



# Zhitao Group

ZHITAO GROUP

Industrial Power Supplies

## Product Specifications

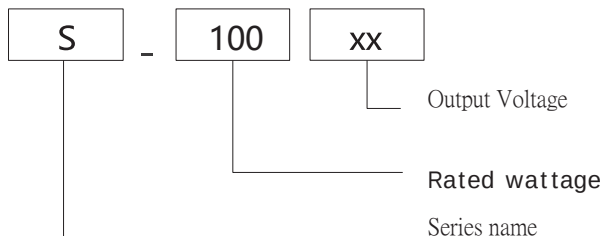
# S-100

- Product Category: 100W Single Output Power Supply
- Version No.: ZTAO3.0
- Release date: 1st May 2025

### product overview

S-100-XX series products for a 100W chassis-type industrial power supply, the output voltage including 5V/12V/24V/36V/48V, etc., can be adapted to different load application requirements to meet the needs of most industrial applications, self-cooling heat dissipation, as well as a full range of protection, to ensure that this series of products of reliability and stability.

### Model Encoding



### product characteristics

- The AC range input is switched via the switch
- Type of protection: short circuit/overload/overvoltage
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- 3-year warranty

### areas of application

Industrial control, mechanical and electrical, electronic instruments, industrial automation, electronic equipment, semiconductor equipment, etc. (except information technology equipment)



RoHS

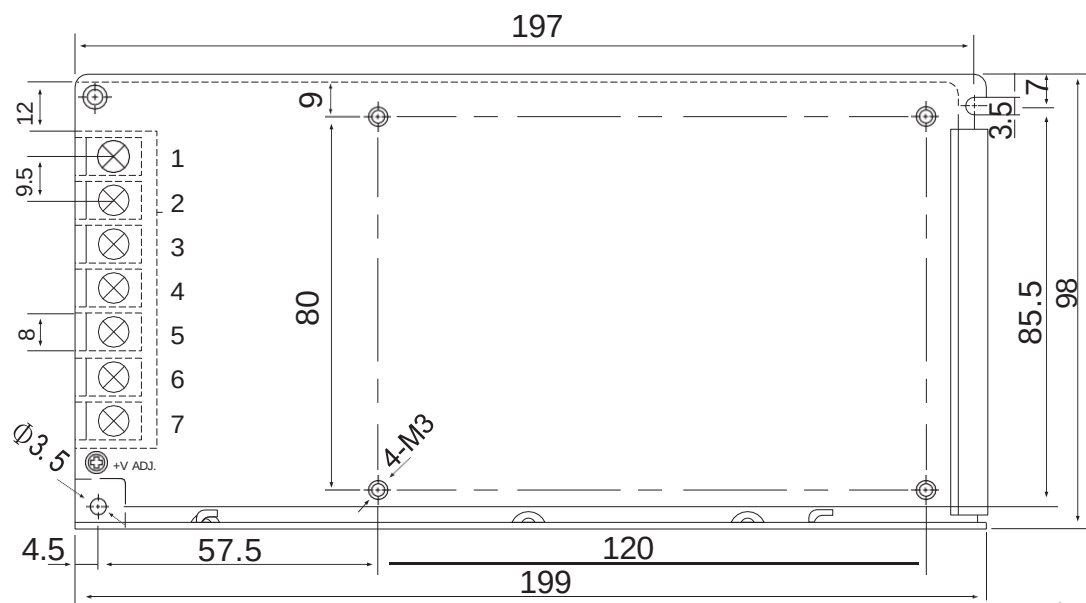


01-01

electrical specifications

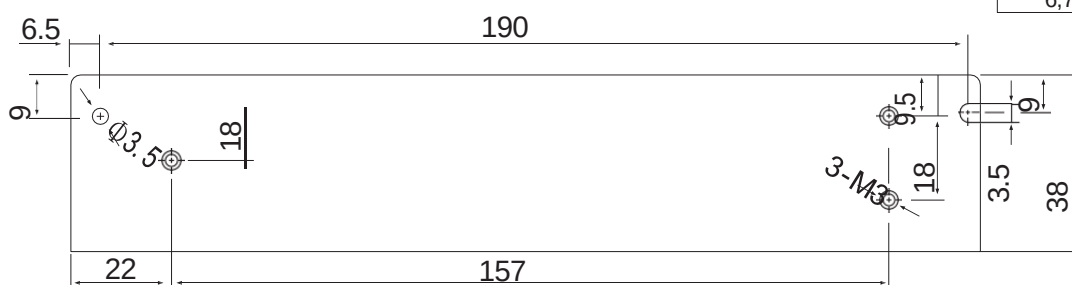
| Model               |                              | S-100-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | S-100-12   | S-100-15   | S-100-24   | S-100-36                    | S-100-48   |
|---------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|-----------------------------|------------|
| Output              | DC output voltage            | 5V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 12V        | 15V        | 24V        | 36V                         | 48V        |
|                     | Rated current                | 20A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 8.5A       | 6.7A       | 4.5A       | 2.8A                        | 2.1A       |
|                     | Current range                | 0~20A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0~8.5A     | 0~6.7A     | 0~4.5A     | 0~2.8A                      | 0~2.1A     |
|                     | Rated power                  | 100W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 102W       | 100.5W     | 108W       | 100.8W                      | 100.8W     |
|                     | Ripple & Noise (Max)         | 100mVp-p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 100mVp-p   | 120mVp-p   | 120mVp-p   | 150mVp-p                    | 150mVp-p   |
|                     | voltage adjustment range     | 4.5~5.5V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10.2~13.8V | 13.5~16.5V | 21.6~26.4V | 32.4~39.6V                  | 43.2~52.8V |
|                     | voltage accuracy             | ±1%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ±1%        | ±1%        | ±1%        | ±1%                         | ±1%        |
|                     | Linear adjustment rate       | ±0.5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ±0.5%      | ±0.5%      | ±0.5%      | ±0.5%                       | ±0.5%      |
|                     | Load Adjustment Ratio        | ±0.5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ±0.5%      | ±0.5%      | ±0.5%      | ±0.5%                       | ±0.5%      |
|                     | start-up & rise time         | 800ms,30ms/230VAC                      1000ms,30ms/115VAC(at full load)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |            |            |                             |            |
|                     | Holding time                 | 50mS/230VAC;20mS/115VAC (at full load)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |            |            |                             |            |
| Input               | Input Voltage                | 85~132VAC/ 170~264VAC selectable by switch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |            |            | 240~370VDC(switc on 230VAC) |            |
|                     | Input frequency              | 50~60HZ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |            |            |                             |            |
|                     | Efficiency                   | 78%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 86%        | 86%        | 89%        | 90%                         | 90%        |
|                     | Input current                | 2.0A/115VAC    1.0A/230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |            |            |                             |            |
|                     | Leakage current              | < 1mA/240VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |            |            |                             |            |
| Prote<br>ction      | overload protection          | 125~150% of rated power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |            |            |                             |            |
|                     |                              | Protection mode: hiccup protection, automatic recovery after removal of abnormal conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |            |            |                             |            |
|                     | Overvoltage protection       | 5.9~7.3V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 13.8~16.2V | 18.7~21.7V | 28.8~33.6V | 41.4~48.6V                  | 55.2~64.8V |
| Envir<br>onme<br>nt | Operating temperature        | -20℃ ~+65℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |            |            |                             |            |
|                     | Operating humidity           | 20~90%RH No condensation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |            |            |                             |            |
|                     | Storage temperature/humidity | -40~+80℃ 10~95%RH, no condensation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |            |            |                             |            |
|                     | Resistant to vibration       | 10~500HZ, 5G 10 min/cycle, X, Y, Z 60 min each                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |            |            |                             |            |
| Securit<br>y        | pressure resistance          | Input to Output :1.5KVAC; Input to Ground :1.5KVAC; Output to Ground :500VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |            |            |                             |            |
|                     | Insulation impedance         | Input to Output, Input to Ground, Output to Ground :100 Ohms/500VDC/25℃ /70%RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |            |            |                             |            |
| Others              | Product dimensions           | 199*98*38mm ( L*W*H )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |            |            |                             |            |
|                     | Packaging                    | 0.5kg/pcs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |            |            |                             |            |
| Remarks             |                              | 1. All parameters are measured at 230VAC input, rated load and 25℃ unless otherwise specified.<br>2. Ripple and noise voltages were measured on a 20MHZ bandwidth oscilloscope with 0.1 μ and 47 μ capacitors at the end of a 12-inch twisted pair cable, measured at 20MHZ bandwidth.<br>3. Accuracy: Includes setting error, linear adjustment ratio and load adjustment ratio.<br>4. Linear Adjustment Ratio Measurement Method: Test from low voltage to high voltage at rated load<br>5. Load Adjustment Ratio Measurement Method: From 0% to 100% of rated load<br>6. Start-up time is measured at cold start, fast and frequent switching on and off may increase the start-up time.<br>7. When operating at altitudes higher than 2000 metres (6500ft): the operating environment needs to be reduced by 5℃ / 1000 metres |            |            |            |                             |            |

# Outline and Mounting Dimensions (mm)



Terminal Pin No.Assignment

| Pin No | Assignment   |
|--------|--------------|
| 1      | AC/N(DC+)    |
| 2      | AC/L(DC-)    |
| 3      | FG $\oplus$  |
| 4,5    | DC OUTPUT -V |
| 6,7    | DC OUTPUT +V |



| Pinout   | Function    |                                               |
|----------|-------------|-----------------------------------------------|
| L        | AC LINE     | Screw:M4*9.5<br>Torque:22Kgf.cn( 2..... 2N.m) |
| N        | AC NETURAL  |                                               |
| $\oplus$ | EARTH       |                                               |
| -V       | DC output - | Screw:M4*9.5<br>Torque:22Kgf.cn( 2..... 2N.m) |
| -V       | DC output - |                                               |
| +V       | DC output + |                                               |
| +V       | DC output + |                                               |

8-M3 Customer system

mounting holes mounting

screws:M3

Installation torque: 8Kgf.cn (0.8N.m)

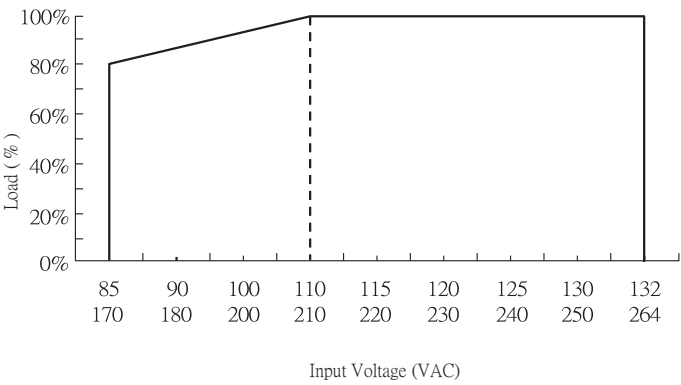
screws into the housing is not more than 3mm

Remarks:

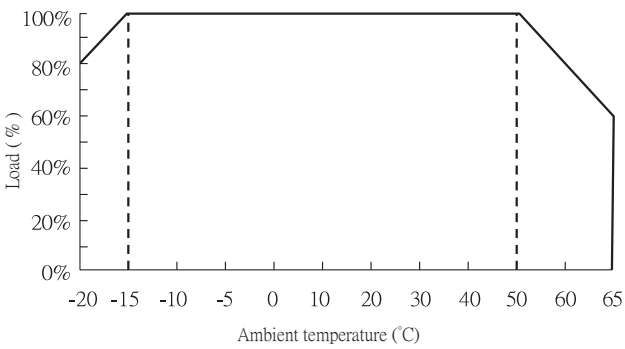
Unit: mm [inch]; unlabelled tolerances are  $\pm 0.5$  [ $\pm 0.020$ ].

Characteristic Curve

Input Voltage VS Output Load



Ambient Temperature VS Output Load



- Note:
- 1.If you need more detailed test data, please contact our technical support to get the application notes of the corresponding products.
  - 2.This product is suitable for use in a natural air convection environment, if used in a closed environment, please contact our technical support staff.