

# YMR90 SERIES

## 90W



YMR90 is a 90W miniature (87\*52\*30mm) AC-DC module-type power supply, ready to be soldered onto the PCB boards of various kinds of electronic instruments or industrial automation equipments. This product allows the universal input voltage range of 85~305VAC.

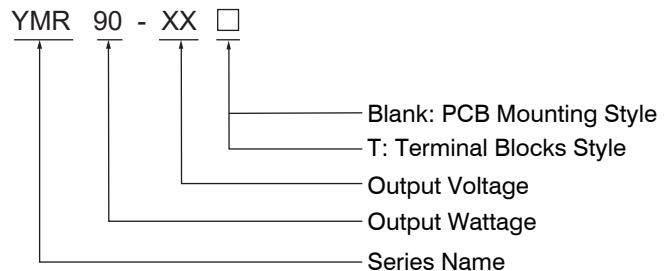


RoHS CE

## Features

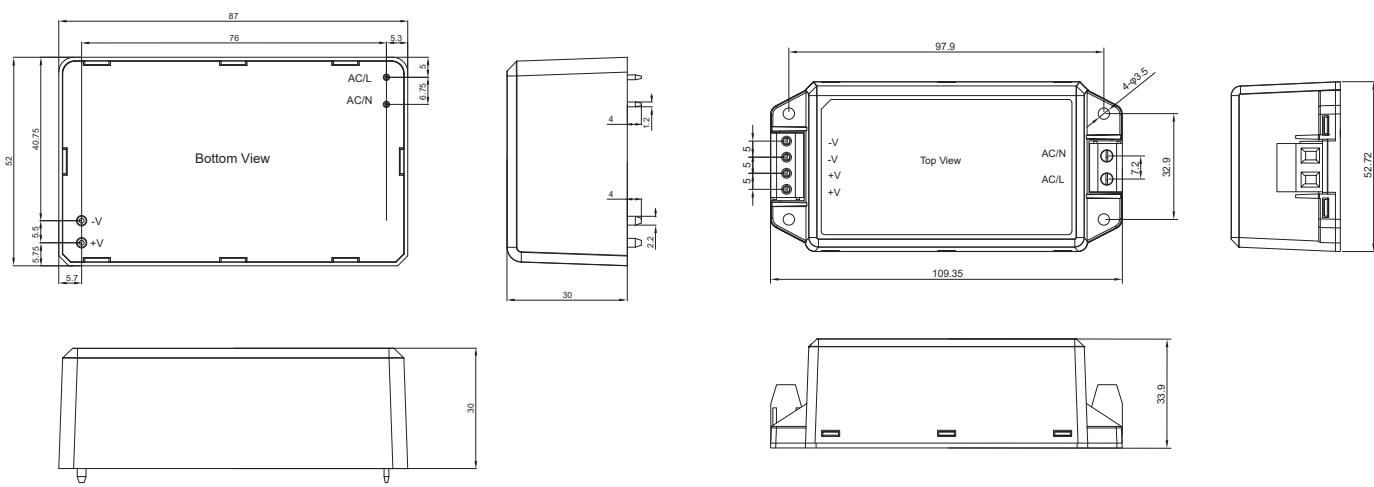
- Universal AC Input/ Full Range
- No load power consumption<0.15W
- Wide operating temperature range -30~85°C
- High efficiency up to 91.5%
- Protections: Short circuit/Over load/Over voltage
- Isolation Class II
- Three years warranty

## Model Description



## Dimensions and installation

(Unit: mm, tolerance:  $\pm 0.5$ mm)



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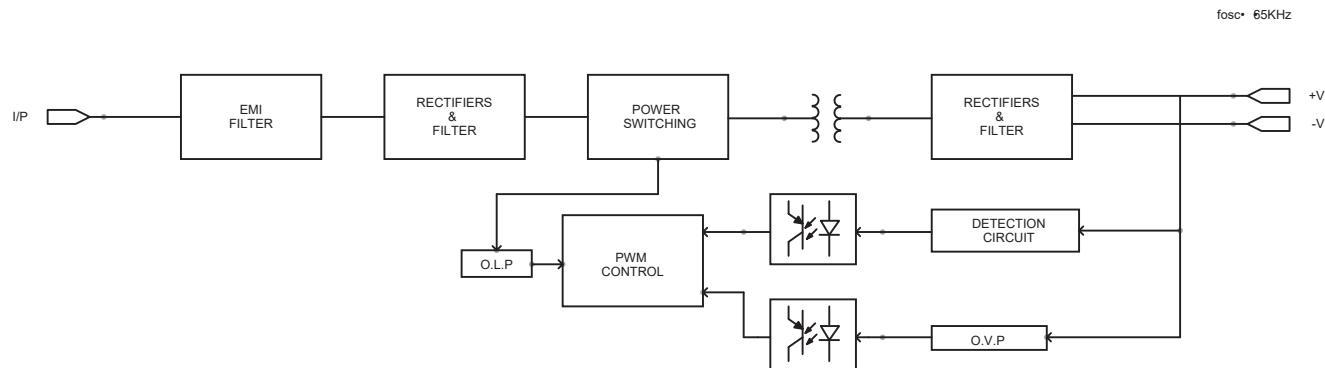
## Specification

Model	Safety Model No.	YMR90-12□	YMR90-15□	YMR90-24□	YMR90-48□		
Output	<b>DC Voltage</b>	12V	15V	24V	48V		
	<b>Rated Current</b>	6.7A	5.67A	3.75A	1.88A		
	<b>Rated Power</b>	80.4W	85.05W	90W	90.2W		
	<b>Ripple &amp; Noise(max.)</b>	120mVp-p	150mVp-p	200mVp-p	360mVp-p		
	<b>Voltage Tolerance</b>	±2.0%	±2.0%	±2.0%	±2.0%		
	<b>Line Regulation</b>	±0.5%	±0.5%	±0.5%	±0.5%		
	<b>Load Regulation</b>	±1.0%	±0.5%	±0.5%	±0.5%		
	<b>Max.Capacitive Load</b>	6800uF	4500uF	3000uF	470uF		
	<b>Setup,Rise,Hold up Time</b>	0.5s,50ms,50ms/230VAC(at full load)		0.5s,50ms,12ms/115VAC(at full load)			
Input	<b>Rated Voltage Range</b>	100-277VAC					
	<b>Voltage Range</b>	85-305VAC/120-430VDC					
	<b>Frequency Range</b>	47-63Hz					
	<b>AC Current</b>	2.0A/115VAC	1.1A/230VAC	0.9A/277VAC			
	<b>Inrush Current</b>	Cold Start 100A/800us at 230VAC 50Hz		Cold Start 40A/800us at 115VAC 50Hz			
	<b>Leakage Current</b>	<0.25mA/277VAC					
	<b>Efficiency</b>	89.5%	90.5%	91%	91.5%		
	<b>No Load Power Consumption</b>	<0.15W					
Protection	<b>Over Load</b>	105~160%					
		Hiccup mode, recovers automatically after fault condition is removed.					
	<b>Short Circuit</b>	Hiccup mode, recovers automatically after fault condition is removed.					
Ambient	<b>Over Voltage</b>	12.6 ~ 16.5V	15.75 ~ 24V	25.2 ~ 34V	50.4 ~ 65V		
		Shut off o/p voltage, clamping by zener diode					
Safety	<b>Working TEMP.</b>	-30 ~ +85 °C (Refer to "Derating Curve".)					
	<b>Working Humidity</b>	20 ~ 90%RH Non-condensing					
	<b>Storage TEMP. Humidity</b>	-40 ~ +85 °C, 10 ~ 95%RH Non-condensing					
	<b>TEMP. Coefficient</b>	±0.03%/(0 ~ 40 °C)					
	<b>Vibration</b>	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					
	<b>Soldering Temperature</b>	Wave soldering: 265 °C, 5s(max.); Manual soldering: 390 °C, 3s(max.)					
	<b>Over Voltage Category</b>	OVC II; According to EN62368-1; altitude up to 2000 meters					
EMC	<b>EMC Emission</b>	Parameter	Standard	Test Level			
		Conducted	EN IEC 55014-1	CLASS B			
		Radiated	EN IEC 55014-2	CLASS B			
		Harmonic Current	EN61000-3-2	CLASS A			
		Voltage flicker	EN61000-3-3	.....			
	<b>EMC Immunity</b>	EN IEC 55014-1, EN IEC 55014-2					
		Parameter	Standard	Test Level			
		ESD	EN61000-4-2	Level 3, 8KV air, Level 2, 4KV contact criteria B			
		Radiated Susceptibility	EN61000-4-3	Level 3, criteria A			
		EFT/Burst	EN61000-4-4	Level 2, criteria B			
		Surge	EN61000-4-5	Level 2, 1KV/L-N, criteria B			
		Conducted	EN61000-4-6	Level 2, criteria A			
		Magnetic Field	EN61000-4-8	Level 2, criteria A			
Others	<b>Voltage Dips and interruptions</b>		EN61000-4-11	0%UT 0.5 periods, 40%UT 10/12 periods 70%UT 25/30 periods			
	<b>Weight</b>	PCB Mounting: 220g/pcs; Terminal Blocks: 285g/pcs					
	<b>Packing</b>	PCB Mounting: 48×27.5×16cm 50pcs/Carton; Terminal Blocks: 31.5×24.5×22cm 50pcs/Carton					
	<b>Dimension (LxWxH)</b>	PCB Mounting: 87 × 52 × 30 mm; Terminal Blocks: 109.35 × 52.72 × 33.9 mm					
Note	<b>MTBF</b>	755.4Khrs min. MIL-HDBK-217F(25 °C)					
		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 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). 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. For guidance on how to perform these EMC tests,please refer to "EMI testing of component power supplies". (as available on <a href="https://yingjiao.com/wp-content/uploads/2025/06/EMI_Testing_of_Component_Power_Supplies_Yingjiao.pdf">https://yingjiao.com/wp-content/uploads/2025/06/EMI_Testing_of_Component_Power_Supplies_Yingjiao.pdf</a> )					

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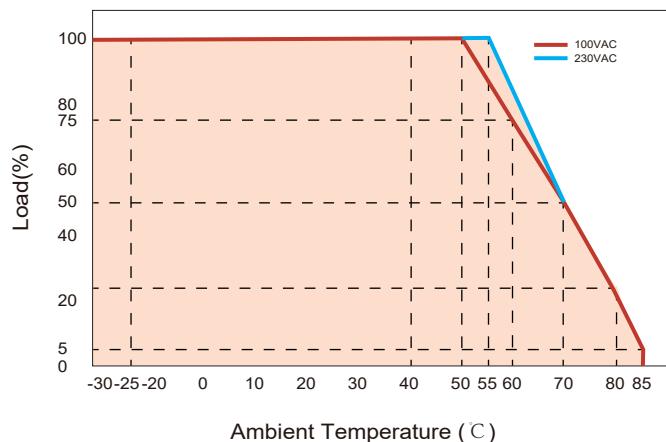
## 90W

### Block Diagram



### Engineering Data

#### Derating Curve



#### Static Characteristics

