

W2R Series Automatic Transfer Switch

Instruction

Certification

Description Double power switch

Model No. W2R

Inspector 檢 3

Date of production

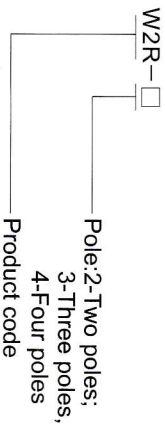
1 Overview

W2R series dual-power automatic transfer switch is newly developed micro household power transfer switch. The switch is mainly used for testing whether normal or spare power is normal or not. When the normal power is abnormal, the spare power works at once, which therefore ensures the continuity, reliability, and safety of power supply. The product is specifically designed for household orbital-type installation and specifically used in P-230 power distribution box.

W2R series automatic transfer switch is suitable for the emergency power supply system with 50 or 60 Hz alternating current rated 400V/60A. W2R is compact in structure, reliable in transfer, convenient in installation and maintenance, and has long life expectancy. Widely used in various occasions where continuous power failure is not allowed, it can be operated both electrically and manually. W2R is composed of RTSE and the controller.

W2R complies with requirements of Low-voltage Switch Gear and Control Gear specified by IEC 60947-6-1 and IEC 60947-3; functional equipment and transfer switch equipment.

2 Product Model and Classification



4 Normal working conditions and installation conditions

4.1 Ambient air temperature

The upper limit is not over +40°C, the average value of 24h is not over +35°C and the lower limit is not less than -5°C.

4.2 Above sea level

The installation site should not be over 2000m above sea level.

4.3 Atmosphere conditions

When the highest temperature is +40°C, the relative humidity of the atmosphere of installation site should not be over 50%. At lower temperature, higher relative humidity is allowable, for example, the temperature +25°C, the relative humidity 90%. Special measures should be taken to deal with the occasionally generated condensation on the surface of the product due to temperature changes.

4.4 Pollution grade

Pollution grade of TSE is in conformity to Grade3 specified by IEC 60947-6-1 and IEC 60947-3.

4.5 Installation category

Installation category of TSE is in conformity to category specified by IEC 60947-6-1 and IEC 60947-3.

4.6 Installation conditions

W2R can be vertically installed in control cabinet or power distribution cabinet. Ensure the installation distance S as required in fig. 1...

5 Contour dimensions and installation dimensions

6 Cautions

6.1 Manual/Automatic operation

W2R can ensure the performance of making and breaking in electrical operations, but in manual operations, it can not be ensured due to the differences in making and breaking speed of operators. In manual operating to make making and breaking, there may appear excessive silver alloy loss. Therefore to pull selection switch to manual position is only available when all powers are out off to inspect and maintain the operating system and contact. Under normal circumstances, please pull selection switch to electric position, when to have manual operation, pull selection switch to manual position. After completion of manual operation, pull selection switch from manual position to auto position.

6.2 control circuit

TSE is instantaneously excited. Coils in the control circuit will be broken by internal switch after completion of transfer.

Coil can work normally under 85% - 110% of rated working voltage. Too low voltage in may result in coil heating and burning out.

7 W2R wiring diagram

3 Basic Parameters

See Table 1 for the basic parameters of W2R

Table 1

Model	W2R
Rated current Ie A	16 20 25 32 40 50 63 100
Insulation voltage Ui	AC 690V 50/60Hz AC 690V
Rated voltage Ue	AC 400V 50/60Hz AC 400V
Grade	Grade PC: able to make and withstand, not to break short-circuit current
Use category	AC-33B 3P AC-33B 4P
Pole	2P 3P 4P
Weight(kg)	1.7 2.1 2.6
Life	Electrical: 2000 times; Mechanical: 5000 times
Rated conditional short-circuit current Iq	50kA
SCPd (fuse)	RT16-00-63A
Rated impulse withstand voltage	8kV
Control circuit	Rated control voltage Usc: AC220V 50Hz Corred working condition: 85%Us ~ 110%Us
Auxiliary circuit	2 independent relays each includes 2 groups of transfer contact. Contact capacity: AC220V 50Hz Ie=50A
Contact transfer time	<50ms
Operating transfer time	<50ms
Return transfer time	<50ms
Off-time	<50ms

8 Installation and wiring

8.1 Make sure the professional has read this instruction before installation and wiring.
8.2 Please check the integrity of the RTSE before installation. Then switch on an off RTSE with operation handle, inspect the flexibility of the operating mechanism and check the making and breaking condition of each phase and load of normal and alternative power.

8.3 The nameplate of the product can be seen from the front. Please contact us if you fail to install in the specified direction due to wiring and other reasons. The safety distance S1, S2 should not be less than what's specified in Fig. 1 and Fig. 2. (More information of side picture)

8.4 Check control power voltage: 50/60Hz AC220V. Connecting wire of control circuit should not be too long. The cross section area of the copper wire should be more than 2.0mm².

8.5 Please equip RTSE with suitable circuit breaker to make sure the safety of staff and equipment according to the requirements of power distribution system installation.

9 Maintenance, inspection and storage

9.1 Maintenance and inspection should be operated by professionals with all power supply cut off before.

9.2 To ensure the good performance of RTSE, the first maintenance and inspection should be conducted within 6 months after its use. Then maintain and inspect at least once a year. Frequency of maintenance and inspection should be increased in occasions with harsh installation condition.

9.3 Maintenance and inspection items

a. Please remove dust and dirt in case of breakdown

b. Please inspect the electrical contact parts for deformation and damage and remove the metal particles and scotch on and around the surface

c. Rust, acidification and dust on the contact surface may cause poor contact so please have manual operation several times and measure contact resistance if necessary.

d. If RTSE is affected with damp or vacant for a long time, please dry it before electrification. After removing dust and dirt, use 500V megger to meter the insulation resistance of normal supply, alternation supply, load side and poles, including insulation resistance between live parts and metal plate. The insulation resistance should not be less than 10MΩ when used.

9.4 RTSE should be stored in environment equivalent to normal working conditions with dust-proof, damp-proof and anti-bump measures.

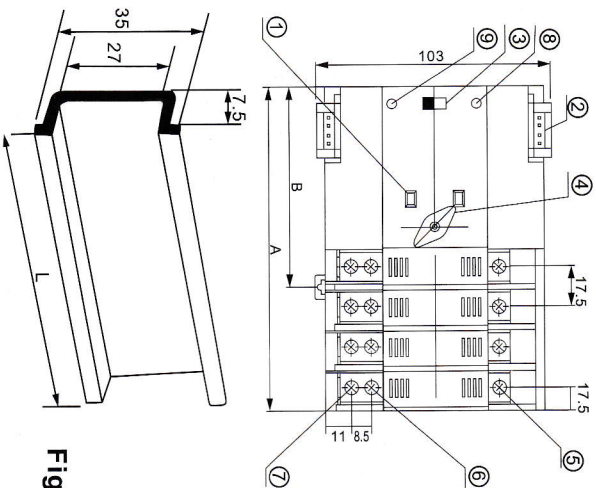


Fig. 1 Contour dimensions and installation dimensions of 63A and 100A

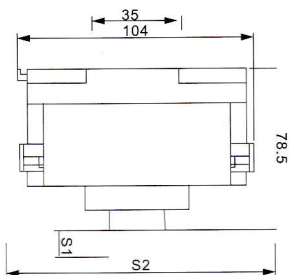


Table 2 W2R dimensions

dimension	A	B
2P	107.5	72
3P	125	78
4P	142.5	88

Safety distance
S1: $\geq 30\text{mm}$
S2: $\geq 203\text{mm}$

- ① ON/OFF indicator
- ② Control power
- ③ Selection switch (Manual/Electric)
- ④ Manual knob
- ⑤ Normal power main circuit terminal
- ⑥ Alternative power main circuit terminal
- ⑦ Load side main circuit terminal
- ⑧ Power A indicator
- ⑨ Power B indicator

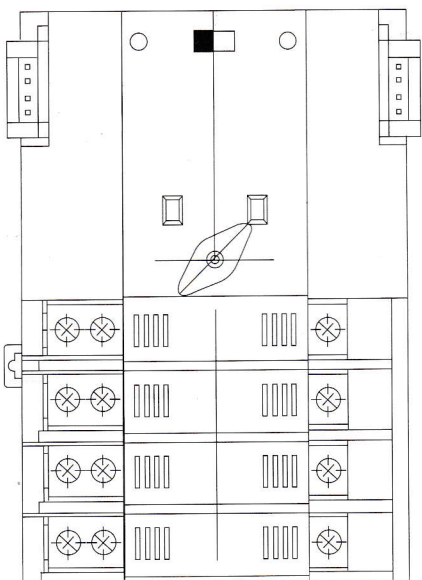


Fig. 4 Correct installation direction

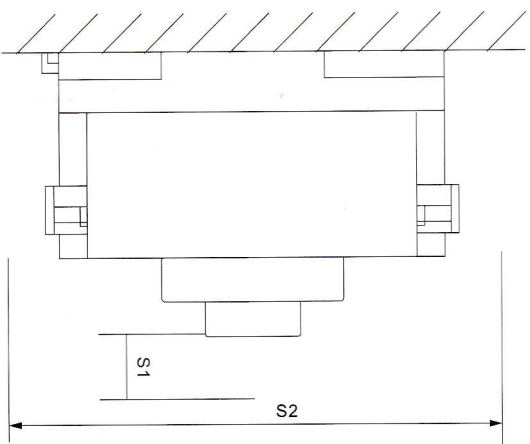


Fig. 3 Wiring diagram of W2R controller

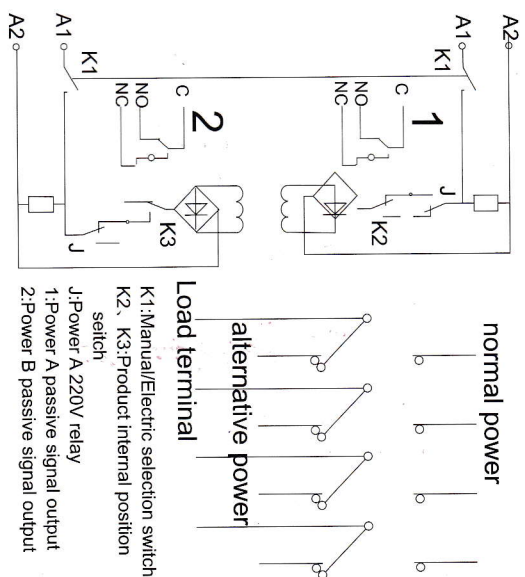


Fig. 2 Internal wiring diagram