

## KEY FEATURES

- Enclosed ITE Switching Power Supply
- Remote ON/OFF Function
- Standby 5V@1A
- High Efficiency up to 92%
- Over-Voltage Category OVC III
- With P.F.C. Function >0.9
- Current Share Function
- Ultra Compact Size: 6.7 x 3.66 x 1.61 Inches
- 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.              |                                    | AQF700C-12S                                                               | AQF700C-15S | AQF700C-24S | AQF700C-28S | AQF700C-48S |
|------------------------|------------------------------------|---------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| Max Output Wattage (W) |                                    | 625W                                                                      |             | 700W        |             |             |
| Input                  | Voltage (Note 4)                   | 90-264 VAC                                                                |             |             |             |             |
|                        | Frequency (Hz)                     | 47-63 Hz                                                                  |             |             |             |             |
|                        | Current (Full load)                | <8 A max. (115 VAC) / <3.5 A max. (230 VAC)                               |             |             |             |             |
|                        | Inrush Current (<2ms) (Clod Start) | < 55 A max. (115 VAC) / < 90 A max. (230 VAC)                             |             |             |             |             |
|                        | Leakage Current                    | < 0.75 mA max. (264 VAC)                                                  |             |             |             |             |
|                        | Power Factor (at 230 VAC)          | PF>0.9 at Full Load                                                       |             |             |             |             |
| Output                 | Voltage (V.DC.)                    | 12V                                                                       | 15V         | 24V         | 28V         | 48V         |
|                        | Voltage Accuracy                   | ±2%                                                                       |             |             |             |             |
|                        | Voltage Adj. Range (V.DC)          | ±5% Output Voltage                                                        |             |             |             |             |
|                        | Current (A) (max.)                 | 52.08                                                                     | 41.66       | 29.16       | 25          | 14.58       |
|                        | Line Regulation (115-264 VAC)      | ±0.5%                                                                     |             |             |             |             |
|                        | Load Regulation (10-100%) (typ.)   | ±1%                                                                       |             |             |             |             |
|                        | Maximum Capacitive Load            | 5,000μF                                                                   | 3,750μF     | 2,500μF     | 2,000μF     | 1,250μF     |
|                        | Ripple & Noise (typ.)              | 160mV                                                                     | 160mV       | 240mV       | 280 mV      | 480mV       |
|                        | Efficiency (at 230 VAC)            | 89%                                                                       | 90%         | 91%         | 92%         | 92%         |
|                        | Hold-up Time (at 115 VAC)          | 5 ms min.                                                                 |             |             |             |             |
| Protection             | Over Power Protection              | Auto recovery                                                             |             |             |             |             |
|                        | Over Voltage Protection            | Auto recovery                                                             |             |             |             |             |
|                        | Over Temperature Protection        | Auto recovery                                                             |             |             |             |             |
|                        | Short Circuit Protection           | Auto recovery or Latch                                                    |             |             |             |             |
| Isolation              | Input-Output (V.AC)                | 4250VAC or 6000VDC                                                        |             |             |             |             |
|                        | Input-PE (V.AC)                    | 2830VAC or 4000VDC                                                        |             |             |             |             |
|                        | Output-PE (V.AC)                   | 1500VAC or 2121VDC                                                        |             |             |             |             |
| Function               | 5V Stand by                        | 5VSB: 5V@1A ; Tolerance ±10%                                              |             |             |             |             |
|                        | DC OK Signal (Power Good)          | Turn ON: 3.7~5.7V ; Turn OFF: 0~1V                                        |             |             |             |             |
|                        | Remote Control                     | +RC / -RC: Power ON=open ; Power OFF=short                                |             |             |             |             |
|                        | Current Share                      | CN4:CS, +V, -V are connected mutually in parallel.                        |             |             |             |             |
| Environment            | Operating Temperature (Note 7)     | -30°C...+70°C (with derating)                                             |             |             |             |             |
|                        | Storage Temperature                | -35°C...+85°C                                                             |             |             |             |             |
|                        | Temperature Coefficient            | ±0.03%/°C ( 0~50°C )                                                      |             |             |             |             |
|                        |                                    | ±0.06%/°C ( -30~0°C )                                                     |             |             |             |             |
|                        | Altitude During Operation          | 5000m                                                                     |             |             |             |             |
|                        | Humidity                           | 95% RH                                                                    |             |             |             |             |
|                        | Atmospheric Pressure               | 56 kPa to 106 kPa                                                         |             |             |             |             |
|                        | MTBF                               | >100,000 h @ 25°C (MIL-HDBK-217F)                                         |             |             |             |             |
|                        | Vibration                          | IEC60068-2-6 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes) |             |             |             |             |
| Shock                  | IEC60068-2-27                      |                                                                           |             |             |             |             |

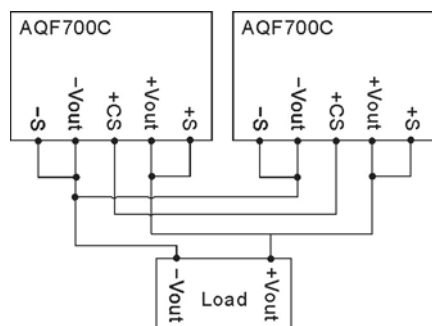
## ELECTRICAL SPECIFICATIONS

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| Model No. |                        | AQF700C-12S                                                                | AQF700C-15S | AQF700C-24S | AQF700C-28S | AQF700C-48S |
|-----------|------------------------|----------------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| Physical  | Dimensions (L x W x H) | 6.7 x 3.66 x 1.61 Inches ( 170.0 x 93.0 x 41.0 mm ) Tolerance $\pm 0.5$ mm |             |             |             |             |
|           | Weight                 | 890 g                                                                      |             |             |             |             |
| Safety    | Approval               | UL / IEC / EN 62368-1                                                      |             |             |             |             |
| Parameter | Standards & Level      |                                                                            |             |             |             | Performance |
| EMI       | Conducted              | EN55032                                                                    |             |             |             | Class B     |
|           | Radiated               | EN55032                                                                    |             |             |             | Class B     |
| EMS       | EN 55035               |                                                                            |             |             |             | A           |
|           | ESD                    | IEC 61000-4-2 Air $\pm 15$ KV , Contact $\pm 8$ KV                         |             |             |             | A           |
|           | RS                     | IEC 61000-4-3 3V/m                                                         |             |             |             | A           |
|           | EFT/B                  | IEC 61000-4-4 $\pm 4$ KV                                                   |             |             |             | A           |
|           | Surge                  | IEC 61000-4-5 $\pm 4$ KV(L/N-PE)                                           |             |             |             | A           |
|           | CS                     | IEC 61000-4-6 3Vrms                                                        |             |             |             | A           |
|           | PFMF                   | IEC 61000-4-8 1A/m                                                         |             |             |             | A           |
|           | Dips                   | IEC 61000-4-11 70% 500ms                                                   |             |             |             | B           |
|           | Interruptions          | IEC 61000-4-11 <5% 5000ms                                                  |             |             |             | B           |

## NOTE

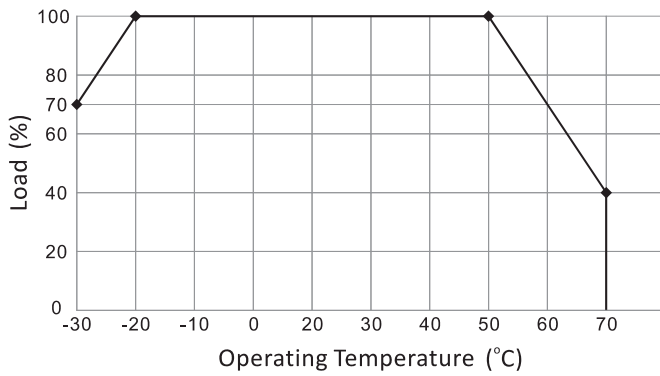
- Ripple & Noise are measured at 20MHz of bandwidth by using a 6" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.
- Hold-up Time measured at 90% Vout.
- Strongly recommend to conduct this test with DC Voltage. If customer wishes to test with AC Voltage, please disconnect all Y-Capacitors from Arch power supply.
- Please check the derating curve for more details.
- Considering that most casings of the system equipment are made of metal. The EMI test of the power supply is installed on the aluminum plate (550 x 550 x 3.0 mm) to simulate the end-product application.
- Current Share:
  - The output voltage difference of each parallel single element should be less than 0.2 Vout.
  - Output power at parallel operation = rated power per unit x number of unit x 90%
  - Connect in parallel no more than 2 units. Please contact ARCH for advice if more than 2 is needed.
  - Minimum Load Should be 15%.



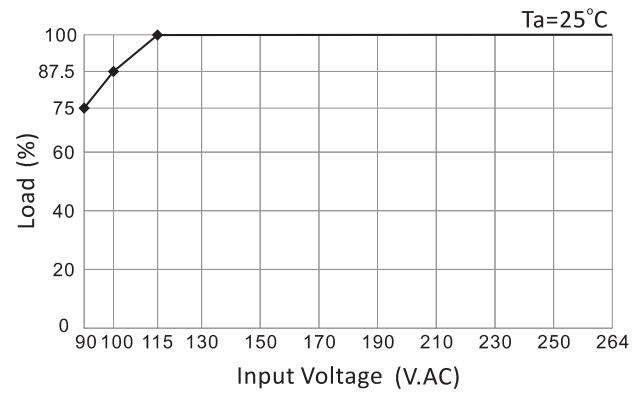
- Due to varying customer application conditions, the product is tested for maximum operating temperature under full load only. For other regulatory requirements, please contact ARCH.
- CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.  
(ATTENTION : 2 poles avec fusible sur le neutre. Deconnecter le secteur avant intervention.)

## DERATING

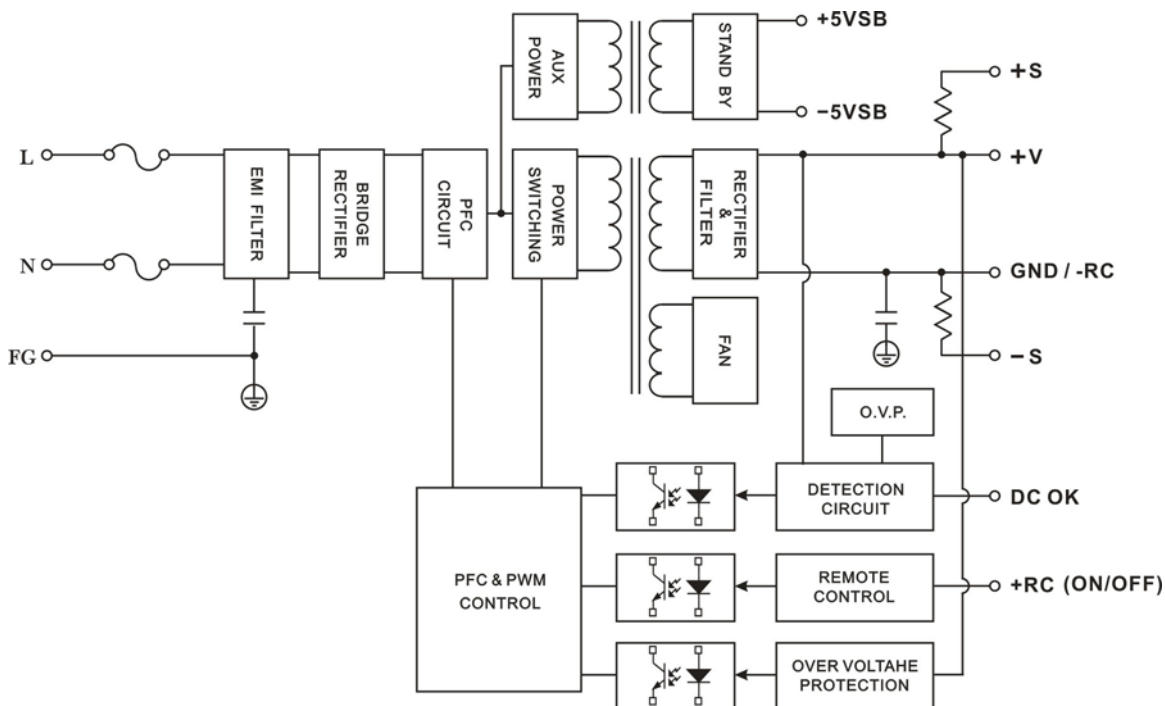
Derating Output Load versus Operating Temperature



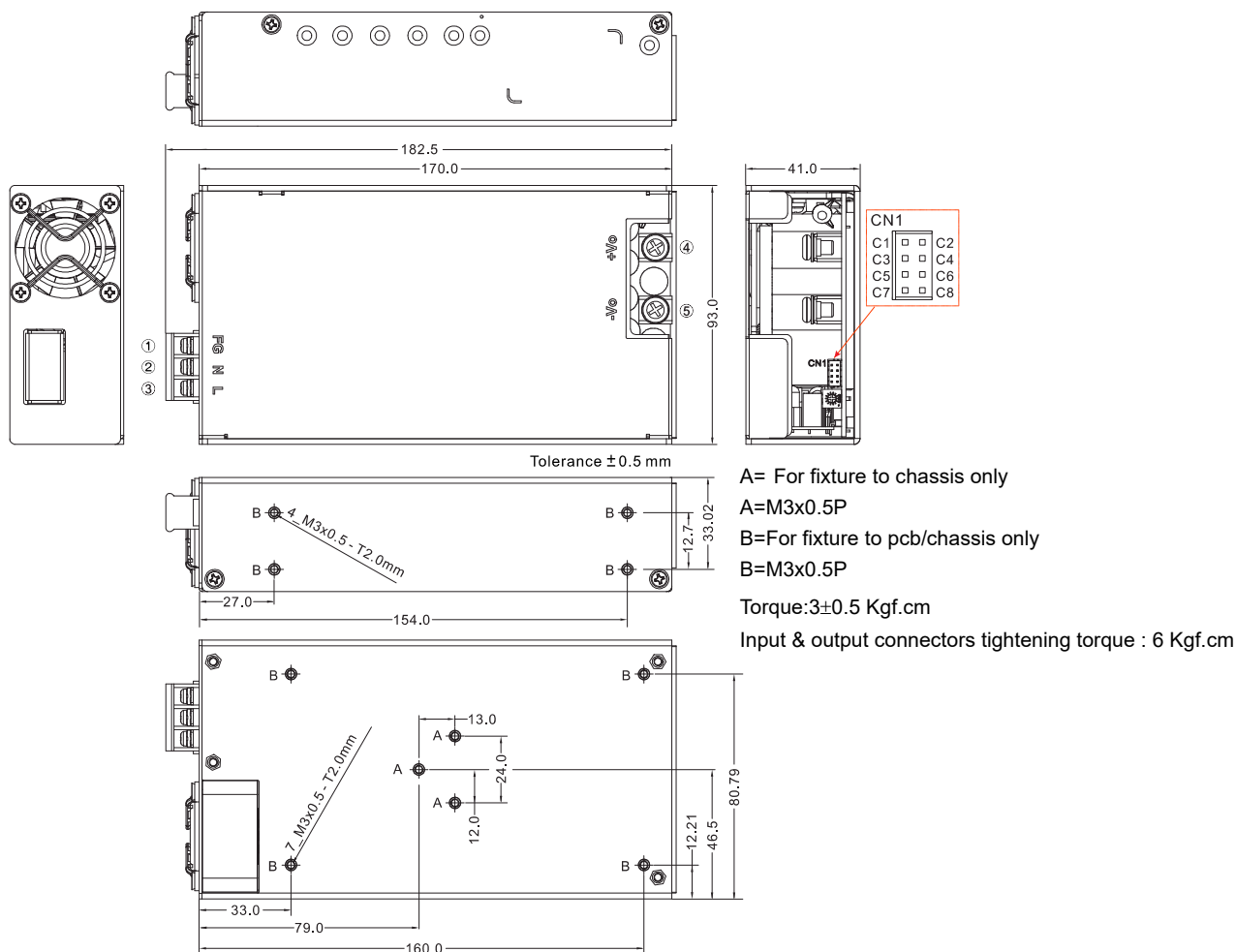
Derating Load versus Input Voltage



## BLOCK DIAGRAM



### MECHANICAL DIMENSIONS ( Top View )



| Brands |           |                                                                   |   |   |   |
|--------|-----------|-------------------------------------------------------------------|---|---|---|
| PIN#   | Single    | Terminal                                                          |   |   |   |
| A,B    | PE        | —                                                                 | — | — | — |
| 1      | FG        | ANYTEK YK-301-3P                                                  |   |   |   |
| 2      | AC IN (N) |                                                                   |   |   |   |
| 3      | AC IN (L) |                                                                   |   |   |   |
| 4      | +DC OUT   | M5 Pan HD screw in 2 positions<br>Torque to 8 lbs-in(90 cNm) max. |   |   |   |
| 5      | -DC OUT   |                                                                   |   |   |   |

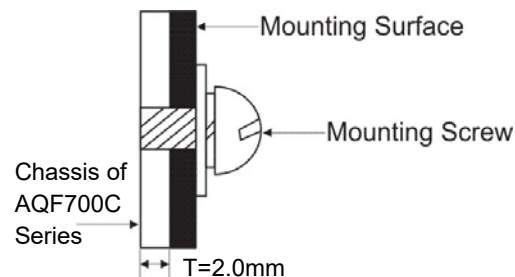
### Connector Pin (CN1)

| Brands |           | Cherng Weei    |          | JST            |                |
|--------|-----------|----------------|----------|----------------|----------------|
| PIN#   | Single    | Mating Housing | Terminal | Mating Housing | Terminal       |
| C1     | +S        | PHD-H20-2X4P   | PHD-T20  | PHDR-08VS      | SPHD-001T-P0.5 |
| C2     | -S        |                |          |                |                |
| C3     | NC        |                |          |                |                |
| C4     | -5V SB    |                |          |                |                |
| C5     | GND / -RC |                |          |                |                |
| C6     | +RC       |                |          |                |                |
| C7     | PG        |                |          |                |                |
| C8     | +5V SB    |                |          |                |                |

## ASSEMBLY INSTRUCTIONS

\*U Case T=2.0mm

Customer is advised to screw into the threads no more than 2.0mm



## FUNCTION DESCRIPITON of CN1

| Pin No. | Function  | Description                                                                                                      |
|---------|-----------|------------------------------------------------------------------------------------------------------------------|
| C1      | +S        | Current Share Function Pin                                                                                       |
| C2      | -S        |                                                                                                                  |
| C3      | CS        |                                                                                                                  |
| C4      | -5V SB    | This pin connects to the negative terminal(-V). Return for DC-OK signal output.                                  |
| C5      | GND / -RC | This pin connects to the negative terminal(-V). Return for DC-OK signal output.                                  |
| C6      | +RC       | Turns the output on and off by electrical or dry contact between pin C4 (-RC), Short: Power OFF, Open: Power ON. |
| C7      | +PG       | DC-OK Signal is a DC output. (DC-OK )                                                                            |
| C8      | +5V SB    | Stand by voltage output ground 4.5~5.5V, referenced to pin C4 or C5(GND). The maximum load current is 1A.        |

## AIR FLOW DIRECTION

