4,5</sup>	15	15	6.5	5	3	1.5

- (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) 30CFM forced air cooling.  
 (5) 30 seconds maximum duration.  
 (6) Most output combinations from 2 to 48+ Volts possible; up to maximum rated Current / Power...Consult EASYMOD Support.

- (7) Specify 0.1V increments.  
 (8) Specific output voltage is current dependent  
 (9) Regulation may degrade under some output conditions. Consult EASYMOD Support.  
 (10) Consult EASYMOD Support for Model #.  
 (11) For outputs >48 Volts, consult EASYMOD Support.  
 (12) Cover and custom sheet metal available.

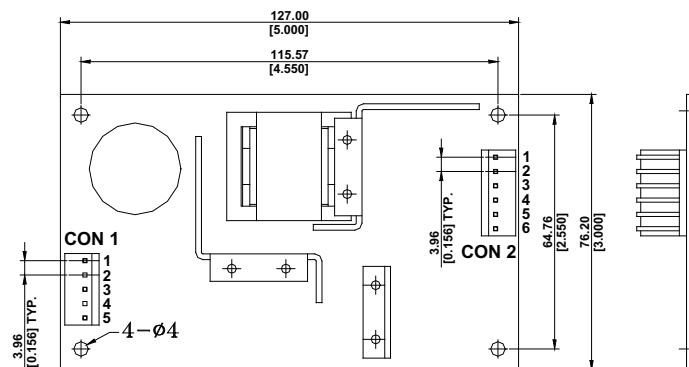
## MECHANICAL

CON 1:  
 Molex 09-65 2058  
 Mating: Molex 09-50-3051

PIN1 GROUND  
 PIN2 KEY  
 PIN3 NEUTRAL  
 PIN4 KEY  
 PIN5 LINE

CON 2:  
 Molex 09-65-2068  
 Mating: Molex 09-50-3061

PIN1 V2  
 PIN2~PIN3 V1  
 PIN4~PIN5 RET  
 PIN6 V3



TOLERANCE:  $\frac{\text{mm} \pm 0.5}{[\text{inch}] \pm 0.02}$

UNIT:  $\frac{\text{mm}}{[\text{inch}]}$