

## DESCRIPTION

UNIPOWER's **AJ-040UM SERIES** is a 40 Watt Medical Approved 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 AJ-040UM feature a high-density 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, optional covers (with or without fan), extended temperature operating range, isolated outputs, DC inputs, 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
- ◆ High-Density 3.6" x 2.5" Footprint
- ◆ 1 or 3 Outputs configurable from 1.5~48VDC
- ◆ Medical Safety Approvals
- ◆ >250k Hours MTBF (MIL-217F)
- ◆ Optional -40°C Guaranteed Start-Up



**Contact Unipower to discuss  
your application and define  
the right part number for your  
specific application.**

## TWO-YEAR WARRANTY

## INTERNATIONAL STANDARDS

UL/cUL 60601-1  
 DEMKO EN60601-1  
 CB Report, IEC60601-1  
 CE Mark (LVD)

## 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>	6A	6A	2.5A	2A	1.3A	0.6A
30 CFM AIR <sup>(4)</sup>	8A	8A	3.3A	2.6A	1.7A	0.8A
PEAK <sup>(5)</sup>	9.5A	9.5A	4A	3.3A	2.1A	1A

### 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>	0.40A <sup>(2,13)</sup>	4.0A	5.0A	6.0A
V2	1.5 ~ 48V <sup>(8)</sup>	0.10A <sup>(2,13)</sup>	1.0A	1.2A	1.5A
V3	1.5 ~ 48V <sup>(8)</sup>	0.08A <sup>(2,13)</sup>	0.8A	1.0A	1.2A

- (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)...Cover and custom sheet metal available.  
 (13)...10% minimum of marked rating.

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## STOCKED / OFF-THE-SHELF MODELS

Listed below are common configurations stocked by UNIPOWER for immediate delivery.

### Single Output Models

MODEL	V1	MIN	CON	AIR	PEAK
AJ-040UM-S1-STD	5V	0A	6.0A	5.0A	9.5A
AJ-040UM-S2-STD	12V	0A	2.5A	3.3A	4.0A
AJ-040UM-S4-STD	24V	0A	1.3A	1.7A	2.1A
AJ-040UM-S5-STD	48V	0A	0.6A	0.8A	1A

### Triple Output Models

MODEL	V1	MIN	CON	AIR	V2	MIN	CON	AIR	V3	MIN	CON	AIR
AJ-040UM-T122-STD	+5V	0.4A	4A	5A	+12V	0.1A	1A	1.2A	-12V	0.08A	0.5A	1.0A
AJ-040UM-T133-STD	+5V	0.4A	4A	5A	+15V	0.1A	1A	1.2A	-15V	0.08A	0.5A	1.0A
AJ-040UM-T124-STD	+5V	0.4A	4A	5A	+12V	0.1A	1A	1.2A	+24V	0.08A	0.5A	0.75A
AJ-040UM-T012-STD	+3.3V	0.4A	4A	5A	+5V	0.1A	1A	1.2A	+12V	0.08A	0.5A	1.0A
AJ-040UM-T013-STD	+3.3V	0.4A	4A	5A	+5V	0.1A	1A	1.2A	+15V	0.08A	0.5A	1.0A
AJ-040UM-T014-STD	+3.3V	0.4A	4A	5A	+5V	0.1A	1A	1.2A	+24V	0.08A	0.5A	0.75A

**MIN** = Minimum Load Required for specified regulation  
**CON** = Maximum continuous output current with Convection Cooled Operation (Total power not to exceed 30 Watts continuous)  
**AIR** = Maximum continuous output current with 15 CFM Airflow Operation (Total power not to exceed 40 Watts continuous)

## 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.....	25A Max (cold start)
Input Current @ 115VAC.....	1A max
Leakage Current.....	<100µA @ 264VAC
Fusing, dual fuse.....	2A / 250VAC

### OUTPUT

Output Power.....	30W Convection / 40W 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 - V4: Change in V1 @75 ±25% F/L.....	±5% max
Oversvoltage 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, 25°C (MIL217F).....	>250,000 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.....	3.60 x 2.48 x 1.00" / 91.5 x 55.0 x 25.4mm
Weight.....	0.38 lbs. (0.17 kg.)
Vibration from 10 - 55Hz.....	1.0G Peak
	(3 orthogonal axes @ 1 octave/min, 5 minute dwell @ 4 major resonances)

### SAFETY STANDARDS

UL60601-1, DEMKO EN60601-1, CB REPORT (IEC 60601-1), CE MARK (LVD)

### EMI STANDARDS

FCC Class A & VDE Class A, CISPR 11; EN 55011 Class A  
(Class B optional, consult factory)

## OUTLINE DRAWING

### CONNECTOR 1

(MOLEX#09-65-2038 OR EQUIVALENT;  
MATING CONNECTOR= MOLEX#09-50-3031)  
PIN1..... NEUTRAL  
PIN2..... Key  
PIN3..... LIVE

### CONNECTOR 2 (single output)

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

### CONNECTOR 2 (multi-output)

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

