



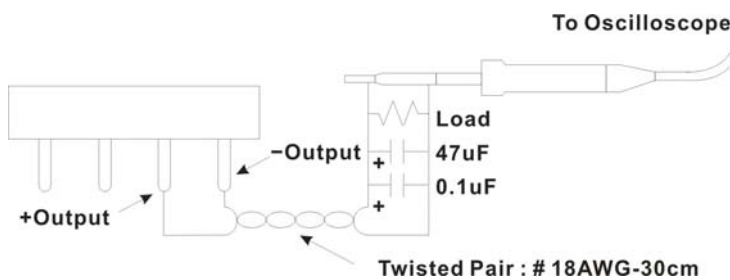
## ELECTRICAL SPECIFICATIONS

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

| Model No.   | 3)08,8-12S                 | 3)08,8-15S  | 3)08,8-24S | 3)08,8-48S |
|-------------|----------------------------|---|------------|------------|
| Environment | Operating Temperature      | -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                       | >160,000 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              |   |            |            |
| Physical    | Dimension s(L x W x H)     | 5.5 x 3.25 x 1.6 Inches ( 139.7 x 82.55 x 40.6 mm ) Tolerance ±0.5 mm           |            |            |
|             | Weight                     | 580 g   |            |            |
|             | Cooling Method             | Free convection / 30 CFM FAN  |            |            |
| Safety      | Approval                   | Others: UL / IEC / EN 60601 3.1 <sup>st</sup> Edition & UL / IEC / EN 60950 AM2 |            |            |
|             |                            | 15S: UL / IEC / EN 60601 3.1 <sup>st</sup> Edition                              |            |            |
| EMC         | Conducted and Radiated EMI | EN55011 / conducted class B, Radiated Class A                                   |            |            |
|             | EMS                        | EN60601-1-2 4th edition   |            |            |

## NOTE

- Ripple & Noise are measured at 20MHz of bandwidth with ceramic 0.1uF & chemi-con KY 47uF parallel capacitor.

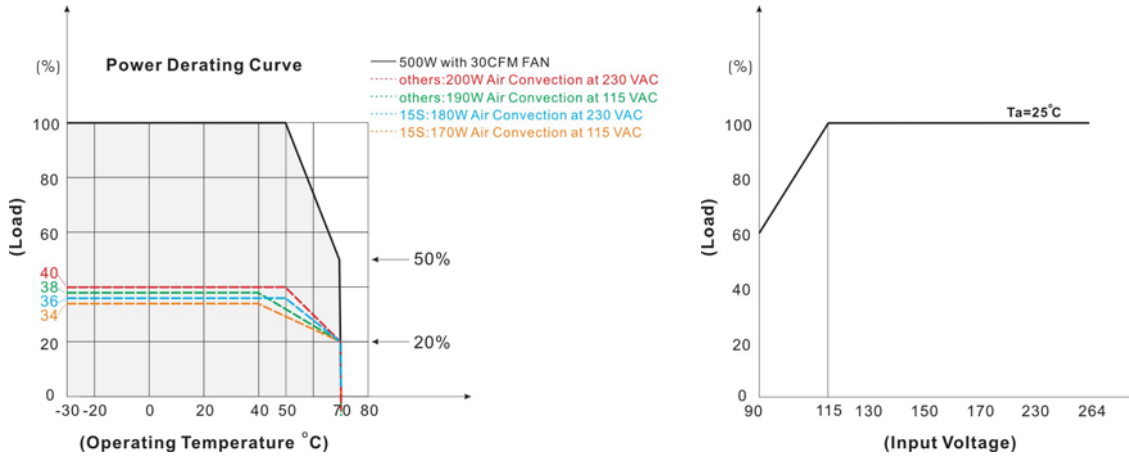


A 30cm twisted pair of no.18 AWG copper wire is connected to a 47uF and 0.1uF capacitor of proper polarity and voltage rating. The oscilloscope probe ground led should connect right to the ground ring of the probe and be as short as possible. The oscilloscope bandwidth should be at 20MHz and connected to AC ground.

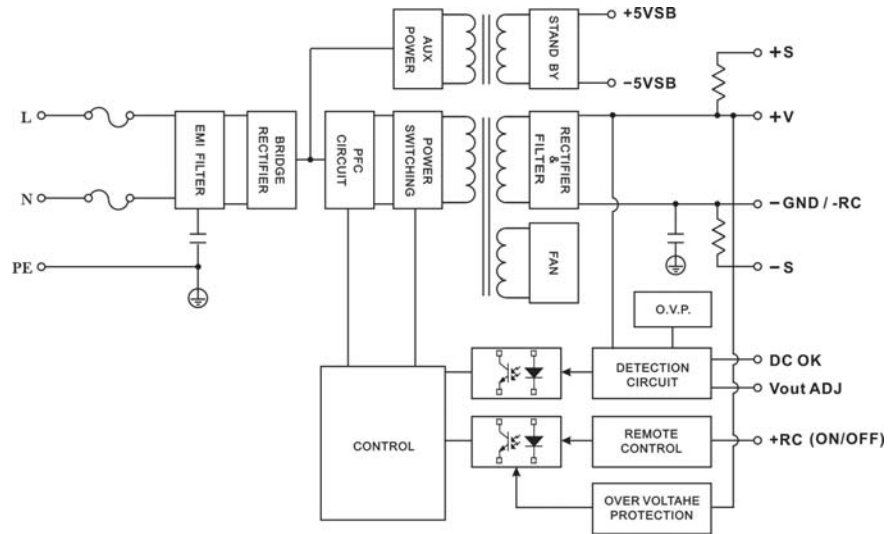
- Hold-up Time measured at 90% Vout.
- Please check the derating curve for more details.
- Main Vout >3% Load, 12V (Aux) / 0.3A., 12V (Aux) need 0.1A Minimum Load, Auxiliary voltage output ground 10.2~13.3V
- Strongly recommend to conduct this test with DC Voltage. If customer wishes to test with AC Voltage, please disconnect all Y-Capacitors from Arch power supply.
- Current Share Board (Optional):
  - The output voltage difference of each parallel single element should be less than 0.2V.
  - 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%.

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

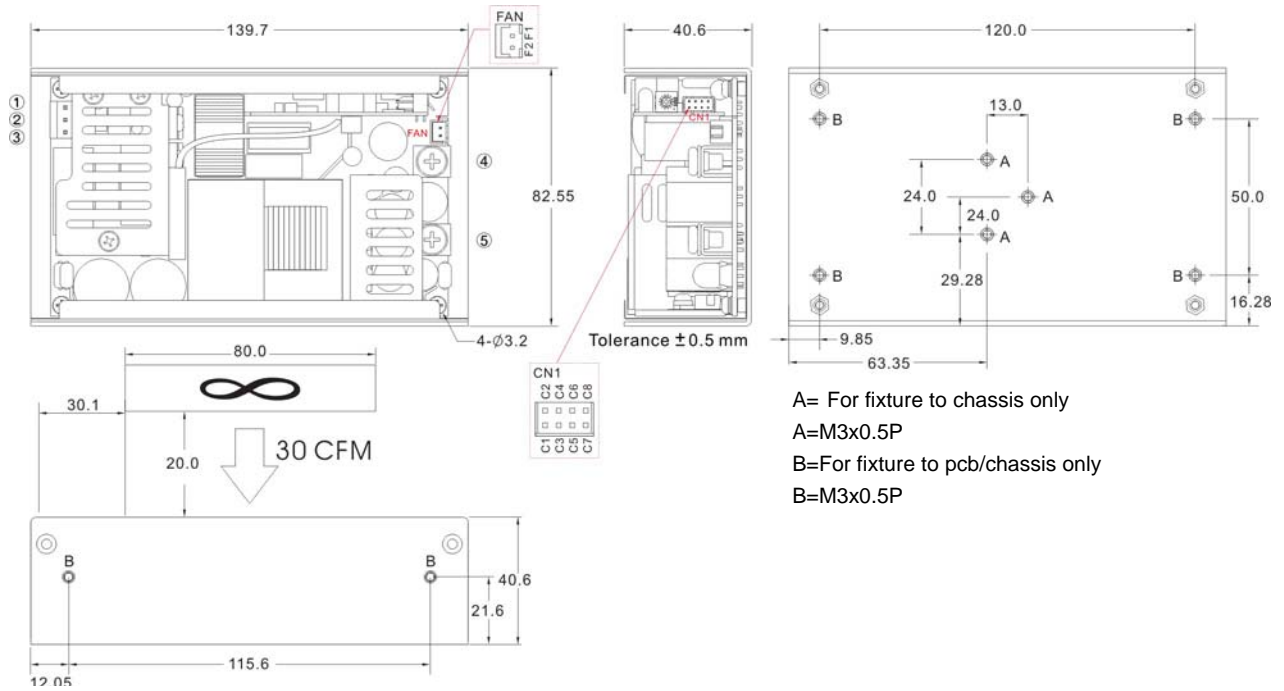
**DERATING**



**BLOCK DIAGRAM**



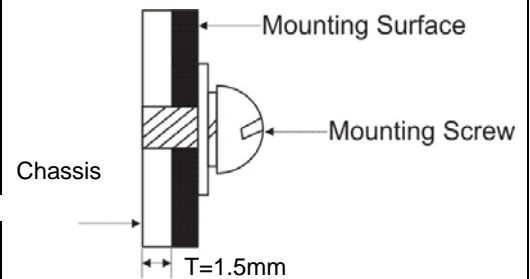
**MECHANICAL DIMENSIONS ( Top View )**



| Brands |           | Alex  |            | JST            |              |
|--------|-----------|---|------------|----------------|--------------|
| PIN#   | Single    | Mating Housing  | Terminal   | Mating Housing | Terminal     |
| A,B    | PE        | —   | —          | —              | —            |
| 1      | AC IN (N) | 9396-3  | 96T series | VHR-3N         | SVH-41T-P1.1 |
| 2      | NO PIN    |   |            |                |              |
| 3      | AC IN (L) |   |            |                |              |
| 4      | +DC OUT   | Terminal :<br>M5 Pan HD screw in 2 positions<br>Torque to 8 lbs-in(90 cNm) max. |            |                |              |
| 5      | -DC OUT   |   |            |                |              |

**ASSEMBLY INSTRUCTIONS**

\*U Case T=1.5mm  
Customer is advised to screw into the threads no more than 1.5mm

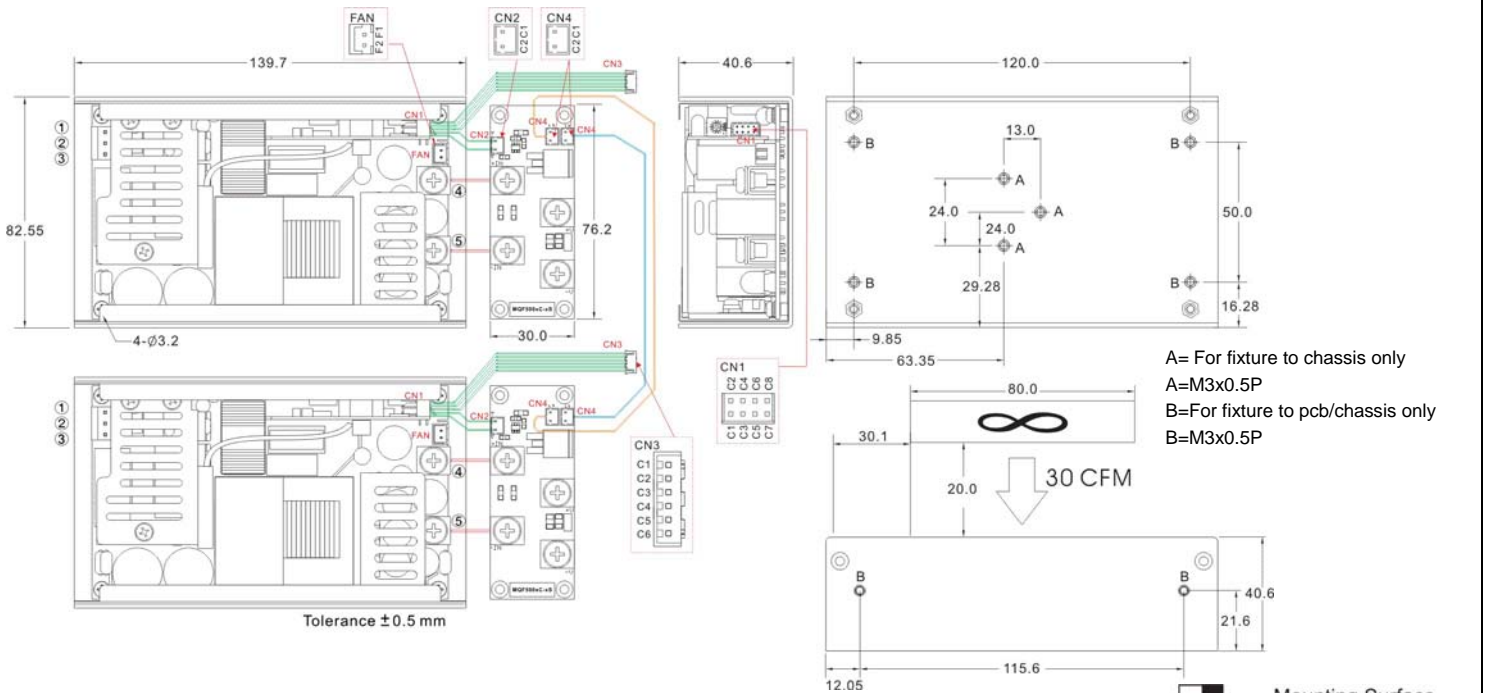


| Connector Pin (CN1) |        |                |          |                |                |
|---------------------|--------|----------------|----------|----------------|----------------|
| Brands              |        | Cherng Weei    |          | JST            |                |
| PIN#                | Single | Mating Housing | Terminal | Mating Housing | Terminal       |
| C1                  | -5V SB | PHD-H20-2X4P   | PHD-T20  | PHDR-08VS      | SPHD-001T-P0.5 |
| C2                  | +5V SB |                |          |                |                |
| C3                  | GND    |                |          |                |                |
| C4                  | DC-OK  |                |          |                |                |
| C5                  | -RC    |                |          |                |                |
| C6                  | +RC    |                |          |                |                |
| C7                  | -S     |                |          |                |                |
| C8                  | +S     |                |          |                |                |

| Connector Pin (FAN) |        |                |          |                |               |
|---------------------|--------|----------------|----------|----------------|---------------|
| Brands              |        | Cherng Weei    |          | JST            |               |
| PIN#                | Single | Mating Housing | Terminal | Mating Housing | Terminal      |
| F1                  | +12V   | CX-H250-02     | CX-T2501 | XHP-2          | SXH-002T-P0.6 |
| F2                  | GND    |                |          |                |               |

**MECHANICAL DIMENSIONS ( Top View )**

**Current Share Function**



| Brands |           | Alex   |            | JST            |              |
|--------|-----------|--|------------|----------------|--------------|
| PIN#   | Single    | Mating Housing   | Terminal   | Mating Housing | Terminal     |
| A,B    | PE        | —  | —          | —              | —            |
| 1      | AC IN (N) | 9396-3   | 96T series | VHR-3N         | SVH-41T-P1.1 |
| 2      | NO PIN    |  |            |                |              |
| 3      | AC IN (L) |  |            |                |              |
| 4      | +DC OUT   | Terminal:<br>M5 Pan HD screw in 2 positions<br>Torque to 8 lbs-in(90 cNm) max. |            |                |              |
| 5      | -DC OUT   |  |            |                |              |

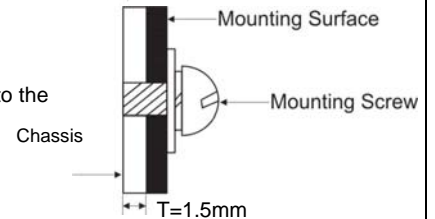
| Connector Pin (CN1) |        |                |          |                |                |
|---------------------|--------|----------------|----------|----------------|----------------|
| Brands              |        | Cherng Weei    |          | JST            |                |
| PIN#                | Single | Mating Housing | Terminal | Mating Housing | Terminal       |
| C1                  | -5V SB | PHD-H20-2X4P   | PHD-T20  | PHDR-08VS      | SPHD-001T-P0.5 |
| C2                  | +5V SB |                |          |                |                |
| C3                  | GND    |                |          |                |                |
| C4                  | DC-OK  |                |          |                |                |
| C5                  | -RC    |                |          |                |                |
| C6                  | +RC    |                |          |                |                |
| C7                  | -S     |                |          |                |                |
| C8                  | +S     |                |          |                |                |

| Connector Pin (FAN) |        |                |          |                |               |
|---------------------|--------|----------------|----------|----------------|---------------|
| Brands              |        | Cherng Weei    |          | JST            |               |
| PIN#                | Single | Mating Housing | Terminal | Mating Housing | Terminal      |
| F1                  | +12V   | CX-H250-02     | CX-T2501 | XHP-2          | SXH-002T-P0.6 |
| F2                  | GND    |                |          |                |               |

**ASSEMBLY INSTRUCTIONS**

\*U Case T=1.5mm

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



| Connector Pin (CN2) |        |                |          |                |                |
|---------------------|--------|----------------|----------|----------------|----------------|
| Brands              |        | Cherng Weei    |          | JST            |                |
| PIN#                | Single | Mating Housing | Terminal | Mating Housing | Terminal       |
| C1                  | -S     | CP-H20-02      | CP-T20B  | PHR-2          | SPH-002T-P0.5L |
| C2                  | +S     |                |          |                |                |

| Mating Housing Pin (CN3) |        |             |            |
|--------------------------|--------|-------------|------------|
| Brands                   |        | Cherng Weei | JST        |
| PIN#                     | Single | Connector   | Connector  |
| C1                       | -5V SB | CP-W20-06   | B6B-PH-K-S |
| C2                       | +5V SB |             |            |
| C3                       | GND    |             |            |
| C4                       | DC-OK  |             |            |
| C5                       | -RC    |             |            |
| C6                       | +RC    |             |            |

| Connector Pin (CN4) |        |                |          |                |                |
|---------------------|--------|----------------|----------|----------------|----------------|
| Brands              |        | Cherng Weei    |          | JST            |                |
| PIN#                | Single | Mating Housing | Terminal | Mating Housing | Terminal       |
| C1                  | LS     | CP-H20-02      | CP-T20B  | PHR-2          | SPH-002T-P0.5L |
| C2                  | LS     |                |          |                |                |

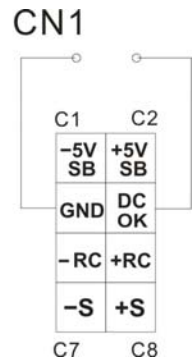
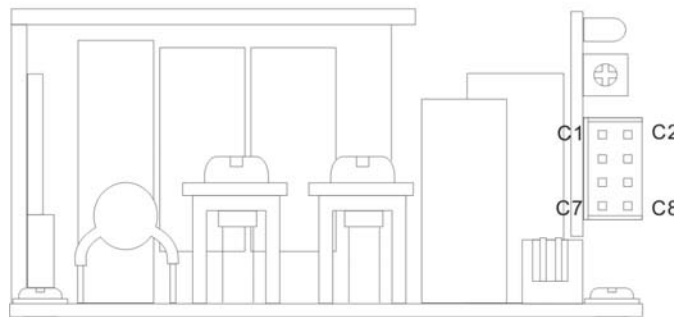
**FUNCTION DESCRIPTION of CN1 and CN3 (CN3 without C7 and C8 pin)**

| Pin No. | Function | Description  |
|---------|----------|--|
| C1      | -5VSB    | This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.  |
| C2      | +5VSB    | Stand by voltage output ground 4.2~5.5V, referenced to pin C1(-5VSB).<br>The maximum load current is 1A with Fan, 0.4A without Fan..   |
| C3      | GND      | This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.  |
| C4      | DC OK    | DC-OK Signal is a DC output, referenced to pin C3(DC-OK GND).  |
| C5      | -RC      | This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.  |
| C6      | +RC      | Turns the output on and off by electrical or dry contact between pin C5 (-RC), Short: Power OFF, Open: Power ON.<br>The input voltage must be less than 1V in order to disable VOUT and greater than 3.3V (up to 5V) to enable it. |
| C7      | -S       | Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect.  |
| C8      | +S       | Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect.  |

**FUNCTION MANUAL & APPLICATION NOTE**

**1. DC-OK Signal**

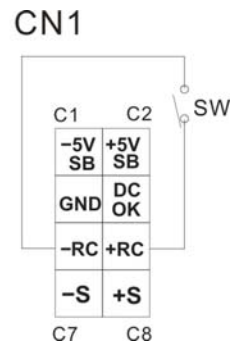
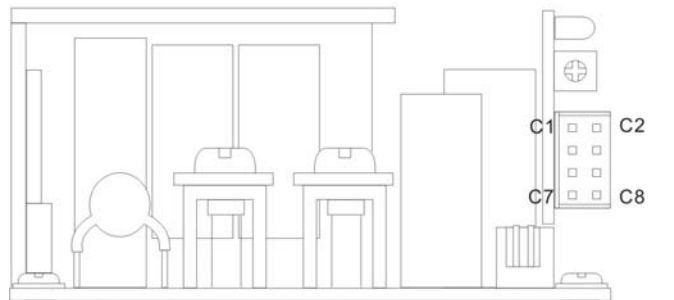
| Between DC-OK and GND | Output Status |
|-----------------------|---------------|
| 3.7~6V                | ON            |
| 0~1V                  | OFF           |



**2. Remote Control**

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

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



**2. +S and -S Sense**

Shorter wiring to each unit is recommended, as well as twisting +S and -S in pairs, as shown below

