

Installation Instructions

SCR Modulating Electric Heater Conversion

Precedent™ Packaged Rooftop Units
3 to 25 Tons

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

July 2026

ACC-SVN327A-EN

Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.



Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

⚠ WARNING**Personal Protective Equipment (PPE) Required!**

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING**Follow EHS Policies!**

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

⚠ WARNING**R-454B Flammable A2L Refrigerant!**

Failure to use proper equipment or components as described below could result in equipment failure, and possibly fire, which could result in death, serious injury, or equipment damage.

The equipment described in this manual uses R-454B refrigerant which is flammable (A2L). Use **ONLY** R-454B rated service equipment and components. For specific handling concerns with R-454B, contact your local representative.

⚠ WARNING**Cancer and Reproductive Harm!**

This product can expose you to chemicals including lead and bisphenol A (BPA), which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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General Information

Inspection

1. Unpack all components of the kit.
2. Check carefully for shipping damage. If any damage is found, report it immediately, and file a claim against the transportation company.

Note: A new discharge air temperature sensor is included with this kit and must be placed in ductwork for proper modulating electric heat performance. The factory-installed discharge air temperature sensor must be disconnected from Symbio UC-700 and replaced with a duct-mounted sensor harness, included in this kit.

Table 1. Cabinet matrix

Unit Size(Tons)	Model Number Digits 4, 5, 6	Model					
		TSK, YSK	THK, YHK	TZK, YZK	WSK, DSK	WHK, DHK	
3	036	A.0	A.0	B.0	A.0	B.0	
4	048		B.0				B.0
5	060				B.0		
6	072	C.0		B.0, C.0 ^(a)		C.0	
7.5	090				C.0		C.0
8.5	102	C.0	C.0	C.0			
10	120				C.0	C.0	C.0
12.5	150	C.0	C.0	C.0			
15	180				C.0	C.0	C.0
17.5	210	C.0	C.0	C.0			
20	240				C.0	C.0	C.0
25	300	C.0	C.0	C.0			

^(a) A cabinet size change was made in 2025. Verify the cabinet size by checking model digits 7 and 39 to 40. WSK120A is C.0 cabinet; WSK120B is B.0 cabinet.

Table 2. SCR kit list

FIA PN	Description	Voltage	Cabinet
FIAEHMA001*	HEATER, ELECTRIC, MODULATING CONVERSION, 208/240V A CABINET	208-230	A
FIAEHMA002*	HEATER, ELECTRIC, MODULATING CONVERSION, 460V A CABINET	460	A
FIAEHMA003*	HEATER, ELECTRIC, MODULATING CONVERSION, 575V A CABINET	575	A
FIAEHMBC01*	HEATER, ELECTRIC, MODULATING CONVERSION, 208/240V B/C CABINET	208-230	B and C
FIAEHMBC02*	HEATER, ELECTRIC, MODULATING CONVERSION, 460V B/C CABINET	460	B and C
FIAEHMBC03*	HEATER, ELECTRIC, MODULATING CONVERSION, 575V B/C CABINET	575	B and C
FIAEHMD001*	HEATER, ELECTRIC, MODULATING CONVERSION, 208/240V D CABINET	208-230	D
FIAEHMD002*	HEATER, ELECTRIC, MODULATING CONVERSION, 460V D CABINET	460	D
FIAEHMD003*	HEATER, ELECTRIC, MODULATING CONVERSION, 575V D CABINET	575	D

Table 3. Harness list

Harness Part Number	Harness Description	Voltage(V)	Heater kw	Digit 39 (cabinet size)
WIRHEH013401	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, CONTACTOR TO SCR 8 AWG	230V	6, 9, 12, 18, 27, 36, 54	A, B, C
WIRHEH013401	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, CONTACTOR TO SCR 8 AWG	460V, 575V	54, 72	B, C

Table 3. Harness list (continued)

Harness Part Number	Harness Description	Voltage(V)	Heater kw	Digit 39 (cabinet size)
WIRHEH013402	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, CONTACTOR TO SCR 8 AWG	230V	18, 36, 54, 72	D
WIRHEH013402	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, CONTACTOR TO SCR 8 AWG	460, 575V	54, 72	D
WIRHEH013501	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, CONTACTOR TO SCR 12 AWG	460V, 575V	6, 9, 12, 18, 27, 36	A, B, C
WIRHEH013502	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, CONTACTOR TO SCR 12 AWG	460V, 575V	18, 36, 54, 72	D
WIRHEH013601	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, SCR TO HEATER 8 AWG	230V	6, 9, 12, 18, 27, 36, 54	A, B, C
WIRHEH013601	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, SCR TO HEATER 8 AWG	460V, 575V	54, 72	B, C
WIRHEH013602	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, SCR TO HEATER 8 AWG	230V	18, 36, 54, 72	D
WIRHEH013602	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, SCR TO HEATER 8 AWG	460V, 575V	54, 72	D
WIRHEH013701	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, SCR TO HEATER 12 AWG	460V, 575V	6, 9, 12, 18, 27, 36, 54	A, B, C
WIRHEH013702	HARNESS; POWER, ELECTRIC HEAT, HEATER 1A, SCR TO HEATER 12 AWG	460V, 575V	18, 36, 54, 72	D
WIRHEH013801	HARNESS; POWER, ELECTRIC HEAT 1B, SCR TO HEATER 12 AWG	460V, 575V	54, 72	B, C, D
WIRHEH013901	HARNESS; CONTROLS, ELECTRIC HEAT, HEATER 1A & 1B	230V	54, 72	B, C, D
WIRHEH014101	HARNESS; CONTROLS, ELECTRIC HEAT, SCR CONTROLS, A CABINET	230V, 460V, 575V	6, 9, 12, 18, 23	A
WIRHEH014201	HARNESS; CONTROLS, ELECTRIC HEAT, SCR CONTROLS, B/C/D CABINET	230V, 460V, 575V	6, 9, 12, 18, 27, 36, 54, 72	B, C, D
WIRCUN045101	HARNESS; CONTROLS, DISCHARGE TEMPERATURE SENSOR, DUCT MOUNT	230V, 460V, 575V	6, 9, 12, 18, 23, 27, 36, 54, 72	A, B, C, D

Harnesses in this table may not be included in every kit and some harnesses included in the kit may not be used. Refer to the Voltage, Heater KW, and cabinet columns for harness usage.

Table 4. Schematics selection

FIAEHMA001AA	SCR MODULATING CONVERSION, 208/240V A CABINET	Stage of Heat	KW	VOLT-AGE
12135072	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 6 & 12 & 18 & 23 KW 208/240V	1	6	208/240
		2	12,18,23	208/240
FIAEHMA002AA	SCR MODULATING CONVERSION, 460V A CABINET	Stage of Heat	KW	VOLT-AGE
12135073	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 6 & 12 & 18 & 23 KW 460V/575V	1	6	460
		2	12,18,23	460
FIAEHMA003AA	SCR MODULATING CONVERSION, 575V A CABINET	Stage of Heat	KW	VOLT-AGE
12135073	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 6 & 12 & 18 & 23 KW 460V/575V	1	6	575
		2	12,18,23	575
FIAEHMBC01AA	SCR MODULATING CONVERSION, 208/240V B/C CABINET	Stage of Heat	KW	VOLT-AGE

Table 4. Schematics selection (continued)

12135060	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT, 1 STAGE 6, 9 & 18 KW 208/240V	1	6, 9, 18 ^(a)	208/240
12135061	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT, 2 STAGE 12, 18, 27 & 36 KW 208/240V	2	12, 18 ^(a) , 27, 36	208/240
12135062	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 54 KW 208/240V	3	54	208/240
FIAEHMBC02AA	SCR MODULATING CONVERSION, 460V B/C CABINET	Stage of Heat	KW	VOLT-AGE
12135063	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT, 1 STAGE 6, 9 & 18 KW 460V/575V	1	6, 9, 18 ^(a)	460
12135064	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT, 2 STAGE 12, 18, 27 & 36 KW 460V/575V	2	12, 18 ^(a) , 27, 36	460
12135065	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 54 KW 460V/575V	2	54	460
FIAEHMBC03AA	SCR MODULATING CONVERSION, 575V B/C CABINET	Stage of Heat	KW	VOLT-AGE
12135063	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT, 1 STAGE 6, 9 & 18 KW 460V/575V	1	6, 9, 18 ^(a)	575
12135064	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT, 2 STAGE 12, 18, 27 & 36 KW 460V/575V	2	12, 18 ^(a) , 27, 36	575
12135065	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 54 KW 460V/575V	2	54	575
FIAEHMD001AA	SCR MODULATING CONVERSION, 208/240V D CABINET	Stage of Heat	KW	VOLT-AGE
12135066	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 18 KW 208/240V	1	18	208/240
12135067	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 36 KW 208/240V	2	36	208/240
12135068	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 54 & 72 KW 208/240V	3	54, 72	208/240
FIAEHMD002AA	SCR MODULATING CONVERSION, 460V D CABINET	Stage of Heat	KW	VOLT-AGE
12135069	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 18 KW 460V/575V	1	18	460
12135070	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 36 KW 460V/575V	2	36	460
12135071	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 54 & 72 KW 460V/575V	2	54, 72	460
FIAEHMD003AA	SCR MODULATING CONVERSION, 575V D CABINET	Stage of Heat	KW	VOLT-AGE
12135069	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 18 KW 460V/575V	1	18	575
12135070	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 36 KW 460V/575V	2	36	575
12135071	SCHEMATIC/COMPONENT LOCATION - MODULATING ELECTRIC HEAT - 54 & 72 KW 460V/575V	2	54, 72	575

(a) 18KW 1 STAGE IS C CABINET ONLY, 18 KW 2 STAGE IS B CABINET ONLY

Parts List

Table 5. Parts list

QTY	Description
1	SCR mounting bracket
1	SCR assembly
1 ^(a)	Power harness - Contactor to SCR
1 ^(a)	Power harness - SCR to Heater
1 ^(a)	Control harness - SCR

Table 5. Parts list (continued)

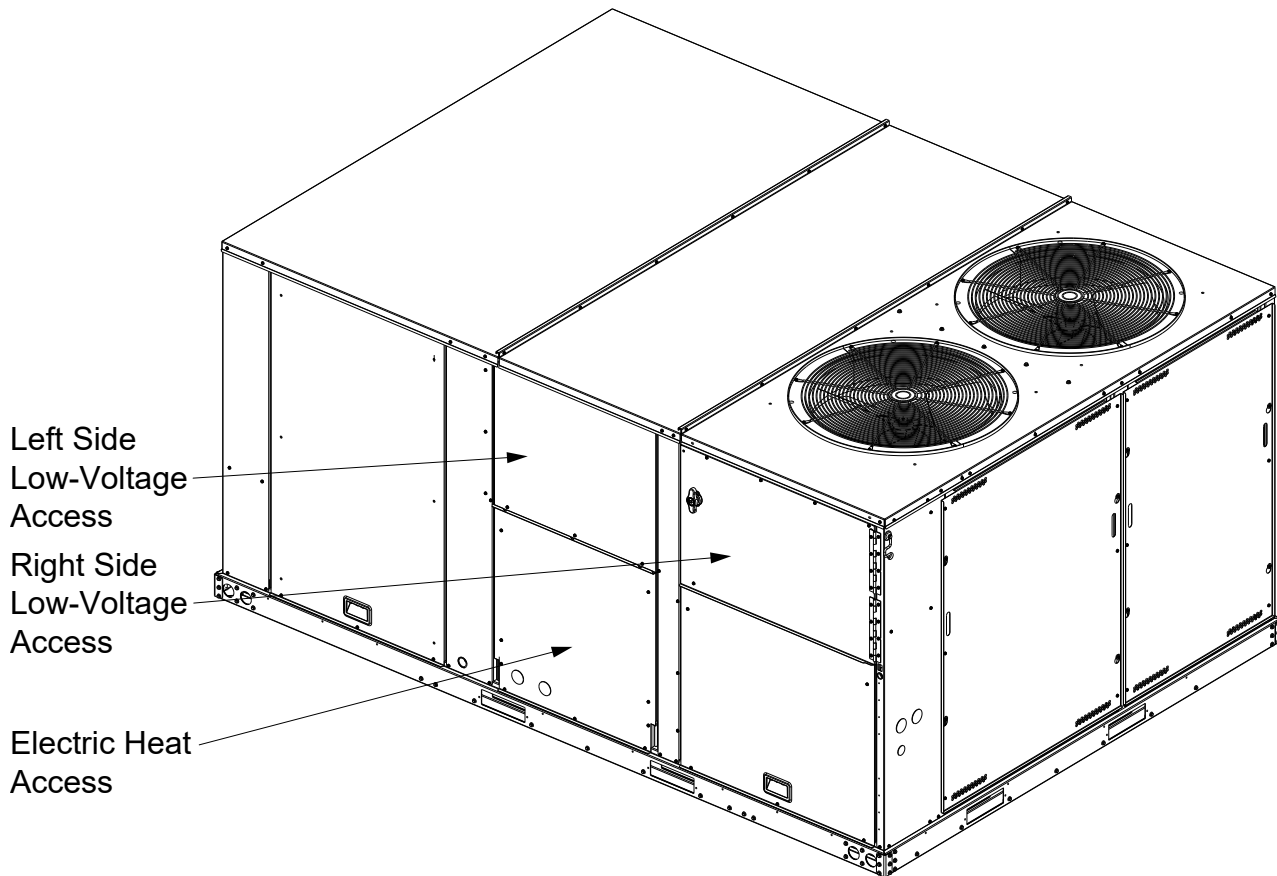
QTY	Description
1	Control harness - Duct mounted discharge air temperature
1	Sensor - Discharge air temperature
1	Schematic - Modulating Electric Heat
1	Screw Trilobe - 10-32 x 1/2
1	Screw - Sheet metal 10-16 UNC x1/2
1	Screw - Phillips pan head 6-32
1	Releasable wire tie - pop in style

^(a) More than one harness may be present in kit. Refer to [3Harness list](#), p. 6 for harness usage.

Installation

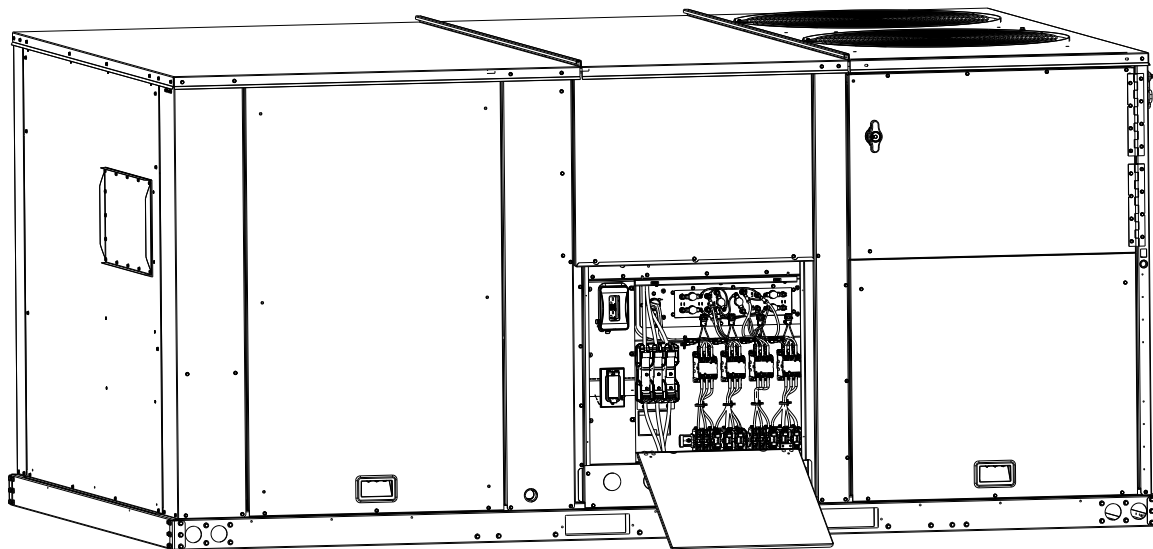
1. Remove the upper and lower outer access panels of the heat section (see [Figure 1, p. 10](#)).

Figure 1. Low-voltage and electric heat access panels



2. Once the lower heat section panel has been removed, there is now access to the hinged, secondary panel in front of the electric heater. Open this panel to access the electric heater/components (see [Figure 2, p. 10](#)).

Figure 2. Electric heat access panel removed



3. Within the electric heater vestibule, locate the heater 1A contactor (HC1A) and the heater 1A (HTR1A) heater element wiring connection points. If needed, refer to the electric heat schematic attached to the hinged, secondary panel for the HC1A location. Remove the factory-installed wire #116A (brown), #117A (orange), and #118A (yellow) from between the load side of the HC1A contactor and HTR1A heater element stud connections. See [Figure 3, p. 11](#), [Figure 4, p. 12](#), [Figure 5, p. 13](#), or [Figure 6, p. 13](#) based on cabinet size. See [Step 4](#) for 54KW/72KW 230V units.

Figure 3. A cabinet – single-stage heater, any tonnage, 6 kW model T or W

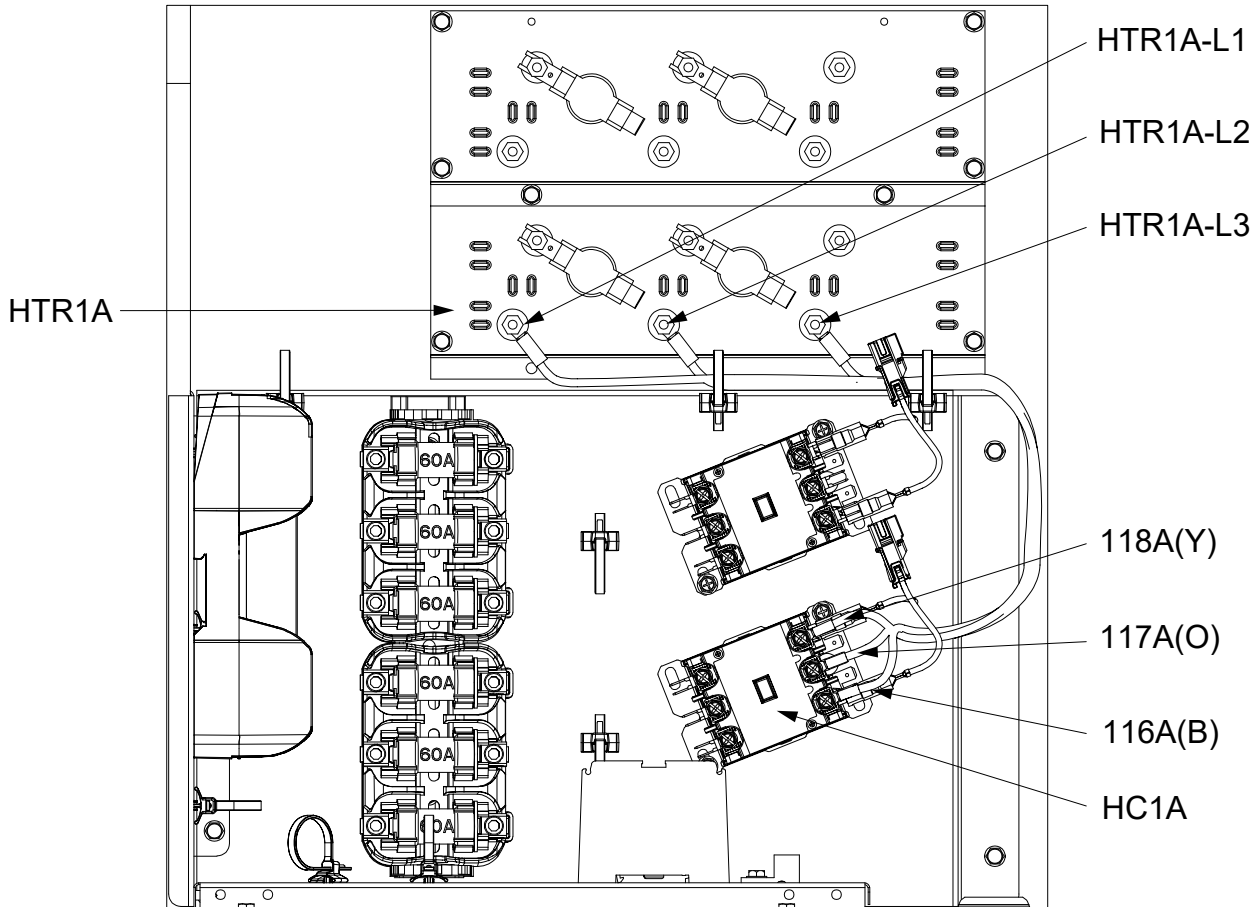


Figure 4. B/C cabinet – 54 kW heater, model T or W

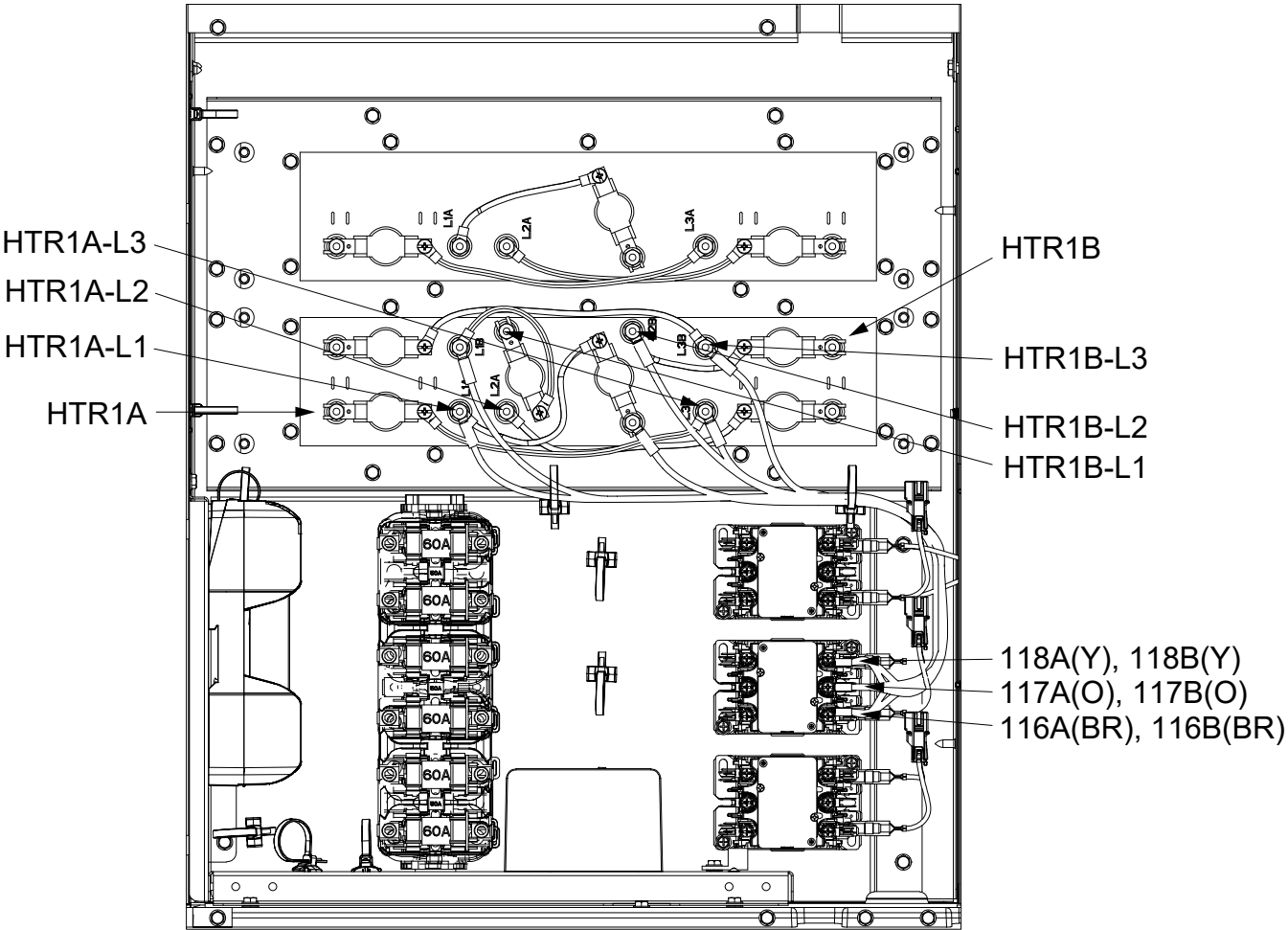


Figure 5. D cabinet – 230V, 72 kW heater, model T or W

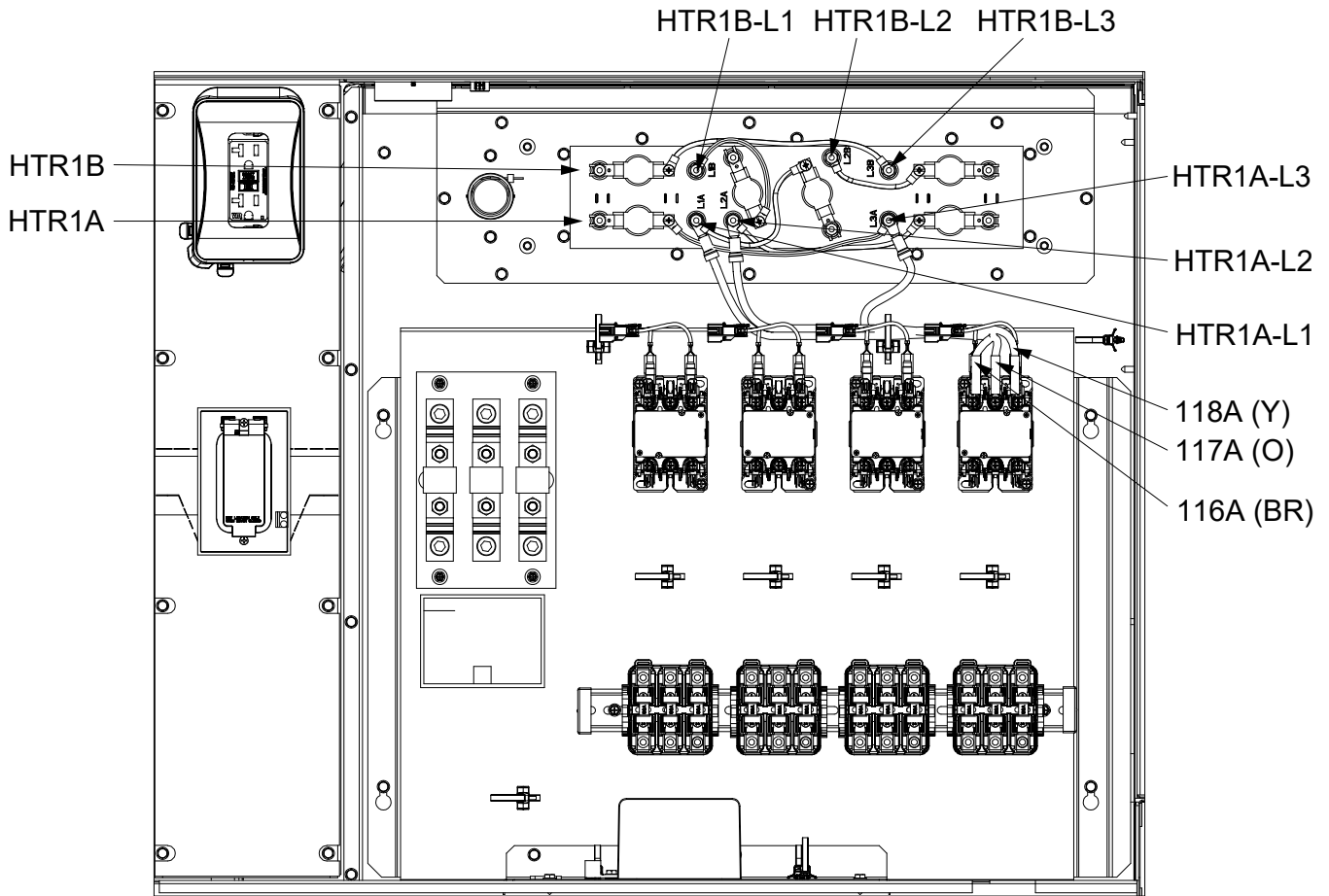
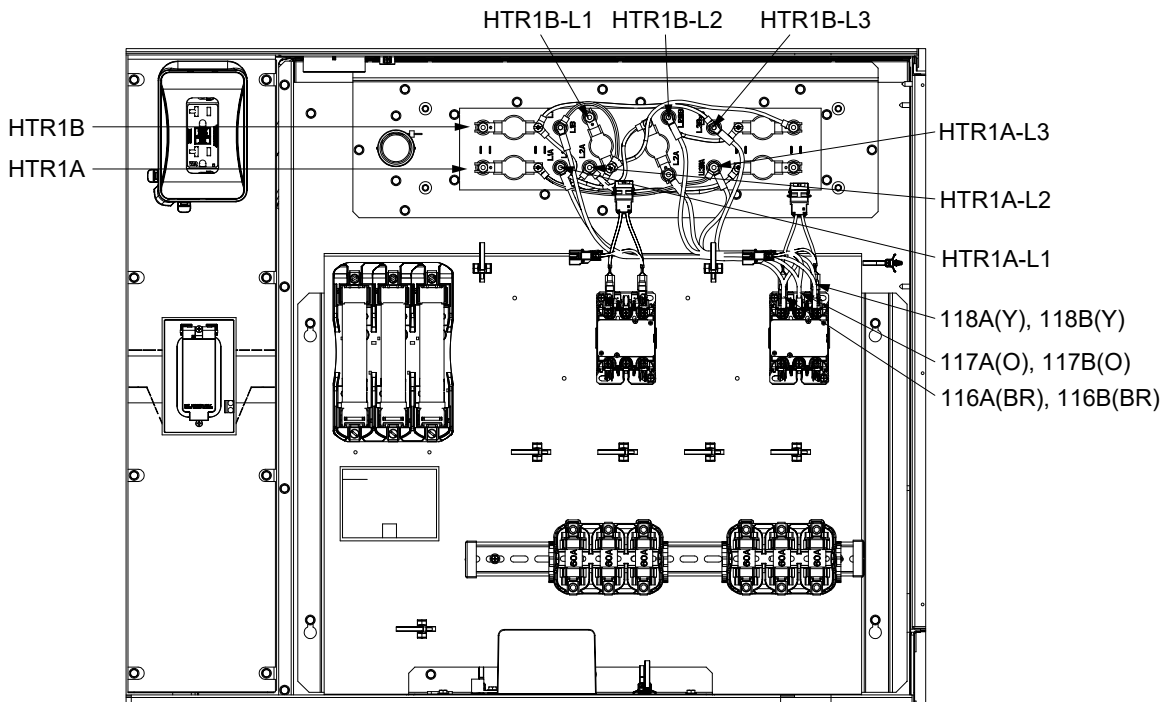


Figure 6. D cabinet – 460V/575V, 72 kW heater, model T or W

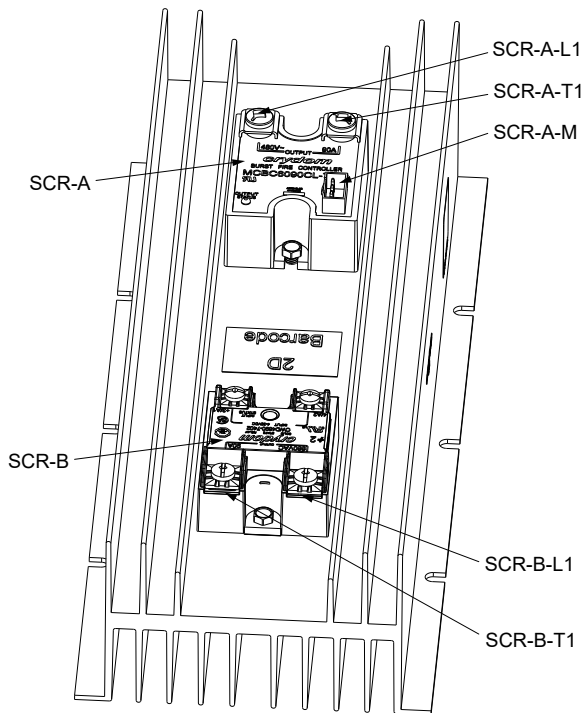


4. **230V, 54KW/72KW electric heaters only:** Disconnect the HC1A and HC1B contactor control harness that plugs into the coil pigtail harnesses of the HC1A and HC1B contactors. These are red 2 pin connectors labeled as PPM73 and PPM74. Locate the indoor options module (IOM) in the main control box, disconnect P6 (brown 2 pin connector) and remove this harness from unit.

Note: If the SCR device fails at any point, this harness can be reinstalled to convert heater back to staged control to continue electric operation.

5. Locate the SCR heatsink assembly and SCR mounting bracket from the kit (see [Figure 7, p. 14](#)).

Figure 7. SCR heatsink assembly (not on bracket)



6. Mount the SCR heatsink assembly to the SCR mounting bracket. A/B/C cabinet units SCR heatsink assemblies slides into bracket without screws. D cabinet units use four #10-32 trilobe screws. See [Figure 8, p. 15](#) or [Figure 9, p. 15](#) for orientation and mounting screw locations.

Note: Orientation of SCR heatsink assembly to bracket is important for proper wire lengths and connections. MCBC relay with the 4 pin white connector is always located on the top of the mounting bracket.

Figure 8. A/B/C cabinet – SCR heatsink assembly (install to bracket)

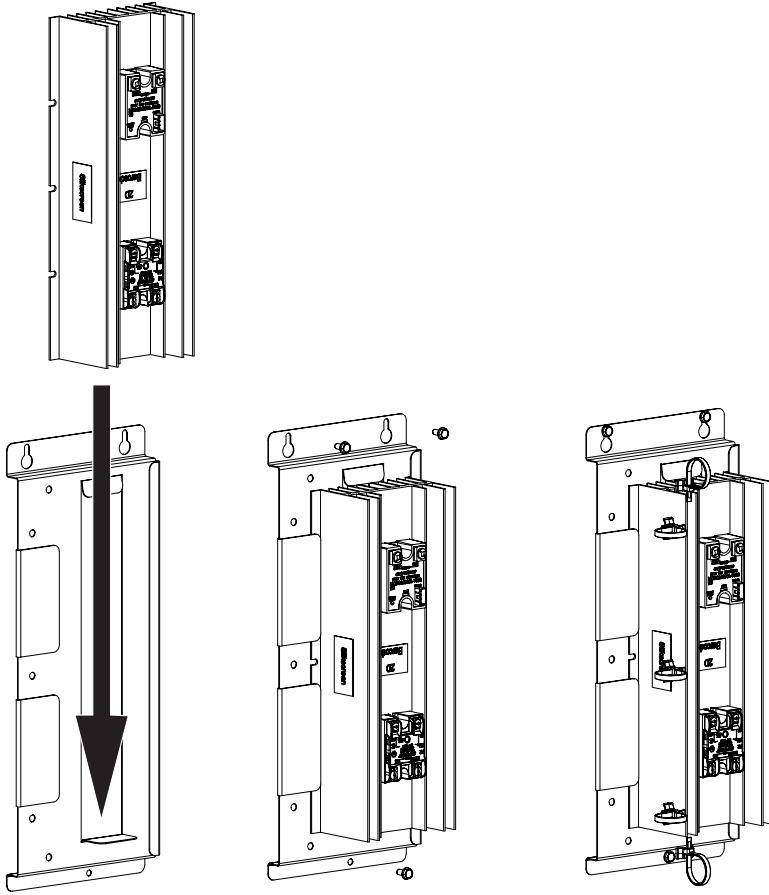
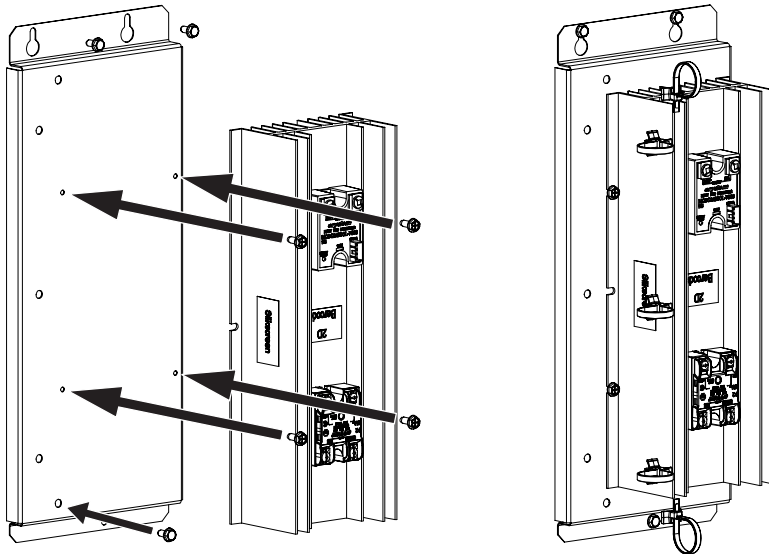


Figure 9. D cabinet – SCR heatsink assembly (install to bracket)

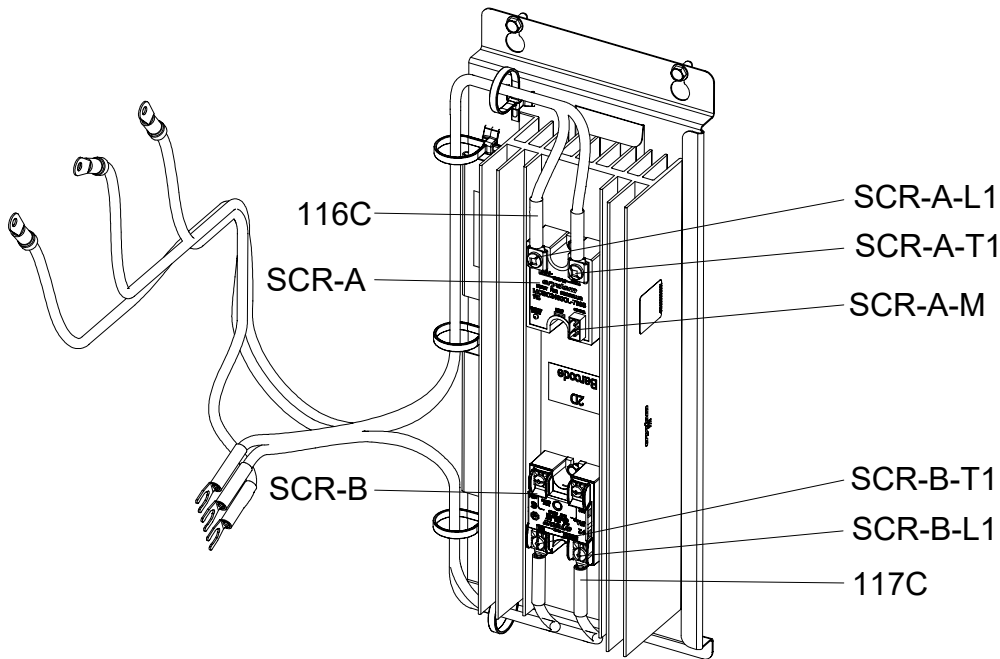


Note: Install the power wires to the SCR assembly/bracket before mounting the SCR assembly/bracket in the heater vestibule for easier access.

7. Harness orientation is critical to ensure proper wire routing and termination. Kit configurations may include either two or four power harnesses. Refer to [Table 3, p. 6](#) for harness usage.

- a. Install the power harness with fork terminals on both ends between the HC1A contactor and the SCR devices. This harness includes wire 116C (brown) and wire 117C (orange). Connect the end of the harness with the wire tie located closest to the terminal ends to the load side of the HC1A contactor.
 - b. Install the other power harness, which has ring terminals on one end and fork terminals on the other, between the SCR devices and the heater stud connection points (HTR1A). This harness includes wire 204A (brown) and wire 205A (orange). Connect the ring terminal end to the heater studs and the fork terminal end to the SCR connections. Refer to [Table 3, p. 6](#) for harness usage.
8. Using the proper wire gauge and harness orientation (see above), connect the harness with wire #116C (brown) to SCR-A-L1 and wire 117C (orange) to SCR-B-L1. When connecting fork terminal to SCR-A or SCR-B, ensure the fork terminal goes under the terminal plate. Refer to [Figure 10, p. 16](#). Torque both connections to 18-20in/lbs.

Figure 10. Connections on the primary and secondary relay



Note: The following step is for any voltage heater less than 54KW or any 230V 54KW/72KW. For heaters 460V/575V 54KW/72KW skip Step 9 and refer to Step 10.

9. Using the proper wire gauge and harness orientation, connect the harness with wire #204A (brown) to SCR-A-T1 and wire 205A (orange) to SCR-B-T1. Wire #118B (yellow) is not connected at this time. When connecting fork terminal to SCR-A or SCR-B, confirm the fork terminal goes under the terminal plate. Refer to [Figure 12, p. 17](#). Torque both connections to 18-20in/lbs.

Figure 11. Terminal position on SCR-screw plate

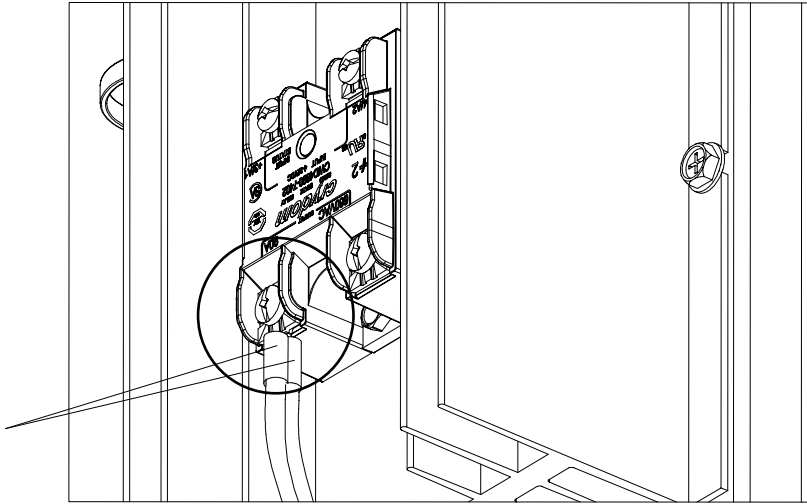
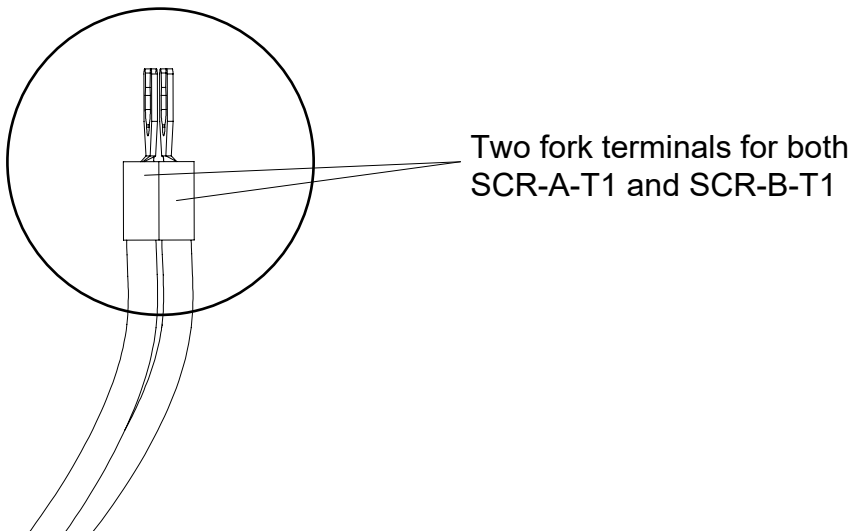
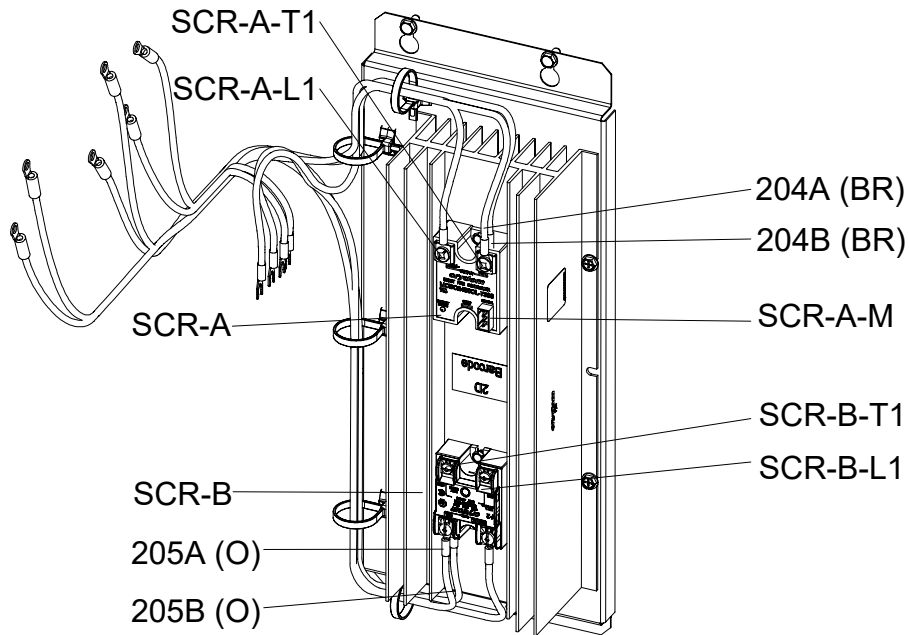


Figure 12. SCR with two fork terminals



10. **(460V/575V 54KW/72KW heaters only)** Connect the harness with wire #204A (brown) and 204B (brown) to SCR-A-T1 and connect 205A (orange) and 205B (orange) to SCR-B-T1. Wire #118B (yellow) is not connected at this time. One of the terminals for each connection will need to be placed upside down to allow both terminals to properly fit under terminal plate. Refer to [Figure 13, p. 18](#). Torque both connections to 18-20in/lbs.

Figure 13. SCR with two fork terminals on primary and secondary relay



Install Pre-Wired SCR Assembly/Bracket

Mount the pre-wired SCR assembly/bracket to the right-side wall panel in the heater vestibule using the supplied #10-16 screws (see [Figure 14](#), p. 19, [Figure 15](#), p. 20, or [Figure 16](#), p. 21).

Note: Mounting location is critical to SCR temperature performance. Failure to mount SCR in the specified location could result in failure of SCR relays.

Figure 14. A cabinet – SCR mounted to panel

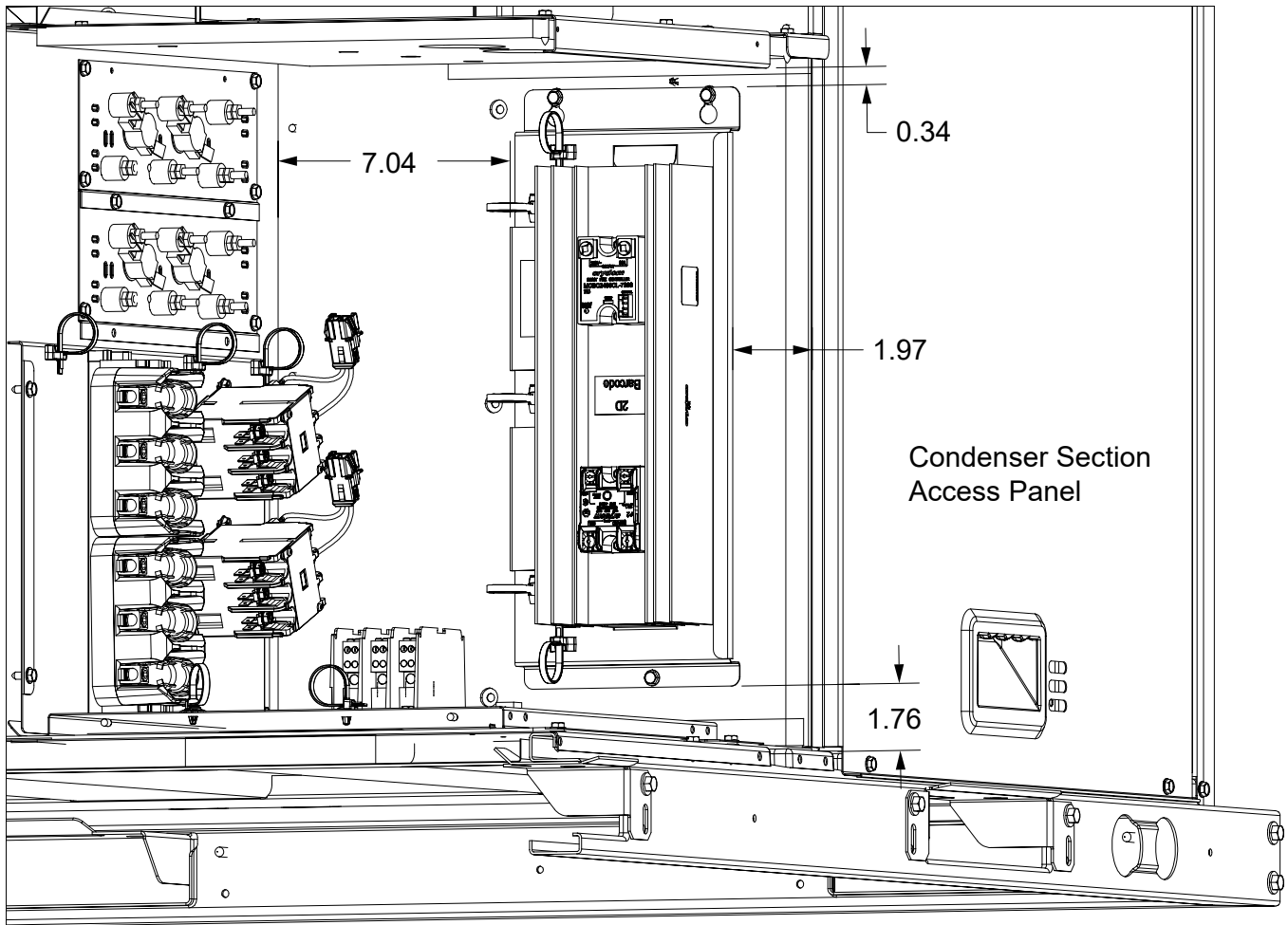


Figure 15. B/C cabinet – SCR mounted to panel

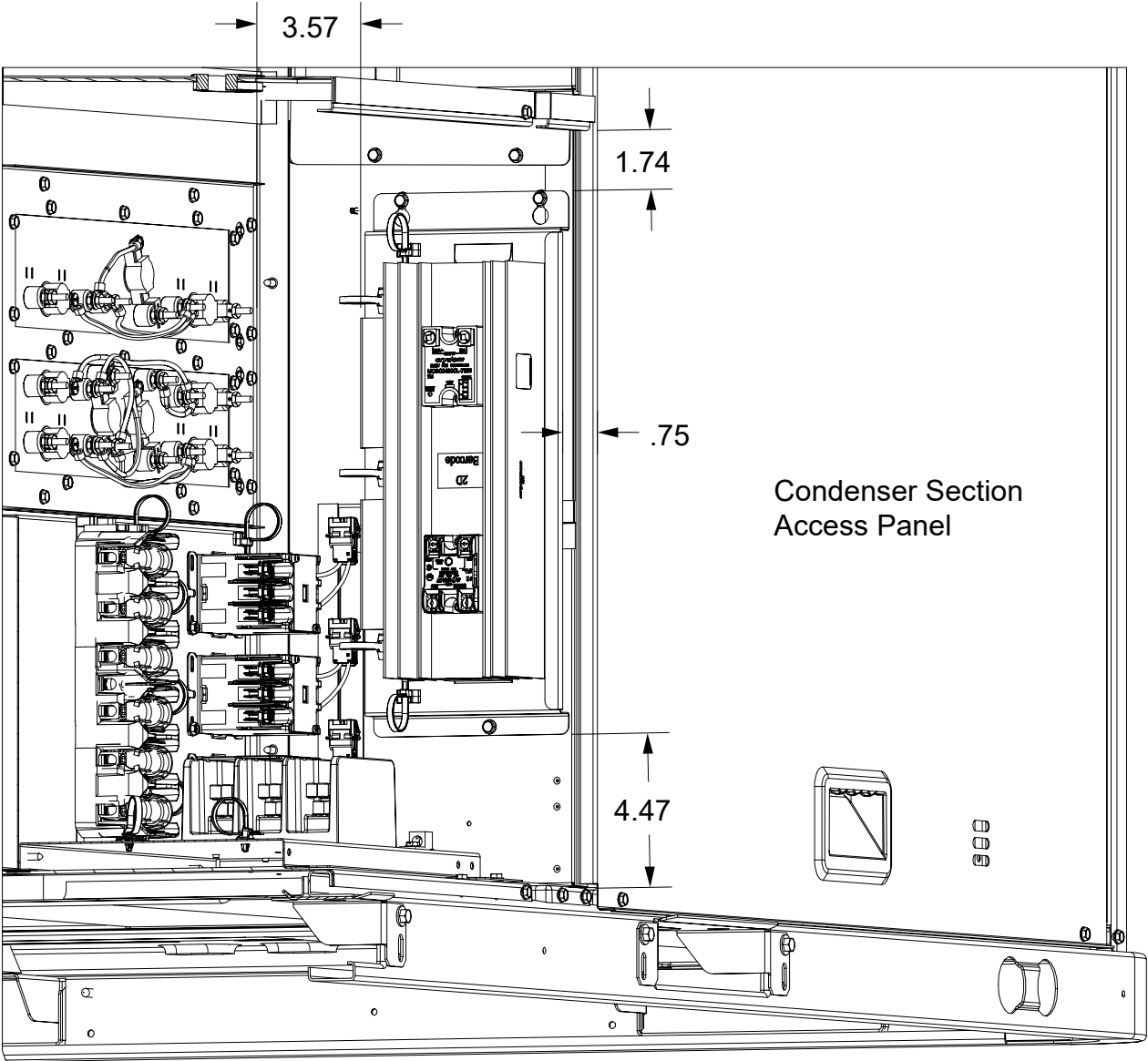
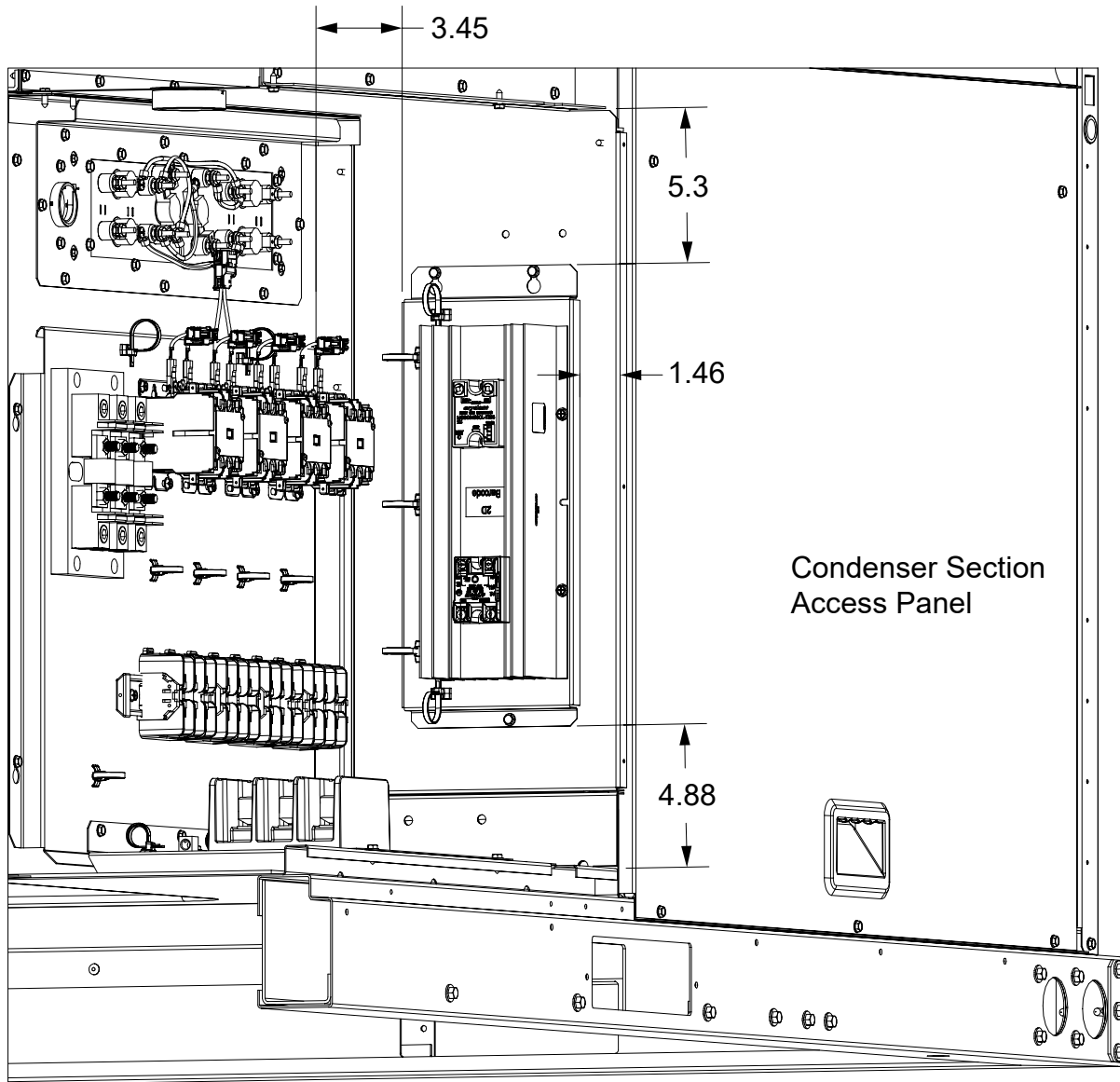


Figure 16. D cabinet – SCR mounted to panel



SCR Assembly Final Wiring

Refer to [Figure 17, p. 22](#), [Figure 18, p. 23](#), or [Figure 19, p. 24](#) for assembly wiring.

1. Connect the remaining loose end of wire #116C (brown) to T1 (load side) of the HC1A contactor.
2. Connect the remaining loose end of wire #117C (orange) to T2 (load side) of the HC1A contactor. Torque connections to 12 in-lb.
3. Connect wire #118B (yellow) to T3 (load side) of the HC1A contactor.
4. Torque all three connections to 18 to 20 in-lb.

Figure 17. A cabinet – SCR assembly wiring

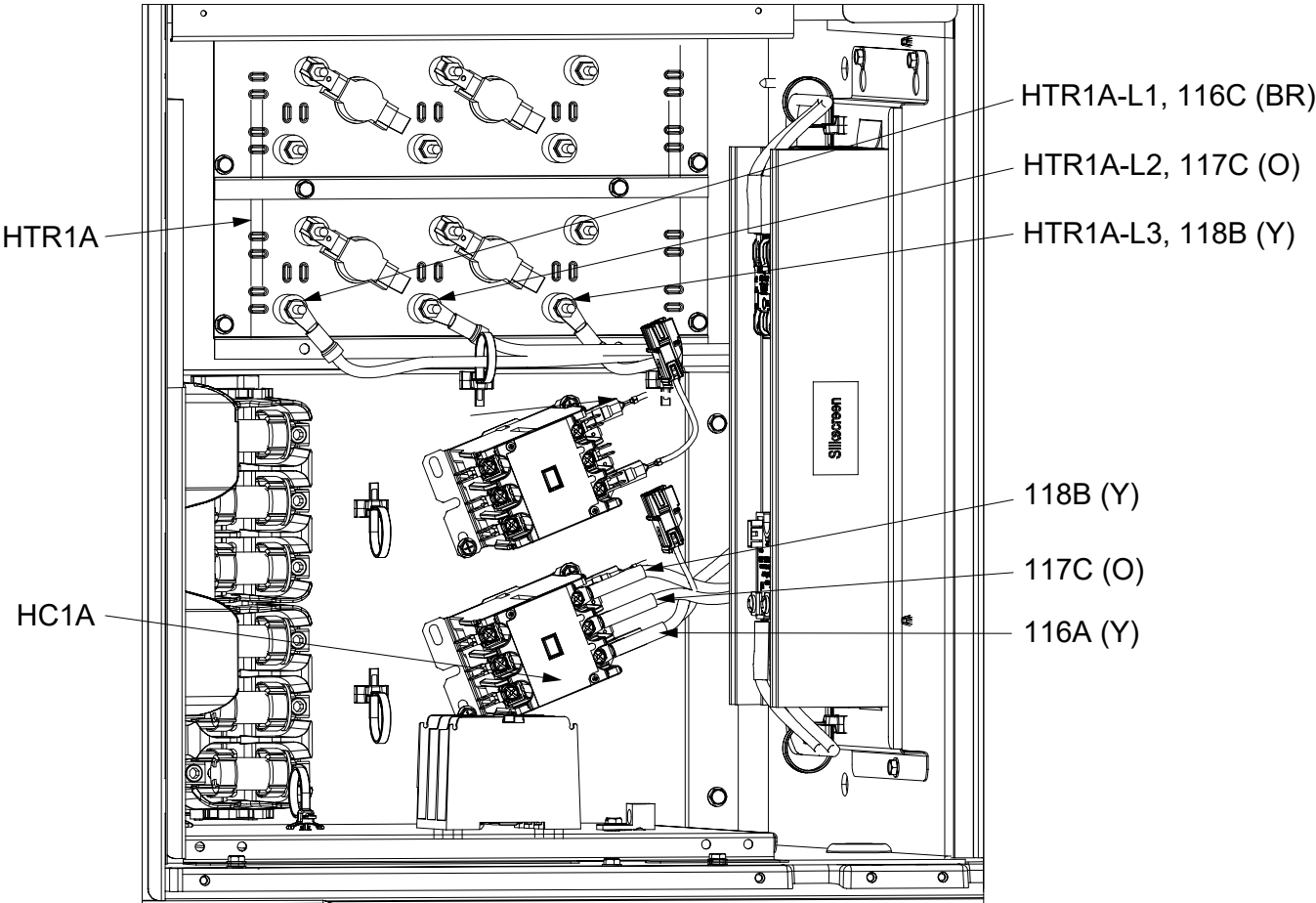


Figure 18. B/C cabinet – SCR assembly wiring

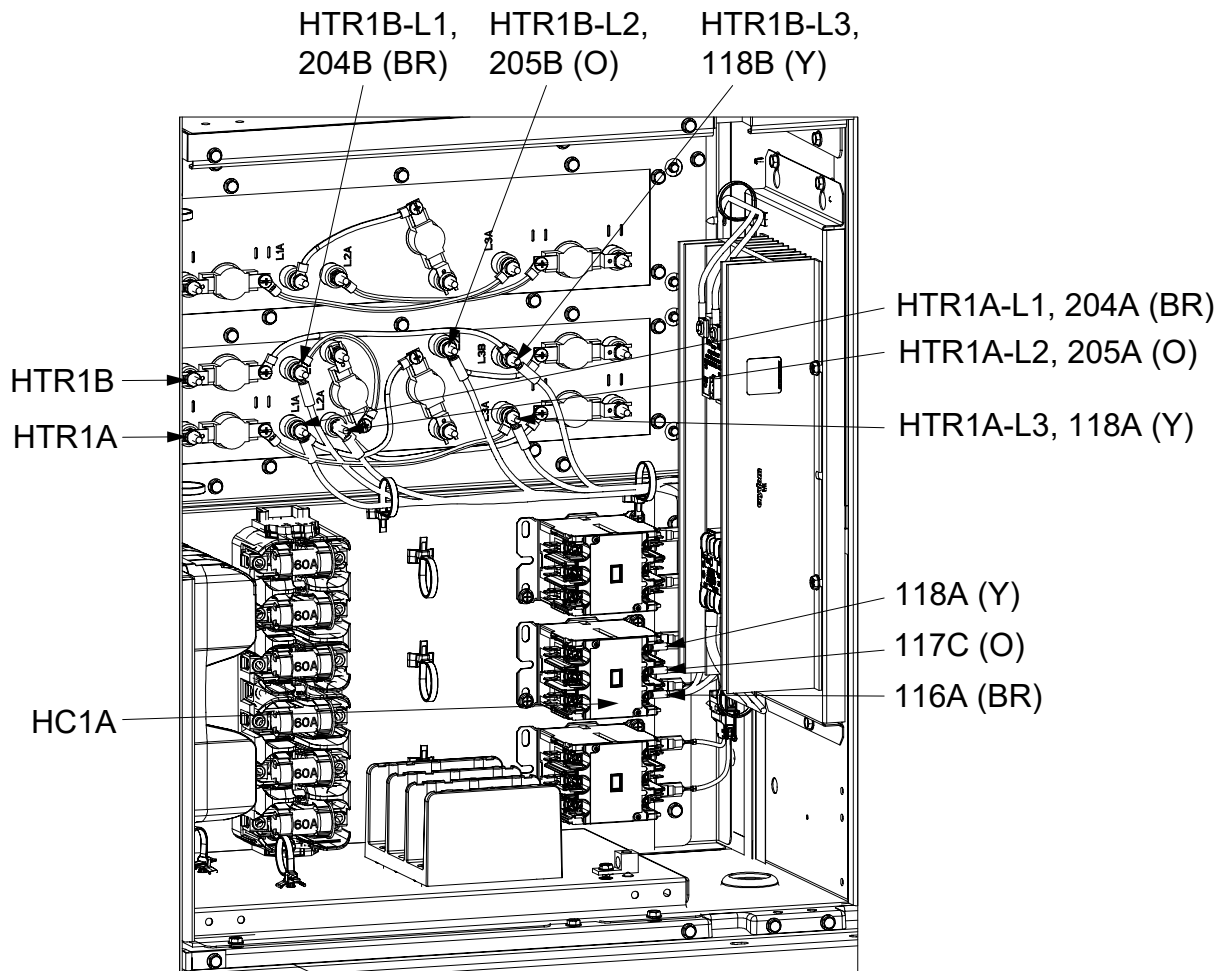
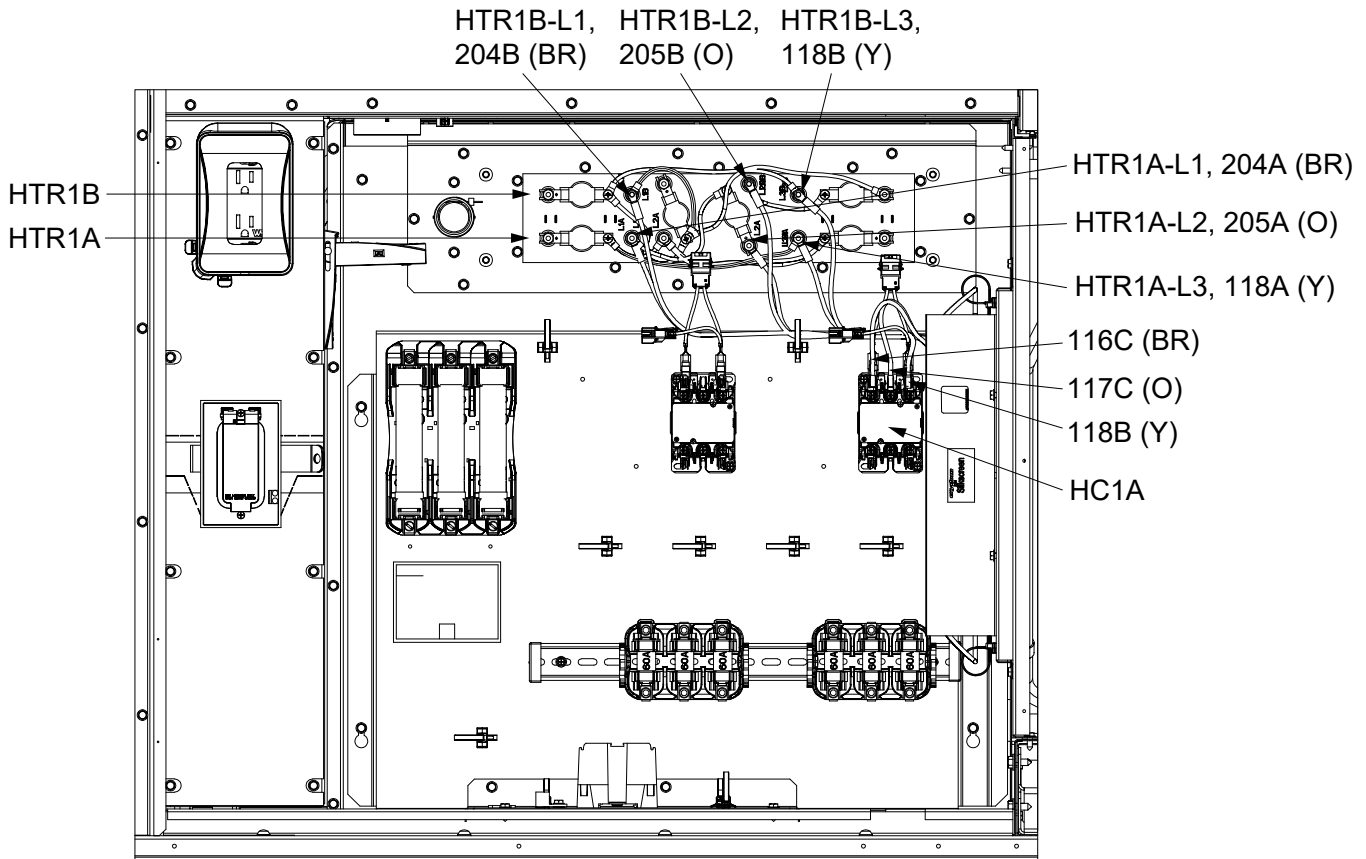


Figure 19. D cabinet – SCR assembly wiring



5. Connect the remaining loose end of wire #204A (brown) to heater stud HTR1A-L1, wire #205A (orange) to heater stud HTR1A-L2, and wire #118A (yellow) to heater stud HTR1A-L3 (see [Figure 17, p. 22](#), [Figure 18, p. 23](#), or [Figure 19, p. 24](#)).

Note: This step applies to any voltage heater less than 54 kW or any 230V 54 kW/72 kW. For 460V/575V, 54 kW/72 kW skip this step and proceed to the next step.

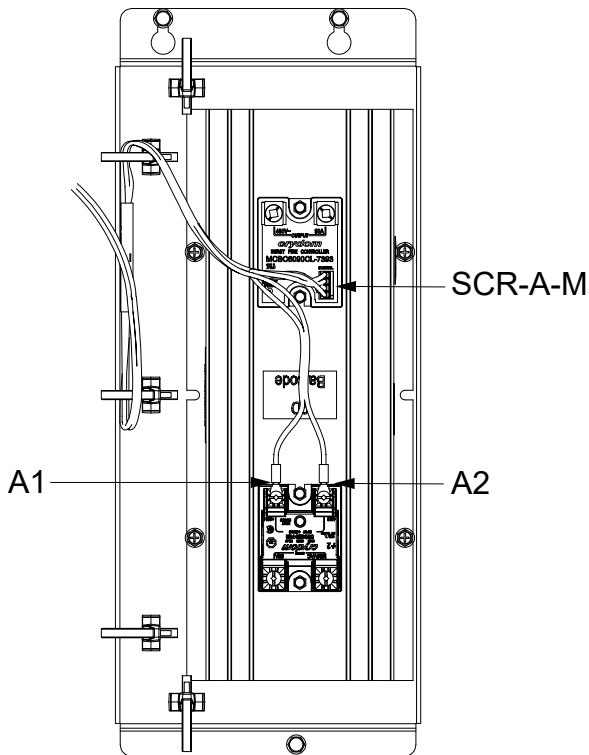
6. **For 460V/575V, 54 kW/72 kW electric heaters only:**

Connect wire #204B (brown) to heater stud HTR1B-L1, wire #205B (orange) to heater stud HTR1B-L2, and wire #118B (yellow) to heater stud HTR1B-L3 (see [Figure 17, p. 22](#), [Figure 18, p. 23](#), or [Figure 19, p. 24](#)).

SCR Control Wiring – A Cabinet

1. Using the SCR control harness (WIRHEH014101), plug in connector SCR-A-M (four-pin white connector) to the mating connector SCR-A-F, located on SCR-A (see [Figure 20, p. 25](#)).
2. Connect the fork terminal of the blue/white wire to terminal A1 of SCR-B, and connect the fork terminal of the orange wire to terminal A2 of SCR-B (see [Figure 20, p. 25](#)). Torque connections to 12 in/lb.

Figure 20. SCR-A-M connections



3. Route the SCR control harness to the customer connection module (CCM) on the right-side low voltage door (see [Figure 21, p. 25](#), [Figure 22, p. 26](#), [Figure 23, p. 26](#), [Figure 24, p. 27](#), and [Figure 25, p. 27](#)).

Use the releasable, factory-installed wire ties to secure the harness along its entire routing path. Connect connector CCM-J11 to header P11 on the CCM.

Figure 21. Wire routing – right side of heater wall

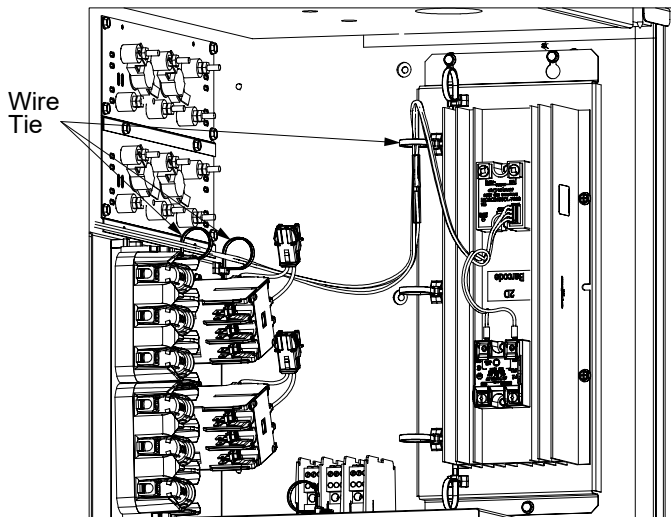


Figure 22. Wire routing – back wall

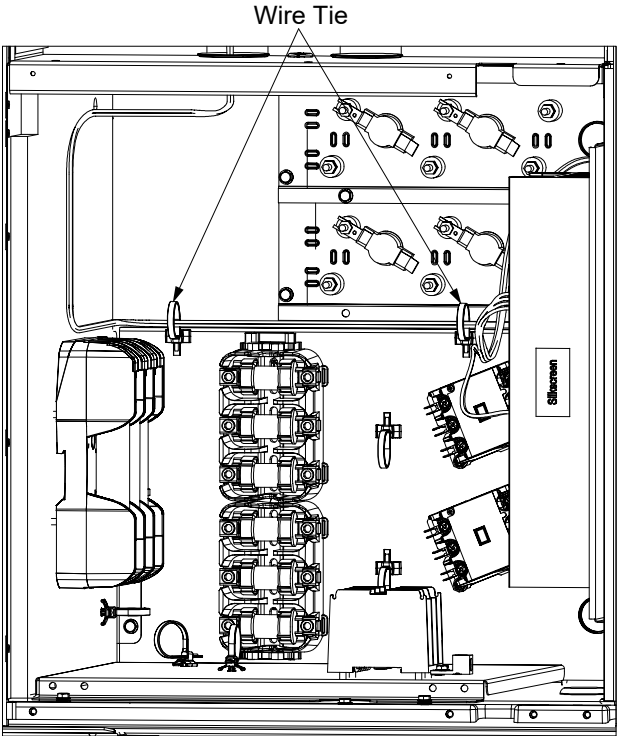


Figure 23. Wire routing – left-side high voltage wiring

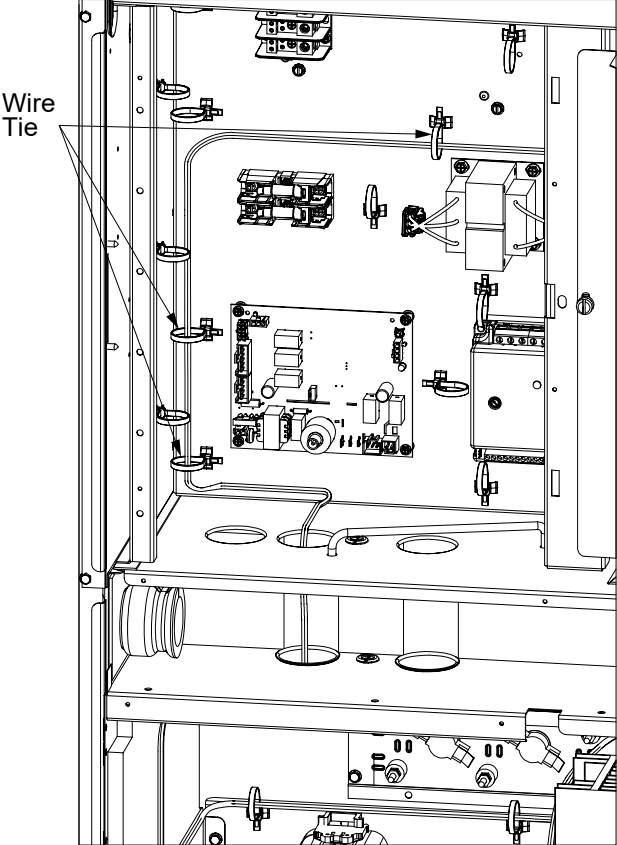


Figure 24. Wire routing – right-side high voltage wiring

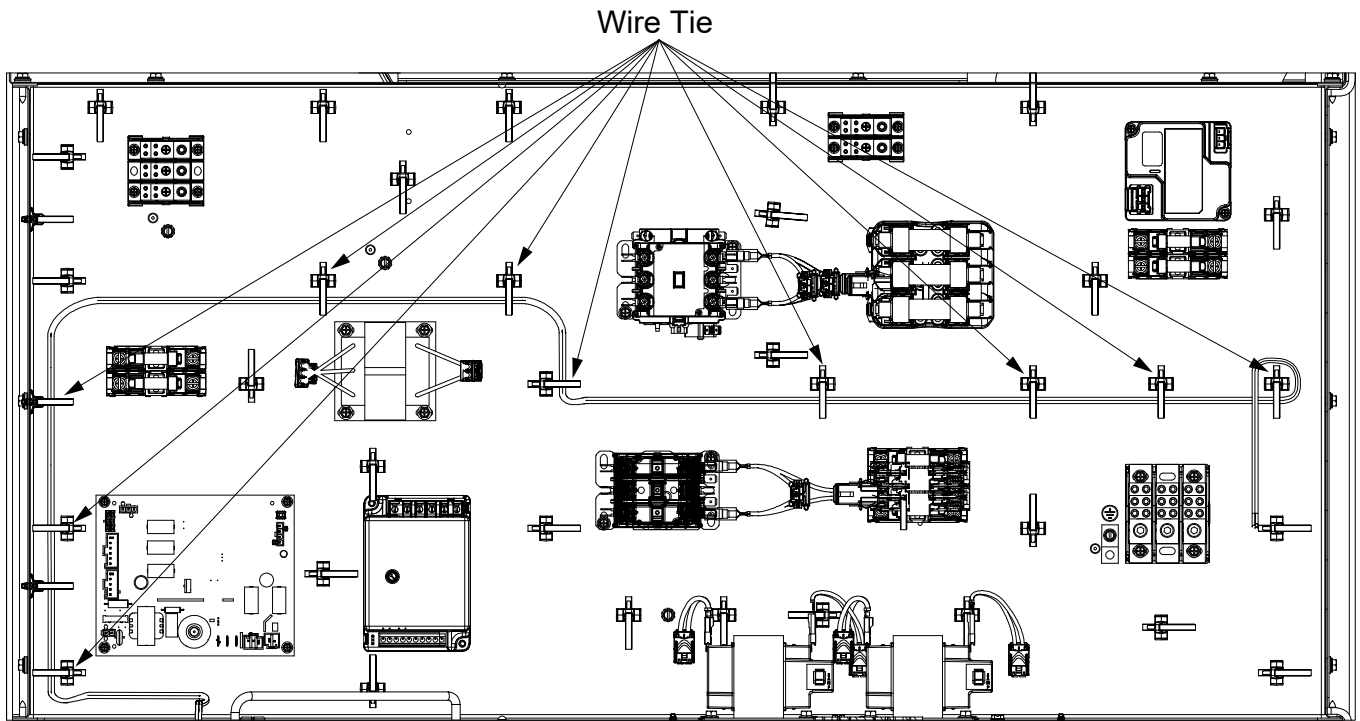
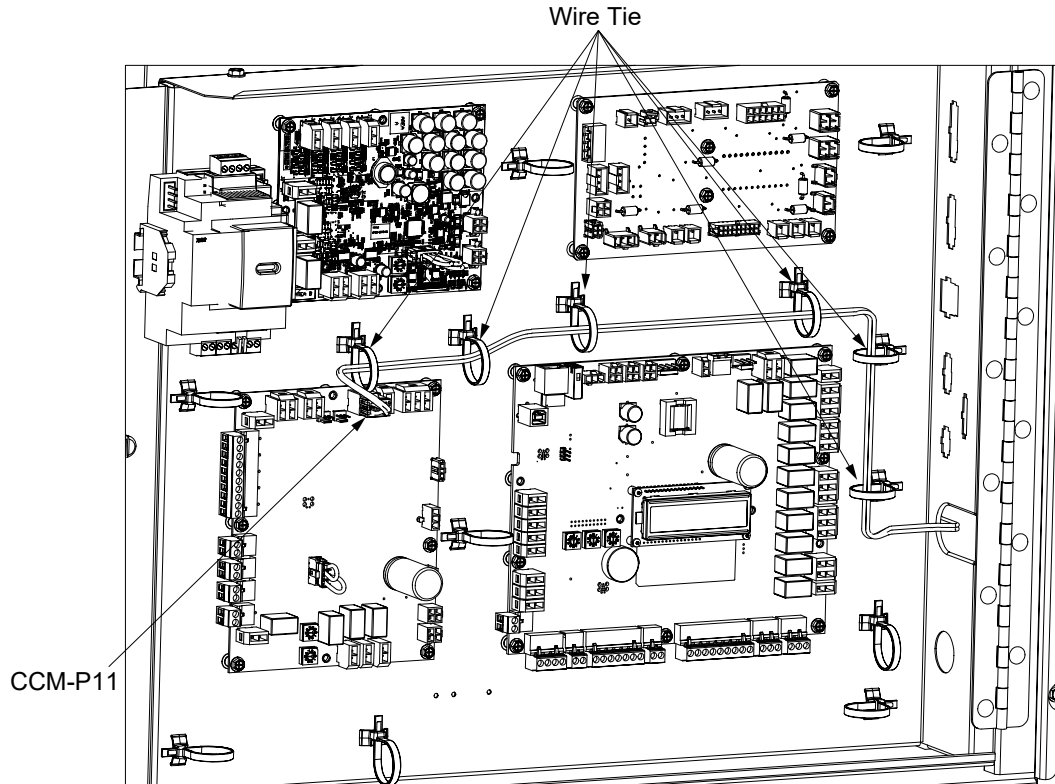


Figure 25. Wire routing – right-side low voltage door wiring



1. Using the SCR control harness (WIRHEH014201), connect connector SCR-A-M (four-pin white connector) to the mating connector SCR-A-F on SCR-A (see [Figure 26, p. 28](#)).

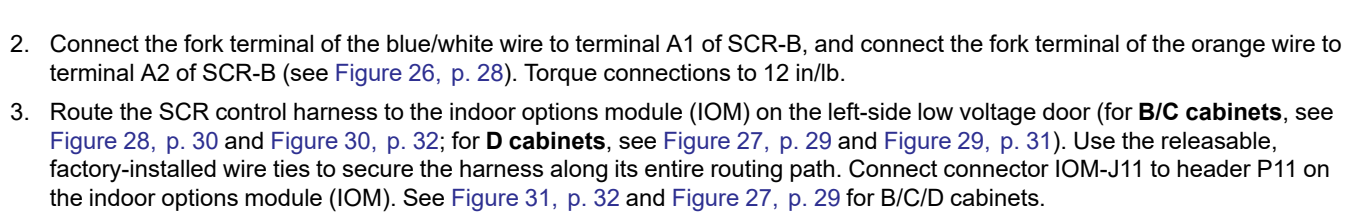


Figure 27. Wire routing – right side of the heater wall, D cabinet controls

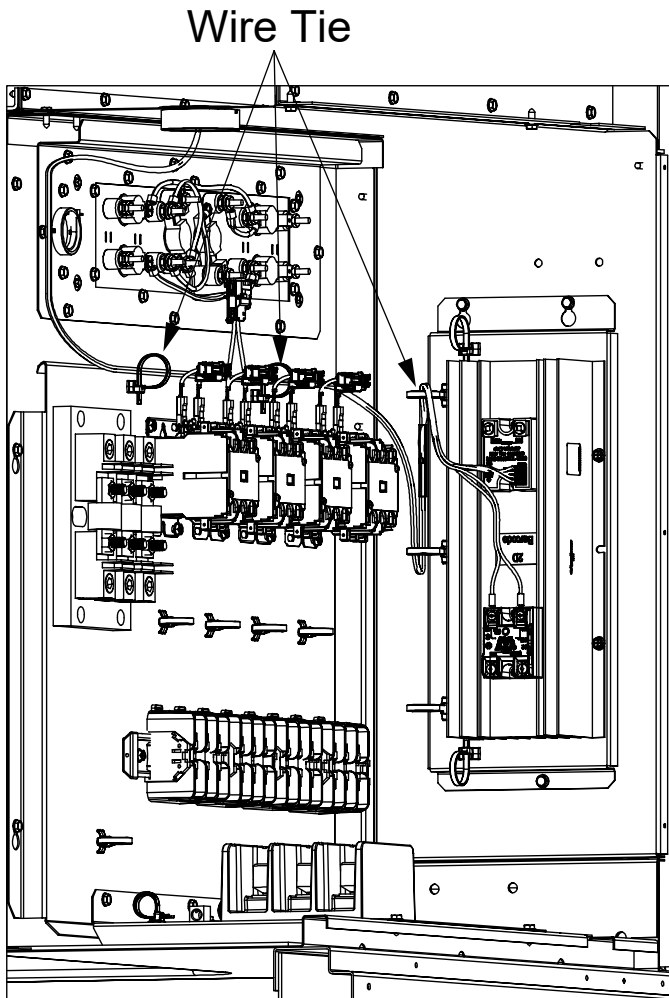


Figure 28. Wire routing – back wall

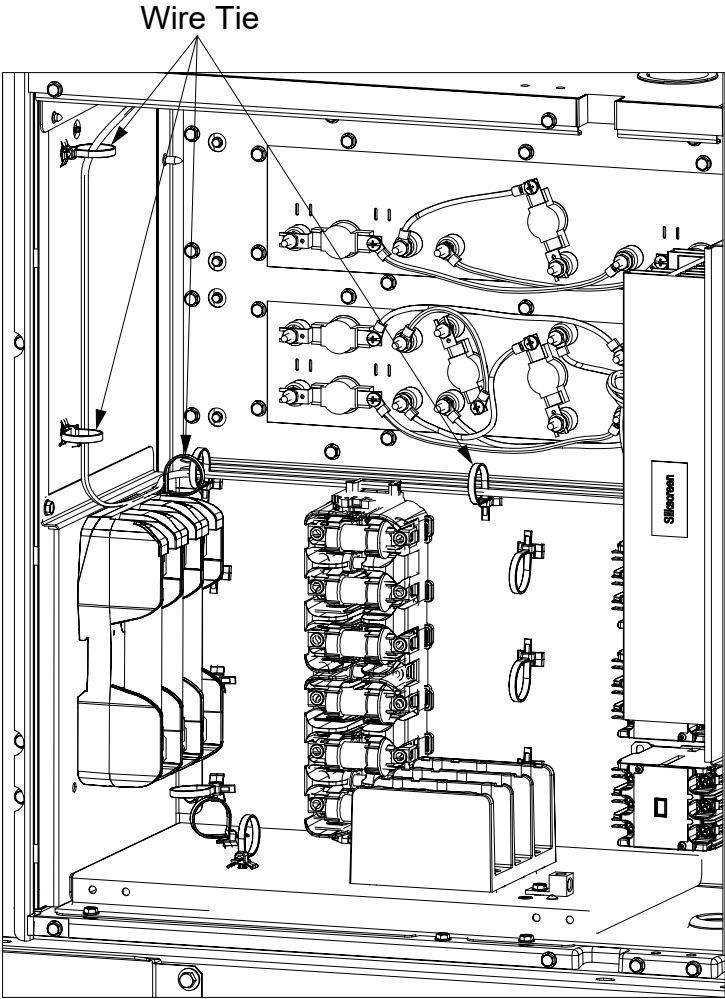


Figure 29. Wire routing – back of wall, D cabinet controls

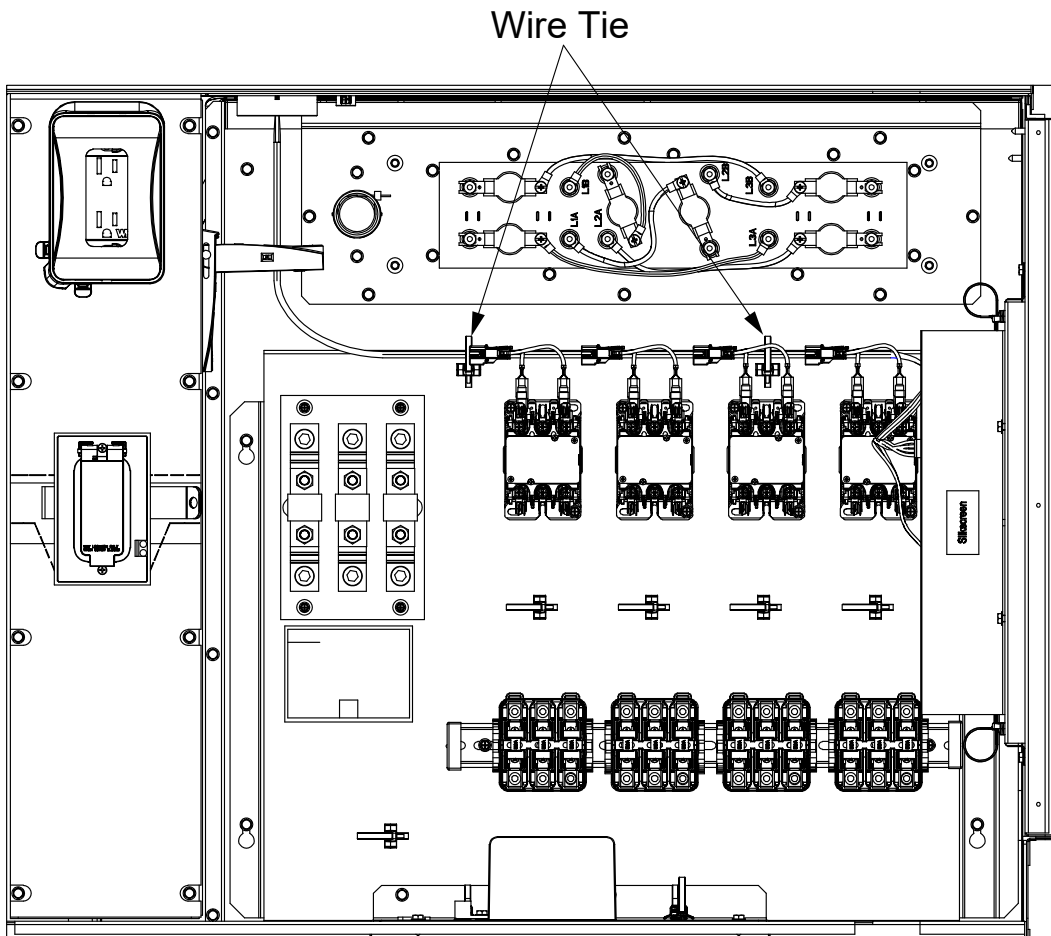


Figure 30. Wire routing – left-side high voltage

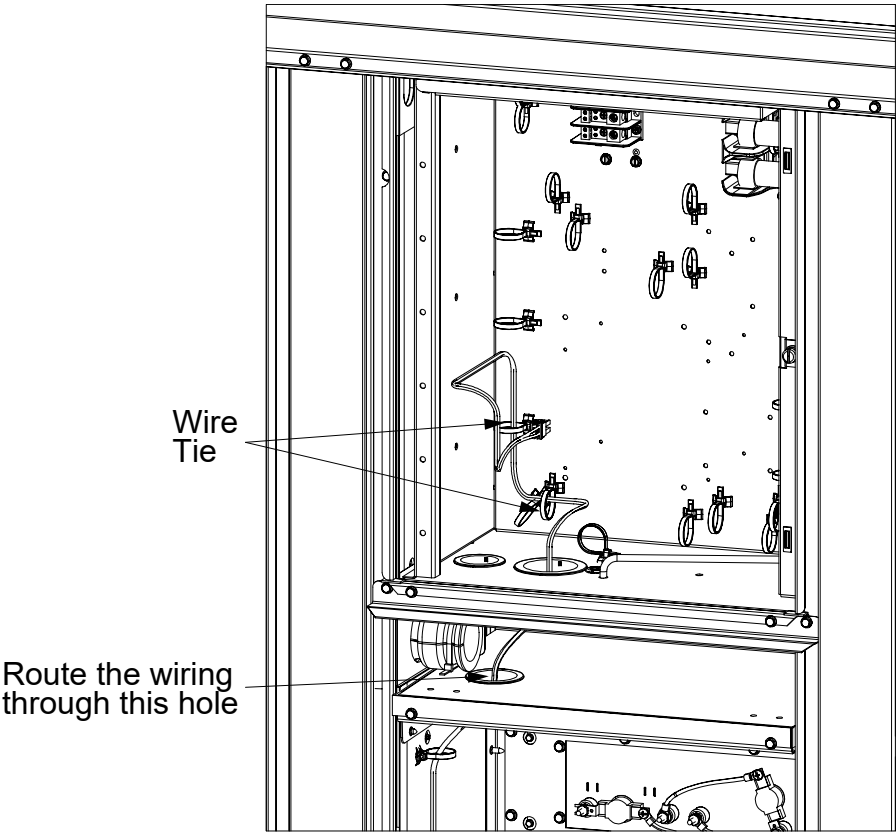
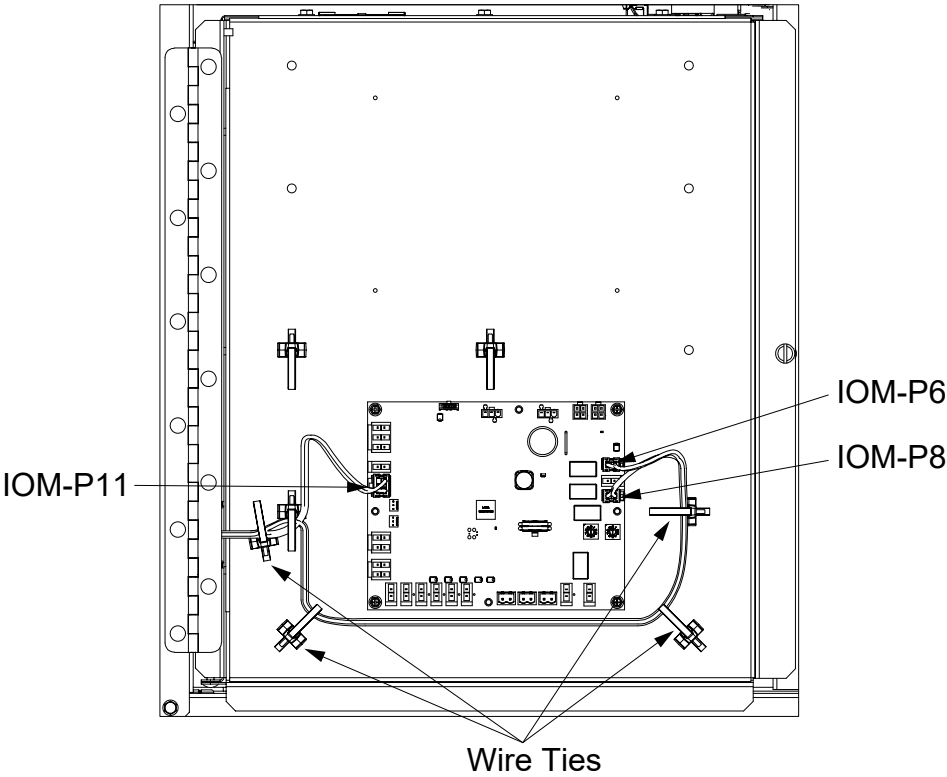


Figure 31. Wire routing – left-side low voltage door



This step applies only to a 230V, 54 kW/72 kW electric heater. For all other heaters, skip this step.

4. 230V, 54 kW/72 kW electric heaters only:

Using the additional control harness (WIRHEH013901), connect IOM-J6 (two-pin brown connector) to mating connector P6 on the indoor options module and IOM-P8 (two-pin green connector) to mating connector P8 on the indoor options module.

Follow the same routing path as WIRHEH014201 and route the harness from the indoor options module (IOM) into the heater vestibule.

Connect PPM73 (two-pin red connector) to the HC1A contactor coil pigtail and PPM74 (2-pin red connector) to the HC1B contactor coil pigtail. See [Figure 26, p. 28](#) through [Figure 29, p. 31](#).

Refer to the schematic included in the kit for the balance of the circuit.

Supply Duct-Mounted Discharge Temperature Sensor Wiring Installation

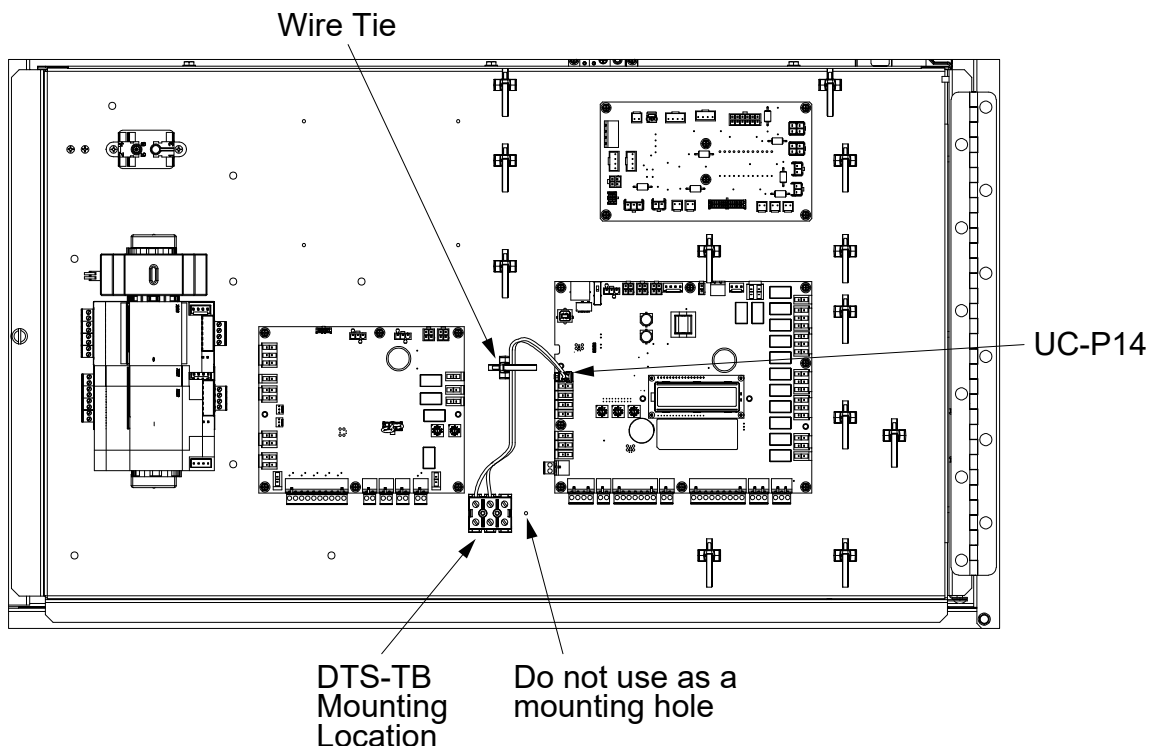
Note: The factory-installed discharge air temperature sensor must be replaced with a supply duct-mounted discharge air temperature sensor for proper performance of the modulating electric heater.

1. Locate and open the right-side low voltage access door of the main control box. Locate the supply duct-mounted sensor harness WIRHEH0451 in the supplied kit. This harness includes a three-position, pre-wired terminal block with a two-pin pink connector (see [Figure 32, p. 33](#)).
2. Using the two pan-head #6-32 screws included in the kit, mount the terminal block to the right-side low voltage door between the UC-700 and customer connection module (CCM). Refer to [Figure 32, p. 33](#) for the terminal block location and orientation.
3. Unplug the factory-installed UC-J14 connector (two-pin pink connector) from the UC-700 P14 header and replace the connection with UC-J14 connector on the supplied terminal block harness.

Note: The factory-installed UC-J14 connector/wiring can remain in the unit and does not need to be removed once it has been unplugged from the UC-700.

4. Secure the harness wires using the factory-installed, releasable wire tie.
5. Close all the panels and reinstall all the panel screws.

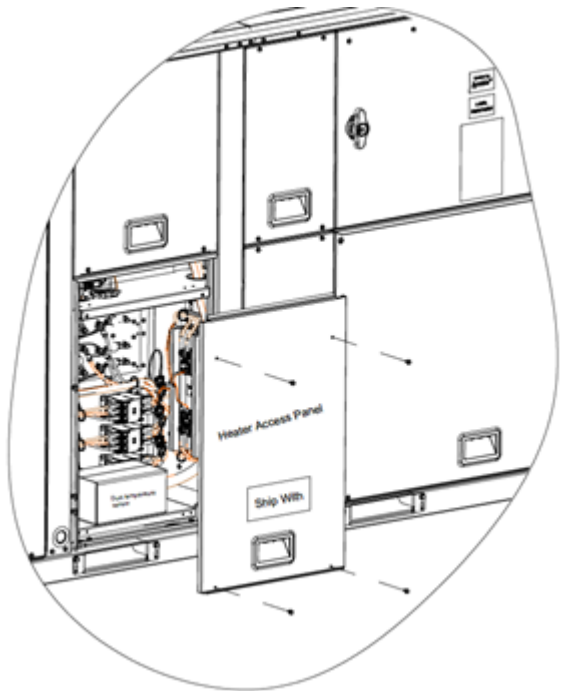
Figure 32. Supply duct-mounted sensor harness WIRHEH0451



Supply Duct-Mounted Temperature Sensor Installation

1. According to the ship with label, remove the heater compartment access panel and take out the components shipped with the unit, including the supply-duct mounted temperature sensor and harnesses.

Figure 33. Ship with components location



2. Drill a 3/8-inch hole in the wider surface of the duct so the probe is closer to the center of the duct. Install the supply duct-mounted temperature sensor downstream of the elbow, out of direct line of sight, to prevent detection of radiant heat. Install the duct temperature sensor as far from the elbow as possible. Recommended installation distances are as follows.

Figure 34. Discharge air sensor location

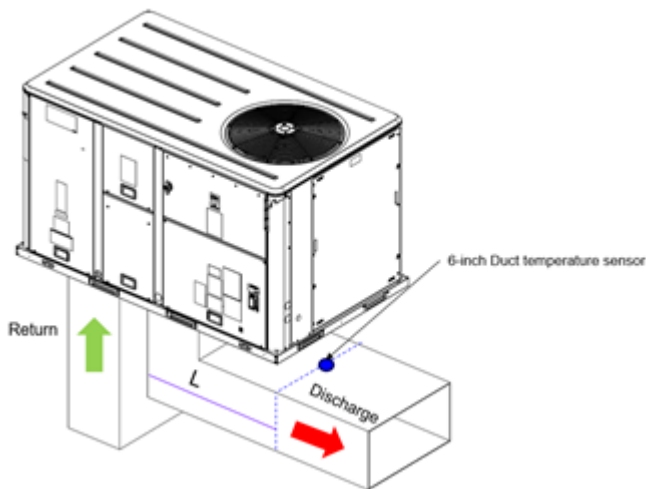
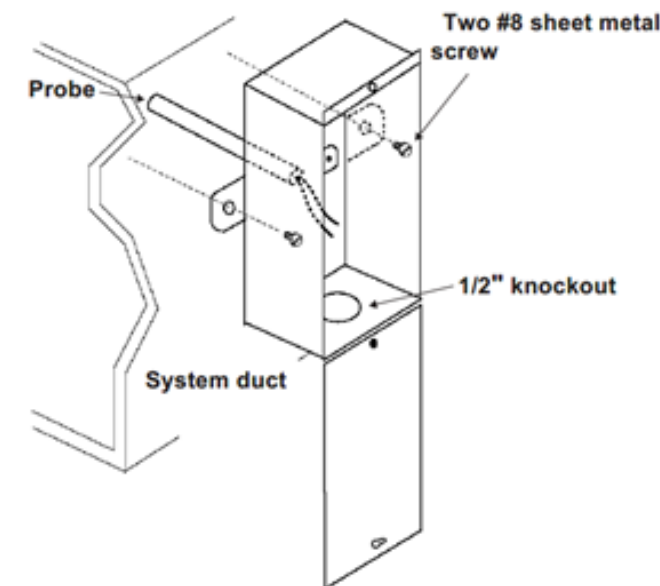


Table 6. Recommended installation distances

Cabinet	L
A	3.93 ft (1.2 m)
B, C, and D	5.90 ft (1.8 m)

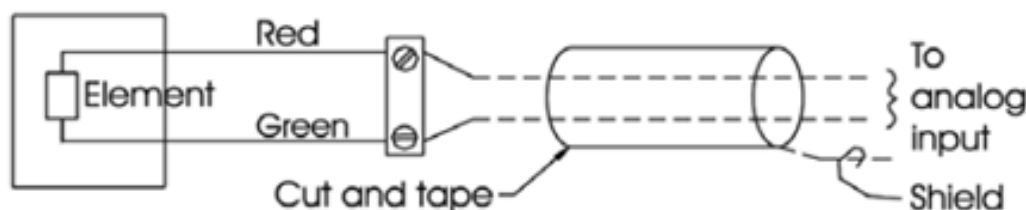
3. Insert the sensor probe into the duct until the mounting bracket rests against the duct.
4. Use the mounting bracket as a template to mark and drill holes for two #8 sheet metal screws.
5. Fasten the sensor to the duct with a sheet metal screw.
6. Loosen the cover screws and rotate the cover out of the way.

Figure 35. Sensor probe and duct installation



7. Connect the sensor leads to the controller analog input as shown below.

Figure 36. Sensor leads to controller analog input



8. Rotate the cover back into place and tighten the screws.

Symbio 700 Configuration

Note: The Symbio™ 700 controller supports modulating electric heat as the primary heat source on cooling-only units or as a secondary heat source on heat pump configurations. Modulating electric heat and the heat pump heating do operate simultaneously. If the last stage of compressor heating is energized or compressor(s) lockout is active, electric heat is allowed to stage. A discharge-air temperature sensor is required for modulating electric heat operation. During heating operation, the modulating electric output modulates 0 to 100 percent to maintain the discharge-air temperature setpoint. Configuration Changes can be accomplished using the Symbio Service and Installation Mobile app, Local Display, or Tracer™ TU.

1. For refrigeration system configurations that are cooling-only (model number digit 1 = T), set the primary heating source to electric.
For refrigeration system configurations that are heat pump only (model number digit 1 = W or D), set the secondary heating source to electric.
2. For refrigeration system configurations that are cooling-only (model number digit 1 = T), set the primary heating type to modulating.

For refrigeration system configurations that are heat pump only (model number digit 1 = W or D), set the secondary heating type to modulating.

- For refrigeration system configurations that are cooling-only (model number digit 1 = T), set the primary heating capacity to the appropriate size kilowatt found by digit 11 (for example, digit 11 = B for 9 kW).

For refrigeration system configurations that are heat pump only (model number digit 1 = W or D), set the secondary heating capacity to the appropriate size kilowatt size found by digit 11 (for example, digit 11 = B for 9 kW).

Note: See the table below for the available selections of primary/secondary heating capacities.

Table 7. Selections for primary/secondary heating capacities

Parameter	Selection	Model number (Reference)	Description
Primary/Secondary Heating Capacity	6 kW	Digit 11 = B	Modulating electric option for A.0 and B.0 Cabinet types.
	9 kW	Digit 11 = C	Modulating electric option for B.0 Cabinet type.
	12 kW	Digit 11 = E	Modulating electric option for A.0 and B.0 Cabinet types.
	18 kW	Digit 11 = G	Modulating electric option for A.0, B.0, C.0, D.0, and D.1 Cabinet types.
	23 kW	Digit 11 = J	Modulating electric option for A.0 Cabinet type.
	27 kW	Digit 11 = K	Modulating electric option for B.0 and C.0 Cabinet types.
	36 kW	Digit 11 = N	Modulating electric option for B.0, C.0, D.0, and D.1 Cabinet types.
	54 kW	Digit 11 = P	Modulating electric option for B.0, C.0, D.0, and D.1 Cabinet types.
	72 kW	Digit 11 = R	Modulating electric option for D.0 and D.1 Cabinet types.

- Set the discharge temperature sensor to installed.
- Save the configuration changes and wait for Symbio 700 to restart.
- Perform the service test steps to validate functionality.

Note: See *Symbio Application Guide for Precedent (ACC-APG002*-EN)*.

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