DS-50600, STAR-GF, STAR-TIP and STAR-TG Kits
For Adding Optional Kits to STAR Radiant Heaters

**WARNING**

*ELECTRIC SHOCK HAZARD.* Disconnect all power to heater before installing or servicing kit(s). Failure to do so could result in personal injury or property damage. Kit(s) must be installed by a qualified person in accordance with the National Electrical Code, NFPA 70.

**GENERAL**

To use this instruction sheet from Table 1 select the Installation Instructions by matching the Kit Model to the Heater Model. If a match does not exist consult Factory. The kits are add-on options to STAR Radiant Heaters. The installation and renewal parts identification for the heater is covered in the instruction sheet provided with the heater. **SAVE BOTH COPIES OF THE INSTRUCTION SHEET.**

Always check to make certain the voltage rating of the kit matches the voltage rating of the heater (See Nameplates).

### Table 1

<table>
<thead>
<tr>
<th>Kit Model</th>
<th>Used with Heater Model</th>
<th>Kit Function</th>
<th>Installation Instructions</th>
<th>Wiring Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS-50600</td>
<td>Fixed STAR-06A and STAR-14A</td>
<td>Adds Integral Disconnect Switch</td>
<td>See Page 2</td>
<td>Fig. 1</td>
</tr>
<tr>
<td>DS-50600</td>
<td>Portable STAR-06A and STAR-14A</td>
<td>Adds Integral Disconnect Switch</td>
<td>See Page 3</td>
<td>Fig. 1</td>
</tr>
<tr>
<td>STAR-GF</td>
<td>All Fixed STAR</td>
<td>Adds Wall Mounted Ground Fault Sensor</td>
<td>See Page 4</td>
<td>Fig. 2</td>
</tr>
<tr>
<td>STAR-TIP</td>
<td>Portable STAR-06A and STAR-14A</td>
<td>Adds Tip Over Shut Down</td>
<td>See Page 5</td>
<td>Fig. 3</td>
</tr>
<tr>
<td>STAR-TG</td>
<td>Portable STAR-06A and STAR-14A</td>
<td>Adds Tip Over Shut Down with Ground Fault Sensor</td>
<td>See Pages 5 and 6</td>
<td>Fig. 4</td>
</tr>
</tbody>
</table>
INSTRUCTIONS FOR INSTALLING DISCONNECT SWITCH ON 6 AND 13.5 KW FIXED RADIANT HEATERS

1. Addition of the disconnect switch assy must be done by a qualified electrician.

2. The disconnect switch kit includes the following parts. Verify that all parts are included, if not, contact the Chromalox Service Dept.
   (1) Disconnect Switch Assy
   (2) Mounting Bracket (Not Used)
   (3) Hardware Kit: (Not Used)
       Two 3/8” Lockwashers
       Two 3/8” Nuts
       One Self Tapping Screw
       One Gasket for Cord Fitting (Supplied Separately)

3. Remove the screws in the heater terminal box. Remove cover.

4. Remove cover from disconnect switch assy using same method as Step 3.

5. Remove Chase nipple and gasket from opening end of disconnect switch assy. Slide Chase nipple through hole in heater terminal box and then gasket over threads.

6. Thread Chase nipple into threaded coupling. Wrench tighten nipple.

7. Uncoil three (3) leads marked “1”, “2”, and “3” located in disconnect switch housing. Thread these three (3) leads through the nipple. Attach leads to the terminals indicated on the heater wiring label located on the cover of the heater. If using for single phase, cap off lead marked “3”.

8. Attach conduit to the opening in the disconnect switch housing. Connect leads to terminal block.

9. Inspect all wiring to make sure all connections are tight, adequate electrical clearances exist, and all electrical practices are met.

10. Install both covers.
INSTRUCTIONS FOR INSTALLING DISCONNECT SWITCH ON 6 AND 13.5 KW PORTABLE RADIANT HEATERS

1. Addition of the disconnect switch assy must be done by a qualified electrician.

2. The disconnect switch kit includes the following parts. Verify that all parts are included, if not, contact the Chromalox Service Dept.
   (1) Disconnect Switch Assy
   (2) Mounting Bracket
   (3) Hardware Kit:
       Two 3/8" Lockwashers
       Two 3/8" Nuts
       One Self Tapping Screw
       One Gasket for Cord Fitting (Supplied Separately)

3. Remove the screws in the heater terminal box. Remove cover.

4. Place mounting bracket over 3/8" studs as shown. Place lockwashers on studs and secure in place with 3/8" nuts.

5. Remove cover from disconnect switch assy using same method as Step 3.

6. Remove Chase nipple and gasket from opening end of disconnect switch assy. Slide Chase nipple through hole in heater terminal box and then gasket over threads.

7. Thread Chase nipple into threaded coupling. Hand tighten only.

8. Line up hole in bottom of disconnect switch housing with hole in mounting bracket. Tap 10-32 x 1/2" long screw into mounting bracket.


10. Uncoil three (3) leads marked “1”, “2”, and “3” located in disconnect switch housing. Thread these three (3) leads through the nipple. Attach leads to the terminals indicated on the heater wiring label located on the cover of the heater. If using for single phase, cap off lead marked “3”.

11. Attach cord assy to the opening in the disconnect switch housing. Connect leads of cord to terminal block.

12. Inspect all wiring to make sure all connections are tight, adequate electrical clearances exist, and all electrical practices are met.

13. Install both covers.
1. Check voltage on heater nameplate and STAR-GF to make certain voltages are the same. If voltages do not match, consult factory.

2. The STAR-GF will provide ground fault protection for STAR Radiant heaters. The number of heaters serviced by one (1) STAR-GF is dependent on the number and length of the heating elements. See Table 2.

3. See Instruction Sheet PG434 (provided with heater) for IMPORTANT INSTRUCTIONS and WIRING.

4. Using the STAR-GF as a template mark mounting holes on wall. Use an anchoring method adequate to support the weight.

5. Wire between STAR-GF and heater, wire to terminal block. Service entrance wiring to be made to contactor connectors. For wire gage see Table 1 of PG434.

6. The ground fault sensor has been factory set at .03 Amps, DO NOT CHANGE THE SETTING.

---

**MAINTENANCE**

The Chromalox STAR-GF ground fault sensor provides a reliable and cost effective method for sensing ground faults. The purpose is to monitor for ground faults, sense potential heater failure symptoms and to protect equipment.

The current-carrying wires are routed through the current transformer on the control. When ground current reaches the level set by the trip point adjustment, (.03 Amps), the relay trips, illuminates the tripped LED and provides an output signal which de-energizes the magnetic contactor.

---

**WARNING**

**ELECTRIC SHOCK HAZARD. Disconnect all power to heater before installing or servicing kit(s).**

---

**GF TROUBLESHOOTING DIAGRAM**

---

**Failure to do so could result in personal injury or property damage. Kit(s) must be installed by a qualified person in accordance with the National Electrical Code, NFPA 70.**

If heating element(s) fail to operate:

1. Open door of enclosure. **DANGER: Hazard of Electric Shock.** If "Tripped" indicator is on, this indicates one or more heating elements are about to fail. Disconnect power and follow the GF Troubleshooting Diagram below.

2. If the "Tripped" indicator is not on, check for blown fuses or failed components within the heater’s electrical system.
INSTRUCTIONS FOR INSTALLING “STAR-TIP” AND “STAR-TG” ON 6 AND 13.5 KW PORTABLE RADIANT HEATERS

1. Addition of the tip over switch assy must be done by a qualified electrician.

2. The tip over switch assy includes the following parts. Verify that all parts are included, if not, contact the Chromalox Service Dept.
   (1) Tip Over Switch Assy
   (2) Mounting Bracket
   (3) Hardware Kit:
       Two 3/8” Lockwashers
       Two 3/8” Nuts
       Two Self Tapping Screw
       One Gasket for Cord Fitting (Supplied Separately)

3. Remove the screws in the heater terminal box. Remove cover.

4. Place mounting bracket over 3/8” studs as shown. Place lockwashers on studs and secure in place with 3/8” nuts.

5. Remove cover from tip over switch assy using same method as Step 3.

6. Remove Chase nipple and gasket from open end of tip over switch assy. Slide Chase nipple through hole in heater terminal box and then gasket over threads.

7. Thread Chase nipple into threaded coupling. Hand tighten nipple.

8. Line up hole in bottom of tip over switch with hole in mounting bracket. Tap 10-32 x 1/2” long screws into mounting bracket.


10. Uncoil three (3) leads marked “1”, “2”, and “3” located in disconnect switch housing. Thread these three (3) leads through the nipple. Wire nut leads of tip over switch to leads of heater. If using for single phase, cap off lead marked “3”.

11. Attach cord assembly to the opening in the tip over switch housing. Connect leads of cord to the contactor.

12. Inspect all wiring to make sure all connections are tight, adequate electrical clearances exist, and all electrical practices are met.

13. Install both covers.
The Chromalox STAR-TG tip over cutout with ground fault sensor provides a reliable and cost effective method for sensing ground faults and to shut off the heater in case of tip-over. The purpose of the ground fault control is to monitor for ground faults, sense potential heater failure symptoms and to protect equipment.

The current-carrying wires are routed through the current transformer on the control. When ground current reaches the level set by the trip point adjustment, (0.03 amps), the relay trips, illuminates the tripped LED and provides an output signal which de-energizes the magnetic contactor.

**WARNING**

**ELECTRIC SHOCK HAZARD.** Disconnect all power to heater before installing or servicing kit(s).

**FAILSAFE TOOLS**

- **GF Troubleshooting Diagram:**
  - Failure to do so could result in personal injury or property damage. Kit(s) must be installed by a qualified person in accordance with the National Electrical Code, NFPA 70.
  - If heating element(s) fail to operate:
    1. Open door of enclosure. **DANGER:** Hazard of Electric Shock.
    2. If "Tripped" indicator is not on, check for blown fuses or failed electrical components in the heater’s electrical system including the tip over trip mechanism. Then this indicates one or more heating elements are about to fail.
    3. Check pendulums on the tip over switch mechanisms to be sure they are not blocked.
    4. If the "Tripped" indicator is on, then this indicates one or more heating elements are about to fail. Disconnect power and follow the GF Troubleshooting Diagram below.
For applicable wiring diagram see Table 1

Fig. 1

Fig. 2

Fig. 3

Fig. 4
## RENEWAL PARTS IDENTIFICATION

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DS-596008</td>
<td>292-303472-007</td>
<td>132-304689-001</td>
<td>132-304879-002</td>
<td>956-304884-004</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>STAR-GF-8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-GF-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-GF-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-GF-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-TIP-8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-TIP-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-TIP-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-TIP-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-TIP-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-TIP-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-TG-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-TG-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-TG-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-TG-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAR-TG-8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Limited Warranty:

Please refer to the Chromalox limited warranty applicable to this product at [http://www.chromalox.com/customer-service/policies/termsofsale.aspx](http://www.chromalox.com/customer-service/policies/termsofsale.aspx)