DCMOD® AM-120D

DC INPUT / ITE APPROVALS
120 WATT POWER PLATFORM

5.0 x 3.3 x 1.5" | 127 x 83.8 x 38.1mm

DESCRIPTION

UNIPOWER's **DCMOD® AM-120D** is a 120 Watt DC Input Power Supply platform with output voltage(s) that are quickly configured to order with international safety approvals.

These power supplies are available in a single to quad output configurations with out voltages ranging from 1.5 to >48 VDC and 12 / 24 / 48 VDC inputs. The AM-120D offers Class B emissions, is CE marked, delivers continuous full power output to 50°C, and is capable of operation up to 70°C.

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 Inputs
- Optional 4:1 Input Range
- Small 3.3 x 5.0 x 1.5" U-Frame Package
- 1~4 Outputs configurable from 1.5~48VDC
- Remote Sense Option (V1 Only)
- Optional Overtemperature Protection
- >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

For the AC input version see EASYMOD AM-120U datasheet

For the Medical Approved version see MEDIMOD AM-120UM datasheet

FIVE YEAR WARRANTY

INTERNATIONAL STANDARDS

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

"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
- Power Fail / Power Good Signals
- Enable / Inhibit
- Isolated Outputs
- Low Output Ripple and Noise
- Cover & Fan Assembly
- Extended Temperature Operating Range
- -40°C Start-Up
- Zero Load Operation
- Remote Sense
- Remote On / Off

FLEXIBLE OUTPUT CONFIGURATION GUIDELINES

with 12, 24 or 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)	18A	18A	7.5A	6A	3.76A	1.87A
30 CFM AIR (4)	24A	24A	10A	8A	5A	2.5A
PEAK (5)	27A	27A	11A	9A	7A	3A

Multiple Output Capabilities

OUTPUT	DC OUTPUT	MIN	CON (3)	AIR (4)	PEAK (4, 5)
V1	1.5 ~ 48V (7)	1.8A (2, 13)	18A	24A	27A
V2	1.5 ~ 48V (8)	0.5A (2, 13)	5A	6A	8A
V3	1.5 ~ 48V (8)	0.2A (2, 13)	1.8A	2A	3A
V4	1.5 ~ 48V (8)	0.2A (2, 13)	1.8A	2A	3A

(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) 30 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 Am-120UM datasheet | For the AC Input version see EASYMOD Am-120U datasheet.

SPECIFICATIONS

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

INPUT

Input Voltage Range Options ..... 12 = 9-18VDC
24 = 18-36VDC
48 = 36-72VDC
EMI Filter, Conducted ..... FCC Class B & VDE Class B
Fusing ..... 20A @ 12VDC | 15A @ 24VDC | 8A @ 48VDC

OUTPUT

Output Power ..... 90W Convection / 120W with 30 cfm Airflow
Efficiency ..... 75% Typical
Adjustment Range (V1 Only) ..... ±5% (min)
Ripple / Noise, max ..... 1% pk-pk max
Line Regulation ..... Max ±0.2%
Load Regulation @60% ±40% 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
Transient Load / Slew Rate 0.5A/µs
Overvoltage Protection ..... >130% (Latch Off)
Power Limit ..... >120% (Auto-Recovery)
Response Time ..... 500 µSec (25-75% step load)

STATUS / CONTROL

Remote Sense (Option) ..... >250mV (V1 Only)
Power Good (Option) ..... TTL Compatible

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 ..... 30 cfm Airflow for Full Power
Immunity ..... EN61000-4-2; -3; -4; -5; -6; -8; -11

PHYSICAL SPECIFICATIONS

Case Dimensions ..... 5.00 x 3.30 x 1.50" / 127 x 83.8 x 38.1mm
Weight ..... 1.2 lbs. (0.6 kg.)
Vibration 4 from 10 - 55Hz ..... 1.0G Peak

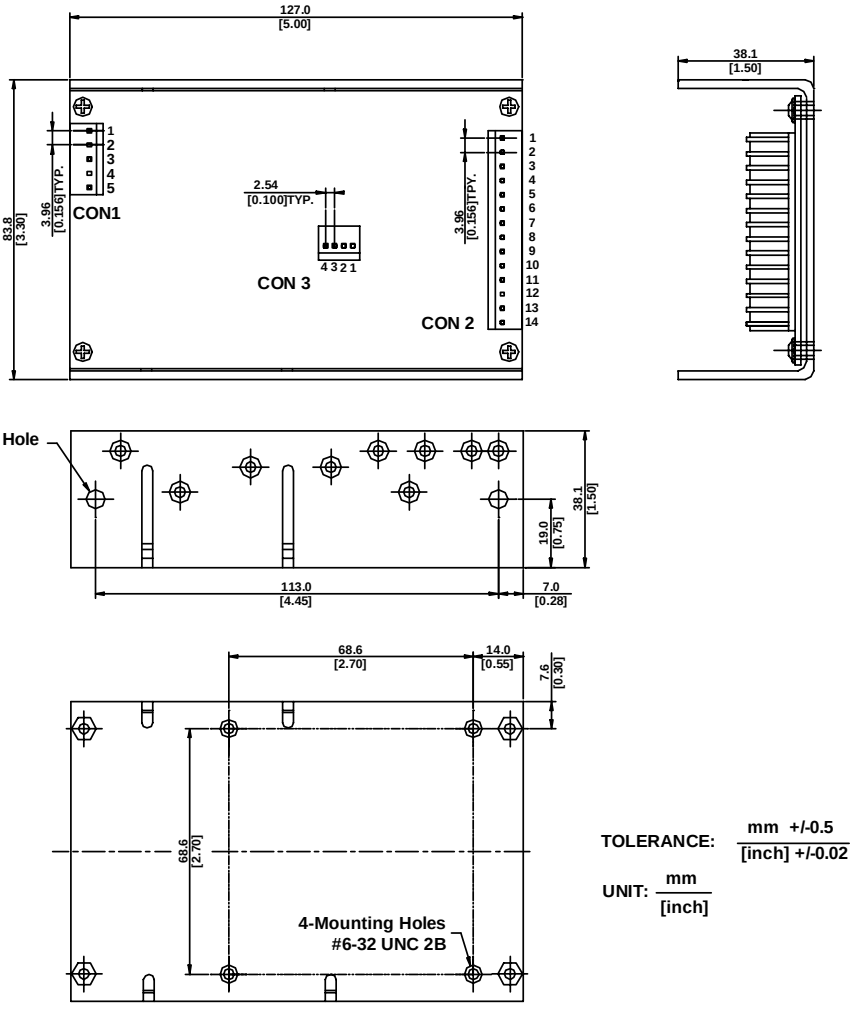
SAFETY STANDARDS

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 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 ..... -VIN
PIN3 ..... -VIN
PIN4 ..... +VIN
PIN5 ..... +VIN

CONNECTOR 2
(MOLEX#09-65-2148 OR EQUIVALENT;
MATING CONNETOR= MOLEX#09-50-3141)

SINGLE OUTPUT MODELS
PIN 1~5 ..... V1
PIN 6~10 ..... RET
PIN 11~14 ..... N/C

MULTIPLE OUTPUTS
PIN1~PIN3 ..... V1
PIN4~PIN7 ..... RET
PIN8~PIN9 ..... V2
PIN10 ..... NC
PIN11 ..... V3
PIN12 ..... KEY
PIN13 ..... -V4
PIN14 ..... RET or +V4

CONNECTOR 3 (OPTIONAL)
(MOLEX#22-27-2041 OR EQUIVALENT;
MATING CONNECTOR= MOLEX#22-01-3047)
PIN1 ..... S-
PIN2 ..... S+
PIN3 ..... RET
PIN4 ..... PG

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

UNIT: mm / [inch]

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