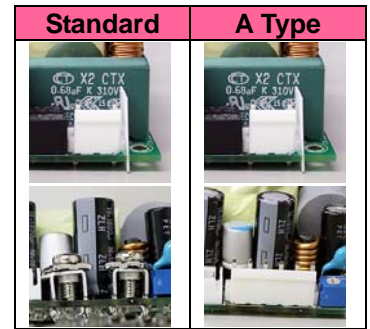


**KEY FEATURES**

- U Bracket 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%
- 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 PE) and Class II (without PE) Configuration
- Suitable for BF Application with Appropriate System Consideration
- UL / IEC / EN 60601 3.1 Edition & UL / IEC / EN 60950 AM2 Safety Approvals
- 3-Year Product Warranty



Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.


**ELECTRICAL SPECIFICATIONS**

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

| Model No.                                    | MQF240U-12S                              | MQF240U-15S   | MQF240U-24S | MQF240U-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   |             |             |       |
|  | No Load                                  | < 0.5W (115 / 230 VAC)  |             |             |       |
| Output                                       | Voltage (V.DC.)                          | 12V   | 15V         | 24V         | 48V   |
|  | Voltage Adj Range (V.DC.)                | ±4% Output Voltage  |             |             |       |
|  | Voltage Accuracy                         | ±2%   |             |             |       |
|  | Current (with 10CFM FAN) (A) (max.)      | 20  | 16          | 10          | 5     |
|  | Current (Free air Convection) (A) (max.) | 13.3  | 10.667      | 6.66        | 3.33  |
|  | Line Regulation                          | ±1%   |             |             |       |
|  | Load Regulation (0-100%)                 | ±1%   |             |             |       |
|  | Minimum Load                             | 0%  |             |             |       |
|  | Maximum Capacitive Load                  | 8000μF  | 2000μF      | 3000μF      | 470μF |
|  | Ripple & Noise (max.) (Note 1)           | 1% Vout   |             |             |       |
|  | Efficiency (at 230VAC) (Note 6)          | 92.5%   | 92.5%       | 93%         | 94%   |
| Hold-up Time (at 115 VAC) (Note 2)           | 10 ms min.                               |   |             |             |       |
| Protection                                   | Over Power Protection                    | Auto recovery, Hiccup mode  |             |             |       |
|  | Over Voltage Protection                  | Auto recovery   |             |             |       |
|  | Over Temperature Protection              | Auto recovery   |             |             |       |
|  | Short Circuit Protection                 | Protection level 1 (nominal) : Continuous, Auto recovery<br>Protection level 2 (instantaneous high current) : Latch |             |             |       |
| Isolation                                    | Input-Output (Note 5)                    | 4000VAC or 5656VDC  |             |             |       |
|  | Input-PE (Note 5)                        | 2000VAC or 2828VDC  |             |             |       |
|  | Output-PE (Note 5)                       | 1500VAC or 2121VDC  |             |             |       |

## ELECTRICAL SPECIFICATIONS

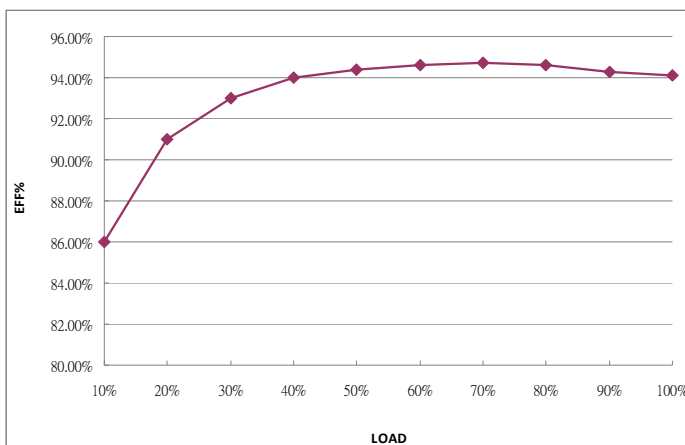
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

| Model No.   |                           | MQF240U-12S  | MQF240U-15S | MQF240U-24S | MQF240U-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                 | IEC60068-2-6 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes)  |             |             |             |
|             | Shock                     | IEC60068-2-27  |             |             |             |
| Physical    | Dimensions (L x W x H)    | 4.1 x 2.44 x 1.544 Inches ( 104.0 x 62.0 x 39.2 mm ) Tolerance ±0.5 mm   |             |             |             |
|             | Weight                    | 297 g  |             |             |             |
|             | Cooling Method            | Free convection / 10 CFM FAN   |             |             |             |
| Safety      | Approval                  | 12S/24S/48S:<br>UL / IEC / EN 60601 3.1 <sup>rd</sup> Edition (2 x MOPP) ,<br>UL / IEC / EN 60950 AM2, UL / IEC / EN 62368       |             |             |             |
|             | Approval / Meet           | 15S:<br>UL / IEC / EN 60601 3.1 <sup>rd</sup> Edition (2 x MOPP) ,<br>UL / IEC / EN 60950 AM2 (meet), UL / IEC / EN 62368 (meet) |             |             |             |
| EMC         | Conducted EMI (Note 8)    | EN55011 Conducted Class B  |             |             |             |
|             | Radiated EMI (Note 8)     | EN55011 Class I class B / Class II class A   |             |             |             |
|             | EMS                       | EN60601-1-2 4th edition  |             |             |             |

### 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. Fan Supply=12V/0.5A (max) for driving a fan..
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 from Arch power supply.
- 6.

Vin at 230 VAC & 48 Vout



(After 30 minutes of burn-in)

**NOTE**

7. The FAN supply is designed to serve as the source of the additive external fan for the cooling of the power supply, enabling the full load delivery and assuring the best life span of the product. Please do not use this FAN supply to drive other devices.

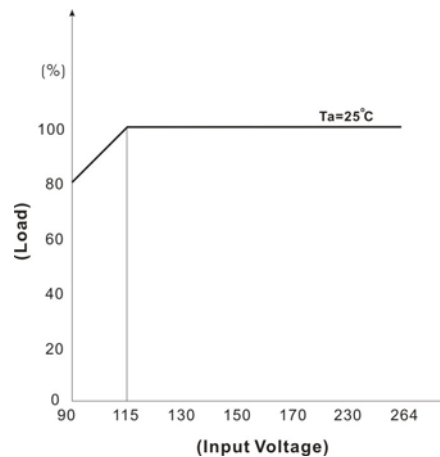
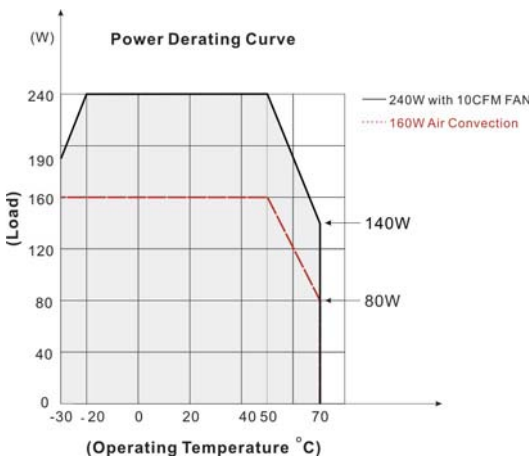
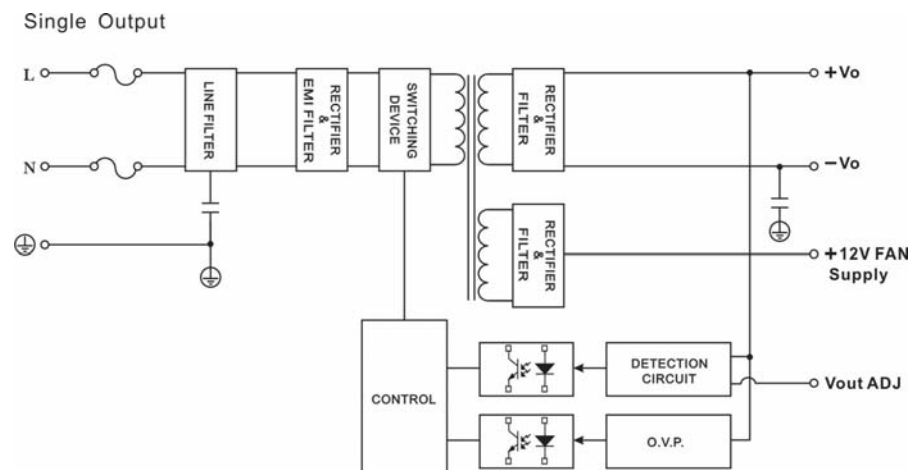
| For 12S, 24S, 48S |                       |                        |                       |
|-------------------|-----------------------|------------------------|-----------------------|
| Main Output Power | FAN Voltage (at 0.1A) | FAN Voltage (at 0.25A) | FAN Voltage (at 0.5A) |
| 25%               | 12.1V                 | 11.8V                  | 11.5V                 |
| 50%               | 12.2V                 | 11.9V                  | 11.7V                 |
| 75%               | 12.3V                 | 12.0V                  | 11.8V                 |
| 100%              | 12.5V                 | 12.2V                  | 11.9V                 |

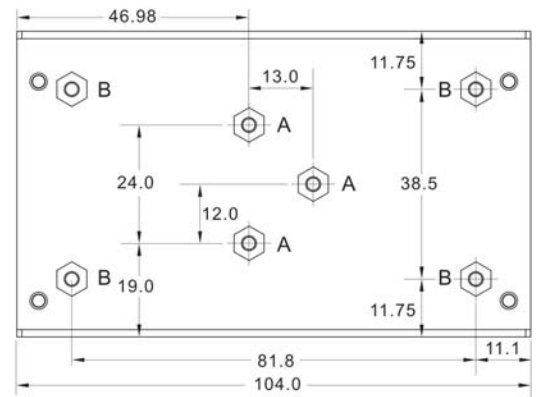
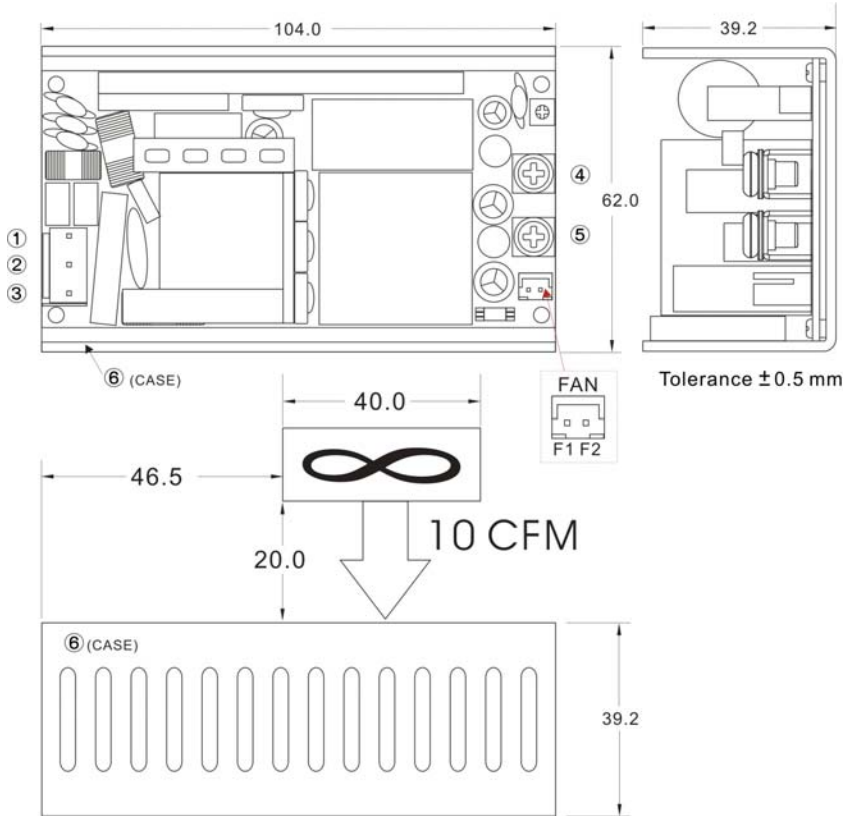
| For 15S           |                       |                        |                       |
|-------------------|-----------------------|------------------------|-----------------------|
| Main Output Power | FAN Voltage (at 0.1A) | FAN Voltage (at 0.25A) | FAN Voltage (at 0.5A) |
| 25%               | 10.8V                 | 10.2V                  | 9.3V                  |
| 50%               | 10.9V                 | 10.3V                  | 9.4V                  |
| 75%               | 10.9V                 | 10.4V                  | 9.5V                  |
| 100%              | 11.0V                 | 10.4V                  | 9.5V                  |

8. 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

**9. CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.**

**(ATTENTION : 2 poles avec fusible sur le neutre. Deconnecter le secteur avant intervention.)**

**DERATING**

**BLOCK DIAGRAM**


**MECHANICAL DIMENSIONS ( Top View )**
**Standard**


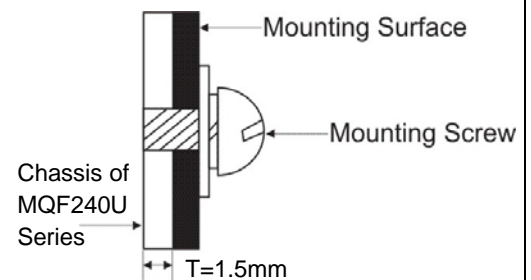
A= For fixture to chassis only  
 A=M3x0.5P  
 B=For fixture to pcb/chassis only  
 B=M3x0.5P  
 Torque:3 $\pm$ 0.5 Kgf.cm

| Brands |           | Alex  |            | JST            |              |
|--------|-----------|---|------------|----------------|--------------|
| PIN#   | Single    | Mating Housing  | Terminal   | Mating Housing | Terminal     |
| 1      | AC IN (N) | 9396-3  | 96T series | VHR-3N         | SVH-41T-P1.1 |
| 2      | NO PIN    |   |            |                |              |
| 3      | AC IN (L) | Terminal :<br>M3.5 Pan HD screw in 2 positions<br>Torque to 8 lbs-in(90 cNm) max. |            |                |              |
| 4      | +DC OUT   |   |            |                |              |
| 5      | -DC OUT   |   |            |                |              |
| 6      | PE        |   |            |                |              |

**ASSEMBLY INSTRUCTIONS**

\*U Case T=1.5mm

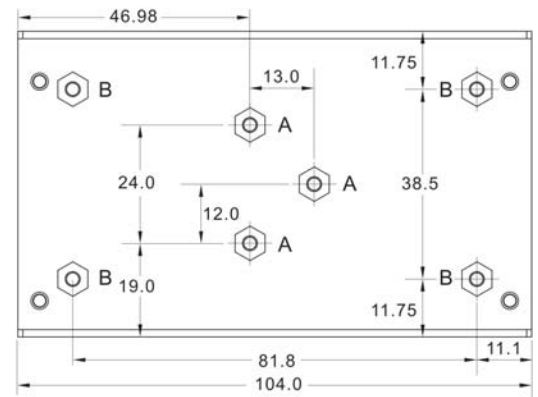
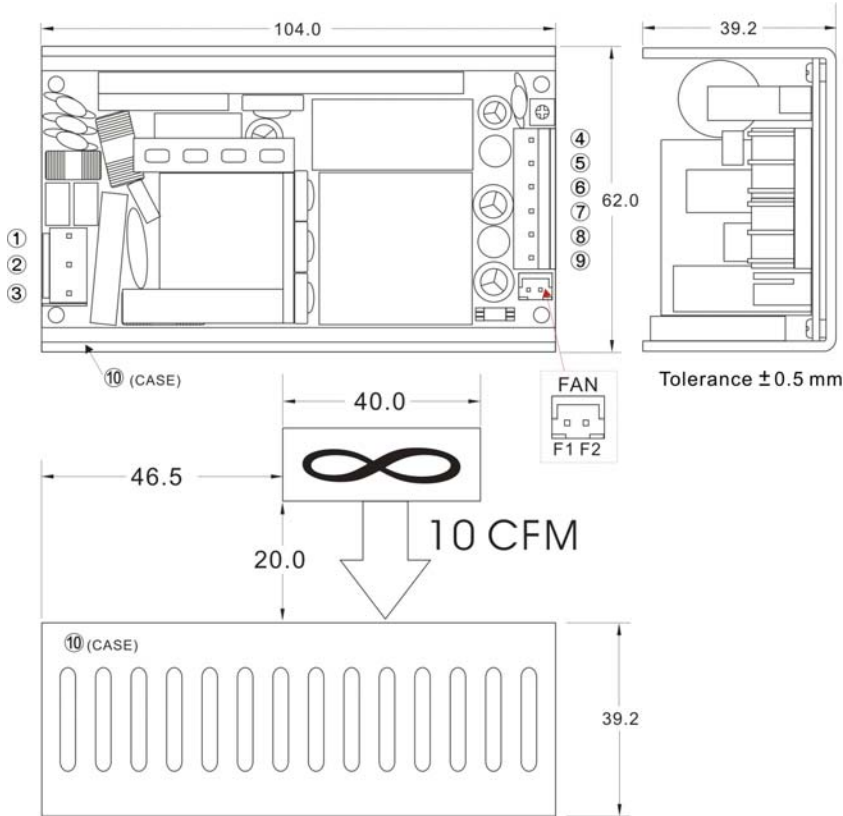
Customer is advised to screw into the threads no more than 1.5mm


**Connector Pin (FAN)**

| Brands |          | Cherng Weei    |          | JST            |               |
|--------|----------|----------------|----------|----------------|---------------|
| PIN#   | Single   | Mating Housing | Terminal | Mating Housing | Terminal      |
| F1     | +AUX OUT | CX-H250-02     | CX-T2501 | XHP-2          | SXH-002T-P0.6 |
| F2     | -AUX OUT |                |          |                |               |

**Standard**


Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.

**MECHANICAL DIMENSIONS ( Top View )**
**A Type**


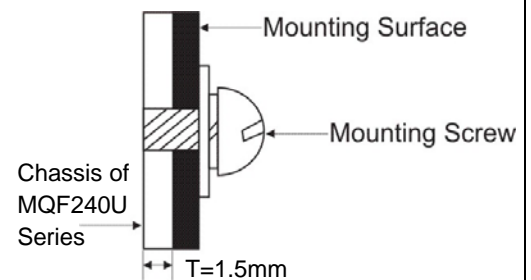
A= For fixture to chassis only  
 A=M3x0.5P  
 B=For fixture to pcb/chassis only  
 B=M3x0.5P  
 Torque:3±0.5 Kgf.cm

| Brands |           | Alex           |            | JST            |              |
|--------|-----------|----------------|------------|----------------|--------------|
| PIN#   | Single    | Mating Housing | Terminal   | Mating Housing | Terminal     |
| 1      | AC IN (N) | 9396-3         | 96T series | VHR-3N         | SVH-41T-P1.1 |
| 2      | NO PIN    |                |            |                |              |
| 3      | AC IN (L) | 9396-6         | 96T series | VHR-6N         | SVH-41T-P1.1 |
| 4-6    | +DC OUT   |                |            |                |              |
| 7-9    | -DC OUT   |                |            |                |              |
| 10     | PE        | —              | —          | —              | —            |

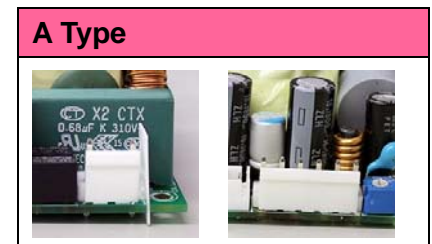
**ASSEMBLY INSTRUCTIONS**

\*U Case T=1.5mm

Customer is advised to screw into the threads no more than 1.5mm


**Connector Pin (FAN)**

| Brands |          | Cheng Weei     |          | JST            |               |
|--------|----------|----------------|----------|----------------|---------------|
| PIN#   | Single   | Mating Housing | Terminal | Mating Housing | Terminal      |
| F1     | +AUX OUT | CX-H250-02     | CX-T2501 | XHP-2          | SXH-002T-P0.6 |
| F2     | -AUX OUT |                |          |                |               |



Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.