MEAN WELL RT-50 series 50W Triple Output Switching Power Supply User Guide

Contents

MEAN WELL RT-50 series 50W Triple Output Switching Power Supply

Specifications

MODEL		RT-50A			RT-50B			RT-50C			RT-50D		
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH1	CH2	CH3	CH1	CH2	CH3	CH1	CH2	CH3
	DC VOLTAGE	5V	12V	-5V	5V	12V	-12V	5V	15V	-15V	5V	24V	12V
	RATED CURRENT	4A	2A	0.5A	4A	2A	0.5A	4A	1.5A	0.5A	3A	1A	1A
	CURRENT RANGE Note.3	0 ~ 5A	0 ~ 2.5A	0 ~ 1A	0 ~ 5A	0 ~ 2.5A	0 ~ 1A	0 ~ 5A	0 ~ 2A	0 ~ 1A	0 ~ 5A	0 ~ 1.5A	0 ~ 1A
	RATED POWER	46.5W			50W			50W			51W		
	RIPPLE & NOISE (max.) Note.2	80mVp-p	120mVp-p	100mVp-p	80mVp-p	120mVp-p	120mVp-p	80mVp-p	120mVp-p	120mVp-p	80mVp-p	150mVp-p	120mVp-p
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V			CH1: 4.75 ~ 5.5V			CH1: 4.75 ~ 5.5V			CH1: 4.75 ~ 5.5V		
	VOLTAGE TOLERANCE Note.3	±2.0%	±8.0%	±3.0%	±2.0%	±8.0%	±3.0%	±2.0%	±8.0%	±3.0%	±2.0%	±8.0%	±6.0%
	LINE REGULATION Note.4	±0.5%	±1.5%	±0.5%	±0.5%	±1.5%	±0.5%	±0.5%	±1.5%	±0.5%	±0.5%	±2.0%	±2.0%
	LOAD REGULATION Note.5	±1.0%	±3.0%	±1.0%	±1.0%	±3.0%	±1.0%	±1.0%	±3.0%	±1.0%	±1.0%	±3.0%	±4.0%
	SETUP, RISE TIME	500ms, 20ms/230VAC 1200ms, 30ms/115VAC at full load											
	HOLD UP TIME (Typ.)	60ms/230VAC 10ms/115VAC at full load											
INPUT	VOLTAGE RANGE	88 ~ 264VAC 125 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage)											
	FREQUENCY RANGE	47 ~ 63Hz											
	EFFICIENCY (Typ.)	75.5%			75.5%			76%			78%		
	AC CURRENT (Typ.)	1.3A/115VAC 0.8A/230VAC											
	INRUSH CURRENT (Typ.)	COLD START 48A/230VAC											
	LEAKAGE CURRENT	<2mA / 240VAC											
PROTECTION	OVERLOAD	110 ~ 150% rated output power											
		Protection type : Hiccup mode, recovers automatically after fault condition is removed											
	OVER VOLTAGE	CH1: 5.75 ~ 6.75V											
		Protection type : Hiccup mode, recovers automatically after fault condition is removed											
ENVIRONMENT	WORKING TEMP.	-25 ~ +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℃)on +5V output											
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes											

SAFETY & EMC (Note 6)	SAFETY STANDARDS	UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004 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
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55035,BS EN/EN61000-6-2 (BS EN/EN50082-2), heavy industry level, EAC TP TC 020
OTHERS	MTBF	2788.1K hrs min. Telcordia SR-332 (Bellcore) ; 504.7K hrs min. MIL-HDBK-217F (25℃)
	DIMENSION	99*97*36mm (L*W*H)
	PACKING	0.41Kg; 45pcs/19.5Kg/0.94CUFT
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, when multi-channel output, it is recommended that CH1 load > 10%. 4. Line regulation is measured from low line to high line at rated load. 5. Load regulation is measured from 0% to 100% rated load. 6. 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) 7. 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	

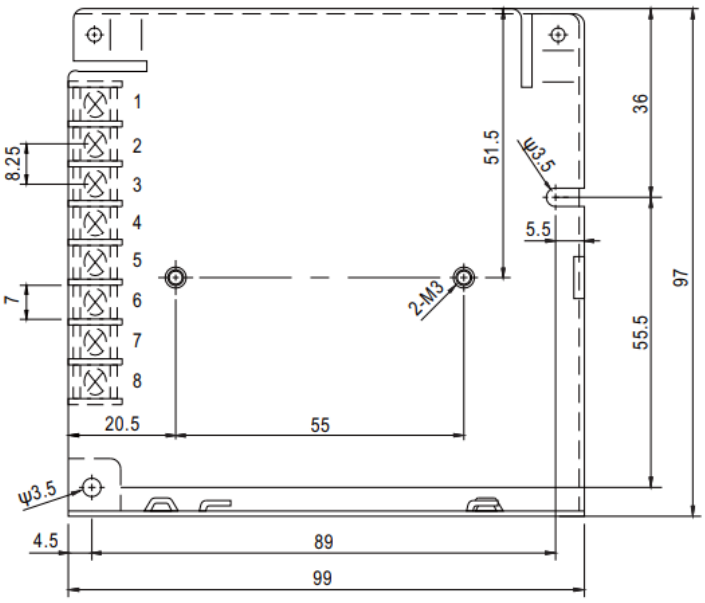
NOTE

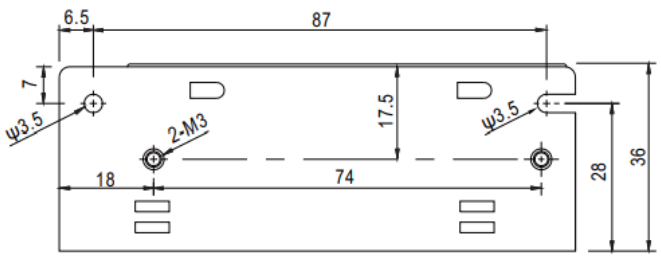
Model Options and Output

The RT-50 series is available in four models:

- **RT-50A:** Output – CH1: 5V, CH2: 12V, CH3: -5V
- **RT-50B:** Output – CH1: 5V, CH2: 12V, CH3: -12V
- **RT-50C:** Output – CH1: 5V, CH2: 15V, CH3: -15V
- **RT-50D:** Output – CH1: 5V, CH2: 24V, CH3: 12V

Mechanical Specification

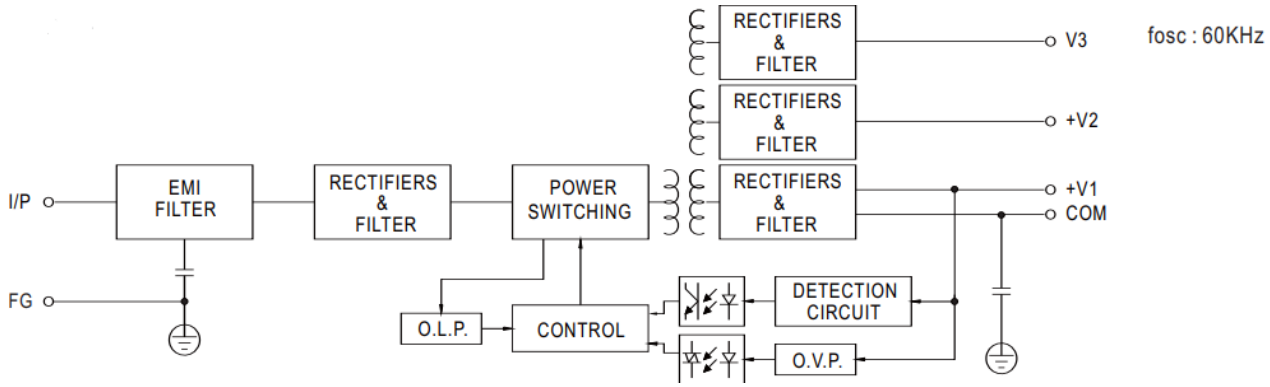




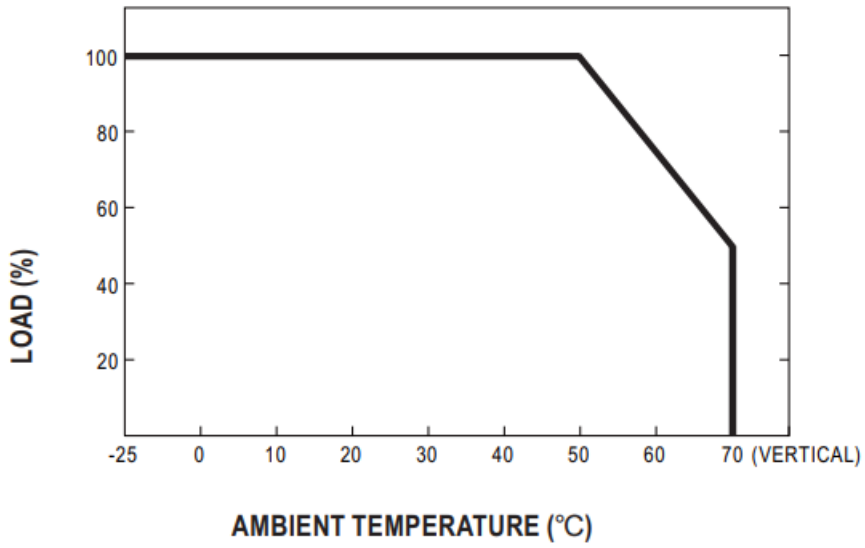
Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5	DC OUTPUT V3
2	AC/N	6	DC OUTPUT +V2
3	FG ⏚	7	DC OUTPUT COM
4	NC	8	DC OUTPUT +V1

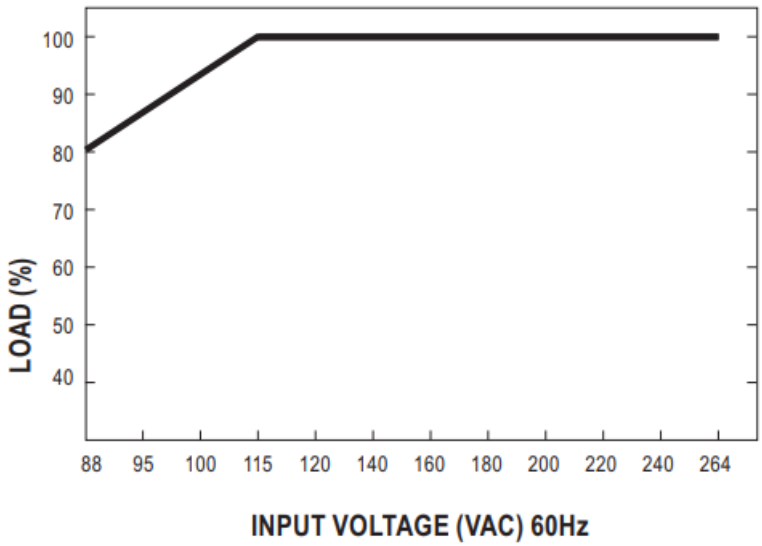
Block Diagram



Derating Curve



Output Derating VS Input Voltage



Documents / Resources

	MEAN WELL RT-50 series 50W Triple Output Switching Power Supply [pdf] User Guide RT-50 series 50W Triple Output Switching Power Supply, RT-50 series, 50W Triple Output Switching Power Supply, Triple Output Switching Power Supply, Output Switching Power Supply, Switching Power Supply, Power Supply, Supply

References

- MEAN WELL Switching Power Supply Manufacturer
- Global Trade Item Number (GTIN)-MEAN WELL Switching Power Supply Manufacturer
- User Manual