# AQFC480F Series

## 480 W AC/DC Switching Power Supply

CoolPower Solutions

### KEY FEATURES

- Enclosed Switching Power Supply
- Universal Input: 90-264 VAC
- Active P.F.C. Function, PF>0.95
- Cooling by Built-in DC FAN
- Protections: Over Load / Over Voltage / Over Temperature / Short Circuit All by Auto-recovery
- Built-in Remote ON/OFF Control
- Stand by 5V @ 0.6A
- High Efficiency up to 92%
- Ultra Compact Size: 7.98 x 4.2 x 1.78 Inches
- 3-Years Product Warranty



| Standard | A Type |
|---|---|
|  |  |
|  |  |

CE cULus E199779 LEVEL3

### ELECTRICAL SPECIFICATIONS

| Model No. | | | AQFC480F-12S | AQFC480F-24S | AQFC480F-36S | AQFC480F-48S |
|---|---|---|---|---|---|---|
| Max Output Wattage (W) | | | 480W | | | |
| Input | Voltage | | 90-264 VAC or 120-370 VDC | | | |
| | Frequency (Hz) | | 47-63 Hz | | | |
| | Current (Full load) | | < 5.5 A max. (115 VAC) / < 3.0 A max. (230 VAC) | | | |
| | Inrush Current (<2ms) | | < 50 A max. (115 VAC) / < 70 A max. (230 VAC) | | | |
| | Leakage Current | | < 0.5 mA max.(240VAC 63Hz) | | | |
| | Power Factor | | PF>0.95 (115 VAC) / PF>0.90 (230 VAC) at Full Load | | | |
| Output | Voltage (V.DC.) | | 12V | 24V | 36V | 48V |
| | Constant Current Range (.VDC) | | 10 ~ 13.2V | 20 ~ 26.4V | 26 ~ 36V | 30 ~ 50.4V |
| | Current Adj. Range (A) max | | 5 ~ 40 | 4 ~ 20 | 3 ~ 13.33 | 3 ~ 10 |
| | Minimum Load | | 5% | | | |
| | Maximum Capacitive Load | | 180000 uF | 75000 uF | 50000 uF | 25000 uF |
| | Ripple & Noise (max.) | | 100mVp-p | 200mVp-p | 200mVp-p | 300mVp-p |
| | Efficiency (%.) | Vin:115(V.AC) | 85% | 87% | 89% | 88% |
| | | Vin:230(V.AC) | 88% | 90% | 92% | 91% |
| | Hold-up Time | | 10 ms min. | | | |
| | Switching Frequency | | 62.5 kHz ±10% | | | |
| Protection | Over Power Protection | | Auto recovery | | | |
| | Over Voltage Protection | | Auto recovery | | | |
| | Over Temperature | | Auto recovery | | | |
| | Short Circuit Protection | | Auto-recovery | | | |
| Isolation | Input-Output (V.AC) | | 3000V | | | |
| | Input-FG (V.AC) | | 1500V | | | |
| | Output-FG (V.AC) | | 500V | | | |
| Function | 5V Stand by | | 5VSB: 5V@0.6A ; Tolerance ±10% , Ripple & Noise: 100m Vp-p (max.) | | | |
| | Remote Control | | +RC / -RC: Power ON=open ; Power OFF=short | | | |
| | FAN Control | | 12VDC / 0.5A max. | | | |

1. All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.
2. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

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**480 W AC/DC Switching Power Supply**

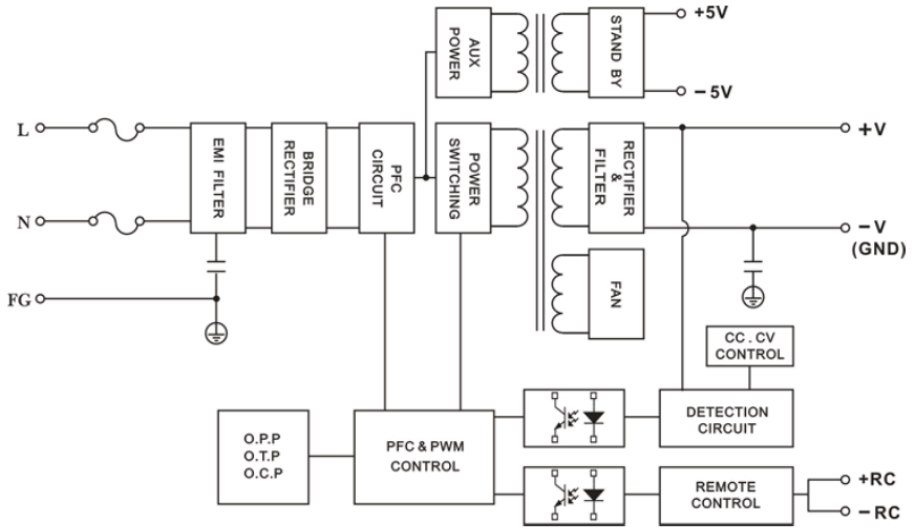
CoolPower Solutions

## ELECTRICAL SPECIFICATIONS

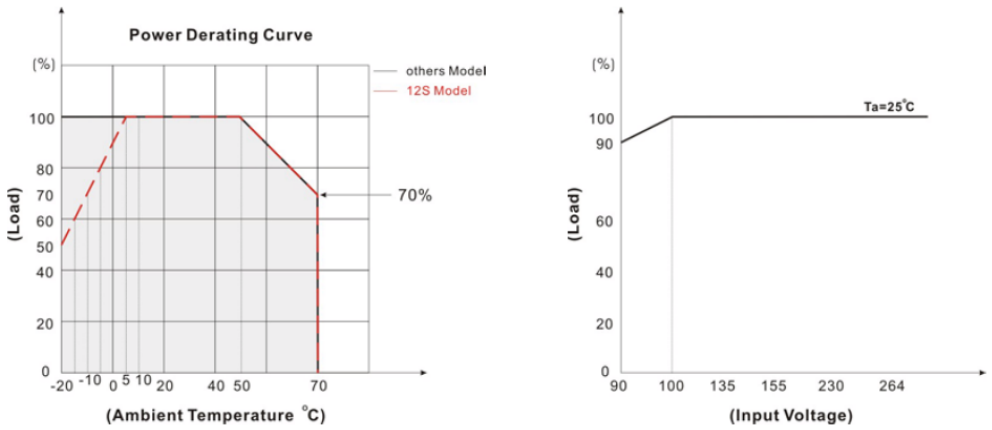
| Model No. | | AQFC480F-12S | AQFC480F-24S | AQFC480F-36S | AQFC480F-48S |
|---|---|---|---|---|---|
| Environment | Operating Temperature | -20°C…+70°C (with derating) | | | |
| | Storage Temperature | -25°C…+85°C | | | |
| | Temperature Coefficient | ±0.03%/°C ( 0~50°C ) | | | |
| | Humidity | 95% RH | | | |
| | MTBF | >100,000 h @ 25°C (MIL-HDBK-217F) | | | |
| | Vibration | 10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes. | | | |
| Physical | Dimension (L x W x H) | 7.98 x 4.2 x 1.78 Inches (202.8 x 106.5 x 45.0 mm ) Tolerance ±0.5 mm | | | |
| | Weight | 1050 g | | | |
| Safety | Agency Approvals | UL60950-1, CE(Surge:4KV) | | | |
| EMC | EMI (Conducted & Radiated Emission) | EN 55022 class B | | | |
| | EMS (Noise Immunity) | EN 55024 | | | |

1. All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.
2. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

## BLOCK DIAGRAM




## DERATING





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## MECHANICAL DIMENSION

### Standard

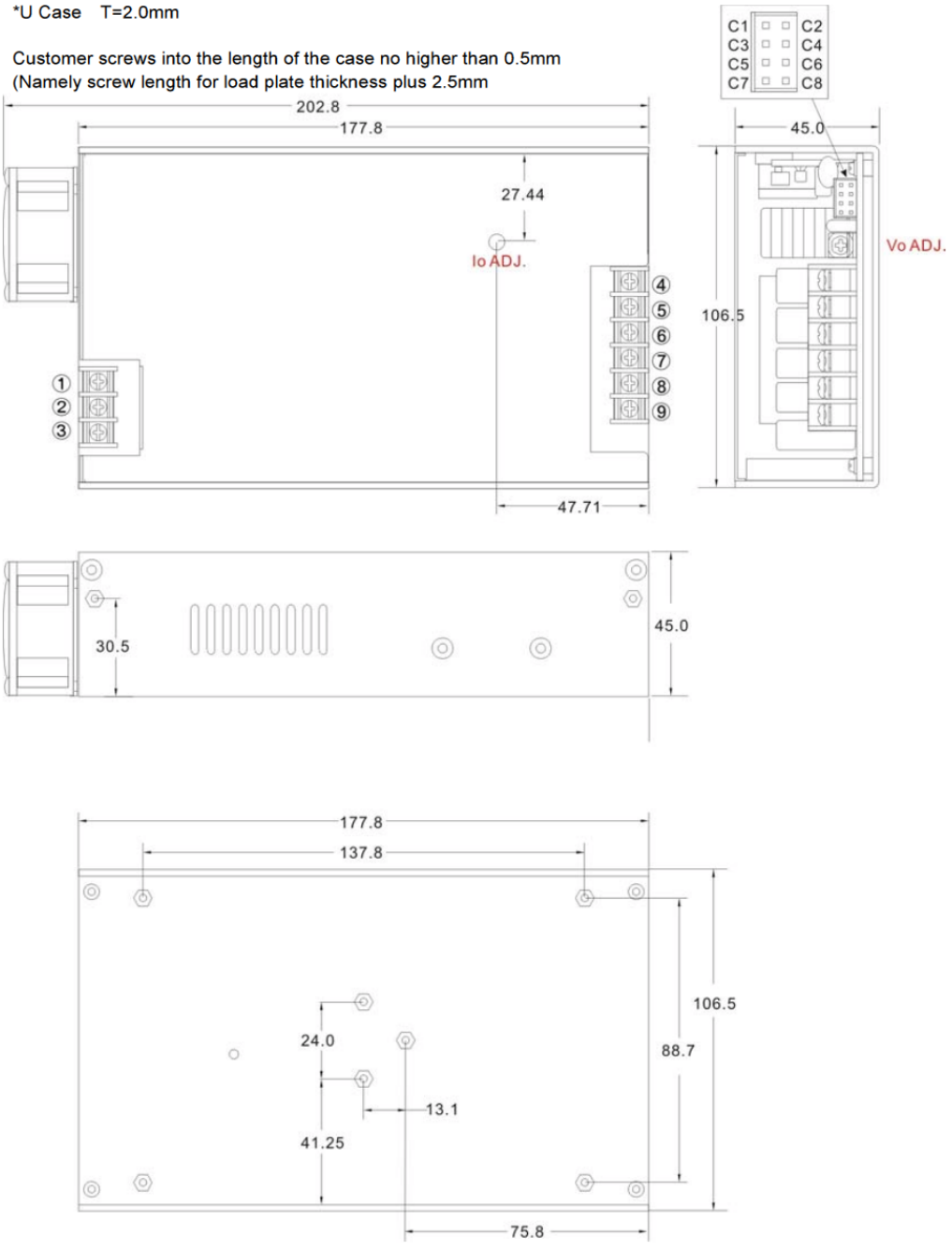




**ASSEMBLY INSTRUCTIONS**

*U Case T=2.0mm

Customer screws into the length of the case no higher than 0.5mm
(Namely screw length for load plate thickness plus 2.5mm




| AC Input Terminal Pin | |
|---|---|
| PIN# | SINGLE |
| 1 | AC IN (N) |
| 2 | AC IN (L) |
| 3 | ⏚ |

| DC Output Terminal Pin | |
|---|---|
| PIN# | SINGLE |
| 4~6 | +DC OUT |
| 7~9 | -DC OUT |

| Connector Pin (CN4) | |
|---|---|
| PIN# | SINGLE |
| C1 | NC |
| C2 | NC |
| C3 | +RC |
| C4 | -RC |
| C5 | NC |
| C6 | NC |
| C7 | +5V SB |
| C8 | -5V SB |


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## MECHANICAL DIMENSION

### A Type

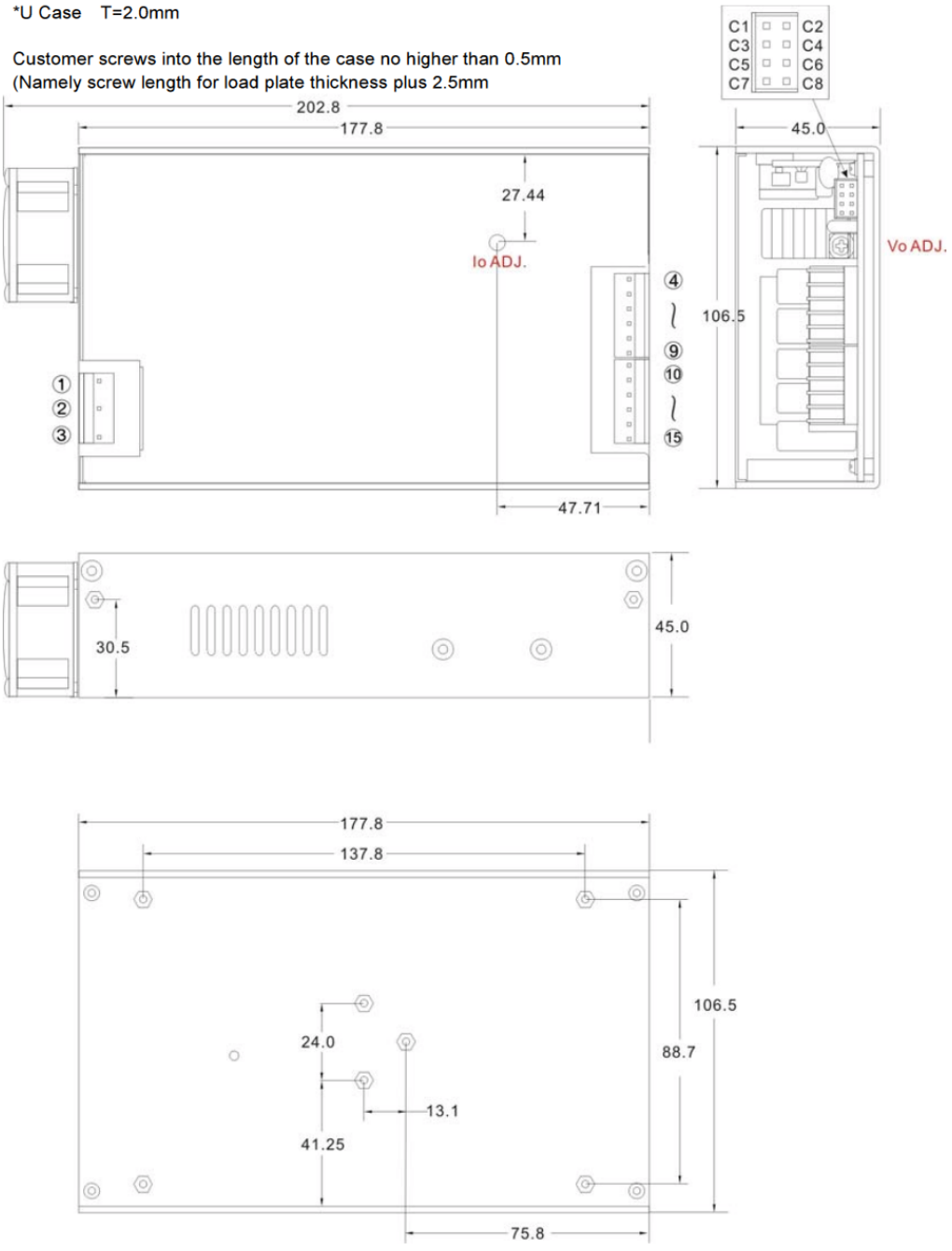




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| AC Input Terminal Pin | |
|---|---|
| PIN# | SINGLE |
| 1 | AC IN (N) |
| 2 | AC IN (L) |
| 3 | ⏚ |

| DC Output Terminal Pin | |
|---|---|
| PIN# | SINGLE |
| 4~9 | +DC OUT |
| 10~15 | -DC OUT |

| Connector Pin (CN4) | |
|---|---|
| PIN# | SINGLE |
| C1 | NC |
| C2 | NC |
| C3 | +RC |
| C4 | -RC |
| C5 | NC |
| C6 | NC |
| C7 | +5V SB |
| C8 | -5V SB |


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## FUNCTION DESCRIPITON of CN4 :

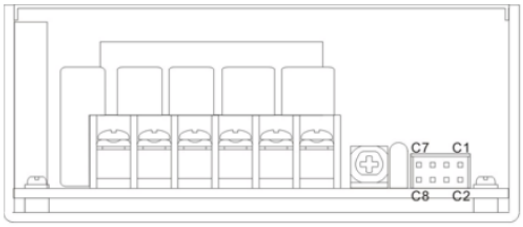
| Pin No. | Function | Description |
|---|---|---|
| C1 | NC | |
| C2 | NC | |
| C3 | +RC | Turns the output on and off by electrical or dry contact between pin C4 (-RC), Short: Power OFF, Open: Power ON. |
| C4 | -RC | Remote control ground. |
| C5 | NC | |
| C6 | NC | |
| C7 | +5V SB | Stand by voltage output ground 4.5~5.5V, referenced to pin C8(-5V SB). The maximum load current is 0.6A. |
| C8 | -5V SB | Stand by voltage output ground. |

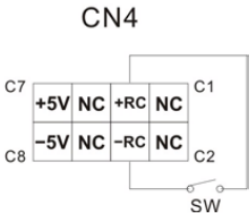
## FUNCTION MANUAL :

### Remote Control

It can be turned ON/OFF by using the "Remote Control" function.

| Between RC+(pinC3) and RC-(pinC4) | Output Status |
|---|---|
| SW ON (Short) | OFF |
| SW OFF (Open) | ON |




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