

MEDIMOD® AF-180PM

AC INPUT / MEDICAL APPROVED

180 WATT POWER PLATFORM

6.80 x 3.80 x 1.50" | 172.7 x 96.5 x 38.1mm



DESCRIPTION

UNIPOWER's MEDIMOD® AF-180PM SERIES is a 180 Watt Medical 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 AF-180PM feature an industry-standard footprint, medical safety approvals, Class B emissions; and -20 ~ +70°C operation (see derating).

MEDIMOD® 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

- ◆ Universal AC Input Range (90-264 VAC)
- ◆ Active PFC Standard
- ◆ 1 or 4 Outputs configurable from 1.5-48VDC
- ◆ Medical 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 60601-1 3rd Ed.
 EN60601-1 3rd Ed.
 CB Report, IEC60601-1
 CE Mark (LVD)

www.unipowerco.com

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For the DC input version see [DCMOD AF-180D](#) datasheet

For the ITE Approved version see [EASYMOD AF-180P](#) datasheet

"IF WHAT YOU SEE IS WHAT YOU DON'T WANT, IT CAN EASILY BE CHANGED." The **MEDIMOD®** 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, **MEDIMODs®** 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 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⁾	20.0A	20.0A	11.0A	9.5A	5.5A	2.75A
30 CFM AIR ⁽⁴⁾	36.0A	36.0A	15.0A	12.0A	7.5A	3.75A
PEAK ⁽⁵⁾	41.0A	41.0A	17.0A	14.0A	8.35A	4.25A

Multiple Output Capabilities

OUTPUT	DC OUTPUT	MIN	CON ⁽³⁾	AIR ⁽⁴⁾	PEAK ^(4, 5)
V1	1.5 ~ 48V ⁽⁷⁾	2.0A ^(2, 13)	20.0A	30.0A	35.0A
V2	1.5 ~ 48V ⁽⁸⁾	1.2A ^(2, 13)	12.0A	18.0A	20.0A
V3	1.5 ~ 48V ⁽⁸⁾	0.4A ^(2, 13)	4.0A	6.0A	8.0A
V4	1.5 ~ 48V ⁽⁸⁾	0.4A ^(2, 13)	4.0A	6.0A	8.0A

(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) 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 01V 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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the right part number for your specific application:**

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

For the DC input version see [DCMOD AF-180D](#) datasheet | For the ITE Approved version see [EASYMOD AF-180P](#) datasheet.

SPECIFICATIONS

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

INPUT

Input Voltage Range Options.....	90-264 VAC
Frequency.....	47-63Hz
Power Factor.....	EN61000-3-2 Compliant
Inrush Current.....	40A Max (cold start)
Input Current @ 90VAC.....	4.0A max
Fusing, dual fused.....	5A / 250VAC
Leakage Current.....	100µA max @ 264VAC

OUTPUT

Output Power	130W Convection / 180W with 30 cfm Airflow
Hold-up Time	16mSec
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
Overshoot 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	30 cfm Airflow for Full Power
Immunity.....	EN61000-4-2; -3; -4; -5; -6; -8; -11
Altitude.....	10,000 feet

PHYSICAL SPECIFICATIONS

Case Dimensions	6.80 x 3.80 x 1.50" / 172.7 x 96.5 x 38.1mm
Weight	1.5 lbs. (0.68 kg.)
Vibration from 10 - 55Hz.....	1.0G Peak
	(3 orthogonal axes @ 1 octave/min, 5 minute dwell @ 4 major resonances)

SAFETY STANDARDS

UL/cUL 60601-1 3rd Ed., EN60601-1 3rd Ed., CB REPORT (IEC 60601-1), CE MARK (LVD)

EMI STANDARDS

FCC Class A & VDE Class A, CISPR 11; EN 55011 Class A (Class B available. Consult factory.)

OUTLINE DRAWING

CONNECTOR 1

PIN1.....	GROUND
PIN2.....	NEUTRAL
PIN3.....	LINE

CONNECTOR 2 (single output)

PIN1.....	V1
PIN2.....	V1
PIN3.....	V1
PIN4.....	V1
PIN5.....	RET
PIN6.....	RET
PIN7.....	RET
PIN8.....	RET

CONNECTOR 2 (multi-output)

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

Consult factory for optional Molex Connectors

