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› [Samlex America](#) /

› [Samlex Solar STS-30 Automatic Transfer Switch User Manual](#)

Samlex America STS-30

Samlex Solar STS-30 Automatic Transfer Switch

Model: STS-30 | Brand: Samlex America

1. INTRODUCTION

The Samlex Solar STS-30 Automatic Transfer Switch is designed to seamlessly switch between two separate AC input sources, such as utility power and a generator, or utility power and an inverter, or a generator and an inverter. This device ensures a continuous and reliable power supply to your AC loads by automatically selecting the available power source. It is ideal for RVs, off-grid systems, or backup power applications where multiple AC sources are utilized.

2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the STS-30. Failure to follow these instructions may result in electric shock, fire, serious injury, or property damage.

- **Qualified Personnel:** Installation and wiring should only be performed by a qualified electrician or certified technician.
- **Disconnect Power:** Always disconnect all power sources (utility, generator, inverter) before installing, wiring, or servicing the transfer switch. Verify that power is off using a voltage meter.
- **Proper Grounding:** Ensure the unit is properly grounded according to local and national electrical codes.
- **Ventilation:** Install the unit in a well-ventilated area, free from flammable materials or gases.
- **Overload Protection:** Do not exceed the rated capacity of 30 Amps at 120 VAC. Ensure all connected circuits are properly protected by circuit breakers.
- **Environmental Conditions:** Avoid exposing the unit to moisture, extreme temperatures, or corrosive environments.

3. PRODUCT OVERVIEW

The Samlex Solar STS-30 is a compact and robust automatic transfer switch designed for reliable power management. It features heavy-duty Double Pole Double Throw (DPDT) relays for switching both the Line and Neutral conductors, ensuring safe and complete isolation between sources.



Figure 3.1: Samlex Solar STS-30 Automatic Transfer Switch. This image displays the grey rectangular metal enclosure of the STS-30, featuring two standard North American AC outlets on one side, a conduit connector on another, and an attached power cord with a NEMA 5-15P plug. The top panel is labeled with 'Samlex Power' branding and text indicating its function as an 'AC Power Transfer Switch' and '30A Power Source Switch', along with the 'Model STS-30'.

Key Features:

- Automatically switches between two separate AC input sources.
- Rated capacity of 30 Amps at 120 VAC.
- Suitable for generators up to 3.6 KVA capacity.
- Uses heavy-duty Double Pole Double Throw (DPDT) relay for switching both Line and Neutral.
- Includes a standard North American power cord for convenient connection to 15 Amp NEMA5-15R receptacles (up to 1800 VA capacity). This cord can be replaced with a 30 Amp cord if full 30 Amp capacity is required.
- Can be installed on the line side of the main breaker panel or on the load side for dedicated circuits.

4. SETUP AND INSTALLATION

Proper installation is crucial for the safe and effective operation of the STS-30. It is highly recommended that installation be performed by a qualified professional.

Installation Steps:

1. **Mounting:** Choose a suitable location for mounting the STS-30. Ensure it is in a dry, well-ventilated area, away from direct sunlight or heat sources. The unit is designed for plug-in mount applications.
2. **Power Disconnection:** Before making any electrical connections, ensure all power sources (utility, generator, inverter) are completely disconnected and locked out. Verify zero voltage with a multimeter.
3. **Input Wiring:**
 - Connect your primary AC source (e.g., utility shore power or main inverter output) to one of the designated input terminals.
 - Connect your secondary AC source (e.g., generator or secondary inverter output) to the other designated input terminal.
 - The STS-30 comes with a standard 15 Amp North American power cord. If your application requires full 30 Amp capacity, this cord must be replaced with an appropriate 30 Amp cord and plug.
4. **Output Wiring:** Connect the AC load (e.g., RV electrical panel, sub-panel, or specific circuits) to the output terminals of the STS-30. The unit can be installed on the line side of your main breaker panel to switch the entire load, or on the load side to switch only dedicated circuits.
5. **Internal Switch (if applicable):** Some units may have a small internal switch that needs to be set correctly for your specific configuration. Refer to the detailed wiring diagram provided with your unit for precise instructions on this setting.
6. **Grounding:** Ensure the unit is properly grounded to prevent electrical hazards.
7. **Verify Connections:** Double-check all wiring connections for tightness and correctness before restoring power.

5. OPERATING INSTRUCTIONS

The Samlex Solar STS-30 operates automatically once properly installed and powered.

Automatic Switching Logic:

- The STS-30 is designed to prioritize one input source over the other (typically utility/shore power over generator/inverter).
- When the primary source is detected and stable, the switch will connect the load to that source.
- If the primary source becomes unavailable, the switch will automatically transfer the load to the secondary source, provided it is present and stable.
- When a generator is started, there is typically a short delay (e.g., 20 seconds) before the transfer switch engages. This delay allows the generator's output to stabilize, preventing power fluctuations to your connected appliances.
- The transfer process is designed to be seamless, minimizing interruption to your AC loads.

6. MAINTENANCE

The Samlex Solar STS-30 is designed for minimal maintenance. However, periodic checks can help ensure its longevity and reliable operation.

- **Visual Inspection:** Periodically inspect the unit for any signs of physical damage, loose connections, or discoloration.
- **Cleanliness:** Keep the unit clean and free from dust and debris. Use a dry, soft cloth for cleaning. Do not use liquid cleaners.
- **Connection Integrity:** Ensure all electrical connections remain tight and secure. Loose connections can lead to overheating and poor performance.
- **Ventilation:** Ensure that the area around the unit remains clear to allow for proper airflow and heat dissipation.

7. TROUBLESHOOTING

If you experience issues with your STS-30, refer to the following troubleshooting guide. Always ensure power is disconnected before inspecting internal components.

Problem	Possible Cause	Solution
Unit does not transfer power.	No power from input source; Loose wiring; Internal switch setting incorrect.	Verify input power sources are active and stable. Check all wiring connections for tightness. Consult the wiring diagram for correct internal switch settings.
Intermittent power to load.	Unstable input power; Loose connections.	Ensure input power sources are stable and within voltage specifications. Inspect all connections for looseness and secure them.
Unit feels hot.	Overload; Poor ventilation; Loose connections.	Reduce load to within rated capacity. Ensure adequate ventilation around the unit. Check and tighten all electrical connections.
No power to load from either source.	Both input sources are off; Faulty unit.	Confirm both input power sources are active. If sources are active and unit still fails, contact Samlex America support.

If troubleshooting steps do not resolve the issue, contact Samlex America customer support for further assistance.

8. SPECIFICATIONS

Feature	Specification
Model	STS-30
Rated Capacity	30 Amps at 120 VAC
Max Generator Capacity	3.6 KVA (3600 Watts)
Switching Mechanism	Heavy-duty Double Pole Double Throw (DPDT) Relay
Input Cord	Standard North American 15 Amp NEMA5-15P (replaceable for 30 Amp applications)
Material	Plastic enclosure
Item Weight	3.2 pounds (1.45 kg)
Product Dimensions (L x W x H)	8.3 x 7.9 x 3.2 inches (21.1 x 20.1 x 8.1 cm)
Mounting Type	Plug In Mount
UPC	622988079306

9. WARRANTY INFORMATION

Specific warranty terms and conditions for the Samlex Solar STS-30 Automatic Transfer Switch are provided by Samlex America. Please refer to the warranty card included with your product or visit the official Samlex America website for detailed warranty coverage, duration, and claim procedures. Keep your proof of purchase for warranty claims.

10. CUSTOMER SUPPORT

For technical assistance, product inquiries, or warranty support, please contact Samlex America directly.

- **Manufacturer:** Samlex America
- **Website:** www.samlexamerica.com (Please check their website for the most current contact information and support resources.)

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