



RECORD THIS UNIT INFORMATION FOR FUTURE

REFERENCE:

Model Number \_\_\_\_\_

Serial Number \_\_\_\_\_

Date Purchased \_\_\_\_\_

#### USA

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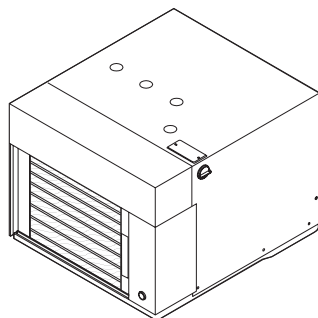
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## SELF-CONTAINED HEAT PUMP



## ROTARY COMPRESSOR SYSTEM MODEL 441003 SERIES

THIS UNIT IS DESIGNED FOR OEM INSTALLATION  
ALL INSTALLATION DESIGNS MUST BE APPROVED BY DOMETIC, LLC

### **⚠ WARNING**

This manual must be read and understood before installation, adjustment, service, or maintenance is performed. This unit must be installed by a qualified service technician. Modification of this product can be extremely hazardous and could result in personal injury or property damage.

### **⚠ AVERTISSEMENT**

Lire et comprendre ce manuel avant de procéder à l'installation, à des réglages, de l'entretien ou des réparations. L'installation de ce produit doit être effectuée par un réparateur qualifié. Toute modification de ce produit peut être extrêmement dangereuse et entraîner des blessures ou dommages matériels.

## INSTALLATION INSTRUCTIONS

**MODEL**  
**441003.701**

## SAFETY INSTRUCTIONS

This manual has safety information and instructions to help users eliminate or reduce the risk of accidents and injuries.

### RECOGNIZE SAFETY INFORMATION



This is the safety alert symbol. It is used to alert you to personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

### UNDERSTAND SIGNAL WORDS

A signal word, when used with the safety alert symbol, will identify a safety hazard and its level of risk for personal injury. A signal word, without the safety alert symbol, will be used for property damage messages only.

**⚠ WARNING** WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

**⚠ CAUTION** CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

**NOTICE** NOTICE is used to address practices not related to personal injury.

**⚠ WARNING**  
**Read and follow all safety information and instructions to avoid personal injury.**

## GENERAL INFORMATION

- A.** Product features or specifications as described or illustrated are subject to change without notice.
- B.** This heat pump (hereinafter referred to as the "unit") is designed for:
1. Installation and use in small recreational vehicles.
  2. Installation in a recreational vehicle during the time the vehicle is manufactured.

**Note:** Heat pump mode will not operate when the outside temperature is 30° F. and below. If heating is required switch over to furnace mode if applicable.

- C.** Helpful hints to make your camping more enjoyable:
1. Do not block air flow with curtains or furniture.
  2. Keep curtains closed during the sunniest part of the day.
  3. Keep the return air filter clean.
  4. Choose a shaded camp site.
  5. Install a Dometic awning with screen room.
- D.** Your unit provides the following functions to make your camping more comfortable.
1. Cools and circulates inside air (**Spring/Summer/Fall**).
  2. Lowers humidity by removing excess moisture (**Spring/Summer/Fall**).
  3. Filters out dust, dirt and other airborne impurities (**Spring/Summer/Fall/Winter**).
  4. Heats and circulates inside air (**Spring/ Fall/Winter**).  
The unit performs these functions by drawing room air through a filter which traps dust and dirt particles. The air then passes over the indoor conditioning coil which cools and removes excess moisture (**Spring/Summer/Fall**) and heats the air (**Spring/Fall/Winter**). The same air is then returned to the living space to keep you comfortable.
- E.** The drain tube should be left unplugged during heating operation, storage and any time when traveling after the unit has been operating.
- F.** Before starting the installation, items that must be checked are:
1. Electrical wires in the wall
  2. Water lines
  3. LP gas lines
- G.** Required tools for installation:
1. Jigsaw
  2. Drill and drill bits
  3. Screw drivers; phillips and slotted
  4. Silicone sealant
  5. Socket set
  6. Utility knife
  7. Measuring tape

### H. Condensation

**Note:** The manufacturer of this unit will not be responsible for damage caused by condensed moisture on ceilings or other surfaces. Air contains moisture and this moisture tends to condense on cold surfaces. When air enters the RV, condensed moisture may appear on the ceiling, windows, metal parts, etc. During normal operation this unit removes moisture from the air. Keeping doors and windows closed when this air conditioner is in operation will minimize condensed moisture on cold surfaces.

# SPECIFICATIONS

Model Number	441003.701
Nominal BTU Cool/Heat	10,150
Volts/Phase/Hertz*	120/1/60
FLA Comp/Motor	8.9/2.2
LRA Comp/Motor	50/6.6
Wire Size**	12 AWG Copper Conductors
Circuit Protection	20 AMP Time Delay Fuse or Circuit Breaker Required
Refrigerant R-410A (Oz.)	28
Size Width Height Depth	22.0 14.5 20.5
Installed Weight (Pounds)	70
Generator*** 1 Unit/2 Units	2.8 KW/4.0 KW
<p>* Maximum unit performance achieved at full rated voltage.</p> <p>** For lengths over 24 ft., consult the National Electrical Code.</p> <p>*** Dometic, LLC gives <b>general</b> guidelines for generator requirements. These guidelines come from experiences people have had in actual applications. When sizing the generator, the <b>total</b> power usage of your recreational vehicle must be considered. Also keep in mind generators lose power at high altitudes and from lack of maintenance.</p>	

# INSTALLATION INSTRUCTIONS

## A. Precautions

### **⚠ WARNING**

**Improper installation may damage equipment, could endanger life, cause serious injury and/or property damage.**

1. Read installation and operating instructions carefully before attempting to start this unit installation.
2. Dometic, LLC will not be liable for any damages or injury incurred due to failure in following these instructions.
3. Installation **must** comply with the National Electrical Code ANSI/NFPA-70 and CSA Standard C22. (latest edition) and any State or Local Codes or regulations.
4. **DO NOT** add any devices or accessories to this unit except those specifically authorized in writing by Dometic, LLC.
5. This equipment must be serviced by qualified personnel and some states require these people to be licensed.

## B. Choosing Proper Location For The Unit

This unit is intended for installation in recreational vehicles where the interior space is essentially one undivided space.

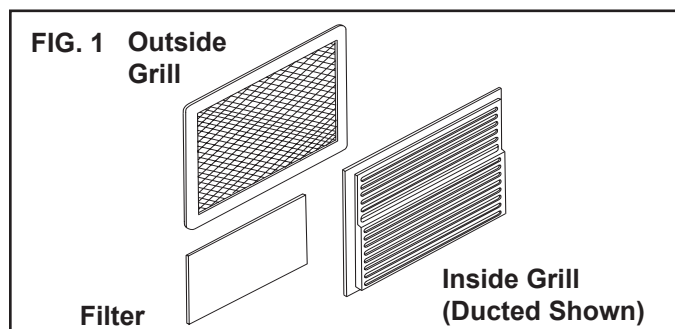
The recreational vehicle manufacturer engineering staff should carefully review each floor plan before starting an installation.

**Important: Alternate configurations and methods may be used which still allow the unit to operate properly. However, these alternate configurations and methods must be authorized in writing by Dometic, LLC.**

## C. Grills And Registers

The following accessories are available in various kits to simplify installations. See FIG. 1.

1. Indoor direct discharge grill alone, with indoor vents.
2. Indoor direct or ducted discharge grill with outdoor grill.
3. Indoor direct discharge grill with outdoor grill, indoor vents and adaptor, and outdoor rain shield.

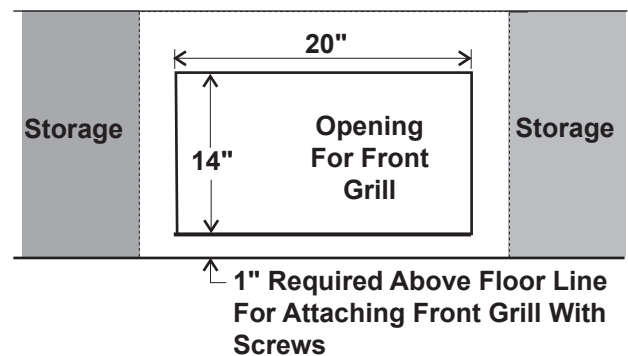


**Note:** A dedicated compartment **MUST BE** provided for the unit installation. This compartment **MUST BE OPEN TO THE OUTSIDE AND AIR SEALED TO THE INSIDE.**

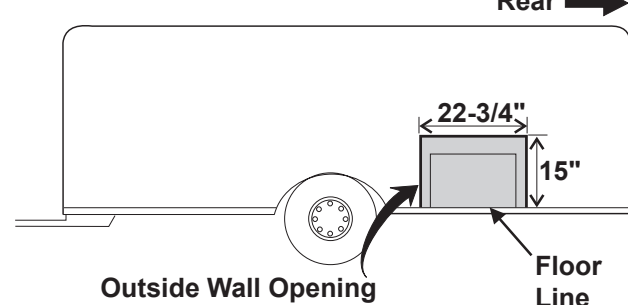
## D. Opening Preparation

1. Once the floor plan has been reviewed and the compartment has been selected for unit installation, a 22.75 inch wide by 15.00 inch high opening through the sidewall or outside panel is required. The interior compartment must be at least 20 inches deep. See FIG. 2 and FIG. 3.

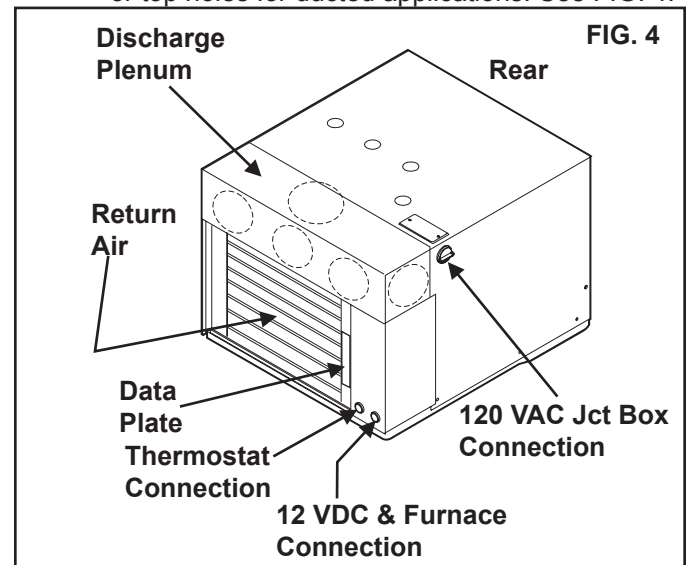
**FIG. 2 Inside Cabinet Front Cutout**



**FIG. 3**



2. Remove the unit from its carton. Inspect for shipping damage.
3. Locate the discharge air plenum on the unit. Cut the required hole or holes for your installation. The 3 front holes for direct discharge, or the side and/or top holes for ducted applications. See FIG. 4.



**Note:** In a travel trailer installation, if within a cabinet or in the ceiling, ducting may be required.

4. Access openings should be prepared as shown. Cabinet front opening must be 20 inches wide by 15 inches high to provide an opening for the discharge and return air grill. A discharge and return air grill with register option is available to speed up the installation. An electrical service opening is provided by removing the return air grill. See FIG. 2.

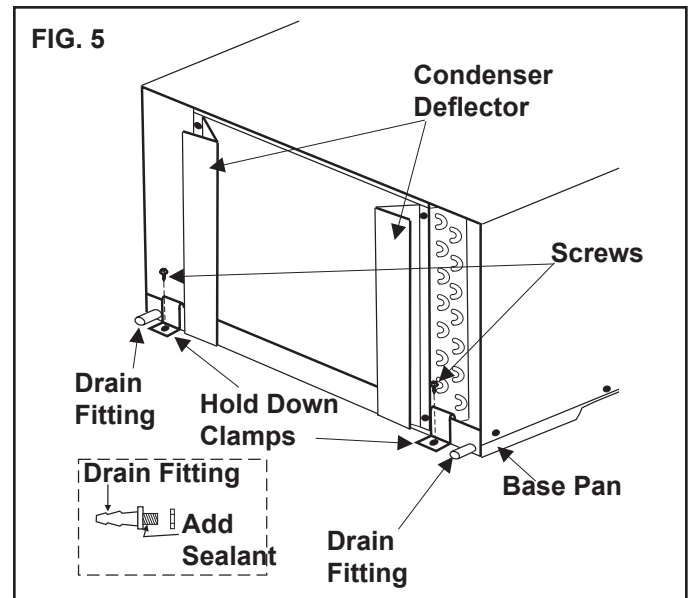
## E. Wiring Requirements

1. Route a copper, with ground, 120 VAC supply wire from the time delay fuse or circuit breaker box to the unit compartment.
  - a. The power **MUST** be on an appropriately sized separate time delay fuse or circuit breaker. The proper size protection can be determined from chart on page 3.
  - b. Make sure enough supply wire extends into the compartment to insure an easy connection at the unit junction box.
  - c. Wiring must comply with the National Electric Code ANSI/NFPA/70 and CSA Standard C22.1 (latest edition) and State or Local Codes or regulations.
  - d. Protect the wire where it passed into the compartment with approved method. See paragraph "c" above.
2. Route a dedicated 12 VDC supply wire (18-22 AWG) from the RV's converter (filtered side) or battery to the unit compartment. Make sure enough supply wire extends into the compartment to insure an easy connection at the unit.
3. Route a 3 conductor cable, 18 to 22 AWG, from the Single Zone LCD (hereinafter referred to as SZLCD) thermostat mounting position into the unit compartment. Make sure enough wire extends into the compartment to insure an easy connection at the unit and at least 6" extends from the wall at the SZLCD thermostat mounting position. See Section H.
4. If the system includes a gas furnace, route two 18 gauge thermostat wires from the furnace to the unit compartment. Make sure enough wire extends into the compartment to insure an easy connection at the unit.

## F. Installing The Unit

**Note:** Hold-down clamps, screws, drain fitting, and sealant used in step 1 & 2 are in hardware kit 3107662.003 and is purchased separately.

1. Now that your compartment is unit ready with all holes cut, carefully slide the unit into position from the outside. Clip the hold-down clamps over the base pan flange as shown and secure in place with screws. See FIG. 5.



2. Next, install the drain fittings to the base pan. Sealant must be added around the threaded end of drain fitting before it is screwed into the base pan. See FIG. 5.
3. Install the rain shield. See FIG. 6.

**Note:** The rain shield must have sealant applied to the short flange surfaces and bottom of the unit sealing the compartment from rainwater and condensation.

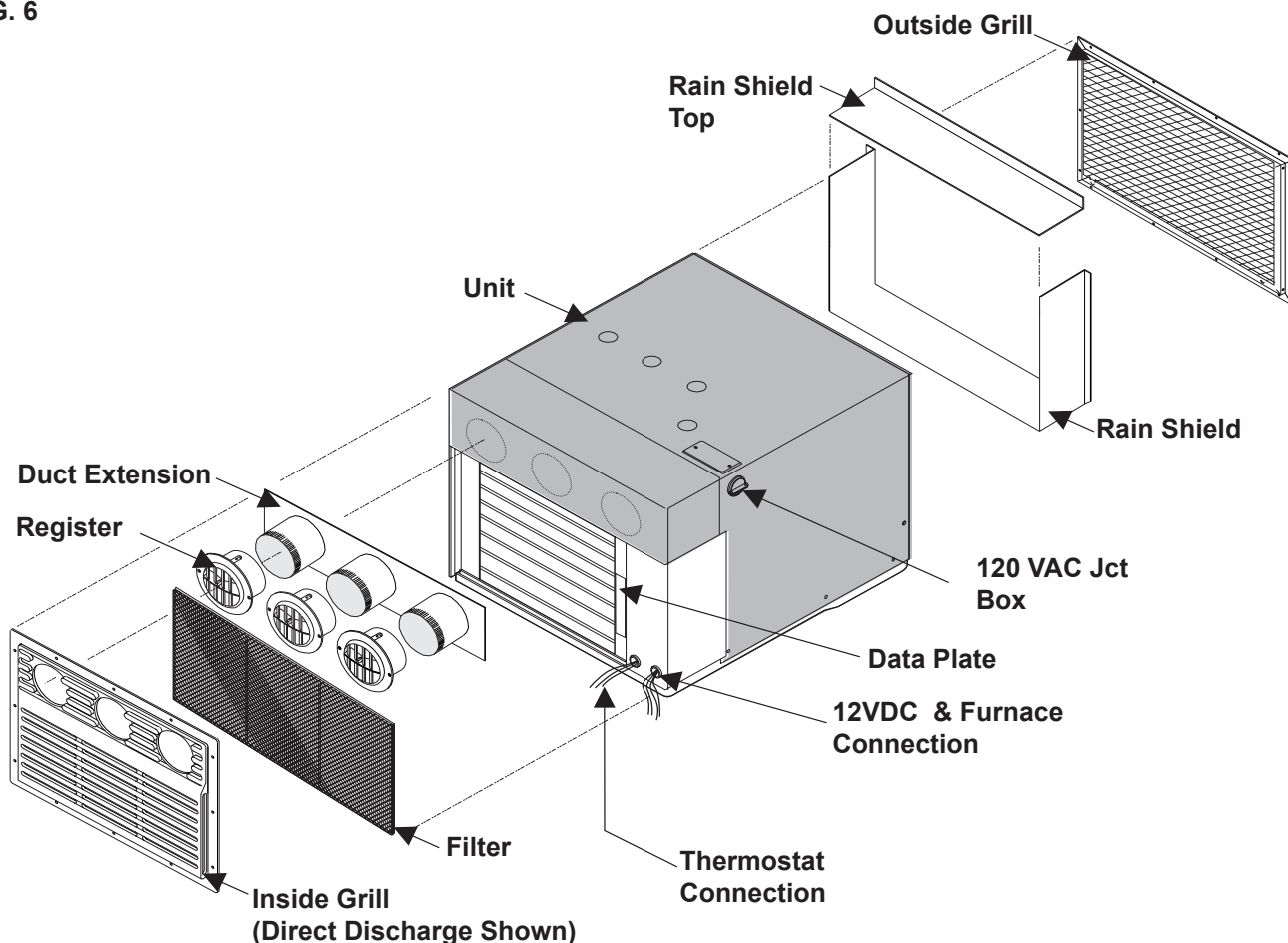
4. Seal along the unit bottom to rain shield.
5. Using 1/2" plastic tube, (installer supplied) extend the drain fittings through the vent grill or through holes in the bottom of the compartment. Make sure to seal around the tubing where it exits the bottom of the compartment, and that the condensate will drain to the out side of RV.
6. Make sure the condenser deflector is against the back of the outside grill. This will decrease recirculation of hot air back into the grill. Install the outside grill. See FIGS. 5 & 6.
7. The outside work is complete.

**Note:** If your cabinet space is 20"-23.5" deep, the metal duct extension is not needed. Attach the registers directly to the unit knockout openings. Do not insert the registers more than 1/2" into the unit knockouts. In some installations registers will need to be cut to fit the cabinet space. See figure 6 drawing for the order of installation and installation kit component parts list.

8. After the registers have been installed, install the inside grill to the cabinet front.

**Important:** When unit is installed with air distribution ducts to carry the conditioned air to remote areas of the interior space, the ducts must be sized to maintain a static pressure at the blower outlet between 0.0 and 0.6 inches of water column on high speed.

FIG. 6



## G. WIRING THE SYSTEM

### 1. 120 VAC Power Supply Connection

#### **⚠ WARNING**

**Shock Hazard. Disconnect 120 VAC power supply. Failure to obey this warning may cause death or severe personal injury.**

#### **⚠ WARNING**

**This product is equipped with a 3 wire (grounded) system for protection against shock hazard. Make sure that the unit is wired and you connect into a properly grounded 120 VAC circuit and the polarity is correct. Failure to obey this warning could result in death, personal injury or damage to the equipment.**

- Remove the junction box cover.
- Route supply wires through the connector and tighten lock nut and clamp screws to ensure against twisting of the wires.
- Connect the wires in the junction box to the wires from the supply line using a "Listed" properly sized wire connector.

- Active to Black
- Neutral to White
- Earth to Green/yellow

d. Install junction box cover.

### 2. Low Voltage Wiring Connections

#### **NOTICE**

**Disconnect the positive (+) 12 VDC terminal at the supply battery. Damage to equipment could occur if the 12 VDC is not shut off.**

- Connect the previously run 12 VDC positive(+) supply lead to the red wire on the unit.
- Connect the previously run 12 VDC negative (-) supply lead to the black wire on the unit and to wire of the three wire cable that goes to the thermostat 12V- terminal.  
The **low voltage connection** can be made without removing the electrical box cover. The low voltage leads must be tucked back inside the electrical box.
- Connect the previously run furnace thermostat wires (if applicable) to the blue/white wires on the unit.
- Connect the red/white wire from the unit to wire of the three wire cable that goes to thermostat 12V+ terminal.



- e. Connect the orange wire from the unit to wire of the three wire cable that goes to thermostat COMMS terminal.

## H. Choosing Thermostat Location

Location of the thermostat is very important to ensure that it will provide a comfortable RV temperature. Observe the following rules when selecting a location.

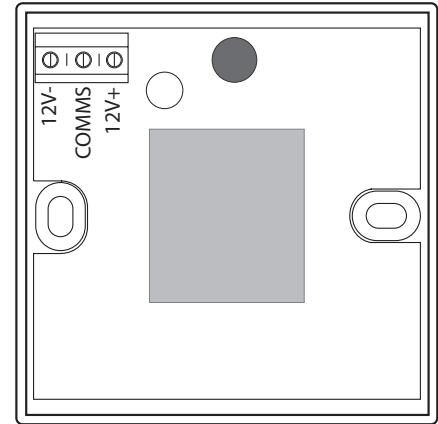
1. Locate the thermostat 54" above the floor.
2. Install the thermostat on a partition, not on an outside wall.
3. NEVER expose it to direct heat from lamps, sun or other heat producing items.
4. Avoid locations close to doors that lead outside, windows or adjoining outside walls.
5. Avoid locations close to supply registers and the air from them.

## I. Thermostat and Thermostat Cable Installation

### 1. SZLCD Thermostat

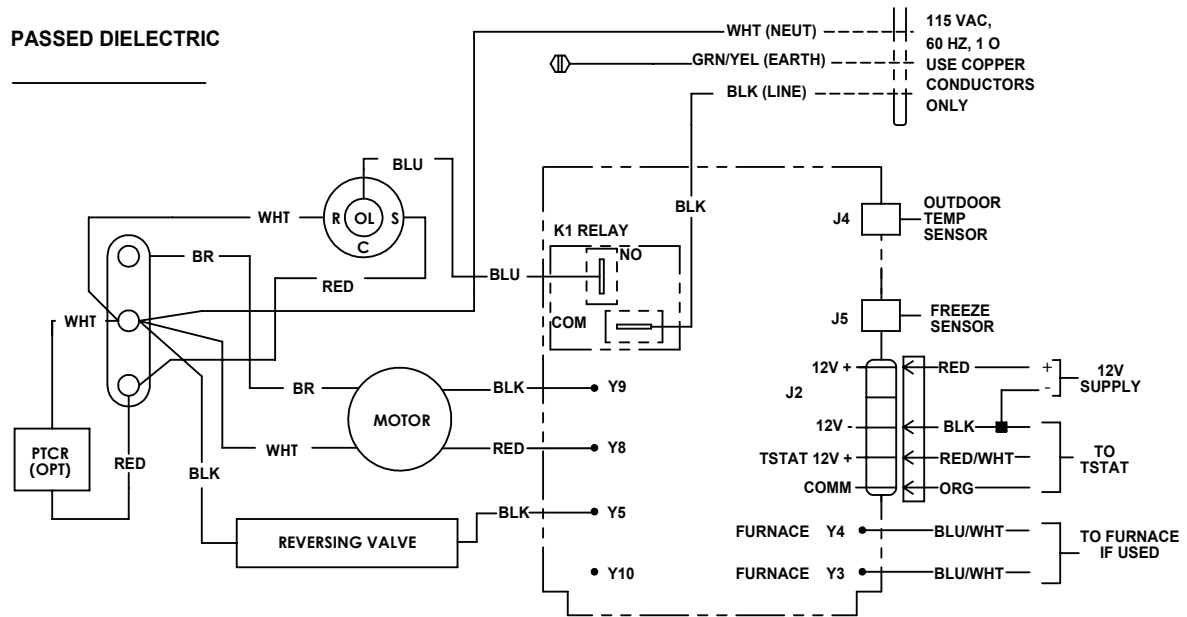
**Note:** Wire colors listed for the three conductor cable match the wire colors in the unit.

**FIG. 7**



- a. Remove the cover from the SZLCD thermostat. Depress tab on bottom of thermostat and separate it from the base.
- b. Insert the previously run three (3) conductor cable through the hole in the base assembly.
- c. Cut back the outer cable shield approximately 3 inches and strip 1/4" insulation from each wire.
- d. Mount the thermostat level on the wall using the screws provided.
- e. Make the following connections to the thermostat. See FIG 7.
  - Red/white wire to the 12V+ terminal
  - Black wire to the 12V- terminal
  - Orange wire to the "COMMS" terminal
- f. Inspect all connections to make sure they are tight and not touching any other terminals or wires.
- g. Push the wires back through the base into the wall. Place cover on the thermostat and push until an audible click is heard.
- h. This completes the unit installation. Verify that all features of the installed system work. Please read Unit User's Guide or Operating Instructions before proceeding. Check fan speed, cooling and heat pump operation, and furnace (if applicable). If features do not work disconnect the 12 VDC and 120 VAC power supplies and verify that all wiring is correct.

## WIRING DIAGRAM



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