

90W AC-DC Open Frame Power Supply Series**■ Features :**

- Universal AC input / Full range(90~264VAC)
- Protections: Short circuit / Over current / Over voltage
- Low cost and non PFC function
- Cooling by free air convection
- LED indicator for power on
- Fixed Output current level
- 100% full load burn-in test&High reliability
- Standby Power<0.5W,fully compliance with EU ERP& CoC version 5
- Suitable for all kinds of equipments
- 3 years warranty

■ Applications :

- Industrial automation machinery
- Industrial control system
- Mechanical and electrical equipment
- Electronic instruments,equipments or apparatus

■ Description :

GRT-90WL is a 90W highly reliable green PCB type power supply with a high power density .

It accepts 80~264VAC input and offers various output voltages between 12V and 48V. The working efficiency is up to 91 % and the extremely low no load power consumption is down below 0.5W. GRT-90WL is able to be used for both Class I (with FG) and Class II(no FG) system design. GRT-90WL has the complete protection functions; it is complied with the international safety regulations such as TUV BS EN/EN62368-1, UL62368-1 and IEC62368- 1. GRT-90WL series serves as a high price-to-performance power supply solution for various industrial applications.

■ Specification

MODEL		GRT-90WL-12	GRT-90WL-15	GRT-90WL-24	GRT-90WL-48	
OUTPUT	DC VOLTAGE	12V	15V	24V	48V	
	CURRENT	Peak(10 sec.)	7.37A	6.23A	4.13A	2.07A
		Convection	6.7A	5.67A	3.75A	1.88A
	RATED	Peak(10 sec.) <small>Note.2</small>	88.4W	93.5W	99W	99.2W
		Convection	80.4W	85.05W	90W	90.2W
	RIPPLE & NOISE (max.) <small>Note.3</small>	120mVp-p	150mVp-p	200mVp-p	240mVp-p	
	VOLTAGE TOLERANCE <small>Note.4</small>	±2.0%	±2.0%	±2.0%	±2.0%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±1.0%	±0.5%	±0.5%	±0.5%	
	SETUP, RISE TIME	1000ms, 30ms/230VAC	1000ms, 30ms/115VAC at full load			
HOLD UP TIME (Typ.)	30ms/230VAC	10ms/115VAC at full load				
INPUT	VOLTAGE RANGE <small>Note.5</small>	80 ~ 264VAC	113 ~ 370VDC			
	FREQUENCY RANGE	47 ~ 63Hz				
	EFFICIENCY (Typ.)	92%	92.5%	93%	93%	
	AC CURRENT (Typ.)	1.9A/115VAC	1.1A/230VAC			
	INRUSH CURRENT (Typ.)	COLD START	30A/115VAC	65A/230VAC		
	LEAKAGE CURRENT (max.) <small>Note.6</small>	Touch current <100µA/264VAC				
PROTECTION	OVERLOAD	115% ~ 160% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE	12.6 ~ 16.2V	15.8 ~ 20.3V	25.2 ~ 32.4V	50.4 ~ 64.8V	
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover				
ENVIRONMENT	WORKING TEMP.	-30 ~ +80°C (Refer to "Derating Curve")				
	WORKING HUMIDITY	20 ~ 90% RH non-condensing				
	STORAGE TEMP.	-40 ~ +85°C				
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)				
	SOLDERING TEMPERATURE	Wave soldering: 265°C, .5s (max.); Manual soldering: 390°C, .3s (max.)				
	VIBRATION	Blank:10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes ST:10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes				
	OPERATING ALTITUDE <small>Note.7</small>	4000 meters / OVC II				
SAFETY & EMC <small>(Note 8)</small>	SAFETY STANDARDS	IEC60601-1, BS EN/EN60601-1, EAC TP TC 004, UL ANSI/AAMI ES60601-1(3.1 version), CAN/CSA-C22 3rd Edition approved;				
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP				
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC				
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH				
	EMC EMISSION	Parameter	Standard		Test Level / Note	
		Conducted	BS EN/EN55011 (CISPR11)		Class B	
		Radiated	BS EN/EN55011 (CISPR11)		Class B	
		Harmonic Current	BS EN/EN61000-3-2		Class A	
		Voltage Flicker	BS EN/EN61000-3-3		-----	
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN60601-1-2				
		Parameter	Standard		Test Level / Note	
		ESD	BS EN/EN61000-4-2		Level 4, 15KV air ; Level 4, 8KV contact	
		RF field susceptibility	BS EN/EN61000-4-3		Level 3, 10V/m(80MHz~2.7GHz)	
		EFT bursts	BS EN/EN61000-4-4		Level 3, 2KV	
		Surge susceptibility	BS EN/EN61000-4-5		Level 3, 1KV/Line-Line	
Conducted susceptibility		BS EN/EN61000-4-6		Level 3, 10V		
Magnetic field immunity		BS EN/EN61000-4-8		Level 4, 30A/m		
Voltage dip, interruption	BS EN/EN61000-4-11		>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods			
OTHERS	MTBF	4548.9K hrs min. Telcordia SR-332 (Bellcore) ; 570.5K hrs min. MIL-HDBK-217F (25°C)				
	DIMENSION	PCB mounting style : 123*77*30mm (L*W*H)		Screw terminal style : 109*52*33.5mm (L*W*H)		
	PACKING	PCB mounting style : 0.197Kg;60pcs/12.8Kg/0.94CUFT		Screw terminal style :0.219Kg;50pcs/12Kg/0.56CUFT		

Remarks:

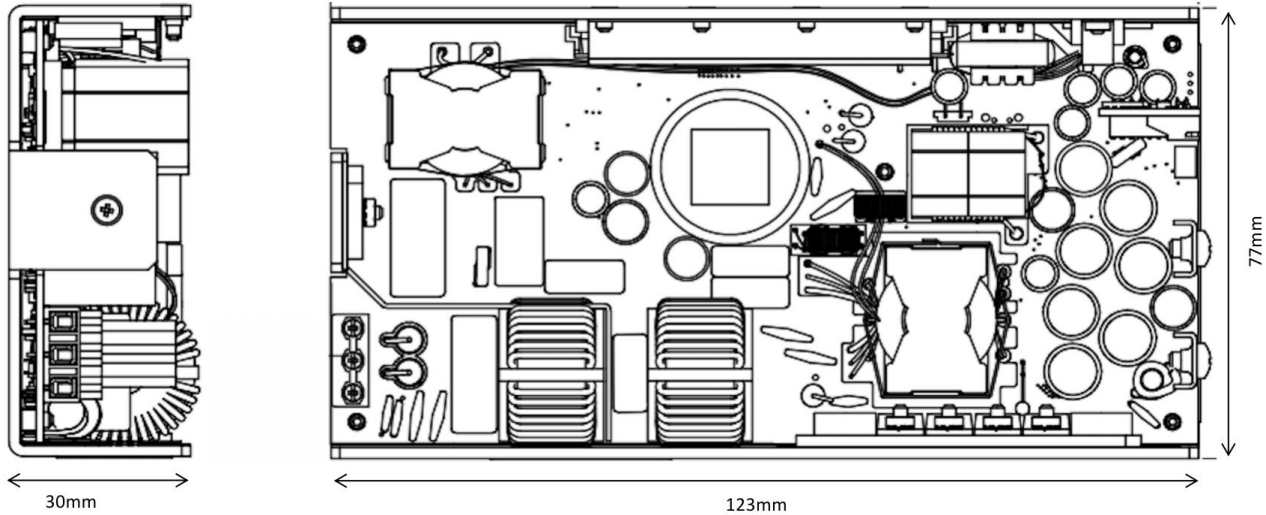
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltages. Please check the derating curve for more details.

5. Touch current was measured from primary input to DC output.

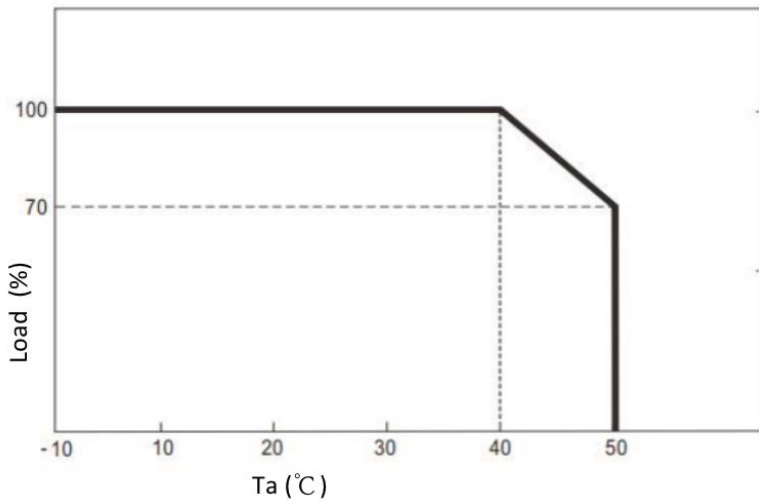
6. The power supply is considered a component which will be installed into a final equipment. All the Class I (with FG) EMC test are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The Class I (without FG) EMC test is been executed by mounting the unit on a 130mm*86.6mm metal plate with 1mm of thickness. 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.greatpwr.com>)

7. The ambient temperature derating of 3.5C/1000m with fanless models and of 5'C/1000m with fan models for operating altitude higher than 2000m(650ft).

■ Dimension(mm)



■ Derating Curve



■ Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.