

Features

- Universal Input 85-305VAC
- No load power consumption<0.1W
- Isolation Class II
- UL/EN62368-1 Safety Approved
- 91.5% Efficiency
- Single Output 12-48V DC
- Protections: SCP, OLP, OVP
- Three years warranty



56YMR90-xx-RS Series

90W Encapsulated AC/DC Power Supply



The 56YMR90-xx-RS Series is a high-efficiency and standards-compliant 90W Encapsulated AC/DC Power Supply. Designed for use in applications such as industrial control and automation systems. This series is supplied with a Pin Connection or Screw Terminal input connection and supports input voltages of 85~305V AC 47-63Hz.

Model Number Information

56YMR 90 xx □

Series Name Rated Wattage Output Voltage **T:** Terminal Block
Blank: PCB Mounting Style

Models

| Model Number | Rated Power (W) | DC Voltage (V) | Rated Current (A) | Efficiency (%) | Max. Capacitive Load (uF) |
|-----------------|-----------------|----------------|-------------------|----------------|---------------------------|
| 56YMR90-12-□-RS | 80.4 | 12 | 6.7 | 89.5 | 6800 |
| 56YMR90-15-□-RS | 85.05 | 15 | 5.67 | 90.5 | 4500 |
| 56YMR90-24-□-RS | 90 | 24 | 3.75 | 91 | 3000 |
| 56YMR90-48-□-RS | 90.24 | 48 | 1.88 | 91.5 | 470 |

| Input Specifications | | | |
|----------------------|--------------------------------------|-------------|-------------------------------------|
| Input Voltage | 85-305VAC | | |
| Frequency Range | 47-63Hz | | |
| AC Current | 1.9A/115VAC | 1.1A/230VAC | 0.9A/277VAC |
| Inrush Current | Cold Start 100A/800us at 230VAC 50Hz | | Cold Start 40A/800us at 115VAC 50Hz |
| Leakage Current | <0.25mA/264VAC | | |

| Output Specifications | |
|-------------------------|---|
| Voltage Tolerance | +2.5% |
| Line Regulation | +0.5% |
| Load Regulation | ±1.0% 56YMR60-12 models +0.5% Other models |
| Setup,Rise,Hold up Time | 0.5s,50ms,50ms/230VAC(at full load) 0.5s,50ms,12ms/115VAC(at full load) |

| Protection | |
|---------------|--|
| Over Load | 115~160% Hiccup mode, recovers automatically after fault condition is removed |
| Short Circuit | Hiccup mode, recovers automatically after fault condition is removed. |
| Over Voltage | 12.6 ~ 16.5V 15.75 ~ 24V 25.2 ~ 34V 50.4 ~ 65V Hiccup mode, recovers automatically after fault condition is removed. |

| Environmental Characteristics | |
|-------------------------------|---|
| Working Temp | -30 ~ +85°C(Full load can be operated at -30°C to 50°C, while load should be reduced at 50°C to 85°C Refer to "Derating Curve".) |
| Working Humidity | 20 ~ 90%RH Non-condensing |
| Storage Temp., Humidity | -40 ~ +85°C, 10 ~ 95%RH Non-condensing |
| Temp. Coefficient | ± 0.03%/ (0 ~ 40°C) |
| Soldering Temperature | Wave soldering:265°C,5s(max.); Manual soldering:390°C,3s(max.) |
| 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 |
| MTBF | 755.4Khrs min. MIL-HDBK-217F(25°C) |
| Over Voltage Category | OVC II; According to EN62368-1; altitude up to 2000 meters |

| Safety & EMC | | | |
|----------------------|--|------------------------|---|
| Safety Standards | EN 62368-1, UL 62368-1 | | |
| Withstand Voltage | I/P-O/P: 3KVAC/1min | | |
| Isolation Resistance | I/P-O/P: 100M Ohms / 500VDC / 25°C/ 70% RH | | |
| EMC Emission | Parameter | Standard | Test Level |
| | Conducted | BS EN/EN55032(CISPR32) | CLASS B |
| | Radiated | BS EN/EN55032(CISPR32) | CLASS B |
| | Harmonic Current | EN61000-3-2 | CLASS A |
| | Voltage flicker | EN61000-3-3 | |
| EMC Immunity | BS EN/EN55035, BS EN/EN61000-6-2 | | |
| | 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 3, criteria B |
| | Surge | EN61000-4-5 | Level 3, 1KV/L-N, criteria B |
| | Conducted | EN61000-4-6 | Level 3, criteria A |
| | Magnetic Field | EN61000-4-8 | Level 4, criteria A |
| | Voltage Dips and interruptions | EN61000-4-11 | > 95% dip 0.5 periods, 30% dip 25 periods > 95% interruptions 250 periods |

Notes:

1. All parameters without special description are measured under the conditions of input 230VAC, rated load, ambient temperature 25 ° C, and ambient humidity less than 75%.
2. Ripple & noise are measured from peak to peak with a bandwidth limit of 20MHz(0.1uf and 47uf /50V parallel capacitor under DC output full load, AC nominal input 25 °C ambient temperature).
3. Tolerance: includes set up tolerance, line and load regulation.
4. Derating may be needed under low input voltages. Please check the derating curve for more details.
5. The power supply is considered a component which will be installed into the final equipment. The final equipment must be confirmed to meet EMC directives. For guidance on performing these EMC tests, please refer to "EMI testing of component power supplies."
6. The ambient temperature derating of 3.5°C/1000m is needed for operating altitude greater than 2000m(6500ft).

| Dimensions & Weight | |
|---------------------|------------------------|
| | Measurements |
| 56YMR90-xx-RS | 87 × 52 x 30 mm |
| 56YMR90-xxT-RS | 109.3 × 52.7 x 33.9 mm |

| Packaging | |
|-------------|---|
| Carton Size | 48×27.5×16cm 50pcs/Carton- 56YMR90-xx-RS 31.5×24.5×22cm 50pcs/Carton- 56YMR90-xxT-RS |

Derating Curve

