RDS5

Automatic Transfer Switch / User Manual

SAFETY ALERT

①. The product is strictly prohibited to install in environments containing flammable and explosive gases, as well as humid condensation. It is strictly prohibited to operate the product with wet hands.
②. It is strictly prohibited to touch the conductive parts of the product during operation.
③. When installing, maintaining, and maintaining products, it is necessary to ensure that the circuit is powered off.
④. Children are strictly prohibited from playing with products or packaging materials.
⑤. Sufficient space and safety distance should be reserved around the installation of the product
⑥. Do not install in places where gas media can corrode metals and damage insulation
⑦. When installing and using the product, standard wires must be used and connected to a power source and load that meet the requirements. To avoid the risk of accidents, the installation and fixation of the product must be strictly carried out in accordance with the requirements of the instruction manual. After removing the packaging, please check if there's damage of the switch or missing components.

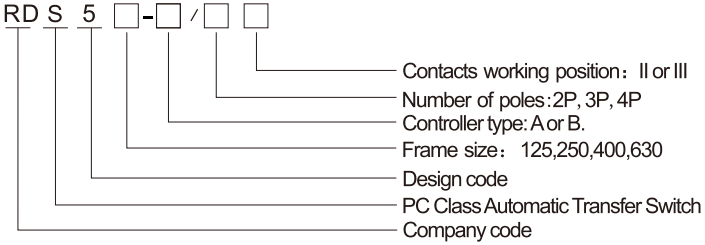
CONTENT

1. Summary

RDS5 series ATS is a PC class automatic transfer switch (hereinafter referred to as ATS). It is suitable for AC 50Hz/60Hz, rated voltage 400V and below, and rated operating current 16A to 630A. It is used for transfer the load between two power supplies, when one power supply failure, it will automatically transfer to the other power supply, to ensure the reliability and safety of power supply.

Mainly used in hospitals, shopping malls, banks, chemical industry, metallurgy, high-rise buildings, military facilities and fire protection and other occasions where power outage is not allowed. The product complies with IEC6047-6-1 standard.

2. Model definition



3. Environment, installation, transportation and storage

3.1 Ambient environment

- Air temperature: -5℃~+40℃, and the average temperature within 24 hours does not exceed +35℃.
- Humidity: When the maximum temperature is +40°C, the relative humidity in the air does not exceed 50%. Higher relative humidity is allowed at lower temperatures, such as 90% at +20°C. Occasionally due to temperature changes, Special measures should be taken to prevent condensation.
- Installation height: The altitude of the lowest installation point shall not exceed 2000m.
- Pollution level: Level 3

3.2 Installation conditions

In compliance with the safety warning conditions, it should be installed in a place with rain and snow protection equipment, not filled with water

vapor, without significant shaking, impact and vibration. Especially humid, flammable and explosive places, containing gases that can corrode metals and destroy insulation, and external magnetic fields greater than 5 times the earth's magnetic field, ATS will not work properly.
The inclination between the installation surface and the vertical surface is not greater than ±5°
Installation category (overvoltage category): Class III

3.3 Transportation and storage

Temperature range: -25℃~+55℃, up to +70℃ within a short period of time (24h). The storage area should be ventilated, dry, and not exposed to rain, snow, or direct sunlight.

4. Technical parameters

4.1 Main techanical data

Table 1

Model		RDS5-125	RDS5-250	RDS5-400	RDS5-630
Number of poles		2、3、4	3、4	3、4	3、4
Rated working current Ie(A)		16，20，25，32，40，63，80，100，125	125，160，200，225，250	315,400	500，630
Utilization catagory		AC-33A			
Rated working voltage Ue(V)		AC400/415V			
Rated insulation voltage Ui(V)		800			
Rated frequency Hz		50/60Hz			
Display type		LED(Integrated) / LCD(Extra LCD separable)			
Rated impulse withstand voltage Uimp(kV)		8			
Rated control power Us(V)		AC230V			
Minimum transfer action time (mS)		≤200	≤200	≤200	
Number of contact working positions		II or III	II or III	II or III	
Number of operation cycles	No load	10000	10000	10000	
	With load	6000	6000	6000	
	Total	16000	16000	16000	

4.2 Controller functions

Table 2

Controller functions		A	B	Descriptions
Protection functions	Over voltage	■	■	242V~301V adjustable (default 263V, accuracy ±5V), hysteresis value is 10V (setting value minus 10V is the recovery value), press once 1V step, long press 10V step.
	Under voltage	■	■	161V~196V adjustable (default 187V, accuracy ±5V), hysteresis value is 10V (setting value minus 10V is the recovery value), press once 1V step, long press 10V step.
	Phase failure	■	■	A, B, C three-phase phase failure protection, the screen "under" and countering "I" or "II" character flashes.
	Over frequency	■	■	Optional turn on and off, default off. 2%~10% frequency adjustable, accuracy ±0.1Hz, hysteresis value is 0.2 x setting value, for example: rated frequency is 50Hz, set 10, then the over frequency value is 50+50x10%=55Hz, hysteresis value is 0.2x10=2Hz, recovery value is 53Hz.
	Under frequency	■	■	Optional turn on and off, default off. 2%~10% adjustable working frequency, accuracy ±0.1Hz, hysteresis value is 0.2 x setting value,.
Protection functions	Phase sequence protection	■	■	Optional turn on and off, default off.
	Wrong connection alarm	■	■	N pole neutral line and ABC three-phase line are wrongly connected, "ERR" character in the screen will flash.
Measurement Functions	Voltage	■	■	Detect ABC three-phase voltage, accuracy ±5V.
	Frequency	■	■	Detect A phase frequency, accuracy ±0.1Hz
	Unbalance degree	■	■	Imbalance protection, no display, default off. Setting range 3-30%, the hysteresis value is fixed at 2%.
Power supply mode	Grid-Grid	■	■	b-1 set 0 means grid-grid(default)
	Grid-Generator	■	■	b-1 set 1 means grid-generator
Working mode selection	Auto transfer auto recovery	■	■	b-2 set 0 auto transfer auto recovery(default)
	Auto transfer no auto recovery	■	■	b-2 set 1 auto transfer no auto recovery
	No priority	■	■	b-2 set 2 means no source priority
Source priority	Source I priority	■	■	b-3 set 0 means source I priority(default)
	Source II priority	■	■	b-3 set 1 means source II priority
Delay timer	OFF delay timer	■	■	A-8 range 0-180s, default 5s, step 1s, additional 0.5s can be set.
	ON delay timer	■	■	A-9 range 0-180s, default 5s, step 1s, additional 0.5s can be set.
	Gen. start delay timer	■	■	A-10 range 0-999s, default 30s, step 1s
	Gen. cool down delay timer	■	■	A-11 range 0-999s, default 30s, Step 1s
Other functions	Remote switching	□	■	B module can use 301-303 communication ports for remote switching, and 401-402 terminals for remotely cut off. (II two position switch doesn't have remote cut off power function)
	Rated frequency	■	■	F-6 menu 0 means 50Hz, 1 means 60hz
	II/III position ATS	■	■	III three position ATS is compatible with II position ATS II position ATS can not be used for III working position.
	Fault record	□	■	Communication reads date and fault code, records 10 items
	Operation record	□	■	Communication reads date and fault code, records 10 items
	Clear fault record	□	■	Can be cleared via RS485 communication
	Clear operation record	□	■	Can be cleared via RS485 communication
	Regularly start generator test	□	■	Can set year, month, day, week, hour, minute, second, and send generator start signal when reaching the set
	RTC real-time	□	■	Query year, month, day, week, hour, minute, second, press "▲" in the main menu to query.

Continued

Controller functions		A	B	Descriptions
Other functions	When both two power supplies are abnormal, ATS maintain at the original position or transfer to the double-off position to cut off both power (optional).	■	■	F-4 set 0 means maintain at the original position(default), 1 means transfer to the double-off position to cut off both power.
Keys functions	AUTO/MANU	■	■	"AUTO/MANU" is Auto/Manual working mode, besides, in setting mode, it means confirm and return.
	Source I	■	■	"◀/I " is source I closing; in setting is shift to left.
	Source II	■	■	"▶/II " is source II closing; in setting is shift to right.
	OFF	■	■	"▼/O "transfer to OFF; besides, parameter decrease.
	SET	■	■	Settings
	Scroll up	■	■	"▲" Menu parameter increase
Input/Output	Fire-linkage signal input	□	■	Terminals 401 and 402 are programmable input terminals, voltage-free closing signal input, default is emergency fire signal input, can choose other function as alternative (prohibit on transfer, remote cut off). When other function is selected, fire-linkage function is disabled.
	Fire-linkage feedback output	□	■	When terminals 401 and 402 are fire signal input, terminals 403 and 404 are voltage-free feedback signals.
	Auxiliary power input	□	■	DC24V, power not less than 3W.
	Source I ON output	■	■	Terminals 101 and 102 are source I closing voltage-free signal output, contact capacity is AC250V/5A.
	Source II ON output	■	■	Terminals 201 and 202 are source II closing voltage-free signal output, contact capacity is AC250V/5A.
	Fault alarm output	□	■	Terminals 403-404 are programmable output terminals, voltage-free closing signal output. (Default is fire feedback signal output, can choose other function as alternative(fault alarm, grid alarm, overload alarm).
	Communication port	□	■	301-303 are communication ports, respectively are A+, B-, GND. RS485 modbus protocol.

■Yes ，□ No

Note:

1. Fault alarm output and fire feedback output functions are the same port, and only one can be selected.

2.The programmable input signal terminals (401 and 402) can be defined as one of the following three types:

- Fire linkage: When input a set of voltage-free closing signals, ATS switch to the double-off position, and the fire indicator light is on.

- Prohibit transfer: When input a set of voltage-free closing signals, controller starts the locking function, disables the automatic control mode, and the remote control indicator light is on.

- Remote cut off: When input a set of voltage-free closing signals, ATS switch to the double-off position, and the remote control indicator flashes.

3. The programmable output signal terminals (403 and 404, 501 and 502) can be defined as one of the following five types:

- Fault alarm: When ATS transfer operation fails or the position micro-motion signal is abnormal, 403 and 404 terminals output a group of voltage-free closing signals.

- Grid alarm: When the grid power supply is abnormal, 403 and 404 terminals output a group of voltage-free closing signals.

- Overload alarm: When the generator signal starts, 403 and 404 terminals output a group of voltage-free closing signals. Then user turns off some unnecessary loads according to the output signal to ensure the normal operation of the generator.
- Fire feedback: After fire-linkage function starts, ATS switch to the double-off position, the 403 and 404 terminals output a group of voltage-free closing signals.
- Two power supply abnormal output separately: When source I power supply is abnormal, 403 and 404 terminals output a group of voltage-free closing signals, when source II power supply is abnormal, 501 and 502 terminals output a group of voltage-free closing signals. When this function is turned on, the generator start function is disabled.

4. Above programmable ports can be set in F menu.

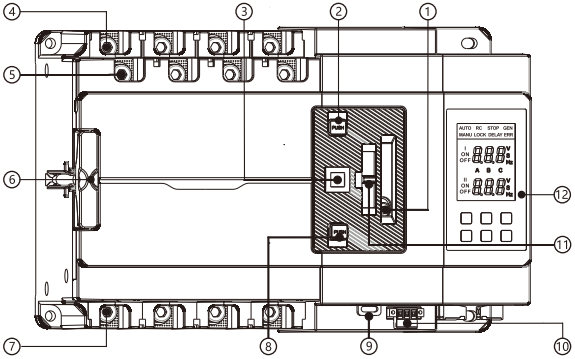
5. Structural and working principles

5.1 Overall structure and working principle characteristics

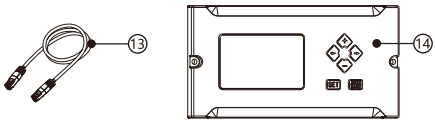
RDS5 series ATS has two types: integral type and split type. The integral type consists of the main body and the controller, the split type consists of the integral type plus a set of standard connecting wires (length 2 meters) and a split display module, which can be installed on the cabinet panel door.

ATS's controller monitors the power supply signal. When the power supply is abnormal, such as undervoltage, phase loss, etc., controller sends signal to operate ATS, and switch the circuit to the other normal power supply to ensure the reliability of power supply for important loads.

5.2 Controller function description



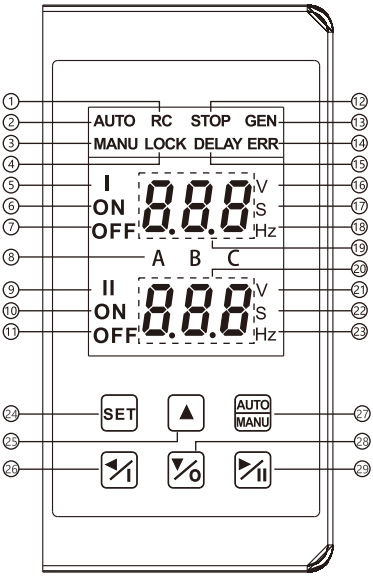
Integral type outlook



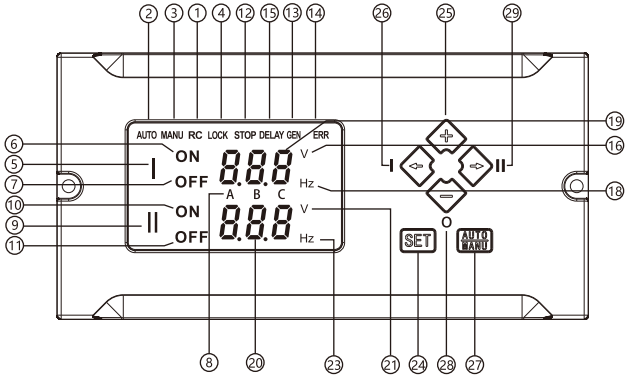
Split LCD and cable set

Table 3

Code	Description	Code	Description
1	Manual handle operation area	8	Manual operation source I closing button
2	Manual operation source II closing button	9	Mechanical padlock hole
3	Mechanical indicator for ATS ON/OFF status	10	Neutral source for 3P ATS
4	Source I terminals	11	Mechanical toggle switch
5	Source II terminals	12	Control module
6	Manual operation handle	13	Cable for split LCD
7	Load	14	Split LCD



Integral type control module



Split LCD

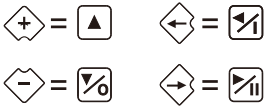
Note:

1. The split LCD and the integrated LED display the same content, only layout difference.

2. The split LCD buttons and the integrated LED buttons are different in symbols, but functions are same.

3. The split LCD and the integrated LED have the same operation method.

Corresponding symbols of LCD/LED keys are as follows:



1) LCD/LED symbol description

①**RC**: The controller is in remote control status, and the automatic/manual mode is invalid.

②**AUTO**: ATS is in auto running mode

③**MANU**: ATS is in manual running mode, can only operate through controller keys.

④**LOCK**:When mechanical toggle switch not in AUTO position, display shows"LOCK", at this time, ATS can only be manually operated via handle, or in padlock status.

⑤**I**: Source I power supply.

⑥**ON**: Source I is on power supply.

⑦**OFF**: Source I is off power supply

⑧**A/B/C**: when A lighted, means currently display phase A's voltage/frequency. Likewise B and C.

⑨**II**: Source II power supply.

⑩**ON**: Source II is on power supply.

⑪**OFF**: Source II is off power supply

⑫**STOP**: Fire-linkage status, ATS in double OFF position.

⑬**GEN**: Send generator starting signal

⑭**ERR**: The switch is abnormal, can trackdown causes via communication.

⑮**DELAY**: flashing means the switch is in a transfer delay, always lighted means in a protection state(protection from frequent transfer operation)

⑯**V**: Together with⑲, showing source I phase voltage.

⑱**Hz**: Together with⑲, showing source I phase A frequency.

㉑**V**: Together with ⑳, showing source II phase voltage.

㉓**Hz**: Together with⑳, showing source II phase A frequency.

2) Key function introduction

SET Setting key, used for function selection settings

▲ Press the key to increase the parameter value.

◀/I In settings, shift to left option, in manual mode, switch to source I ON.

AUTO/MANU Auto/Manual key, switching between automatic/manual mode.

▼/O Minus key, decrease parameter value, in manual mode, switch to OFF position.

▶/II In settings, shift to right option, in manual mode, switch to source II ON.

3) Data monitoring and display function

The function including I/II power voltage detection and display, I/II power frequency detection and display, I/II power phase sequence detection, I/II power fault detection and display.

The controller is equipped with an LED screen to display voltage and frequency in cycle. When a power failure occurs, the corresponding power supply I/II indicator flashes; when an operation fails, “ERR” flashes.

4) Transfer control function

The function including automatic transfer control, manual transfer control and remote control transfer. The automatic transfer control can be divided into auto transfer auto recovery working mode/mutual standby working mode/auto transfer not auto recovery working mode. After controller is powered on, it is in automatic working mode by default, and the “AUTO” digital tube on the panel lights up. The controller can be switched to manual working mode by pressing the "AUTO/MANU" key on the controller panel, and the “MANU” digital tube on the panel lights up.

Automatic transfer control function

Controller in auto transfer and auto recovery working mode: when the I power supply fails (over-voltage, under-voltage, over-frequency, phase loss, power failure, etc.), and the II power supply is normal, controller switches the ATS to the II power supply. When the I power supply becomes normal, controller switches the ATS back to the I power supply.

Controller in mutual backup working mode: when the I power supply fails (overvoltage, undervoltage, overfrequency, phase loss, power failure, etc.), and the II power supply is normal, controller switches ATS to the II power supply, and does not switch power supply even after I power supply becomes normal. When the II power supply fails, controller switches ATS to the I power supply.

Controller in auto transfer no auto recovery working mode: when the I power supply fails (over-voltage, under-voltage, over-frequency, phase loss, power failure, etc.), and the II power supply is normal, controller switches the ATS to the II power supply. Even if the I power supply returns to normal or the II power supply has a power failure, it will not transfer to the I position unless manual intervention.

Manual transfer control function

Two working position ATS(I-II): in manual working mode and both power supplies are normal, press the "  " key, ATS will transfer to II power supply, press the "  " key, ATS will transfer to I power supply.

Three working position ATS(I-O-III): in manual working mode and both power supplies are normal, when the ATS is in the double-off position, press the "  " key, ATS will transfer to II power supply, press the "  " key, ATS will transfer to I power supply. When the ATS is in any closing position, press the " " key, ATS will transfer to double-off position.

Remote control transfer function

For controller with remote control transfer function, user can send commands through the serial RS485 communication interface to remotely command ATS switch to I/II power or cut off both power.

Note: Before remote control, needs to set the controller in remote working mode, more details please refer to the RS485 communication protocol.

Fire linkage function

For controller with fire linkage function, when receiving the fire linkage signal, the controller immediately switch the ATS to the double-off position, thereby cutting off the load power supply. After the fire linkage signal is removed, controller switches the ATS back to the I power supply.

Note: This function is not available at two working position ATS(I-II).

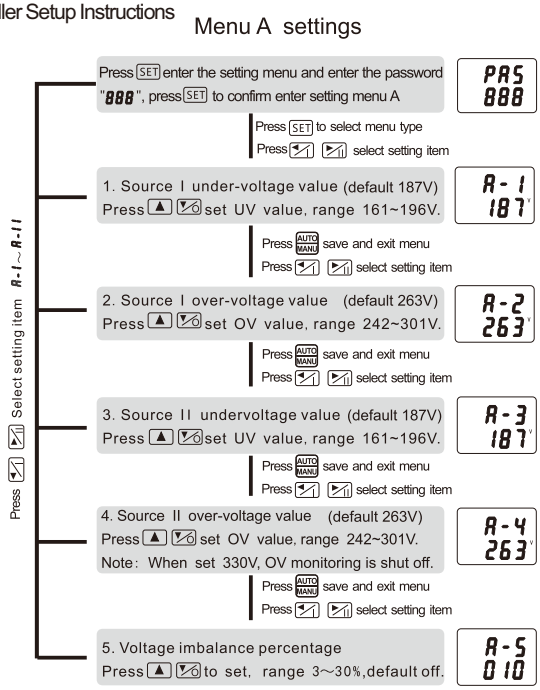
6) Fault recording storage and history query function

For the controller with fault recording and storage function, the controller will automatically record the fault information of its power supply and the controller itself, and automatically add a time tag to the corresponding record before storing it. The saved history can be queried through the serial RS485 communication interface. By adopting this storage mechanism in the controller, historical events such as power failures, or controller itself problem can be traced down, providing a reference for troubleshooting.

7) Data communication function

This ATS provides an optional a set of half-duplex serial physical RS485 interfaces, allowing up to 247 nodes to be connected to the bus, supported by Modbus communication protocol which is commonly used in industrial standards (please contact supplier for more details)

8) Controller Setup Instructions



Continue

Press AUTO MANU save and exit menu

Press ◀ ▶ select setting item

6. Under frequency protection percentage

press ▲ ▼ to set, range 2～10%,default off.

Press AUTO MANU save and exit menu

Press ◀ ▶ select setting item

7. Over frequency protection percentage

press ▲ ▼ to set, range 2～10%,default off.

Press AUTO MANU save and exit menu

Press ◀ ▶ select setting item

8. OFF delay timer (default 5s)

press ▲ ▼ to set, range 0.5~180s.

Press AUTO MANU save and exit menu

Press ◀ ▶ select setting item

9. ON delay timer (default 5s)

press ▲ ▼ to set, range 0.5~180s

Press AUTO MANU save and exit menu

Press ◀ ▶ select setting item

10. Generator start delay timer (default 30s)

press ▲ ▼ to set, range 0～999S

Press AUTO MANU save and exit menu

Press ◀ ▶ select setting item

11. Generator stop delay timer (default 30s)

press ▲ ▼ to set, range 0～999S

Press AUTO MANU save and exit menu

Menu b settings

Press [SET] enter the setting menu and enter the password "888", press [SET] to confirm enter setting menu A, then press [SET] to confirm enter setting menu B.

PAS
888

Press [◄] [►] Select setting item b-1 ~ b-11

1. Power supply type
press [▲] [▼0] to change.
0 –power grid–power grid(default)
1 –power grid–generator

b-1
000

Press [AUTO/MANU] save and exit menu
Press [◄] [►] select setting item

2. Transfer mode
press [▲] [▼0] to change.
0 –Auto transfer auto recovery(default)
1 –Auto transfer no auto recovery
2 –Mutual standby

b-2
000

Press [AUTO/MANU] save and exit menu
Press [◄] [►] select setting item

3. Priority mode
press [▲] [▼0] to change.
0 –source I priority(default)
1 –source II priority

b-3
000

Press [AUTO/MANU] save and exit menu
Press [◄] [►] select setting item

4. Source I under voltage
press [▲] [▼0] to change.
0 – Under voltage OFF
1 – Under voltage ON(default)

b-4
001

Press [AUTO/MANU] save and exit menu
Press [◄] [►] select setting item

5. Source I over voltage
press [▲] [▼0] to change.
0 – Over voltage OFF
1 – Over voltage ON(default)

b-5
001

Press [AUTO/MANU] save and exit menu
Press [◄] [►] select setting item

6. Source II under voltage
press [▲] [▼0] to change.
0 – Under voltage OFF
1 – Under voltage ON(default)

b-6
001

Press [AUTO/MANU] save and exit menu
Press [◄] [►] select setting item

7. Source II over voltage
press [▲] [▼0] to change.
0 – Over voltage OFF
1 – Over voltage ON(default)

b-7
001

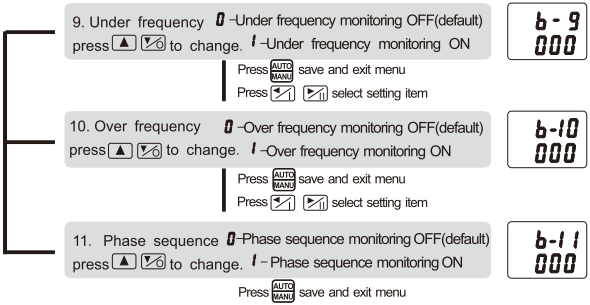
Press [AUTO/MANU] save and exit menu
Press [◄] [►] select setting item

8. Voltage unbalance
press [▲] [▼0] to change.
0 –Voltage unbalance monitoring OFF (default OFF)
1 –Voltage unbalance monitoring ON

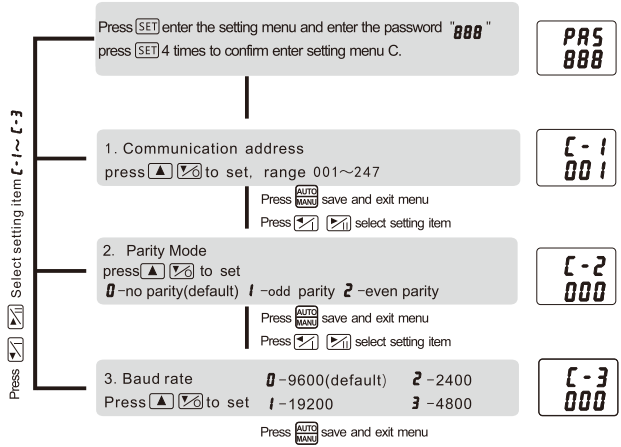
b-8
000

Press [AUTO/MANU] save and exit menu
Press [◄] [►] select setting item

Menu b settings(continue)



Menu C settings



Query current time menu

When the display is in the main interface, press ▲ to query the current time.

When the display is in the main interface, press and hold ▲ for 5 seconds to modify current time.

Press ◤ Select setting item d-1 ~ d-7

1. d-1 Year Press ▲ ▼ to set, range 001～099
023 Indicates that the current year is 2023, and so on.

Press AUTO MANU save and exit menu
Press ◤ ▶ select setting item

2. d-2 Month Press ▲ ▼ to set, range 001～012
001 Indicates that the current month is Jan., and so on.

Press AUTO MANU save and exit menu
Press ◤ ▶ select setting item

3. d-3 Date Press ▲ ▼ to set, range 001~031
001 Indicates that the current date is the 1st, and so on.

Press AUTO MANU save and exit menu
Press ◤ ▶ select setting item

4. d-4 Week day Press ▲ ▼ to set, range 001~007
001 Indicates that currently is Monday, and so on.

Press AUTO MANU save and exit menu
Press ◤ ▶ select setting item

5. d-5 Hour Press ▲ ▼ to set, range 001~023
012 Indicates that currently is 12 o'clock, and so on.

Continued

Press AUTO MANU save and exit menu
Press ◤ ▶ select setting item

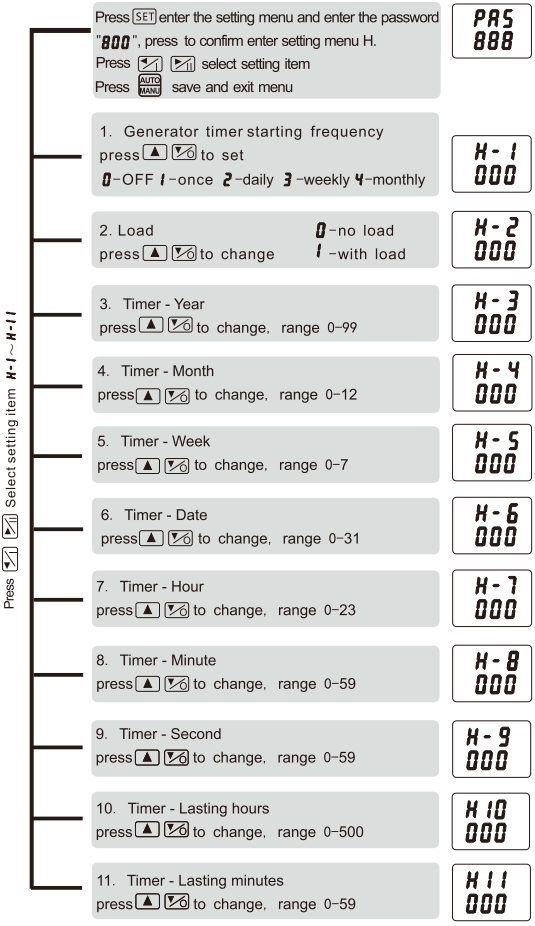
6. d-6 Minute Press ▲ ▼ to set, range 001~059
008 Indicates that current minute, and so on.

Press AUTO MANU save and exit menu
Press ◤ ▶ select setting item

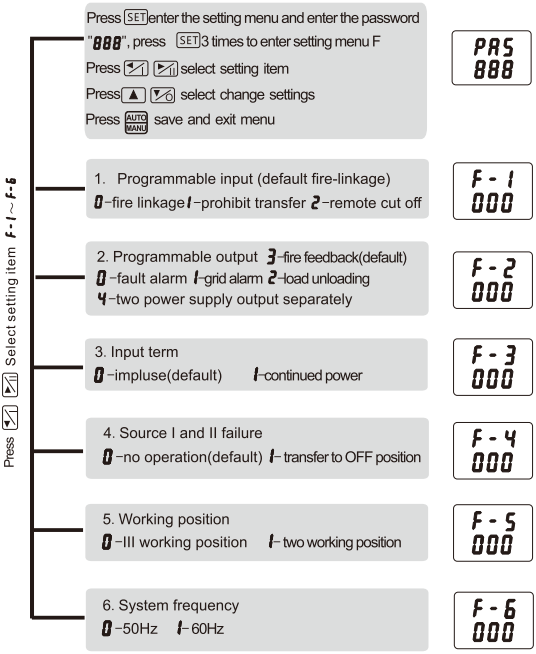
7. d-7 Seconds Press ▲ ▼ to set, range 001~059
008 Indicates that current seconds, and so on.

Press AUTO MANU save and exit menu

Menu H(Generator start timer)settings

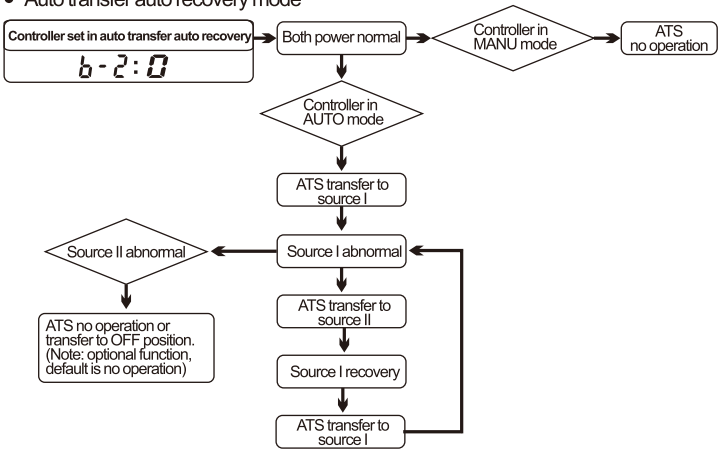


Menu F(optional functions)settings

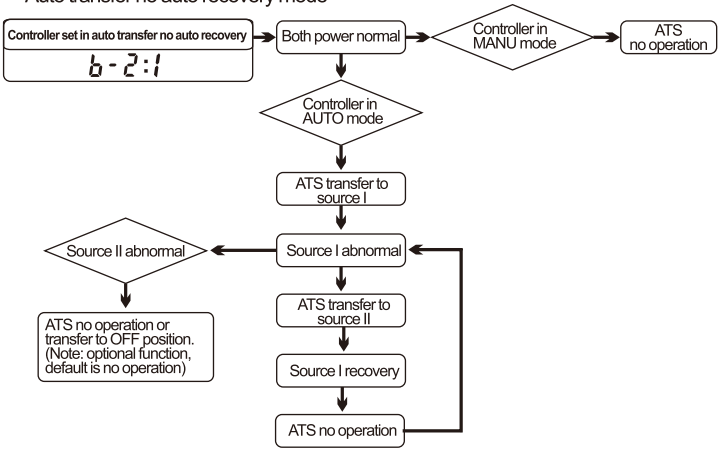


9) Controller working flow

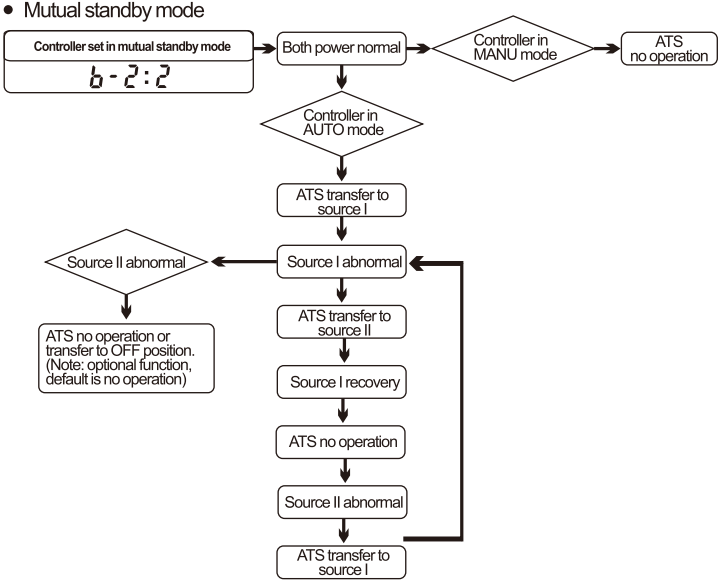
- Auto transfer auto recovery mode



- Auto transfer no auto recovery mode

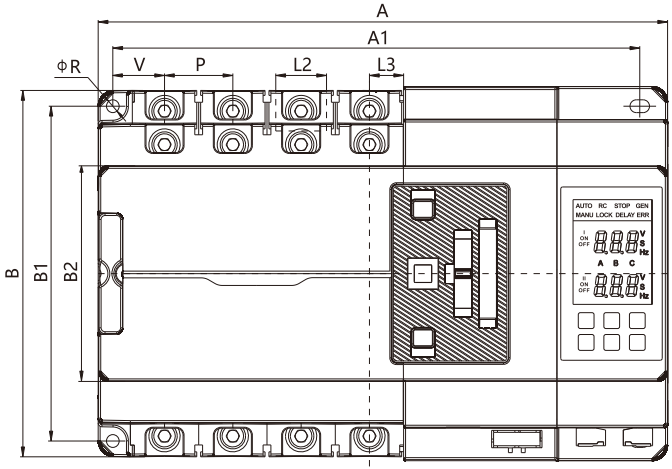


- Mutual standby mode

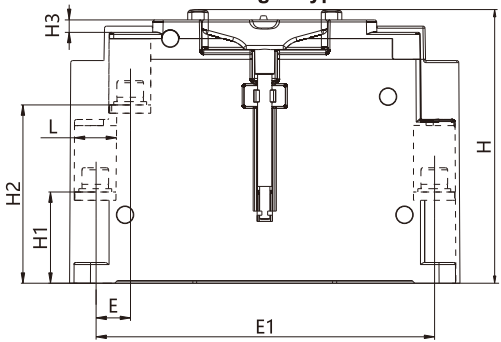


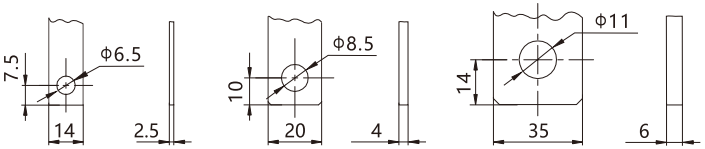
6. Structure and overall dimension

The S5 series ATS body adopts a single pole assembly structure, the difference in the horizontal direction of 2P/3P/4P products with the same frame size is only a multiple of the width of the single pole, and they are the same in both the vertical and depth directions; The only difference between two working position and three working position products are OFF working position, and internal components inside the mechanism, their appearance and installation dimensions are the same.



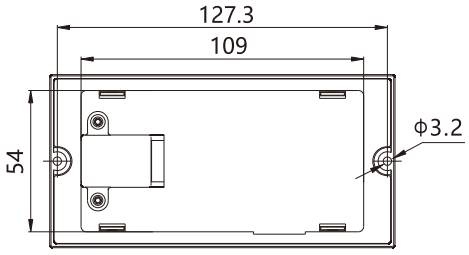
Integral type



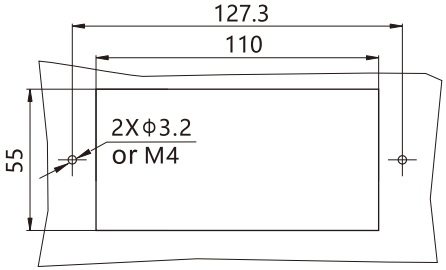


125 frame size　250 frame size　400/630 frame size

ATS copper bar dimension



Separable LCD dimension



Separable LCD cut out size

Overall and installation dimension

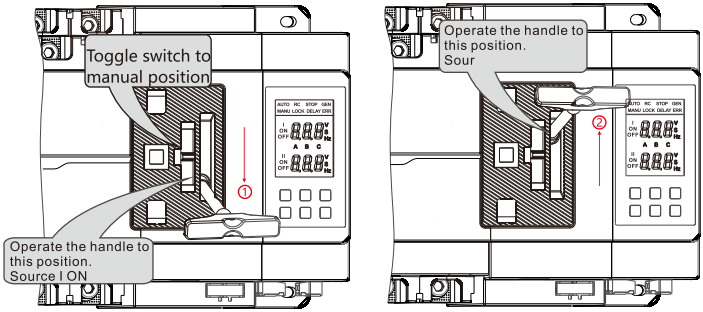
SPEC.		Overall dimensions(mm)					Installation dimension(mm)										
Ith	Poles	A	B	H	B2	H3	A1	B1	H1	H2	E1	E	R	V	P	L	L2	L3
125A	4P	238	140	115	75	5	220	125	34	68.5	124	15.5	4.5	20.5	25	17.5	18	12.5
	3P	213					195											
	2P	188					170											
250A	4P	292	190	132	109	6	270	170	44	86	165	17	6.5	26.5	35	20	26	17.5
	3P	257					235											
400A 630A	4P	375	285	195	140	12	345	252	56	106	250	27	11	40	45	33	37	21.5
	3P	330					300											

Note:
1. ATS cut out size refer to A1, B1 and R.
2. Cable lug or copper bar please refer to Ith, L2, L and ATS copper bar size.

7. Installation manual operation

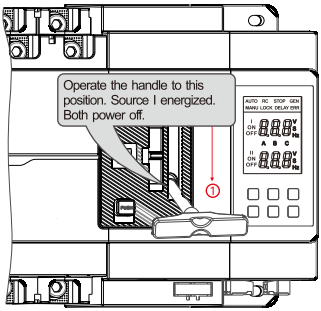
7.1 Basic operation check

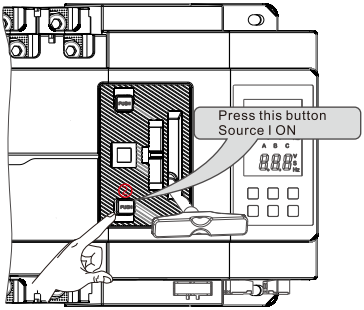
Two working position ATS handle manual operation

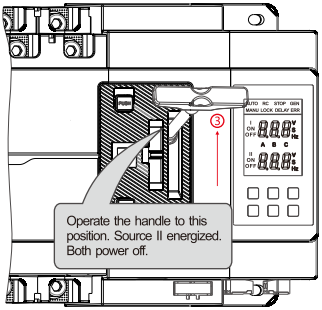


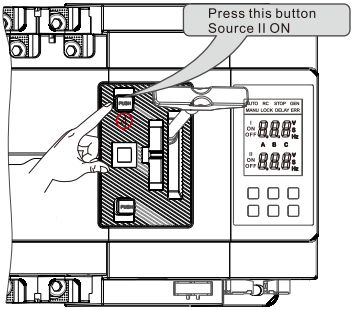
During manual operation, the toggle button must be slid to the manual position.
Source I ON: Operate the handle according to direction ①
Source II ON: Operate the handle according to direction ②

Three working position ATS handle manual operation









During manual operation, the toggle button must be slid to the manual position.

Source I ON:

Use the operating handle according to direction ①, then press button on ②.

Source I transfer to OFF position:

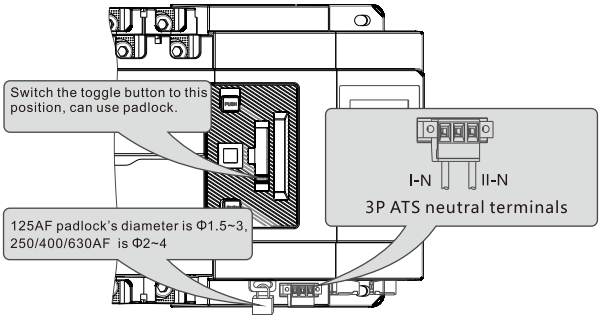
Operate the handle according to direction ③, souce I off/source II energized.

Source II ON: Operate the handle according to direction ④

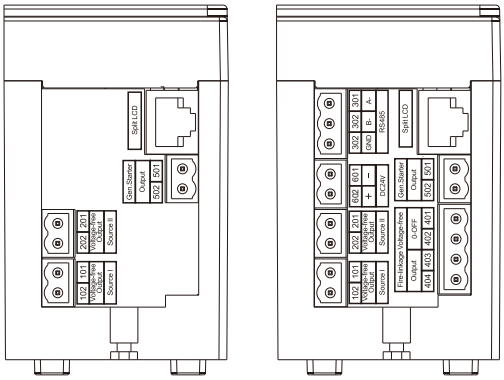
Source II transfer to OFF position:

Operate the handle according to direction ①, souce II off/source I energized.

Padlock and 3P ATS neutral terminals

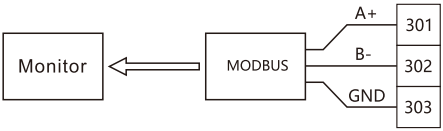


7.2 Controller terminal introduction and wiring

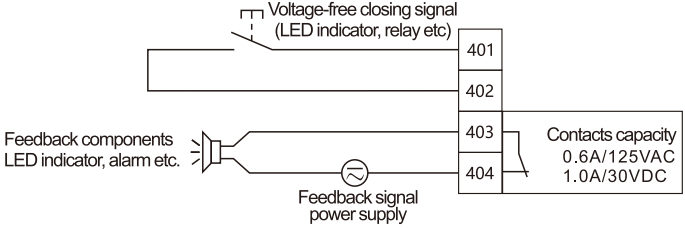


101-102: Connecting external LED indicator for source I power ON(voltage-free output)
201-202: Connecting external LED indicator for source II power ON(voltage-free output)

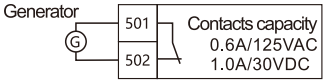
301-303: RS485 communication port, can remotely control ATS actions, read switch status parameters and fault codes.



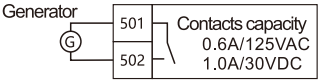
401~402 are programmable voltage-free signal input terminal, it's default function is fire-linkage, other optional functions are prohibit transfer, remote control.
403~404 are programmable voltage-free signal output terminal, it's default function is fire-linkage feedback, other optional functions are fault alarm, grid alarm, overload alarm, two power supply abnormal output separately. When internal contacts closing, output signal.
Notes: 1. Only three working position ATS (I-O-II) can choose fire-linakge, remote control or fire-linkage feedback function. 2. Fire-linkage has two input signal optional"
① Impluse signal(input pulse signal to 401~402, ATS transfer to double off position, cut off both power, after fire signal removed, needs to press once " AUTO MANU " key to restore original settings.
②Continued signal (input continued signal, to 401~402, ATS transfer to double off position, cut off both power, after fire signal removed, restore original settings.



501~502 is by default generator start/stop voltage-free signal output. When source I abnormal and source II not powered, internal contacts closing, send voltage-free closing signal to start generator; when ATS detects source I recovery, internal contacts opening, send signal to stop generator. When two power supply output separately function is choosed, 501-502 is source II abnormal output.

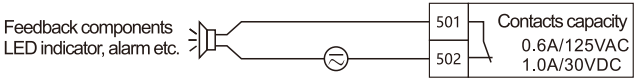


Generator start wiring diagram



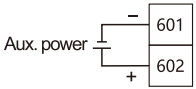
Generator stop wiring diagram

When two power abnormal, source II abnormal output wiring diagram

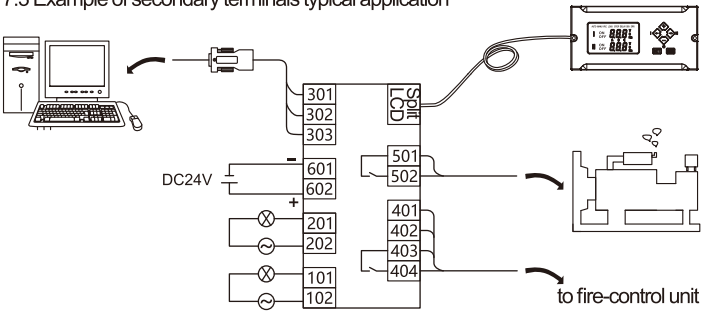


Feedback signal power supply

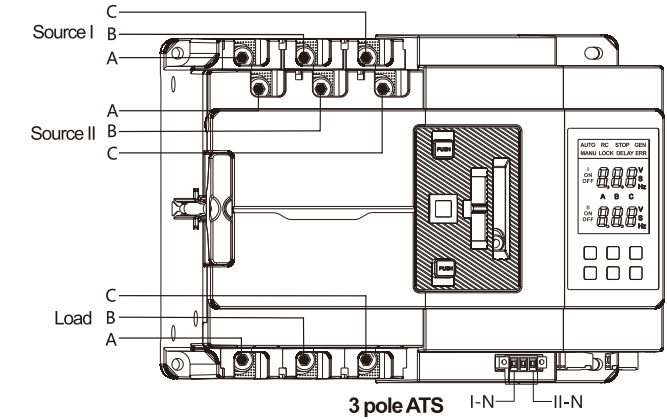
601~602: Auxiliary power input terminal, when need to delay starting generator or need monitor ATS when two power source are unavailable, connect DC24V power to 601-602.



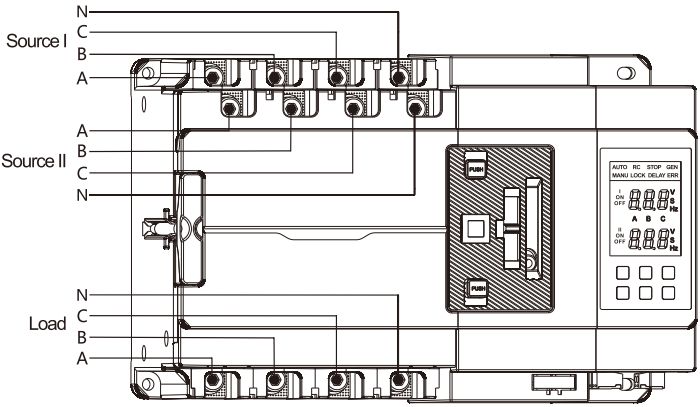
7.3 Example of secondary terminals typical application



7.4 Phase sequence and power supplies



3 pole ATS



4 pole ATS

Note: 125 frame size 2P switch only have phase A and phase N(phase N position is same as 4P switch), 2P switch dossn't have neutral terminals(I-N/II-N), overall size please refer to section 6.

Installation screws specification

Name	S5-125	S5-250	S5-400	S5-630
Screw for ATS mounting	M4×20	M6×20	M10×35	
Tightening torque at ATS mouting	3.0N•m	7.0N•m	22.0N•m	
Screw for copper terminal	M6×16	M8×20	M10×35	
Tightening torque at copper terminal	7.0N•m	10.0N•m	22.0N•m	

7.5 Preparation and Inspection Before Use

Before installation, ATS should be stored in a clean and dry environment to prevent dust or water. The environment should have good ventilation and suitable temperature to prevent condensation on the equipment.

Before ATS is powered on:

1. Use a vacuum cleaner to remove debris generated during transportation and installation from the switch
2. Confirm that all cables are correctly connected to the copper bars
3. Confirm that all arc separators have been correctly installed
4. Each ATS has undergone factory inspection before leaving the factory

7.6 Safety and protection before and during usage

All power must be turned off before installing, debugging, or plugging in ATS or its internal components. Before drilling conduit holes or any accessory installation holes, please cover the switches and controllers to prevent dust or iron filings entering mechanical or electrical components. Dust or iron filings entering may cause damage or misoperation of the switch. When conducting high voltage or dielectric experiments on the power supply, please operate correctly according to the technical parameters of this product (Uimp: 8kV, Ui: 800V). If necessary, be sure to take out ATS controller and disconnect the controller from the body to avoid damage.

8. Maintenance, transportation, and storage precautions

Maintenance, transportation, and storage precautions

8.1 Daily maintenance, calibration

Regularly check whether there is dust, dirt, or moisture on the switch. Use a vacuum cleaner or a dry cloth or soft brush to clean the switch. Do not use a blower to handle the switch, as using a blower may cause debris to adhere to electrical or mechanical components, resulting in damage to the switch. All excessively worn and unusable components must be replaced with our recommended parts. For special components and their ordering information, please contact our company.

Products with regular generator start-up testing function must be calibrated according to local time by users during use to ensure that ATS performs generator start-up testing operations at the correct time. It is recommended to calibrate the product no more than once every 6 months during use.

8.2 Maintenance during operation

To ensure proper operation, it is recommended to regularly test the transfer switch under load conditions.

9. Troubleshooting

Fault analysis and troubleshooting

Faults	Analyze	Troubleshooting	Note
The indicator light for the controller's I or II power supply is flashing	Malfunctions such as undervoltage, overvoltage, under frequency, and over frequency in the I or II power	Check if the power supply is abnormal and if the wiring is loose	
ATS cannot switch the load to the I power supply	There is a fault in the I power supply or the controller is in auto transfer not auto recovery mode, or mutual standby mode	Check if there is a fault in the I power supply, or if the controller is in auto switching and auto recovery mode	
Controller "ERR" indicator flashing	Controller I/II switching failed, wrong settings of two working position and three working position	Check if the settings of II and III working position are wrong.	
ATS cannot automatically transfer	Controller is in manual mode, or the toggle switch is not in the automatic position	Controller set to auto mode and toggle switch put in automatic position	

10. Shelf life and environmental protection

To provide better after-sale service, our company makes the following instructions on the shelf life and after-sales service:

Under proper storage and usage conditions, we provide 12 months warranty (but not more than 18 months from the date of delivery). During this period, the user must use and maintain the product in accordance with the regulations. When the product is damaged or cannot be used normally due to quality problems, the company will repair and replace it for user free of charge.

If the fault is caused by the following reasons, it can be repaired or replaced even within the warranty period:

1. Failures caused by improper use, self-modification and unauthorized disassembly;
2. Due to drop and damage during installation;
3. Exceed the standard specifications for product use;
4. Damage caused by irreversible factors: such as earthquakes, fires, lightning strikes, abnormal voltages, other natural disasters and secondary disasters.

Dear customers:

Please help us do one thing, when this product is at the end of its life, in order to protect our environment, please recycling the product or other parts and materials. Dispose of materials that cannot be recycled. Thank you very much for your cooperation and support.

11. Ordering notice

1. Complete information on ATS model, current, number of poles, etc
2. Controller type
3. Order quantity

Example: Model, Shell current: 125A, B-type controller, 4P, three-stage, rated current 125A, integral type, 50 units:-
RDS5-125B/4P III 125A, integral type 50pcs.