

THTS Series of Transfer switches

120/250V Automatic Transfer Switch



Instruction Manual and Warranty Information

THOR Manufacturing's Automatic Transfer Switch system is used to automatically switch between two separate 120/240 volt AC power sources, these power sources can be from a Generator, shore power cord or inverter. The function of the THOR Automatic Transfer Switch is to provide a safe and smooth switch over from an inverter or shore power cord automatically when a generator is started and brought online. The electrical contacts in the transfer switch are normally in the open position, once AC voltage is applied to input 1 this will automatically close the contacts in contactor 1 and feeds the output line from the shore power cord or inverter. Once AC power from the Generator is sensed by the transfer switch at Input 2 terminals, this will start a timer and automatically switch over to generator power supply after a 20-30 second delay which ensures the generator has sufficient time to run up to speed before electrical load is applied.

Function of a Transfer Switch

In case of failure of the main AC power source like the electric utility power, it is desirable to switch the critical AC loads to a standby / back up AC power source like a generator or an inverter. The switching action should ensure that only one AC power source is connected to the AC loads at any one time and that the electric utility power and the generator / inverter output power are never connected in parallel but remain isolated. The electrical loads cannot be connected in parallel with the generator/ inverter and electric utility power at the same time. This will cause the following damage and safety hazards:

- The electric utility line voltage is normally "stepped down" by a transformer before entering the home / RV park / campground. The transformer will work in reverse when voltage is sent through it in the opposite direction and will "step up" the voltage fed back into it. If the electric utility power is interrupted (say the feeder section upstream is switched off by workers for repairs), the generator / inverter will feed voltage back into the electric utility power lines, this voltage will be stepped up by the transformer and will electrocute the workers that come into contact with the utility lines.
- If the electric utility power and the generator / inverter are alive at the same time, the electric utility power will be fed back into the generator/ inverter and the generator / inverter will get damaged. There is also a potential of fire!

The **THTS** series is rated for use on circuits capable of delivering 105-130Vac 60 Hz. The THTS-50 is rated for use on circuits capable of delivering 105-130Vac 60 Hz 50Aac. All field wires used have to be rated to at least 105C. All field wires used have to be rated to at least 105C. All grounds are connected inside of the THTS-30. THTS-30 is for a 30 Amp AC service. It is installed onto a Power Center. To minimize voltage drop across the wire, install the power center with the THTS-30 as close to the generator and shore power cord entrance as possible. Do not install close to appliances that are a source of heat or water (such as water heaters, furnaces, and under refrigerators). It is not designed for mounting in wet locations.

SPECIFICATIONS		
Model Number	THTS-30	THTS-50
Input Voltage	120VAC, 60Hz	120/240 VAC, 60HZ
Input Current	30A	50A
Voltage Output	120VAC, 60Hz	120VAC, 60Hz
Output Current	30A	50A
SAFETY FEATURES / PROTECTIONS		
SHORE POWER INPUT	YES	YES
SHIPPING		
Outside Dimensions	8X8X8	8X8X8
Weight	4.25Lbs	6Lbs
INSTALLATION		
Knochout Holes	3	5
Knockout Sizes	2 x 7/8"	4 x 1.0"
STANDARD		
Complies with FCC	YES	YES
TIMER DELAY	YES	YES
TIMER BYPASS SWITCH	YES	YES

Medical Appliances

Go Power! will not knowingly sell a Go Power! Automatic Transfer Switch for any life-support application. It is strongly recommended that you do not operate any life support equipment from a transfer switch. If the switch should malfunction, or fail to operate due to other external conditions, it is possible that all connected appliances, including any life support equipment, will also shut down, resulting in a risk of medical complications and potential loss of life.

Caution

Do not install this or any electrical accessory in the battery compartment, or a compartment intended for storing flammable liquids or liquids, which produce flammable or explosive fumes such as gasoline, etc. There are components in the Transfer Switch, which, in their normal operation, may cause arcing. In addition, the act of turning on a light switch or unplugging the cord on an electrical appliance can cause a spark, which can ignite any combustible liquids or vapors. Therefore, do not install a transfer switch in a compartment intended for storing flammable liquids, and never store flammable liquids inside a compartment containing any electrical device.

Generator Note

It is never advisable to start or stop a generator under load. To prolong the life of this transfer switch, and the life of the air conditioner, microwave oven, and other appliances, always turn those appliances off before starting or stopping the generator.

MOUNTING YOUR THOR-THTS:

The THOR THTS is best mounted indoors or in a location sheltered from outdoor elements. The selected area must be free from the possibility of contaminates and away from water pipes, pumps, battery compartments and storage areas for flammable liquids.

Do not mount the THTS in a engine compartment. The THTS mounting location must be accessible after installation is complete to facilitate future servicing, if possible mount the THTS close to power cord Point of entry or generator output. Typical examples of mounting locations are:

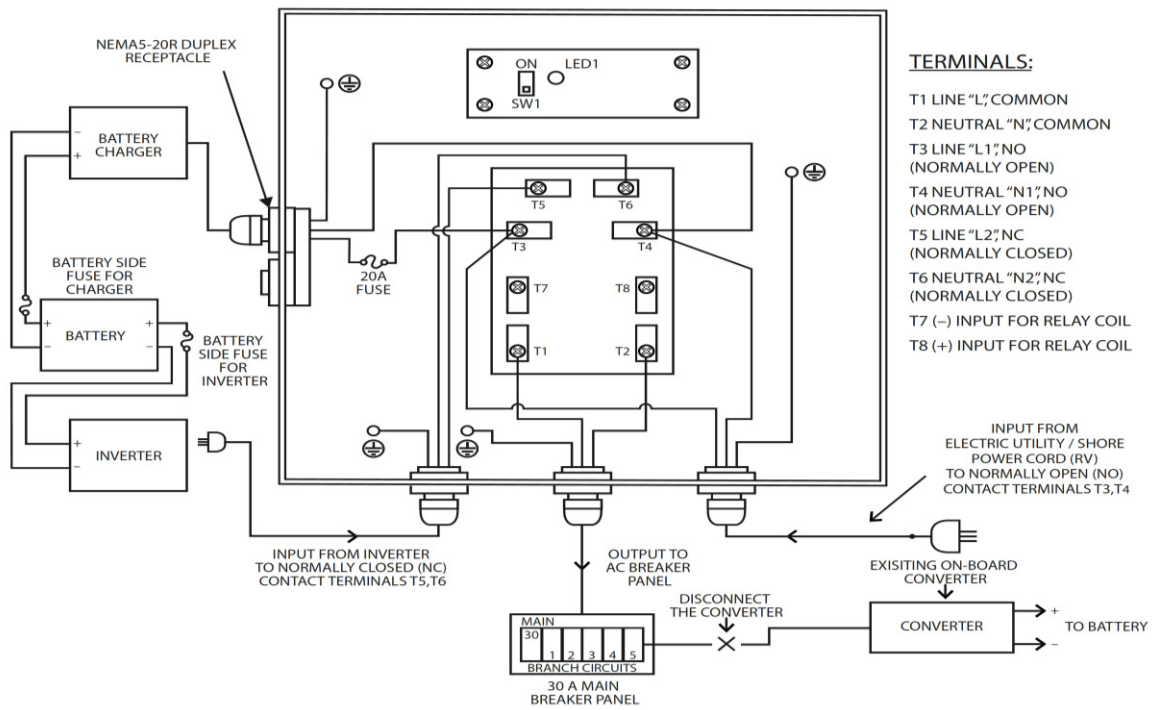
2

- Inside seat or bed compartments
- Above or behind cabinets'
- Under floor storage compartments, etc.

To mount the THTS box the 4 screw lugs on the outside of the box can be used to secure, the ATS box also has an alternative 4 screw holes inside the box which can also be used.

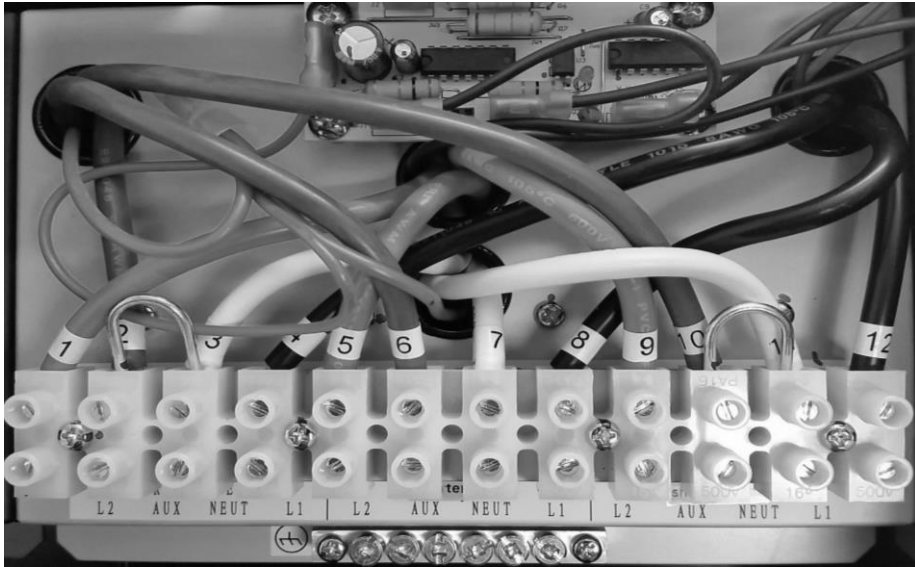
Punch out 3 of the large diameter cable strain holes on the side of the box in the directions which the cables will be fed from using a blunt object. Ensure to remove all plastic pieces of the punch out cable strain holes by rotating the ATS box upside down. Hold the transfer switch to the desired position and using 4 self-tapping screws secure the transfer switch box. Ensure the switch is securely mounted so it cannot move or vibrate.

Once the THTS is securely mounted then screw in the 3 cable strains into the punch out holes and back of the cable strain screws.



Wiring Instructions

Using the quick reference wiring guide on the lid of the ATS box, arrange the wires to be fed into the ATS for connection at the corresponding terminals.



WIRING YOUR THTS:

50amp 125/240VAC Wiring

Ground = Bare copper wire or green

Neutral = White

Live/Hot L1 = Black

Live/Hot L2 = Red

50amp 120VAC Wiring

Ground = Bare copper wire or green

Neutral = White

Live/Hot = Black

Generator in
Shore Power in
Line/feed out

Ensure to feed the wires through the cable strains when they enter to ATS box. Shore power and generator cables should be fed into the ATS from the side marked on the box sticker. The line out wires will enter the ATS from the opposite side. See below diagram for wiring layout.

Strip 4" of outer jacket from each of the incoming cables. Strip 1/2" of jacket from each of the wire conductors. Connect the colored wires to the ATS terminals using the diagram above Using your #2 (Robertson's) square head torque Screwdriver, tighten the terminal screws to 20in-lb minimum and 25in-lb maximum Connect the chassis grounding 8AWG wire to the grounding terminal block on the inside of the transfer switch box. Use the 3/8" through hole to feed the wire through from the outside of the box directly to the terminal block. Using your #2 Square Head Torque Screwdriver, tighten the grounding block terminal screws to 20in-lb minimum and 25in-lb maximum