

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

APPROVED LOCATIONS

Electric convection air heaters are cULus listed for the following hazardous locations:

(without built-in thermostat)

- Class I, Div. 1 & 2, Groups A, B, C & D
- Class I, Zones 1 & 2, Groups IIA, IIB
- Temperature Code T2A 536°F (280°C)

(with built-in thermostat)

- Class I, Div. 1 & 2, Groups A, B, C & D
- Class I, Zones 1 & 2, Groups IIA & IIB, IIC
- Temperature Code T2A 536°F (280°C), T3 392°F (200°C)
- For details of hazardous locations with potential for explosion, refer to the Canadian Electrical Code, Part 1, Section 18 or National Electrical Code Articles 500 - 516

WARNING

READ ALL IMPORTANT NOTICES. PLEASE ADHERE TO INSTRUCTIONS PUBLISHED IN THIS MANUAL.

Failure to do so may be dangerous and may void certain provisions of your warranty.

WARNING

Disconnect heater from the power supply before opening enclosures or servicing heater. Lock the switch in the "OFF" (open) position and/or tag the switch to prevent unexpected power application. For heaters marked "IIC"; ensure to loosen the setscrew before removing the cover. This heater should only be serviced by personnel with heating and hazardous location equipment experience.

HEATER MAINTENANCE CHECKLIST

- Heater Model:
- Serial No.:
- Date of Maintenance:
- Maintenance Done By:
- Comments:

Periodic (before and as required during heating season)

1. Clean

- Finned Tubes
- Cabinet top and below unit

Remove dust using compressed air. Do not spray with water or solvents. Do not immerse in water or solvents

2. Check

- All explosion-proof covers for tightness

ANNUAL (before heating season)

1. ELECTRICAL

- Check all terminal connections and conductors. Tighten loose connections. Conductors with damaged insulation must be replaced.
- Check all explosion-proof conduits. Replace damaged conduits, unions and plugs. Ensure 5 turns of engagement on all threaded connections.

2. MECHANICAL

- Check all enclosures. Inside of enclosures must be clean, dry and free of foreign materials.
Note: Enclosure joints are metal to metal. Do not use gasket material or sealant in joints.
- Check the tightness of all hardware. All nuts and bolts must be tight.
- Turn heater on for a minimum of five minutes. Check for warm air exiting heater through top vents.

IMPORTANT NOTICES

Read and adhere to the following. Failure to do so may result in severe or fatal injury.

1. Read and follow all instructions in this manual.
2. Heater is to be used only in atmospheres having an ignition temperature higher than the heater's maximum rated operating temperature, as shown on the heater data plate. Refer to applicable electrical codes for additional information.
3. Heater to be used only in the hazardous locations indicated on the heater data plate.
4. Heater is for dry, indoor use only. Do not immerse in water. Do not store or use in areas exposed to rain or snow.
5. Maximum ambient operating temperature 104°F (40°C).
6. Heater is to be connected and serviced only by a qualified electrician experienced with hazardous location equipment.
7. Installation and wiring of the heater must adhere to all applicable codes.
8. Before opening any enclosures, disconnect the heater from the power supply. Lock the switch in the "OFF" (open) position and/or tag the switch to prevent unexpected power application.
9. External surfaces get hot and can cause burns with prolonged contact.
10. Operate the heater only while it is permanently mounted in an upright position. Refer to the "Installation-Mechanical" section for details.
11. Heater must be kept clean. When operating in a dirty environment, regularly clean the finned tubes, top vents, and keep bottom opening free of obstructions. Follow the recommended maintenance procedures. Refer to the "Heater Maintenance Checklist" section for details.
12. Do not operate the heater in atmosphere corrosive to steel or aluminum.
13. Use factory approved replacement parts only.
14. Conduit seals are not required in the heater's factory installed conduits.
15. A conduit seal is required within 6" (153 mm) of field entries.
16. If there are any questions or concerns regarding the heater, contact the factory. Refer to the last page of this manual for details.

INSTALLATION

The installation instructions provide a general guideline for the installation and wiring of the heater.

All applicable codes must be adhered to.

MECHANICAL

Heaters must be installed as follows:

LOCATION

1. The air discharge is not directed at a thermostat.
2. The air discharge is across areas of heat loss, such as windows.
3. If equipment freeze protection is of importance, locate heater as close to equipment as possible.

MOUNTING

1. Heater must be mounted level on a vertical surface using the factory supplied mounting brackets such that there are no obstructions to impede air inlet or discharge (Figure 1b & 3).
2. The mounting surface must be strong enough to:
 - support the heater's weight, refer to "Specifications" section,
 - withstand abusive situations such as transportable installations of the heater
3. Secure mounting brackets to vertical surface with the top mounting hole 1.5" (38 mm) below the desired top surface height (Figure 1a). Refer to Figure 2 for physical dimensions and Figure 3 for required installation clearances. Mounting brackets are to be spaced to match the slots in the rear panel of heater cabinet.

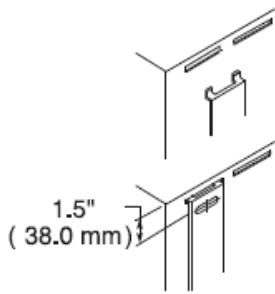


Figure 1a

- After mounting brackets are secured, tilt the heater and lower it onto the top tabs of the mounting bracket such that the tabs go into the mounting slots on the rear panel of the heater cabinet (Figure 1b).
- Carefully swing the bottom of the heater into the mounting brackets so that it is resting on the bottom tab (Figure 1b).
- Insert the securing screw through the bottom mounting bracket tab and into the cabinet to keep the heater from dislodging from the mounting bracket (Figure 1b).
- Caution: Use fasteners with yield stress greater than or equal to 58ksi (400MPa).

Note: Figures 1-3 are shown with optional built-in room thermostat.

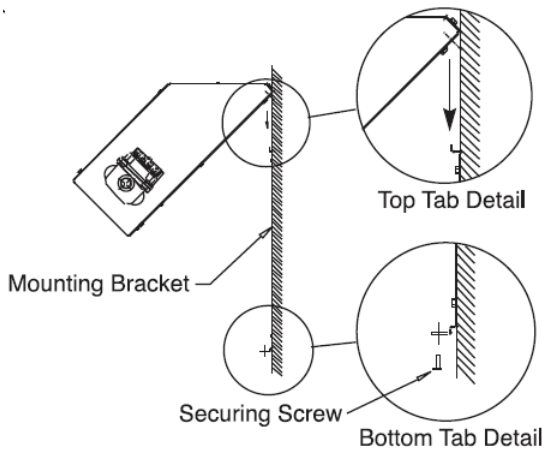
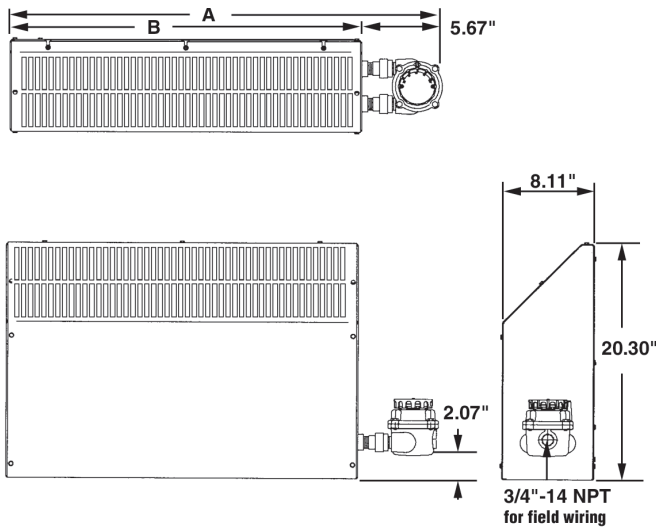


Figure 1b



Heater kW Rating	A Dimensions	B Dimensions
1.2 - 3.6	37.0" (940mm)	31.34" (796mm)
4.8	55.125" (140mm)	49.45" (1256mm)
7.6	65.125" (1654mm)	59.49" (1511mm)

Figure 2: Physical Dimension

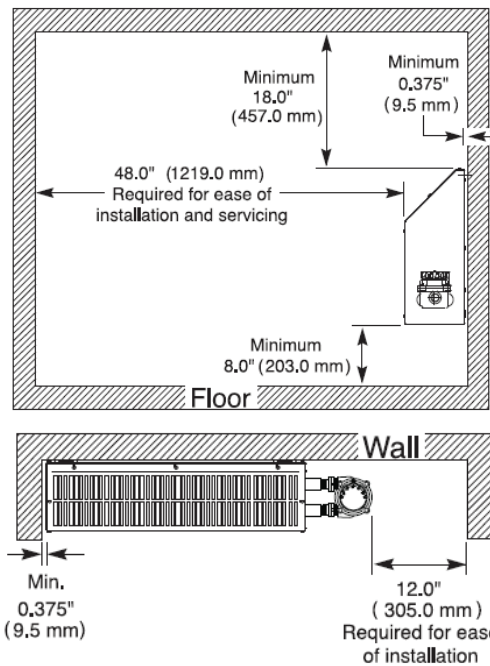


Figure 3: Installation Clearances

WARNING

Disconnect the power supply before installation of the heater. Lock the switch in the "OFF" (open) position and/or tag the switch to prevent unexpected power application. For heaters marked "IIC," insure to loosen the setscrew before removing the cover. Installation and wiring of the heater must adhere to all applicable codes.

GENERAL

- Use only copper conductors and approved explosion-proof wiring methods during installation. Refer to the "Technical Data" Table or heater data plate for the voltage, amperage and wattage ratings when sizing for the appropriate conductors. All supply conductors should be rated for operating at temperatures up to 194°F (90°C).
- Supply voltage must be within 10% of the data plate rating. External over-current protection is required and must meet data plate ratings for voltage, amperage and frequency.

FIELD WIRING

- Heater has been supplied with an enclosure that has a standard 3/4" NPT threaded opening to accommodate the line conductors (see Figure 4 for connection details). Use wire connectors rated for minimum 194°F (90°C).

NOTE: If remote thermostats other than the factory supplied are used, ensure that they will not allow the room temperature to exceed ambient temperature limitations of the heater (104°F/40°C) and are suitable for the area's hazardous atmosphere classification. When using any control devices, ensure that the voltage and amperage ratings match the heater's electrical ratings. If not, a contractor may be required.

FINAL INSPECTION

- Before application of electrical power:
 - check that all connections are secured and comply with the wiring diagram (see Figure 4) and applicable code requirements,
 - confirm that the supply voltage is compatible with the data plate specifications,
 - remove any foreign objects from the heater, and
 - ensure all external fittings and enclosure covers are secured.

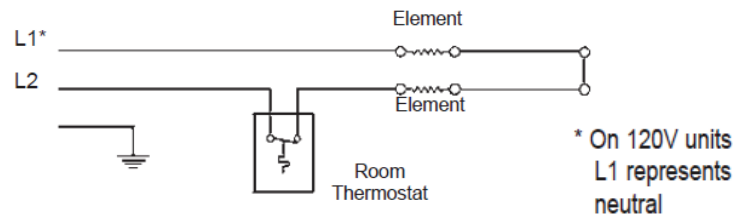


Figure 4: Wiring Diagram for remote mount and built-in room thermostats

REPAIR AND REPLACEMENT

WARNING

Disconnect the power supply before installation of the heater. Lock the switch in the "OFF" (open) position and/or tag the switch to prevent unexpected power application. Heater surfaces may be hot.

FINNED TUBE/ELEMENT ASSEMBLY

A complete finned tube assembly is available from the factory. Refer to Parts Diagram for item numbers.

1. Remove the front cabinet panel (Item #1).
2. Remove convector enclosure's cover and disconnect wires.
3. De-couple two unions (Item #9) connecting convector enclosure and finned tube extension (Item #7).
4. Remove 3/4" NPT plug (Item #11) from element conduit (Item #10) and then pull out wire connector and disconnect the wires.
5. De-couple remaining two unions and remove element conduit.
6. Remove union halves and lock-nut (Item #8) from ends of each finned tube requiring replacement and set aside for re-use on new factory supplied finned/element assemblies.
7. Remove bolts from lower tabs of wall mount brackets (Item #6), remove heater from wall mount brackets, and loosen the bolts from the finned tube bracket (Item #5).
8. Remove the damaged finned tube/element assemblies and install replacements.
9. Re-assemble heater using the reverse order of the preceding instructions.
Important: All threaded connections must be wrench tight with a minimum of 5 turns engagement.

CABINET PANELS AND BRACKETS

Replacement cabinet panels and brackets are available from the factory.

NOTE: For purposes of safety and convenience, all repairs and maintenance must be done with factory authorized parts and materials.

SPECIFICATIONS

Nominal kW	1.2	1.8	3.6	4.8	7.6
Shipping Weight (lbs)	61.3	6.3	61.3	88.4	104.3
Shipping Weight (kg)	27.8	27.8	27.8	40.1	47.3
Enclosures	NEMA Type 7. For dry indoor use only. Do not immerse in water. Do not store or use in areas exposed to rain or snow.				
Mounting Brackets	Two 14-gauge galvanized steel brackets.				
Heating Elements	Two Incoloy® 840-sheathed elements.				
Optional Built-In Thermostat	Explosionproof room thermostat with 10 settings.				
Cabinet Material	14-gauge (0.075"-1.90 mm) steel. Rear panel is galvanized. Front and side panels are baked green-gray epoxy powder coated with five-stage pre-treatment, including iron phosphate.				
Temperature Code Rating	T2A - 280°C (536°F)				
Temperature Limitations Operational Storage	-45°C to 40°C (-49°F to 104°F) -45°C to 80°C (-49°F to 176°F)				

*Hazardous location ratings are dependent on the junction box used. Please consult a customer service representative or the unit data plate for actual location ratings.

MODEL CODES	kW (BTU/hr)	UNIT VOLTAGE (VOLTS)	SUPPLY WIRE SIZE (AWG)***	UNIT CURRENT (AMPS)	MAXIMUM CIRCUIT FUSE (AMPS)*	CABINET LENGTH IN (mm)
XC-A1-N0 XC-A1-B1	1.2 (4095)	120	12	10.0	15	31.3 (796)
XC-B1-N0 XC-B1-B1	1.8 (6142)	120	12	15.0	20	31.3 (796)
XC-A2-N0 XC-A2-B2	1.2 (4095)	208	12	5.8	15	31.3 (796)
XC-B2-N0 XC-B2-B2	1.8 (6142)	208	12	8.7	15	31.3 (796)
XC-C2-N0 XC-C2-B2	3.6 (12284)	208	12	17.3	20	49.5 (1256)
XC-D2-N0	4.8 (16378)	208	8	23.1	25	49.5 (1256)
XC-E2-N0	7.6 (25932)	208	8	36.5	40	59.5 (1511)
XC-A3-N0 XC-A3-B3	1.2 (4095)	240	12	5.0	15	31.3 (796)
XC-B3-N0 XC-B3-B3	1.8 (6142)	240	12	7.5	15	31.3 (796)
XC-C3-N0 XC-C3-B3	3.6 (12284)	240	12	15.0	20	49.5 (1256)
XC-D3-N0 XC-D3-B3	4.8 (16378)	240	10	20.0	25	49.5 (1256)
XC-E3-N0	7.6 (25932)	240	8	31.7	35	59.5 (1511)
XC-A6-N0 XC-A6-B6	1.2 (4095)	277	12	4.3	15	31.3 (796)
XC-B6-N0 XC-B6-B6	1.8 (6142)	277	12	6.5	15	31.3 (796)
XC-C6-N0 XC-C6-B6	3.6 (12284)	277	12	13.0	15	49.5 (1256)
XC-D6-N0 XC-D6-B6	4.8 (16378)	277	12	17.3	20	49.5 (1256)
XC-E6-N0	7.6 (25932)	277	8	27.4	30	59.5 (1511)
XC-A4-N0 XC-A4-B4	1.2 (4095)	480	12	2.5	15	31.3 (796)
XC-B4-N0 XC-B4-B4	1.8 (6142)	480	12	3.8	15	31.3 (796)
XC-C4-N0 XC-C4-B4	3.6 (12284)	480	12	7.5	15	49.5 (1256)
XC-D4-N0 XC-D4-B4	4.8 (16378)	480	12	10.0	15	49.5 (1256)
XC-E4-N0 XC-E4-B4	7.6 (25932)	480	10	15.8	30	59.5 (1511)
XC-A5-N0	1.2 (4095)	600	12	2.0	15	31.3 (796)
XC-B5-N0	1.8 (6142)	600	12	3.0	15	31.3 (796)
XC-C5-N0	3.6 (12284)	600	12	6.0	15	49.5 (1256)
XC-D5-N0	4.8 (16378)	600	12	8.0	15	49.5 (1256)
XC-E5-N0	7.6 (25932)	600	12	12.7	15	59.5 (1511)

All units are single phase

* Or equivalent breaker as per local electrical inspection authority requirements.

*** Ensure supply wire size adheres to applicable local and national electrical codes

Notes

1. Heater is functioning normally if, at rated voltage, the current draw is within 10% of the value in this table.
2. Operation at lower voltages that rated will result in reduced output and current draw. Actual Output (kW) = [(Supply Voltage)² ÷ (Rated Voltage)²] × Rated Unit Wattage (kW)
3. Add suffix "T" for optional built-in thermostat. Thermostat not available on IIB + H2 models.
4. For IIB model with XCT built-in thermostat - Class I, Div. 1 & 2, Groups C & D; Zones 1 & 2, Groups IIA and IIB
5. For IIC model with XT built-in thermostat - Class I, Div. 1 & 2, Groups A, B, C & D; Zones 1 & 2, Groups IIA, IIB, IIC
6. Temperature code ratings: T2A - 536°F (280°C)

All statements, technical information and recommendations contained herein are based on information and tests we believe to be reliable. The accuracy or completeness thereof are not guaranteed. In accordance with Crouse-Hinds "Terms and Conditions of Sale," and since conditions of use are outside our control, the purchaser should determine the suitability of the product for his intended use and assumes all risk and liability whatsoever in connection therewith.