



30W High Reliable Green Medical Encapsulated Type

MPM-30 series



ANSI/AAMI ES60601-1



EN60601-1



IEC60601-1



■ Features

- 2.73"x1.53" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/EN60601-1
- Suitable for BF application with appropriate system consideration
- No load power consumption < 0.075W
- Extremely low leakage current
- Wide operating temp. range -40 ~ +85°C
- EMI class B for class II configuration
- Protections: Short circuit / Overload / Over voltage
- No minimum load required
- 3 years warranty

■ Applications

- Portable medical device
- Mobile clinical workstation
- Medical computer monitor
- Medical examination instrument

■ Description

MPM-30 is a 30W high density and small size (69.5x39x24mm) AC/DC module type medical power supply series offered in pin type. It features the operation for 80~264VAC, a low no load power consumption less than 0.075W, a high efficiency up to 91%, Class II (no FG) double insulation, outstanding dissipation and high lifespan thanks to the interior potting, 5G anti-vibration, high EMC performance, 4KVAC isolation, etc. The design observes IEC/EN60601-1 and ANSI/AAMI ES60601-1 version three with 2xMOPP level and ultra-low leakage current (<80 μ A). It is very suitable for BF (patient contact) type medical device or relevant equipment. In addition to PCB mounting style, MPM-30 series also offers the screw terminal style model (ST).

■ Model Encoding

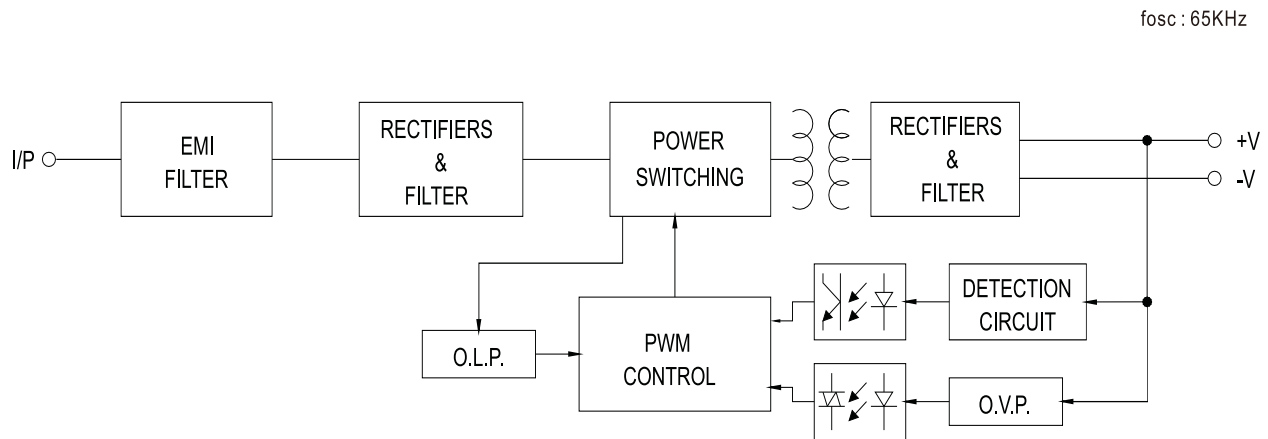
MPM - 30 - 5 ST

{ Blank : PCB mounting style
ST : Screw terminal style

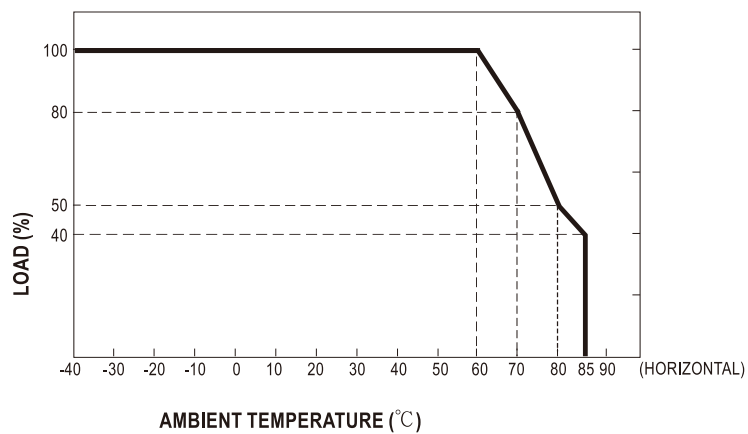
Output voltage
Rated wattage
Series name

MODEL		MPM-30-3.3□	MPM-30-5□	MPM-30-12□	MPM-30-15□	MPM-30-24□	MPM-30-48□
OUTPUT	DC VOLTAGE	3.3V	5V	12V	15V	24V	48V
	RATED CURRENT	6A	6A	2.5A	2A	1.3A	0.63A
	CURRENT RANGE Note.2	0 ~ 6A	0 ~ 6A	0 ~ 2.5A	0 ~ 2A	0 ~ 1.3A	0 ~ 0.63A
	PEAK CURRENT	7.8A	6.9A	2.9A	2.3A	1.5A	0.73A
	RATED POWER	19.8W	30W	30W	30W	31.2W	30.2W
	PEAK LOAD(10sec.) Note.3	25.7W	34.5W	34.8W	34.5W	36W	35W
	RIPPLE & NOISE (max.) Note.4	80mVp-p	80mVp-p	120mVp-p	120mVp-p	200mVp-p	200mVp-p
	VOLTAGE TOLERANCE Note.5	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	500ms, 30ms/230VAC 500ms, 30ms/115VAC at full load					
	HOLD UP TIME (Typ.)	40ms/230VAC 12ms/115VAC at full load					
INPUT	VOLTAGE RANGE Note.6	80 ~ 264VAC					
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	82.5%	86.5%	90%	89%	90%	91%
	AC CURRENT (Typ.)	0.75A/115VAC 0.5A/230VAC					
	INRUSH CURRENT (Typ.)	COLD START 25A/115VAC 45A/230VAC					
	LEAKAGE CURRENT (max.) Note.7	Touch current <80 μ A/264VAC					
PROTECTION	OVERLOAD	115% ~ 165% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE	3.5 ~ 4.5V 5.3 ~ 6.8V 12.6 ~ 16.2V 15.8 ~ 20.3V 25.2 ~ 32.4V 50.4 ~ 64V Protection type : Shut down o/p voltage, re-power on to recover					
ENVIRONMENT	WORKING TEMP.	-40 ~ +85°C (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 60°C)					
	SOLDERING TEMPERATURE	260°C ±5°C/10sec.max.					
	VIBRATION	Blank:10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes ST:10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes					
	LEAD TEMPERATURE	260±5°C, 5s (max.)					
	OPERATING ALTITUDE Note.8	PCB mounting: 5000 meters Screw terminal style: 3000 meters					
SAFETY & EMC (Note 9)	SAFETY STANDARDS	IEC60601-1, EN60601-1, EAC TP TC 004, UL ANSI/AAMI ES60601-1(3.1 version), CAN/CSA-C22 3 rd Edition approved; Design refer to EN60335-1					
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP					
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC					
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH					
	EMC EMISSION	Parameter	Standard		Test Level / Note		
		Conducted	EN55011 (CISPR11)		Class B		
		Radiated	EN55011 (CISPR11)		Class B		
		Harmonic Current	EN61000-3-2		Class A		
		Voltage Flicker	EN61000-3-3		-----		

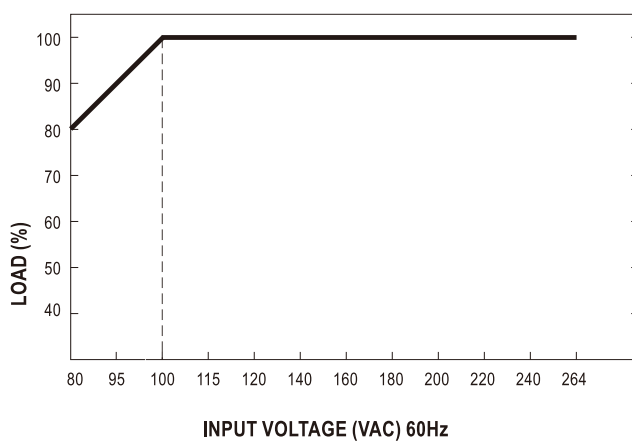
Block Diagram



Derating Curve



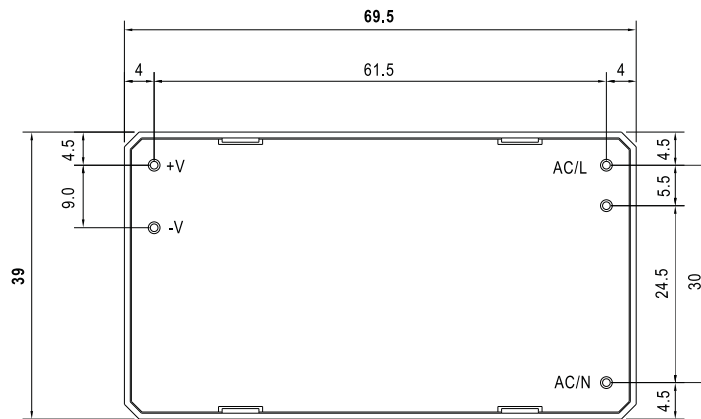
Output Derating VS Input Voltage



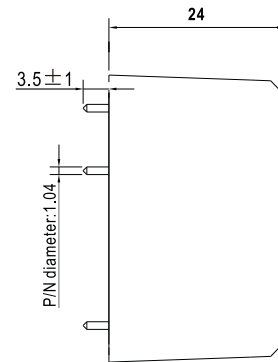
Mechanical Specification

Case No. Unit:mm

• MPM-30 (PCB mounting style)

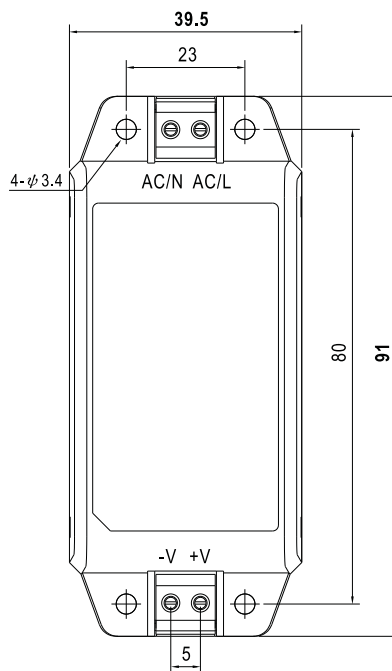


BOTTOM VIEW

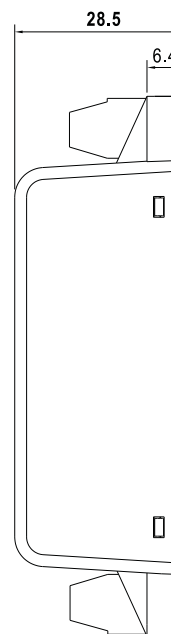


SIDE VIEW

• MPM-30-ST (Screw terminal style)



TOP VIEW



SIDE VIEW

Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>