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MEAN WELL RSP-100 Series 100W Single Output with PFC Function Owner's Manual

Contents

100W Single Output with PFC Function

RSP-100 series

User's Manual

Dimension

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

R33100 AS/NZS62368-1 UL62368-1 BS EN/EN62368-1
RoHS BS EN/EN61558-1
CNS14336-1 BS EN/EN61558-2-16

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 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

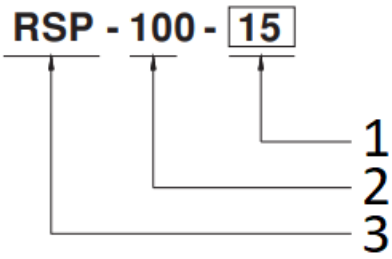
GTIN CODE

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

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



1. Output voltage (3.3V/5V/7.5V/12V/13.5V/15V/24V/27V/48V)
2. Output wattage
3. Series name

SPECIFICATION

MODEL		RSP-100-3.3	RSP-100-5	RSP-100-7.5
OUTPUT	DC VOLTAGE	3.3V	5V	7.5V
	RATED CURRENT	20A	20A	13.5A
	CURRENT RANGE	0 ~ 20A	0 ~ 20A	0 ~ 13.5A
	RATED POWER	66W	100W	101.25W
	RIPPLE & NOISE (max.) Note.2	100mVp-p	100mVp-p	100mVp-p
	VOLTAGE ADJ. RANGE	3.14 ~ 3.63V	4.75 ~ 5.5V	7.13 ~ 8.25V
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±2.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%

	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%
	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		
		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
		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		
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/EN55035, light industry level, EAC TP TC 020
OTHERS	**MTBF**	2325.2K hrs min. Telcordia SR-332 (Bellcore) ; 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	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. 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 **https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf**) 5. Strongly recommended that external output capacitance should not exceed 5000uF.(Only for: RSP-100-3.3/-5/-7.5) 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). ※ Product Liability Disclaimer: For detailed information, please refer to **https://www.meanwell.com/serviceDisclaimer.aspx**	

MODEL	**RSP-100-12**	**RSP-100-13.5**	**RSP-100-15**
DC VOLTAGE	12V	13.5V	15V
RATED CURRENT	8.5A	7.5A	6.7A
CURRENT RANGE	0 ~ 8.5A	0 ~ 7.5A	0 ~ 6.7A
RATED POWER	102W	101.25W	100.5W

OUTPUT	**RIPPLE & NOISE (max.) Note.2**	100mVp-p	100mVp-p	100mVp-p
	VOLTAGE ADJ. RANGE	11.4 ~ 13.2V	12.8 ~ 14.9V	14.3 ~ 16.5V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±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.)	86%	86.5%	87%
	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		
		Protection type : Constant current limiting, recovers automatically after fault condition is removed		
	OVER VOLTAGE	13.2 ~ 16.2V	14.85 ~ 18.23V	16.5 ~ 20.25V
		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		
FUNCTION	**REMOTE CONTROL**	CN1: < 0~0.8VDC POWER ON , 4~10VDC POWER OFF		
	WORKING TEMP.	-30 ~ +70°C (Refer to “Derating Curve”)		

ENVIRONMENT	**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/EN55035, light industry level, EAC TP TC 020
OTHERS	**MTBF**	2325.2K hrs min. Telcordia SR-332 (Bellcore) ; 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

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. 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 **https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf**)
5. Strongly recommended that external output capacitance should not exceed 5000uF.(Only for: RSP-100-3.3/-5/-7.5)
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).

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MODEL		RSP-100-24	RSP-100-27	RSP-100-48
OUTPUT	DC VOLTAGE	24V	27V	48V
	RATED CURRENT	4.2A	3.8A	2.1A
	CURRENT RANGE	0 ~ 4.2A	0 ~ 3.8A	0 ~ 2.1A
	RATED POWER	100.8W	102.6W	100.8W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	250mVp-p
	VOLTAGE ADJ. RANGE	22.8 ~ 26.4V	25.7 ~ 29.7V	45.6 ~ 52.8V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±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.)	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		
		Protection type : Constant current limiting, recovers automatically after fault condition is removed		
	OVER VOLTA	26.4 ~ 32.4V	29.7 ~ 36.45V	52.8 ~ 64.8V

	GE	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
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
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	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
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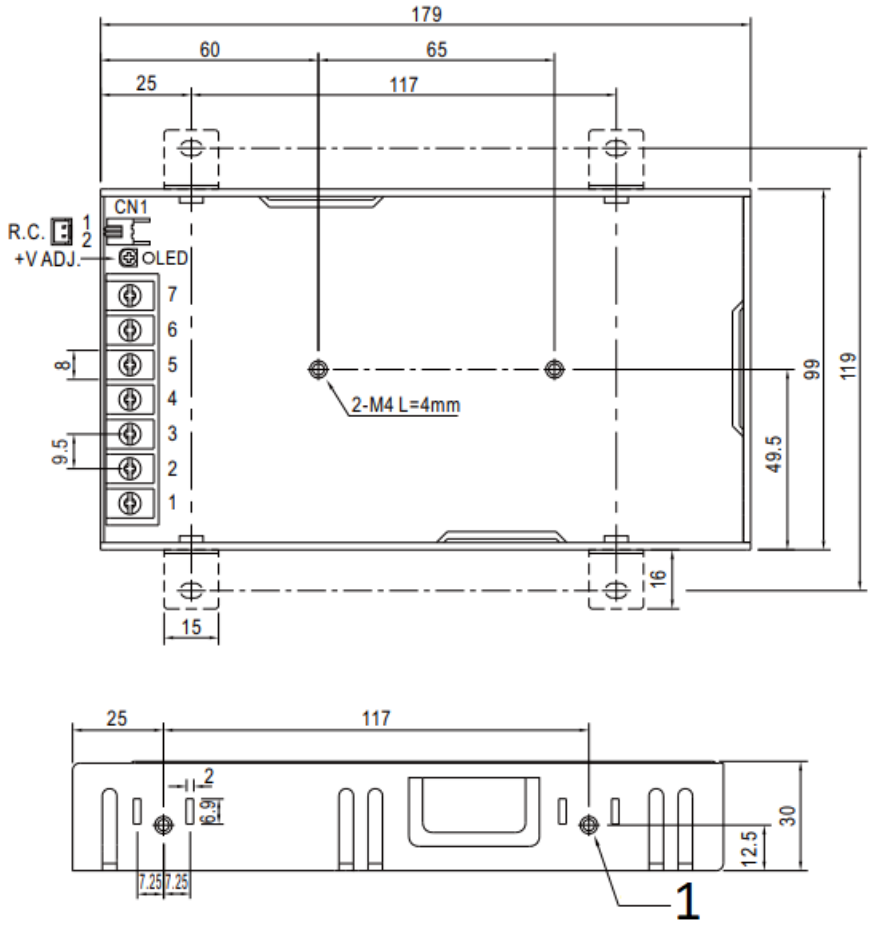
OTHERS	**MTBF**	2325.2K hrs min. Telcordia SR-332 (Bellcore) ; 288.5K hrs min. MIL-HDBK-217F (25°C)
	DIMENSION	179*99*30mm (L*W*H)
	PACKING	0.52Kg; 24pcs/14.5Kg/0.81CUFT

NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 °C of am bient 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. 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 t hese EMC tests, please refer to “EMI testing of component power supplies.” (as available on **https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf**) 5. Strongly recommended that external output capacitance should not exceed 5000uF.(Only for: RSP-1 00-3.3/-5/-7.5) 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). ※ Product Liability Disclaimer: For detailed information, please refer to **https://www.meanwell.com/serviceDisclaimer.aspx**

Mechanical Specification

Case No.227A Unit: mm



1. 4-M4(Both Sides) L=4mm

Terminal Pin No. Assignment

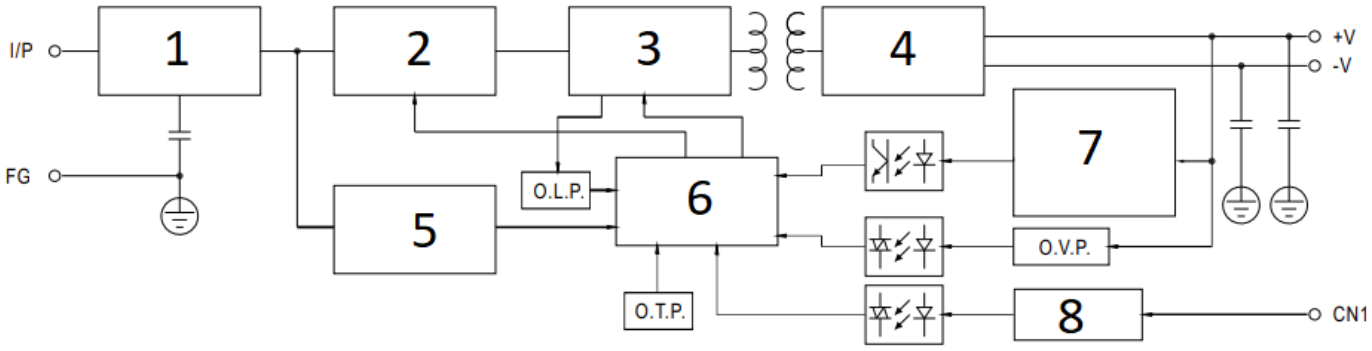
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4,5	DC OUTPUT -V
2	AC/N	6,7	DC OUTPUT +V
3	FG ⏚		

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-		

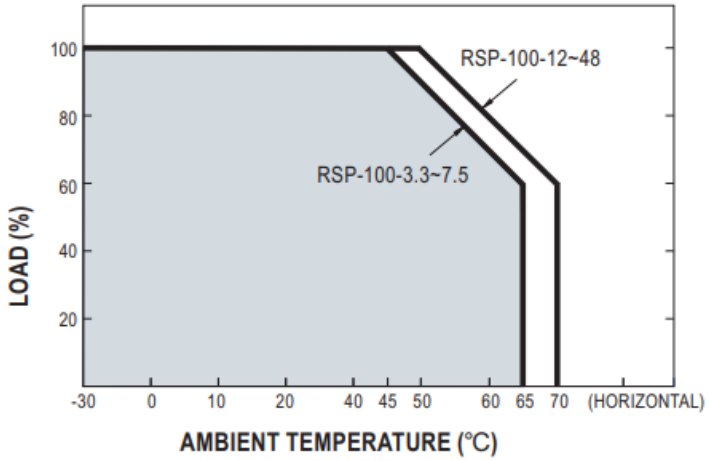
■ Block Diagram

PFC fosc : 100KHz
PWM fosc : 100KHz

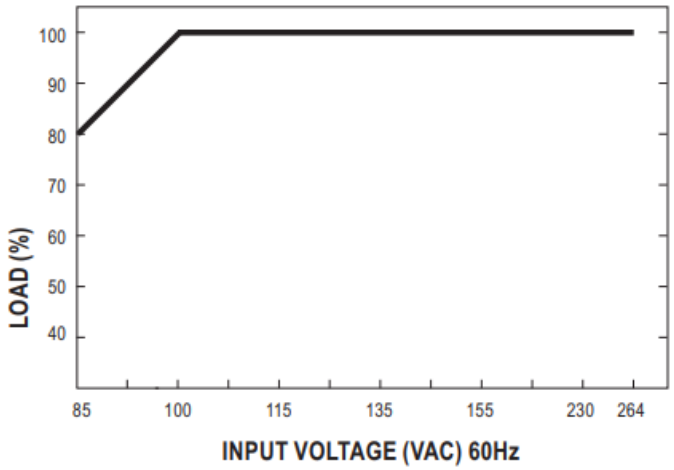


1. EMI FILTER & RECTIFIERS
2. PFC CIRCUIT
3. POWER SWITCHING
4. RECTIFIERS & FILTER
5. ACTIVE START CIRCUIT
6. PWM & PFC CONTROL
7. CONSTANT CURRENT & DETECTION CIRCUIT
8. REMOTE CONTROL

■ Derating Curve



Output Derating VS Input Voltage



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Documents / Resources

	MEAN WELL RSP-100 Series 100W Single Output with PFC Function [pdf] Owner's Manual 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, RSP-100 Series 100W Single Output with PFC Function, 100W Sin gle Output with PFC Function, Single Output with PFC Function, Output with PFC Function, PFC Function, Function

References

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

Manuals+, Privacy Policy

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