MQF240O SERIES — 240 Watts

KEY FEATURES

- Open Frame Medical Switching Power Supply
- Cooling by Free Air Convection
- 160 Watts and 240 Watt with 10CFM Forced Air
- 4000VAC Input to Output 2MOPP Insulation
- High Efficiency up to 94.5%
- With P.F.C. Function >0.9
- <0.5W No Load Input Power
- Built-in 12V / 0.5A Fan Supply
- EMI for Both Class I (with FG) and Class II (without FG) Configuration
- Suitable for BF Application with Appropriate System Consideration
- UL / IEC / EN 60601 3.1rd Edition & UL / IEC / EN 60950 AM2 Safety Approvals
- 3-Year Product Warranty

Standard	A Type
	

ELECTRICAL SPECIFICATIONS

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

Model No.		MQF240O-12S	MQF240O-24S	MQF240O-48S
Max Output Wattage (with 10CFM FAN) (W)		240 W		
Max Output Wattage (Free air Convection) (W)		160 W		
Input	Voltage (Note 4)	90-264 VAC		
	Frequency (Hz)	47-63 Hz		
	Current (Full load)	< 3.0 A max. (115 VAC) / < 1.5 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		
Output	Voltage (V.DC.)	12V	24V	48V
	Voltage Adj Range (V.DC.)	±4% Output Voltage		
	Voltage Accuracy	±2%		
	Current (with 10CFM FAN) (A) max	20	10	5
	Current (Free air Convection) (A) max	13.3	6.66	3.33
	Line Regulation	±1%		
	Load Regulation (0-100%)	±1%		
	Minimum Load	0%		
	Maximum Capacitive Load	8000µF	3000µF	470µF
	Ripple & Noise max. (Note 1)	1% Vout		
	Efficiency (at 230VAC) (Note 6)	92.5%	93%	93.5%
	Hold-up Time (at 115 VAC) (Note 2)	10 ms min.		
Protection	Over Power Protection	Auto recovery, Hiccup mode		
	Over Voltage Protection	Zener diode clamp		
	Overt Temperature Protection	Auto recovery		
	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		
	Humidity	20~90% RH		
	MTBF	>250,000 h @ 25°C (MIL-HDBK-217F, Notice 1)		
	Vibration	10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes.		
Physical	Dimension (L x W x H)	4.1 x 2.05 x 1.087 Inches (103.9 x 52.0 x 27.6 mm) Tolerance ±0.5 mm		
	Weight	TBD		
	Cooling Method	Free convection		

ELECTRICAL SPECIFICATIONS

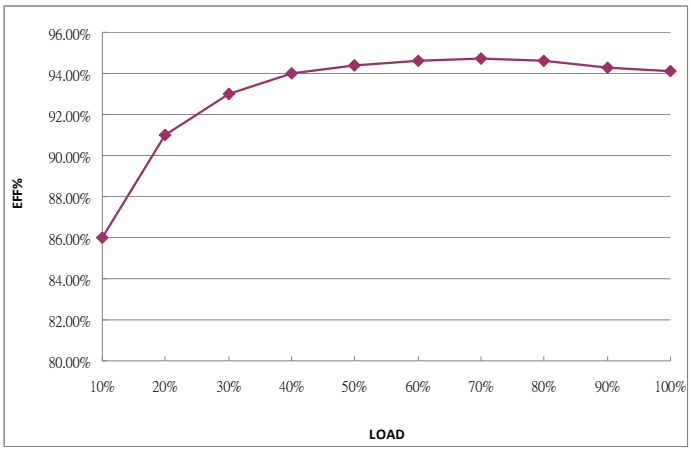
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No.			MQF240O-12S	MQF240O-24S	MQF240O-48S
Safety	Approval		UL / IEC / EN 60601 3.1rd Edition & UL / IEC / EN 60950 AM2		
EMC	Conducted EMI	(Note 7)	EN55011 Conducted & Radiated Class B		
	Radiated EMI	(Note 7)	EN55011 Class I class B / Class II class A		
	ESD		EN61000-4-2 air ± 8kV , Contact ± 4Kv		
	Radiated Immunity		EN61000-4-3 10V/m		
	Fast Transient		EN61000-4-4 ± 2kV		
	Surge		EN61000-4-5 ±1kV		
	Conducted Immunity		EN61000-4-6 10Vrms		
	PFMF		EN61000-4-8 30A/m		
	Dips		EN61000-4-11 30% 10ms		
	Interruption		EN61000-4-11 >95% 5000ms		

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. Main Vout must be >50% Load, 12V (Aux) / 0.5A.
4. Please check the derating curve for more details.
5. Strongly recommend to conduct this test with DC Voltage. If customer wishes to test with AC Voltage, please disconnect all Y-Capacitors within Arch power supply.
6.

Vin at 230 VAC & 48 Vout



(After 30 minutes of burn-in)

7. 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

8. **This product is not designed for use in critical life support systems, equipment used in hazardous environment, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other than the ones listed in this data sheet.**

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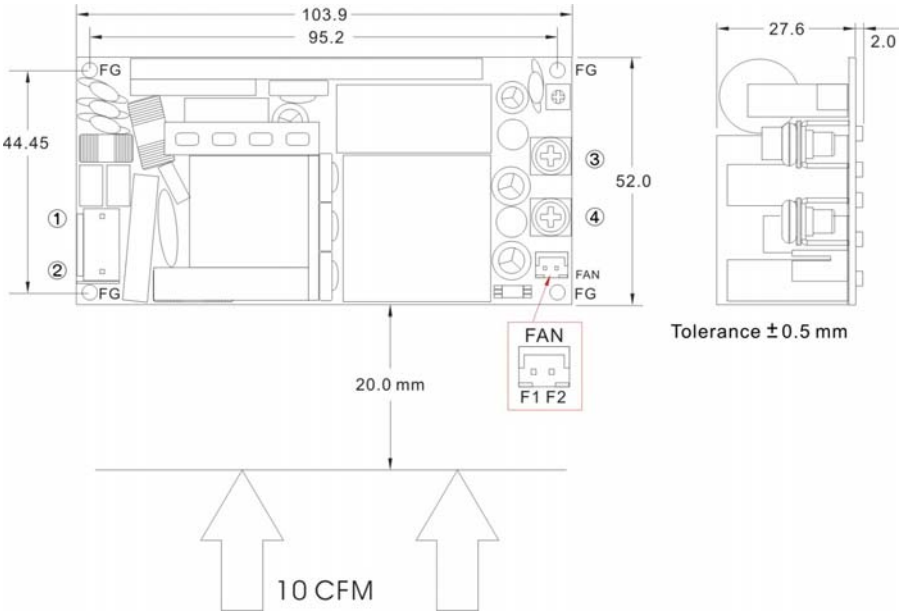
MECHANICAL DIMENSION (Top View)

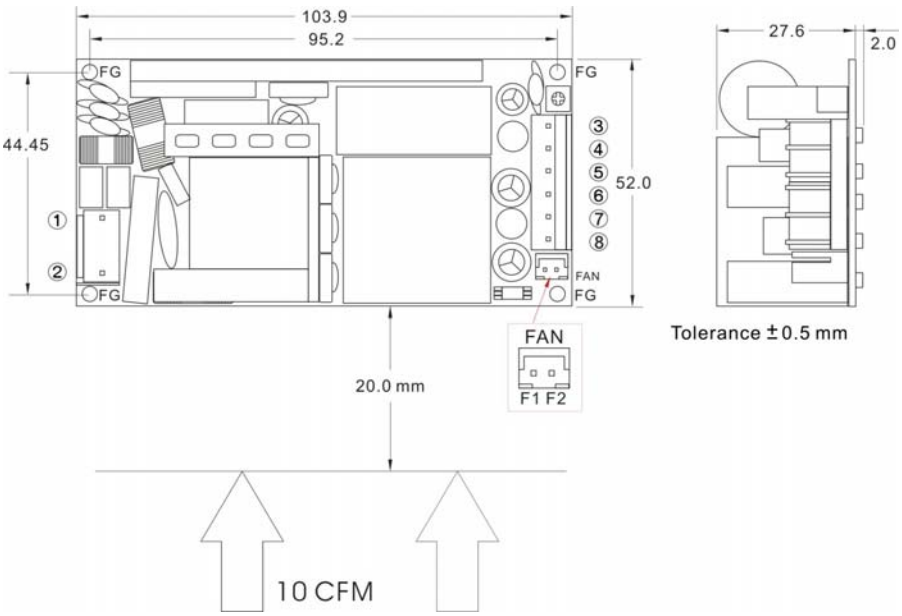
Standard



PIN#	Single
1	AC IN (N)
2	AC IN (L)
3	+DC OUT
4	-DC OUT

Connector Pin (FAN)	
PIN#	Single
F1	+AUX OUT
F2	-AUX OUT

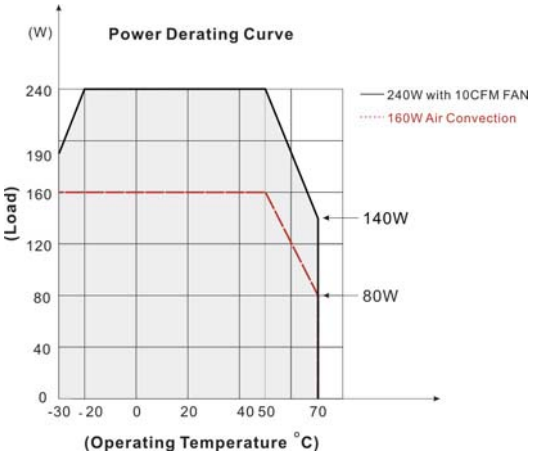
A Type

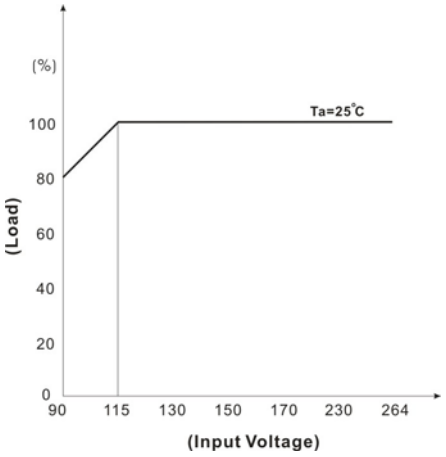


PIN#	Single
1	AC IN (N)
2	AC IN (L)
3~5	+DC OUT
6~8	-DC OUT

Connector Pin (FAN)	
PIN#	Single
F1	+AUX OUT
F2	-AUX OUT

DERATING





BLOCK DIAGRAM