User's Manual







## ■ Features :

- Universal AC input / Full range
- $^{\bullet}$  Low leakage current  ${<}300{\mu}A$
- Protections: Short circuit / Overload / Over voltage
- Ultra-miniature size, light weight
- Cooling by free air convection
- Medical safety approved (2 x MOPP between primary to secondary)
- No load power consumption<0.75W
- 100% full load burn-in test
- Fixed switching frequency at 90KHz
- High reliability
- Suitable for BF application with appropriate system consideration
- 3 years warranty



## **SPECIFICATION**

MODEL		PM-20-3.3	PM-20-5	PM-20-12	PM-20-15	PM-20-24	
ОИТРИТ	DC VOLTAGE	3.3V	5V	12V	15V	24V	
	RATED CURRENT	4.5A	4.4A	1.8A	1.4A	0.92A	
	CURRENT RANGE	0 ~ 4.5A	0~4.4A	0 ~ 1.8A	0 ~ 1.4A	0 ~ 0.92A	
	RATED POWER	14.85W	22W	21.6W	21W	22.08W	
	RIPPLE & NOISE (max.) Note.2	80mVp-p	80mVp-p	150mVp-p	150mVp-p	240mVp-p	
	VOLTAGE TOLERANCE Note.3	±3.0%	±2.0%	±2.0%	±2.0%	±2.0%	
	LINE REGULATION	±1.0%	±1.0%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±1.5%	±1.5%	±1.0%	±1.0%	±0.5%	
	SETUP, RISE TIME	500ms, 20ms/230VAC 500ms, 20ms/115VAC at full load					
	HOLD UP TIME (Typ.)	50ms/230VAC 15ms/115VAC at full load					
INPUT	VOLTAGE RANGE	85 ~ 264VAC 120 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 440Hz					
	EFFICIENCY (Typ.)	71%	75%	81%	83%	84%	
	AC CURRENT (Typ.)	0.6A/115VAC					
	INRUSH CURRENT (Typ.)	COLD START 30A/115VAC 65A/230VAC					
	LEAKAGE CURRENT Note.6	Earth leakage current < 300μA/264VAC , Touch current < 100μA/264VAC					
PROTECTION	OVERLOAD	Above 105% rated output power					
		Protection type: Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE	3.8 ~ 4.46V	5.75 ~ 6.75V	13.8 ~ 16.2V	17.25 ~ 20.25V	27.6 ~ 32.4V	
		Protection type : Shut off o/p voltage, clamping by zener diode					
ENVIRONMENT	WORKING TEMP.	-20 ~ +60°C (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
	SAFETY STANDARDS	ANSI/AAMI ES60601-1, TUV EN60601-1, IEC60601-1, EAC TP TC 004 approved					
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP, Primary-Earth:1xMOPP, Secondary-Earth:1xMOPP					
SAFETY &	WITHSTAND VOLTAGE	I/P-O/P:4KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC					
EMC (Note 4)	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH					
	EMC EMISSION	Compliance to EN55011(CISPR11),EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020					
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55035, EN60601-1-2, EN61204-3, medical level, EAC TP TC 020					
OTHERS	MTBF	487.8Khrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	94*56*22.7mm (L*W*H)					
	PACKING	0.18Kg; 90pcs/17.2Kg/0.94CUFT					
NOTE	Ripple & noise are measure     Tolerance : includes set up     The power supply is conside     a 360mm*360mm metal pla     perform these EMC tests, p     Touch current was measure	s NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.  se are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.  Includes set up tolerance, line regulation and load regulation.  Includes set up tolerance, line regulation and load regulation.  Includes set up tolerance, line regulation and load regulation.  Includes set up tolerance, line regulation and load regulation.  Includes set up tolerance, line regulation and load regulation.  Includes set up tolerance, line regulation and load regulation.  Includes set up tolerance, line regulation and load regulation.  Includes set up tolerance, line regulation and load regulation.  Includes set up tolerance, line set up tolerance set up tolerance and line set.  Includes set up tolerance, line regulation and load regulation.  Includes set up tolerance, line regulation and load regulation.  Includes set up tolerance, line set up tolerance set up tolerance and line set.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set up tolerance, line set up tolerance and load regulation.  Includes set u					



