YMR90 SERIES 90W

YMR90 series is a 90W smaller module power supply adopting the full range:85-305VAC/120~370VDC input. The series has extremely low no-load power consumption below 0.3W. High efficiency up to 91.5% to reduce power loss

The series cost-effective,, high reliability,operates from-30 ~85℃.A variety of appearance sizes are available for easy installation and use.

These converfers offer excellent EMC performance and meet internation standards , ready to be soldered onto the PCB boards of Industrial design,household appliances, communication equipment, testing instruments and other electronic instruments

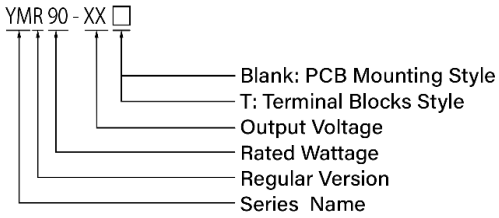
Features

- Universal Input: 85~305VAC/120~370VDC
- Compact Size Design
- Low no-load power consumption
- Low Ripple & Noise, high efficiency
- Protection:Short Circuit/Over Current/ Over Voltage
- Three Years Warranty

Model Information

Yingjiao Part Number	DC Voltage	Rated Current	Rated Power	Max.Capacitive Load
YMR90-12□	12V	6.67A	80.04W	6800uF
YMR90-15□	15V	5.67A	85.05W	4500uF
YMR90-24□	24V	3.75A	90W	3000uF
YMR90-48□	48V	1.88A	90.2W	470uF

Model Encoding



Input

VOLTAGE RANGE	85~305VAC/120~370VDC	
RATED VOLTAGE RANGE	100~277VAC/120~370VDC	
FREQUENCY RANGE	47-63Hz	
NO LOAD POWER CONSUMPTION	0.3W MAX	
AVERAGE EFFICIENCY(Typ.)	89.5%	YMR90-12□
	90.5%	YMR90-15□
	91.0%	YMR90-24□
	91.5%	YMR90-48□
AC CURRENT(Typ.)	1.9A/115VAC	
	1.1A/230VAC	
INRUSH CURRENT(Typ.)	Cold Start 40A/115VAC	
	Cold Start 100A/230VAC	
LEAKAGE CURRENT	<0.25mA/264VAC,50Hz	

Output

RIPPLE & NOSE(max.)	120mVp-p	YMR90-12□
	150mVp-p	YMR90-15□
	200mVp-p	YMR90-24□
	360mVp-p	YMR90-48□
VOLTAGE TOLERANCE	±2.0%	
LINE REGULATION	±0.5%	
LOAD REGULATION	±1.0%	YMR90-12□
	±0.5%	YMR90-15□
	±0.5%	YMR90-24□
	±0.5%	YMR90-48□
SETUP,RISE TIME	500ms, 50ms/230VAC at full load	
	500ms, 50ms/115VAC at full load	
HOLD UP TIME (Typ.)	50ms/230VAC at full load	
	12ms/115VAC at full load	

Protection

OVER CURRENT	105%-160% Rated Output current
	Protection type: Hiccup mode,
	recovers automatically after current goes down
SHORT CIRCUIT	Protection type: Hiccup mode,
	recovers automatically after fault condition is removed
OVER VOLTAGE	YMR90-12□: 12.6 ~ 16.5V
	YMR90-15□: 15.75 ~ 24V
	YMR90-24□: 25.2 ~ 34V
	YMR90-48□: 50.4 ~ 65V
	Protection type: Shut off o/p voltage, clamping by zener diode

Environment

WORKING TEMP.	-30℃ to +85℃ (Full load can be operated at -30℃ to 50℃
	while load should be reduced at 50℃ to 85℃.
	Refer to"Derating Curve".)
WORKING HUMIDITY	20 ~ 90% RH Non-Condensing
STORAGE TEMP, HUMIDITY	- 40℃ ~ +85℃,10 ~ 95% RH non-condensing
TEMP. COEFFICIENT	± 0.03%/℃(0~50℃)
VIBRATION	PCB mounting:10~ 500Hz, 2G 10min./1cycle, period for 60min.
	each along X, Y, Z axes
	Terminal Blocks:10~500Hz, 5G 10min./1cycle, period for 60min.
	each along X, Y, Z axes
SOLDERING TEMPERATURE	Wave soldering:265℃,5s(max.)
	Manual soldering:390℃,3s(max.)
OVER VOLTAGE CATEGORY	II; According to EN62368-1; altitude up to 2000 meters
SAFETY PROTECTION	CLASS II
ALTITUDE APPLICATION	2000m
MTBF	> 500K hrs min. MIL-HDBK-217F (25℃)

SAFETY

SAFETY STANDARDS	IEC/UL62368-1, IEC60335-1 safety approval
WITHSTAND VOLTAGE	I/P-O/P:4.00KVAC/1min
ISOLATION RESISTANCE	I/P-O/P:100M Ohms/ 500VDC/25 ℃/70% RH

EMC

	Parameter	Standard	Test Level/Note
EMC EMISSION	Conducted	BS EN/EN55014-1	CLASS B
	Radiated	BS EN/EN55014-1	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/EN61000-6-2, BS EN/EN55014-2		
	Parameter	Standard	Test Level/Note
	ESD	BS EN/EN61000-4-2	Level 3, 8KV air; Level 2, 4KV contact, criteria B
	Radiated Susceptibility	BS EN/EN61000-4-3	Level 3, criteria A
	EFT/Burest	BS EN/EN61000-4-4	Level 2, criteria B
	Surge	BS EN/EN61000-4-5	Level 2, 1KV/L-N, criteria B
	Conducted	BS EN/EN61000-4-6	Level 2, criteria A
	Magnetic Field	BS EN/EN61000-4-8	Level 2, criteria A
	Voltage Dips and interruptions	BS EN/EN61000-4-11	> 95% dip 0.5 periods, 30% dip 25 periods, > 95% interruptions

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 0.1μF & 47μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. 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).
5. The power supply is considered as an independent unit ,but the final equipment still need to re-confirm that the whole system complies with the EMC directives.
6. 33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.
7. Leakage current was measured from primary input to DC output.

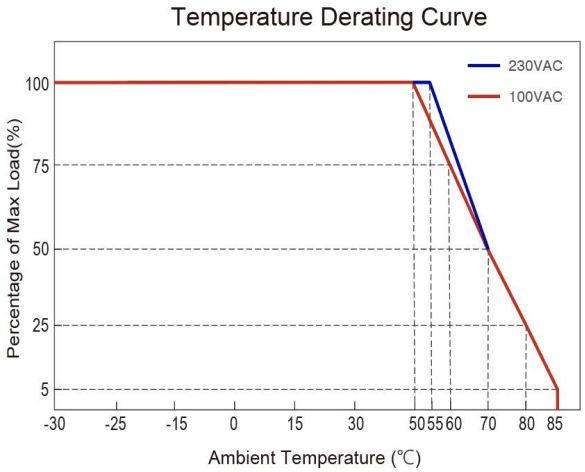
PHYSICAL PROPERTY

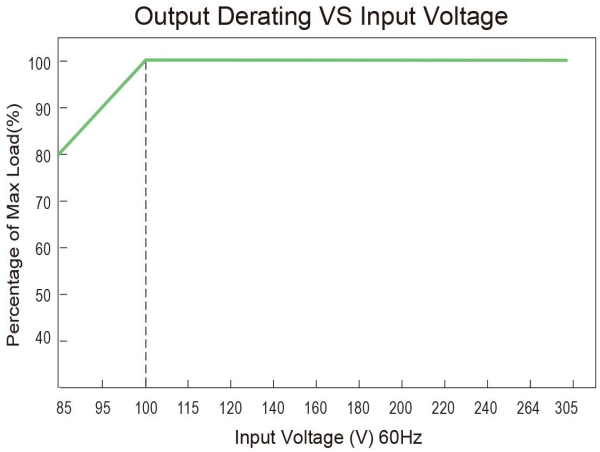
LENGTH*WIDTH*HEIGHT:	87mm*52mm*30mm/3.43in*2.05in*1.18in;PCB mounting style
	109.3mm*52.7mm*33.9mm
	4.3in*2.07in*1.33in; Terminal Blocks style
WEIGHT:	195g(PCB mounting style)
	260g(Terminal Blocks style)
COOLING METHOD:	Natural Air Cooling
TEXTURE:	Black flame retardant and heat resistant plastic

Packing

Carton Size:	48 × 27.5 x 16 cm/18.9 x 10.83 x 6.3 in; PCB mounting style
	31.5 × 24.5 x 22 cm/ 12.4 x 9.65 x 8.66 in; Terminal Blocks style
Master Carton Quantities:	50pcs/Carton(PCB mounting and Terminal Blocks style)

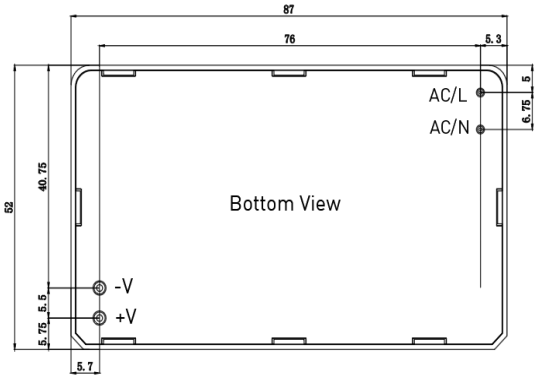
Curve

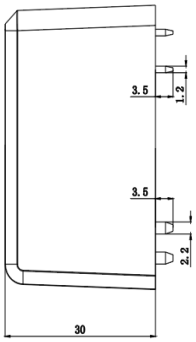


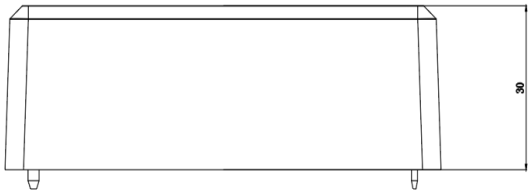


Dimensions and Installation

third-angle projection

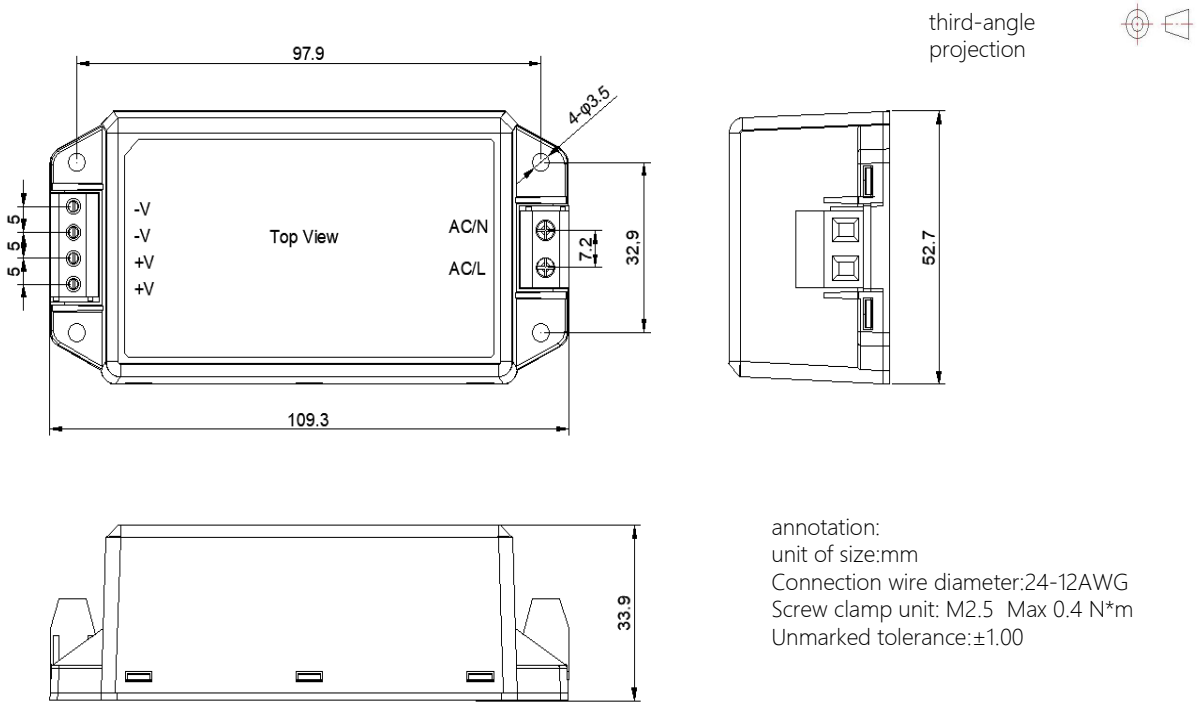






annotation:
unit of size:mm
Pin diameter tolerances:±0.10
General tolerances:±0.50

YMR90T external dimension



annotation:
unit of size:mm
Connection wire diameter:24-12AWG
Screw clamp unit: M2.5 Max 0.4 N*m
Unmarked tolerance:±1.00

Functional Diagram