# YSM20 SERIES 15W



YSM20 series is a 15W Smaller(52.5*27.2*24mm) AC-DC module power supply adopting the full range:90-264VAC input
The series has extremely low no-load power consumption below 0.1W.High efficiency up to 83% 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

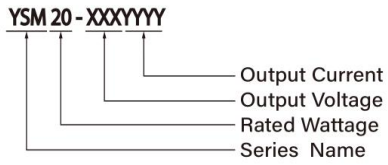
## Features

- Universal Input: 90~264VAC
- 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 |
|---|---|---|---|---|
| YSM20-0333500 | 3.3V | 3.5A | 11.55W | 6600uF |
| YSM20-0503000 | 5V | 3A | 15W | 5000uF |
| YSM20-1201250 | 12V | 1.25A | 15W | 2000uF |
| YSM20-1501000 | 15V | 1A | 15W | 1500uF |
| YSM20-2400630 | 24V | 0.63A | 15.12W | 580uF |

## Model Encoding




## Input

| | | |
|---|---|---|
| VOLTAGE RANGE | 90~264VAC | |
| FREQUENCY RANGE | 47-63Hz | |
| NO LOAD POWER CONSUMPTION | 0.1W MAX | |
| AVERAGE EFFICIENCY(Typ.) | 74.0% | YSM20-0333500 |
| | 78.0% | YSM20-0503000 |
| | 82.0% | YSM20-1201250 |
| | 82.0% | YSM20-1501000 |
| | 83.0% | YSM20-2400630 |
| AC CURRENT(Typ.) | 0.7A/115VAC | |
| | 0.3A/230VAC | |
| INRUSH CURRENT(Typ.) | Cold Start 20A/115VAC | |
| | Cold Start 45A/230VAC | |
| LEAKAGE CURRENT | <0.707mA/264VAC,50Hz | |

## Output

| | | |
|---|---|---|
| RIPPLE & NOSE(max.) | 200mVp-p | |
| VOLTAGE TOLERANCE | ±2.5% | |
| LINE REGULATION | ±0.5% | YSM20-0333500 |
| | ±0.5% | YSM20-0503000 |
| | ±0.3% | YSM20-1201250 |
| | ±0.3% | YSM20-1501000 |
| | ±0.3% | YSM20-2400630 |
| LOAD REGULATION | ±1.0% | YSM20-0333500 |
| | ±1.0% | YSM20-0503000 |
| | ±0.5% | YSM20-1201250 |
| | ±0.5% | YSM20-1501000 |
| | ±0.5% | YSM20-2400630 |
| SETUP,RISE TIME | 1000ms, 30ms/230VAC at full load | |
| | 1800ms, 30ms/115VAC at full load | |
| HOLD UP TIME (Typ.) | 40ms/230VAC at full load | |
| | 10ms/115VAC at full load | |

## Protection

| | |
|---|---|
| OVER CURRENT | 115%-190% 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 | YSM20-0333500: 3.8 ~ 6V |
| | YSM20-0503000: 5.25 ~ 7.5V |
| | YSM20-1201250: 12.6 ~ 16.5V |
| | YSM20-1501000: 15.75 ~ 24V |
| | YSM20-2400630: 25.2 ~ 34V |
| | Protection Type: Hiccup mode, |
| | recovers automatically after fault condition is removed |

## 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 | 10~ 500Hz, 2G 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 | > 900K hrs min. MIL-HDBK-217F (25℃) |

## SAFETY

| | |
|---|---|
| SAFETY STANDARDS | IEC/UL62368-1, EN62368-1 safety approval |
| WITHSTAND VOLTAGE | I/P-O/P:3.00KVAC/1min |
| ISOLATION RESISTANCE | I/P-O/P:100M Ohms/ 500VDC/25 ℃/70% RH |

## EMC

| | Parameter | Standard | Test Level/Note |
|---|---|---|---|
| EMC EMISSION | Conducted | BS EN/EN55032(CISPR32) | CLASS B |
| | Radiated | BS EN/EN55032(CISPR32) | CLASS B |
| | Harmonic Current/Note5 | BS EN/EN61000-3-2 | CLASS A |
| | Voltage Flicker | BS EN/EN61000-3-3 | ..... |
| EMC IMMUNITY | BS EN/EN55035, BS EN/EN61000-6-2 | | |
| | Parameter | Standard | Test Level/Note |
| | 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 periods |

## 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.

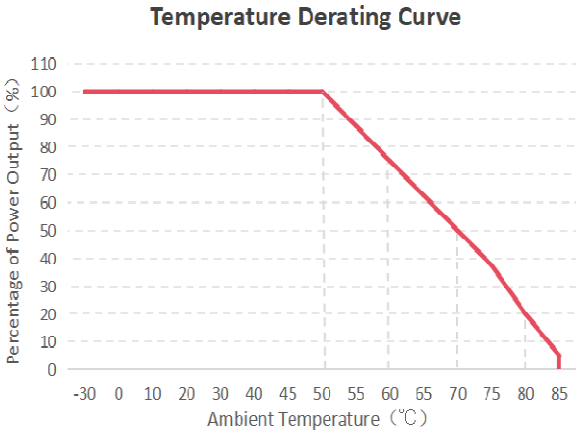
## PHYSICAL PROPERTY

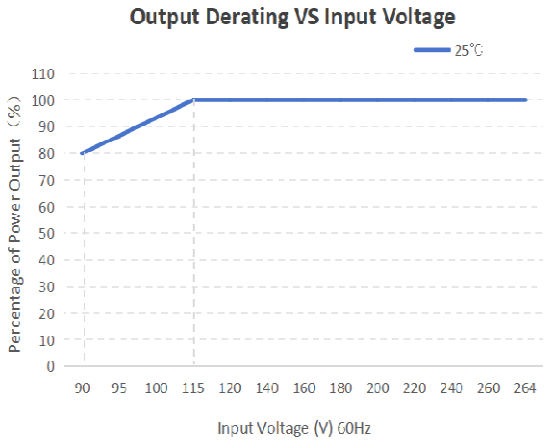
| | |
|---|---|
| LENGTH*WIDTH*HEIGHT: | 52.5mm*27.2mm*24mm/2.07in*1.07in*0.94in; |
| WEIGHT: | 58g |
| COOLING METHOD: | Natural Air Cooling |
| TEXTURE: | Black flame retardant and heat resistant plastic |

## Packing

| | |
|---|---|
| Carton Size: | 43 × 40 x 18.5 cm/16.93 x 15.75 x 7.28 in; |
| Master Carton Quantities: | 200pcs/Carton |

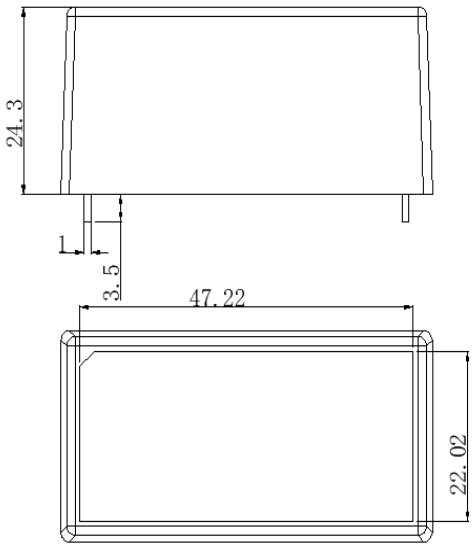
## Curve

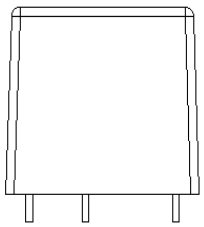


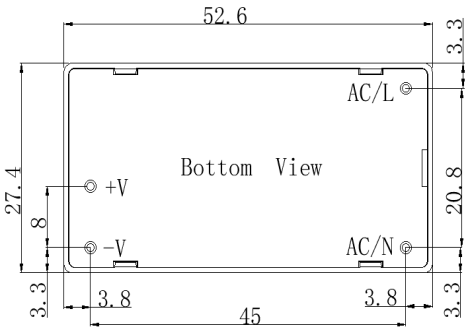

## Dimensions and Installation

third-angle projectio



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



## Functional Diagram

