

## INSTALLATION AND OPERATING INSTRUCTIONS

Models: FTR151, R200120, R200220, TS200120 | R300130, R300230, TS300130 | R500150, R500250, TS500150

**Warning:** Installation of this transfer switch and related wiring must be done by a qualified electrician in compliance with all applicable electrical codes.

### INSTALLATION OF R (Outdoor) & TS (Traffic Signal) MODELS:

1. Unlock (TS models only) and open front and bottom (TS models only) covers.
2. Remove and retain the two screws that secure interior assembly to the enclosure.
3. Lift and pull out interior assembly.
4. Mount enclosure in desired position using installer provided fasteners through the four (4) mounting holes in back of enclosure. If required, remove KO on the back of the enclosure before mounting the enclosure. Connect fitting to back KO. Seal 4 mounting fasteners.
5. If required, remove side KO(s) and install appropriate fittings and conduit.
6. Pull in appropriate quantity, size and color (green/white/black/red) wire into the enclosure for the transfer switch model being installed.
7. Insert the WHITE (neutral) wire pulled into the enclosure into the "W" terminal on the inlet mounted on the interior assembly and tighten terminal screw OR connect to the WHITE (neutral) pigtail installed on the inlet using an installer provided wire connector.
8. With installer provided wire connectors:
  - a. connect the GREEN (ground) wire pulled into the enclosure with the GREEN (ground) pigtail attached to the interior assembly,
  - b. connect the UTIL wire(s) pulled into the enclosure to the RED lead(s) marked UTIL on the interior assembly and
  - c. connect the LOAD wire(s) pulled into the enclosure to the BLACK lead(s) marked LOAD on the interior assembly.
  - d. for SN Models only, connect a WHITE neutral wire from the load center neutral bar to the WHITE UTIL pigtail on the interior assembly and connect the isolated load neutral to the WHITE LOAD pigtail on the interior assembly.
  - e. For SE Models only, insert and tighten one of the GREEN (ground) pigtails from the ground stud to the transfer switch neutral bar, apply SERVICE DISCONNECT label to dead front of transfer switch, next to one of the circuit breakers.
9. Fold wires and re-install interior assembly into enclosure (be sure not to pinch any wires between the enclosure and interior assembly) by hooking the top of the interior assembly deadfront over the studs on the inside of the enclosure and secure the interior assembly to the enclosure with the two screws removed in Step 2. Transfer switch is now ready for testing and operation.
10. After testing and operation, close and lock (TS Models only) covers.



### INSTALLATION OF MODEL FTR151:

1. The Furnace Transfer (FT) switch can be installed to the left or right side of load center. See Figure 3. Trial fit the FT transfer switch, holding up to the wall about 18" from the center of the load center and mark the location of the transfer switch and end of harness at load center.
2. Remove the load center cover. **CAUTION: dangerous voltages present inside load center.** Locate and remove a 1/2" KO from the bottom of the load center where marked in Step 1. Insert harness wires thru KO and install conduit fitting.
3. Remove and retain the two screws that secure interior assembly to the FT enclosure.
4. Lift and pull out interior assemble to provide access to the 4 mounting holes at the back of the enclosure. Mount enclosure in desired position using installer provided fasteners through the four (4) mounting holes in back of enclosure. Re-install interior assembly into enclosure (be sure not to pinch any wires between the enclosure and interior assembly) by hooking the top of the interior assembly deadfront over the studs on the inside of the enclosure and secure the interior assembly to the enclosure with the two screws removed in Step 3. You are now ready to connect the FT transfer switch wires inside the load center.
5. Turn OFF the circuit breaker in the load center that you want to connect to the FT transfer switch. Loosen the screw which secures the wire into the circuit breaker and remove the wire from the circuit breaker.
6. Insert the RED (UTIL) wire from the FT transfer switch into the circuit breaker and tighten screw.
7. Using an installer provided wire connector, connect the wire removed from the circuit breaker in step 5 with the BLACK (LOAD) wire coming from the FT transfer switch.
8. Insert and tighten the WHITE (neutral) wire from the FT transfer switch into the NEUTRAL bar in the load center. Insert and tighten the GREEN (ground) wire from the FT transfer switch into the GROUND bar in the load center. If there is no ground bar, insert and tighten it into the NEUTRAL bar.
9. Reinstall load center cover. Turn on circuit breaker turned off in step 5. FT transfer switch is now ready for testing and operation.

# OPERATING THE TRANSFER SWITCH:

## When a power failure occurs:

1. Move generator outdoors. Never operate a generator indoors or in an enclosed area. Make sure generator is at least 5 feet away from windows, doors or other openings such as dryer vents, or air-conditioning units. See Figure 2.
2. Open the front and bottom covers on the transfer switch.
3. Plug generator cord into generator and the power inlet on the bottom of the transfer switch. Start generator.
4. Turn UTIL breaker OFF (down) and slide interlock mechanism over UTIL breaker.
5. Turn GEN breaker ON (up) and generator power should start to power the load(s).

## When utility power is restored:

1. Turn OFF (down) the GEN breaker on transfer switch and slide the interlock mechanism over GEN breaker.
2. Turn ON (up) the UTIL breaker.
3. Turn off generator and disconnect generator cord. Cool down generator, store generator and cord in dry location.
4. Close cover(s) on transfer switch and secure/lock as needed.

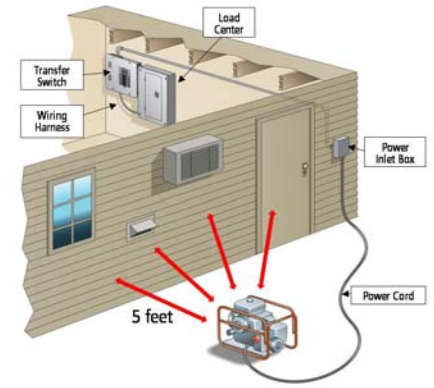
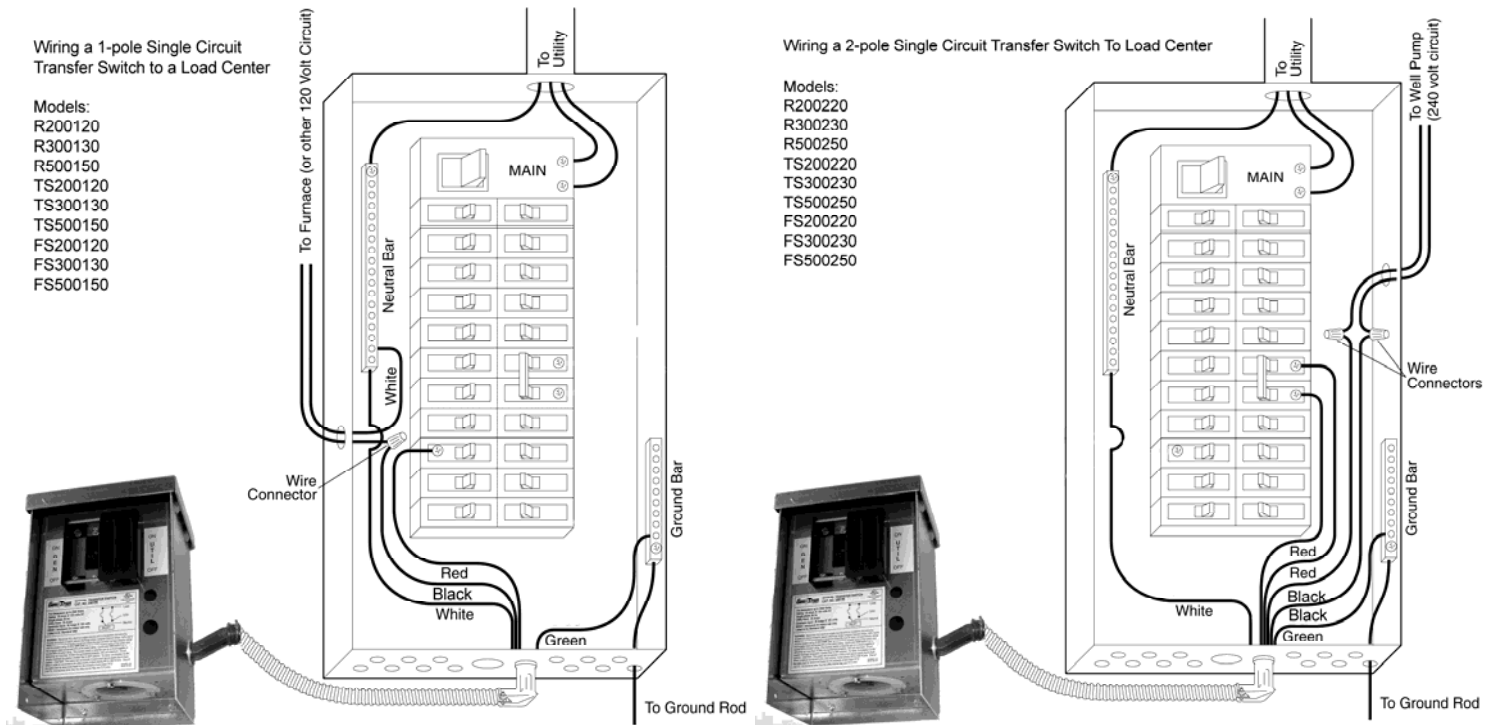


FIGURE 2

## FIGURE 3: WIRING DIAGRAMS

Note: For Model FT151, use 1-pole wiring diagram.



1-Pole Wiring Diagram

2-Pole Wiring Diagram

## **OPTIONS:**

### **PILOT LIGHT (PL) OPTION ON R (OUTDOOR) AND TS (TRAFFIC SIGNAL) MODELS**

A green pilot light alerts a user that the UTIL power has been restored and that the transfer switch can be changed back to the "UTIL" mode. The pilot light will turn off when the UTIL breaker is turned ON. Secured behind the front cover for maximum vandal deterrence, is factory-wired to the UTIL side of the transfer switch.

### **EXTERNAL PILOT LIGHT (EPL) OPTION ON TS (TRAFFIC SIGNAL) MODELS**

A green domed pilot light is mounted on the exterior top of the transfer switch making it visible from a distance, eliminating the need for the attending technician to get out of his vehicle to determine if utility power has been restored. Operates the same way that the standard "PL" option does. *See photo at right.*



EPL Option

### **SWITCHED NEUTRAL (SN) OPTION ON ONE-POLE MODELS**

For certain applications, a switched neutral ("SN") is desired in a transfer operation. This is a 2-pole transfer switch with one of the poles transferring the load, the other the neutral circuit. A neutral circuit is run from the neutral bar in the load center to the LINE White in the transfer switch, and the LOAD Neutral is connected to the isolated load neutral in the load center.

### **SERVICE ENTRANCE (SE) OPTION ON TS (TRAFFIC SIGNAL) MODELS**

A Service Entrance rated transfer switch is the Main disconnect between the utility and the equipment receiving the power. The "SE" option includes an insulated neutral bar where the Neutral is bonded (grounded) to the grounding conductor – a bonding jumper is provided. A SERVICE DISCONNECT label is also provided in this package and should be affixed to the transfer switch by the installer. If a Pilot Light (PL or EPL) option is ordered with the Service Entrance (SE) option, a separate circuit breaker is provided for the pilot light.

## **ACCESSORIES YOU MAY NEED:**



Power Cords and Plugs or Connectors can be ordered on our website at [www.gen-tran.com](http://www.gen-tran.com) or by calling toll free 1-888-GEN-TRAN.

**Note:** Male plugs connect to generator, and female receptacles connect to Power Inlet Box or Transfer Switch. Check your generator receptacle for exact receptacle configuration to avoid ordering the wrong part.



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