



320W Single Output with PFC Function

RSP-320 series

Dimension

| | | | | |
|------|---|------|---|-----------|
| L | * | W | * | H |
| 215 | * | 115 | * | 30 mm |
| 8.46 | * | 4.53 | * | 1.18 inch |

User's Manual



R33100
RoHS
CNS14336-1

AS/NZS60950-1

UL62368-1

BS EN/EN62368-1

(only for 5V)

GB4943.1



TPTC004 IEC62368-1



Features

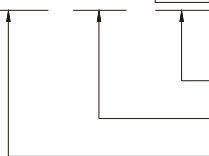
- Universal AC input / Full range
- Built-in active PFC function
- High efficiency up to 90%
- Forced air cooling by built-in DC Fan with fan speed control function
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Optional conformal coating
- LED indicator for power on
- 3 years warranty

Description

RSP-320 is a 320W single output enclosed type AC/DC power supply. This series operates for 88~264VAC 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.

Model Encoding / Order Information

RSP - 320 - 24



Output voltage (2.5V/3.3V/4V/5V/7.5V/12V/13.5V/15V/24V/27V/36V/48V)
 Output wattage
 Series name

Applications

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

GTIN CODE

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



SPECIFICATION

| MODEL | RSP-320-2.5 | RSP-320-3.3 | RSP-320-4 | RSP-320-5 | RSP-320-7.5 | RSP-320-12 | |
|-----------------------|---|---|--------------|-----------------------------|--------------|-------------|--------------|
| OUTPUT | DC VOLTAGE | 2.5V | 3.3V | 4V | 5V | 7.5V | 12V |
| | RATED CURRENT | 60A | 60A | 60A | 60A | 40A | 26.7A |
| | CURRENT RANGE | 0 ~ 60A | 0 ~ 60A | 0 ~ 60A | 0 ~ 60A | 0 ~ 40A | 0 ~ 26.7A |
| | RATED POWER | 150W | 198W | 240W | 300W | 300W | 320.4W |
| | RIPPLE & NOISE (max.) Note.2 | 100mVp-p | 100mVp-p | 100mVp-p | 150mVp-p | 150mVp-p | 150mVp-p |
| | VOLTAGE ADJ. RANGE | 2.35 ~ 2.85V | 2.97 ~ 3.8V | 3.7 ~ 4.3V | 4.5 ~ 5.5V | 6 ~ 9V | 10 ~ 13.2V |
| | VOLTAGE TOLERANCE Note.3 | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±1.0% |
| | LINE REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.3% |
| | LOAD REGULATION | ±1.5% | ±1.5% | ±1.0% | ±1.0% | ±1.0% | ±0.5% |
| | SETUP, RISE TIME | 1500ms, 50ms/230VAC 3000ms, 50ms/115VAC at full load | | | | | |
| HOLD UP TIME (Typ.) | 8ms at full load 230VAC /115VAC | | | | | | |
| INPUT | VOLTAGE RANGE Note.4 | 88 ~ 264VAC | 124 ~ 370VDC | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | |
| | POWER FACTOR (Typ.) | PF>0.95/230VAC | | PF>0.98/115VAC at full load | | | |
| | EFFICIENCY (Typ.) | 75.5% | 79.5% | 81% | 83% | 88% | 88% |
| | AC CURRENT (Typ.) | 2.7A/115VAC | 1.5A/230VAC | | 4A/115VAC | 2A/230VAC | |
| | INRUSH CURRENT (Typ.) | 20A/115VAC | 40A/230VAC | | | | |
| | LEAKAGE CURRENT | <1mA / 240VAC | | | | | |
| PROTECTION | OVERLOAD | 105 ~ 135% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | |
| | OVER VOLTAGE | 2.88 ~ 3.38V | 3.8 ~ 4.5V | 4.5 ~ 5.3V | 5.75 ~ 6.75V | 9.4 ~ 10.9V | 13.8 ~ 16.2V |
| | OVER TEMPERATURE | Shut down o/p voltage, recovers automatically after temperature goes down | | | | | |
| 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) | | | | | |
| SAFETY & EMC (Note 5) | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | |
| | SAFETY STANDARDS | UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004, CCC GB4943.1, BSMI CNS14336-1, AS/NZS 60950.1 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, CNS13438, GB9254 Class B, GB17625.1 | | | | | |
| OTHERS | EMC IMMUNITY | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55024, light industry level, EAC TP TC 020 | | | | | |
| | MTBF | 1826.4K hrs min. Telcordia SR-332 (Bellcore) ; 192.9K hrs min. MIL-HDBK-217F (25°C) | | | | | |
| | DIMENSION | 215*115*30mm (L*W*H) | | | | | |
| | PACKING | 0.9Kg; 15pcs/14.5Kg/0.67CUFT | | | | | |
| 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. 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 http://www.meanwell.com)</p> <p>6. For charging related applications, please consult Mean Well for details.</p> <p>7. Strongly recommended that external output capacitance should not exceed 5000uF. (Only for: RSP-320-2.5/-3.3/-4/-5/-7.5/-12/-13.5/-15)</p> <p>8. 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 https://www.meanwell.com/serviceDisclaimer.aspx</p> | | | | | | |

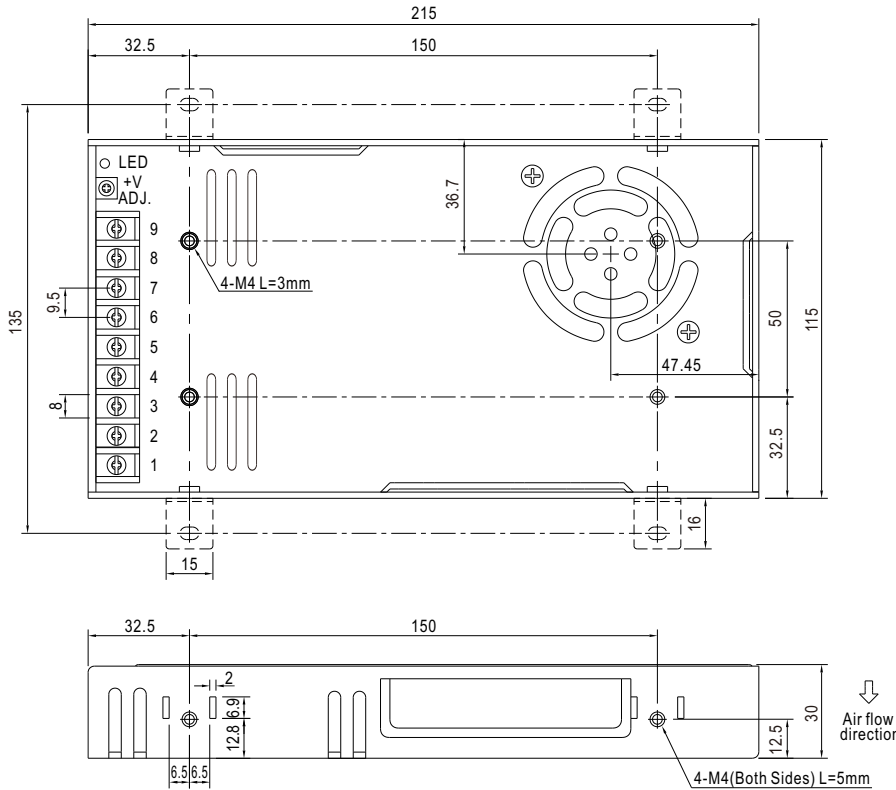


SPECIFICATION

| MODEL | RSP-320-13.5 | RSP-320-15 | RSP-320-24 | RSP-320-27 | RSP-320-36 | RSP-320-48 | |
|-----------------------|--|---|--------------|-----------------------------|--------------|--------------|------------|
| OUTPUT | DC VOLTAGE | 13.5V | 15V | 24V | 27V | 36V | 48V |
| | RATED CURRENT | 23.8A | 21.4A | 13.4A | 11.9A | 8.9A | 6.7A |
| | CURRENT RANGE | 0 ~ 23.8A | 0 ~ 21.4A | 0 ~ 13.4A | 0 ~ 11.9A | 0 ~ 8.9A | 0 ~ 6.7A |
| | RATED POWER | 321.3W | 321W | 321.6W | 321.3W | 320.4W | 321.6W |
| | RIPPLE & NOISE (max.) Note.2 | 150mVp-p | 150mVp-p | 150mVp-p | 200mVp-p | 220mVp-p | 240mVp-p |
| | VOLTAGE ADJ. RANGE | 12 ~ 15V | 13.5 ~ 18V | 20 ~ 26.4V | 26 ~ 31.5V | 32.4 ~ 39.6V | 41 ~ 56V |
| | VOLTAGE TOLERANCE Note.3 | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| | LINE REGULATION | ±0.3% | ±0.3% | ±0.2% | ±0.2% | ±0.2% | ±0.2% |
| | LOAD REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| | SETUP, RISE TIME | 1500ms, 50ms/230VAC 3000ms, 50ms/115VAC at full load | | | | | |
| HOLD UP TIME (Typ.) | 8ms at full load 230VAC /115VAC | | | | | | |
| INPUT | VOLTAGE RANGE Note.4 | 88 ~ 264VAC | 124 ~ 370VDC | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | |
| | POWER FACTOR (Typ.) | PF>0.95/230VAC | | PF>0.98/115VAC at full load | | | |
| | EFFICIENCY (Typ.) | 88% | 88.5% | 89% | 89% | 89.5% | 90% |
| | AC CURRENT (Typ.) | 4A/115VAC | 2A/230VAC | | | | |
| | INRUSH CURRENT (Typ.) | 20A/115VAC | 40A/230VAC | | | | |
| | LEAKAGE CURRENT | <1mA / 240VAC | | | | | |
| PROTECTION | OVERLOAD | 105 ~ 135% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | |
| | OVER VOLTAGE | 15.7 ~ 18.4V | 18.8 ~ 21.8V | 27.6 ~ 32.4V | 32.9 ~ 38.3V | 41.4 ~ 48.6V | 58.4 ~ 68V |
| | OVER TEMPERATURE | Shut down o/p voltage, recovers automatically after temperature goes down | | | | | |
| 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) | | | | | |
| SAFETY & EMC (Note 5) | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | |
| | SAFETY STANDARDS | UL62368-1,TUV BS EN/EN62368-1,EAC TP TC 004, CCC GB4943.1,BSMI CNS14336-1, AS/NZS 60950.1 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, CNS13438, GB9254 Class B, GB17625.1 | | | | | |
| OTHERS | EMC IMMUNITY | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55024, light industry level, EAC TP TC 020 | | | | | |
| | MTBF | 1826.4K hrs min. Telcordia SR-332 (Bellcore) ; 192.9K hrs min. MIL-HDBK-217F (25°C) | | | | | |
| | DIMENSION | 215*115*30mm (L*W*H) | | | | | |
| | PACKING | 0.9Kg; 15pcs/14.5Kg/0.67CUFT | | | | | |
| 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. 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>6. For charging related applications, please consult Mean Well for details.</p> <p>7. Strongly recommended that external output capacitance should not exceed 5000uF. (Only for: RSP-320-2.5/-3.3/-4/-5/-7.5/-12/-13.5/-15)</p> <p>8. 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 https://www.meanwell.com/serviceDisclaimer.aspx</p> | | | | | | |

Mechanical Specification

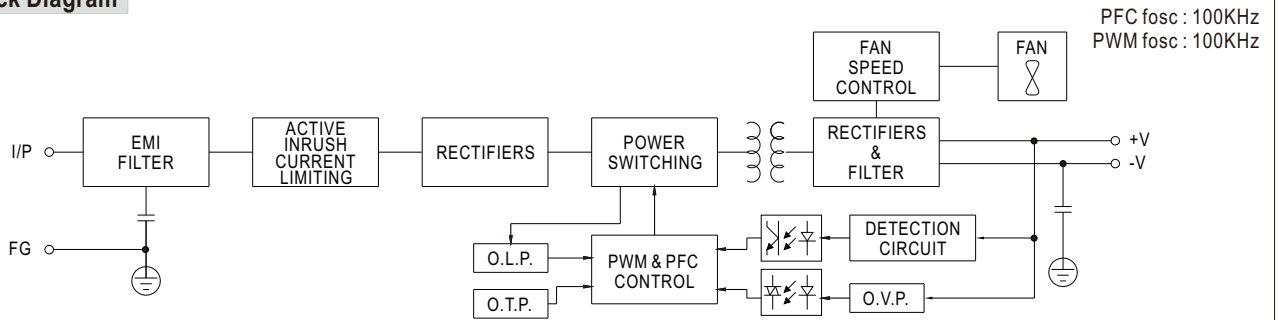
Case No.207A Unit:mm



Terminal Pin No. Assignment :

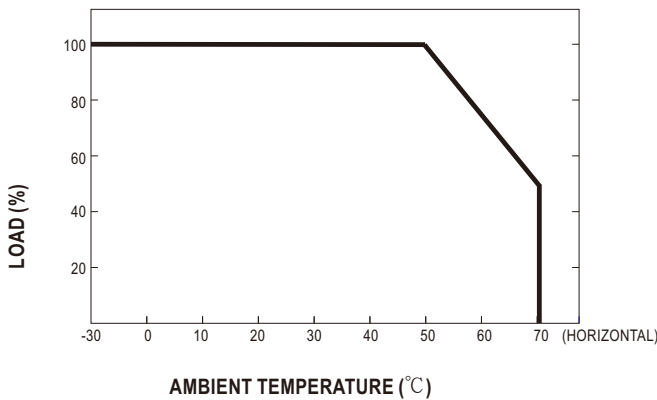
| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|--------------|
| 1 | AC/L | 4~6 | DC OUTPUT -V |
| 2 | AC/N | 7~9 | DC OUTPUT +V |
| 3 | FG \perp | | |

Block Diagram



PFC fosc : 100KHz
PWM fosc : 100KHz

Derating Curve



Static Characteristics

