

# RQ-65 series

## 65W Quad Output Switching Power Supply

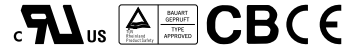
# STONTRONICS

THE POWER TO SUPPLY



### Features :

- Universal AC input / Full range
- 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

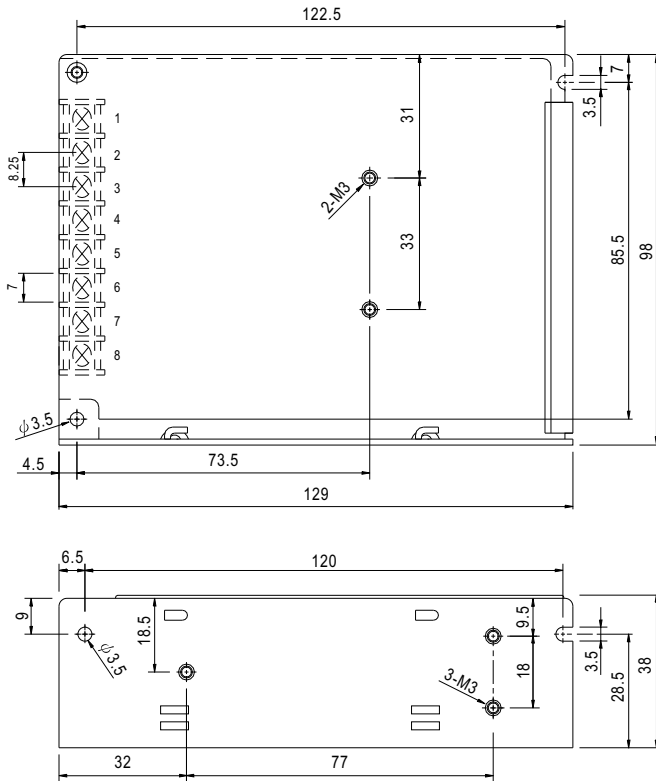


### SPECIFICATION

| MODEL                                | RQ-65B  |   |          |         | RQ-65C                           |  |          |         | RQ-65D  |                  |          |            |         |
|--------------------------------------|---|---|----------|---------|----------------------------------|--|----------|---------|---------|------------------|----------|------------|---------|
| 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   | 6A  | 2A       | 0.5A    | 0.5A                             | 5A   | 2A       | 0.5A    | 0.5A    | 4A               | 1.5A     | 1A         | 0.5A    |
|                                      | CURRENT RANGE <small>Note.6</small>   | 0.5 ~ 8A  | 0.2 ~ 3A | 0 ~ 1A  | 0 ~ 1A                           | 0.5 ~ 8A   | 0.2 ~ 3A | 0 ~ 1A  | 0 ~ 1A  | 0.5 ~ 8A         | 0.2 ~ 3A | 0.1 ~ 1.5A | 0 ~ 1A  |
|                                      | RATED POWER <small>Note.6</small>   | 62.5W   |          |         |                                  | 65W  |          |         |         | 68W              |          |            |         |
|                                      | RIPPLE & NOISE (max.) <small>Note.2</small>   | 80mVp-p   | 120mVp-p | 80mVp-p | 80mVp-p                          | 80mVp-p  | 120mVp-p | 80mVp-p | 80mVp-p | 80mVp-p          | 120mVp-p | 180mVp-p   | 80mVp-p |
|                                      | VOLTAGE ADJ. RANGE  | CH1: 4.75 ~ 5.5V  |          |         |                                  | CH1: 4.75 ~ 5.5V   |          |         |         | CH1: 4.75 ~ 5.5V |          |            |         |
|                                      | VOLTAGE TOLERANCE <small>Note.3</small>   | ±2.0%   | +7,-5%   | ±5.0%   | ±5.0%                            | ±2.0%  | +10,-4%  | ±5.0%   | ±5.0%   | ±2.0%            | ±6.0%    | ±8.0%      | ±5.0%   |
|                                      | LINE REGULATION <small>Note.4</small>   | ±0.5%   | ±1.5%    | ±0.5%   | ±0.5%                            | ±0.5%  | ±1.5%    | ±0.5%   | ±0.5%   | ±0.5%            | ±1.5%    | ±2.0%      | ±0.5%   |
|                                      | LOAD REGULATION <small>Note.5</small>   | ±0.5%   | ±3.0%    | ±1.0%   | ±1.0%                            | ±0.5%  | ±4.0%    | ±1.0%   | ±1.0%   | ±0.5%            | ±3.0%    | ±5.0%      | ±1.0%   |
| SETUP, RISE TIME                     | 500ms, 20ms/230VAC  |   |          |         | 1200ms, 30ms/115VAC at full load |  |          |         |         |                  |          |            |         |
| HOLD UP TIME (Typ.)                  | 60ms/230VAC   |   |          |         | 14ms/115VAC at full load         |  |          |         |         |                  |          |            |         |
| INPUT                                | VOLTAGE RANGE   | 88 ~ 264VAC   |          |         |                                  | 125 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage)                         |          |         |         |                  |          |            |         |
|                                      | FREQUENCY RANGE   | 47 ~ 63Hz   |          |         |                                  |  |          |         |         |                  |          |            |         |
|                                      | EFFICIENCY (Typ.)   | 76%   |          |         |                                  | 76%  |          |         |         | 78%              |          |            |         |
|                                      | AC CURRENT (Typ.)   | 2A/115VAC   |          |         |                                  | 1.2A/230VAC  |          |         |         |                  |          |            |         |
|                                      | INRUSH CURRENT (Typ.)   | COLD START 40A/230VAC   |          |         |                                  |  |          |         |         |                  |          |            |         |
|                                      | LEAKAGE CURRENT   | <2mA / 240VAC   |          |         |                                  |  |          |         |         |                  |          |            |         |
| PROTECTION                           | OVERLOAD  | 110 ~ 150% rated output power   |          |         |                                  | Protection type : Hiccup mode, recovers automatically after fault condition is removed |          |         |         |                  |          |            |         |
|                                      | OVER VOLTAGE  | CH1: 5.75 ~ 6.75V   |          |         |                                  | Protection type : Hiccup mode, recovers automatically after fault condition is removed |          |         |         |                  |          |            |         |
| ENVIRONMENT                          | WORKING TEMP.   | -25 ~ +70°C (Refer to output load derating curve)   |          |         |                                  |  |          |         |         |                  |          |            |         |
|                                      | WORKING HUMIDITY  | 20 ~ 90% RH non-condensing  |          |         |                                  |  |          |         |         |                  |          |            |         |
|                                      | STORAGE TEMP., HUMIDITY   | -40 ~ +85°C, 10 ~ 95% RH  |          |         |                                  |  |          |         |         |                  |          |            |         |
|                                      | TEMP. COEFFICIENT   | ±0.03%/°C (0 ~ 50°C) on +5V output  |          |         |                                  |  |          |         |         |                  |          |            |         |
|                                      | VIBRATION   | 10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes                                     |          |         |                                  |  |          |         |         |                  |          |            |         |
| SAFETY & EMC <small>(Note 7)</small> | 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 / 25°C / 70% RH  |          |         |                                  |  |          |         |         |                  |          |            |         |
|                                      | 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  | 245.5Khrs min. MIL-HDBK-217F (25°C)   |          |         |                                  |  |          |         |         |                  |          |            |         |
|                                      | DIMENSION   | 129*98*38mm (L*W*H)   |          |         |                                  |  |          |         |         |                  |          |            |         |
|                                      | PACKING   | 0.44Kg; 30pcs/13.2Kg/0.72CUFT   |          |         |                                  |  |          |         |         |                  |          |            |         |
| NOTE                                 | <ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF &amp; 47uF parallel capacitor.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. Line regulation is measured from low line to high line at rated load.</li> <li>5. Load regulation is measured from 20% to 100% rated load, and other output at 60% rated load.</li> <li>6. Each output can work within current range. But total output power can't exceed rated output power.</li> <li>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.</li> </ol> |   |          |         |                                  |  |          |         |         |                  |          |            |         |

## Mechanical Specification

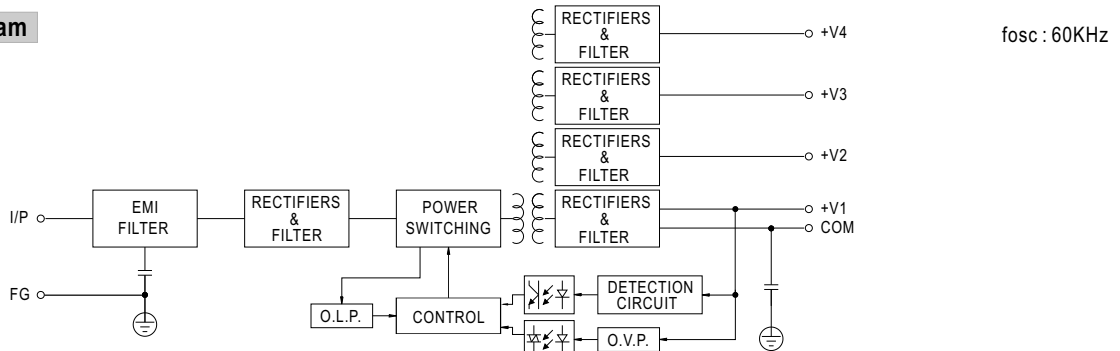
Case No. 903 Unit:mm



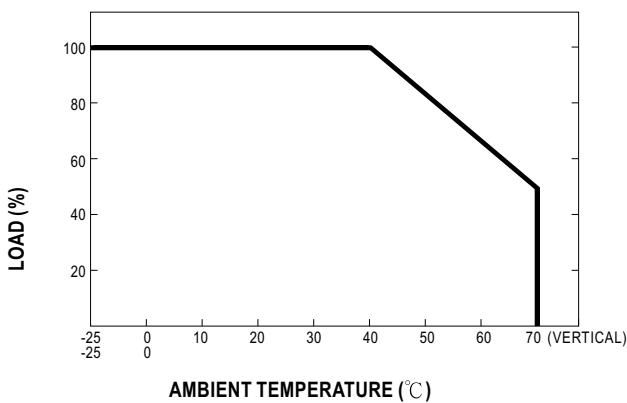
## Terminal Pin No. Assignment

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

## Block Diagram



## Derating Curve



## Output Derating VS Input Voltage

