

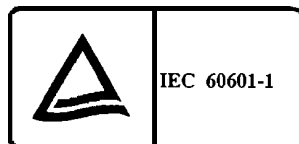


# SPECIFICATION

For

SWITCHING POWER SUPPLY

**M/N: MPM-825A**





## 1.0 INTRODUCTIONS

MPM-825A off-line switching power supply is ideal for use in ATX personal computers, workstations and equivalent systems. This power supply is designed to meet medical application safety agency.

## 2.0 INPUT SPECIFICATIONS

### 2.1 Input Voltage

The range of input voltage is from 90VAC to 130VAC or 180VAC to 260VAC, which is auto-switched by building in circuitry. AC rating shown on label is AC 115/230.

### 2.2 Input frequency

The range of input frequency is from 47Hz to 63Hz.

### 2.3 Inrush current

The inrush current will not exceed 40A at 115V AC input or 80A at 230VAC input, cold start, 25°C.

## 3.0 OUTPUT SPECIFICATIONS

### 3.1 Load range

	Output voltage	Min. load	Rated load	Max. load	Voltage accuracy
1	+5V	0A	25A	30A	4.80V to 5.20V
2	+12V	0.1A	10A	15A	11.4V to 12.6V
3	-12V	0A	0.5A	1A	-11.40V to -12.60V
4	-5V	0A	0.5A	1A	-4.75V to -5.25V
5	+3.3V	0A	8.0A	15A	3.13V to 3.47V
6	+5Vsb	0A	0.72A	1.2A	4.75V to 5.25V

At factory, all output in 60% rated load condition; the +5V output is set to between 4.80V and 5.20V. The other outputs are checked to be within the specified voltage accuracy range.

### 3.2 Output power

The total DC continuous power shall be kept within 280W at ambient temperature of 40°C below, and input voltage at 115VAC or 230VAC. The maximum, total combined output power on the 3V3 and 5V rails is 150W. The other outputs max. load cannot be more then 30 sec.

### 3.3 Ripple and noise

The peak to peak ripple and noise for +5V, +3.3V outputs are less than 50mV, and for the other outputs are less than 100 mV at rated load. Measuring is done by 15MHz bandwidth limited oscilloscope and terminated each output with a 0.47µF capacitor.

### 3.4 Line regulation

The output line regulation for each output is less than +/-1% while measuring at rated load and +/-10% of 115VAC or 230 VAC input voltage changing.



### 3.5 Load regulation

The output voltage load regulation is less than the values in the following table by changing each output load +/-40% from 60% rated load, and keep all other outputs at 60% rated load.

Output #	1	+/-3%	4	+/-2%
	2	+/-5%	5	+/-2%
	3	+/-2%	6	+/-3%

### 3.6 Leakage current

The leakage current is less than 0.25mA (max.) at AC 264V/63Hz input.

## 4.0 GENERAL FEATURE

### 4.1 Efficiency

The efficiency is higher than 65% while measuring at nominal line and rated output.

### 4.2 Hold up time

The hold up time is longer than 20mS at 115VAC input and rated load which is measured from the end of the last charging pulse to when the main output drops down to 95% output voltage.

### 4.3 Protection

#### 4.3.1 Over voltage protection

For some reason the power supply might fail to control itself, the build-in crowbar circuit will automatically shut down the outputs to avoid damaging the external circuits. The trip point of O.V.P. circuit is around 5.7V to 7.0V.

#### 4.3.2 Short circuit protection

The power supply will go into hiccup mode function against short circuit or over load conditions. If the faults condition removed, the power supply will restart automatically.

### 4.4 Power good signal

When power is turned on, the power good signal will go high 100ms to 500ms after all output DC voltages are within regulation limits.

### 4.5 Power fail signal

The power fail signal will fall at least 1 ms before any of the output voltages lower the regulation limits.

### 4.6 Power ON signal

This TTL compatible signal (active low) is use to switch ON the main output. When power on is disconnected from secondary common, all outputs except +5Vsb shall turn off.

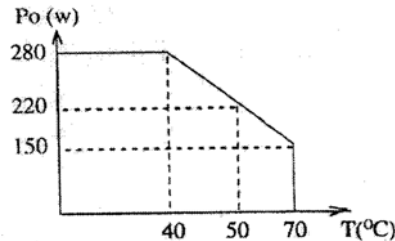


## 5.0 ENVIRONMENT SPECIFICATIONS

### 5.1 Operating temperature

0 °C to 70°C

When the ambient temperature is over 40°C (115V/230V), the output power should be derated as following curve:



### 5.2 Storage temperature

-40°C to 75°C

### 5.3 Operating humidity

The power supply can operate from 5% humidity to 95% humidity non-condensing at 40°C.

### 5.4 Altitude

Will operate properly at any altitude between 0 to 10000ft.

## 6.0 INTERNATIONAL STANDARDS

### 6.1 Safety standards

Designed to meet the following standards:

UL 2601-1

CSA 22.2 No. 601-1

EN 60601-1

### 6.2 EMI standards

Designed to meet the following conducted limits:

FCC class "B"

EN 55022 class "B"

### 3.3 EMS standards

Designed to meet the following standards:

IEC-801-2 8KV air discharge

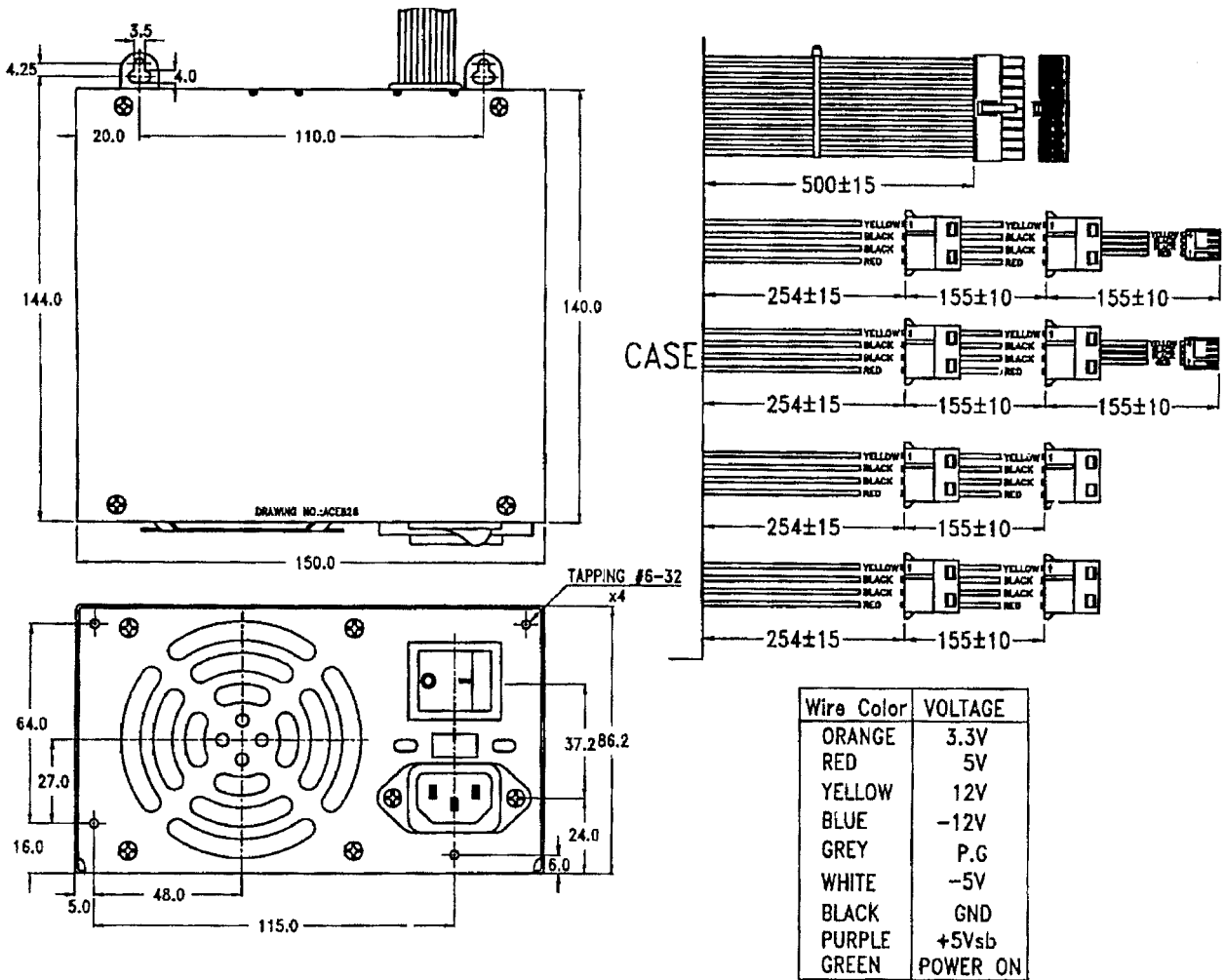
IEC-801-3 3V/M

IEC-801-4 2KV

IEC-801-5 2KV



### 7.0 MECHANICAL SPECIFICATION



#### 7.1 Dimensions

Dimensions are shown in mm as above.  
 Tolerance specified is +/-0.4mm between mounting holes.  
 +/-0.8mm for other dimensions.

#### 7.2 AC Inlet & Switch

AC inlet: Meet IEC 320 / CEE 22 standard  
 AC switch: Rocker switch

#### 7.3 DC connectors

ATX: ALEX 9358-20 or equivalent.  
 Disk drive: AMP 1-480424-0 or equivalent.  
 3 1/2" floppy driver: AMP 171822-4 or equivalent.