

ATS Dual power automatic transfer switch Useful instruction Operation instruction

General

ATS dual power switch (hereinafter referred to as Switch) is a switch that can continue to supply power in case of emergency. The switch consists of a load switch and a controller, which is mainly used to detect whether the main power supply or standby power supply is normal. When the main power supply is abnormal, the standby power supply will start to work immediately, so as to ensure the continuity, reliability and safety of power supply. This product is specially designed for household guide rail installation and is specially used for PZ30 distribution box.

This switch is suitable for emergency power supply systems with 50Hz/60Hz, rated voltage of 400V and rated current of less than 100A. It is widely used in various occasions where power outages cannot be sustained. (The main and standby power supply can be the power grid, or start the generator set, storage battery, etc. The main and standby power supply is customized by the user).

The product meets the standard: GB/T14048.11-2016 “low voltage switchgear and controlgear Part 6: multi functional electrical apparatus part 6: automatic transfer switching apparatus”.

Structural features and functions

The switch has the advantages of small volume, beautiful appearance, reliable conversion, convenient installation and maintenance, and long service life. The switch can realize automatic or manual conversion between common (I) power supply and standby (II) power supply.

1

Technical parameters

Model Name	ATS-125	
Rated current Ie(A)	16 20 25 32 40 50 63 80 100	
Use category	AC-33iB	
Rated working voltage Ue	AC400V/50Hz	
Rated insulation voltage Ui	AC690V/50Hz	
Rated impulse withstand voltage Uimp	8kV	
Rated limiting short circuit current Iq	50kA	
Service life (times)	Mechanical	5000
	Electrical	2000
Pole No.	2P、4P	
Classification	PC grade: can be manufactured and withstood without short circuit current	
Short circuit protection device (fuse)	RT16-00-100 A	
Control circuit	Rated control voltage Us:AC220V,50Hz Normal working conditions:85%Us- 110%Us	
Auxiliary circuit	Contact capacity of contact converter: : AC220V 50Hz Ie=5y	
Conversion time of contactor	<30ms	
Operation conversion time	<30ms	
Return conversion time	<30ms	
Power off time	<30ms	

Matters needing attention

- It is strictly prohibited to manually switch the switch in the automatic state. The switch must be manually operated under the manual state.
- It must ensure that the product is not electrified when maintaining or overhauling; After the maintenance or overhaul is completed, the dual power supply controller shall be restored to the automatic state.
- The switch can work reliably at 85%-110% of the rated working voltage. When the voltage is too low, the temperature rise of the coil will increase, which may cause the coil to burn out.

3

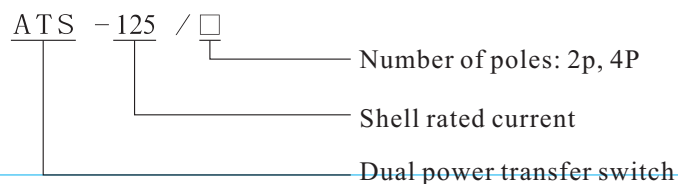
Automatic conversion: Automatic charge and non-automatic recovery: When the common (I) power supply power off (or phase failure), the switch will automatically switch to the standby (II) power supply. And when the common (I) power supply back to normal, the switch remains in the standby (II) power supply and does not automatically return to the common (I) power supply. The switch has short switching time (millisecond level) in automatic state, which can realize uninterrupted power supply to power grid.

Manual conversion: When the switch is in the manual state, it can realize the conversion between the manual common (I) power supply and the standby (II) power supply.

Normal working conditions

- The air temperature is $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$, the average value within 24 hours should not be over 35°C .
- The relative humidity should not exceed 50% at max temperature $+40^{\circ}\text{C}$, the higher relative humidity is permissible at lower temperature, for instance, 90% at $+20^{\circ}\text{C}$, but the condensation will be produced due to temperature change, which should be considered.
- The altitude of mounting place should not exceed 2000m. Classification: IV.
- Inclination is not more than $\pm 23^{\circ}$.
- Pollution grade: 3.

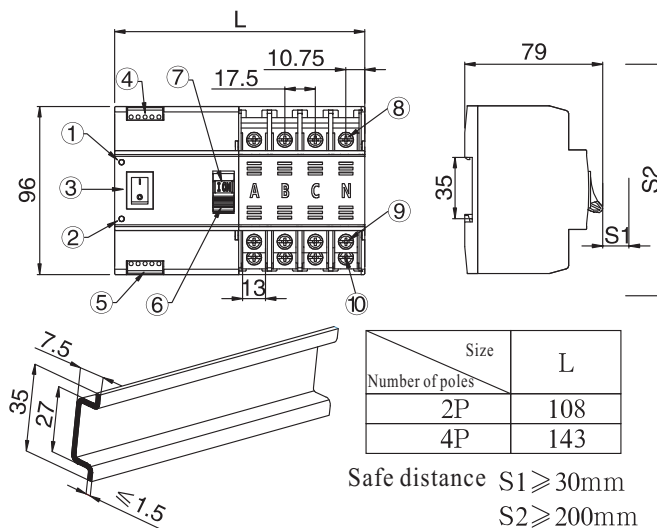
Normal working conditions



2

- Please check the integrity of the switch before installation. Check the flexibility of the transmission and detect the load generation and disconnection conditions at each stage of the normal and standby power supplies.
- If the installation cannot be carried out according to the correct steps due to wiring and other reasons, please contact us. The safe distances S1 and S2 should not be lower than the labels in the following figure.

External structure and installation dimension



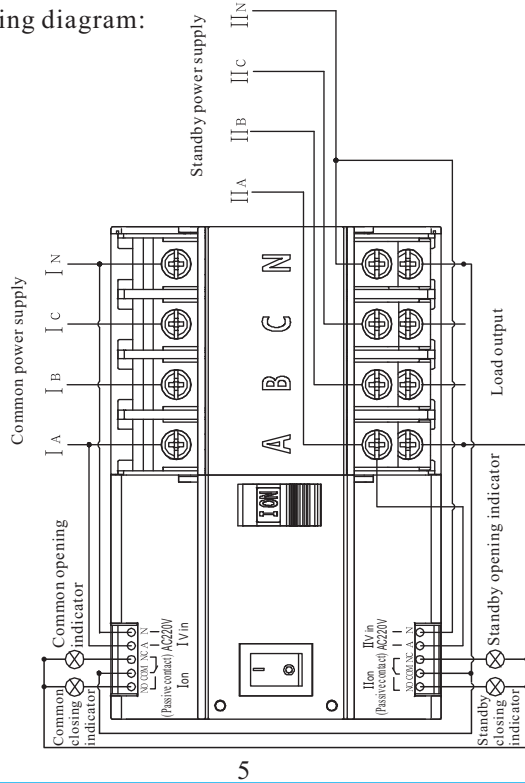
- ① Common (I) power indicator
- ② Manual / automatic selector switch
- ③ Standby (II) power indicator
- ④ Common terminal block (AC220 V)
- ⑤ Spare terminal block (AC220 V)
- ⑥ Manual operation handle
- ⑦ Common closing (I ON) / standby closing (II ON) indication
- ⑧ Common (I) power side terminal
- ⑨ Spare (II) power side terminal
- ⑩ Load side terminal

4

1. Installation and disassembly method: This switch is installed with 35mm standard guide rail, and the thickness of guide rail sheet metal is less than 1.5 mm
2. Buckle the lower end of the guide rail groove at the rear of the product into the guide rail first, then push the product upward and press it inward, and install it in place.
3. Disassembly method: Push the product up and then pull it out to complete disassembly.

Switch wiring diagram

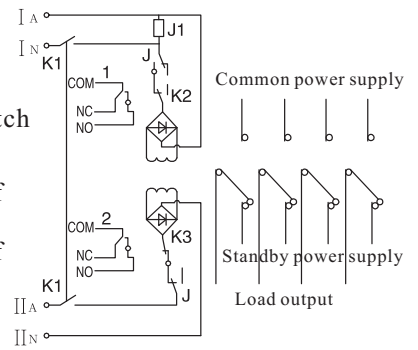
Switch wiring diagram:



5

Internal schematic diagram of switch

- K1: manual / automatic selector switch
- K2 K3: internal valve switch
- J1: AC220V relay
- 1: Passive signal output of common power supply
- 2: Passive signal output of standby power supply



Use and maintenance

- Please check the integrity of the switch before installation. Check the flexibility of the transmission and detect the load generation and disconnection conditions at each stage of the normal and standby power supplies.
- If the installation cannot be carried out according to the correct steps due to wiring and other reasons, please contact us. The safe distances S1 and S2 should not be lower than the mark in the above figure.
- Maintenance and inspection shall be operated by professionals and all power supplies shall be cut off in advance.
- Check whether the contact part of each electrical appliance is reliable and compact before, and whether the fuse is in good condition.
- Detection control voltage: 50Hz AC220V, and the conductor in the control circuit cannot be too long. The cross-sectional area of copper wire should not be greater than 2.0mm².
- According to the installation requirements of power distribution system, please provide appropriate circuit breakers to ensure the safety of staff and equipment.

6

- The switch shall be stored in an environment equivalent to the normal working environment with dust-proof, moisture-proof and collision-proof measures.
- During the use of the product, general inspection shall be carried out regularly (e.g. every three months of operation), and whether the product is running normally shall be checked once by testing and converting the power supply.

Packing instructions

There should be:

- Double power automatic transfer switch 1
- Instruction manual 1

Qualified certification

Name: Double power automatic transfer switch

This product implements the GB14048.11-2016 standard and is allowed to leave the factory after passing the inspection.

Date of inspection: See product or packaging

Operational Instructions

ATS Dual power automatic transfer switch

Before installing and using the product, please read the operation manual carefully and keep it properly in case of use.