

## EASYMOD AM-120UM SERIES MEDICAL SWITCHERS

### 120 watts - 3" x 5" x 1U - Single to Quad Output

IF WHAT YOU WANT IS WHAT YOU NEVER GET IN MEDICALLY APPROVED SWITCHERS, the POWER SOLUTION for up to 120 watts steady state of high reliability, Universal AC input power can be found in the AM-120UM family of 3.3" x 5" U-Channel mounted EASYMOD switchers. These models are available in a complete range of single to quad output configurations from 1.5 to >48 VDC. Most models deliver 120W (135W peak) of highly regulated output power. The entire family has on-board Class B EMI filtering, is CE marked, complies to EN61000-3-2, 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, 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.

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).



### FEATURES & OPTIONS

- CB REPORT
- 1.5 - 48 VDC OUTPUTS AVAILABLE
- CE MARKED
- EN60601 ~ UL; cUL APPROVALS
- THERMAL PROTECTION - OPTION
- CLASS B EMI
- 40°C START-UP - OPTION
- 1U HIGH ~ 3" x 5" x 1.5" CHASSIS

### INPUT SPECIFICATION

Input Voltage .....47-63 Hz; 90-264 VAC  
 Harmonic Content ..... Meets EN61000-3-2 Amendment 14  
 Inrush Current, 115VAC.....35A max  
 Input Current @ 115VAC.....2.5A All Models  
 Fusing ..... 3.15A @ 250VAC On Board  
 Leakage Current <sup>6</sup>..... < 100µA

### OUTPUT SPECIFICATION

Continuous Output Power <sup>5</sup> .....120 Watts  
 Line Regulation Over Input Range; V1 - V4 ..... 0.2%  
 Load Regulation @ 60% 0% Full Load  
     V1 - V2 ..... 3%  
     V3 - 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 ..... 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

### GENERAL SPECIFICATION

Efficiency .....75% typ  
 Switching Frequency .....65KHz typ  
 MTBF per MIL 217..... > 250,000 hrs  
 Susceptibility / Immunity .....See Note 2  
 Operating Temperature Range <sup>3</sup> ..... 0 to +70°C  
 Minimum Start-up Temperature <sup>3</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  
 Vibration <sup>4</sup> from 10 - 55Hz .....1.0G Peak  
 Safety Agency Approvals:..... UL & cUL 60950 & 2601;  
     .....EN 60950; EN 60601; CE; CB REPORT

#### Notes :

1. All outputs return within 1% of nominal for load change from 25-75% lo excursion.
2. Meets EN61000-4-2; -3; -4; -5; -6; -8; -11
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 90 watts convection.
6. Lower leakage current available with CLASS A EMI
7. 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.

[www.unipowercorp.com](http://www.unipowercorp.com) or [www.powercassette.com](http://www.powercassette.com)

# EASYMOD AM-120UM 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	2.4 <sup>2</sup>	18	24	26
V2	1.5 to 48 <sup>8</sup> V	1.2 <sup>2</sup>	9	12	14
V3	1.5 to 48 <sup>8</sup> V	0.35 <sup>2</sup>	3.5	5	6
V4	1.5 to 48 <sup>8</sup> V	0.35 <sup>2</sup>	3.5	5	6

### 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>	18	18	7.5	6	3.76	1.87
MAXIMUM <sup>4</sup>	24	24	10	8	5	2.5
PEAK <sup>5</sup>	27	27	11	9	7	3

- (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.

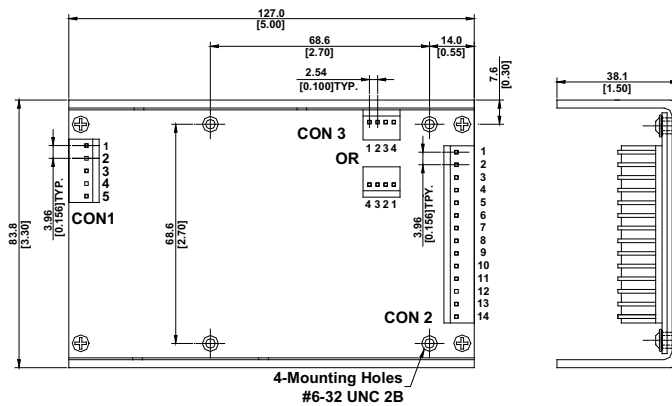
## MECHANICAL

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

PIN1 GROUND  
 PIN2 KEY  
 PIN3 NEUTRAL  
 PIN4 KEY  
 PIN5 LINE

CON 2:  
 Molex 09-65-2148  
 Mating: Molex 09-50-3141

PIN1~PIN3 V1  
 PIN4~PIN7 RET  
 PIN8~PIN9 V2  
 PIN10 NC  
 PIN11 V3  
 PIN12 KEY  
 PIN13 RET  
 PIN14 V4



TOLERANCE: mm +/-0.5  
 [inch] +/-0.02

UNIT: mm  
 [inch]