



SANERGY

PRODUCT GUIDE

Dual-Power Automatic
Transfer Switches

www.sanergy-electric.com



I. Overview

The dual power automatic switch ensures continuous power by switching to standby when the main supply fails. Designed for PZ30 distribution boxes, it operates at 50/60Hz and 400V AC, featuring a solid structure, reliable conversion, and easy maintenance. Composed of a TSE and controller, it meets GB/T14048.11 standards, making it a top low-voltage switchgear.



II. Normal Operation Time and Installation Conditions

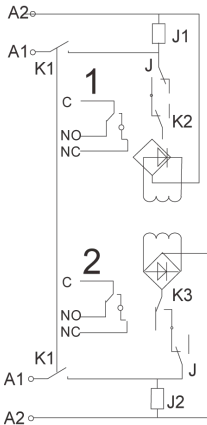
Environmental Requirements:

1. **Ambient Air Temperature:** Max 40°C, min -5°C, 24-hour average $\leq 35^{\circ}\text{C}$.
2. **Altitude:** Installation site $\leq 2000\text{m}$.
3. **Atmospheric Conditions:** Max 40°C with $\leq 50\%$ humidity; at -5°C, higher humidity allowed (e.g., 25°C and 90% humidity). Special measures needed for condensation.
4. **Pollution Grade:** Conforms to grade 3 (GB/T14048.11).
5. **Installation Category:** As per GB/T14048.11.
6. **Installation Conditions:** Install vertically in control or distribution cabinets, ensuring proper distance as per Figure 1.

III. Technical Parameters

Rated current I_e (A)	16,20,25	32,40,50,63	80,100
Insulation voltage U_i	AC690V, 50Hz		
Rated voltage U_e	AC400V, 50Hz		
Classification	PC class: can be manufactured and withstood without short circuit current		
Utilization category	AC-33iB		AC-31B
Pole No.	2P	3P	4P
Weight(kg)	0.62	0.72	0.81
Electrical	Life:2000 times: Manual operation:5000 times		
Rated short circuit current I_q	50kA		
Short circuit protection device(fuse)	RT16-00-63A		
Rated impulse withstand voltage	8kV		
Control circuit	Rated control voltage U_s : AC220V/50Hz Normal working conditions:85-110% U_s		
Auxiliary circuit	2 relays, each with two sets of contact converter contact capacity: AC220V/50Hz $I_e=5y$		
Conversion time of contactor	< 50ms		
Operation conversion time	< 50ms		
Return conversion time	< 50ms		
Power off time	< 50ms		

IV. Wiring Diagrams 1/4



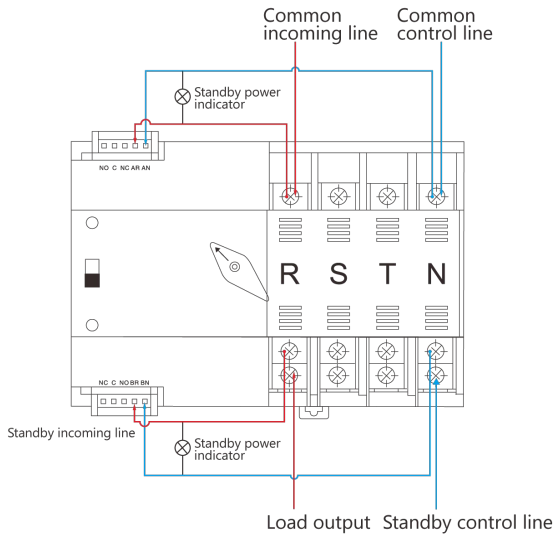
normal power



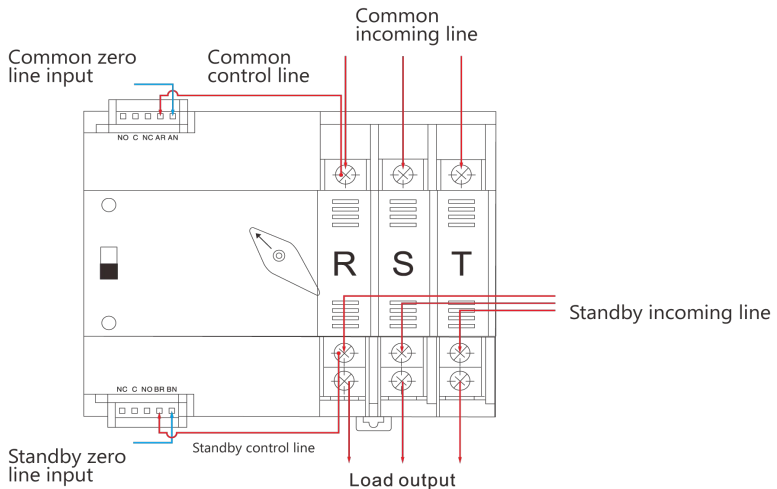
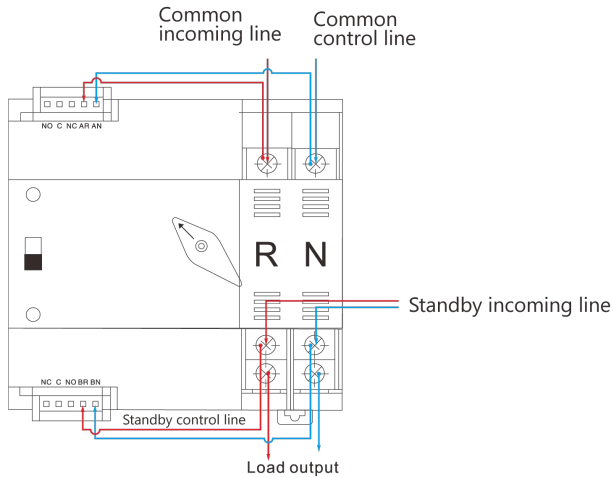
alternative power

Load terminal

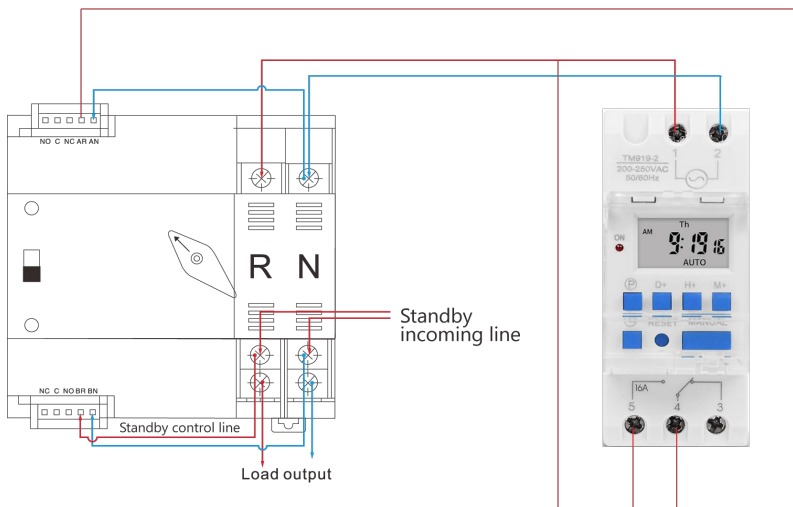
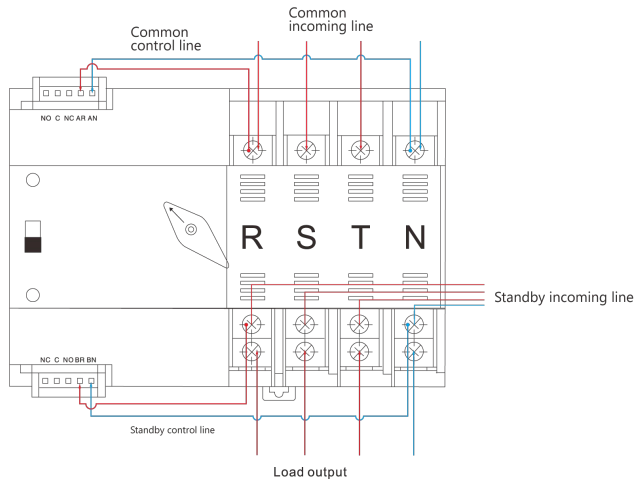
- K1: Manual/Electric selection switch
- K2、K3: Product internal position seitch
- J1: Power A 220V relay
- J2: Power B 220V relay
- 1: Power A passive signal output
- 2: Power B passive signal output



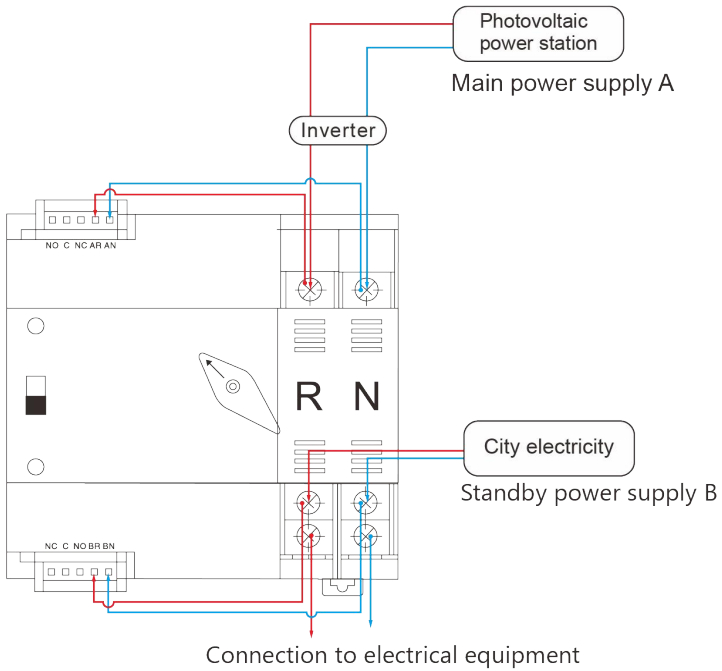
IV. Wiring Diagrams 2/4



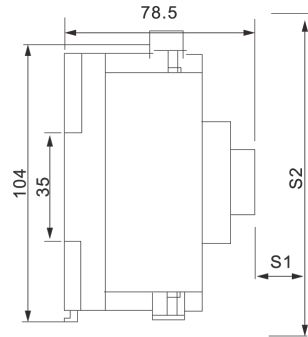
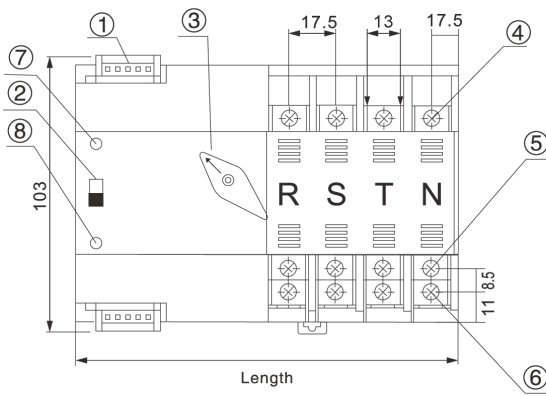
IV. Wiring Diagrams 3/4



IV. Wiring Diagrams 4/4



V. Overall and Installation Dimensions



Safety distance

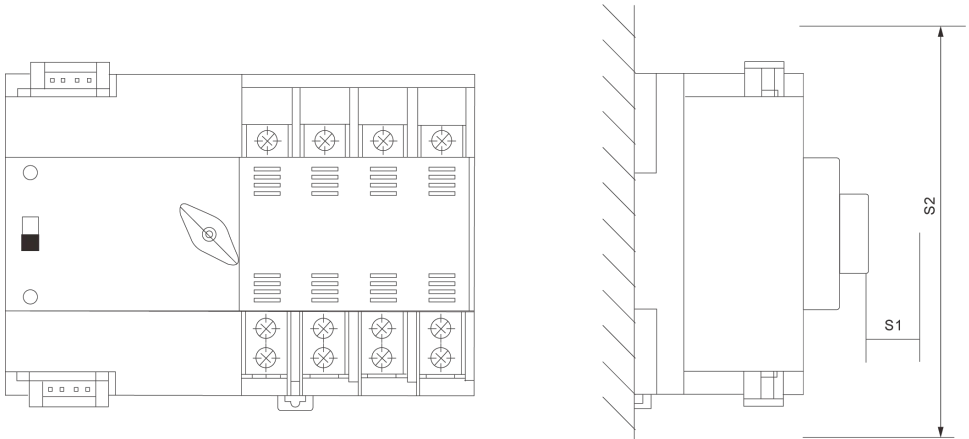
S1: $\geq 30\text{mm}$
S2: $\geq 203\text{mm}$

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 Alternative powermain circuit terminal
- ⑥ Load side main circuit terminal
- ⑦ Power A indicator
- ⑧ Power B indicator

VI. Installation Instructions



Installation Guidelines:

1. Ensure professionals read this manual before installation.
2. Check ATS integrity, operate it with the handle, and test power supply conditions.
3. Follow installation steps in the figure, with the trademark facing front. Contact us if issues arise. Maintain safe distances S1 and S2 as per Fig. 8.
4. Detection control voltage: 50Hz, AC220V. Control circuit coil should be short, copper wire $\leq 2.0\text{mm}^2$.
5. Use appropriate circuit breakers to ensure safety.

VII. Maintenance, Inspection and Storage

Maintenance Guidelines:

1. Maintenance must be performed by professionals with all power supplies cut off.
2. First maintenance within 6 months of use, then at least annually; increase frequency in harsh conditions.
3. Maintenance Tasks:
 - Remove dust and dirt.
 - Check and clean electrical contacts for damage and burnt particles.
 - Address rust, acidification, and dust; measure contact resistance if needed.
 - Dry ATS before use if exposed to moisture, measure insulation resistance ($\geq 10\text{M}\Omega$) with a 500V megohmmeter.
4. Store ATS in a normal working environment with dust, moisture, and collision protection.

VIII. Operation Guidelines

Operation Guidelines:

1. Manual/Automatic Operation:

- For automatic operation, keep the selector switch in the automatic position to ensure proper power generation and failure performance.

- For manual operation, switch to the manual position.

Note that manual operation may cause excessive silver alloy loss and cannot guarantee the same performance due to varying speeds of power generation and failure.

- After manual operation, return the selector switch to the automatic position.

2. Control Circuit:

- ATS activates instantly, and the internal converter disconnects the coil after conversion.

- The coil operates normally at 80%-110% of rated voltage; low voltage may cause overheating or spontaneous combustion.

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