

KEY FEATURES

- Enclosed Medical Switching Power Supply
- Cooling by Free Air Convection
- 85 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



ELECTRICAL SPECIFICATIONS

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

Model No.	MQF120E-12S	MQF120E-24S	MQF120E-48S	
Max Output Wattage (with 10CFM FAN) (W)	120 W			
Max Output Wattage (Free air Convection) (W)	85 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)	< 40 A max. (115 VAC) / < 70 A max. (230 VAC)		
	Leakage Current	< 0.1mA / 264 VAC (Touch Current)		
	Power Factor (at 230 VAC)	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.)	±10% Output Voltage		
	Voltage Accuracy	±2%		
	Current (with 10CFM FAN) (A) max	10	5	2.5
	Current (Free air Convection) (A) max	7.083	3.542	1.771
	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	Protection level 1 (nominal) : Continuous, Auto recovery		
Protection level 2 (instantaneous high current) : Latch				
Isolation	Input-Output	4000VAC or 5656VDC		
	Input-FG	2000VAC or 2828VDC		
	Output-FG	1500VAC or 2121VDC		

ELECTRICAL SPECIFICATIONS

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

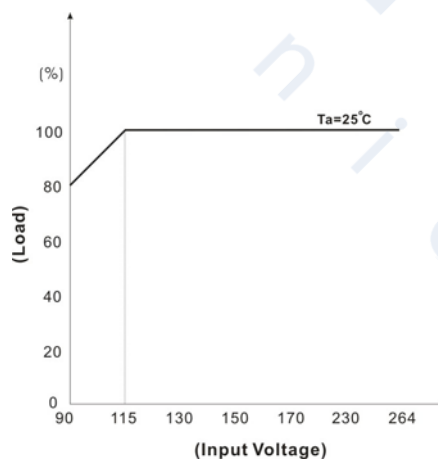
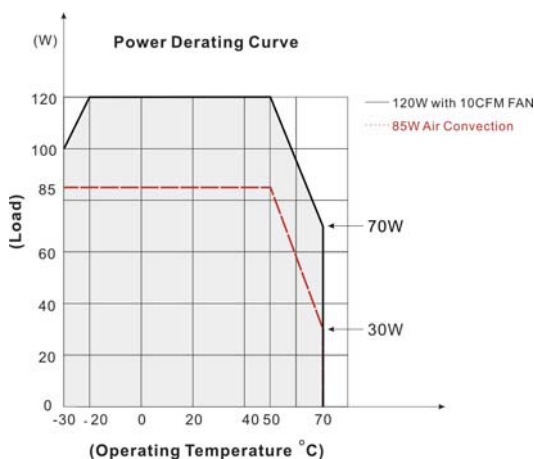
Model No.	MQF120E-12S	MQF120E-24S	MQF120E-48S
Environment	Operating Temperature	-30°C...+70°C (with derating)	
	Storage Temperature	-30°C...+85°C	
	Temperature Coefficient	±0.05%/°C	
	Altitude During Operation	5000m	
	Humidity	20~90% RH	
	Atmospheric Pressure	56 kPa to 106 kPa	
	MTBF	>250,000 h @ 25°C (MIL-HDBK-217F, Notice 1)	
	Vibration	IEC60068-2-27 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes)	
	Shock	IEC60068-2-6	
Physical	Dimension (L x W x H)	3.15 x 2.35 x 1.7 Inches (80.0 x 59.7 x 43.2) Tolerance ±0.5 mm	
	Weight	258 g	
Safety	Approval	UL / IEC / EN 60601 3.1 rd Edition	
EMC	Conducted EMI (Note 5)	EN55011 Conducted Class B	
	Radiated EMI (Note 5)	EN55011 Class I class B / Class II class A	
	EMS	EN60601-1-2 4th edition	

NOTE

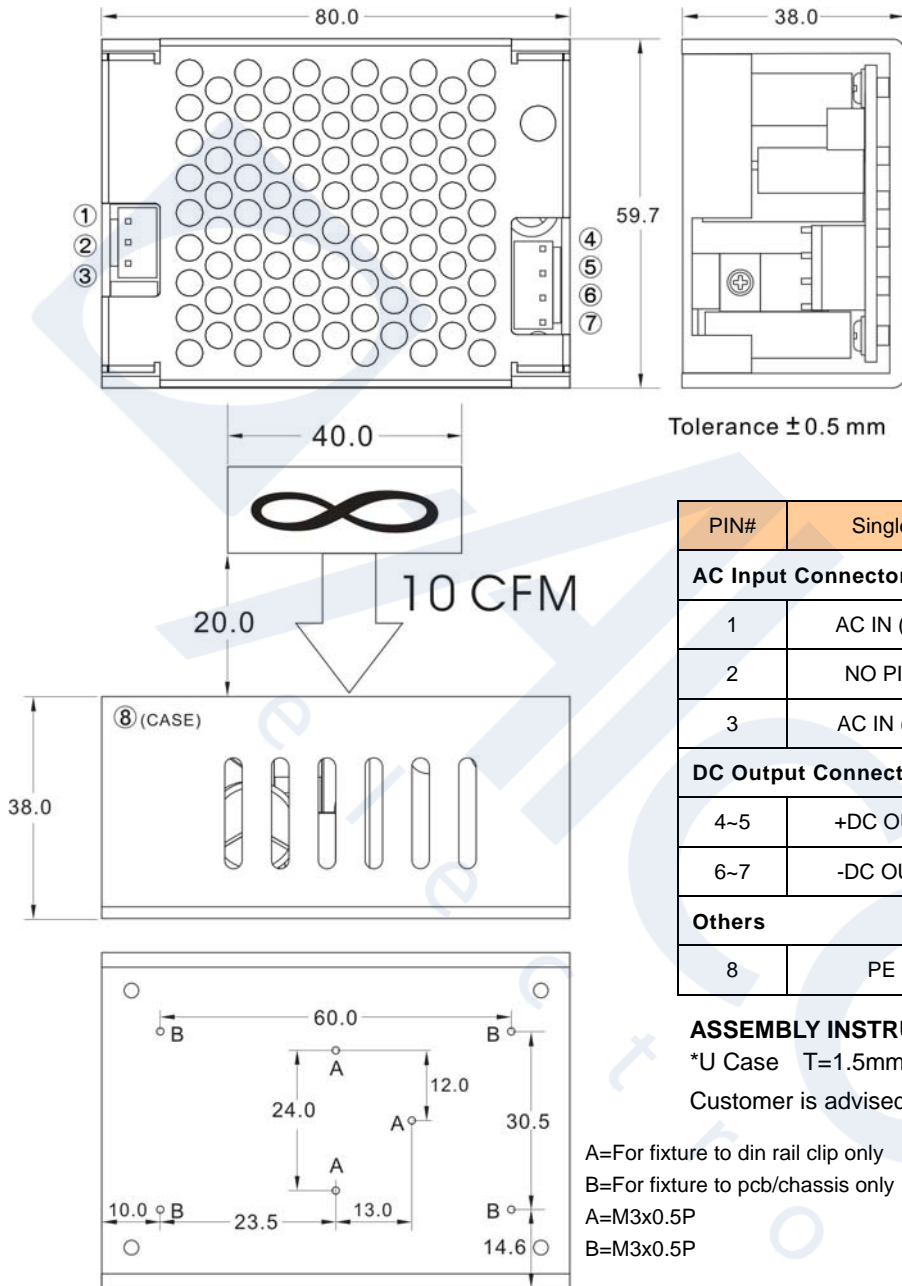
- Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
- Hold-up Time measured at 90% Vout.
- Please check the derating curve for more details.
- Strongly recommend to conduct this test with AC Voltage. If customer wishes to test with DC Voltage, please disconnect all Y-Capacitors within Arch power supply.
- 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
- CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.**

DERATING

If the input voltage is below 99VAC, we can only use it under the environment of higher than -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		

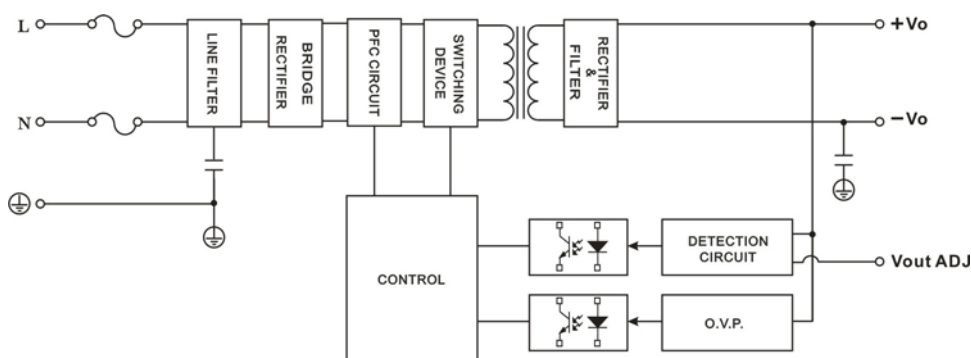
ASSEMBLY INSTRUCTIONS

*U Case T=1.5mm

Customer is advised to screw into the threads no more than 2.5mm

- A=For fixture to din rail clip only
- B=For fixture to pcb/chassis only
- A=M3x0.5P
- B=M3x0.5P

BLOCK DIAGRAM



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


ELECTRICAL SPECIFICATIONS

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

Model No.	MQF1200-12S	MQF1200-24S	MQF1200-48S	
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)	< 40 A max. (115 VAC) / < 70 A max. (230 VAC)		
	Leakage Current	< 0.1mA / 264 VAC (Touch Current)		
	Power Factor (at 230 VAC)	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.)	±10% 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	Protection level 1 (nominal) : Continuous, Auto recovery Protection level 2 (instantaneous high current) : Latch		
Isolation	Input-Output	4000VAC or 5656VDC		
	Input-FG	2000VAC or 2828VDC		
	Output-FG	1500VAC or 2121VDC		

ELECTRICAL SPECIFICATIONS

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

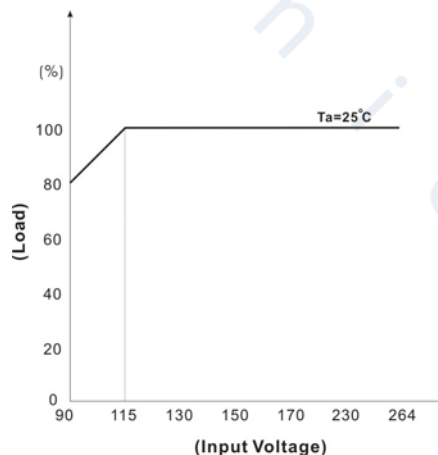
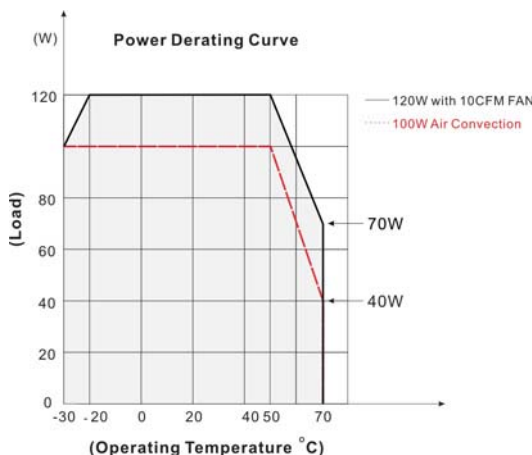
Model No.	MQF1200-12S	MQF1200-24S	MQF1200-48S
Environment	Operating Temperature	-30°C...+70°C (with derating)	
	Storage Temperature	-30°C...+85°C	
	Temperature Coefficient	±0.05%/°C	
	Altitude During Operation	5000m	
	Humidity	20~90% RH	
	Atmospheric Pressure	56 kPa to 106 kPa	
	MTBF	>250,000 h @ 25°C (MIL-HDBK-217F, Notice 1)	
	Vibration	IEC60068-2-27 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes)	
	Shock	IEC60068-2-6	
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	172 g	
	Cooling Method	Free convection / 10 CFM FAN	
Safety	Approval	UL / IEC / EN 60601 3.1 rd Edition	
EMC	Conducted EMI (Note 5)	EN55011 Conducted Class B	
	Radiated EMI (Note 5)	EN55011 Class I class B / Class II class A	
	EMS	EN60601-1-2 4th edition	

NOTE

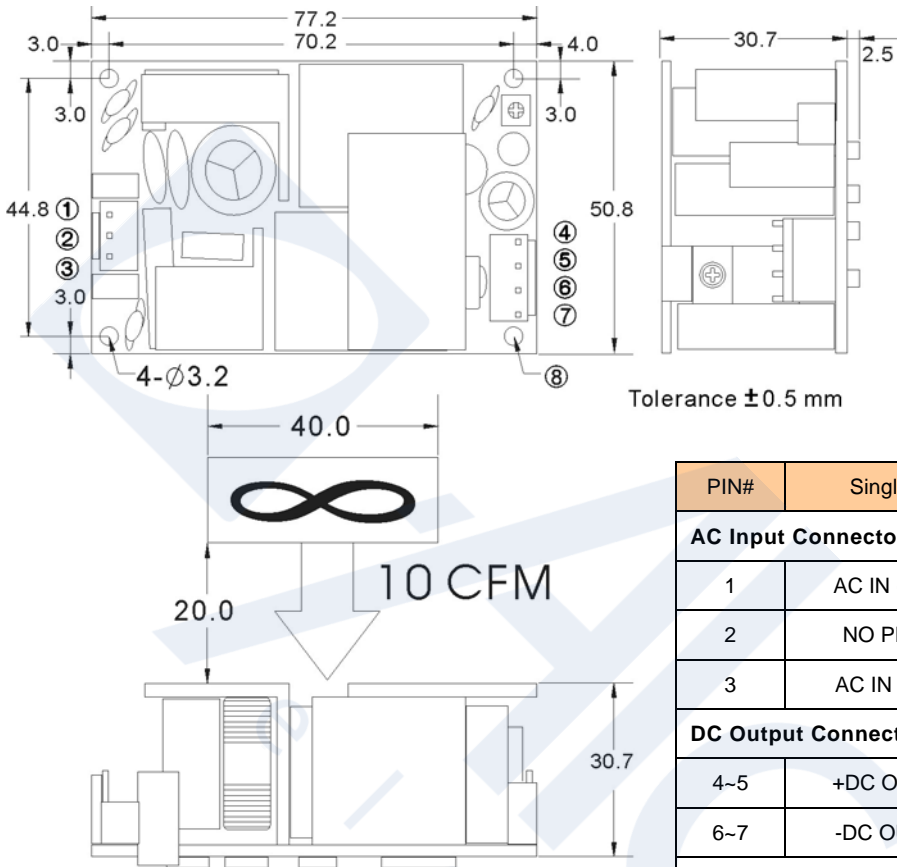
- Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
- Hold-up Time measured at 90% Vout.
- Please check the derating curve for more details.
- Strongly recommend to conduct this test with AC Voltage. If customer wishes to test with DC Voltage, please disconnect all Y-Capacitors within Arch power supply.
- 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
- CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.**

DERATING

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

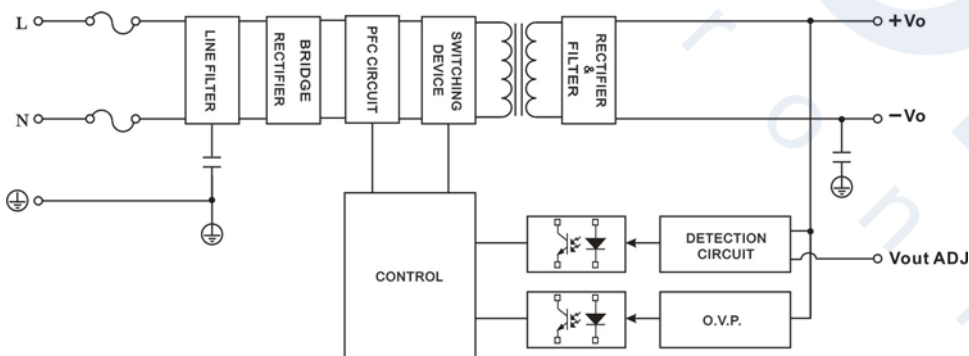


MECHANICAL DIMENSION (Top View)



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



KEY FEATURES

- U Bracket Medical Switching Power Supply
- Cooling by Free Air Convection
- 90 Watt 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


ELECTRICAL SPECIFICATIONS

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

Model No.	MQF120U-12S	MQF120U-24S	MQF120U-48S	
Max Output Wattage (with 10CFM FAN) (W)	120 W			
Max Output Wattage (Free air Convection) (W)	90 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)	< 40 A max. (115 VAC) / < 70 A max. (230 VAC)		
	Leakage Current	< 0.1mA / 264 VAC (Touch Current)		
	Power Factor (at 230 VAC)	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.)	±10% Output Voltage		
	Voltage Accuracy	±2%		
	Current (with 10CFM FAN) (A) max	10	5	2.5
	Current (Free air Convection) (A) max	7.5	3.75	1.875
	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	Protection level 1 (nominal) : Continuous, Auto recovery Protection level 2 (instantaneous high current) : Latch		
Isolation	Input-Output	4000VAC or 5656VDC		
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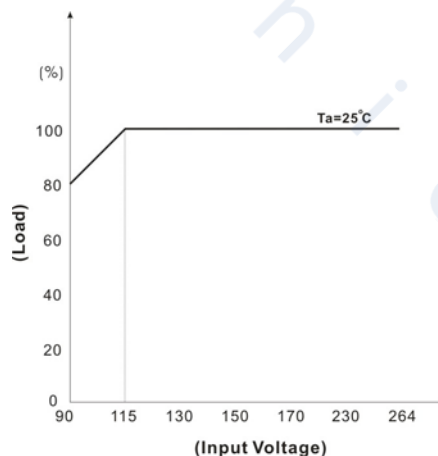
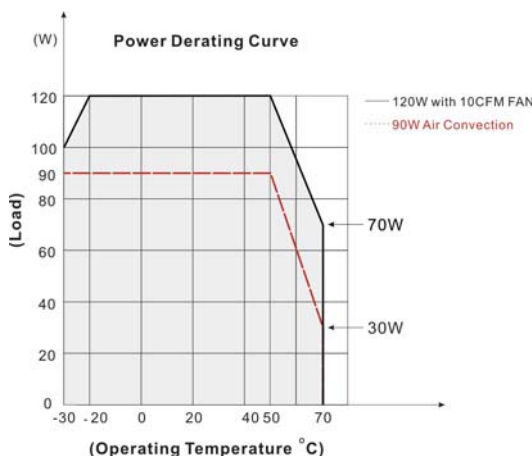
Model No.	MQF120U-12S	MQF120U-24S	MQF120U-48S
Environment	Operating Temperature	-30°C...+70°C (with derating)	
	Storage Temperature	-30°C...+85°C	
	Temperature Coefficient	±0.05%/°C	
	Altitude During Operation	5000m	
	Humidity	20~90% RH	
	Atmospheric Pressure	56 kPa to 106 kPa	
	MTBF	>250,000 h @ 25°C (MIL-HDBK-217F, Notice 1)	
	Vibration	IEC60068-2-27 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes)	
	Shock	IEC60068-2-6	
Physical	Dimension (L x W x H)	3.15 x 2.35 x 1.5 Inches (80.0 x 59.7 x 38.0 mm) Tolerance ±0.5 mm	
	Weight	246 g	
	Cooling Method	Free convection / 10 CFM FAN	
Safety	Approval	UL / IEC / EN 60601 3.1 st Edition	
EMC	Conducted EMI (Note 5)	EN55011 Conducted Class B	
	Radiated EMI (Note 5)	EN55011 Class I class B / Class II class A	
	EMS	EN60601-1-2 4th edition	

NOTE

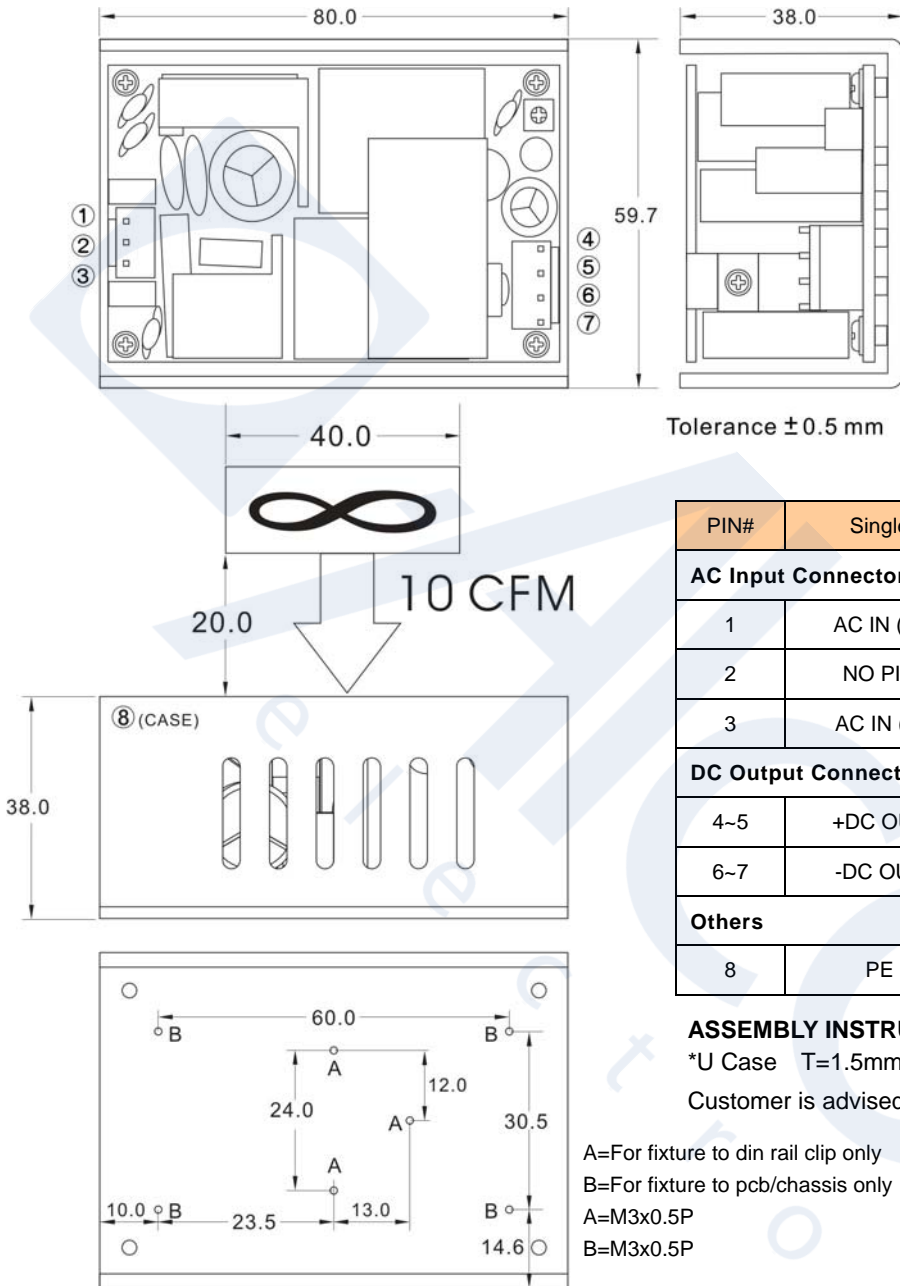
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- Please check the derating curve for more details.
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ASSEMBLY INSTRUCTIONS

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Customer is advised to screw into the threads no more than 2.5mm

- A=For fixture to din rail clip only
- B=For fixture to pcb/chassis only
- A=M3x0.5P
- B=M3x0.5P

BLOCK DIAGRAM

