



A-TSSP User Manual

Step1 Introduction

The Auto-Transfer Switch Single Phase (A-TSSP) controls the switching of the contactors to provide power to the EPS load in both grid-tied and off-grid conditions. The A-TSSP integrates a contactor to provide users with a simple connection. It is used with Growatt Hybrid inverter and AC coupled inverter (single phase). Configured with A-TSSP, when the power outage, A-TSSP can automatically switch to Off-Grid state, it can continue to supply power to the EPS load, the load can continue to run.

Step2 The location of A-TSSP in the system

As shown in chart 2.1, the input side A-TSSP is connected with EPS and GRID of SPH/SPA inverter, the output side is connected with EPS LOAD, and the position in the system is shown in the circle in the chart 2.1. EPS LOAD default connect with Grid power, if Grid is lost, EPS LOAD will turn to EPS output of hybrid inverter.

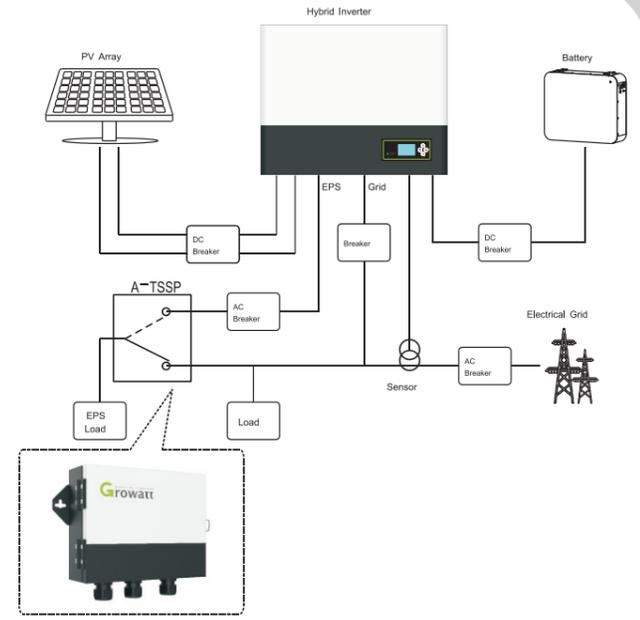


Chart 2.1

Step3 Configuration

Model Name	Growatt A-TSSP
Grid Normal Voltage	230V 50/60Hz
Grid Max Current	30A
EPS Normal Voltage	230V 50/60Hz
EPS Max Current	30A
Load Normal Voltage	230V 50/60Hz
Load Max Current	30A
Cooling Concept	Natural
Ingress Protection	IP65
Installation	Wall Mountable
Operation Ambient Temperature	-25°C ~ +50°C
Compatible Model	Growatt Hybrid inverter and AC coupled inverter (single phase)

Step4 General Information - Parts List

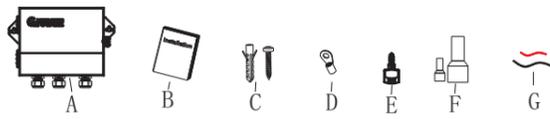


Chart 4.1

Part List		
Item	Item Name	Qty
A	A-TSSP (Auto-Transfer Switch Single Phase)	1
B	User Manual	1
C	Anchor Bolt	2
D	O-type terminal	3
E	Key	2
F	Cold pressed terminal(large /small)	10
G	Contactor control line	2

Step5 Dimension & Weight

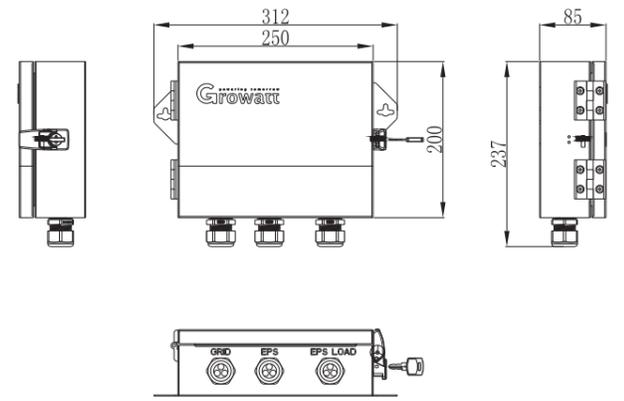


Chart 5.1

Dimension (L x W x H) : 312*237*85mm
Weight : 2.38KG

Step6 Tool



Chart 6.1

NO	Description
1	pipe clamp
2	Diagonal plier
3	Screwdriver
4	Rubber hammer
5	Driller

Step7 Opening step of A-TSSP

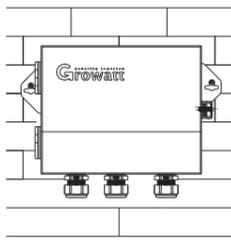
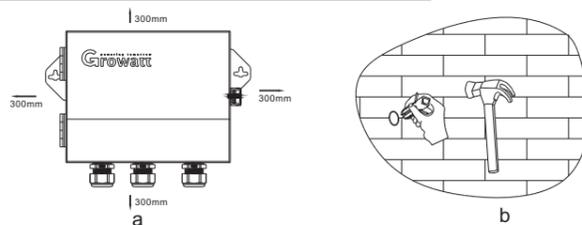


Chart 7.1

- To leave at least 300mm space from A-TSSP
- Make the position of 2 holes(282mm).
- Drill holes with $\phi 10$ drill Depth: at least 40mm.

Step8 Open the A-TSSP

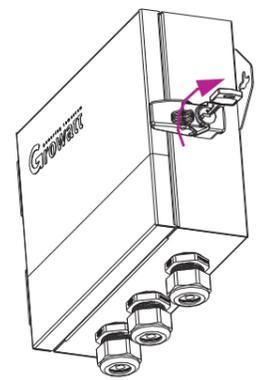


Chart 8.1

As shown above, please put the key into the Keyhole on the A-TSSP right, clockwise rotation of 90°, the lower end of the first lock up gently move Open, remove the lock at the upper end of the buckle, then you can open the cover, Step of locking the cover opposite to the above.

Step9 Wiring Connection

9.1 total wire diagram:

There are two type wire connection diagram of A-TSSP, show as below:

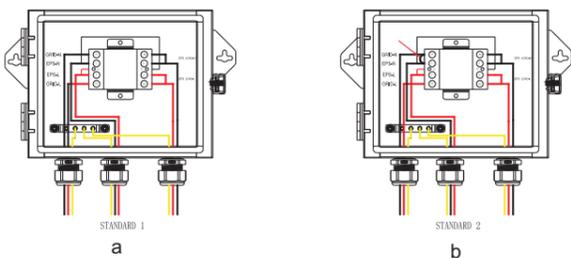


Chart 9.1

Standard 1 is for general using, and standard 2 is for like Australia where Neutral line can't be switched. When connect with A-TSSP, please check which standard is suit for you.

9.2 wires making

1. Wires below are needed before installation(16AWG wire has been configured in accessory bag).

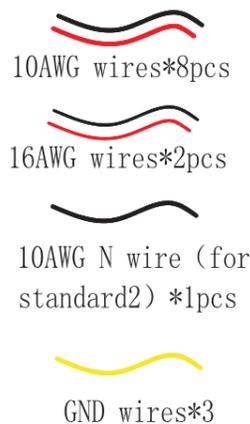


Chart 9.2

Note:

1. These include 2pcs 10AWG wire (1pcs red, 1pcs black) for shorting contactor ports 2 and 4, 6 and 8, Its length is about 60cm, 10AWG N wire (for standard2) length is about 50cm.

2. Use the diagonal plier to trip 15mm of insulation from one side of the 10AWG wires(6pcs); Use the diagonal plier to trip 15mm of insulation from two side of the 10AWG wires (2pcs, if it is standard 2, you need 3pcs); Use the diagonal plier to trip 10mm of insulation from two side of the 12AWG wires(2pcs); Use the diagonal plier to trip one side of GND wire about 7mm(3pcs).

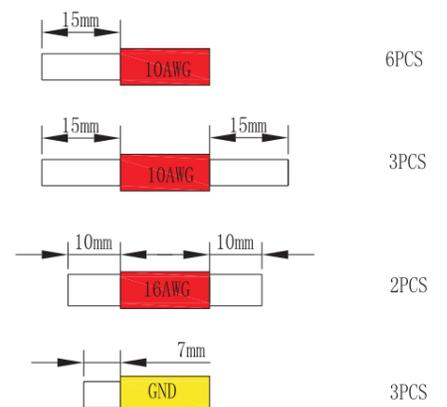


Chart 9.3

3. There are three types wire need to be machining, please check ref to 9.1 wired diagram. The follow three type wire are show as below:

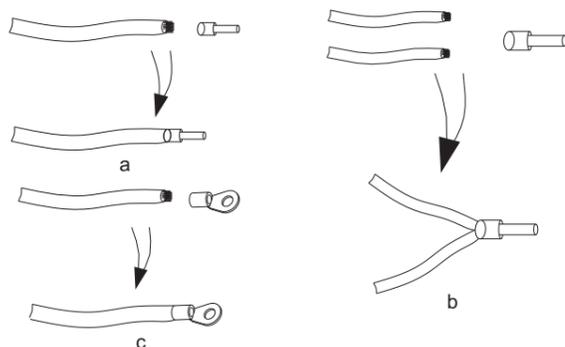


Chart 9.4

9.3 Control coil-wires Connection

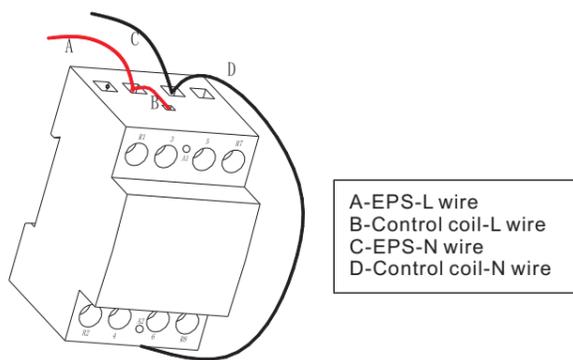


Chart 9.5

Use the screwdriver to unscrew the nut with position numbers A1, 3, A2 and 5 in the contactor, Then the red 12AWG wire ends are inserted into A1 and 3, both ends of the black 12AWG wire are inserted into A2 and 5, and tighten the corresponding nut with a screwdriver.

9.4 GRID-wires Connection

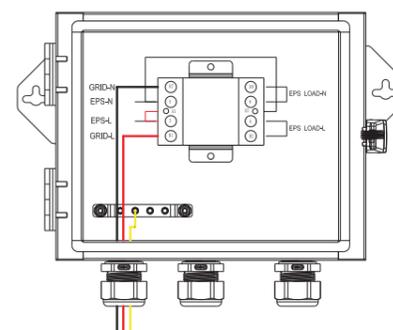


Chart 9.6

Use the screwdriver to unscrew the nut with position numbers R1 and R7 in the contactor, and then insert GRID-L wire and GRID-N wire into the port of contactor(R1&R7) through the cable nut and tighten them with screwdriver. Use a screwdriver to lock the ground wire on the E-wire copper bar.

9.5 EPS-wires Connection

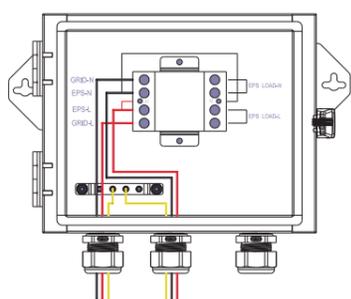


Chart 9.7

Use the screwdriver to unscrew the nut with position numbers 3 and 5 in the contactor, and then insert EPS-L wire and EPS-N wire into the port of contactor(3&5) through the cable nut and tighten them with screwdriver. Use a screwdriver to lock the ground wire on the E-wire copper bar.

Note: Please prevent other wires from getting loose during operation.

9.6 EPS LOAD-wires Connection

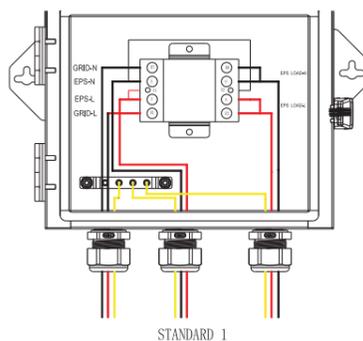


Chart 9.8

Use the screwdriver to unscrew the nut with position numbers 2, 4, 6 and 8 in the contactor, and the red 10AWG short wire ends were inserted into the contactor port 2 and 4, The Black 10AWG short wire ends were inserted into the contactor port 6 and 8, then insert EPS load-L wire and EPS load-N wire into the port of contactor(2&6) through the cable nut and tighten them with screwdriver. Use a screwdriver to lock the ground wire on the E-wire copper bar

Note:

The following step is an example for Australian grid system where neutral line can't be switched. (If you do not have this requirement, ignore the following step)

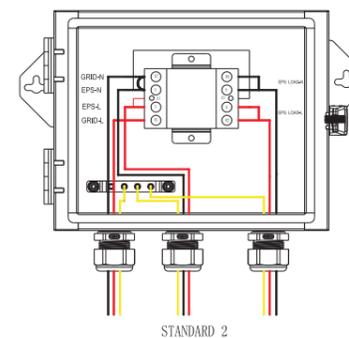


Chart 9.9

Use the screwdriver to unscrew the nut with position numbers 5 and 7 in the contactor, and then insert EPS-L wire and EPS-N wire into the port of contactor(5&7) through the cable nut and tighten them with screwdriver.

9.7 Checking

Please make sure that all wiring in the A-TSSP is tightened, check the connection diagram with section 9.1.

Step11 Trouble shooting

In the process of use, if the EPS load does not work when the on-grid, please turn off the SPH/SPA inverter, and then open the A-TSSP cover, check the GRID and EPS LOAD line is connected properly.

If the load does not work when off-grid, please turn off the inverter, and then open the A-TSSP cover, check the control line, the EPS wiring and the EPS LOAD wiring is normal.

Step10 A-TSSP usage methods

After connecting the A-TSSP internal wire, close the cover, the GRID and EPS end of the A-TSSP are respectively connected with the AC GRID and EPS output of SPH/SPA inverter, EPS load end access load, run SPH / SPA inverter, load to normal operation.

Step11 Caution

Please use the equipment within the scope of specification. Excessive current or voltage may cause device damage To avoid personal injury due to energy hazard, remove wristwatches and jewelry when repairing. Use tools with insulated handles. Repair are to be performed only by qualified technical personal authorized by Growatt.

