



SPECIFICATION

For

SWITCHING POWER SUPPLY

M/N: MPM-X20 Series

Revisions History

REV.	Mar. 28 th 2011	Update the safety approved status.
REV	Jan. 4 th 2013	Update the safety approved status.



FEATURES

- 20W Class II Medical approved adapter
- Meets CEC IV and energy star
- Over voltage Protection
- Medical standard IEC 60601-1 and EN 60601-1 certified.
- Conductive EMI Meets CISPR/FCC Class B

1. Description

MPM-X20-xx is single output, 20Watts, universal input switching mode power supply, which is EN60601-1 and IEC 60601-1 medical safety regulations approved. It is specially designed for external desktop application.

Model	Output Voltage	Mini. Output Current	Rated Output Current	Peak output Current	Line ^(Note 1) Regulation	Load ^(Note 2) Regulation	Voltage Setting ^(Note 3)	Ripple & Noise ^(Note 4) p-p
MPM-X20-05	+5V	0A	4A	5A	±1%	±6%	±2%	50mV
MPM-X20-09	+9V	0A	2.2A	2.5A	±1%	±3%	±2%	90mV
MPM-X20-12 ^(Note 5)	+12V	0A	1.7A	2A	±1%	±2%	±2%	100mV
MPM-X20-13	+13v	0A	1.5A	1.7A	±1%	±2%	±2%	100mV
MPM-X20-15	+15V	0A	1.3A	1.5A	±1%	±2%	±2%	100mV
MPM-X20-22	+22V	0A	0.9A	1.1A	±1%	±2%	±2%	150mV
MPM-X20-24 ^(Note 5)	+24V	0A	0.8A	1A	±1%	±2%	±2%	150mV

Note: 1) Line regulation is measuring at rated load and +/-10% of input voltage changing.
 2) Load regulation is measuring is done by changing the measured output load +/-40% from 60% rated load, and keep other outputs at 60% rated load.
 3) The output at 60% rated load and input is nominal 110/220VAC.
 4) Measured by a 20MHz bandwidth limited oscilloscope and the each output is connected with a 10µF Electrolytic Capacitor and a 0.1µF Ceramic Capacitor.
 5) The standby wattage at no load condition is lower than 0.5W which meet CEC level IV and energy star. The order number suffixed -E.

2. Input Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Input Voltage-AC	Continuous input range.	90	115/230	264	VAC
Input Frequency	AC input.	47		63	Hz
Hold Up Time	Nominal AC Input Voltage (230VAC), rated load.		16		ms
Input Current	Nominal AC Input Voltage (115VAC/230VAC), rated load.			0.6	A
Inrush Current	Nominal AC Input Voltage (115VAC/230VAC), one cycle at 25°C.			50	A
Leakage Current	Nominal AC Input voltage (115VAC/230VAC), rated load. Earth: Enclosure:			0.5 0.1	mA

3. Output Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Efficiency	Rated load, 115VAC. Varies with distribution of loads among output.		75		%
Minimum load		See Chart of 1.Description			
Ripple & Noise	Rated load, 20MHz bandwidth and the each output is connected With a 10µF Electrolytic Capacitor and a 0.1µF Ceramic Capacitor.	See Chart of 1.Description			



4. Internal Protection

Parameter	Conditions/Description
Short Circuit Protection	Fully protected against output overload and short circuit. Automatic recovery upon of overload condition.
Over Voltage Protection	Fully protected against output voltage higher than .Automatic recovery upon of over voltage condition

5. Safety Approvals, EMI and EMS Specification

Parameter	Conditions/Description		
Safety approvals	IEC 60601-1 EN 60601-1	TUV approved TUV approved	
Hi-Pot	Input to output	5808	VDC
EMI	EN 60601-1-2	B	Class
EMS	IEC 61000-4-2, 8KV air discharge and 6KV contact discharge	3	Level
	IEC 61000-4-3, 3V/M	2	
	IEC 61000-4-4, 2KV line & PE	3	
	IEC 61000-4-5, 2KV	3	

6. Environment Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Operating Temperature		0		40	°C
Storage Temperature		-20		+85	°C
Relative Humidity	Non-condensing.	10		90	%RH

7. Mechanical Specification

Parameter	Conditions/Description
Dimension	110 x 50 x 30 mm, Tolerance +/- 0.4mm.
Connector	AC input: IEC-320/C8 (2 Pin) DC output plug: 5.5 x 2.5 x 12mm

◆Dimension

