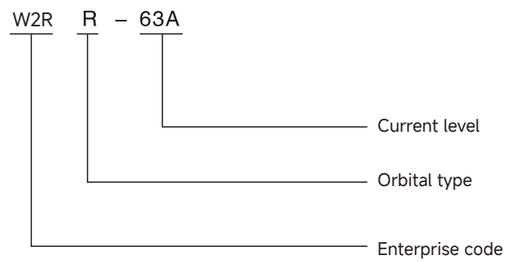
W2R
Dual power automatic transfer switch

The dual power automatic transfer switch is a newly developed miniature household power transfer switch. This switch is mainly used to test whether the main or backup power supply is working properly. When the normal power supply is abnormal, the backup power supply will immediately start working to ensure the continuity, reliability, and safety of power supply. This product is designed specifically for household rail installation and is specifically used for PZ30 distribution boxes.
According to GB/t14048.11, Part 6-1: Multifunctional Equipment and Switchgear specifies that ATSE is the most compliant low-voltage switchgear and control device.

Product Model and Classification



Normal operating time and installation conditions

- Surrounding air temperature: The highest temperature shall not exceed 40 , the lowest shall not be lower than -5 , and the average temperature within 24 hours shall not exceed 35
- Altitude: The sea level at the installation site should not exceed 2000m
- Atmospheric conditions: When the highest temperature reaches 40 °C, the relative humidity of the installation site should not exceed 50%; When the temperature reaches the lowest temperature of -5 °C and the relative humidity is high, for example, when the temperature is 25 °C, the relative humidity is 90%. Due to temperature changes, special measures should be taken to address occasional condensation on the surface of the product.
- Pollution level: TSE pollution level meets the specified level 3 of GB/t14048.11
- Installation category: The installation type of TSE complies with the specified category in GB/t14048.11
- Installation conditions: TSE can be vertically installed in control cabinets or distribution cabinets. Ensure that the installation distance meets the requirements in Figure 1.

Installation and wiring

- Please check the integrity of TSE before installation. Then use the joystick to turn on and off TSE, check the flexibility of the transmission device, and detect the generation and disconnection conditions of the load at each stage of the normal and backup power supply
- Control voltage detection: AC50HZAC220V. The coil in the control circuit should not be too long. The cross-sectional area of copper wire should not exceed2.0mm²
- According to the installation requirements of the power distribution system, please equip appropriate circuit breakers to ensure the safety of personnel and equipment.

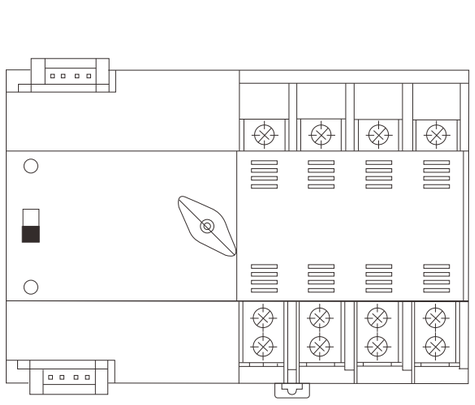
Basic information

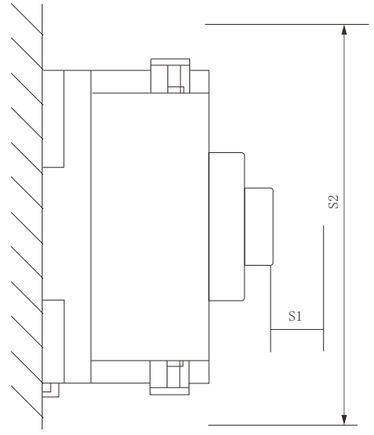
model	W2R-63A						
Rated current Ie A	16	20	25	32	40	50	63
Insulation voltage Ui	AC 690V,50Hz						
Rated voltage Ue	AC 400V,50Hz						
level	PC level: capable of manufacturing and withstanding without generating short-circuit current						
Usage category	AC-33iB			AC-31B			
Measuring rod	2P		3P			4P	
Weight (kg)	1.7		2.1			2.6	
Electrical lifespan	2000 times: manual operation: 5000 times						
Rated short-circuit current Iq	50kA						
Short circuit protection device (fuse)	RT16-00-63A						
Rated impulse withstand voltage	8kV						
control circuit	Rated control voltage Us: AC220V, 50Hz Normal working conditions: 85% Us -110% Us						
Auxiliary circuit	2 relays, each with two sets of contact converter contact capacity: AC220V 50Hz Ie=5y						
Contactor conversion time	<50ms						
Operation conversion time	<50ms						
Return conversion time	<50ms						
Power off time	<50ms						

note

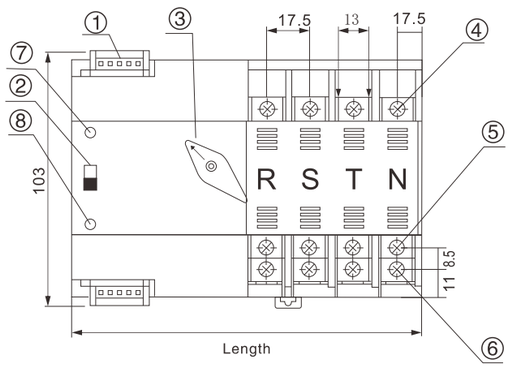
- Manual/Automatic Operation
  SE can ensure the performance of power generation and power-off in circuit operation, but TSE cannot guarantee the above performance for manual operation due to differences in power generation and power-off speed or operator. Excessive silver alloy loss may occur during manual power generation and power outages. Therefore, when all power is cut off to check and maintain the operating system and contacts, simply pull the
- selection switch to the manual position. Generally, please turn the selection switch to the automatic position. When operating manually, pull the selection switch to the manual position. After completing the manual operation, pull the selection switch from the manual position to the automatic position.
control circuit
  SE will instantly become active. After the conversion is completed, the coils in the control circuit will be disconnected by the internal converter. At rated voltage of 80% to 110%, the coil can operate normally. Low voltage can cause the coil to heat up or even self ignite.

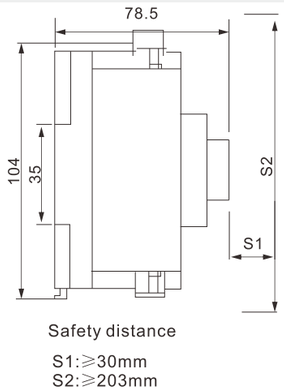
Correct installation instructions





Appearance and installation dimensions





Safety distance

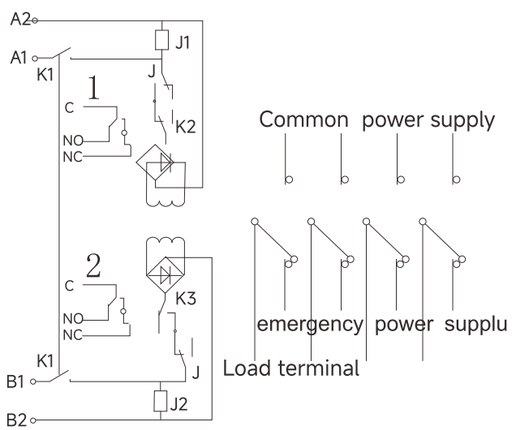
S1:≥30mm
S2:≥203mm

Table 2 dimensions

pole numbers	2P	3P	4P
Length	107.5	125	142.5

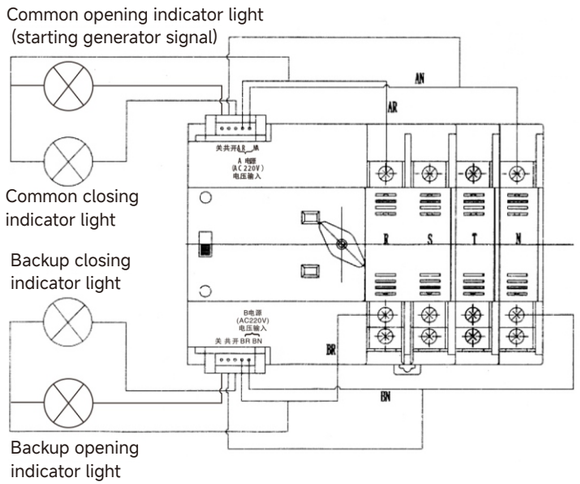
① Control power
② Selection switch(Auto/manual)
③ Manual knob
④ Normal power main circuit terminal
⑤ Altemative powermain circuit terminal
⑥ Load side main circuit terminal
⑦ Power A indicator
⑧ Power B indicator

Internal wiring diagram



K1:Manual/Electric selection switch
K2、K3:Product internal position seitch
J1:Power A 220V relay
J2:Power B 220V relay
1:Power A passive signal output
2:Power B passive signal output

Controller wiring diagram



Maintenance, inspection, and storage

- Maintenance and inspection should be carried out by professional personnel, and all power sources should be cut off in advance.
- To ensure the good performance of TSE, the first maintenance and inspection should be carried out within 6 months after use, and at least once a year. In harsh installation conditions, maintenance and inspection frequency should be increased.
- TSE should be stored in an environment equivalent to normal working conditions, with dust, moisture, and anti-collision measures.
- Maintenance and inspection items
  a. Please remove dust and dirt when a malfunction occurs.
  b. Please check if the electrical contact parts are deformed or damaged, and remove any burnt metal particles attached to the surface and surroundings.
  c. Rust, acidification, and dust on the contact surface may cause poor contact. Please manually operate multiple times and measure the contact resistance if necessary.
  d. Due to prolonged exposure to moisture and being in a suspended state, please dry the TSE before use. After removing dust and dirt, use a 500V megohmmeter to measure the insulation resistance between the normal supply, alternating supply, load side pole, including the insulation resistance between live parts and metal plates. And the insulation resistance should not be less than 10M Ω.