

DCMOD® AE-080D

DC INPUT / ITE APPROVED

80 WATT POWER PLATFORM

5.00 x 3.20 x 1.50" | 127.0 x 81.3 x 38.1mm



DESCRIPTION

UNIPOWER's DCMOD® AE-080D SERIES is an 80 Watt DC Input 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 12V, 24V or 48V Input Ranges and single or quad output configurations ranging from 1.5 to 48 VDC. The AE-080D feature an industry-standard footprint, international safety approvals, Class B emissions; and -20 ~ +70°C operation (see derating).

DCMOD® UPGRADES include a multitude of output voltage configurations, optional covers (with or without fan), extended temperature operating range, isolated outputs, 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

- ◆ 12V, 24V or 48V DC Input
- ◆ Industry-Standard 3.2" x 5" U-Frame Footprint
- ◆ 1 or 4 Outputs configurable from 1.5-48VDC
- ◆ International Safety Approvals
- ◆ >500k Hours MTBF, Demonstrated
- ◆ Optional -40°C Guaranteed Start-Up
- ◆ Double Sided PC Board



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



FIVE YEAR WARRANTY

INTERNATIONAL STANDARDS

UL/cUL 60950-1 2nd Ed.
 EN60950-1 2nd Ed.
 CB Report, IEC60950-1
 CE Mark (LVD)

www.unipowerco.com

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For the AC input version see [EASYSMOD AE-080U](#) datasheet

For the Medical Approved version see [MEDIMOD AE-080UM](#) datasheet

"IF WHAT YOU SEE IS WHAT YOU DON'T WANT, IT CAN EASILY BE CHANGED." The DCMOD® 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, DCMODs® allow small program requirements the luxury of costly custom power supply designs.

TYPICAL MODIFICATIONS

- Unique Output Combinations from 1.5 to >48 volts
- Isolated Outputs
- Low Output Ripple and Noise
- Cover & Fan Assembly
- Extended Temperature Operating Range
- -40°C Start-Up
- Zero Load Operation

FLEXIBLE OUTPUT CONFIGURATION GUIDELINES

with 12, 24 or 48 VDC 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⁾ | 12A | 12A | 5.0A | 4.0A | 2.5A | 1.25A |
| 15 CFM AIR ⁽⁴⁾ | 16A | 16A | 6.6A | 5.3A | 3.3A | 1.67A |
| PEAK ⁽⁵⁾ | 19A | 19A | 7.5A | 6.3A | 3.75A | 1.87A |

Multiple Output Capabilities

| OUTPUT | DC OUTPUT | MIN | CON ⁽³⁾ | AIR ⁽⁴⁾ | PEAK ^(4, 5) |
|--------|--------------------------|-------------------------|--------------------|--------------------|------------------------|
| V1 | 1.5 ~ 48V ⁽⁷⁾ | 1.0A ^(2, 13) | 10.0A | 14.0A | 16.0A |
| V2 | 1.5 ~ 48V ⁽⁸⁾ | 0.4A ^(2, 13) | 4.0A | 7.0A | 9.0A |
| V3 | 1.5 ~ 48V ⁽⁸⁾ | 0.4A ^(2, 13) | 4.0A | 5.0A | 6.5A |
| V4 | 1.5 ~ 48V ⁽⁸⁾ | 0.2A ^(2, 13) | 2.0A | 3.0A | 4.0A |

(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.

Contact UNIPOWER to discuss your application and define the right part number for your specific application:

Call: +1-954-905-1070 • Email: the.power.solution@unipowerco.com

For the Medical Approved version see [MEDIMOD AE-080UM](#) datasheet | For the AC Input version see [EASYSMOD AE-080U](#) datasheet.

SPECIFICATIONS

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

INPUT

| | |
|-----------------------------------|---------------------------------|
| Input Voltage Range Options..... | 9-18, 18-36 or 36-72 VDC Ranges |
| Input Current @ 12 VDC Input..... | 12A Max |
| Input Current @ 24 VDC Input..... | 6A Max |
| Input Current @ 48 VDC Input..... | 4A Max |
| Fusing @ 24 VDC Input..... | 15A Max |
| Fusing @ 24 VDC Input..... | 8A Max |
| Fusing @ 48 VDC Input..... | 5A Max |

OUTPUT

| | |
|--|--|
| Output Power | 60W Convection / 80W with 15 CFM Airflow |
| Efficiency..... | 75% 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-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 Only)..... | >130% (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, Demonstrated | >500,000 Hours |
| Cooling | 15 CFM Airflow for Full Power |
| Altitude..... | 10,000 feet |

PHYSICAL SPECIFICATIONS

| | |
|-------------------------------|---|
| Case Dimensions | 5.00 x 3.20 x 1.50" / 127 x 81.3 x 38.1mm |
| Weight | 0.9 lbs. (0.41 kg.) |
| Vibration from 10 - 55Hz..... | 1.0G Peak |
| | (3 orthogonal axes @ 1 octave/min, 5 minute dwell @ 4 major resonances) |

SAFETY STANDARDS

UL60950-1 2nd Ed., EN60950-1 2nd Ed., CB REPORT (IEC 60950-1), CE MARK (LVD)
(not including 12VDC input models)

EMI STANDARDS

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

OUTLINE DRAWING

CONNECTOR 1

(MOLEX#09-65-2058 OR EQUIVALENT;
MATING CONNECTOR= MOLEX#09-50-3051)

| | |
|-----------|--------|
| PIN1..... | GROUND |
| PIN2..... | -VIN |
| PIN3..... | -VIN |
| PIN4..... | +VIN |
| PIN5..... | +VIN |

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 |

