RSP-320 Series 320W Single Output with PFC Function

MEAN WELL RSP-320 Series 320W Single Output with PFC Function Owner's Manual

Contents

MEAN WELL RSP-320 Series 320W Single Output with PFC Function

Specifications

- **Model:** RSP-320 series
- **Output Power:** 320W
- **Input Voltage:** 88~264VAC
- **Output Voltage:** 2.5V, 3.3V, 4V, 5V, 7.5V, 12V
- **Efficiency:** Up to 90%
- **Protections:** Short circuit, Overload, Over voltage, Over temperature
- **Warranty:** 3 years

Product Usage Instructions

Installation

- Ensure the input voltage matches the specified range (88~264VAC).
- Connect the output terminals to your device following the correct polarity.

Cooling System
The power supply is equipped with a built-in fan for cooling. Ensure proper ventilation around the unit for efficient cooling.

LED Indicator
The LED indicator on the power supply will illuminate when the unit is powered on.

Protections
The power supply includes protections against short circuits, overloads, overvoltages, and over-temperature. In case of any of these events, disconnect the load and troubleshoot before reconnecting.

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

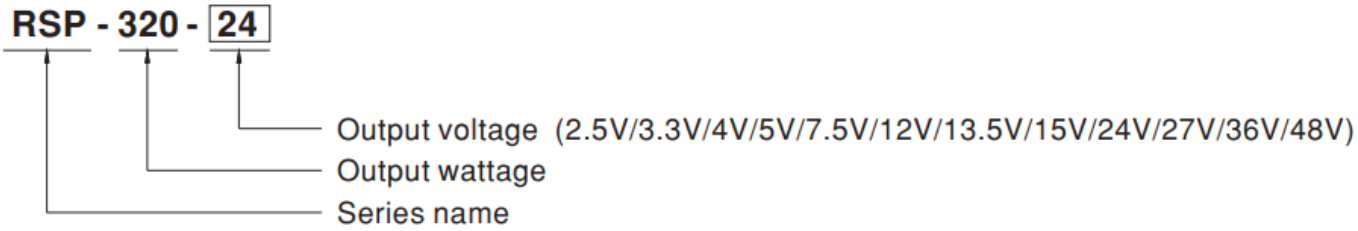
RSP-320 is a 320W single-output enclosed type AC/DC power supply. This series operates for 88~264VAC input voltage and offers the models with the DC output mostly demanded by the industry. Each model is cooled by the built-in fan with fan speed control, working for a temperature up to 70°C.

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

Model Encoding / Order Information



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 ~ 2.85 V	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 1.5 A/230VAC			4A/115VAC 2A/230VAC		
	INRUSH CURRENT (Typ.)	20A/115VAC 40A/230VAC					
	LEAKAGE CURRENT	<1mA / 240VAC					
	OVERLOAD	105 ~ 135% rated output power					
		Protection type : Hiccup mode, recovers automatically after fault condition is removed					

PROTECTION	**OVER VOLTAGE**	2.88 ~ 3.38 V	3.8 ~ 4.5V	4.5 ~ 5.3V	5.75 ~ 6.75 V	9.4 ~ 10.9V	13.8 ~ 16.2 V
		Protection type : Shut down o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down					
ENVIRONMENT	**WORKING TEMP.**	-30 ~ +70℃ (Refer to “Derating Curve”)					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes					
SAFETY & EMC (Note 5)	**SAFETY STANDARDS**	UL62368-1,TUV BS EN/EN62368-1,EAC TP TC 004, CCC GB4943.1,BSMI CNS14336-1, AS/NZS 60950.1, IS13252(Part1)/ IEC60950-1(except for 2.5V,48V),Dekra EN 61558-1/2-16,IEC 61558-1/2-16(for 12V or higher models) 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℃/ 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/EN55035, light industry level, EAC TP TC 020					
OTHERS	**MTBF**	1826.4K hrs min. Telcordia SR-332 (Bellcore) ; 192.9K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	215*115*30mm (L*W*H)					
	PACKING	0.9Kg; 15pcs/14.5Kg/0.67CUFT					

NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12″ twisted pair-wire terminated with a 0.1μF & 47μF parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Derating may be needed under low input voltages. Please check the derating curve for more details. 5. The power supply is considered a component that will be installed into the 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 **https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf**) 6. For charging-related applications, please consult Mean Well for details. 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) 8. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitudes higher than 2000m(6500ft). ※ Product Liability Disclaimer: For detailed information, please refer to **https://www.meanwell.com/serviceDisclaimer.aspx**

MODEL		**RSP-320-13.5**	**RSP-320-15**	**RSP-320-24**	**RSP-320-27**	**RSP-320-36**	**RSP-320-48**
	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

OUTPUT	**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 ~ 18.4 V	18.8 ~ 21.8 V	27.6 ~ 32.4 V	32.9 ~ 38.3 V	41.4 ~ 48.6 V	58.4 ~ 68V
		Protection type : Shut down o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down					
ENVIRONMENT	**WORKING TEMP.**	-30 ~ +70℃ (Refer to “Derating Curve”)					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH					
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	PACKING	0.9Kg; 15pcs/14.5Kg/0.67CUFT
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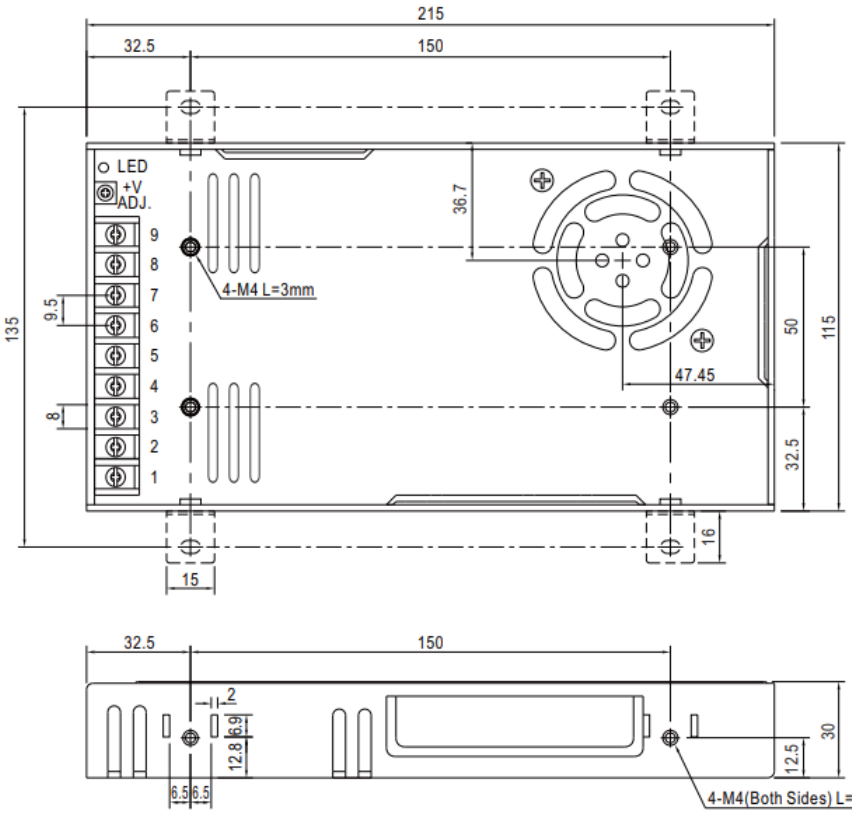
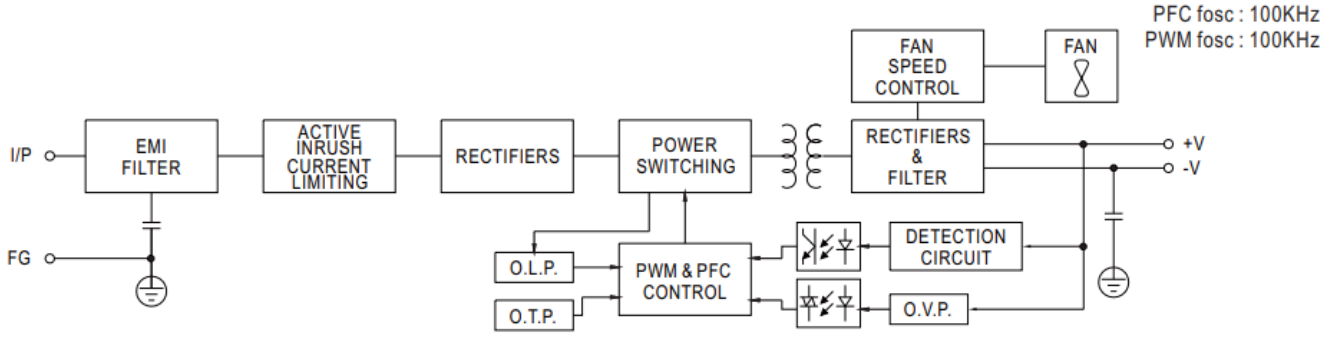
Mechanical Specification



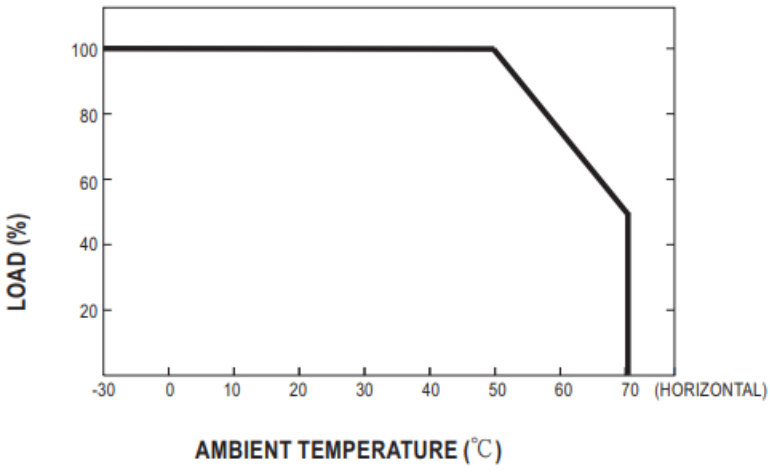
Terminal Pin No. Assignment :

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

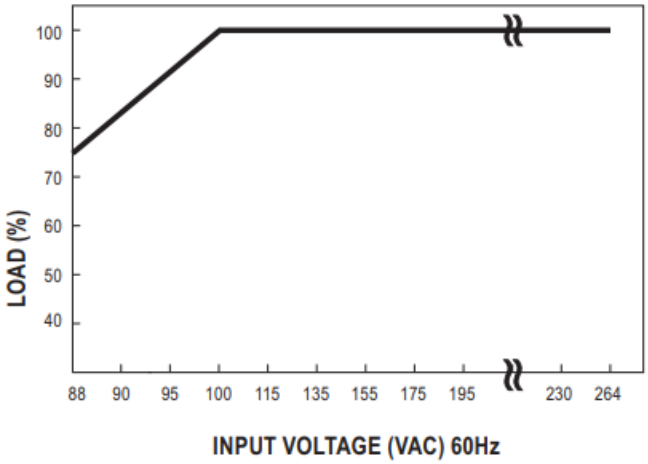
Block Diagram



Derating Curve



Static Characteristics



SCANNER

FAQ

- **Q: What is the warranty period for the RSP-320 series?**
  - A: The warranty for the RSP-320 series is 3 years.
- **Q: What are the applications of the RSP-320 power supply?**
  - A: The power supply is suitable for applications such as factory control, automation apparatus, test and measurement instruments, laser-related machines, burn-in facilities, and RF applications.

Documents / Resources

	MEAN WELL RSP-320 Series 320W Single Output with PFC Function [pdf] Owner's Manual RSP-320 Series, RSP-320 Series 320W Single Output with PFC Function, 320W Single Output with PFC Function, Single Output with PFC Function, Output with PFC Function, PFC Function

References

- TÜV Rheinland - Home | US | TÜV Rheinland
- User Manual