

CAPEA, CAPE SERIES CASED COIL INSTALLATION INSTRUCTIONS

TABLE OF CONTENTS

1	Important Safety Instructions.....	2
2	Shipping Inspection.....	3
	2.1 Parts.....	3
	2.2 Handling.....	3
3	Codes & Regulations.....	3
4	Replacement Parts.....	3
5	Pre-Installation Considerations.....	3
	5.1 Preparation.....	3
	5.2 System Matches.....	3
	5.3 Clearances.....	3
	5.4 Access.....	3
6	Application Information.....	3
	6.1 Filler Plates.....	4
	6.2 Insulation Kit.....	5
	6.3 Down Flow Kit (For CAPE4860*, CAPE4961*, CAPEA4830C & CAPEA6030D).....	5
7	Return Ductwork.....	5
8	Refrigerant Piping Work.....	5
	8.1 Tubing Size/Length.....	5
	8.2 Cut Off The Spin Closure.....	5
	8.3 Disconnect Internal Control Wiring.....	6
	8.4 Connect Piping.....	6
	8.5 Re-assemble the Coil and Controls.....	7
9	Sealing Along The Panel Gap.....	7
10	Drain Piping Work.....	8
11	Electrical Wiring Work.....	9
	11.1 General Instructions.....	10
	11.2 Wiring Sizing.....	10
	11.3 Safety Device.....	10
	11.4 Transformer Installation.....	10
	11.5 How To Install The Transformer.....	10
	11.5.1A Installation Bracket - "A".....	11
	11.5.1B Installation Bracket - "B".....	11
	11.5.1C No Bracket Installation.....	12
	11.6 Wiring Transformer and PCB.....	13
12	Fully Communicating System.....	13
	12.1 Overview.....	13
	12.2 Wire Harness Instructions.....	13
	12.3 Thermostat Wiring.....	14
	12.4 Two-Wire Outdoor and Four-Wire Indoor Wiring.....	14
	12.5 Airflow Trim.....	14
13	Miscellaneous Start-Up Checklist.....	15
14	Troubleshooting.....	15
	14.1 Electrostatic Discharge (ESD) Precautions.....	15
	14.2 Diagnostic Chart.....	15
	14.3 Fault Recall.....	15
	14.4 Network Troubleshooting.....	15
	14.5 System Troubleshooting.....	16
	Communications Troubleshooting Chart.....	17



**RECOGNIZE THIS SYMBOL
AS A SAFETY PRECAUTION.**



WARNING

DO NOT BYPASS SAFETY DEVICES.



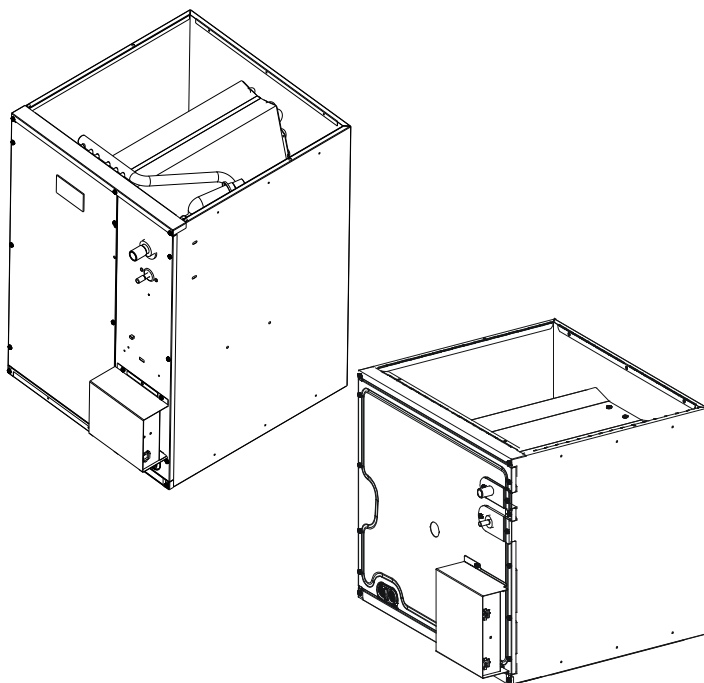
WARNING

ONLY PERSONNEL THAT HAVE BEEN TRAINED TO INSTALL, ADJUST, SERVICE, MAINTENANCE OR REPAIR (HEREINAFTER, "SERVICE") THE EQUIPMENT SPECIFIED THIS MANUAL SHOULD SERVICE THE EQUIPMENT.

THIS EQUIPMENT IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPACITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE BY A PERSON RESPONSIBLE FOR THEIR SAFETY.

CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE EQUIPMENT.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SUPERVISION, SERVICE OR SERVICE PROCEDURES. IF YOU SERVICE THIS UNIT, YOU ASSUME RESPONSIBILITY FOR ANY INJURY OR PROPERTY DAMAGE WHICH MAY RESULT. IN ADDITION, IN JURISDICTIONS THAT REQUIRE ONE OR MORE LICENSES TO SERVICE THE EQUIPMENT SPECIFIED IN THIS MANUAL, ONLY LICENSED PERSONNEL SHOULD SERVICE THE EQUIPMENT. IMPROPER SUPERVISION, INSTALLATION, ADJUSTMENT, SERVICING, MAINTENANCE OR REPAIR OF THE EQUIPMENT SPECIFIED IN THIS MANUAL, OR ATTEMPTING TO INSTALL, ADJUST, SERVICE OR REPAIR THE EQUIPMENT SPECIFIED IN THIS MANUAL WITHOUT PROPER SUPERVISION OR TRAINING MAY RESULT IN PRODUCT DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



Our continuing commitment to quality products may mean a change in specifications without notice



Troubleshooting	18
7 Segment LED Codes	19
Setting the Mode Display	20
Wiring Diagram	22
Cased Coil Homeowners Routing	
Maintenance Recommendations.....	23

1 IMPORTANT SAFETY INSTRUCTIONS

The following symbols and labels are used throughout this manual to indicate immediate or potential safety hazards. It is the owner's and installer's responsibility to read and comply with all safety information and instructions accompanying these symbols. Failure to heed safety information increases the risk of personal injury, property damage, and/or product damage.

NOTICE: THIS PRODUCT CONTAINS ELECTRONIC COMPONENTS WHICH REQUIRE A DEFINITE GROUND. PROVISIONS ARE MADE FOR CONNECTION OF THE GROUND. A DEDICATED GROUND FROM THE MAIN POWER SUPPLY OR AN EARTH GROUND MUST BE PROVIDED.



WARNING

HIGH VOLTAGE

DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



WARNING

TO PREVENT THE RISK OF PROPERTY DAMAGE, PERSONAL INJURY, OR DEATH, DO NOT STORE COMBUSTIBLE MATERIALS OR USE GASOLINE OR OTHER FLAMMABLE LIQUIDS OR VAPORS IN THE VICINITY OF THIS UNIT.



WARNING

DO NOT CONNECT TO OR USE ANY DEVICE THAT IS NOT DESIGN CERTIFIED BY THE MANUFACTURER FOR USE WITH THIS UNIT. SERIOUS PROPERTY DAMAGE, PERSONAL INJURY, REDUCED UNIT PERFORMANCE AND/OR HAZARDOUS CONDITIONS MAY RESULT FROM THE USE OF SUCH NON-APPROVED DEVICES.



WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO ELECTRICAL SHOCK, THIS UNIT MUST HAVE AN UNINTERRUPTED, UNBROKEN ELECTRICAL GROUND. THE ELECTRICAL GROUND CIRCUIT MAY CONSIST OF AN APPROPRIATELY SIZED ELECTRICAL WIRE CONNECTING THE GROUND LUG IN THE UNIT CONTROL BOX TO THE BUILDING ELECTRICAL SERVICE PANEL. OTHER METHODS OF GROUND ARE PERMITTED IF PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC)/ AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/ NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70 AND LOCAL/STATE CODES. IN CANADA, ELECTRICAL GROUNDING IS TO BE IN ACCORDANCE WITH THE CANADIAN ELECTRIC CODE (CSA) C22.1.



WARNING

THIS PRODUCT IS FACTORY-SHIPED FOR USE WITH 24VAC/1 PHASE/60HZ ELECTRICAL POWER SUPPLY. DO NOT CONFIGURE THIS CASED COIL TO OPERATE WITH ANY OTHER POWER SUPPLY.



WARNING

WHEN INSTALLING OR SERVICING THIS EQUIPMENT, SAFETY CLOTHING, INCLUDING HAND AND EYE PROTECTION, IS STRONGLY RECOMMENDED. IF INSTALLING IN AN AREA THAT HAS SPECIAL REQUIREMENTS (HARD HATS, ETC.), OBSERVE THESE REQUIREMENTS.



WARNING

FAILURE TO PROPERLY RECONNECT SENSOR WIRES MAY RESULT IN ERROR CODES AND THE UNIT NOT OPERATING.



DANGER PELIGRO



CARBON MONOXIDE POISONING HAZARD

Special Warning for Installation of Furnace or Air Handling Units in Enclosed Areas such as Garages, Utility Rooms or Parking Areas

Carbon monoxide producing devices (such as an automobile, space heater, gas water heater, etc.) should not be operated in enclosed areas such as unventilated garages, utility rooms or parking areas because of the danger of carbon monoxide (CO) poisoning resulting from the exhaust emissions. If a furnace or air handler is installed in an enclosed area such as a garage, utility room or parking area and a carbon monoxide producing device is operated therein, there must be adequate, direct outside ventilation.

This ventilation is necessary to avoid the danger of CO poisoning which can occur if a carbon monoxide producing device continues to operate in the enclosed area. Carbon monoxide emissions can be (re)circulated throughout the structure if the furnace or air handler is operating in any mode.

CO can cause serious illness including permanent brain damage or death.

B10259-216

RIESGO DE INTOXICACIÓN POR MONÓXIDO DE CARBONO

Advertencia especial para la instalación de calentadores ó manejadoras de aire en áreas cerradas como estacionamientos ó cuartos de servicio.

Los equipos ó aparatos que producen monóxido de carbono (tal como automóvil, calentador de gas, calentador de agua por medio de gas, etc) no deben ser operados en áreas cerradas debido al riesgo de envenenamiento por monóxido de carbono (CO) que resulta de las emisiones de gases de combustión. Si el equipo ó aparato se opera en dichas áreas, debe existir una adecuada ventilación directa al exterior. Esta ventilación es necesaria para evitar el peligro de envenenamiento por CO, que puede ocurrir si un dispositivo que produce monóxido de carbono sigue operando en el lugar cerrado.

Las emisiones de monóxido de carbono pueden circular a través del aparato cuando se opera en cualquier modo.

El monóxido de carbono puede causar enfermedades severas como daño cerebral permanente ó muerte.

B10259-216

RISQUE D'EMPOISONNEMENT AU MONOXYDE DE CARBONE

Avertissement special au sujet de l'installation d'appareils de chauffage ou de traitement d'air dans des endroits clos, tels les garages, les locaux d'entretien et les stationnements.

Evitez de mettre en marche les appareils produisant du monoxyde de carbone (tels que les automobile, les appareils de chauffage autonome, etc.) dans des endroits non ventilés tels que les d'empoisonnement au monoxyde de carbone. Si vous devez faire fonctionner ces appareils dans un endroit clos, assurez-vous qu'il y ait une ventilation directe provenant de l'exterieur.

Cette ventilation est nécessaire pour éviter le danger d'intoxication au CO pouvant survenir si un appareil produisant du monoxyde de carbone continue de fonctionner au sein de la zone confinée.

Les émissions de monoxyde de carbone peuvent étre recirculées dans les endroits clos, si l'appareil de chauffage ou de traitement d'air sont en marche.

Le monoxyde de carbone peut causer des maladies graves telles que des dommages permanents au cerveau et même la mort.

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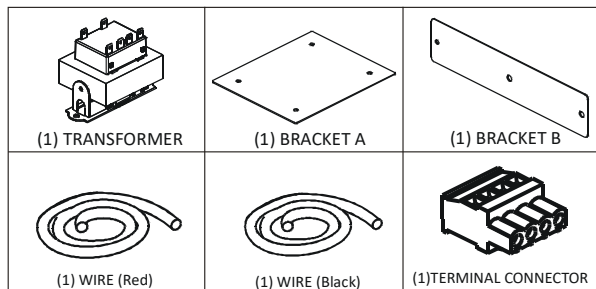
2 SHIPPING INSPECTION

Upon receiving the product, inspect the unit for shipping damage. Shipping damage and subsequent investigation is the responsibility of the carrier. Verify the model number, specifications, electrical characteristics and accessories are correct prior to installation. The distributor or manufacturer will not accept claims from dealers for transportation damage or installation of incorrectly shipped units.

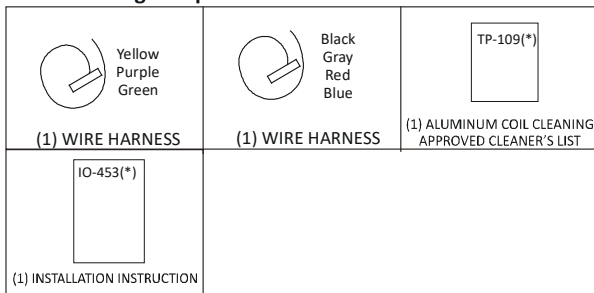
2.1 Parts

Also inspect the unit to verify all required components are present and intact. Report any missing components immediately to the distributor. Use only factory authorized replacement parts (see Section 4). Make sure to include the full product model number and serial number when reporting and/or obtaining service parts.

Transformer Installation Components



Literature Bag Components



2.2 Handling

Use caution when handling the unit. Do not carry unit with hooks or sharp objects. The preferred method of carrying the unit after arrival at the job site is by two-wheel hand truck from the back or sides or by hand carrying at the cabinet corners.

3 CODES & REGULATIONS

This product is designed and manufactured to comply with applicable national codes. The Product shall be installed in accordance with national wiring regulations. Installation in accordance with such codes and/or prevailing local codes/regulations is the responsibility of the installer. The manufacturer assumes no responsibility for equipment installed in violation of any codes or regulations.

The United States Environmental Protection Agency (EPA) has issued various regulations regarding the introduction and disposal of refrigerants. Failure to follow these regulations may harm the environment and can lead to the imposition of substantial fines. Should you have any questions please contact the local office of the EPA and/or refer to the EPA's website www.epa.gov.

4 REPLACEMENT PARTS

When reporting shortages or damages, or ordering repair parts, give the complete product model and serial numbers as stamped on the product.

Replacement parts for this product are available through your contractor or local distributor. Your nearest distributor can be located online at www.daikincomfort.com or by contacting:

HOMEOWNER SUPPORT
DAIKIN COMFORT TECHNOLOGIES
MANUFACTURING, L.P.
19001 KERMIER ROAD,
WALLER, TX 77484
855-770-5678

5 PRE-INSTALLATION CONSIDERATIONS

5.1 Preparation

Keep this document with the unit. Carefully read all instructions for the installation prior to installing product. Make sure each step or procedure is understood and any special considerations are taken into account before starting installation. Assemble all tools, hardware and supplies needed to complete the installation. Some items may need to be purchased locally. Make sure everything needed to install the product is on hand before starting.

5.2 System Matches

The entire system (combination of indoor and outdoor sections) must be manufacturer approved and Air-Conditioning, Heating, and Refrigeration Institute (AHRI) listed.

This unit CAPEA/CAPE is a partial unit air conditioner, complying with partial unit requirements of UL 60335 2 40, and must be only connected to other units that have been confirmed as complying to corresponding partial unit requirements of UL 60335 2 40/UL1995 std.

NOTE: Installation of unmatched systems is not permitted. Damage or repairs due to installation of unmatched systems is not covered under the warranty.

5.3 Clearances

The unit horizontal clearance from a surface may be 0" from walls and 1" from other units. However, service clearance must take precedence. A minimum of 24" in front of the unit for service clearance is required. Additional clearance on one side or top will be required for electrical wiring connections. Consult all appropriate regulatory codes prior to determining final clearances. In installations that may lead to physical damage (i.e. a garage) it is advised to install a protective barrier to prevent such damage. Always install units such that a positive slope in condensate line (1/4" per foot) is allowed.

NOTE: Furnace application requires that the installer MUST review and strictly follow ALL furnace installation clearance guidelines. Failure to do so may result in property/equipment damage, personal injury or death.

CONSULT ALL APPROPRIATE REGULATORY CODES WHEN DETERMINING FINAL CLEARANCES

5.4 Access

This unit should be installed in a manner so that it is not accessible to the public.

6 APPLICATION INFORMATION

Coils are designed for indoor installation only and must be installed upstream (discharge air) of the furnace and downstream (return air) of the modular blower. This product may be installed in upflow or downflow orientations.



CAUTION

CHECK HORIZONTALITY LEVEL OF THE UNIT WITH SPIRIT LEVEL. DON'T TILT THE UNIT DOWN THAT MAKES IT DIFFICULT TO DRAIN EVEN THOUGH THE LEVEL IS WITHIN CRITERIA OF SPIRIT LEVEL. SEE FIGURE 1. SUCH TILTED UNITS MAY CAUSE WATER LEAKS.

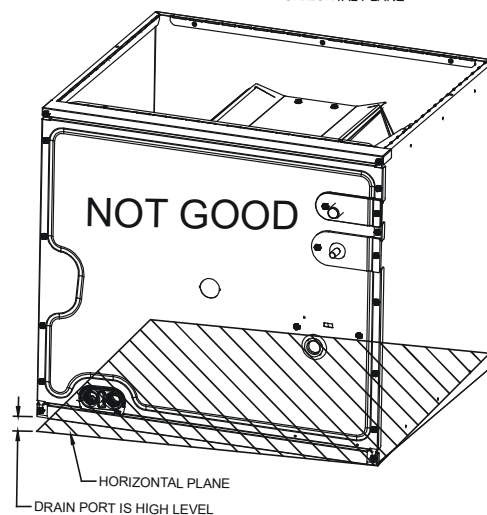
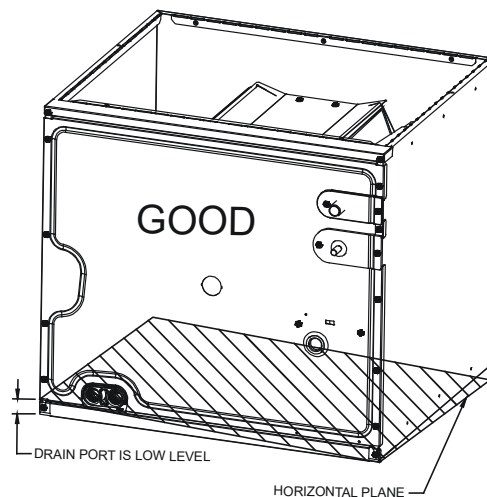
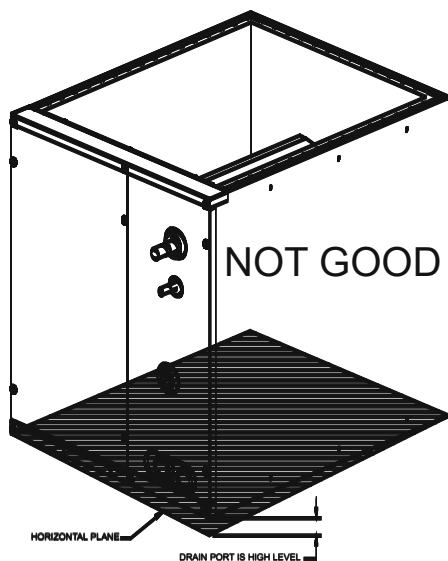
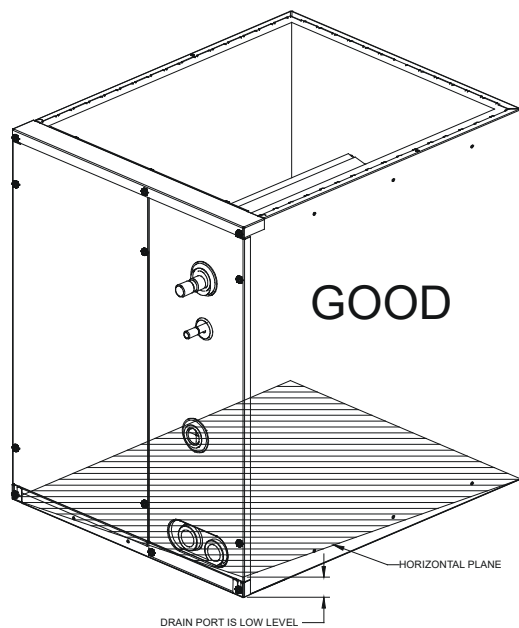
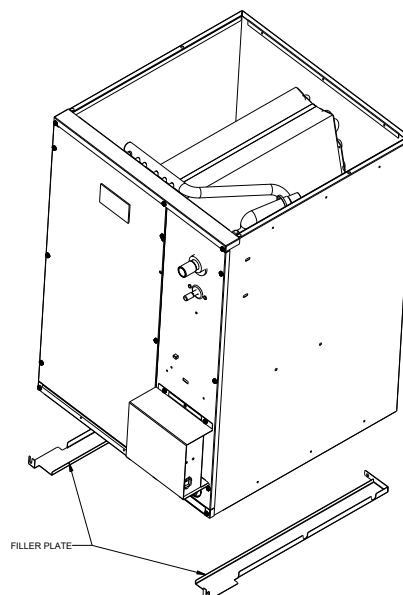


Figure 1

NOTE: The coil must be installed with the line set and drain openings to the front of the furnace or modular blower.

6.1 Filler Plates

Filler plates are supplied on all 17.5, 21.0 & 24.5 inch chassis to be used or adapting the unit to a furnace one size smaller. If the plenum and furnace openings are the same size, the filler plates must be removed. See Figure 2.



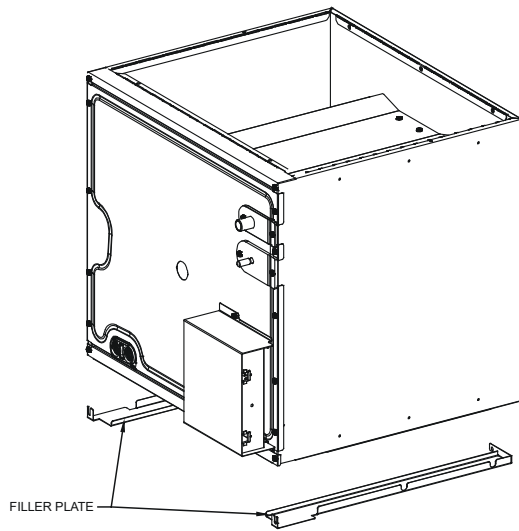


Figure 2

6.2 Insulation Kit

IMPORTANT NOTE: To prevent coil pan “sweating”, a coil insulation kit (DPICX) must be applied to minimize pan sweating in applications where operating conditions exceed 80% RH. Insulation kits are available through your local distributor. The DPICX is not supplied with the cased coil.

See Table 1 for the correct DPICX and follow the instructions provided with the kit for installation.

Cased Coil	CAPEA1818B CAPEA2422B CAPEA3026B	CAPEA1818C CAPEA2422C CAPEA3026C CAPEA4830C	CAPEA3026D CAPEA6030D	CAPE4860C CAPE4961C	CAPE4860D CAPE4961D
Kit Model	DPICX-BB	DPICX-CB	DPICX-DB	DPICX-CA	DPICX-DA

INSULATION KIT

Table 1

6.3 Down Flow Kit (For CAPE4860*, CAPE4961*, CAPEA4830C & CAPEA6030D)

IMPORTANT NOTE: To prevent coil “water leak”, a coil down flow kit (DFKE) must be installed when the coil is installed with down flow orientation regardless of the humidity. Down flow kits are available through your local distributor. The DFKE is not supplied with the cased coil.

See Table 2 for the correct DFKE and follow the instructions provided with the kit for installation.

Cased Coil	CAPEA1818B CAPEA2422B CAPEA3026C CAPEA3026D	CAPEA1818C CAPEA2422C CAPEA3026B	CAPE4860C CAPE4860D CAPE4961C CAPE4961D	CAPEA4830C CAPEA6030D
Kit Model	Not Necessary		DFKE-001	DFKE-02

DOWN FLOW KIT

Table 2

7 RETURN DUCTWORK

Do not locate the return ductwork in an area that can introduce toxic or objectionable fumes/odors into the ductwork.

UV Lamp is only available for CAPEA: Clean Comfort brand UV coil purifiers also can be purchased from distributor. Maximum UV lamp diameter to be used per delta plate knockout design is 1.375” to reduce the possibility of air leak. Installer should apply the UV-C warning label on the maintenance panel when UV-C lamp is installed.

- Ultraviolet radiation hazard symbol IEC 60417-6040.
- Operator’s manual symbol ISO 7000-0790.

Refer to UV coil purifiers product specification and installation manual for additional details.

UV-C Part Numbers	
Models	Lamp
UC18S15-24	UCP-16013
UC18S15-24B	UCP-16012

! WARNING

- UNINTENDED USE OF APPLIANCES OR DAMAGE TO THE HOUSING MAY RESULT IN THE ESCAPE OF DANGEROUS UV-C RADIATION.
- APPLIANCES THAT ARE OBVIOUSLY DAMAGED MUST NOT BE OPERATED.
- UV-C BARRIERS BEARING THE ULTRAVIOLET RADIATION HAZARD SYMBOLS SHOULD NOT BE REMOVED.
- DO NOT OPERATE UV-C LAMPS OUTSIDE OF THE APPLIANCE.

8 REFRIGERANT PIPING WORK

IMPORTANT NOTE: Do not handle coil assembly with manifold, liquid tubes or flowrator tubes. Doing so may result in damage to the tubing joints. Always use clean gloves for handling coil assemblies.

8.1 Tubing Size/Length

Give special consideration to minimize the length of refrigerant tubing when installing cased coil. Refer to outdoor unit INSTALLATION & SERVICE REFERENCE for line set configuration guideline. If possible, allow adequate length or tubing such that the coil may be removed (for inspection or cleaning services) from the cabinet without disconnecting the tubing.

8.2 Cut Off The Spin Closure

- This coil is shipped containing gas under 150 P.S.I.G. Release pressure from the gas piping pressure-release device before initiating piping work.

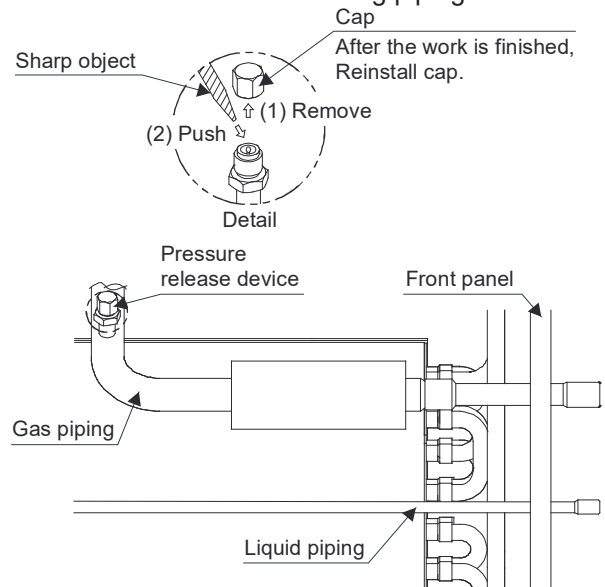


Figure 3

- Using a tube cutter, cut off the factory spun end of both the liquid and gas line piping.



CAUTION

FOLLOW THE POINTS BELOW:

- USE A TUBE CUTTER AND FLARING BLOCK SUITABLE FOR THE TYPE OR REFRIGERANT.
- TO PREVENT DUST, MOISTURE OR OTHER FOREIGN MATTER FROM INFILTRATING THE PIPING, EITHER PINCH THE END OR COVER IT WITH TAPE.
- DO NOT ALLOW ANYTHING OTHER THAN THE DESIGNATED REFRIGERANT TO GET MIXED INTO THE REFRIGERANT CIRCUIT. IF AN REFRIGERANT GAS LEAKS WHILE WORKING ON THE UNIT, IMMEDIATELY VENTILATE THE ROOM.

8.3 Disconnect Internal Control Wiring

- Disconnect the control panel wiring from component wiring using the EEV, Pressure sensor and Thermistor connectors located on the outside of the control panel. See Figure 4.

NOTE: To prevent component wiring damage, the control panel should be removed from the front panel. Removing the control panel will assist in allowing the wiring to be safely pushed through the panel wireway. The control panel is detached from the front panel by removing the four mounting screws located on the four corners of the control panel.

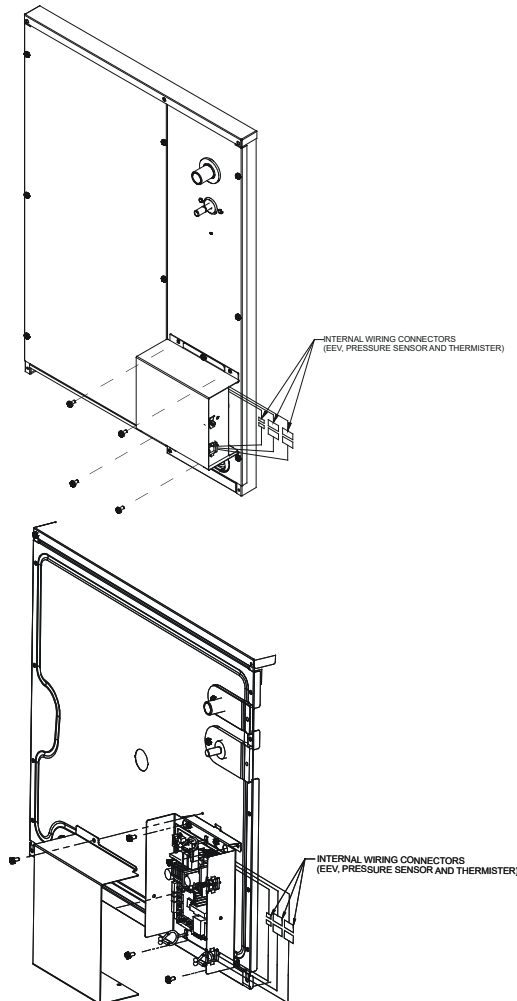


Figure 4

8.4 Connect Piping For Double Front Panel

- Remove the left front panel.
- Slide right front panel along field tubing while cautiously guiding component wiring back through panel wireway (See Figure 5).

For Single Front Panel

- Remove the front panel while cautiously guiding component wiring back through panel wireway.
- Unscrew two grommets both for gas and liquid tubing.
- Slide those grommets along field tubing.

For Both Single and Double Front Panel

- Braze up to the field piping fitting port while cooling the sensor, EEV, service valve and the thermal insulation. Braze joints should be made only with the connectors provided external to the cabinet. Do not alter the cabinet nor braze inside the cabinet. To avoid overheating after brazing, quench all brazed joints with water or a wet rag.

NOTE: To prevent damage caused by heat when brazing the field piping, cover the pipe insulation, the internal wiring, and the thermal sensors inside the insulation with a damp cloth. Otherwise, the sensors, EEV and service valve may be damaged by heat of brazing, which leads to a failure of normal operation.

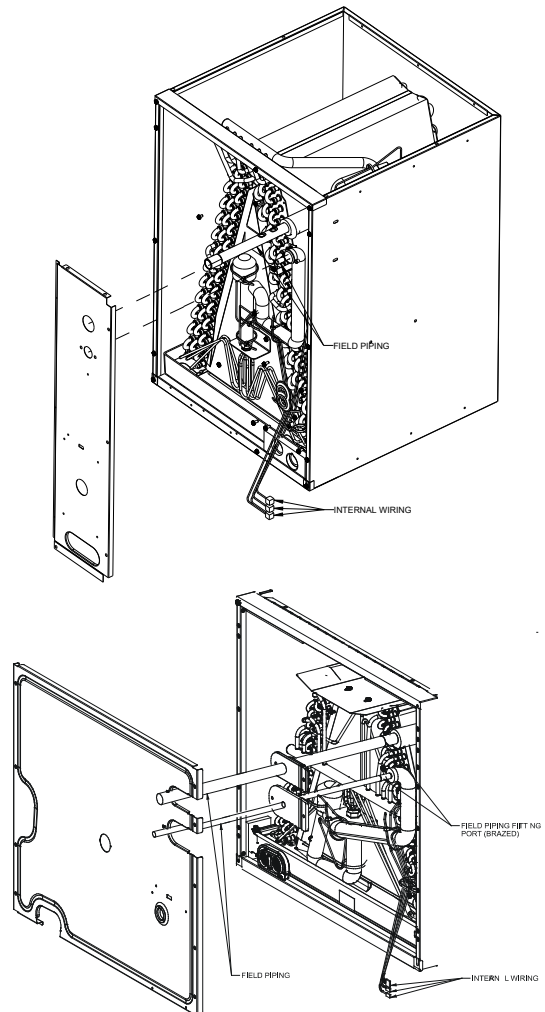


Figure 5



WARNING

A QUENCHING CLOTH IS STRONGLY RECOMMENDED TO PREVENT SCORCHING OR MARRING OF THE EQUIPMENT FINISH WHEN BRAZING CLOSE TO THE PAINTED SERVICES. USE BRAZING ALLOY OF 2% MINIMUM SILVER CONTENT.



WARNING

REFRIGERANT GAS MAY PRODUCE TOXIC GAS IF IT COMES IN CONTACT WITH FIRE (AS FROM A HEATER, STOVE OR COOKING DEVICE). EXPOSURE TO THIS GAS COULD CAUSE SEVERE INJURY OR DEATH.



CAUTION

APPLYING TOO MUCH HEAT TO ANY TUBE CAN MELT THE TUBE. TORCH HEAT REQUIRED TO BRAZE TUBES OF VARIOUS SIZES MUST BE PROPORTIONAL TO THE SIZE OF THE TUBE. SERVICE PERSONNEL MUST USE THE APPROPRIATE HEAT LEVEL FOR THE SIZE OF THE TUBE BEING BRAZED.



CAUTION

WHEN BRAZING THE REFRIGERANT PIPING, PERFORM NITROGEN REPLACEMENT FIRST OR PERFORM THE BRAZING WHILE FEEDING NITROGEN INTO THE REFRIGERANT PIPING. SEE FOLLOWING FIGURE. WHEN BRAZING PIPES WHILE FEEDING NITROGEN INSIDE THE PIPING, MAKE SURE TO SET THE NITROGEN PRESSURE TO 2.9 PSI OR LESS USING THE PRESSURE REDUCING VALVE.



WARNING

USE OF OXYGEN COULD RESULT IN AN EXPLOSION RESULTING IN SERIOUS INJURY OR DEATH. USE ONLY DRY NITROGEN GAS.

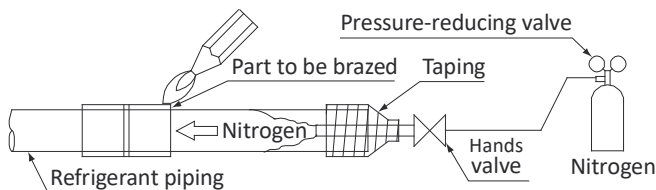


Figure 6

NOTE: Do not use flux when brazing refrigerant piping. Therefore, use the phosphor copper brazing filler metal (BCuP) which does not require flux. Flux has an extremely negative effect on refrigerant piping systems. For instance, if chlorine based flux is used, it will cause piping corrosion. Flux containing fluorine will damage refrigerant oil.

8.5 Re-assemble the Coil and Controls

- Once heat from the brazed area has dissipated, route component wiring back through the front panel wireway.
- Reinstall the tubing grommets and close the front panels.
- Reinstall the control panel to the front panel using mounting location holes and factory supplied screws.
- Reconnect Control Panel wiring to component wiring.

- After the work is finished, make sure to check that there is no gas leak.
- After checking for gas leaks, be sure to insulate the piping connections as shown in Figure 7.

Completely insulate gas refrigerant piping in order to prevent condensation and possible water damage. Failing to insulate the pipes may cause leaking or burns. Be sure to use the insulation which can withstand temperatures of 250°F (120°C) or more. Reinforce the insulation on the refrigerant piping according to the installation environment. If environmental conditions may reach 86°F and 80% RH, condensate may form on the surface of the insulation. To prevent condensate leakage, reinforce the refrigerant piping insulation according to the installation environment.

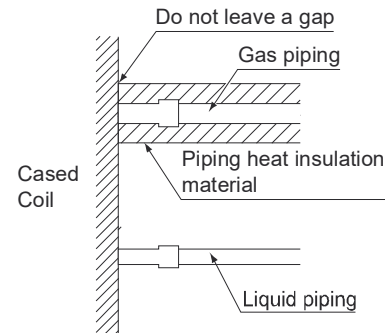


Figure 7

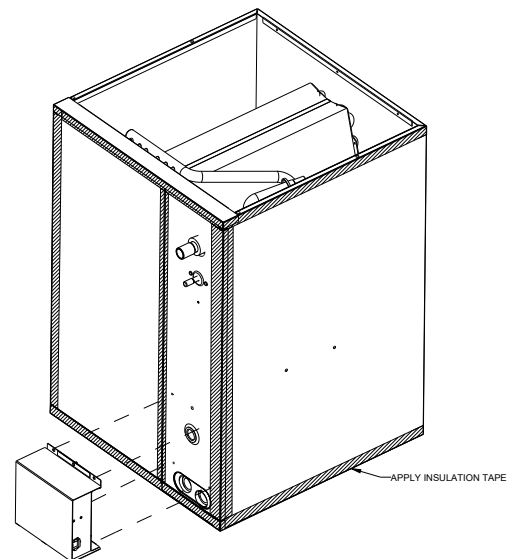


CAUTION

- DO NOT ALLOW COMPONENT WIRING TO BECOME PINCHED. FAILURE TO DO SO MAY LEAD TO UNIT FAILURE.
- BE SURE TO INSULATE GAS PIPING ALL THE WAY (REQUIRED INSULATION), TO PIPING CONNECTION INSIDE THE UNIT. ANY EXPOSED PIPING MAY CAUSE CONDENSATION OR BURNS IF TOUCHED.

9 SEALING ALONG THE PANEL GAP

IMPORTANT NOTE: To prevent cabinet “sweating”, apply field provided insulation tape along all joining surfaces between the coil, gas furnace, duct work, and panels. See Figure 8.



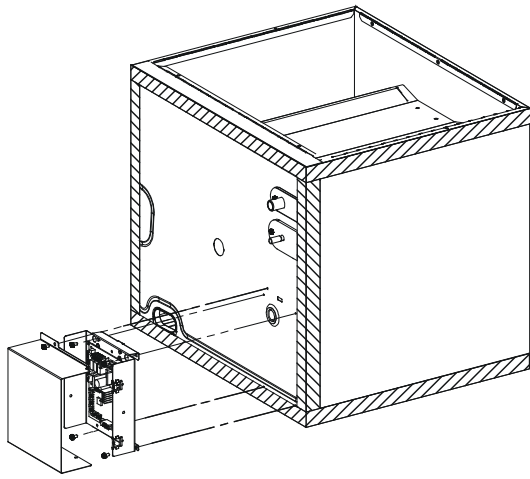


Figure 8

10 DRAIN PIPING WORK

In all cooling applications where condensate overflow may cause damage, a secondary drain pan must be provided by the installer and placed under the entire unit with a separate drain line properly sloped and terminated in an area visible to the owner. This secondary drain pan can provide extra protection to the area under the unit should the primary drain plug up and overflow. As expressed in our product warranty, we will not be liable for any damages, structural or otherwise due to the failure to follow this installation requirement.

Condensate drain connections are located in the drain pan at the bottom of the coil/enclosure assembly see Figure 9. Use the female ($\frac{3}{4}$ "FPT) threaded fitting that protrudes outside of the enclosure for external connections. The connectors required are $\frac{3}{4}$ " NPT male, either PVC or metal pipe and must be hand tightened to a torque of no more than 37 in-lbs, to prevent damage to the drain pan connection. An insertion depth between .36 to .49 inches (3-5 turns) should be expected at this torque.

1. Ensure drain pan hole is NOT obstructed.
2. To prevent potential sweating and dripping on to finished space, it may be necessary to insulate the condensate drain line located inside the building. Use Armaflex® or similar material.

A secondary condensate drain connection has been provided for areas where the building codes require it. Use a downward slope of at least $\frac{1}{4}$ " per foot to provide free drainage, or as required by local code. Provide required support to the drain line to prevent bowing. If the secondary drain line is required, run the line separately from the primary drain and end it where condensate discharge can be easily seen.

Drain port labeled (A) in Figure 9 is the primary drain and condensate drain line must be attached to this drain port.

Drain port (B) is for the secondary drain line (if used).

Use Figure 10 as a template for typical drain pipe routing. This figure shows how to avoid interference with vent piping.

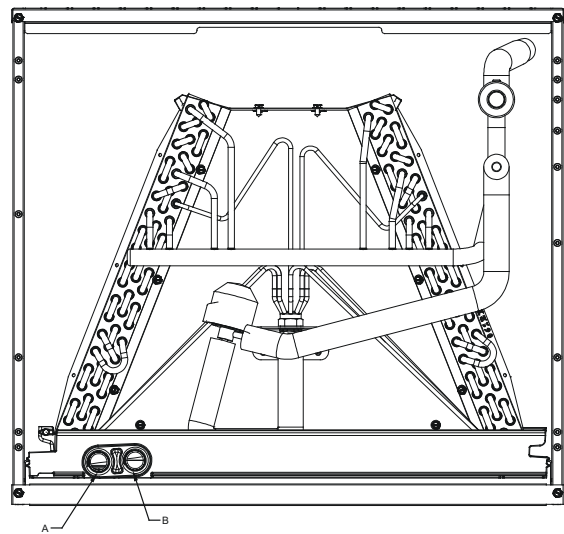
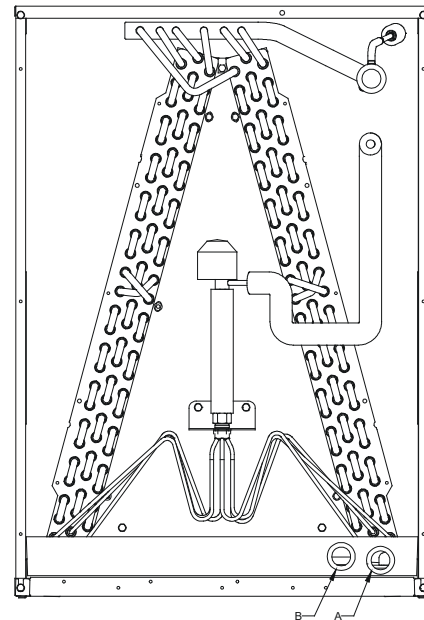


Figure 9

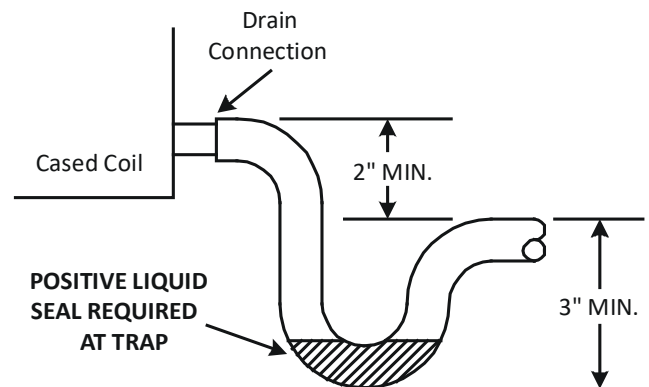


Figure 10

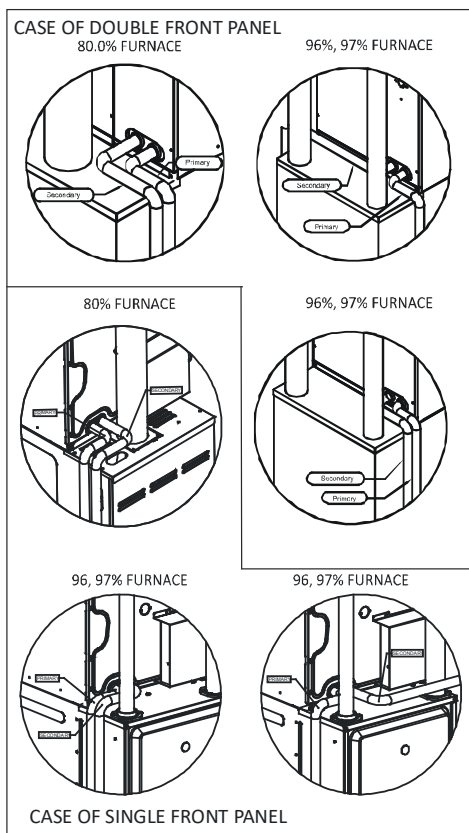


Figure 11

- A drain trap in a draw-through application prevents air from being drawn back through the drain line during fan operation, thus preventing condensate from draining and if connected to a sewer line, to prevent sewer gases from being drawn into the air stream during blower operation.
- If using copper drain line, solder a short piece of pipe, minimum 6" length, to the connector before installing a drain fitting. DO NOT over torque the 3/4" copper connector to the plastic drain connection. Using a wet rag or heatsink material on the short piece to protect the plastic drain pan.



CAUTION

IF A SECONDARY DRAIN IS NOT INSTALLED, THE SECONDARY ACCESS MUST BE PLUGGED.

Condensate drain traps with an open vertical Tee between the cased coil and the condensate drain trap can improve condensate drainage in some applications, but may cause excessive air discharge out of the open Tee. We do not prohibit this type of drain but we also do not recommend it due to the resulting air leakage. Regardless of the condensate drain design used, it is the installer's responsibility to ensure the condensate drain system is of sufficient design to ensure proper condensate removal from the coil drain pan.

Use of a condensate removal pump is permitted when necessary. This condensate pump should have provisions for shutting off the control voltage should a blocked drain occur. See Auxiliary Alarm Switch section that is in gas furnace or modular blower manual for more details. A trap must be installed between the unit and the condensate pump.

NOTE: This cased coil DOES NOT have auxiliary alarm switch feature.

IMPORTANT NOTE: The coil is fabricated with oils that may dissolve Styrofoam® and certain types of plastics. Therefore, the removal pump or float switch must not contain any of these materials.



CAUTION

- **USE STEEL DRAIN PIPE/FITTINGS, OR ADD REFLECTIVE OR HIGH HEAT RESISTIVE TAPE, TO ANY PIPE OR FIXTURES THAT IS WITHIN 1" OF THE 80% FURNACE VENT PIPE. FOIL-MASTIC SEALANT TAPE IS THE PREFERRED METHOD OF PIPE WRAPPING MATERIAL.**



CAUTION

IF A SECONDARY DRAIN IS NOT INSTALLED, THE SECONDARY ACCESS MUST BE PLUGGED.

NOTE:

- Water coming from secondary line means the coil primary drain is plugged and needs immediate attention.
- Insulate drain lines located inside the building or above a finished living space to prevent sweating. The installation must include a "P" style trap that is located as close as is practical to the evaporator coil. See Figure 13 for details of a typical condensate line "P" trap.

NOTE: Units operating in high static pressure applications may require a deeper field constructed "P" style trap than is shown in Figure 13 to allow proper drainage and prevent condensate overflow..

- Trapped lines are required by many local codes. In the absence of any prevailing local codes, please refer to the requirements listed in the uniform mechanical building code.

11 ELECTRICAL WIRING WORK

IMPORTANT: All routing of electrical wiring must be made through provided electrical bushings. When routing electrical wiring through bushings, take care not to damage the PCB. Do not cut, puncture or alter the cabinet or control panel for electrical wiring



WARNING

HIGH VOLTAGE

DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO ELECTRICAL SHOCK, THIS UNIT MUST HAVE AN UNINTERRUPTED, UNBROKEN ELECTRICAL GROUND. THE ELECTRICAL GROUND CIRCUIT MAY CONSIST OF AN APPROPRIATELY SIZED ELECTRICAL WIRE CONNECT THE GROUND LUG IN THE UNIT CONTROL BOX TO THE BUILDING ELECTRICAL SERVICE PANEL. OTHER METHODS OF GROUND ARE PERMITTED IF PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC)/AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/ NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70 AND LOCAL/STATE CODES. IN CANADA, ELECTRICAL GROUNDING IS TO BE IN ACCORDANCE WITH THE CANADIAN ELECTRIC CODE (CSA C22.1).

11.1 General Instructions

- Shut off the power before doing any work.
- All field supplied parts and materials, electric works must conform to local codes.
- See also the "Wiring Diagram Label" located on the underside of the control panel cover.
- All wiring must be performed by a licensed electrician.
- The power wiring must be protected with safety devices in accordance with local and national codes i.e. a fuse, a circuit breaker or a GFCI. Further detail, see gas furnace or modular blower installation manual.
- To avoid short circuiting the power supply wire, be sure to use insulated terminals.
- Do not turn on the power supply (circuit breaker or a GFCI) until all other work is done.



WARNING

DO NOT GROUND UNITS TO WATER PIPING, TELEPHONE WIRES OR LIGHTNING RODS BECAUSE INCOMPLETE GROUNDING COULD CAUSE A SEVERE SHOCK HAZARD RESULTING IN SEVERE INJURY OR DEATH. DO NOT GROUND TO GAS PIPING. A GAS LEAK COULD RESULT IN CAUSING AN EXPLOSION WHICH COULD LEAD TO SEVERE INJURY OR DEATH.

11.2 Wiring Sizing

Use relay wire harness (including ground wire) as supplied with this unit for connection between cased coil and gas furnace or modular blower. If it must be replaced with wiring, use thicker wire gauge than AWG18 wire size for your unit. Wiring material must comply with local codes.



WARNING

FIRE HAZARD! TO AVOID THE RISK OF PROPERTY DAMAGE, PERSONAL INJURY OR FIRE, USE ONLY COPPER CONDUCTORS.

11.3 Safety Device

Every installation must include an NEC (USA) or CEC (Canada) approved overcurrent protection device. Also, check with local or state codes for any special regional requirements. Protection can be in the form of fusing or

HACR style circuit breakers. The Series and Rating Plate provides the maximum overcurrent device permissible. When using residual current operated circuit breakers, be sure to use a high-speed type (0.1 second or less) 30mA rated residual operating current.

NOTE: Fuses or circuit breakers are to be sized larger than the equipment MCA but not to exceed the MOP.

11.4 Transformer Installation

Measure the power supply to the gas furnace or modular blower. Selection of correct supply voltage for transformer depends on measured power supply to gas furnace or modular blower. The supply voltage must be measured and be in agreement with the equipment's unit nameplate power requirements and within the range shown. 24 VAC power voltage is supplied to EEV cased coil control board from transformer supply terminals. See Figure 12. For appropriate wiring identification and installation for the cased coil, refer to the provided wiring schematic located on the PCB control panel cover.

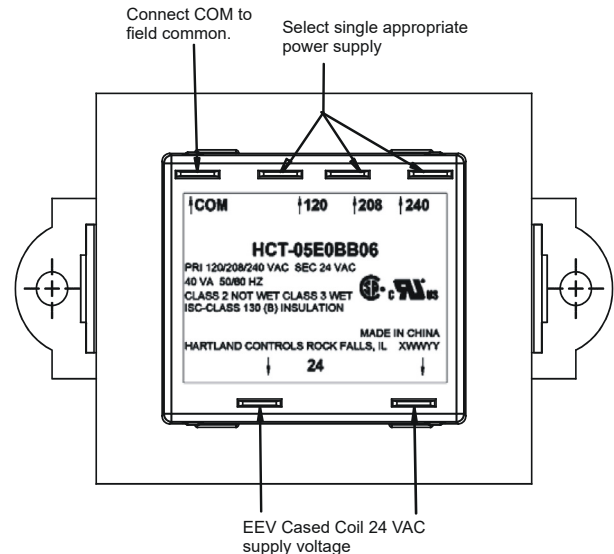


Figure 12

The cased coil PCB must be supplied 24 VAC supply voltage from an appropriately powered transformer. A transformer has been included with the cased coil.



WARNING

THIS UNIT IS DESIGNED TO OPERATE ON 24 VAC FROM PROVIDED TRANSFORMER. NEVER CONNECT HIGH VOLTAGE (120/208/240 VAC) TO THE CASSED COIL DIRECTLY OR TO THE CASSED COIL CONTROL BOARD. DOING SO WOULD RESULT IN EQUIPMENT DAMAGE AND/OR PERSONAL INJURY OR DEATH. USE DESIGNATED UL CERTIFIED TRANSFORMER INCLUDED WITH COIL. DO NOT ALTER OR MODIFY THE TRANSFORMER. ATTEMPTING TO MODIFY OR ALTER THE TRANSFORMER MAY RESULT IN PRODUCT DAMAGE OR PERSONAL INJURY.

11.5 How to Install the Transformer

Furnace application requires the use of the multi-tap (120/208/240) VAC to 24 VAC transformer. Appropriate supply voltage for the multi-tap transformer is based on field wiring. Select the following components from the coil transformer installation components:

1. Multi-tap (120/208/240) VAC to 24 VAC transformer.
2. Appropriate PCB transformer bracket (See Table 3).
3. Supplied red/black voltage transformer power wires.

NOTE: Based in furnace or blower selection, use Table 3 to determine appropriate PCB transformer bracket.

	Model Name	Cabinet Width	Bracket Select		
			Bracket A	Bracket B	Bracket C
Gas Furnace	Upflow 80%	All	X		
	Upflow 96%	All		X	
	Upflow 97%	All		X	
	Counterflow 80%	All			X
	Counterflow 96%	17.5"			X
	Counterflow 97%				X
	Counterflow 96%	21.0"		X	
	Counterflow 97%	24.5"		X	
Modular Blower	MBVC*	All			X

Table 3

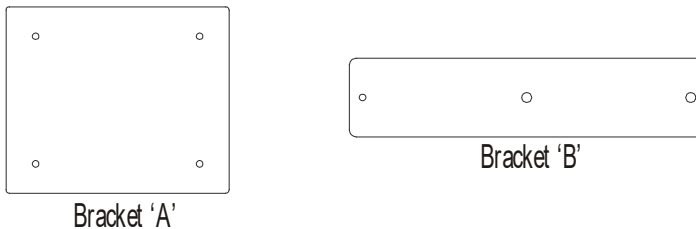


Figure 13

NOTE: Based on furnace or modular blower model, the applicable bracket and PCB transformer are mounted inside the furnace or modular blower cabinet. It is recommended to use self tapping screws to secure the PCB transformer and bracket plate to the mounting position. See Figure 14 through 20 to determine appropriate location.

11.5.1A Installation Bracket - "A"

The case of 17.5" width cabinet furnace, a furnace transformer should be removed from the PCB control deck. Align transformer bracket "A" and furnace transformer to the mounting holes of the furnace transformer on the PCB control deck. Bracket "A" should be located between the PCB control deck and furnace transformer. (See Figure 14).

The case of 21.0" and 24.5" width cabinet furnace, the bracket "A" can be fastened on extra screw holes on the PCB control deck using (2) self tapping field supplied screws (See Figure 15).

Secure bracket and furnace transformer to the PCB control deck. Align multi-tap EEV cased coil transformer to transformer bracket "A" secondary mounting holes and secure using (2) self tapping, field supplied screws.

For 80% Upflow Furnace (17.5" Width Cabinet)

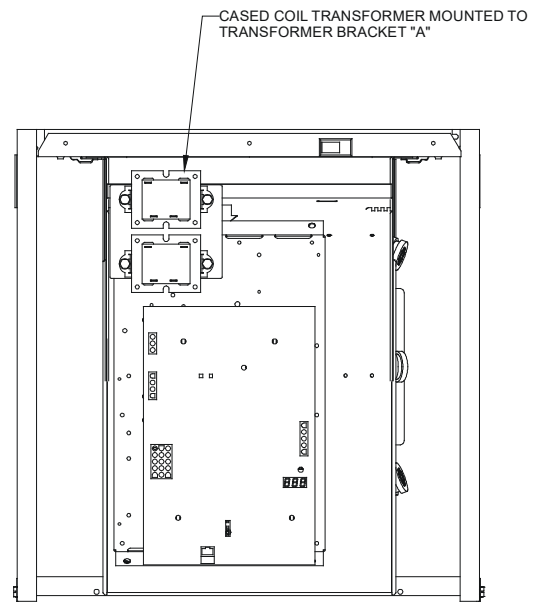


Figure 14

For 80% Upflow Furnace (21.0 and 24.5" Width Cabinet)

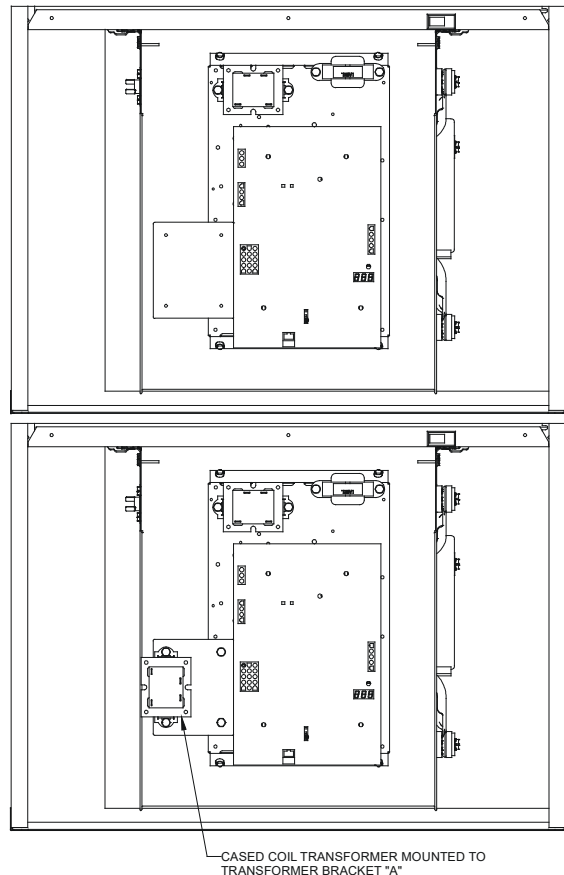


Figure 15

11.5.1B Installation Bracket - "B"

Furnace transformer should be removed from the PCB control deck. Align transformer bracket "B" and furnace transformer to the mounting holes of the furnace transformer on the PCB control deck. Bracket "B" should be located between the PCB control deck and furnace transformer. Secure innermost bracket mounting location and innermost furnace transformer mounting hole to the PCB control deck. Align multi-tap EEV cased coil transformer to transformer

bracket "B" by overlapping the base of furnace transformer and securing transformers together to bracket and securing the left side of EEV transformer, using (1) self tapping, field supplied screw. See Figures 16-17.

For 96 / 97% Upflow Furnace

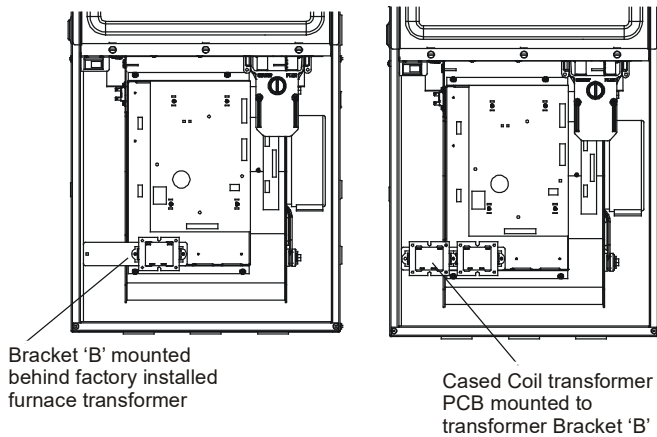


Figure 16

For 96 / 97% Downflow Furnace (21.0" and 24.5" Wide Cabinet)

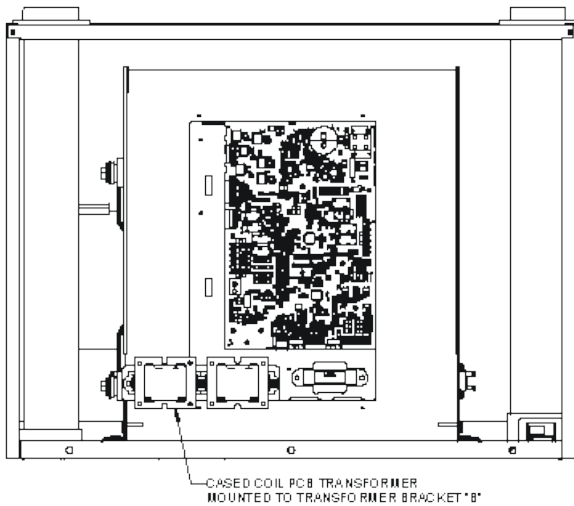


Figure 17

11.5.1C No Bracket Installation

For 80% Downflow Furnace

The PCB transformer can be assembled to the Furnace partition plate. Fasten the PCB transformer using (2) field supplied self drilling screws. Locate the transformer to the partition plate to the recommended location. See Figure 18. The transformer should be parallel to the edge of the heat shield. Self drilling screws should not be longer than 0.75" to prevent interference with blower housing.

NOTE: Extreme caution must be taken when installing the transformer to the partition plate and wiring the transformers so as to not damage the furnace control board, wiring or other electrical components.

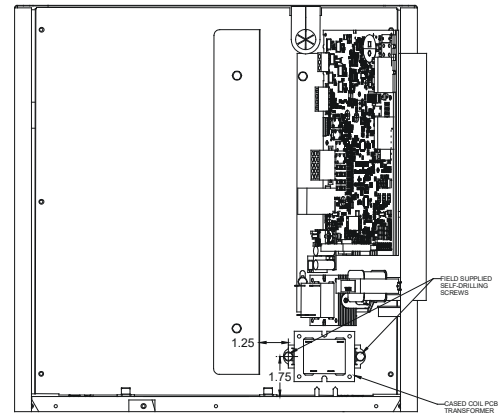


Figure 18

For 96 / 97% Downflow Furnace (17.5" Width Cabinet)

Fasten the PCB transformer using (1) field supplied screw at the extras screw hole on the PCB mounting plate. Then secure another screw hole of the PCB transformer using (1) field supplied, self drilling screw.

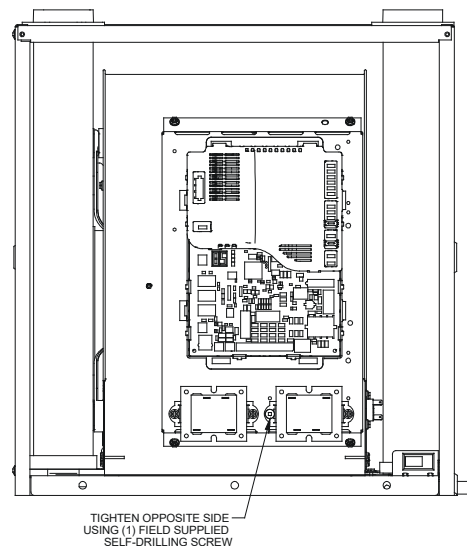
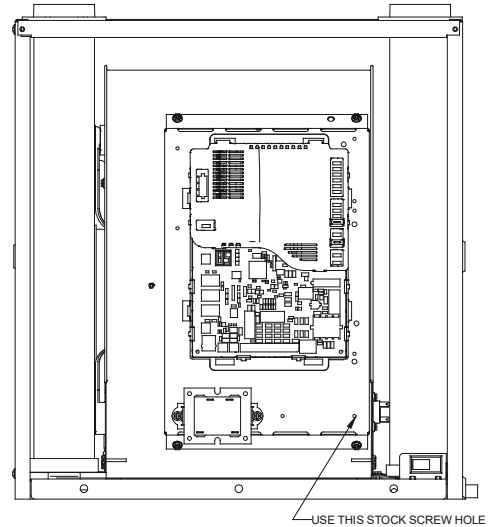


Figure 19

For the Modular Blower

Remove a screw located on the control deck that is showed in Figure 20 and affix the PCB transformer with the removed screw and a screw hole. Then secure another screw hole of

PCB transformer using (1) field supplied self drilling screws.

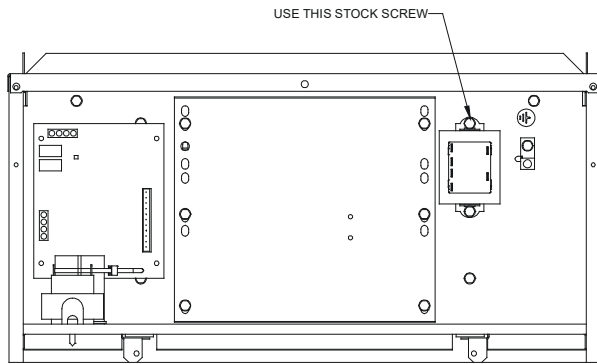


Figure 20

11.6 Wiring Transformer and PCB

IMPORTANT: When wiring PCB power supply to PCB transformer, an insulated bushing (field supplied) must be installed in the furnace or modular blower cabinet wall. Wiring must pass through bushing to interior of cabinet.

DO NOT ALLOW WIRING TO PASS ALONG AREAS WHERE WIRING IS EXPOSED TO ABRASIVE METAL EDGES. DO NOT ALTER BLOWER DECK.

To power PCB transformer: Use high voltage red and black wires provided in transformer installation components. Route red/black transformer power supply to PCB transformer from field wiring. Power and ground wiring for cased coil: Use accompanied yellow, purple and green wiring harness.

Communication wiring: Use accompanied black, grey, red and blue wire harness.

DO NOT POWER TO TR1/TH1 TERMINAL OF PCB WITH FACTORY INSTALLED FURNACE R/C THERMOSTAT POWER INSTEAD OF PCB TRANSFORMER.

NOTE: Create wire trap on outside of cabinet wall before passing into cabinet. The wire trap must remain below the insulated wire bushing location to prevent moisture intrusion into furnace or modular blower cabinet and onto electrical components.



CAUTION

OUTSIDE THE CASED COIL, DO NOT ROUTE TRANSMISSION WIRING TOGETHER WITH OTHER ELECTRICAL WIRING. KEEP THE TRANSMISSION WIRING AT LEAST 2 IN. (50MM) AWAY FROM THE POWER WIRING AND OTHER ELECTRICAL WIRING. EFFECTS OF ELECTRICAL INTERFERENCE (EXTERNAL NOISE) MAY RESULT IN MALFUNCTION AND BREAKDOWN.



WARNING

USE ONLY SPECIFIED WIRE AND CONNECT TO TERMINALS TIGHTLY. BE CAREFUL THAT WIRES DO NOT PLACE EXTERNAL STRESS ON TERMINALS. KEEP WIRE IN NEAT ORDER; NOT TO OBSTRUCT OTHER EQUIPMENT. MAKE SURE THAT THE CONTROL PANEL COVER IS CLOSED TIGHTLY. INCOMPLETE CONNECTIONS COULD RESULT IN OVERHEATING, AND IN WORSE CASES, ELECTRICAL SHOCK OR FIRE.



WARNING

WHEN DOING THE WIRING, MAKE SURE THAT WIRING IS NEAT AND DOES NOT TOUCH SHARP EDGE OF SHEET METAL AND DOES NOT CAUSE THE CONTROL PANEL TO STICK UP, AND THEN CLOSE THE COVER FIRMLY. WHEN ATTACHING THE CONTROL COVER, MAKE SURE YOU DO NOT PINCH ANY WIRES.

12 FULLY COMMUNICATING SYSTEM

12.1 Overview

The Communicating system is a system that includes a Communicating compatible cased coil and outdoor unit with a communicating thermostat. System may ONLY be installed using an approved communicating thermostat.

A Communicating heating/air conditioning system differs from a non-communicating/traditional system in the manner in which the indoor unit, outdoor unit and thermostat interact with one another. In a traditional system, the thermostat sends commands to the indoor and outdoor units via analog 24 VAC signals. It is a one-way communication path. The indoor and outdoor units typically do not return information to the thermostat.

On the other hand, the indoor unit, and thermostat comprising a Communicating system “communicate” digitally with one another. It is now a two-way communications path. The thermostat still sends commands to the indoor and outdoor units and may also request and receive information from both the indoor and outdoor units. This information may be displayed on the Communicating thermostat. The indoor and outdoor units also interact with one another. The outdoor unit may send commands to or request information from the indoor unit. This two-way digital communications between the thermostat and subsystems (indoor/outdoor unit) is the key to unlocking the benefits and features of the Communicating system.

12.2 Wire Harness Instructions

For proper installation and to achieve a stable communication network, we strongly recommend to install the wire harness components that comes in the cased coil literature bag.

A) Wire Harness for Furnace Installation with Cased Coil

1. Make sure power is off to equipment
2. Remove Wire Harness from Literature bag.
3. Connect male Molex Plugs on the Wire Harness to female Molex Plugs coming from the control box on the cased coil.
4. Route field supplied data wires for the outdoor unit and the harness's thermostat wiring through the furnace wire grommet.
5. Connect wires to the furnace phoenix connector before inserting onto the PCB slot, matching terminals 1, 2, R, C.
6. Run the harnesses low voltage wiring (yellow, purple, and green) through the furnace wire grommet to the additional transformer inside the furnace cabinet.
7. Run the harnesses low voltage wiring (blue, red, gray and black) through the cased coil wire grommet to the thermostat.

8. View Figure 21 for reference of Wire Harness Setup.

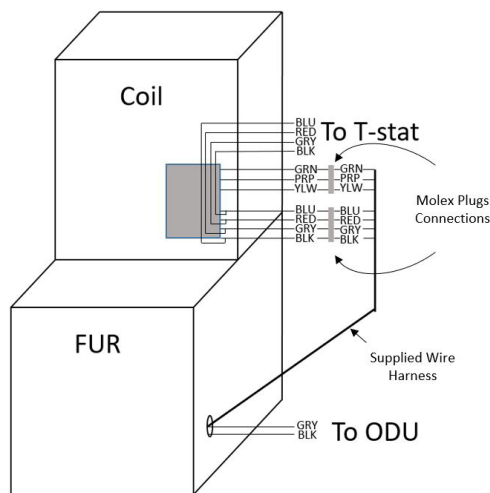


Figure 21

B) Wire Harness for Modular Blower Installation with Cased Coil

1. Make sure power is off to the equipment
2. Remove Wire Harness from Literature bag.
3. Connect male Molex Plugs on the Wire Harness to female Molex Plugs coming from the control box on the cased coil.
4. Route field supplied data wires for the outdoor unit and the harness's thermostat wiring through the modular blower's wire grommet.
5. Connect wires to the blower phoenix connector before inserting onto the PCB slot, matching terminals 1, 2, R, C.
6. Run the harnesses low voltage wiring (yellow, purple, and green) through the blower wire grommet to the additional transformer inside the blower cabinet.
7. Run the harnesses low voltage wiring (blue, red, gray and black) through the cased coil wire grommet to the thermostat.
8. View Figure 22 for reference of Wire Harness Setup.

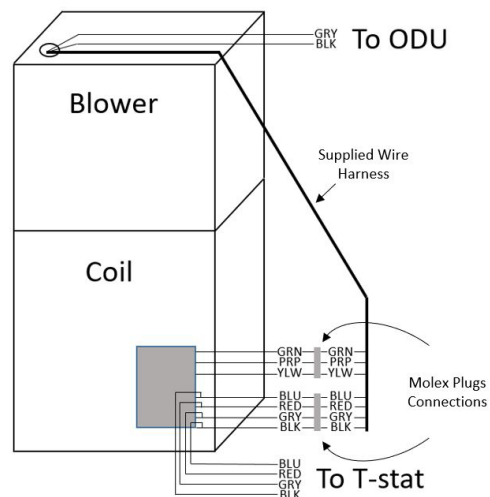


Figure 22

12.3 Thermostat Wiring

NOTE: Refer to section 11. ELECTRICAL WIRING WORK for 24 volt line connections to the cased coil.

NOTE: Only use approved communicating thermostats. Approved communicating thermostats are Daikin ONE+ smart thermostat, and Amana smart thermostat.

NOTE: A plug connector is provided with the control to make thermostat wire connections. Wire nuts are recommended to ensure one wire is used for each terminal. Failure to do so may result in intermittent operation.

Typical 18 AWG thermostat wire may be used to wire the system components. However, communications reliability may be improved by using a high quality, shielded, twisted pair cable for the data transmission lines.

12.4 Two-Wire Outdoor and Four-Wire Indoor Wiring

Typical wiring will consist of two wires between the indoor unit and outdoor unit and four wires between the indoor unit and thermostat. Figure 21 shows the required wires are: data lines, 1 and 2; "R" (24 VAC hot) and "C" (24 VAC common).

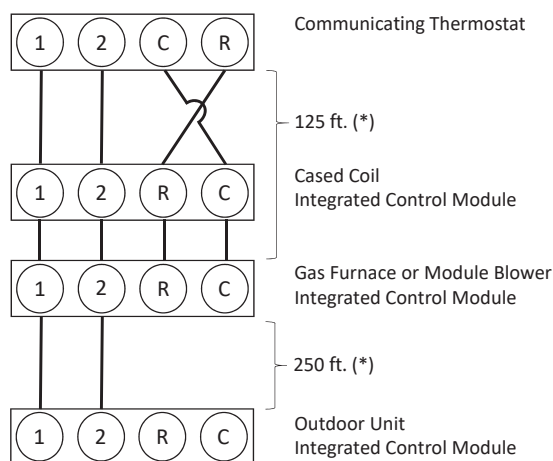


Figure 23 - System Wiring

12.4 Airflow Trim

Indoor airflow can be trimmed up/down through the outdoor unit user menu. For more detailed information, please refer to the outdoor unit installation manual.

NOTE: Trim Setting of the following combinations are restricted

Outdoor Unit	3ton	
Indoor Unit	D*VC960403B/0603B D*VM970603B D*VC800603B/0803B D*VS960805CU A*VC960403B/0603B A*VM970603B A*VC800603B/0803B A*VS960805CU MBVC1200	Trim more than 10% settings are invalid. Trimmed up CFM makes miss matching error.
Outdoor Unit	5ton	
Indoor Unit	D*VC960403B/0603B D*VM970603B D*VC800603B/0803B A*VC960403B/0603B A*VM970603B A*VC800603B/0803B	9%, 12% and 15% trim settings are invalid. Trimmed up CFM makes miss matching error.

13 MISCELLANEOUS START-UP CHECKLIST

- Prior to start-up, ensure that all electrical wires are properly sized and all connections are properly tightened.
- Tubing must be leak free.
- Condensate line must be trapped and pitched to allow for drainage.
- Auxiliary drain is installed when necessary and pitched to allow for drainage.
- Low voltage wiring is properly connected.
- Unit is protected from vehicular or other physical damage.
- Return air is not obtained from, nor are there any return air duct joints that are unsealed in areas where there may be objectionable odors, flammable vapors or products or combustion such as carbon monoxide (CO), which may cause serious personal injury or death.

MAXIMUM ALLOWED CFM		
Model Name	Upflow	Downflow
CAPEA1818B4*	910	910
CAPEA1818C4*	910	910
CAPEA2422B4*	1160	1160
CAPEA2422C4*	1160	1160
CAPEA3026B4*	1450	1260
CAPEA3026C4*	1450	1260
CAPEA3026D4*	1450	1450
CAPE4860C4*	1660	1160
CAPE4860D4*	1660	1660
CAPE4961C4*	1890	1890
CAPE4961D4*	1890	1890
CAPEA4830C4*	1520	1450
CAPEA6030D4*	1890	1890

14 TROUBLESHOOTING

14.1 Electrostatic Discharge (ESD) Precautions

NOTE: Discharge your body's static electricity before touching unit. An electrostatic discharge can adversely affect electrical components.

Use the following precautions during cased coil installation and servicing to protect the integrated control module from damage. By putting the cased coil, the control, and the person at the same electrostatic potential, these steps will help avoid exposing the integrated control module to electrostatic discharge. This procedure is applicable to both installed and uninstalled (ungrounded) cased coils.

1. Disconnect all power to the whole system. Do not touch the integrated control module or any wire connected to the control prior to discharging your body's electrostatic charge to ground.
2. Firmly touch a clean, unpainted, metal surface of the cased coil near the control. Any tools held in a person's hand during grounding will be discharged.
3. Service integrated control module or connecting wiring following the discharge process in step 2. Use caution not to recharge your body with static electricity; (i.e., do not move or shuffle your feet, do not touch ungrounded objects, etc.) If you come in contact with an ungrounded object, repeat step 2

before touching control or wires.

4. Discharge your body's electrostatic charge to ground before removing a new control from its container. Follow steps 1 through 3 if installing the control on a unit. Return any old or new controls to their containers before touching any ungrounded object.

14.2 Diagnostic Chart

Refer to the *Troubleshooting Chart* on the following page for assistance in determining the source of unit operational problems. The 7 segment LED display will provide any active fault codes.

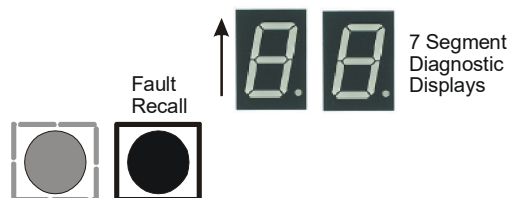


Figure 24

14.3 Fault Recall

The integrated control module is equipped with a momentary push-button switch that can be used to display the last six faults on the 7 segment LED display. Follow sequence below to use the feature. The control must be in Standby Mode (no thermostat inputs).

1. Press FAULT RECALL button for 2 to 5 seconds*, so that 7 segment displays show “- -”.
2. Release FAULT RECALL button in this period, 7 segment displays show the most recent fault.
3. Each time FAULT RECALL button is pressed after that**, 7 segment displays output next occurred fault.
4. After displaying the series of recent faults, 7 segment displays blink “- -” and goes back to Standby Mode.

To clear the error code history:

1. Press FAULT RECALL button for 10 to 15 seconds***, so that 7 segment blinks “- -”.
2. Release FAULT RECALL button in this period, 7 segment displays shows “88” and faults are cleared.

NOTE:

* If the FAULT RECALL button is not pressed long enough (2 to 5 seconds), control goes back to Standby Mode.

If the FAULT RECALL button is pressed for 5 to 10 seconds, the control goes back to Standby Mode.

** Consecutively repeated faults are displayed a maximum of three times.

*** If FAULT RECALL button is pressed for longer than 15 seconds, control goes back to Standby Mode.

14.4 Network Troubleshooting

The Communicating system is a full communicating system, constituting a network. Occasionally the need to troubleshoot the network may arise. The integrated cases coil control has some onboard tools they are, red communications LED, green receive (Rx) LED, and the learn button. Refer to the Communications Troubleshooting Chart on the following page for the error codes, possible causes and corrective actions.

- Red communications LED - indicates the status of the network. The Communications Troubleshooting Chart on the following page indicates the LED status and the corresponding potential problem.
- Green receive LED - indicates network traffic. The following table indicates the LED status and the corresponding potential problem.
- Learn button - used to reset the network. Depress the button for greater than 5 seconds to reset the network.

14.5 System Troubleshooting

NOTE: Refer to the instructions accompanying the Communicating compatible outdoor unit for unit specific troubleshooting information. Refer to the Troubleshooting Chart for the following page for a listing of possible cased coil error codes, and possible causes and corrective actions.

COMMUNICATIONS TROUBLESHOOTING CHART

LED	LED Status	Indication	Possible Causes	Corrective Action(s)	Notes & Cautions
Red Communications LED	Off	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None
	1 Flash	<ul style="list-style-type: none"> Communications Failure 	<ul style="list-style-type: none"> Communications Failure 	<ul style="list-style-type: none"> Depress Learn Button Verify wiring connection 	<ul style="list-style-type: none"> Depress once quickly for a power-up reset Depress and hold for 5 seconds for an out-of-box reset
	2 Flashes	<ul style="list-style-type: none"> Out-of-box reset 	<ul style="list-style-type: none"> Control power up Learn button depressed 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None
Green Receive LED	Off	<ul style="list-style-type: none"> No power Communications error 	<ul style="list-style-type: none"> No power to cased coil Open fuse Communications error 	<ul style="list-style-type: none"> Check fuses and circuit breakers; replace/reset Replace blown fuse Check for shorts in low voltage wiring in cased coil/system Reset network by depressing learn button Check data 1/data 2 voltages Typically the data 1 line is approximately 2.8 VDC and the data 2 transmission line is approximately 2.2 VDC. The voltage difference between data 1 and data 2 must be 0.6 VDC. 	<ul style="list-style-type: none"> Turn power OFF prior to repair
	1 Steady Flash	<ul style="list-style-type: none"> No network found 	<ul style="list-style-type: none"> Broken/ disconnected data wire(s) Cased coil is installed as a non-communicating/ traditional system 	<ul style="list-style-type: none"> Check communications wiring (data 1/data 2 wires) Check wire connections at terminal block Verify cased coil installation type (non-communicating/traditional or communicating) Check data 1/data 2 voltages 	<ul style="list-style-type: none"> Turn power OFF prior to repair Verify wires at terminal blocks are securely twisted together prior to inserting into terminal block Verify data 1 and data 2 voltages as described above
	Rapid Flashing	<ul style="list-style-type: none"> Normal network traffic 	<ul style="list-style-type: none"> Control is "talking" on network as expected 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None
	On Solid	<ul style="list-style-type: none"> Data 1/Data 2 miss-wire 	<ul style="list-style-type: none"> Data 1/data 2 wires reversed at cased coil, thermostat, or Communicating compatible outdoor unit Short between data 1/ data 2 wires Short between data 1 or data 2 wires and R (24VAC) or C (24VAC common) 	<ul style="list-style-type: none"> Check communications wiring (data 1/data 2 wires) Check wire connections at terminal block Check data 1/data 2 voltages 	<ul style="list-style-type: none"> Turn power OFF prior to repair Verify wires at terminal blocks are securely twisted together prior to inserting into terminal block Verify data 1 and data 2 voltages as described above

TROUBLESHOOTING

Error CODE	PCB LED DISPLAY	ClimateTalk MESSAGE	DESCRIPTION	POSSIBLE CAUSES	CORRECTIVE ACTIONS
EE	No display (EE display is EMG mode)	INTERNAL FAULT	<ul style="list-style-type: none"> No 24 volt power to PCB Blown fuse or circuit breaker PCB has an internal fault 	<ul style="list-style-type: none"> Manual disconnect switch OFF No 24 volt power to PCB Blown fuse or faulty circuit breaker Control board has internal fault 	<ul style="list-style-type: none"> Assure 24 volt power to blower and control board. Check fuse F2U on control board Check for possible short in 115/230 volt and 24 volt circuits. Repair as necessary. Replace the control board.
d0	E_d0	Data Not Yet On Network (NO NET DATA)	Data Not Yet On Network	<ul style="list-style-type: none"> No shared data on the network 	<ul style="list-style-type: none"> Populate shared data set using memory card.
d4	E_d4	Invalid Memory Card Data (INVALID MC DATA)	Invalid Memory Card Data	<ul style="list-style-type: none"> Wrong memory card data 	<ul style="list-style-type: none"> Replace circuit board Rewrite data using the correct memory card
70	E_70	EEV OPEN CKT	EEV disconnection detected	<ul style="list-style-type: none"> Indoor EEV coil not connected Incorrect wiring to EEV 	<ul style="list-style-type: none"> Check Indoor EEV coil connection (PCB and junction connector) Replace EEV coil Check the resistance value of EEV coil (refer service manual) Replace the control board
73	E_73	LIQ TEMP FLT	Liquid side thermistor abnormality	<ul style="list-style-type: none"> Open (or) short circuit of the liquid thermistor (X5A) Liquid thermistor reading incorrect or values outside the normal range 	<ul style="list-style-type: none"> Check the connection to liquid thermistor (PCB and junction connector) Check the resistance value of the thermistor (refer service manual) Replace thermistor Replace the control board
74	E_74	GAS TEMP FLT	Gas side thermistor abnormality	<ul style="list-style-type: none"> Open (or) short circuit of the gas thermistor (X5A) Gas thermistor reading incorrect or values outside the normal range 	<ul style="list-style-type: none"> Check the connection to gas thermistor (PCB and junction connector) Check the resistance value of the thermistor (refer service manual) Replace thermistor Replace the control board
75	E_75	PRESSURE FLT	Pressure sensor abnormality	<ul style="list-style-type: none"> Open (or) short circuit of the Pressure Sensor (X15A) Pressure Sensor reading incorrect or values outside the normal range 	<ul style="list-style-type: none"> Check the connection to pressure sensor (PCB and junction connector) Check the output voltage of the pressure sensor (refer service manual) Replace pressure sensor Replace the control board
76	E_76	EQUIP COMM LOSS	Outdoor unit - Gas furnace or Blower unit communication error (during operation)	<ul style="list-style-type: none"> Open communication circuit Incorrect wiring between OD unit, Gas furnace or Modular blower No power supply to OD unit, Gas furnace or Modular blower 	<ul style="list-style-type: none"> Check for cased coil and other unit wiring. Replace the control board Check power supply to OD unit, Gas furnace or Modular blower
77	E_77	TSTAT ID NO COM	Indoor Unit Thermostat communication error (start-up & during operation)	<ul style="list-style-type: none"> Incorrect wiring between ID unit and thermostat. The system may have the communication error without error code 77 on the indoor PCB. Follow section 14.5 SYSTEM TROUBLESHOOTING Thermostat failure Power interruption (low voltage) 	<ul style="list-style-type: none"> Check for thermostat and indoor unit wiring Verify the input voltage at the ID unit and thermostat After recovering the system with power supply, TSTAT ID NO COM will continue to be displayed on the thermostat within 2 minutes. The error code will be cleared automatically. Replace control board or thermostat Press "LEARN" button on PCB for more than 5 seconds to reestablish network
78	E_78	CONNECT EQUIP	Outdoor unit - Gas furnace or Blower unit communication error (Startup operation)	<ul style="list-style-type: none"> Open communication circuit Incorrect wiring between OD unit, Gas furnace or Modular blower No power supply to OD unit, Gas furnace or Modular blower 	<ul style="list-style-type: none"> Check for cased coil and other unit wiring. Replace the control board Check power supply to OD unit, Gas furnace or Modular blower

7 SEGMENT LED CODES

7 SEGMENT LED DISPLAY	DESCRIPTION OF CONDITION	ERROR MESSAGE
On	Normal Operation	--
EE	EMERGENCY MODE	--
d0	DATA NOT ON NETWORK	Data Not Yet On Network
d4	INVALID MEMORY CARD DATA	Invalid Memory Card data
70	EEV DISCONNECTION DETECTED	EEV OPEN CKT
73	LIQUID SIDE THERMISTOR ABNORMALITY	LIQ TEMP FLT
74	GAS SIDE THERMISTOR ABNORMALITY	GAS TEMP FLT
75	PRESSURE SENSOR ABNORMALITY	PRESSURE FLT
76	CASED COIL - OUTDOOR UNIT, GAS FURNACE OR BLOWER UNIT COMMUNICATION ERROR (DURING OPERATION)	EQUIP COMM LOSS
77	INDOOR UNIT - THERMOSTAT COMMUNICATION ERROR (STARTUP OPERATION & DURING OPERATION)	TSTAT ID NO COM
78	CASED COIL - OUTDOOR UNIT, GAS FURNACE OR BLOWER UNIT COMMUNICATION ERROR (STARTUP OPERATION)	CONNECT EQUIP

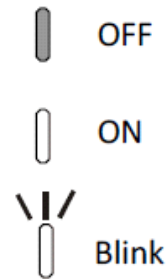
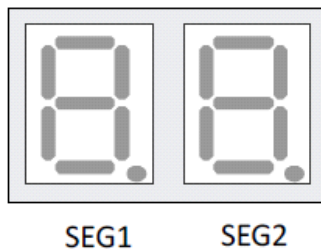
SETTING THE MODE DISPLAY

MODE DISPLAY INTRODUCTION

A 2-digit display is provided on the printed circuit board (PCB) as a backup tool to the thermostat for accessing error codes and erasing error code history of the indoor unit. Follow the information provided in this section to learn how to use the mode display

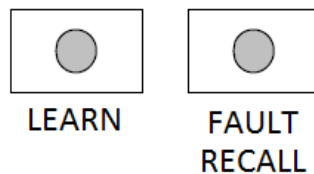
DISPLAY

The display consists of 2 digits.



DISPLAY BUTTON LAYOUT

The display buttons shown can be used to navigate and select items:



Example of button layout is shown above

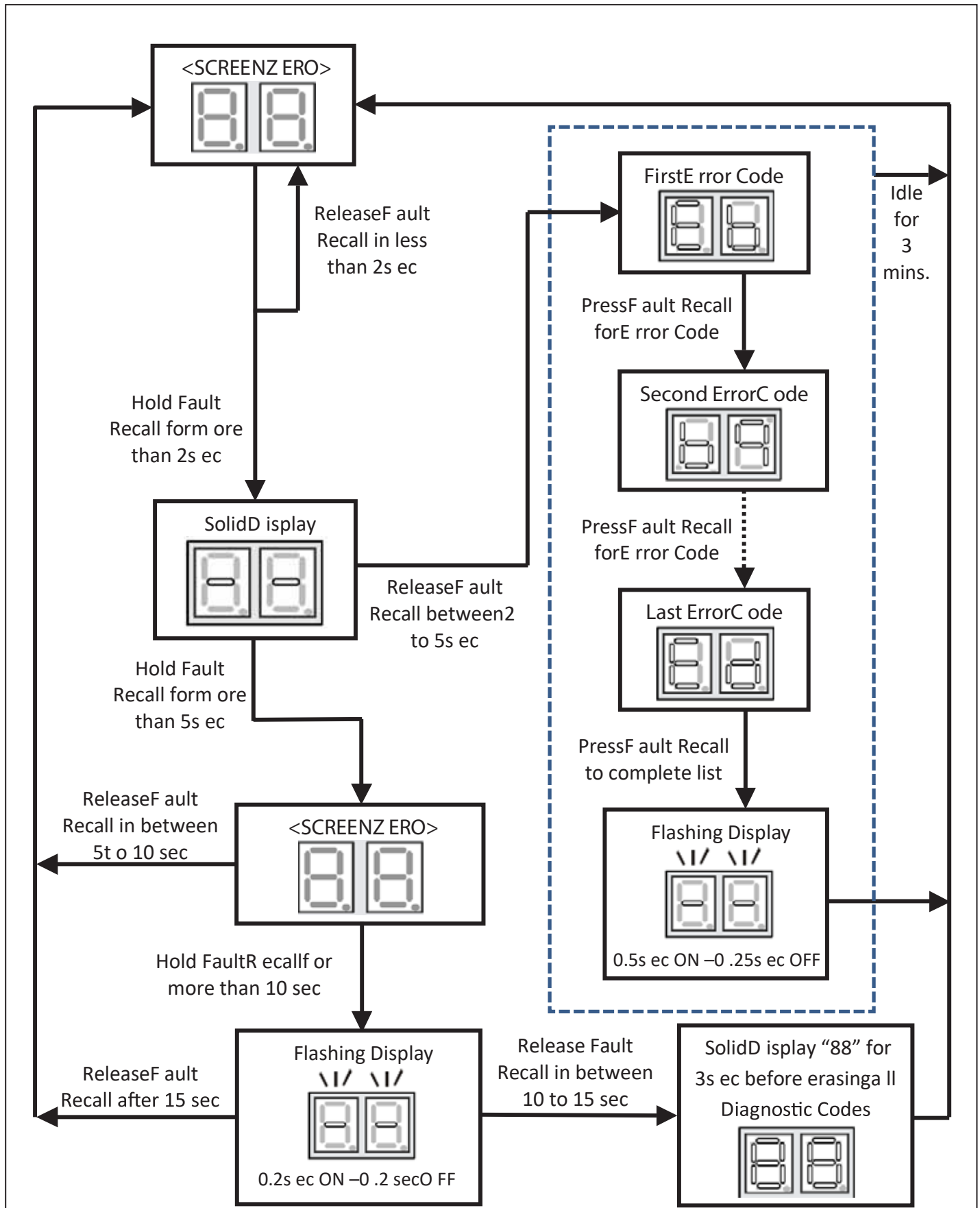
FAULT CODE HISTORY NAVIGATION

This mode will allow the user to see the six most recent system faults. Please follow the flow chart to navigate to error codes from screen zero.

For a list of the fault codes, please see the TROUBLESHOOTING tables in this document.

It is also possible to erase all the diagnostics codes from this menu.

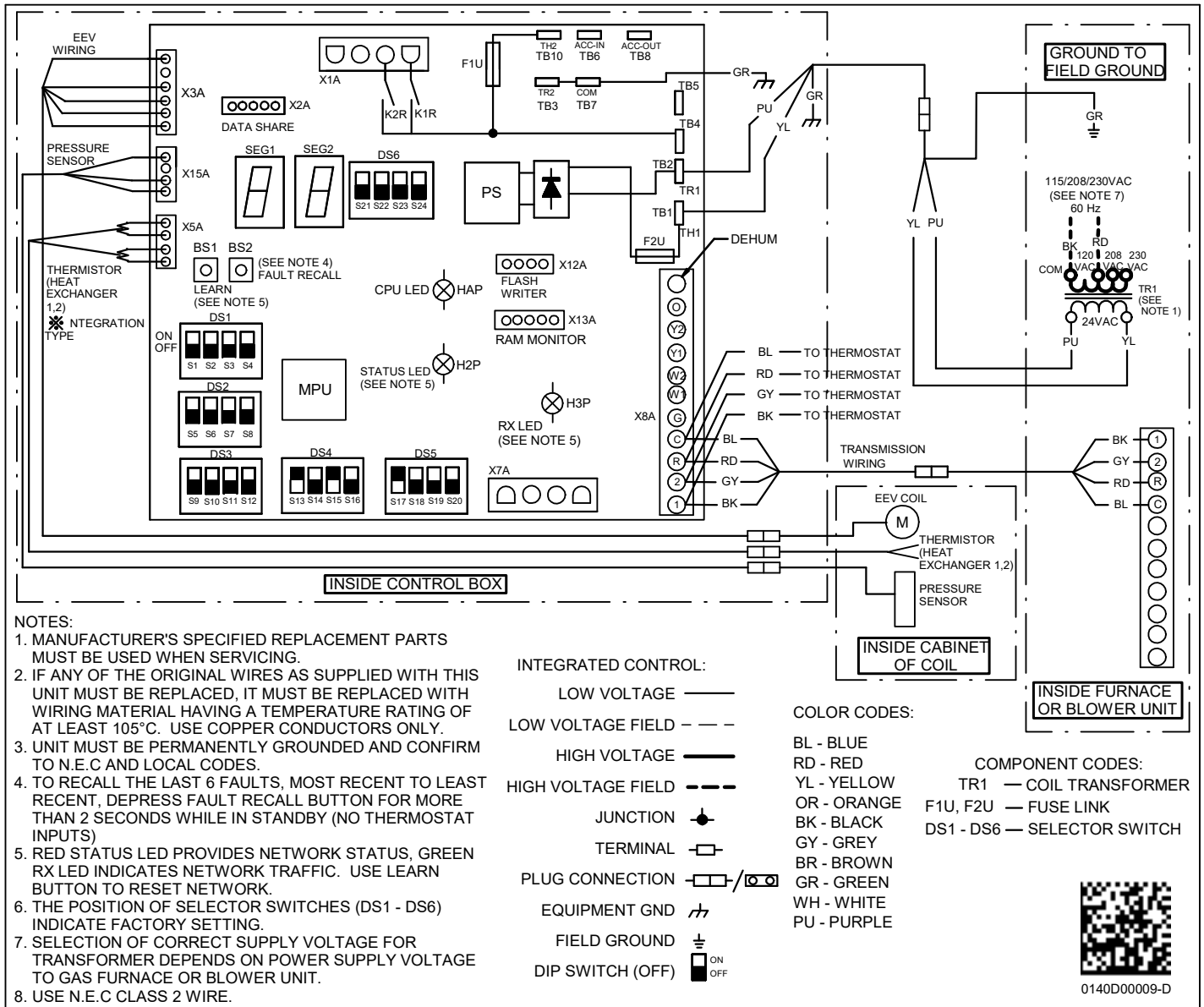
TROUBLESHOOTING



WIRING DIAGRAM

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT.
MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY
CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



NOTE: THESE INSTRUCTIONS ARE SPECIFICALLY FOR CAPEA /CAPE MODELS. DO **NOT** ATTEMPT TO APPLY THESE DIAGRAMS TO ANY OTHER MODELS.

CASED COIL

CASED COIL HOMEOWNER'S ROUTINE MAINTENANCE RECOMMENDATIONS

We strongly recommend a bi-annual maintenance checkup be performed before the heating and cooling seasons begin by a **qualified servicer**.

REPLACE OR CLEAN FILTER

IMPORTANT NOTE: Never operate unit without a filter installed as dust and lint will build up on internal parts resulting in loss of efficiency, equipment damage and possible fire.

An indoor air filter must be used with your comfort system. A properly maintained filter will keep the indoor coil of your comfort system clean. A dirty coil could cause poor operation and/or severe equipment damage.

Your air filter or filters could be located in your furnace, in a blower unit, or in "filter grilles" in your ceiling or walls. The installer of your air conditioner or heat pump can tell you where your filter(s) are, and how to clean or replace them.

Check your filter(s) at least once a month. When they are dirty, replace or clean as required. Disposable type filters should be replaced. Reusable type filters may be cleaned.

You may want to ask your dealer about high efficiency filters. High efficiency filters are available in both electronic and non-electronic types. These filters can do a better job of catching small airborne particles.

MOTORS

Indoor and outdoor fan motors are permanently lubricated and do not require additional oiling.



WARNING

HIGH VOLTAGE

DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



ALUMINUM INDOOR COIL CLEANING (QUALIFIED SERVICER ONLY)

This unit is equipped with an aluminum tube evaporator coil. The safest way to clean the evaporator coil is to simply flush the coil with water. This cleaning practice remains as the recommended cleaning method for both copper tube and aluminum tube residential evaporator coils.

It has been determined that many coil cleaners and drain pan tablets contain corrosive chemicals that can be harmful to aluminum tube and fin evaporator coils. Even a one-time application of these corrosive chemicals can cause premature aluminum evaporator coil failure. Any cleaners

that contain corrosive chemicals including, but not limited to, chlorine and hydroxides, should not be used. An alternate cleaning method is to use one of the products listed in TP-109* to clean the coils. The cleaners listed are the only agents deemed safe and approved for use to clean round tube aluminum coils.

TP-109 is also available on the web site in Partner Link > Service Toolkit.

NOTE: Ensure coils are rinsed well after use of any chemical cleaners.



CAUTION

TO AVOID THE RISK OF EQUIPMENT DAMAGE OR FIRE, INSTALL THE SAME AMPERAGE BREAKER OR FUSE AS YOU ARE REPLACING. IF THE CIRCUIT BREAKER OR FUSE SHOULD OPEN AGAIN WITHIN THIRTY DAYS, CONTACT A QUALIFIED SERVICER TO CORRECT THE PROBLEM. IF YOU REPEATEDLY RESET THE BREAKER OR REPLACE THE FUSE WITHOUT HAVING THE PROBLEM CORRECTED, YOU RUN THE RISK OF SEVERE EQUIPMENT DAMAGE.

BEFORE YOU CALL YOUR SERVICER

- Check the thermostat to confirm that it is properly set.
- Wait 15 minutes. Some devices in the outdoor unit or in programmable thermostats will prevent compressor operation for awhile, and then reset automatically. Also, some power companies will install devices which shut off air conditioners for several minutes on hot days. If you wait several minutes, the unit may begin operation on its own.
- Check the electrical panel for tripped circuit breakers or failed fuses. Reset the circuit breakers or replace fuses as necessary.
- Check the disconnect switch near the indoor furnace or blower to confirm that it is closed.
- Check for obstructions on the outdoor unit. Confirm that it has not been covered on the sides or the top. Remove any obstruction that can be safely removed. If the unit is covered with dirt or debris, call a qualified servicer to clean it.
- Check for blockage of the indoor air inlets and outlets. Confirm that they are open and have not been blocked by objects (rugs, curtains or furniture).
- Check the filter. If it is dirty, clean or replace it.
- Listen for any unusual noise(s), other than normal operating noise, that might be coming from the outdoor unit. If you hear unusual noise(s) coming from the unit, call a qualified servicer.

START-UP CHECKLIST

Air Handler / Coil			
		Model Number	_____
		Serial Number	_____
ELECTRICAL			
Line Voltage (Measure L1 and L2 Voltage)	L1 - L2	_____	
Secondary Voltage (Measure Transformer Output Voltage)	R - C	_____	
Blower Amps		_____	
Heat Strip 1 - Amps		_____	
Heat Strip 2 - Amps		_____	
BLOWER EXTERNAL STATIC PRESSURE			
Return Air Static Pressure		_____	IN. W.C.
Supply Air Static Pressure		_____	IN. W.C.
Total External Static Pressure (Ignoring +/- from the reading above, add total here)		_____	IN. W.C.
TEMPERATURES			
Return Air Temperature (Dry bulb / Wet bulb)		_____ DB °F	_____ WB °F
Cooling Supply Air Temperature (Dry bulb / Wet bulb)		_____ DB °F	_____ WB °F
Heating Supply Air Temperature		_____ DB °F	
Temperature Rise		_____ DB °F	
Delta T (Difference between Supply and Return Temperatures)		_____ DB °F	
Air Handler / Coil - (Inverter Matched)			
INVERTER AH / COIL ONLY			
Check EEV and EEV wiring is secure (no adjustment required)		_____	
Additional Checks			
Check wire routings for any rubbing		_____	
Check product for proper draining		_____	
Check screw tightness on blower wheel		_____	
Check factory wiring and wire connections		_____	
Check product for proper clearances as noted by installation instructions		_____	
°F to °C formula: (°F - 32) divided by 1.8 = °C °C to °F formula: (°C multiplied by 1.8) + 32 = °F			

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CUSTOMER FEEDBACK

We are very interested in all product comments.

Please fill out the feedback form on one of the following links:

Daikin Products: (<https://daikincomfort.com/contact-us>)

Amana® Brand Products: (<http://www.amana-hac.com/about-us/contact-us>).

You can also scan the QR code on the right for the product brand you purchased to be directed to the feedback page.



DAIKIN



AMANA® BRAND

PRODUCT REGISTRATION

Thank you for your recent purchase. Though not required to get the protection of the standard warranty, registering your product is a relatively short process, and entitles you to additional warranty protection, except that failure by California and Quebec residents to register their product does not diminish their warranty rights. The duration of warranty coverages in Texas and Florida differs in some cases.

For Product Registration, please register as follows:

Daikin Products: (<https://daikincomfort.com/owner-support/product-registration>).

Amana® Brand products: (<http://www.amana-hac.com/product-registration>).

You can also scan the QR code on the right for the product brand you purchased to be directed to the Product Registration page.



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AMANA® BRAND

NOTE: SPECIFICATIONS AND PERFORMANCE DATA LISTED HEREIN ARE SUBJECT TO CHANGE WITHOUT NOTICE

Quality Makes the Difference!

All of our systems are designed and manufactured with the same high quality standards regardless of size or efficiency. We have designed these units to significantly reduce the most frequent causes of product failure. They are simple to service and forgiving to operate. We use quality materials and components. Finally, every unit is run tested before it leaves the factory.

That's why we know. . . **There's No Better Quality.**

Our continuing commitment to quality products may mean a change in specifications without notice.

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