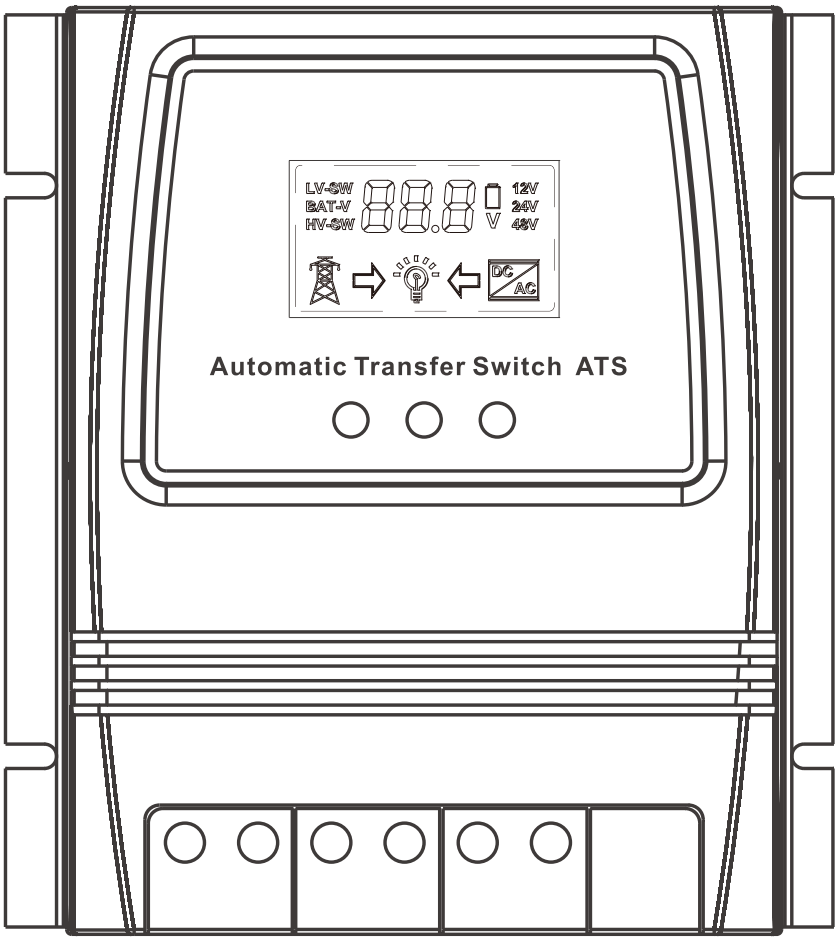
English Version

Automatic Transfer Switch

User Manual



AJ15

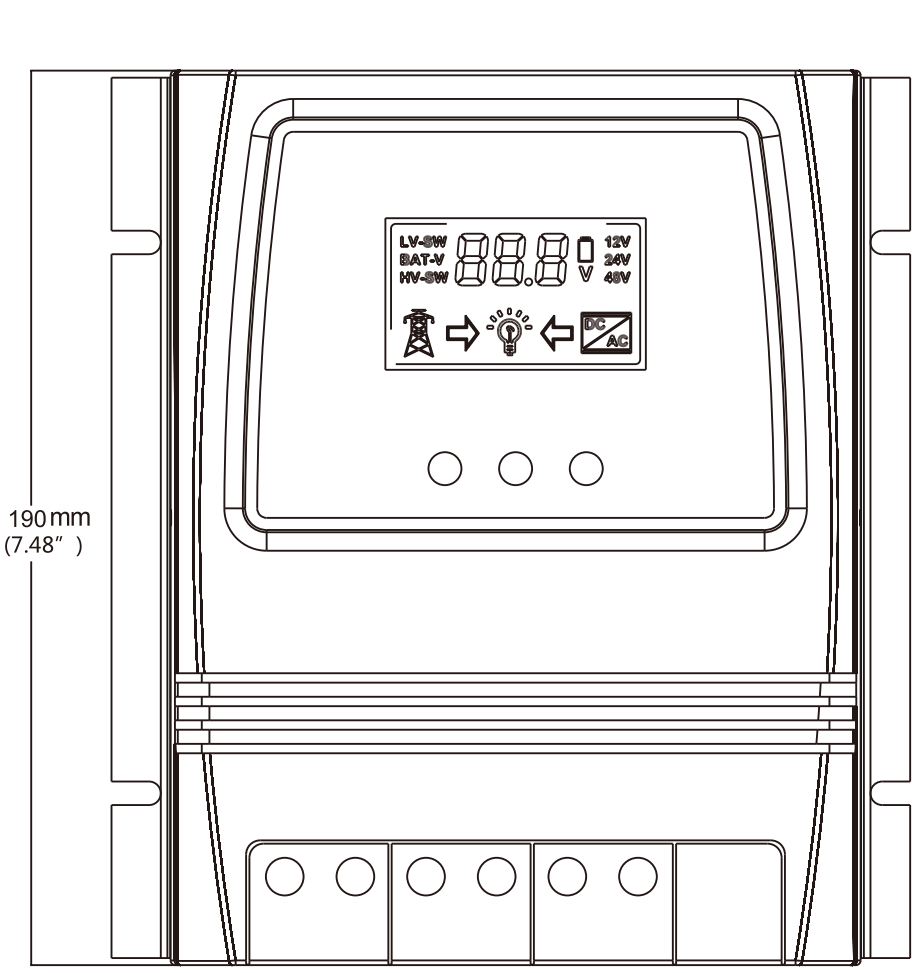
English Version

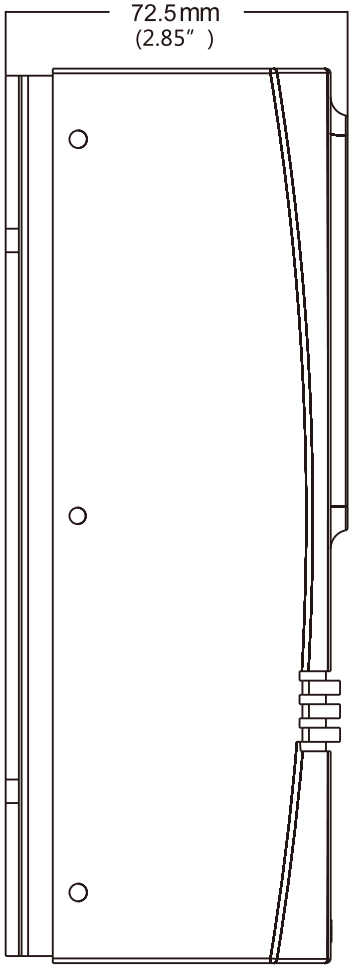
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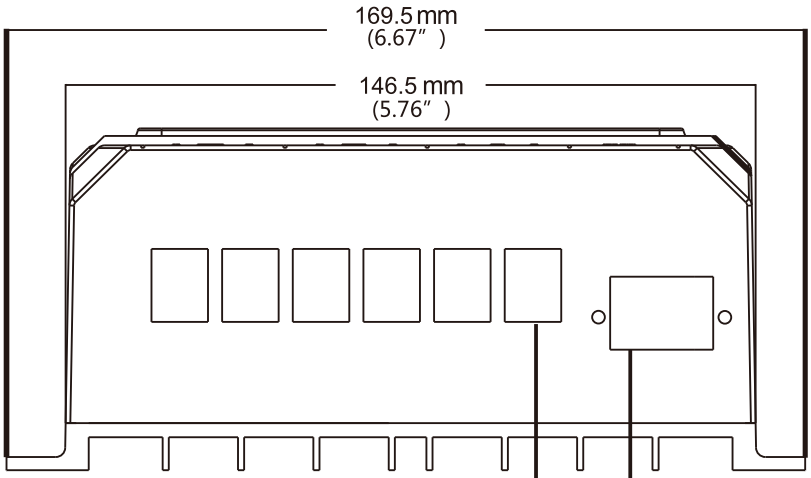
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Thank you very much for selecting our products. Please review this manual carefully before installing and operating the Dual Power Smart Automatic Transfer Switch.
Please note ALL safety recommendations.

Product dimensions



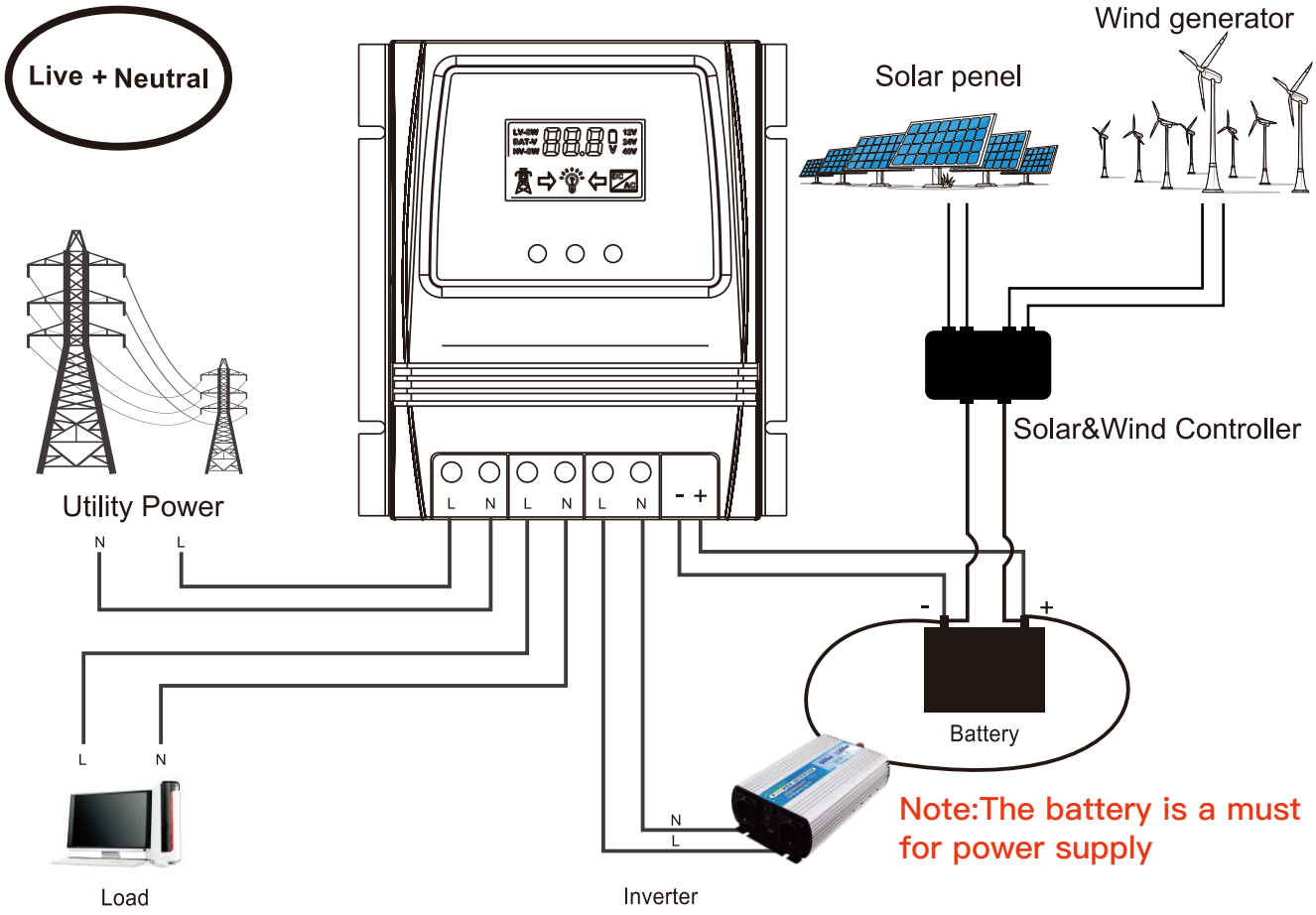




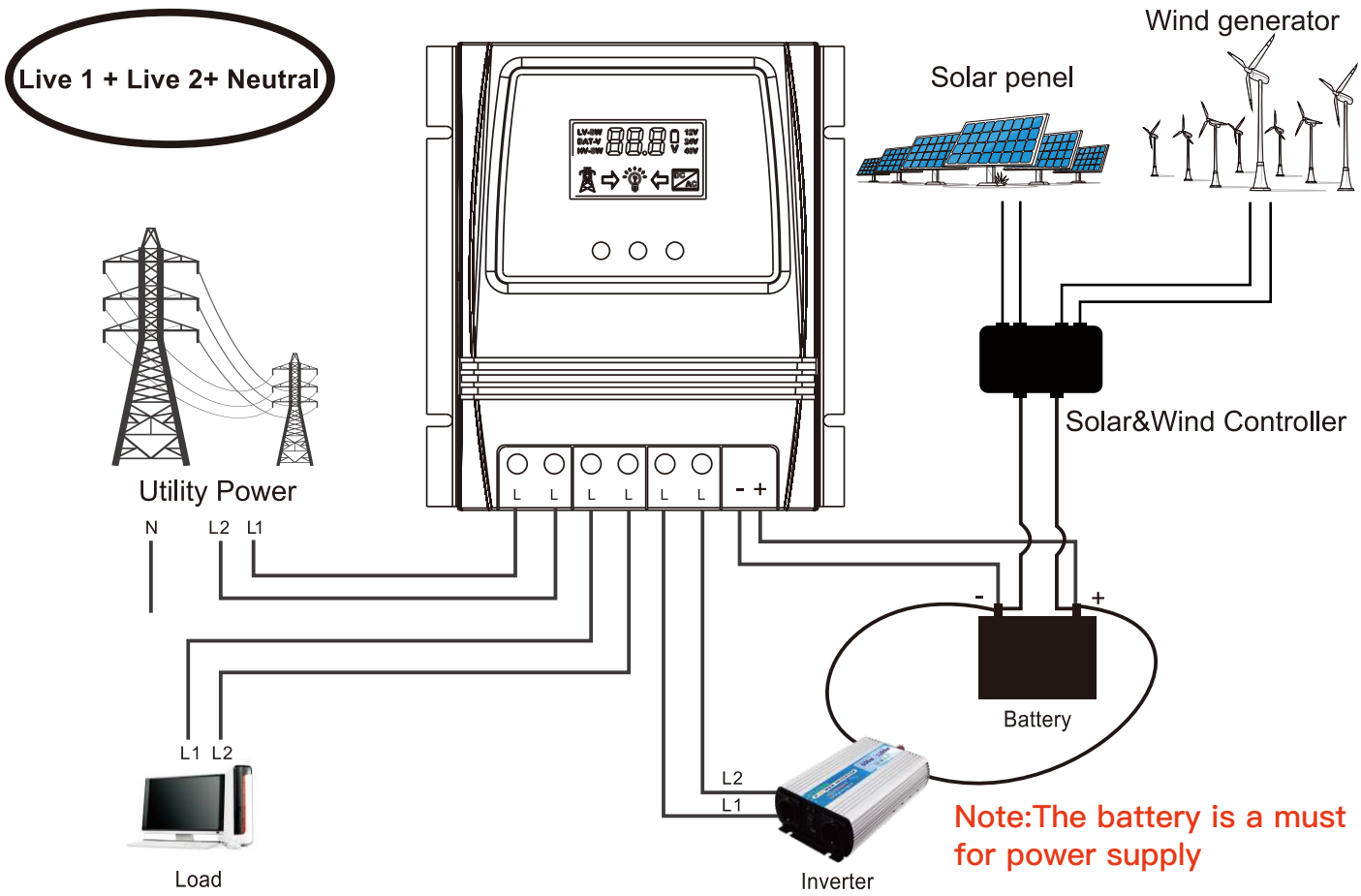
Maximum Wire Gauge:AWG 14 (2.5mm^2)

Maximum Wire Gauge:AWG 6 (16mm^2)

L+N Connection diagram



L1+L2+N Connection diagram



Technical Specifications

Model	ATS-11KW
Rated Power	5.5kw(Utility Power 100-120V) 11kw(Utility Power 220-240V)
Input Voltage	Auto Selection:AC 100-120V or AC 220-240V
Output Voltage	Auto Selection:AC 100-120V or AC 220-240V
Transfer time	Inverter transfer time to utility power ≦10ms Utility power transfer time to inverter ≦16ms
LCD Display	Battery voltage; Power source: Utility power or battery-inverter.
System Voltage	Auto Select: 12V or 24V or 48V
Battery low voltage transfer setpoints	Default: 11v/22v/44v, adjustable
Battery recovery Setpoints	Default: 13.5v/27v/54v, adjustable
Application	Off grid solar system; Wind generator; Hydro generator
Product Size	19*17*7.25cm(7.4”*6.7”*2.8”in)
N.W/PC	1.26KG(2.8lbs)
G.W/PC	1.63KG(3.6lbs)

Application

The ATS power transfer controller provides reliable operation of an inverter and AC utility power in one compact device. The ATS switches automatically between the AC utility power and the inverter, while protecting the inverter against external Voltages.

Product introduction

The Dual Power Transfer Controller is used between an Off-Grid Power System and the Public Utilty Power Supply. The ATS Controller connects separately to 1) Utility Power 2) Inverter 3) Battery 4) Load. The User Interface allows for both Monitoring of the ATS Operating State and Adjusting Voltage Setpoints. The Master ON / Off Switch is located at the Top of the Controller for easy access.

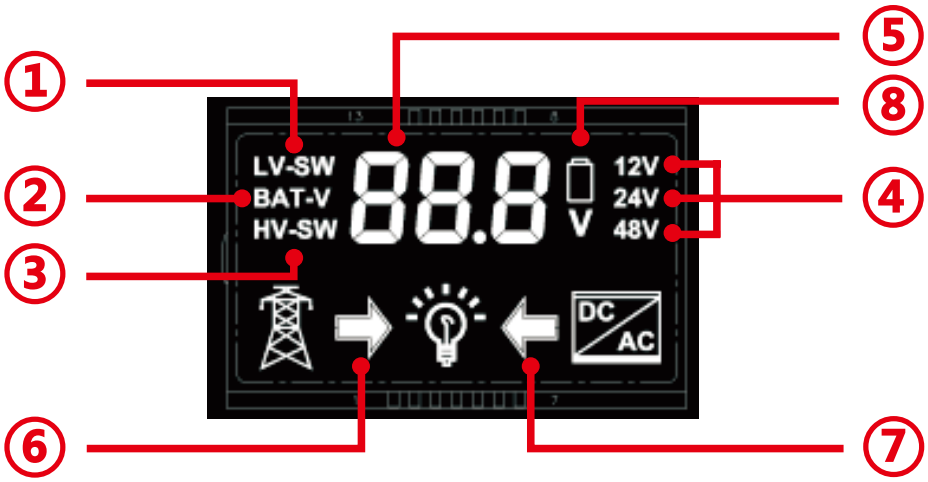
Installation

1. The design of your off-grid system and installation of this transfer switch should only be performed by qualified end users, electricians or technicians authorized and licensed where required by local codes.
2. Before installation of this device, please review this manual in its entirety before beginning work.
3. Install / mount the ATS controller to a clean, and dry surface, and in a suitable location that will allow free air circulation around the ATS at all times. Insure all cables are of adequate length to allow for proper strain relief at the ATS connection block.
4. Insure all safety protocols are followed. Check all ac power supplies are off and secured with a safety lock-out tag system to prevent inadvertent power actuation.
5. All power connection cables must meet minimum wire gauge recommendations set by standard electrical requirements and your local codes.
6. Verify all connections are connected and tightened properly! Loose electrical connections will overheat and can damage the ATS and can cause fires.
7. Do not connect the neutral connector on the user side to ground connection or to a protective ground connector, as the user outlets have no protective multiple grounding.
   Note! Do not connect the “pe” grounding wire (protective earth) to the neutral connector.
8. After insuring the above steps are complied with and you have verified all the connections are properly terminated, proceed with the final connections to the utility power, inverter, battery, and load(s)
9. Turn on the master switch located at the top of the ATS.
10. Perform voltage & ammeter checks on your newly installed system to verify your ATS is operating within the specified operating parameters.

Auto-Select Voltage Range

12V system detection voltage range 9V-17V
24V system detection voltage range 18V-30V
48V system detection voltage range 30V-60V

LCD Display



① LV-SW interface--setting the switching voltage function

② BAT-V interface--normal displaying battery voltage

③ HV-SW interface--setting the recovery voltage

④ 12V, 24V, 48V Interface - Displayed after ATS Identifies Voltage Supplied

⑤ LCD digital: a. battery voltage

b. low voltage setting switching voltage

c. low voltage recovery to set switching voltage

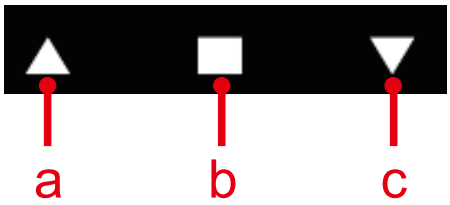
⑥ ➡ Right arrow shows low voltage switchover to utility status

⑦ ⬅ Left arrow shows low voltage is restored to the inverter

⑧ LCD red no function control display, fixed display after power on.

The battery Icon indicates low battery status

Key Functions



Front Panel Key Buttons:

a. Add button
b. Function button
c. Minus button

a.The add button is only valid in function setting voltage (0.1V per trigger).
b.The function button have respectively 3 kinds of independent display interface state BAT-V,LV-SW, HV-SW, pressing the button to display circularly in order, the power-on system default display BAT-V. When the other function interface do not display trigger signal, 10 seconds to restore the system default display BAT-V interface.
c.The minus button is only valid in the function setting voltage (0.1V per trigger).

Error adjustment

If any error voltage value occurs, press and hold the add button and the minus button at the same time for 3 seconds to release the 0.0V voltage flicker. Press the add or minus button to modify the detection error voltage value. Press and hold the function button for 3 seconds after modification to save the modified value.

Display function selection

① When function setting display the BAT-V interface, (system default display) the LCD digital display system is real-time tracking battery voltage.
② When function setting display the LV-SW interface, the LED digital display low-voltage switch voltage(default value), then press the button to increase or to modify the default value, pressing and holding the function button for 3 seconds to save and modify the value, after the LCD changing to the default BAT-V interface.
③ When function setting display the HV-SW interface, the LED digital display low-voltage recovery voltage(default value), then press the button to increase or to modify the default value, long pressing the function button for 3 seconds to save the modified value, after the LCD changing to the default BAT-V interface.

LCD Backlight

The LCD Display Backlight will Automatically Turn OFF if NO Key Activity is sensed after 60 Seconds.
Pressing Any Key will again illuminate the LCD Display for 60 Seconds.

Please Note! The LCD Panel will NOT Display / Illuminate or Function until the ATS is Properly Connected to the Required DC Power Battery Source Circuit of Minimum Detected Voltage.
This is a Safety Function of the ATS

12V System Working Specification

a. Battery level-LCD display

b.Detection cut off and recovery point voltage

When it is detected that the battery voltage is lower than 11V for 2 seconds (system default 11V), it is the low-voltage switching voltage, and the switching action is:

LCD- ➡ Right arrow flashes, LCD- ⬅ Left arrow display turned off, battery icon flashes.

When detecting the battery voltage rise 13.5V for 2 seconds(system default 13.5V), it is the low-voltage recovery voltage, and the switching action is:

LCD- ➡ Right arrow display turned off , LCD- ⬅ Left arrow shows flashing, battery icon flashes off.

24V System Working Specification

a.Battery level-LCD display

b.Detection cut off and recovery point voltage

When it is detected that the battery voltage is lower than 22V for 2 seconds (system default 22V), it is the low-voltage switching voltage, and the switching action is:

LCD- ➡ Right arrow flashes, LCD- ⬅ Left arrow display turned off, battery icon flashes.

When detecting the battery voltage rise 27V for 2 seconds(system default 27V), it is the low-voltage recovery voltage, and the switching action is:

LCD- ➡ Right arrow display turned off , LCD- ⬅ Left arrow shows flashing, battery icon flashes off.

48V System Working Specification

a.Battery level-LCD display

b.Detection cut off and recovery point voltage

When it is detected that the battery voltage is lower than 44V for 2 seconds (system default 44V), it is the low-voltage switching voltage, and the switching action is:

LCD- ➡ Right arrow flashes, LCD- ⬅ Left arrow display turned off, battery icon flashes.

When detecting the battery voltage rise 54V for 2 seconds(system default 54V), it is the low-voltage recovery voltage, and the switching action is:

LCD- ➡ Right arrow display turned off , LCD- ⬅ Left arrow shows flashing, battery icon flashes off.

SAFETY RECOMENDATIONS

THE FOLLOWING SAFETY RECOMENDATIONS AND HAZARD WARNINGS PROVIDE FOR THE PROTECTION OF THE ATS CONTROLLER AND THE SAFETY OF THE USER

1. Failure to install and use this ATS Controller in a safe and proper manner, and failing to adhere to all required Electrical Standards may result in Electrocution and / or Death. Consult a Licensed /Experienced Electrician for any Questions regarding the Safe and Correct Installation and continued use of this product.
2. This Power Controller should be mounted in a secure location and only authorized individuals should be granted access to it.
3. Check the power transfer controller in connection cables before starting operation, and periodically. If you detect any damage (i.e. transport or shipping damage) to the power transfer controller, do not install or attempt to use. Notify your shipper immediately. Damaged connection cables must be replaced immediately.
4. When installing and using this ATS controller, it must not be subjected to or exposed to the following conditions at any time. Electrical Shock / Fire / Explosion / Internal and/or External Damage to the Device can occur.

a) ambient temperatures above 50℃(122°F)
b) presence of flammable gases
c) flammable solvents
d) ignitable vapors
e) relative humidity in excess of 80%
f) moisture contact and or water spray of any type

5. Do not install or use the ATS controller near ignition sources, open fire or other heat sources such as heaters, gas stoves or direct solar radiation.The manufacturer reserves the right to make alterations, modifications and or additions to both this manual and to the product

Environmental Protection

At the end of its useful life, this product must not be disposed of together with normal household waste, but has to be dropped off at a collection center for the recycling of electrical devices.
The materials of this product are recyclable. With the reuse, the recycling of the materials or other forms of scrap usage, you are making an important contribution to protect the environment.

Warranty

The Manufacturer Warranties the ATS Controller for a period of One (1) Year against Defects in Workmanship and Materials.

Service and repairs to this ATS controller may only be carried out by Factory Authorized agents and personnel. Use only original spare parts for repair work. The use of any other spare parts not authorized by the manufacturer may lead to serious damage to the controller and or adjacent property and can result in personal injury.

All Repairs and Replacement Return Authorizations are at the discretion of the manufacturer. Please contact us for any questions. All inspections of in - warranty and out - of - warranty ATS must be returned to the factory for inspection and determination of warranty status.

If your unit is authorized to be returned for repair or replacement, it is your responsibility to properly disconnect the ATS and make all electrical live connections safe.

The manufacturer reserves the right to deem an ATS unrepairable after inspection.

This WARRANTY IS VOID if this ATS Controller is used for purposes or applications other than intended by the Manufacturer and/or described in this Manual.

WARRANTY ADDENDUM

The following conditions will VOID the warranty of the ATS controller, and the customer will be responsible for any and all repair costs and shipping:

1. Failure to install & operate the ATS controller according to the supplied user manual.
2. Disassembly and or attempted repairs by any unauthorized individual.
3. Environmental conditions that cause the premature failure of the device.
4. Improper installation, improper operating parameters and/or programming, storage and/or transport.