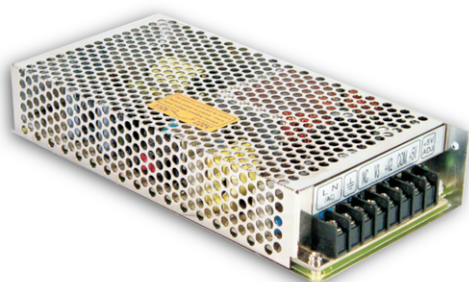




## 125W Quad Output Switching Power Supply

## RQ-125 series



### Features :

- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- All using 105°C long life electrolytic capacitors
- Withstand 300VAC surge input for 5 second
- High operating temperature up to 70°C
- Withstand 5G vibration test
- High efficiency, long life and high reliability
- 3 years warranty

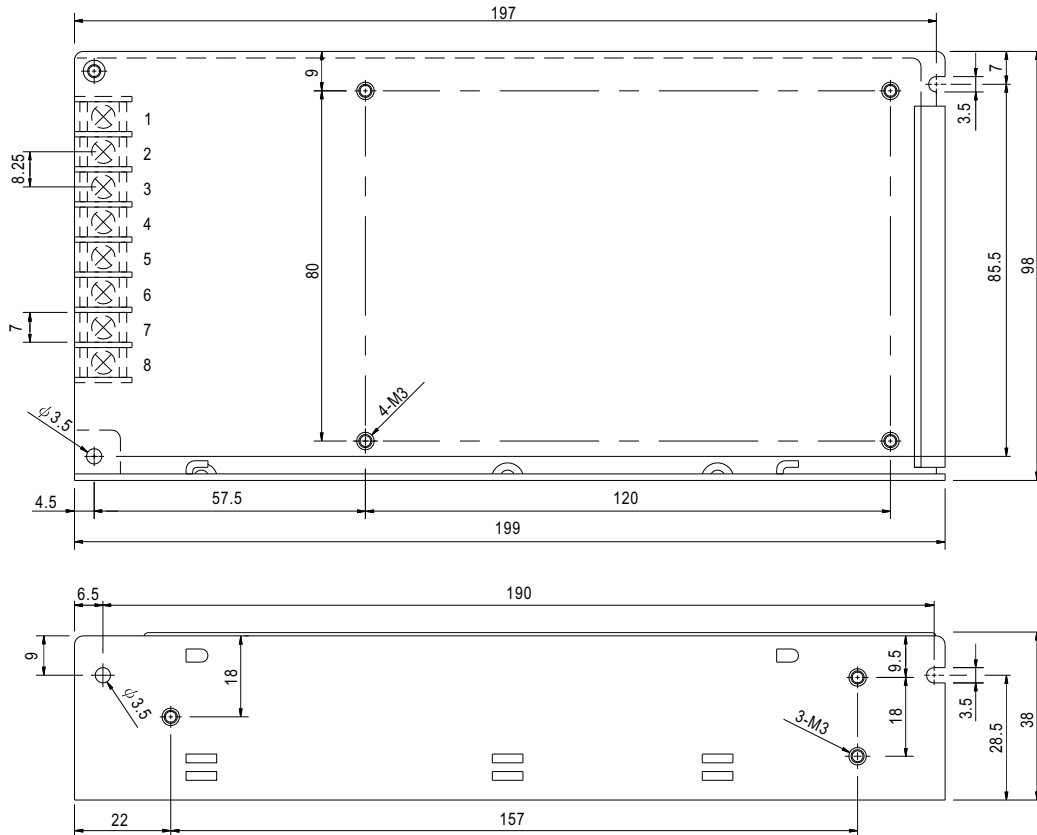


### SPECIFICATION

| MODEL                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | RQ-125B                                                                                                                 |            |          |         | RQ-125C          |          |          |         | RQ-125D          |          |            |         |  |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|------------------|----------|----------|---------|------------------|----------|------------|---------|--|
| OUTPUT                   | OUTPUT NUMBER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CH1                                                                                                                     | CH2        | CH3      | CH4     | CH1              | CH2      | CH3      | CH4     | CH1              | CH2      | CH3        | CH4     |  |
|                          | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5V                                                                                                                      | 12V        | -5V      | -12V    | 5V               | 15V      | -5V      | -15V    | 5V               | 12V      | 24V        | -12V    |  |
|                          | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 11A                                                                                                                     | 4.5A       | 1A       | 0.5A    | 10A              | 4A       | 1A       | 0.5A    | 8A               | 2.5A     | 2A         | 0.5A    |  |
|                          | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Note.6<br>2 ~ 12A                                                                                                       | 0.5 ~ 4.5A | 0.1 ~ 1A | 0 ~ 1A  | 2 ~ 12A          | 0.5 ~ 4A | 0.1 ~ 1A | 0 ~ 1A  | 2 ~ 12A          | 0.5 ~ 4A | 0.1 ~ 2.5A | 0 ~ 1A  |  |
|                          | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Note.6<br>120W                                                                                                          |            |          |         | 122.5W           |          |          |         | 124W             |          |            |         |  |
|                          | RIPPLE & NOISE (max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Note.2<br>80mVp-p                                                                                                       | 120mVp-p   | 80mVp-p  | 80mVp-p | 80mVp-p          | 120mVp-p | 80mVp-p  | 80mVp-p | 80mVp-p          | 120mVp-p | 150mVp-p   | 80mVp-p |  |
|                          | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | CH1: 4.75 ~ 5.5V                                                                                                        |            |          |         | CH1: 4.75 ~ 5.5V |          |          |         | CH1: 4.75 ~ 5.5V |          |            |         |  |
|                          | VOLTAGE TOLERANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Note.3<br>±2.0%                                                                                                         | +8,-3%     | +6,-10%  | ±5.0%   | ±2.0%            | +8,-3%   | +6,-10%  | ±5.0%   | ±2.0%            | +8,-3%   | ±8.0%      | ±5.0%   |  |
|                          | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Note.4<br>±0.5%                                                                                                         | ±1.0%      | ±1.0%    | ±1.0%   | ±0.5%            | ±1.0%    | ±1.0%    | ±1.0%   | ±0.5%            | ±1.0%    | ±1.0%      | ±1.0%   |  |
|                          | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Note.5<br>±1.0%                                                                                                         | ±3.0%      | ±6.0%    | ±2.0%   | ±1.0%            | ±3.0%    | ±6.0%    | ±2.0%   | ±1.0%            | ±3.0%    | ±5.0%      | ±2.0%   |  |
| SETUP, RISE TIME         | 500ms, 20ms/230VAC      1200ms, 30ms/115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                         |            |          |         |                  |          |          |         |                  |          |            |         |  |
| HOLD UP TIME (Typ.)      | 25ms/230VAC      30ms/115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                         |            |          |         |                  |          |          |         |                  |          |            |         |  |
| INPUT                    | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 88 ~ 132VAC / 176 ~ 264VAC selected by switch      248 ~ 373VDC(Withstand 300VAC surge for 5sec. Without damage)        |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 47 ~ 63Hz                                                                                                               |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 79%                                                                                                                     |            |          |         |                  | 80%      |          |         |                  | 82%      |            |         |  |
|                          | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3A/115VAC      2A/230VAC                                                                                                |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | COLD START 40A/230VAC                                                                                                   |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <2mA / 240VAC                                                                                                           |            |          |         |                  |          |          |         |                  |          |            |         |  |
| PROTECTION               | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 110 ~ 150% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | CH1: 5.75 ~ 6.75V<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed             |            |          |         |                  |          |          |         |                  |          |            |         |  |
| ENVIRONMENT              | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -25 ~ +70℃ (Refer to output load derating curve)                                                                        |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 20 ~ 90% RH non-condensing                                                                                              |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -40 ~ +85℃, 10 ~ 95% RH                                                                                                 |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ±0.03%/℃ (0 ~ 50℃) on +5V output                                                                                        |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes                                                 |            |          |         |                  |          |          |         |                  |          |            |         |  |
| SAFETY & EMC<br>(Note 7) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | UL60950-1, TUV EN60950-1 Approved                                                                                       |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I/P-O/P:3KVAC    I/P-FG:1.5KVAC    O/P-FG:0.5KVAC                                                                       |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC                                                                                |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | EMI CONDUCTION & RADIATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Compliance to EN55022 (CISPR22) Class B                                                                                 |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | HARMONIC CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Compliance to EN61000-3-2,-3                                                                                            |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61000-6-2 (EN50082-2) heavy industry level, criteria A              |            |          |         |                  |          |          |         |                  |          |            |         |  |
| OTHERS                   | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 203.1Khrs min.    MIL-HDBK-217F (25℃)                                                                                   |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 199*98*38mm (L*W*H)                                                                                                     |            |          |         |                  |          |          |         |                  |          |            |         |  |
|                          | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0.7Kg; 20pcs/14Kg/0.8CUFT                                                                                               |            |          |         |                  |          |          |         |                  |          |            |         |  |
| NOTE                     | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. Line regulation is measured from low line to high line at rated load.<br>5. Load regulation is measured from 20% to 100% rated load, and other output at 60% rated load.<br>6. Each output can work within current range. But total output power can't exceed rated output power.<br>7. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.<br>8. Length of set up time is measured at cold first start. Turning ON/OFF the power supply very quickly may lead to increase of the set up time. |                                                                                                                         |            |          |         |                  |          |          |         |                  |          |            |         |  |

### Mechanical Specification

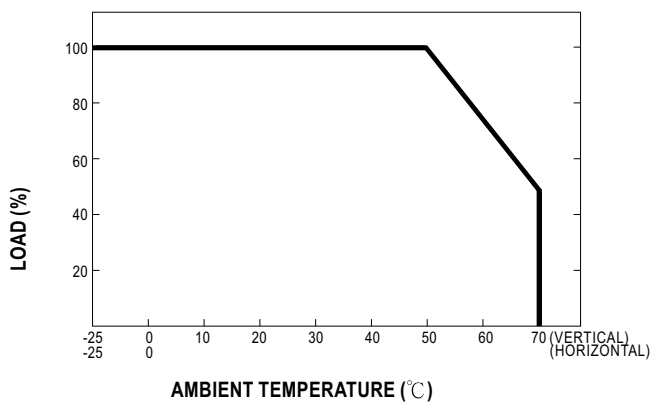
Case No. 902 Unit:mm



Terminal Pin No. Assignment

| Pin No. | Assignment | Pin No. | Assignment    | Pin No. | Assignment    |
|---------|------------|---------|---------------|---------|---------------|
| 1       | AC/L       | 4       | DC OUTPUT -V4 | 7       | DC OUTPUT COM |
| 2       | AC/N       | 5       | DC OUTPUT V3  | 8       | DC OUTPUT +V1 |
| 3       | FG $\perp$ | 6       | DC OUTPUT +V2 |         |               |

### Derating Curve



### Static Characteristics

