



500W Single Output with PFC Function

RSP-500 series

Dimension

| L | * | W | * | H | |
|------|---|-----|---|----------|------|
| 230 | * | 127 | * | 40.5(1U) | mm |
| 9.06 | * | 5 | * | 1.59(1U) | inch |



Features

- Universal AC input / Full range
- Built-in active PFC function
- High efficiency up to 90.5%
- Forced air cooling by built-in DC fan (Note.5)
- Built-in remote ON-OFF control / remote sense / DC OK signal
- Protections: Short circuit / Overload / Over voltage / Over temperature
- 3 years warranty

Applications

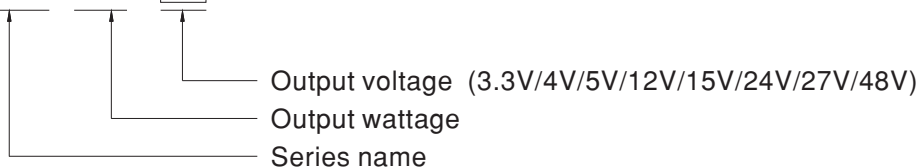
- Factory control or automation apparatus
- Test and measurement instrument
- Laser related machine
- Burn-in facility
- RF application

Description

RSP-500 is a 500W 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 the built-in fan with fan speed control, working for the temperature up to 70°C. Moreover, RSP-500 provides vast design flexibility by equipping various built-in functions such as remote ON-OFF control, remote sense, DC OK signal, etc.

Model Encoding / Order Information

RSP - 500 - 24



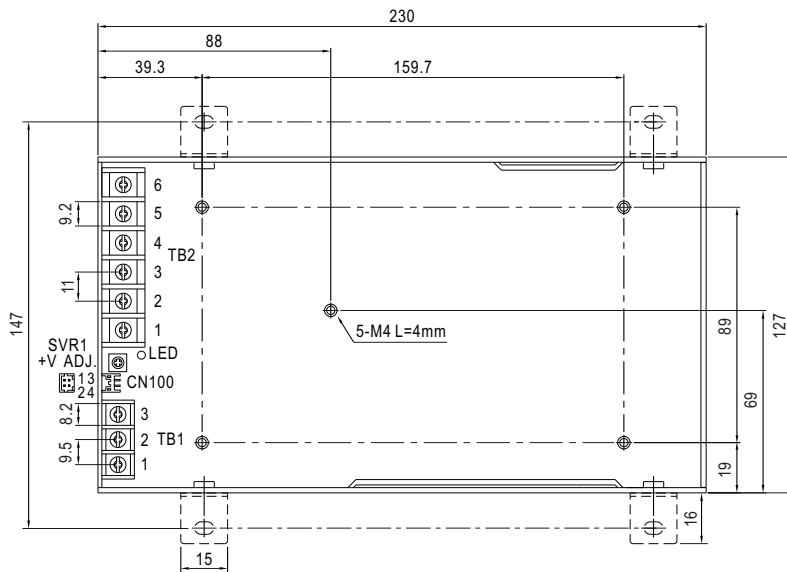


SPECIFICATION

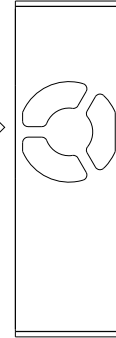
| MODEL | RSP-500-3.3 | RSP-500-4 | RSP-500-5 | RSP-500-12 | RSP-500-15 | RSP-500-24 | RSP-500-27 | RSP-500-48 | |
|-----------------------|--|---|------------|--------------|--------------|--------------|--------------|---------------|------------|
| OUTPUT | DC VOLTAGE | 3.3V | 4V | 5V | 12V | 15V | 24V | 27V | 48V |
| | RATED CURRENT | 90A | 90A | 90A | 41.7A | 33.4A | 21A | 18.6A | 10.5A |
| | CURRENT RANGE | 0 ~ 90A | 0 ~ 90A | 0 ~ 90A | 0 ~ 41.7A | 0 ~ 33.4A | 0 ~ 21A | 0 ~ 18.6A | 0 ~ 10.5A |
| | RATED POWER | 297W | 360W | 450W | 500.4W | 501W | 504W | 502.2W | 504W |
| | RIPPLE & NOISE (max.) Note.2 | 120mVp-p | 120mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p |
| | VOLTAGE ADJ. RANGE | 2.8 ~ 3.6V | 3.6 ~ 4.3V | 4.5 ~ 5.5V | 10 ~ 13.2V | 13.5 ~ 18V | 20 ~ 26.4V | 26 ~ 30V | 41 ~ 56V |
| | VOLTAGE TOLERANCE Note.3 | ±2.0% | ±2.0% | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| | LINE REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.3% | ±0.3% | ±0.2% | ±0.2% | ±0.2% |
| | LOAD REGULATION | ±1.0% | ±1.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| | SETUP, RISE TIME | 1500ms, 80ms/230VAC 3000ms, 80ms/115VAC at full load | | | | | | | |
| HOLD UP TIME (Typ.) | 18ms/230VAC 14ms/115VAC at full load | | | | | | | | |
| INPUT | VOLTAGE RANGE Note.4 | 85 ~ 264VAC 120 ~ 370VDC | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | |
| | POWER FACTOR (Typ.) | PF>0.95/230VAC PF>0.98/115VAC at full load | | | | | | | |
| | EFFICIENCY (Typ.) | 81% | 83% | 84% | 88% | 88% | 89% | 89.5% | 90.5% |
| | AC CURRENT (Typ.) | 4.2A/115VAC | | 2.1 A/230VAC | | 5.3A/115VAC | | 2.65 A/230VAC | |
| | INRUSH CURRENT (Typ.) | 20A/115VAC | | 40A/230VAC | | | | | |
| | LEAKAGE CURRENT | <2mA / 240VAC | | | | | | | |
| PROTECTION | OVERLOAD | 105 ~ 130% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed | | | | | | | |
| | OVER VOLTAGE | 3.8 ~ 4.5V | 4.5 ~ 5.3V | 5.75 ~ 6.75V | 13.8 ~ 16.2V | 18.8 ~ 21.8V | 27.6 ~ 32.4V | 32.9 ~ 38.3V | 58.4 ~ 68V |
| | OVER TEMPERATURE | Shut down o/p voltage, recovers automatically after temperature goes down | | | | | | | |
| FUNCTION | REMOTE CONTROL | POWER ON: open or 0~0.8VDC between RC+(Pin 4)&RC-(Pin3) on CN100 POWER OFF: 4~10VDC between RC+(Pin 4)&RC-(Pin3) on CN100 | | | | | | | |
| | REMOTE SENSE | Compensate voltage drop on the load wiring up to 0.3V | | | | | | | |
| | FAN CONTROL (Typ.) | RTH2≥50°C±10°C Fan on ; RTH2≤40°C±10°C Fan off (Fan always on for 3.3~5V, Fan ON/OFF control for 12~48V) | | | | | | | |
| 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 | | | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/°C (0 ~ 50°C) | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1 cycle, 60min. each along X, Y, Z axes | | | | | | | |
| SAFETY & EMC (Note.4) | SAFETY STANDARDS | UL62368-1, TUV EN62368-1, EAC TP TC 004 , CCC GB4943.1 , BSMI CNS14336-1approved | | | | | | | |
| | 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 EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020, GB/T 9254, CNS13438 Class B | | | | | | | |
| | EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61000-6-2, EN61204-3 heavy industry level, criteria A, EAC TP TC 020 | | | | | | | |
| OTHERS | MTBF | 187.7K hrs min. MIL-HDBK-217F (25°C) | | | | | | | |
| | DIMENSION | 230*127*40.5mm (L*W*H) | | | | | | | |
| | PACKING | 1.3Kg; 9pcs/12.7Kg/0.7CUFT | | | | | | | |
| 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 & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Derating may be needed under low input voltages. Please check the derating curve for more details.</p> <p>5. Fan always on for 3.3~5V, Fan ON/OFF control for 12~48V.</p> <p>6. 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 http://www.meanwell.com)</p> <p>7. 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> | | | | | | | | |

Case No.226A Unit:mm

Mechanical Specification



Air flow direction →

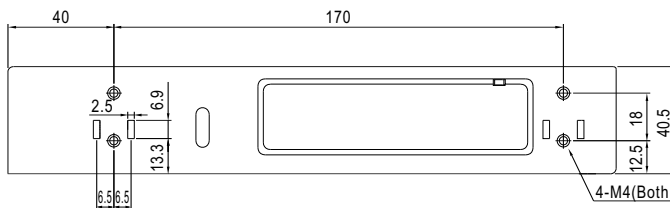


AC Input Terminal
Pin No. Assignment (TB1)

| Pin No. | Assignment |
|---------|------------|
| 1 | AC/L |
| 2 | AC/N |
| 3 | FG ± |

DC Output Terminal
Pin No. Assignment (TB2)

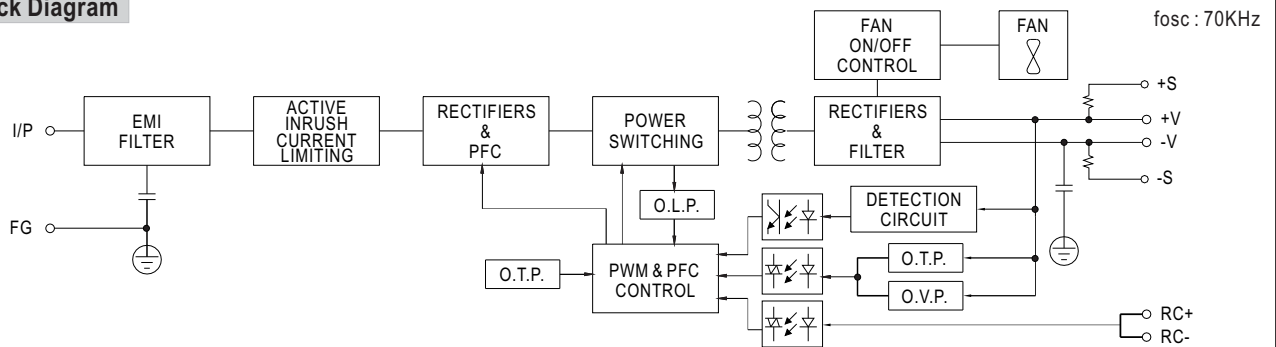
| Pin No. | Assignment |
|---------|--------------|
| 1-3 | DC OUTPUT -V |
| 4-6 | DC OUTPUT +V |



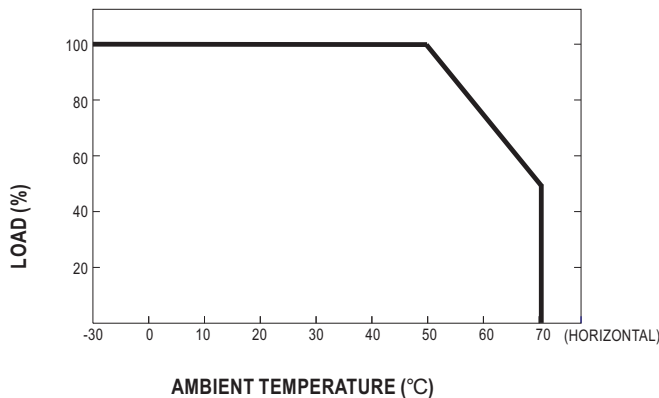
Connector Pin No. Assignment (CN100) :
HRS DF11-04DP-2DS or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|-------------------------------|--------------------------------|
| 1 | -S | HRS DF11-4DS or equivalent | HRS DF11-**SC or equivalent |
| 2 | +S | | |
| 3 | RC- | | |
| 4 | RC+ | | |

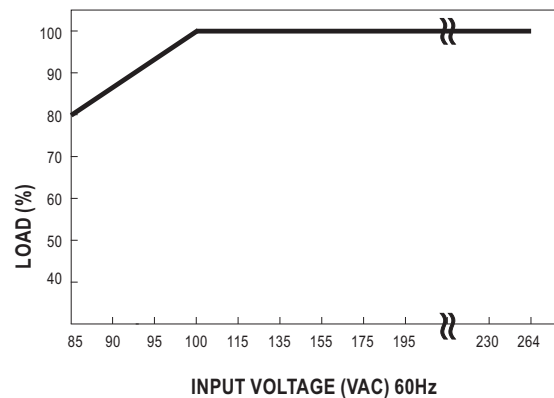
Block Diagram



Derating Curve



Static Characteristics



■ Function Description of CN100

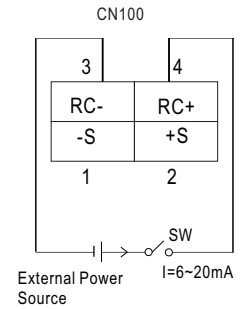
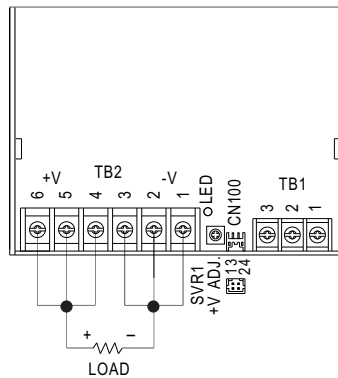
| Pin No. | Function | Description |
|---------|----------|---|
| 1 | -S | Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.3V. |
| 2 | +S | 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. The maximum line drop compensation is 0.3V. |
| 3 | RC- | Return for RC+ signal input. |
| 4 | RC+ | Turns the output on and off by electrical or dry contact between pin 4 (RC+) and pin 3 (RC-). 0~0.8VDC or open: Power ON, 4~10VDC: Power OFF. |

■ Function Manual

1. Remote Control

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

| Between RC-(pin3) and RC+(pin4) on CN100 | PSU Status |
|--|------------|
| SW OFF (0 ~ 0.8VDC) or open | ON |
| SW ON (4 ~ 10V) | OFF |



2. Remote Sense

The remote sensing compensates voltage drop on the load wiring up to 0.3V

