

Features

- Ultra-wide Voltage Input Range 85~305V AC
- Compact Size Design
- Operating Temperature: 30°C~+85°C
- Low no-load Power Consumption
- Low Ripple & Noise, High Efficiency
- Protection: SCP, OCP, OVP
- Three Years Warranty



Certified to UKCA, CE, CB, cURus, RoHS, & REACH Standards and complies with Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request

Model Number Information

| | | | |
|--------------|---------------|----------------|---|
| 56YMR | 15 | xx | □ |
| Series Name | Rated Wattage | Output Voltage | : PCB Mounting Style T: Terminal Block |

Models

| Model Number | DC Voltage (V) | Rated Current (A) | Rated Power (W) | Efficiency (%) | Max. Capacitive Load (uF) | Ripple & Noise (mVp-p) |
|--------------|----------------|-------------------|-----------------|----------------|---------------------------|------------------------|
| 56YMR90-12 □ | 12 | 6.7 | 80.4 | 92.0 | 6800 | 120 |
| 56YMR90-15 □ | 15 | 5.67 | 85.05 | 92.5 | 4500 | 150 |
| 56YMR90-24 □ | 24 | 3.75 | 90 | 93.0 | 3000 | 200 |
| 56YMR90-48 □ | 48 | 1.88 | 90.2 | 93.0 | 470 | 240 |

Input Specifications

| | |
|---------------------------|--|
| Input Voltage | 85~305V AC |
| Rated Voltage Range | 100~277V AC |
| Frequency Range | 47-63Hz |
| No Load Power Consumption | 0.3W MAX |
| AC Current | 1.9A at 115VAC / 1.1A at 230VAC |
| Inrush Current | Cold Start 30A at 115V AC / 65A at 230V AC |
| Leakage Current | < 0.25mA / 264V AC, 50Hz |

Output Specifications

| | | |
|-------------------|---|------------|
| Voltage Tolerance | ±2.0% | All Models |
| Line Regulation | ±0.5% | All Models |
| Load Regulation | ±1.0% | 12V |
| | ±0.5% | Others |
| Set up | 1000ms, 30ms at 230V AC at full load | |
| Rise Time | 1000ms, 30ms at 115V AC at full load | |
| Hold up Time | 50ms at 230V AC at full load / 12ms at 115V AC at full load | |

Protection

| | | |
|---------------|--|-----|
| Over Current | 115%-160% Rated Output current, Protection type: Hiccup mode, recovers automatically after current goes down | |
| Short Circuit | Hiccup mode, recovers automatically after fault condition is removed | |
| Over Voltage | 12.6-16.5v | 12v |
| | 15.75-24v | 15v |
| | 25.2-34v | 24v |
| | 50.4-65v | 48v |
| | Protection type: Shut off o/p voltage, clamping by zener diode | |

Environmental Characteristics

| | |
|-------------------------|--|
| Working Temp | -30 °C to +85 °C (Refer to "Derating Curve") |
| Working Humidity | 20~90% RH non-condensing |
| Storage Temp., Humidity | - 40°C~+85°C, 10 ~ 95% RH non-condensing |
| Temp. Coefficient | ± 0.03% / °C(0~50°C) |
| Vibration | PCB mounting 10~ 500Hz, 2G 10min./1cycle, period for 60min. Terminal Blocks:10~500Hz, 5G 10min./1cycle, period for 60min. Each along X, Y, Z axes. |
| Soldering Temperature | Wave soldering:265°C,5s(max.); Manual soldering:390°C,3s(max.) |
| Over Voltage Category | III; According to EN62368-1; Altitude Up To 2000 Meters |
| Safety Protection | Class III |
| MTBF | 3200K hrs min. MIL-HDBK-217F (25°C) |
| Altitude Application | 2000m |
| Cooling Method | Natural Air Cooling |

Safety

| | |
|----------------------|---|
| Safety Standards | IEC/UL62368-1, EN62368-1 IEC60335-1 safety approval |
| Withstand Voltage | I/P-O/P:4.00KV AC |
| Isolation Resistance | I/P-O/P:100M Ohms/ 500VDC/25 °C/70% RH |

EMC

| | Parameter | Standard | Test Level |
|--|--------------------------------|--|------------|
| EMC Emission | Conducted | S EN/EN55032(CISPR32), BS EN/EN55014 | CLASS B |
| | Radiated | S EN/EN55032(CISPR32), BS EN/EN55014 | CLASS B |
| | Harmonic Current | BS EN/EN61000-3-2 | CLASS A |
| | Voltage Flicker | BS EN/EN61000-3-3 | |
| BS EN/EN55035, BS EN/EN61000-6-2, BS EN/EN55014-2 | | | |
| EMC Immunity | ESD | BS EN/EN61000-4-2 Level 3, 8KV air; Level 2, 4KV contact, | Criteria A |
| | Radiated Susceptibility | BS EN/EN61000-4-3 Level 3, | Criteria A |
| | EFT/Burest | BS EN/EN61000-4-4 Level 3, | Criteria A |
| | Surge | BS EN/EN61000-4-5 Level 4, 2KV/L-N, | Criteria A |
| | Conducted | BS EN/EN61000-4-6 Level 3, | Criteria A |
| | Magnetic Field | BS EN/EN61000-4-8 Level 4, | Criteria A |
| | Voltage Dips and interruptions | BS EN/EN61000-4-11 > 95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 | |

Notes:

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.
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.

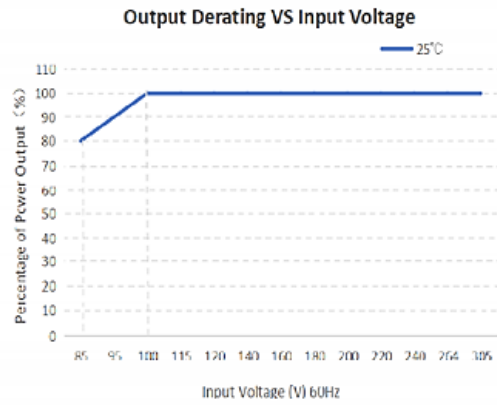
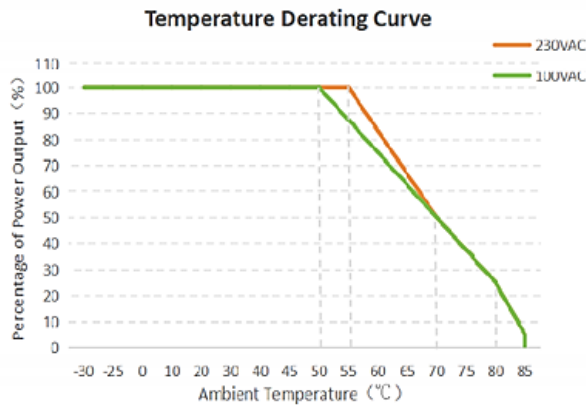
Dimensions & Weight

| | Measurements | Weight |
|----------|--|--------|
| 56YMR90 | 87x52x29.5mm | 195g |
| 56YMR90T | 109x52x33.5mm | 260g |
| Material | Black flame retardant and heat-resistant plastic | |

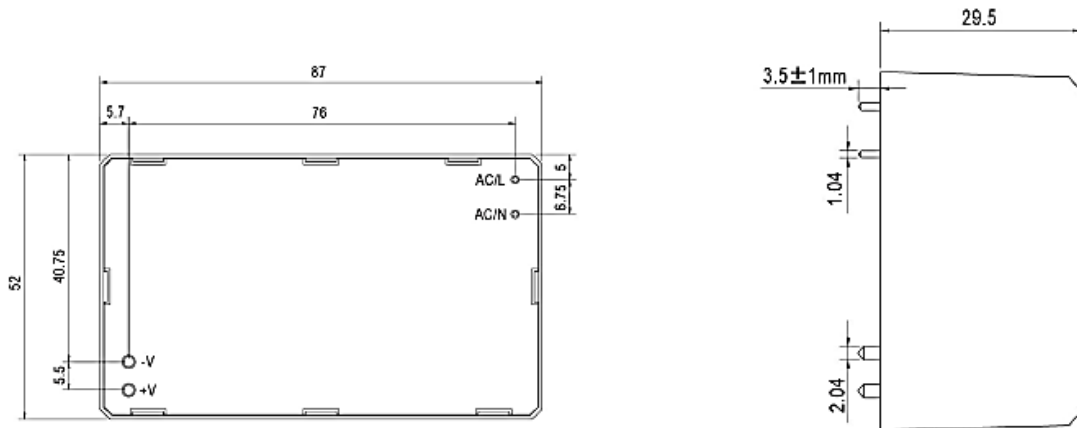
Packaging

| | | |
|--------------------------|----------------------------------|----------|
| Carton Size | 48x27.5x16cm / 18.9x10.83x.3in | 56YMR90 |
| | 31.5x24.5x22cm / 12.4x9.65x866in | 56YMR90T |
| Master Carton Quantities | 50pcs/Carton | |

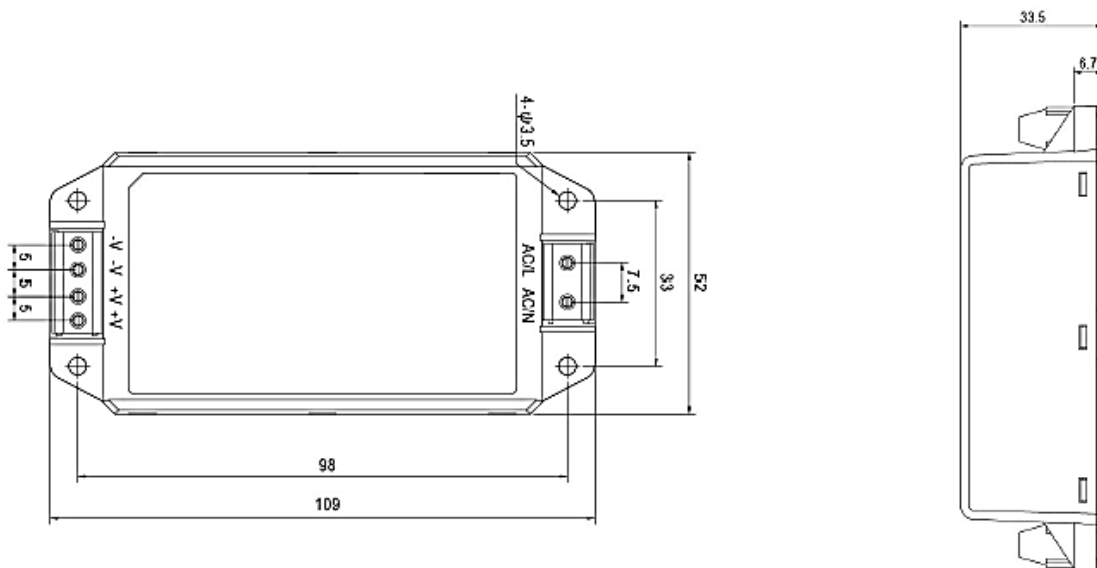
Derating Curves



56YMR90 Dimensions and Recommended Layout



56YMR90T Dimensions and Recommended Layout



Functional Diagram

Figure 1: Typical application circuit

