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MEAN WELL

320W Single Output with PFC Function RSP-320 series

User's Manual

Dimension

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

R33100 RoHS CNS14336-1 AS/NZS60950-1 UL62368-1 BS EN/EN62368-1 (only for 5V) GB4943.1

TPTC004 IEC62368-1

Industrial Automate Telecom Network EV

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

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

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℃.

Model Encoding / Order Information

RSP - 320 - 24

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

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320W Single Output with PFC Function

RSP-320 series

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 1.5 A/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
		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 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/EN55024, 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℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf 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 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)
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℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

※ Product Liability Disclaimer：For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

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320W Single Output with PFC Function **RSP-320 series**

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
		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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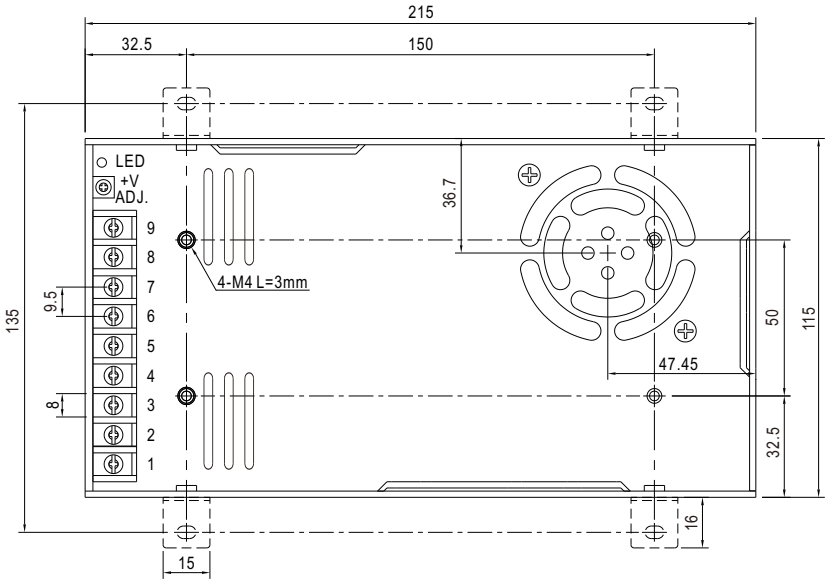
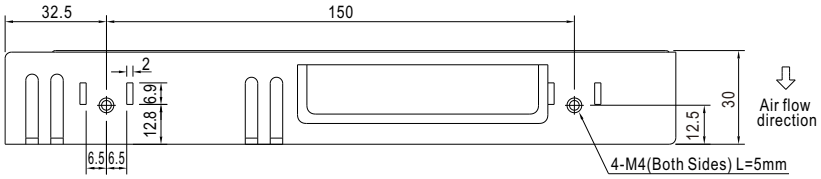
RSP-320 series

320W Single Output with PFC Function

■ Mechanical Specification

Case No.207A Unit:mm



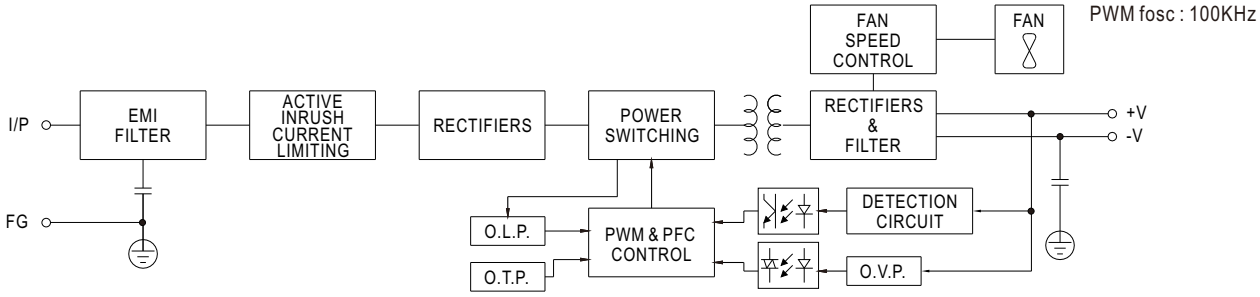


Terminal Pin No. Assignment :

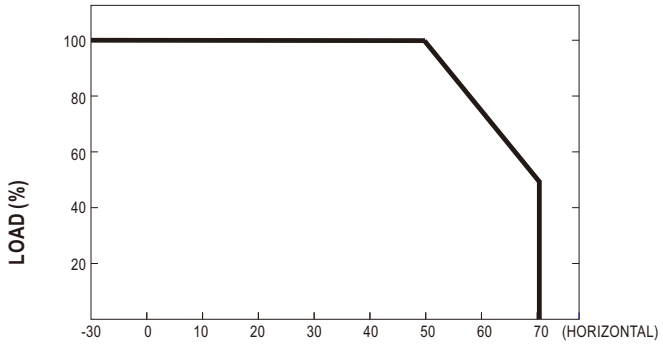
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4~6	DC OUTPUT -V
2	AC/N	7~9	DC OUTPUT +V
3	FG ⏚		

■ Block Diagram

PFC fosc : 100KHz
PWM fosc : 100KHz

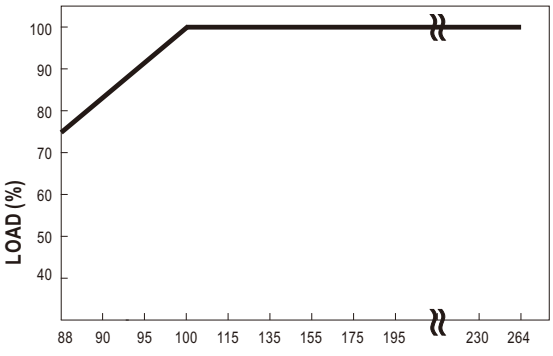


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ Static Characteristics



INPUT VOLTAGE (VAC) 60Hz