

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 **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).

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)
- ◆ Active PFC Standard
- ◆ 1 or 4 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
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 ⁽³⁾	20.0A	20.0A	8.3A	6.67A	4.4A	2.08A
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	835A	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 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.

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
AF-180PM-S1-STD	5V	0A	20.0A	36.0A	41.0A
AF-180PM-S2-STD	12V	0A	8.3A	15.0A	17.0A
AF-180PM-S4-STD	24V	0A	4.4A	7.5A	8.5A
AF-180PM-S5-STD	48V	0A	2.08A	3.75A	4.25A

Quad Output Models

MODEL	V1	MIN	CON	AIR	V2	MIN	CON	AIR	V3	MIN	MAX	V4	MIN	MAX
AF-180PM-Q1221-STD	+5V	2A	15A	20A	+12V	0.5A	4A	8A	-12V	0.4A	4A	-5V	0.4A	6A
AF-180PM-Q1331-STD	+5V	2A	15A	20A	+15V	0.5A	4A	8A	-15V	0.4A	4A	-5V	0.4A	6A
AF-180PM-Q1224-STD	+5V	2A	15A	20A	+12V	0.5A	4A	8A	-12V	0.4A	4A	+24V	0.4A	4A
AF-180PM-Q1334-STD	+5V	2A	15A	20A	+15V	0.5A	4A	8A	-15V	0.4A	4A	+24V	0.4A	4A
AF-180PM-Q0122-STD	+3.3V	2A	15A	20A	+5V	0.5A	4A	8A	+12V	0.4A	4A	-12V	0.4A	4A
AF-180PM-Q0133-STD	+3.3V	2A	15A	20A	+5V	0.5A	4A	8A	+15V	0.4A	4A	-15V	0.4A	4A
AF-180PM-Q0124-STD	+3.3V	2A	15A	20A	+5V	0.5A	4A	8A	+12V	0.4A	4A	+24V	0.4A	4A

MIN = Minimum Load Required for specified regulation

CON = Maximum continuous output current with Convection Cooled Operation (Total power not to exceed 130 Watts continuous)

AIR = Maximum continuous output current with 30 CFM Airflow Operation (Total power not to exceed 180 Watts continuous)

MOLEX CONNECTIONS - Consult factory to request Molex Connection instead of standard Terminal Blocks

OPTIONAL TOP COVER - Add suffix C to the end of the model number to include a ventilated top cover.

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.....	60A Max (cold start)
Input Current @ 90VAC.....	3.0A max
Fusing, dual fused.....	5A / 250VAC
Leakage Current.....	100µA max @ 264VAC

OUTPUT

Output Power	100W 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-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).....	>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, 25°C (MIL217F)	>250,000 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	0.3 lbs. (0.2 kg.)
Vibration from 10 - 55Hz.....	1.0G Peak
	(3 orthogonal axes @ 1 octave/min, 5 minute dwell @ 4 major resonances)

SAFETY STANDARDS

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

EMI STANDARDS

FCC Class A & VDE Class A, CISPR 11; EN 55011 Class A
(Class B 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
PIN8.....	V4 RET

Consult factory for optional Molex Connectors

