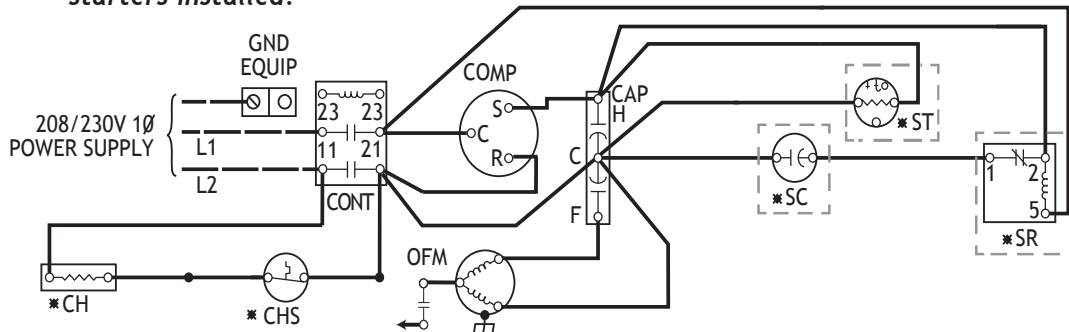


**DISCONNECT ALL SUPPLY VOLTAGES BEFORE WORKING ON ANY EQUIPMENT.**

**Fig. 1**  
Conventional HVAC unit with other soft starters installed.



**Sample Wiring Schematic**

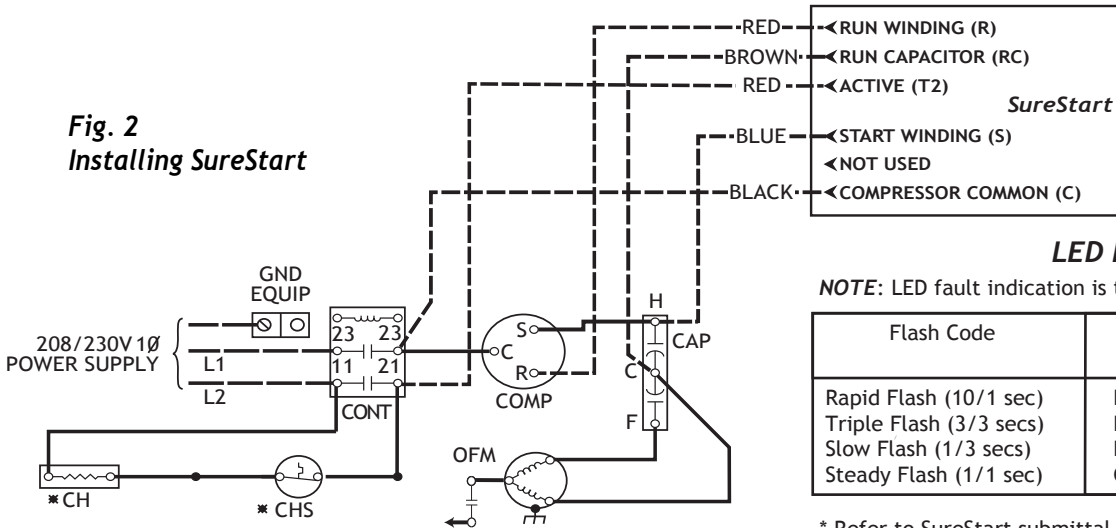
**- LEGEND -**

- Factory Power Wiring
- - - Field Power Wiring
- Factory Control Wiring
- - - Field Control Wiring
- Conductor On Circuit Board
- Component Connection
- 1/4 in. Quick Connect Terminals
- Junction
- CAP Capacitor (Dual Run)
- \* CH Crankcase Heater
- \* CHS Crankcase Heater Switch
- COMP Compressor
- CTD Compressor Time Delay
- CONT Contactor
- CB Circuit Board
- OFM Outdoor Fan Motor
- \* ST Start Thermistor
- \* SR Start Relay
- \* SC Start Capacitor

**NOTE:** If installed, remove all of the above devices

\* May be factory or field installed

**Fig. 2**  
Installing SureStart



**LED Flash Codes \***

**NOTE:** LED fault indication is turned off in normal running mode.

Flash Code	Definition	Time to re-start attempt
Rapid Flash (10/1 sec)	Low Voltage	3 min
Triple Flash (3/3 secs)	Lockout on 3 failed starts	50 min
Slow Flash (1/3 secs)	Lockout on overcurrent	10 min
Steady Flash (1/1 sec)	Cycle delay / Faults	3 min

\* Refer to SureStart submittal set for detailed flash code descriptions.

Review the schematic carefully to identify the connection points.

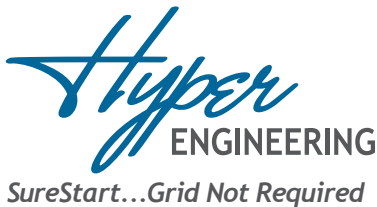
**CAUTION:** The Run Winding is not connected to the Run Capacitor. The Run Capacitor is usually 40 to 60 µF.

- WARNING:**
- 1) All voltage to equipment **MUST** be disconnected before removing any devices.
  - 2) Allow 2 minutes to discharge run capacitor before disconnecting.
  - 3) Prior to installation, be sure all start capacitors & start relays, along with hard-starters and/or any other related devices, are removed.
  - 4) Do not swap the Run & Start Windings.
  - 5) The start capacitor is built into the soft starter.
  - 6) In accordance with UL508 standard, use the below tightening torques. Loose terminals can lead to heating & subsequent damage to the soft starter.
  - 7) **OPENING OF THE SOFT STARTER UNIT WILL VOID THE WARRANTY!**

**FIELD WIRING TERMINALS:**

- Wire Range: 8 to 12 AWG Cu, stranded, for terminals (Run Winding (R) and Active(T2))
- 12 to 16 AWG Cu, stranded, for terminals (Run Capacitor (RC), Start Winding (S), and Compressor/Motor Common (C), these are supplied)
- Tightening Torque: 11.5 lbs-in large terminals, 4.5lbs-in small terminals.

Field wiring conductors shall be rated 167°F [75°C]  
 Minimum end use enclosure size: 10" x 8" x 6"  
 Suitable for use on a circuit capable of delivering no more than 5000rms symmetrical amperes, 240 volts maximum, when protected by a non-time delay RK5 fuse or circuit breaker rated 80A, or a time delay fuse rated 70A. The device does not provide current limiting control or equivalent.  
 SureStart is **NOT** an overcurrent protection device and must **NOT** be used as a replacement for any primary circuit overcurrent protection.



**Parts List**

- 1 - SureStart Soft Starter
- 1 - Red Lead
- 1 - Blue Wire
- 1 - Black Wire
- 1 - Brown Wire
- 1 - Mounting Block
- 1 - Green Terminal

**INSTRUCTION GUIDE**  
 SureStart 208/230V HVAC Installation  
 For SureStart SS1x Series

## Typical HVAC Application



1) Disconnect all voltage to the HVAC equipment.



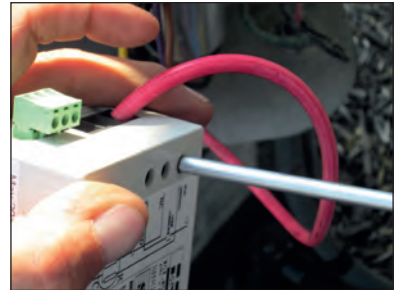
2) Secure the base for the SureStart inside control box.



3) Remove the compressor **RUN WIRE** from the contactor or **RUN CAPACITOR TERMINAL**, as applicable.



4) Strip the compressor **RUN WIRE** at least 1/2 in.



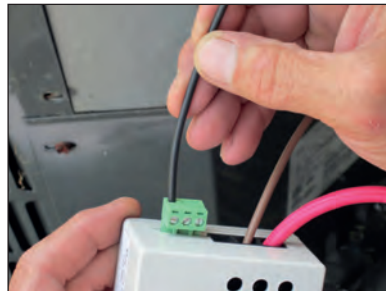
5) Attach the compressor **RUN WIRE** to the SureStart **RUN WINDING** terminal.



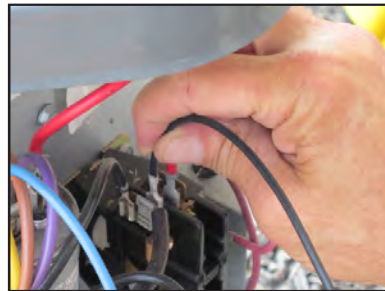
6) Attach the **BROWN WIRE** supplied with the SureStart to the **RUN CAPACITOR TERMINAL** on the SureStart.



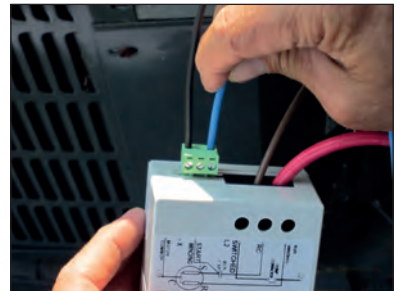
7) Identify the cable connecting the contactor and the **RUN CAP**. Remove the connection to the **RUN CAP**. Attach the flagged end of the **BROWN WIRE** the same terminal of the **RUN CAP**. \*\*



8) Attach the **BLACK WIRE** (supplied) to **COMPRESSOR COMMON** on the SureStart **GREEN TERMINAL CONNECTOR**.



9) Attach the flagged end of the **BLACK WIRE** to the **COMPRESSOR COMMON** on the "T" side of the contactor.



10) Attach the **BLUE WIRE** (supplied) to the **START WINDING** on the SureStart **GREEN TERMINAL CONNECTOR**.



11) Attach the flagged end of the **BLUE WIRE** to the other terminal of the **RUN CAPACITOR**. Ensure that this terminal on the capacitor also joins to the **START WINDING** of the compressor. (This is the Herm (H) terminal for Dual Compressor/Fan Capacitors.)



12) Attach the **RED WIRE** (supplied) to the **ACTIVE TERMINAL** on the SureStart.



13) Remove the loose wire (from step 7) from the **ACTIVE** input of the contactor and attach the stripped end of the **ACTIVE WIRE** in its place.



14) Apply power to the equipment and cycle to ensure proper operation.



In accordance with UL508 standard, use the following torque settings:  
11.5lbs-in large terminals  
4.5lbs-in small terminals

\*\* (This is the Common (C) terminal for Dual Compressor/Fan Capacitors.)

**NOTE:** The SureStart device could take up to six (6) starts to optimize performance.