



## 85W Quad Output Switching Power Supply

## RQ-85 series



### ■ 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

User's Manual



### ■ GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>



### SPECIFICATION

| MODEL                 | RQ-85B   |   |          |  | RQ-85C                           |                  |          |          | RQ-85D  |                  |          |          |         |
|-----------------------|--|---|----------|--|----------------------------------|------------------|----------|----------|---------|------------------|----------|----------|---------|
| 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  | 7A  | 3.1A     | 0.5A   | 0.5A                             | 7A               | 2.5A     | 0.5A     | 0.5A    | 6A               | 2A       | 1A       | 0.5A    |
|                       | CURRENT RANGE <small>Note.3</small>  | 0 ~ 10A   | 0 ~ 4A   | 0 ~ 1A   | 0 ~ 1A                           | 0 ~ 10A          | 0 ~ 4A   | 0 ~ 1A   | 0 ~ 1A  | 0 ~ 10A          | 0 ~ 4A   | 0 ~ 1.5A | 0 ~ 1A  |
|                       | RATED POWER <small>Note.6</small>  | 80.7W   |          |  |                                  | 82.5W            |          |          |         | 84W              |          |          |         |
|                       | RIPPLE & NOISE (max.) <small>Note.2</small>  | 80mVp-p   | 120mVp-p | 100mVp-p   | 80mVp-p                          | 80mVp-p          | 120mVp-p | 100mVp-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 <small>Note.3</small>  | ±2.0%   | +7,-3%   | ±8.0%  | ±5.0%                            | ±2.0%            | +3,-7%   | ±8.0%    | ±5.0%   | ±2.0%            | +7,-3%   | ±8.0%    | ±5.0%   |
|                       | LINE REGULATION <small>Note.4</small>  | ±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 <small>Note.5</small>  | ±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.)   | 100ms/230VAC   |   |          |  | 18ms/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%   |          |  |                                  | 77%              |          |          |         | 78%              |          |          |         |
|                       | AC CURRENT (Typ.)  | 2.5A/115VAC   |          | 1.5A/230VAC  |                                  |                  |          |          |         |                  |          |          |         |
|                       | INRUSH CURRENT (Typ.)  | COLD START 50A/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°C (Refer to "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  |          |  |                                  |                  |          |          |         |                  |          |          |         |
| SAFETY & EMC (Note 7) | VIBRATION  | 10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes   |          |  |                                  |                  |          |          |         |                  |          |          |         |
|                       | SAFETY STANDARDS   | UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004 approved  |          |  |                                  |                  |          |          |         |                  |          |          |         |
|                       | WITHSTAND VOLTAGE  | I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC   |          |  |                                  |                  |          |          |         |                  |          |          |         |
|                       | ISOLATION RESISTANCE   | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C/ 70% RH   |          |  |                                  |                  |          |          |         |                  |          |          |         |
|                       | EMC EMISSION   | Compliance to BS EN/EN55032 (CISPR32) Class B, BS EN/EN61000-3-2,-3, EAC TP TC 020                                      |          |  |                                  |                  |          |          |         |                  |          |          |         |
| EMC IMMUNITY          | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55035, BS EN/EN61000-6-2 (BS EN/EN50082-2), heavy industry level, EAC TP TC 020  |   |          |  |                                  |                  |          |          |         |                  |          |          |         |
| OTHERS                | MTBF   | 2603.4K hrs min. Telcordia SR-332 (Bellcore) ; 424.2K hrs min. MIL-HDBK-217F (25°C)                                     |          |  |                                  |                  |          |          |         |                  |          |          |         |
|                       | DIMENSION  | 159*97*38mm (L*W*H)   |          |  |                                  |                  |          |          |         |                  |          |          |         |
|                       | PACKING  | 0.6Kg; 24pcs/15.4Kg/0.83CUFT  |          |  |                                  |                  |          |          |         |                  |          |          |         |
| 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. (In order to meet tolerance, it is recommended that CH1 load &gt; 20% rated current for B,C type and CH1 load &gt; 15% rated current for D type.)</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. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</li> <li>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.</li> <li>9. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li> </ol> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p> |   |          |  |                                  |                  |          |          |         |                  |          |          |         |

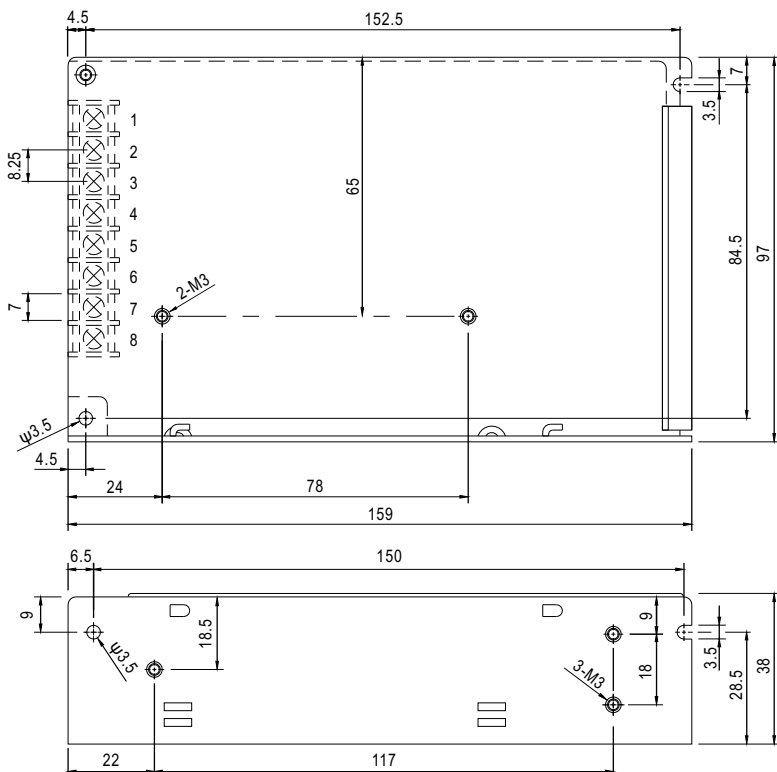


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# RQ-85 series

## Mechanical Specification

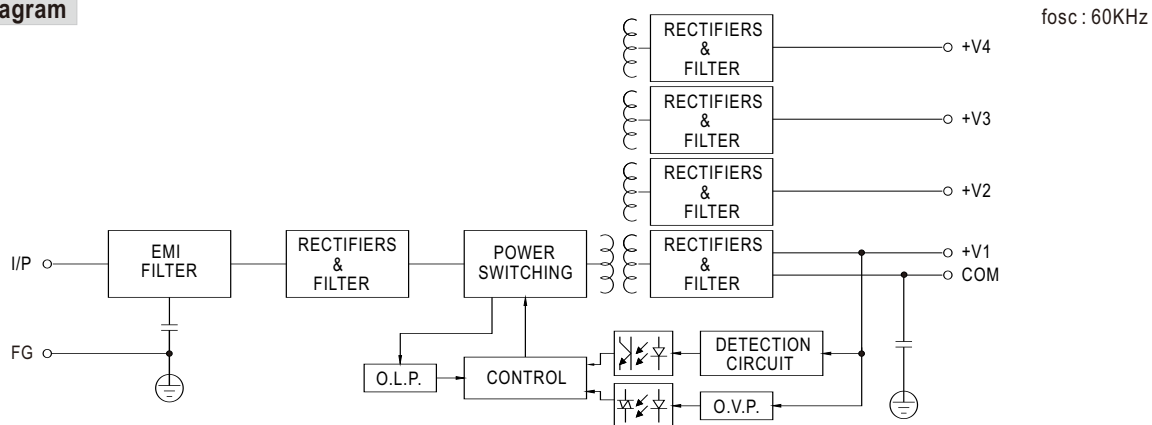
Case No. 901 Unit:mm



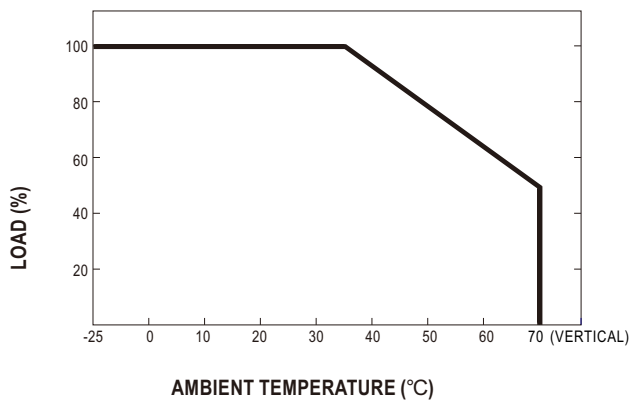
Terminal Pin No. Assignment

| 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



## Static Characteristics

