

## DESCRIPTION

UNIPOWER's **AG-350PM SERIES** is a 350 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 AG-350PM 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
- ◆ 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 <sup>(3)</sup>	30A	30A	12.5A	10.0A	7.5A	3.75A
30 CFM AIR <sup>(4)</sup>	60A	60A	29A	23A	14.5A	7.25A
PEAK <sup>(5)</sup>	65A	65A	31A	25A	16A	18A

### Multiple Output Capabilities

OUTPUT	DC OUTPUT	MIN	CON <sup>(3)</sup>	AIR <sup>(4)</sup>	PEAK <sup>(4, 5)</sup>
V1	1.5 ~ 48V <sup>(7)</sup>	4.0A <sup>(2,13)</sup>	40A	60A	65A
V2	1.5 ~ 48V <sup>(8)</sup>	1.7A <sup>(2,13)</sup>	17A	32A	35A
V3	1.5 ~ 48V <sup>(8)</sup>	0.5A <sup>(2,13)</sup>	5A	7A	10A
V4	1.5 ~ 48V <sup>(8)</sup>	1.1A <sup>(2,13)</sup>	11A	14A	18A

- (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.

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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
AG-350PM-S1-STD	5V	0A	30A	60A	65A
AG-350PM-S2-STD	12V	0A	12.5A	29A	31A
AG-350PM-S4-STD	24V	0A	7.5A	14.5A	16A
AG-350PM-S5-STD	48V	0A	3.75A	7.25A	8A

### Quad Output Models

MODEL	V1	MIN	CON	AIR	V2	MIN	CON	AIR	V3	MIN	MAX	V4	MIN	MAX
AG-350PM-Q1221-STD	+5V	4.0A	35A	50A	+12V	1.7A	10A	20A	-12V	0.5A	5A	-5V	1.1A	8A
AG-350PM-Q1331-STD	+5V	4.0A	35A	50A	+15V	1.7A	10A	20A	-15V	0.5A	5A	-5V	1.1A	8A
AG-350PM-Q1224-STD	+5V	4.0A	35A	50A	+12V	1.7A	10A	20A	-12V	0.5A	5A	+24V	1.1A	6A
AG-350PM-Q1334-STD	+5V	4.0A	35A	50A	+15V	1.7A	10A	20A	-15V	0.5A	5A	+24V	1.1A	6A
AG-350PM-Q0122-STD	+3.3V	4.0A	35A	50A	+5V	1.7A	15A	25A	+12V	0.5A	5A	-12V	1.1A	10A
AG-350PM-Q0133-STD	+3.3V	4.0A	35A	50A	+5V	1.7A	15A	25A	+15V	0.5A	5A	-15V	1.1A	10A
AG-350PM-Q0124-STD	+3.3V	4.0A	35A	50A	+5V	1.7A	15A	25A	+12V	0.5A	5A	+24V	1.1A	6A

**MIN** = Minimum Load Required for specified regulation  
**CON** = Maximum continuous output current with Convection Cooled Operation (Total power not to exceed 200 Watts continuous)  
**AIR** = Maximum continuous output current with 30 CFM Airflow Operation (Total power not to exceed 350 Watts continuous)  
**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..... 50A Max (cold start)  
 Input Current @ 115VAC..... 6.0A max  
 Fusing, dual fused..... 8A / 250VAC  
 Leakage Current..... 100µA max @ 264VAC

## OUTPUT

Output Power ..... 180W Convection / 350W 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 ..... 8.00 x 4.50 x 2.00" / 203.2 x 114.3 x 50.8mm  
 Weight ..... 3.15 lbs. (1.43 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

Terminal Blocks, 9.5mm pitch  
 PIN1..... LINE  
 PIN2..... NEUTRAL  
 PIN3..... GND

## CONNECTOR 2 (single output)

Terminal Blocks, 9.5mm pitch  
 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

## CONNECTOR 3

MOLEX 22-27-2061 or equivalent  
 Mates with MOLEX 22-01-3067  
 PIN1..... +SENSE  
 PIN2..... -SENSE  
 PIN3..... NC  
 PIN4..... NC  
 PIN5..... RTN  
 PIN6..... NC

