

DESCRIPTION

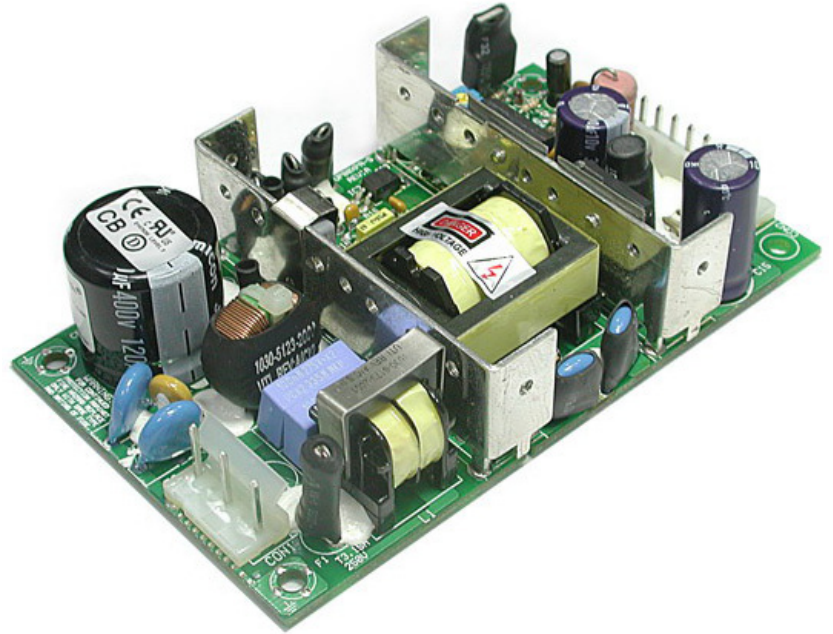
UNIPOWER's **AD-070U SERIES** is a 70 Watt Power Supply platform with both standard and configurable models featuring output voltage(s) that can be quickly configured to order while maintaining all international safety approvals.

These power supplies are available with Universal AC Input and single or quad output configurations ranging from 1.5 to 48 VDC. The AD-070U feature an industry-standard footprint, 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 (90-264 VAC)
- ◆ Industry-Standard 3" x 5" Footprint
- ◆ 1 or 4 Outputs configurable from 1.5~48VDC
- ◆ International 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 60950-1
 DEMKO EN60950-1
 CB Report, IEC60950-1
 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 ⁽³⁾ | 10A | 10A | 4.2A | 3.3A | 2.1A | 1.1A |
| 15 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 ^(2,13) | 8.0A | 12.0A | 13.0A |
| V2 | 1.5 ~ 48V ⁽⁸⁾ | 0.40A ^(2,13) | 4.0A | 5.0A | 6.0A |
| V3 | 1.5 ~ 48V ⁽⁸⁾ | 0.40A ^(2,13) | 4.0A | 5.0A | 6.0A |
| V4 | 1.5 ~ 48V ⁽⁸⁾ | 0.20A ^(2,13) | 2.0A | 2.5A | 3.0A |

- (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)...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 |
|----------------|-----|-----|-------|-------|-------|
| AD-070U-S1-STD | 5V | 0A | 10.0A | 14.0A | 15.0A |
| AD-070U-S2-STD | 12V | 0A | 4.2A | 5.9A | 6.5A |
| AD-070U-S4-STD | 24V | 0A | 2.1A | 3.0A | 3.5A |
| AD-070U-S5-STD | 48V | 0A | 1.1A | 1.4A | 1.5A |

Quad Output Models

| MODEL | V1 | MIN | CON | AIR | V2 | MIN | CON | AIR | V3 | MIN | MAX | V4 | MIN | MAX |
|-------------------|-------|------|-----|-----|------|------|-----|-----|------|------|-----|------|------|------|
| AD-070U-Q1221-STD | +5V | 0.4A | 4A | 7A | +12V | 0.2A | 2A | 3A | -12V | 0.2A | 2A | -5V | 0.2A | 2A |
| AD-070U-Q1331-STD | +5V | 0.4A | 4A | 7A | +15V | 0.2A | 2A | 3A | -15V | 0.2A | 2A | -5V | 0.2A | 2A |
| AD-070U-Q1224-STD | +5V | 0.4A | 4A | 7A | +12V | 0.2A | 2A | 3A | -12V | 0.2A | 2A | +24V | 0.2A | 1.5A |
| AD-070U-Q1334-STD | +5V | 0.4A | 4A | 7A | +15V | 0.2A | 2A | 3A | -15V | 0.2A | 2A | +24V | 0.2A | 1A |
| AD-070U-Q0122-STD | +3.3V | 0.4A | 4A | 7A | +5V | 0.2A | 2A | 3A | +12V | 0.2A | 2A | -12V | 0.2A | 2A |
| AD-070U-Q0133-STD | +3.3V | 0.4A | 4A | 7A | +5V | 0.2A | 2A | 3A | +15V | 0.2A | 2A | -15V | 0.2A | 2A |
| AD-070U-Q0124-STD | +3.3V | 0.4A | 4A | 7A | +5V | 0.2A | 2A | 3A | +12V | 0.2A | 2A | +24V | 0.2A | 1.5A |

MIN = Minimum Load Required for specified regulation
CON = Maximum continuous output current with Convection Cooled Operation (Total power not to exceed 50 Watts continuous)
AIR = Maximum continuous output current with 15 CFM Airflow Operation (Total power not to exceed 70 Watts continuous)

SPECIFICATIONS

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

INPUT

| | |
|------------------------------|------------------------------------|
| Input Voltage Range | 90-264 VAC |
| Frequency | 47-63Hz |
| Power Factor | EN61000-3-2 Amendment 14 Compliant |
| Inrush Current | 35A Max (cold start) |
| Input Current @ 115VAC | 2.5A max |
| Fusing | 3.15A / 250VAC |

OUTPUT

| | |
|--|--|
| Output Power | 50W Convection / 70W 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 |
| Overvoltage 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 | 5.00 x 3.00 x 1.00" / 127 x 76.2 X 25.4mm |
| Weight | 0.6 lbs. (0.27 kg.) |
| Vibration from 10 - 55Hz | 1.0G Peak |
| | (3 orthogonal axes @ 1 octave/min, 5 minute dwell @ 4 major resonances) |

SAFETY STANDARDS

UL60950-1, CB REPORT (IEC 60950-1), CE MARK (LVD)

EMI STANDARDS

FCC Class B & VDE Class B, CISPR 22; EN 55022 Class B

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#09-65-2088 OR EQUIVALENT; MATING CONNECTOR= MOLEX#09-50-3081)

| | |
|------------|-----|
| PIN1 | V1 |
| PIN2 | V1 |
| PIN3 | V1 |
| PIN4 | RET |
| PIN5 | RET |
| PIN6 | RET |
| PIN7 | NC |
| PIN8 | NC |

CONNECTOR 2 (multi-output)

(MOLEX#09-65-2088 OR EQUIVALENT; MATING CONNECTOR= MOLEX#09-50-3081)

| | |
|------------|--------|
| PIN1 | V2 |
| PIN2 | V1 |
| PIN3 | V1 |
| PIN4 | RET |
| PIN5 | RET |
| PIN6 | V3 |
| PIN7 | V4 |
| PIN8 | V4 RET |

