

KEY FEATURES

- Switching Power Module for PCB Mountable
- 4000VAC Input to Output 2MOPP Insulation
- Cooling by Free Air Convection
- High Efficiency up to 93.5%
- With P.F.C. Function >0.9
- <0.5W No Load Input Power
- Protections: Over Load / Over Voltage / Over Temperature / Short Circuit
- 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 3.1st Edition & UL / IEC / EN 60950 AM2 Safety Approvals
- 3-Year Product Warranty



ELECTRICAL SPECIFICATIONS

All specifications valid at 230VAC input voltage, full load and +25°C after warm-up time unless otherwise stated.

| Model No. | | MQC100-12S | MQC100-24S | MQC100-48S |
|------------------------|------------------------------------|--|------------|------------|
| Max Output Wattage (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 | | |
| Output | Voltage (V.DC.) | 12V | 24V | 48V |
| | Voltage Accuracy | ±2% | | |
| | Current (A) max | 8.33 | 4.2 | 2.1 |
| | Line Regulation | ±1% | | |
| | Load Regulation (0-100%) | ±1% | | |
| | Minimum Load | 0% | | |
| | Maximum Capacitive Load | 6000µF | 2000µF | 330µF |
| | Ripple & Noise max. (Note 1) | 1% Vout | | |
| | Efficiency (at 230VAC) (Note 4) | 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 | | |
| | Over 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 | 95% RH | | |
| | MTBF | >250,000 h @ 25°C (MIL-HDBK-217F, Notice 1) | | |
| | Vibration | 10~500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes. | | |
| Physical | Dimension (L x W x H) | 4.3 x 2.3 x 1.58 Inches (109.0 x 58.5 x 34.5 mm) Tolerance ±0.5 mm | | |
| | Weight | Pending | | |
| | Cooling Method | Free convection | | |

ELECTRICAL SPECIFICATIONS

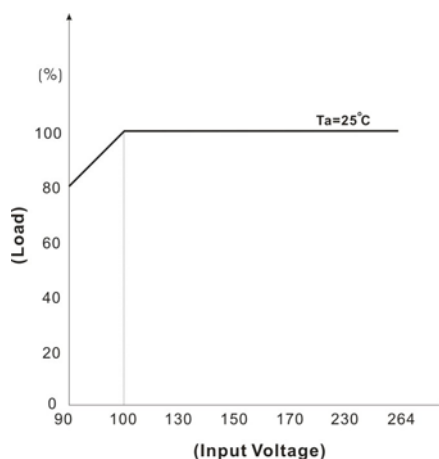
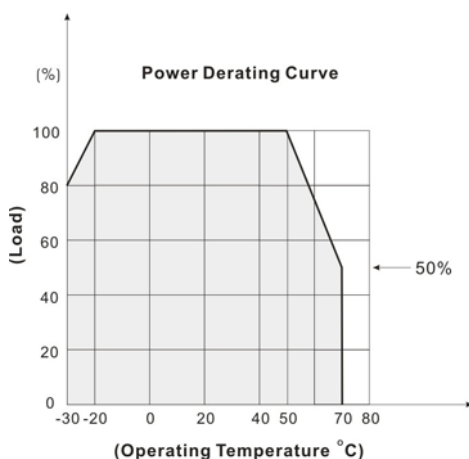
All specifications valid at 230VAC input voltage, full load and +25°C after warm-up time unless otherwise stated.

| Model No. | | MQC100-12S | MQC100-24S | MQC100-48S |
|-----------|-------------------------------------|---|------------|------------|
| Safety | Approval | UL / IEC / EN 60601 3.1 st Edition & UL / IEC / EN 60950 AM2 | | |
| EMC | Conducted and radiated EMI (Note 5) | EN55011 Conducted & Radiated Class B | | |
| | ESD | EN61000-4-2 air $\pm 8\text{kV}$, Contact $\pm 4\text{kV}$ (Pending) | | |
| | Radiated Immunity | EN61000-4-3 10V/m (Pending) | | |
| | Fast Transient | EN61000-4-4 $\pm 2\text{kV}$ (Pending) | | |
| | Surge | EN61000-4-5 $\pm 1\text{kV}$ (Pending) | | |
| | Conducted Immunity | EN61000-4-6 10Vrms (Pending) | | |
| | PFMF | EN61000-4-8 30A/m (Pending) | | |
| | Dips | EN61000-4-11 30% 10ms (Pending) | | |
| | Interruption | EN61000-4-11 >95% 5000ms (Pending) | | |

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.
- After 30 minutes of burn-in
- 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
- Please refer to our PDF file "AC-DC Application" on our website: www.archcorp.com.tw
- 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 the ones listed in this datasheet.**

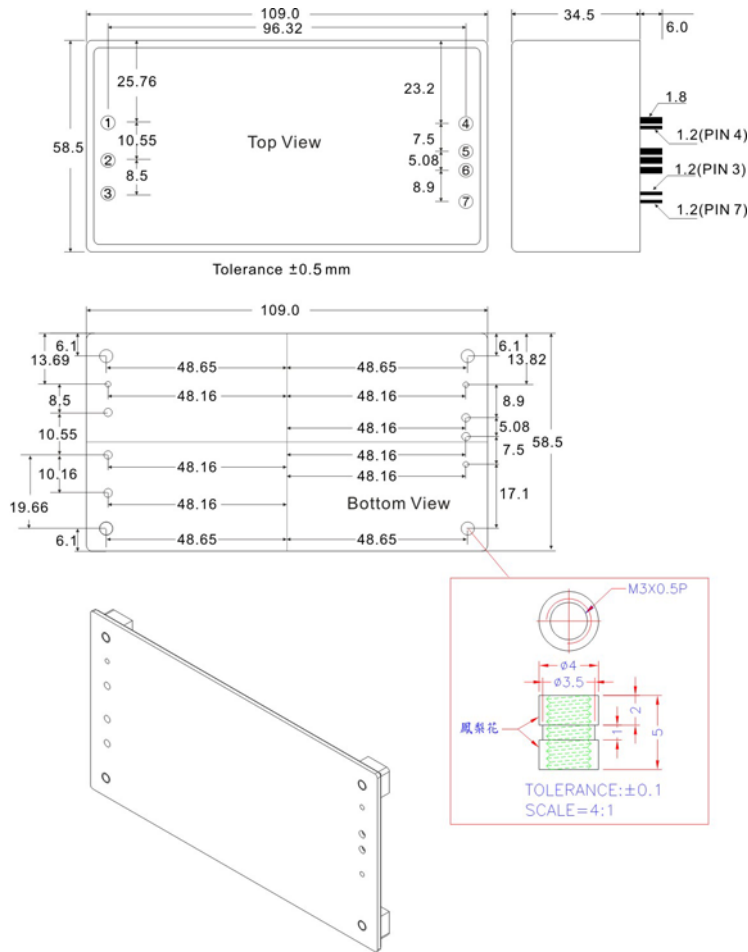
DERATING



TRIM

| | 12S | | 24S | | 48S | |
|-----------------|--------------|-----------------|----------------|-----------------|--------------|-----------------|
| Trim → -V | +5% | 0% | +5% | 0% | +5% | 0% |
| | 34K Ω | ~ 10M | 37.4K Ω | ~ 10M | 38K Ω | ~ 10M |
| Trim → +V | 0% | -5% | 0% | -5% | 0% | -5% |
| | 10M Ω | ~ 106K Ω | 10M Ω | ~ 270K Ω | 10M Ω | ~ 640K Ω |

MECHANICAL DIMENSION (Top View)



| PIN# | Φ | Single |
|----------------------------|------------------|-----------|
| 1 | 1.2 ± 0.1 mm | AC IN (N) |
| 2 | 1.2 ± 0.1 mm | AC IN (L) |
| 3 | 1.2 ± 0.1 mm | FG |
| 4 | 1.2 ± 0.1 mm | ON / OFF |
| (Provide +5Vdc Controlled) | | |
| 5 | 1.8 ± 0.1 mm | +DC OUT |
| 6 | 1.8 ± 0.1 mm | -DC OUT |
| 7 | 1.2 ± 0.1 mm | Trim |

Remark:

Please reserve the pin 4 hole on PCB.

If the remote on/off function is not required, please connect the pin 4 circuit layout with pin6, or keep pin 4 floating.

BLOCK DIAGRAM

