

Box type external ATS manual

Function introduction:

ATS automatic emergency generator set is designed for emergency security power supply when the mains power is suddenly cut off. When the external power grid is suddenly cut off, the unit can start successfully within 2-6S and supply power to the user's load by itself; when the external power grid is restored, the unit can automatically switch the user's load to the external power grid and automatically shut down .

The unit uses a single-chip microcomputer as the control core, and uses digital technology to conduct comprehensive management and monitoring of the unit's status to realize the automation of the whole process of the unit. The unit is mainly used for radar stations, outposts, barracks, post and telecommunications, finance, hospitals and users who need rapid power supply after a power outage.

Steps:

Preparation before use: Connect the ATS to the panel with a cable connection, and turn the electric door lockswitch on the panel to the OFF position (only for diesel generators, and gasoline generators, please turn the electric door lock to ON).

Automatic gear setting

(1) Turn the switch to the "AUTO" position, the panel "AUTO" light is on, and the "ATS" operating system is already in the automatic detection state.

(2) Operation of ATS

When the ATS system enters the automatic state, if the mains power is suspended for some reason, the ATS automatically starts the generator motor within 2 seconds. After the generator warms up normally for 5 seconds, the system automatically switches the load to the generator power supply .

(3) ATS starts three times

When the generator has poor starting performance due to low temperature or other reasons, the ATS control system will execute three cycles to start, and the starting procedure is as follows:

Mains power failure → the first start time of the generator is 5 seconds → unsuccessful start → stop for 5 seconds → the second start time is 5 seconds → unsuccessful start and stop for 5 seconds → the third start time is 5 seconds (if three times None of the generators can start normally, and the warning light "FAILURE" is on.

(4) The generator is stopped

If the unit is running, if the utility power is restored and the utility power is normally supplied for 10 seconds, the ATS control system will automatically switch the load to the utility power, and the generator will stop after running for 5 seconds under no-load conditions.

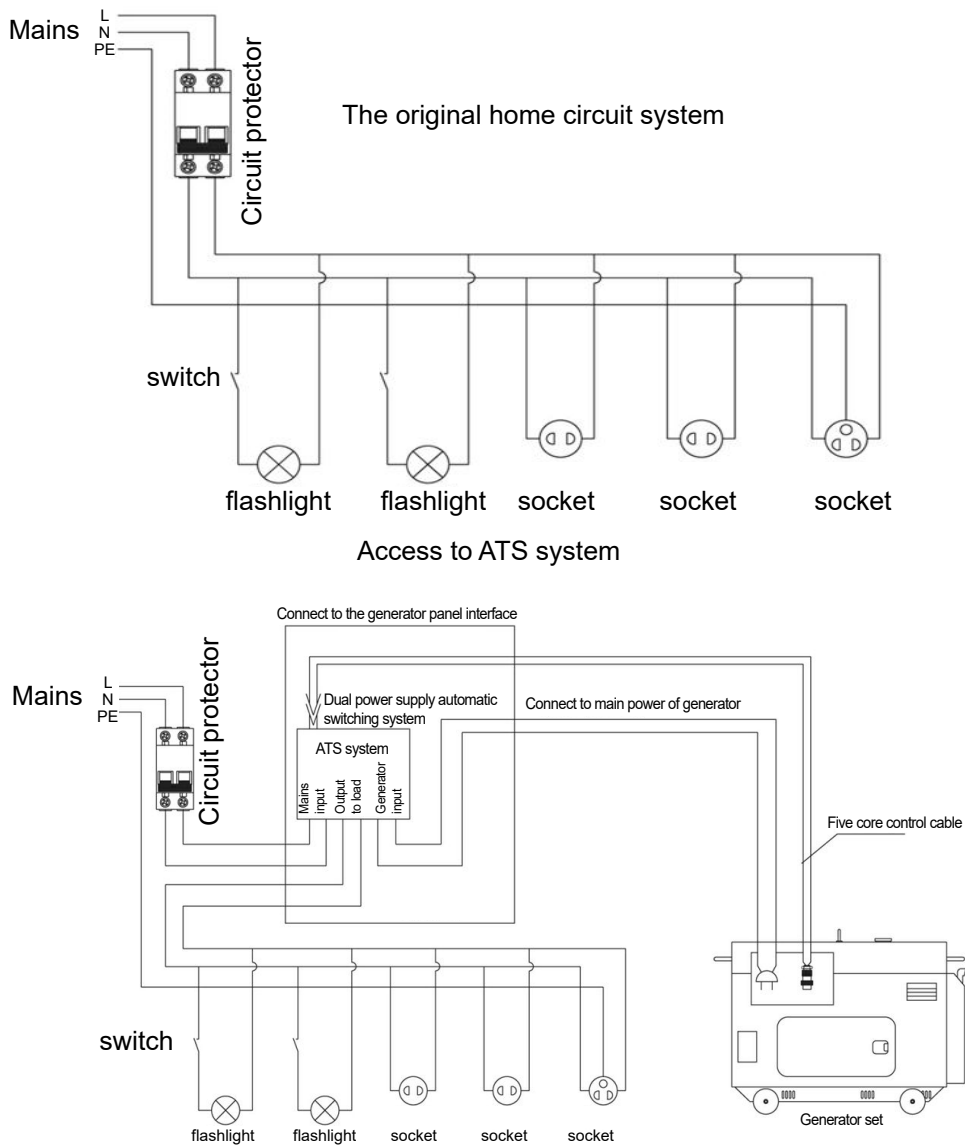
(5) ATS automatic choke:

If the unit is equipped with a choke device, when the unit is started, ATS will automatically open the choke, and after a successful start, the choke device will be off.

Battery maintenance:

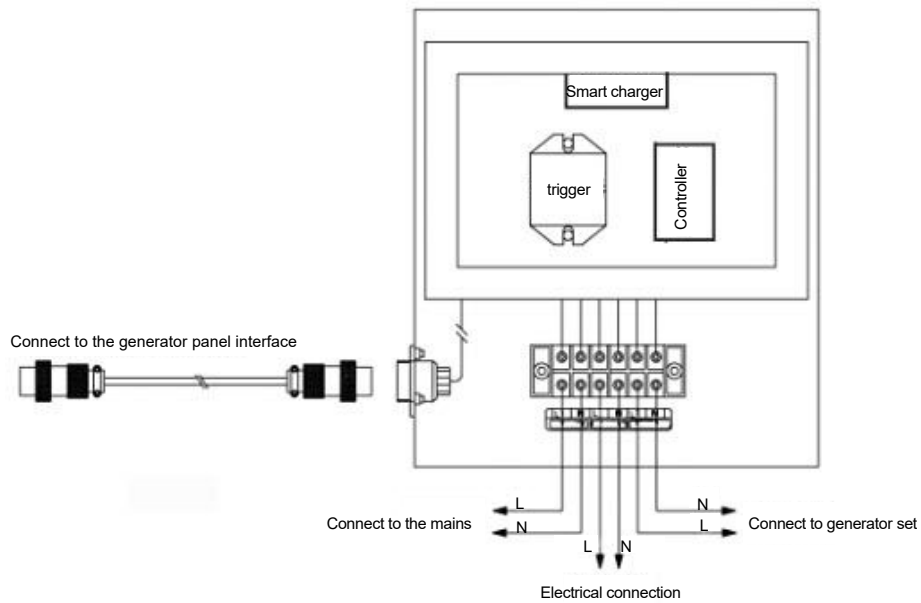
The box is equipped with a constant current and floating charging device for the battery. When there is city power (voltage 110 ~ 250V), the internal charging mechanism of the unit can charge the battery with constant current (charging current 1A). When the battery is fully charged, The charger changes from constant current charging to floating charging to compensate for the loss of internal electric energy of the battery and ensure that the battery has sufficient electric energy to start the unit at any time.

Schematic diagram of ATS access power system:

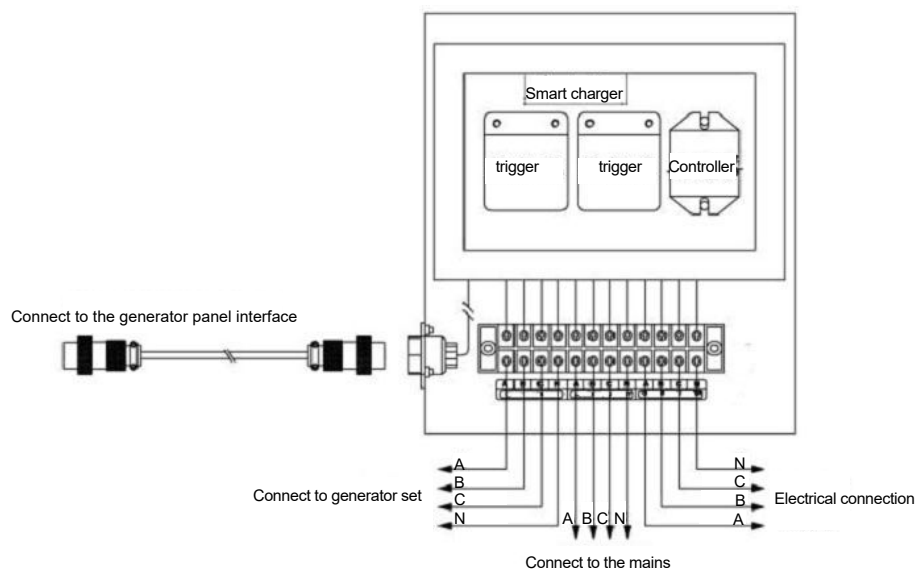


ATS wiring diagram:

1. Single-phase, single-voltage wiring diagram:



2. Three-phase, dual-voltage wiring diagram:



Technical parameters:

Working voltage	DC 8~18V (over 20V overvoltage protection)
Contactor rated current	Single phase: 220V/25A (5KW unit) Single phase: 220V/50A (10KW unit) Three-phase: 380V/25A (5~10KW unit)
Internal charger	Input voltage: AC 110~250V Output voltage: DC 13.8V ($\pm 2\%$) Charging current: 1A

Dimensions (mm)	250×140×320
Cable connection line	5-core chrome plated/diesel;8-core chrome/gasoline
The length of the external connection line	1.5m standard (can be customized according to customer requirements)
Working temperature	(-25~60)℃
Storage conditions	(-15~55)℃
Internal wire diameter	2.5mm ² (single-phase, three-phase 5KW unit) 4mm ² (three-phase 10KW unit) 6mm ² (single-phase 10KW unit)

Precautions

1. When choosing ATS, please select the matching power.
2. Do not directly connect the ATS output to the mains.
3. When the mains power is connected to the ATS, the circuit breaker protection must be used to ensure safety.
4. Please confirm that the automatic ATS function is used in the normal state of the unit.
5. Be careful to turn the generator electric door lock switch to OFF for use (only for diesel generators, gasoline generators, please turn the electric door lock to ON);
6. Pay attention to the circuit breaker on the generator panel to the "ON" position.
7. In the ATS working state, it is strictly prohibited to disconnect the battery after the unit is started.
8. The equipment must be placed in a ventilated, dry place, away from high temperature, high humidity or easy to shake.
9. There is high voltage inside the ATS. If a fault occurs, it must be checked by a qualified electrical maintenance person. Ordinary users should not open the case to prevent electric shock.