



100W Single Output with PFC Function

RSP-100 series

Dimension

|      |   |      |   |           |
|------|---|------|---|-----------|
| L    | * | W    | * | H         |
| 179  | * | 99   | * | 30 mm     |
| 7.05 | * | 3.90 | * | 1.18 inch |

User's Manual



Features

- Universal AC input / Full range
- Built-in active PFC function
- High efficiency up to 88%
- Cooling by free air convection
- Built-in remote ON-OFF control
- Protections: Short circuit / Overload / Over voltage / Over temperature
- LED indicator for power on
- 3 years warranty

Applications

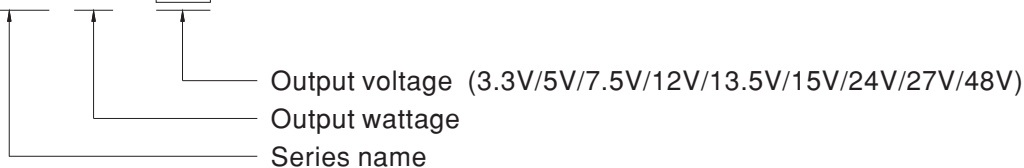
- Factory control or automation apparatus
- Test and measurement instrument
- Laser related machine
- Burn-in facility
- RF application

Description

RSP-100 is a 100W single output enclosed type AC/DC power supply. This series operates for 85~264VAC input voltage and offers the models with the DC output mostly demanded from the industry. Each model is cooled by free air convection, working for the temperature up to 70°C.

Model Encoding / Order Information

RSP - 100 - 15



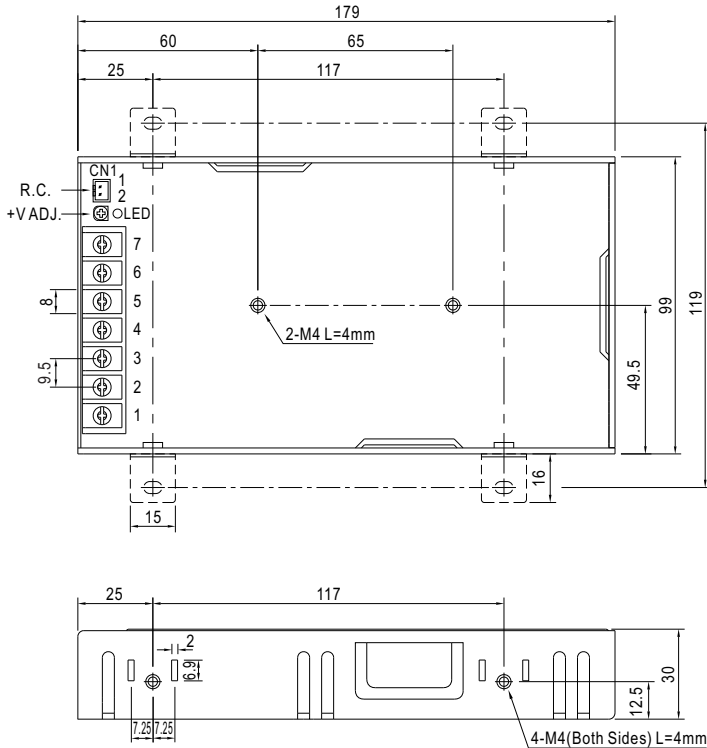


SPECIFICATION

| MODEL                 |  | RSP-100-3.3  | RSP-100-5   | RSP-100-7.5   | RSP-100-12   | RSP-100-13.5   | RSP-100-15                  | RSP-100-24   | RSP-100-27    | RSP-100-48   |     |
|-----------------------|--|--|-------------|---------------|--------------|----------------|-----------------------------|--------------|---------------|--------------|-----|
| OUTPUT                | DC VOLTAGE   | 3.3V   | 5V          | 7.5V          | 12V          | 13.5V          | 15V                         | 24V          | 27V           | 48V          |     |
|                       | RATED CURRENT  | 20A  | 20A         | 13.5A         | 8.5A         | 7.5A           | 6.7A                        | 4.2A         | 3.8A          | 2.1A         |     |
|                       | CURRENT RANGE  | 0 ~ 20A  | 0 ~ 20A     | 0 ~ 13.5A     | 0 ~ 8.5A     | 0 ~ 7.5A       | 0 ~ 6.7A                    | 0 ~ 4.2A     | 0 ~ 3.8A      | 0 ~ 2.1A     |     |
|                       | RATED POWER  | 66W  | 100W        | 101.25W       | 102W         | 101.25W        | 100.5W                      | 100.8W       | 102.6W        | 100.8W       |     |
|                       | RIPPLE & NOISE (max.) Note.2   | 100mVp-p   | 100mVp-p    | 100mVp-p      | 100mVp-p     | 100mVp-p       | 100mVp-p                    | 150mVp-p     | 150mVp-p      | 250mVp-p     |     |
|                       | VOLTAGE ADJ. RANGE   | 3.14 ~ 3.63V   | 4.75 ~ 5.5V | 7.13 ~ 8.25V  | 11.4 ~ 13.2V | 12.8 ~ 14.9V   | 14.3 ~ 16.5V                | 22.8 ~ 26.4V | 25.7 ~ 29.7V  | 45.6 ~ 52.8V |     |
|                       | VOLTAGE TOLERANCE Note.3   | ±2.0%  | ±2.0%       | ±2.0%         | ±1.0%        | ±1.0%          | ±1.0%                       | ±1.0%        | ±1.0%         | ±1.0%        |     |
|                       | LINE REGULATION  | ±0.5%  | ±0.5%       | ±0.5%         | ±0.5%        | ±0.5%          | ±0.5%                       | ±0.5%        | ±0.5%         | ±0.5%        |     |
|                       | LOAD REGULATION  | ±1.0%  | ±1.0%       | ±1.0%         | ±0.5%        | ±0.5%          | ±0.5%                       | ±0.5%        | ±0.5%         | ±0.5%        |     |
|                       | SETUP, RISE TIME   | 600ms, 30ms at full load   |             |               |              |                |                             |              |               |              |     |
| HOLD UP TIME (Typ.)   | 16ms at full load  |  |             |               |              |                |                             |              |               |              |     |
| INPUT                 | VOLTAGE RANGE  | 85 ~ 264VAC  |             | 120 ~ 370VDC  |              |                |                             |              |               |              |     |
|                       | FREQUENCY RANGE  | 47 ~ 63Hz  |             |               |              |                |                             |              |               |              |     |
|                       | POWER FACTOR (Typ.)  | PF>0.93/230VAC   |             |               |              |                | PF>0.98/115VAC at full load |              |               |              |     |
|                       | EFFICIENCY (Typ.)  | 83%  | 86%         | 87%           | 86%          | 86.5%          | 87%                         | 87%          | 87%           | 87%          | 88% |
|                       | AC CURRENT (Typ.)  | 1.1A/115VAC  |             | 0.55A/230VAC  |              |                |                             |              |               |              |     |
|                       | INRUSH CURRENT (Typ.)  | COLD START 30A/230VAC  |             |               |              |                |                             |              |               |              |     |
|                       | LEAKAGE CURRENT  | <2mA / 240VAC  |             |               |              |                |                             |              |               |              |     |
| PROTECTION            | OVERLOAD   | 105 ~ 135% rated output power<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed                      |             |               |              |                |                             |              |               |              |     |
|                       | OVER VOLTAGE   | 3.63 ~ 4.46V   | 5.5 ~ 6.75V | 8.25 ~ 10.13V | 13.2 ~ 16.2V | 14.85 ~ 18.23V | 16.5 ~ 20.25V               | 26.4 ~ 32.4V | 29.7 ~ 36.45V | 52.8 ~ 64.8V |     |
|                       | OVER TEMPERATURE   | Shut down o/p voltage, recovers automatically after temperature goes down  |             |               |              |                |                             |              |               |              |     |
| FUNCTION              | REMOTE CONTROL   | CN1: < 0~0.8VDC POWER ON , 4~10VDC POWER OFF   |             |               |              |                |                             |              |               |              |     |
| ENVIRONMENT           | WORKING TEMP.  | -30 ~ +70°C (Refer to "Derating Curve")  |             |               |              |                |                             |              |               |              |     |
|                       | WORKING HUMIDITY   | 20 ~ 90% RH non-condensing   |             |               |              |                |                             |              |               |              |     |
|                       | STORAGE TEMP., HUMIDITY  | -40 ~ +85°C, 10 ~ 95% RH non-condensing  |             |               |              |                |                             |              |               |              |     |
|                       | TEMP. COEFFICIENT  | ±0.05%/°C (0 ~ 50°C)   |             |               |              |                |                             |              |               |              |     |
|                       | VIBRATION  | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes   |             |               |              |                |                             |              |               |              |     |
|                       | OVER VOLTAGE CATEGORY  | III ; According to EN61558, EN50178, EN60664-1, EN62477-1 ; altitude up to 2000 meters   |             |               |              |                |                             |              |               |              |     |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS   | UL62368-1, TUV BS EN/EN62368-1, BS EN/EN61558-1, BS EN/EN61558-2-16, EAC TP TC 004, CCC GB4943.1, BSMI CNS14336-1 approved, Design refer to AS/NZS 62368.1 |             |               |              |                |                             |              |               |              |     |
|                       | WITHSTAND VOLTAGE  | I/P-O/P:4KVAC  |             | 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, CNS13438, GB9254 Class B, GB17625.1                                    |             |               |              |                |                             |              |               |              |     |
|                       | EMC IMMUNITY   | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55024, light industry level, criteria A, EAC TP TC 020   |             |               |              |                |                             |              |               |              |     |
| OTHERS                | MTBF   | 288.5K hrs min. MIL-HDBK-217F (25°C)   |             |               |              |                |                             |              |               |              |     |
|                       | DIMENSION  | 179*99*30mm (L*W*H)  |             |               |              |                |                             |              |               |              |     |
|                       | PACKING  | 0.52Kg; 24pcs/14.5Kg/0.81CUFT  |             |               |              |                |                             |              |               |              |     |
| NOTE                  | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>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.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. 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. 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>)</p> <p>5. Strongly recommended that external output capacitance should not exceed 5000uF. (Only for: RSP-100-3.3/-5/-7.5)</p> <p>6. 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).</p> <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> |  |             |               |              |                |                             |              |               |              |     |

### Mechanical Specification

Case No.227A Unit:mm



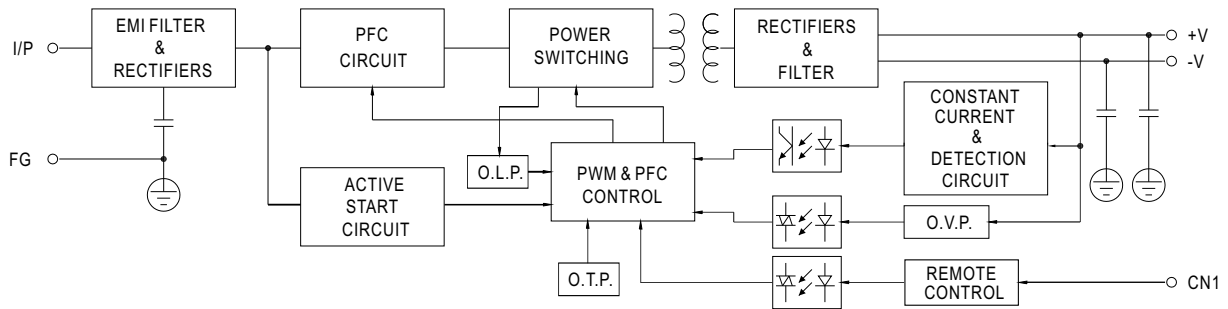
#### Terminal Pin No. Assignment

| Pin No. | Assignment | Pin No. | Assignment   |
|---------|------------|---------|--------------|
| 1       | AC/L       | 4,5     | DC OUTPUT -V |
| 2       | AC/N       | 6,7     | DC OUTPUT +V |
| 3       | FG $\perp$ |         |              |

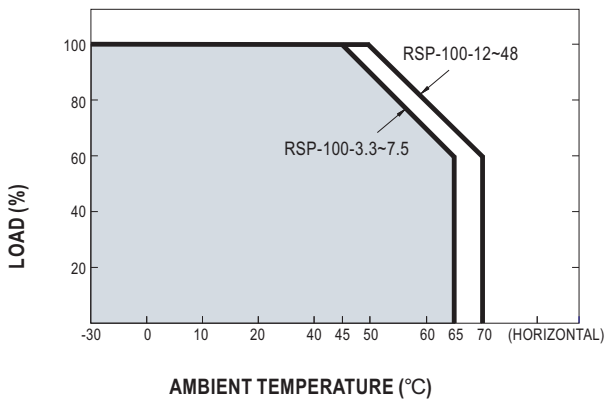
Remote ON/OFF (CN1): JST S2B-XH or equivalent (optional)

| Pin No. | Assignment | Mating Housing        | Terminal                        |
|---------|------------|-----------------------|---------------------------------|
| 1       | RC+        | JST XHP or equivalent | JST SXH-001T-P0.6 or equivalent |
| 2       | RC-        |                       |                                 |

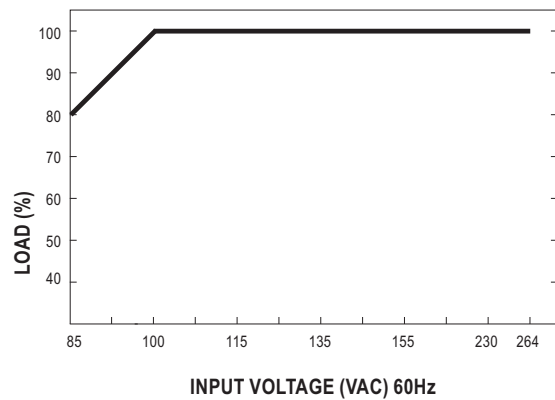
### Block Diagram



### Derating Curve



### Output Derating VS Input Voltage



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