ARCH ELECTRONICS CORP.

AC-DC Medical Switching Power Supply

MQF120O SERIES 120 Watts

KEY FEATURES

- Open Frame Medical Switching Power Supply
- Cooling by Free Air Convection
- 100 Watts and 120 Watt with 10CFM Forced Air
- 4000VAC Input to Output 2MOPP Insulation
- High Efficiency up to 91%
- With P.F.C. Function >0.9
- <0.3W No Load Input Power
- EMI for Both Class I (with PE) and Class II (without PE) Configuration
- Suitable for BF Application with Appropriate System Consideration
- UL / IEC / EN 60601 3.1 Edition Safety Approvals
- 3-Year Product Warranty



E308218

(In Progress)

ELECTRICAL SPECIFICATIONS

All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No.		MQF120O-12S	MQF120O-24S	MQF120O-48S
Max Output Wattage (with 10CFM FAN) (W)		120 W		
Max Output Wattage (Free air Convection) (W)		100 W		
Input	Voltage (Note 3)	90-264 VAC		
	Frequency (Hz)	47-63 Hz		
	Current (Full load)	< 2.0 A max. (115 VAC) / < 1.0 A max. (230 VAC)		
	Inrush Current (<2ms)	< 45 A max. (115 VAC) / < 90 A max. (230 VAC)		
	Leakage Current	< 0.1mA / 264 VAC (Touch Current)		
	Power Factor	PF>0.9 at Full Load		
	No Load	< 0.3W (115 / 230 VAC)		
Output	Voltage (V.DC.)	12V	24V	48V
	Voltage Adj Range (V.DC.)	±4% Output Voltage		
	Voltage Accuracy	±2%		
	Current (with 10CFM FAN) (A) max	10	5	2.5
	Current (Free air Convection) (A) max	8.333	4.167	2.083
	Line Regulation	±1%		
	Load Regulation (10-100%)	±1%		
	Minimum Load	0%		
	Maximum Capacitive Load	3000μF	1500μF	500μF
	Ripple & Noise (max.) (Note 1)	160mV	1% Vout	
	Efficiency (at 230VAC)	90%	90%	91%
	Hold-up Time (at 115 VAC) (Note 2)	10 ms min.		
Protection	Over Power Protection	Auto recovery, Hiccup mode		
	Over Voltage Protection	Latch off		
	Overt Temperature Protection	Latch off		
	Short Circuit Protection	Auto recovery, Hiccup mode		
Isolation	Input-Output	4000VAC or 5656VDC		
	Input-FG	2000VAC or 2828VDC		
	Output-FG	1500VAC or 2121VDC		
Environment	Operating Temperature	-30°C…+70°C (with derating)		
	Storage Temperature	-30°C…+85°C		
	Temperature Coefficient	±0.05%/°C		
	Altitude During Operation	5000m		
	Humidity	20~90% RH		
	Atmospheric Pressure	54 kPa to 106 kPa		
	MTBF	>250,000 h @ 25°C (MIL-HDBK-217F, Notice 1)		
	Vibration	10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes.		

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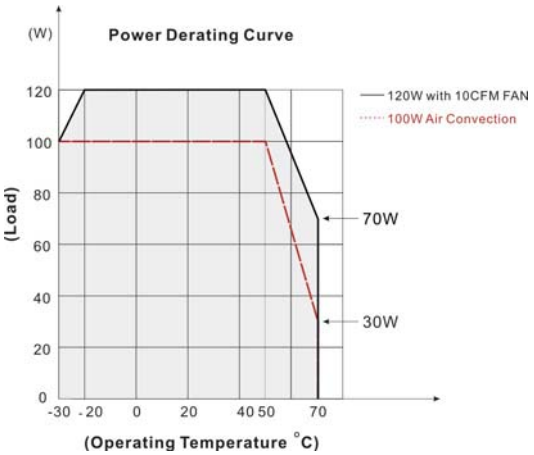
Model No.		MQF120O-12S	MQF120O-24S	MQF120O-48S
Physical	Dimension (L x W x H)	3.04 x 2.0 x 1.2 Inches (77.2 x 50.8 x 30.7 mm) Tolerance ±0.5 mm		
	Weight	In Progress		
	Cooling Method	Free convection		
Safety	Approval	UL / IEC / EN 60601 3.1rd Edition		
EMC	Conducted EMI (Note 5)	EN55011 Conducted & Radiated Class B (In Progress)		
	Radiated EMI (Note 5)	EN55011 Class I class B / Class II class A (In Progress)		
	EMS	EN60601-1-2 4th edition (In Progress)		

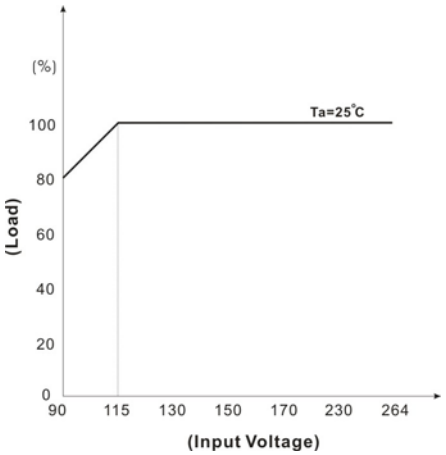
NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. Hold-up Time measured at 90% Vout.
3. Please check the derating curve for more details.
4. Strongly recommend to conduct this test with AC Voltage. If customer wishes to test with DC Voltage, please disconnect all Y-Capacitors within Arch power supply.
5. Please secure the power supply unit to your metal case by using the four screw holes in the corners for either Class I or Class II equipment

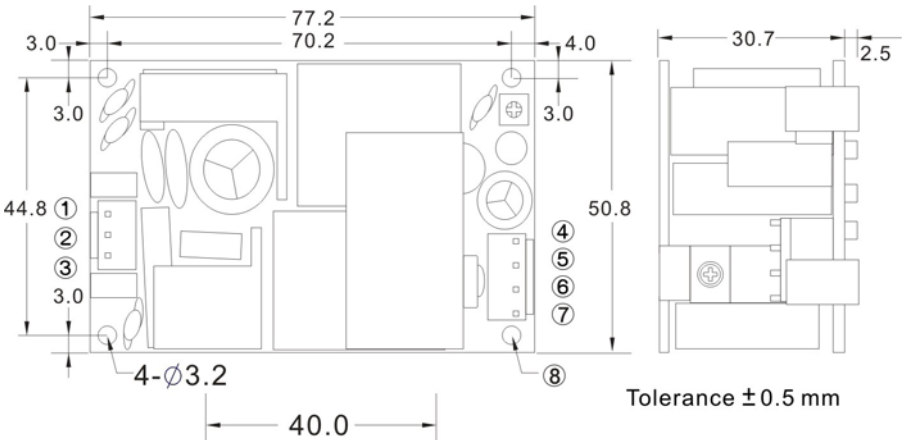
DERATING

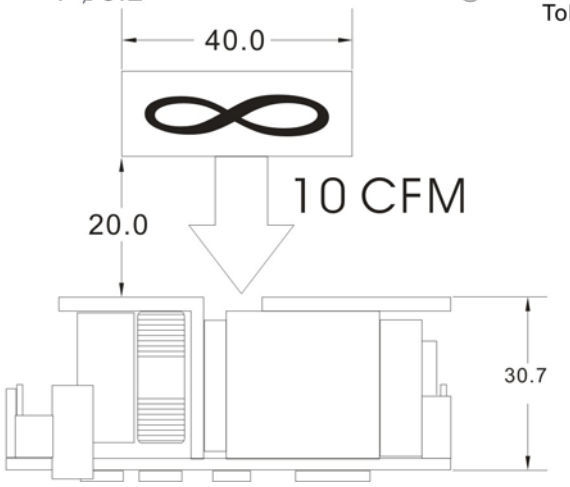
If the input voltage is below 99VAC, we can only use it under the environment of higher that -10 celsius degree





MECHANICAL DIMENSION (Top View)





PIN#	Single	Mating Housing	Terminal
AC Input Connector Pin : Alex 9397-3			
1	AC IN (N)	Alex 9396-3 or equivalent	Alex 96T Series or equivalent
2	NO PIN		
3	AC IN (L)		
DC Output Connector Pin : Alex 9397-4			
4~5	+DC OUT	Alex 9396-4 or equivalent	Alex 96T Series or equivalent
6~7	-DC OUT		
Others			
8	PE		

BLOCK DIAGRAM

