INSTALLATION INSTRUCTIONS

IMPORTANT: Read and become familiar with these instructions before beginning the installation.



Fig. 1 — 24V Crossover Interface

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SAFETY CONSIDERATIONS

Read these instructions thoroughly and follow all warnings or cautions included in the literature and attached to the unit. Consult the local building codes and National Electrical Code (NEC) for special requirements. Recognize safety information.

This is the safety-alert symbol ⚠. When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury. Understand these signal words: **DANGER**, **WARNING**, and **CAUTION**. These words are used with the safety-alert symbol.

DANGER identifies the most serious hazards which may result in severe personal injury or death. **WARNING** signifies hazards which could also result in personal injury or death. **CAUTION** is used to identify unsafe practices which may result in minor personal injury or product and property damage. **NOTE** is used to highlight suggestions which result in enhanced installation, reliability, or operation.

⚠ WARNING

ELECTRICAL SHOCK HAZARD
Failure to follow this warning could result in personal injury or death.
Before beginning any modification or installation of this kit, ensure the main electrical disconnect is in the **OFF** position.
Ensure the power is not connected to the fan coil unit. On some systems, both the fan coil and the outdoor unit may be on the same disconnect. Tag the disconnect switch with a suitable warning label. There may be more than one disconnect.

⚠ CAUTION

EQUIPMENT DAMAGE HAZARD
Failure to follow this warning may result in equipment damage.
DO NOT install the interface in an area subjected to excessive steam, oil or sulfide gas. Doing so may cause the controller to deform and/or fail.

⚠ CAUTION

INSTALLATION
Entrust a licensed contractor to install the unit. Installation by unskilled persons may lead to improper installation, electric shock, or fire. Re-installation must be performed by authorized professionals. Non-compliance may lead to electric shock or fire.

NOTES: Images are for illustration purposes only. Actual models may differ slightly.

PREPARATION BEFORE INSTALLING

24 Volt Interface Adapter

Only Indoor units that have AHRI approved ratings are allowed. Fan Coils, and Furnaces from RES – Carrier, Bryant, Payne/Weathermaker, and ICP.

- This adapter is designed for operating DLS crossover 37MURA/37MUHA/D5CURA/D5CUHA ODUs combined with approved Carrier Residential IDU matches via 24-volt third party thermostat.
- Supports dry contact DIY control.

⚠ WARNING

EXPLOSION HAZARD

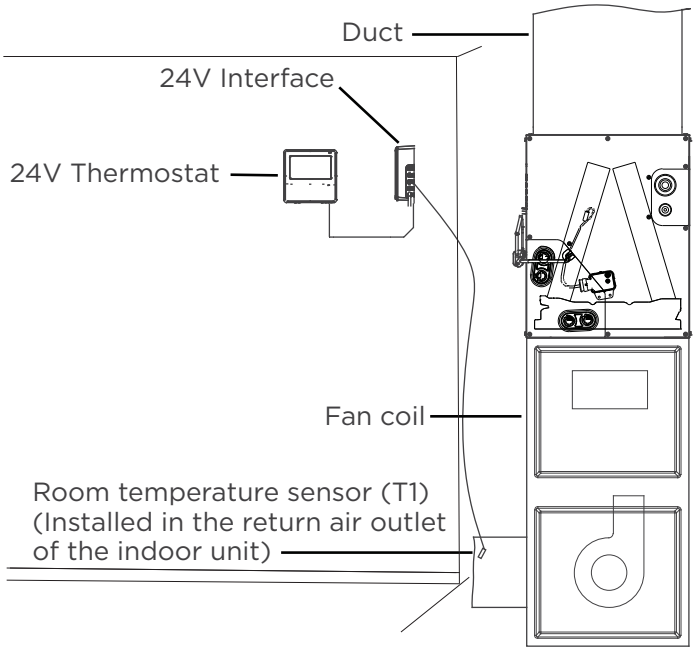


- Wires must be properly sized according to the NEC/NFPA 70, CEC and all prevailing codes, ordinances and standards.
- All conductors must be installed through conduit or with a strain relief eliminating stress on the wire following installation which may result in wire damage and/or overheating with a potential for fire.
- Installation must be performed in accordance with the requirement of NEC and CEC by authorized personnel only.
- All wiring to be rated for the control box amperage rating.
- All wiring installed to meet general industry standards and practices.
- Do not install adapter near flammable liquids or gases.
- Installation, Maintenance or Repair must comply with all safety conditions

⚠ CAUTION

- When connecting with RS 485 communication to the outdoor unit, shielded wire must be used and grounded at one end only.
- When using shielded wire, the cable should be grounded at one end to reduce EMI.
- T1 sensor cable shall not exceed 23' (7 m).
- Read this manual carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.

SYSTEM INTRODUCTION



IMPORTANT: The interface should be mounted within 3-5 ft. on a suitable wall or structure.

NOTE: The 1/2-inch wiring holes on the box needs to be connected to standard conduit fitting and conduit (flexible or rigid).

⚠ WARNING

ELECTRICAL SHOCK HAZARD

- The power supply of the 24V interface must meet the requirements of safety isolation.
- Before obtaining access to terminals, all supply circuits must be disconnected.
- Risk of electric shock. Can cause injury or death. Disconnect all remote electric power supplies before servicing
- The electronic control board only provides control signals and does not drive high-power loads. The external load power cannot exceed 15W.

THE CONTROL BOX ADAPTER

Features

- The control box is connected to the outdoor unit via RS485 communication and to the indoor unit via 24V control.
- It also supports thermostat control.
- A room temperature sensor is equipped as standard.

Warnings

- Wires must be properly sized according to the NEC/NFPA 70, CEC and all prevailing codes, ordinances and standards.
- All conductors must be installed with a strain relief eliminating stress on the wire following installation which may result in wire damage and/or overheating with a potential for fire.
- Installation must be performed in accordance with the requirement of NEC and CEC by authorized personnel only.
- All wiring to be rated for the control box amperage rating.
- All wiring installed to meet general industry standards and practices.
- Do not install adapter near flammable liquids or gases.
- Do not operate the unit with wet hands, as this could lead to electrical shock.

Cautions

- When connecting with RS485 communication to the outdoor unit, shielded wire must be used and grounded at one end only.
- When using shielded wire the cable should be grounded at one end to reduce EMI.
- T1 sensor cable shall not exceed 23' (7 m).

ACCESSORIES

The system is shipped with the following accessories (see Table 1). Use all of the installation parts and accessories to install the system. Improper installation may result in, electrical shock and fire, or cause the equipment to fail.

Keep the installation manual in a safe place and do not discard any accessories until the installation has been completed.

Table 1 — Included Accessories

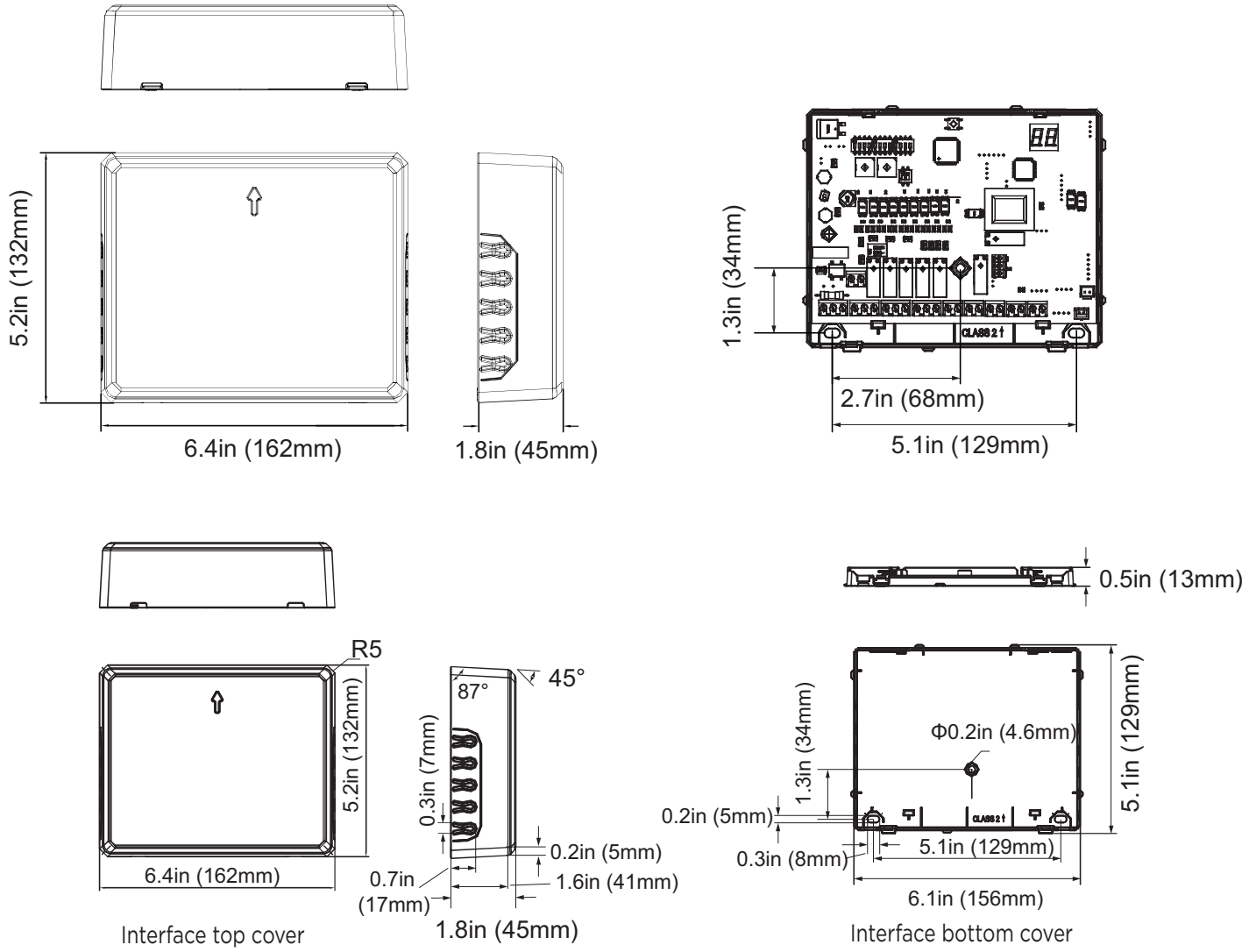
NO.	DESCRIPTION	PICTURE	QTY	REMARKS
1	Screws		3	M4*35 (For mounting on the wall)
2	Screws		4	M4*16
3	Anchors		3	For mounting on the wall
4	Return Air Thermistor Assembly (T1)		1	RCD part number 11201007003448
5	Return Air Thermistor (T1) extension line (16ft (5m))		1	For connecting Thermistor (T1) RCD part number 17401204010126
6	Zip Tie		3	N/A

IMPORTANT: 24 volt power to the interface can be supplied by 115 volt (furnaces) or 208/230 volt (fan coils) via the indoor unit's transformer. The preferred transformer size is 40VA, per the indoor unit.

Table 2 — Optional Accessories (not included)

NO.	DESCRIPTION	QTY
1	Wiring Conduit (insulating sleeve and tightening screw)	1

DIMENSIONS



Name	Materials	Wall thickness
Interface top cover	ABS	0.1in (2.5mm)
Interface bottom cover	PC/ABS 5003	0.1in (2.5mm)

Fig. 2 — 24V Interface Structure Size

INSTALLATION

Step 1 – Choose Installation Location

WARNING

FIRE HAZARD
DO NOT install the 24V INTERFACE KIT near flammable liquids or gases such as gasoline or hydrogen sulfide. Doing so creates a fire hazard.

Priority should be given to installing on nearby walls as needed.

- Option 1: Installed on the wall adjacent to the coil. (Horizontal mounting)
- Option 2: Installed on the wall adjacent to the coil. (Vertical mounting)

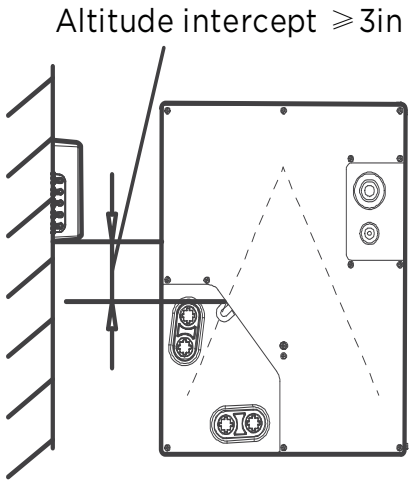


Fig. 3 — Installation Options

NOTE: Minimum clearance required around the kit is 7"(180mm).

Step 2 – Disassemble the Control Box

Using a screwdriver, pull at the two positions shown in the diagram.

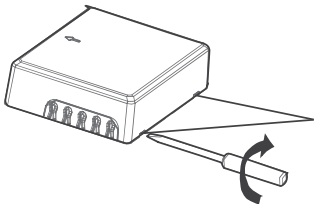
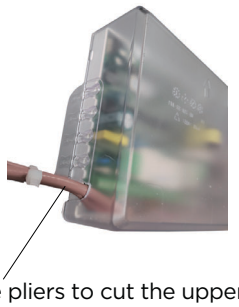


Fig. 4 — Disassemble the Control Box

Step 3 – Secure the Control Box

Secure the 3 screws, 2 of which require drilling.

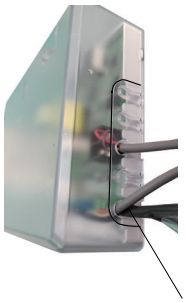
Step 4 – Cut off the Wiring Port.



Use pliers to cut the upper cover, and cut the left position according to the diagram.



Close the cover



Cut off the appropriate part according to the position for wires outlet. If it is a single wire, you can cut a single wire hole, if there are multiple wires, you can cut off the cover along the maximum outline.

Fig. 5 — Cut off the Wiring Port

Step 5 – Close the Lid

Close the cover to complete the installation of the control box.

WIRING PRECAUTIONS

WARNING: BEFORE PERFORMING ANY ELECTRICAL WORK, READ THESE WARNINGS.

- All wiring must comply with local and national electrical codes, regulations and must be installed by a licensed electrician.
- All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
- If there is a serious safety issue with the power supply, stop work immediately. Explain your reasoning to the client, and refuse to install the unit until the safety issue is properly resolved.

- Power voltage should be within 90-110% of rated voltage. Insufficient power supply can cause malfunction, electrical shock, or fire.
- Installation of an external surge suppressor at the outdoor disconnect is recommended.
- If connecting indoor unit power to fixed wiring, a switch or circuit breaker that disconnects all poles and has a contact separation of at least 1/8in (3mm) must be incorporated in the fixed wiring. The qualified technician must use an approved circuit breaker or switch.
- Only connect the indoor unit to an individual branch circuit. Do not connect another appliance to that Circuit.
- Make sure to properly ground the air conditioner.
- Every wire must be firmly connected. Loose wiring can cause the terminal to overheat, resulting in product malfunction and possible fire.
- Do not let wires touch or rest against refrigerant tubing, the compressor, or any moving parts within the unit.
- To avoid getting an electric shock, never touch the electrical components soon after the power supply has been turned o. After turning OFF the power, always wait 10 minutes or more before you touch the electrical components.
- Make sure that you do not cross your electrical wiring with your signal wiring. This may cause distortion, interference or possibly damage to circuit boards.
- No other equipment should be connected to the same power circuit.
- Connect the outdoor wires before connecting the indoor wires.

WARNING: BEFORE PERFORMING ANY ELECTRICAL OR WIRING WORK, TURN OFF THE MAIN POWER TO THE SYSTEM.

Wiring Overview

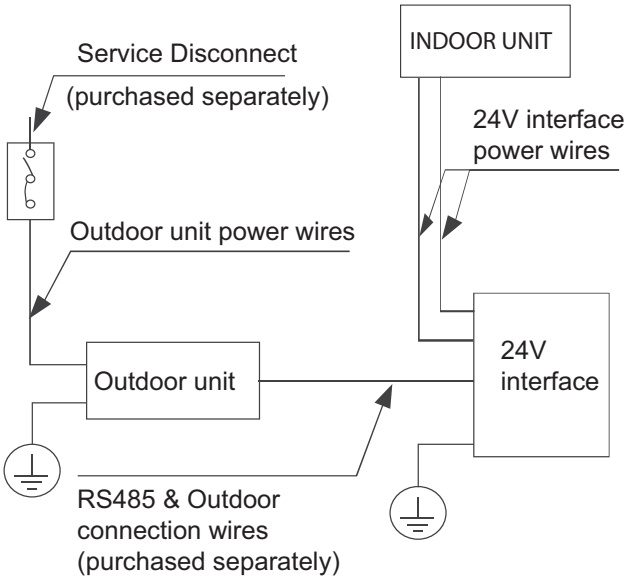


Fig. 6 —Wiring Overview

IMPORTANT: The diagrams are for explanation purpose only. Your machine may be slightly different. The actual diagram shall prevail. Service Disconnect shall select as required by Local, regional, and national codes. Refer to Indoor and Outdoor unit Installation manuals.

24V Interface Unit Wiring

The power to the unit must be disconnected before any wiring. Be sure to show application of ferrite clamp and room temp sensor and cable.

Make note to review the different application (scenarios) options for proper wiring. Make sure strain relief and proper conduit are used when connecting to the box, recommended use of metal-clad cable.

NOTE: Use copper wire only. Separate the power supply leads and communication leads by the strain relief or segregate the power supply leads from communication leads.

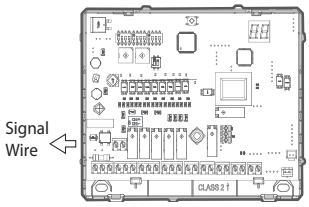
The wiring shall be not less than 18 AWG with a minimum insulation thickness of 1.58 mm or protected from damage. Critical-to-safety wiring is any field installed wiring necessary to fulfill the requirements of minimum room area in the event of detection of a leak.

The appliance shall not be installed on an indoor unit with an inductive electrical greater than Le as calculated as follows:

The switched electrical load (Le) in kVA is less than or equal to:

- Le = 5 x (6,7/Su)4 when breaking all phases;
- Le = 2,5 x (6,7/Su)4 when breaking two legs of a three-phase load, or when breaking one or two legs of a single-phase load.
- Where Le is the switched inductive electrical load in kilo volt-amperes (kVA);
- Su is the burning velocity of a refrigerant in centimeters per second (cm/s).

Detection of a leak shall turn on the indoor fan at the highest available speed or turn it on to not less than minimum airflow (Qhmin).



OUTDOOR TO INTERFACE SIGNAL WIRE	LINE WIRE DIAMETER	16 AWG TO *18 AWG - SHIELDED WIRE WIRE LENGH UP TO MAX SYSTEM PIPING LENGH
24V SIGNAL WIRE	LINE WIRE DIAMETER	18 AWG

* Refer to:(Communication Wiring on p11)

Fig. 7 —Interface Wiring - Line Gauge

RATINGS:

Electrical Inputs

TYPE	RATING	TERMINAL	RECOMMENDED WIRE RANGE/TORQUE
Power Input	24 V ac, 60 Hz, 150mA	Terminal Block CN1-6(R), CN1-5(C)	18 AWG / 4.5 in-lb
Remote Control Signal Input	12 V DC, SELV	CN2	14-22 AWG / 4.5 in-lb

Communication

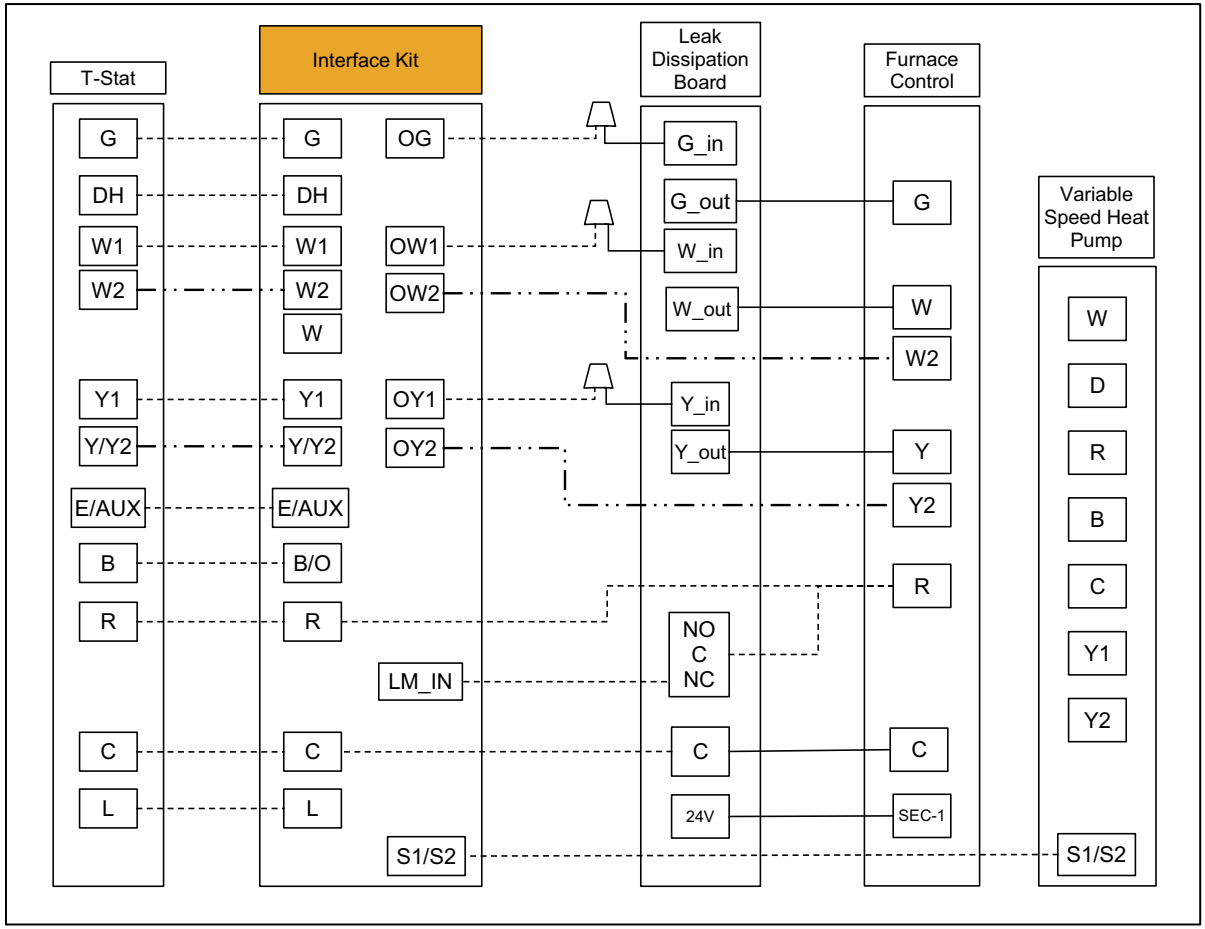
TYPE	RATING	TERMINAL	RECOMMENDED WIRE RANGE/TORQUE
Communication Between 24V interface and Outdoor unit	5 V DC, Class 2, Limited Energy ≤15 W)	CN17	16-18 AWG / 4.5 in-lb
Communication Between 24V Interface and External Thermostat	24 V AC, 60 Hz, Class 2	CN1, CN6	18 AWG / 4.5 in-lb
External Communication	18 V DC, Clas s 2, Limited Energy (≤ 15 W)	CN19	16-18 AWG / 4.5 in-lb

Outputs

TYPE	RATING	TERMINAL	RECOMMENDED WIRE RANGE/TORQUE
Control Device for Indoor U n it (Relay RY7, RY8, RY9, RY1 0, RY13)	24 V AC, 60 Hz, Class 2, General Use (Signal Use)	CN10 (terminal LM_IN is input)	18 AWG / 4.5 in-lb

Wiring Diagram - Single/Two Stage Furnaces

Furnace with variable speed heat pump



Factory Installed Wiring ———

Field Wiring (24VAC) - - - - -

Optional Wiring (24VAC) — · · —

Field Splice ⏢

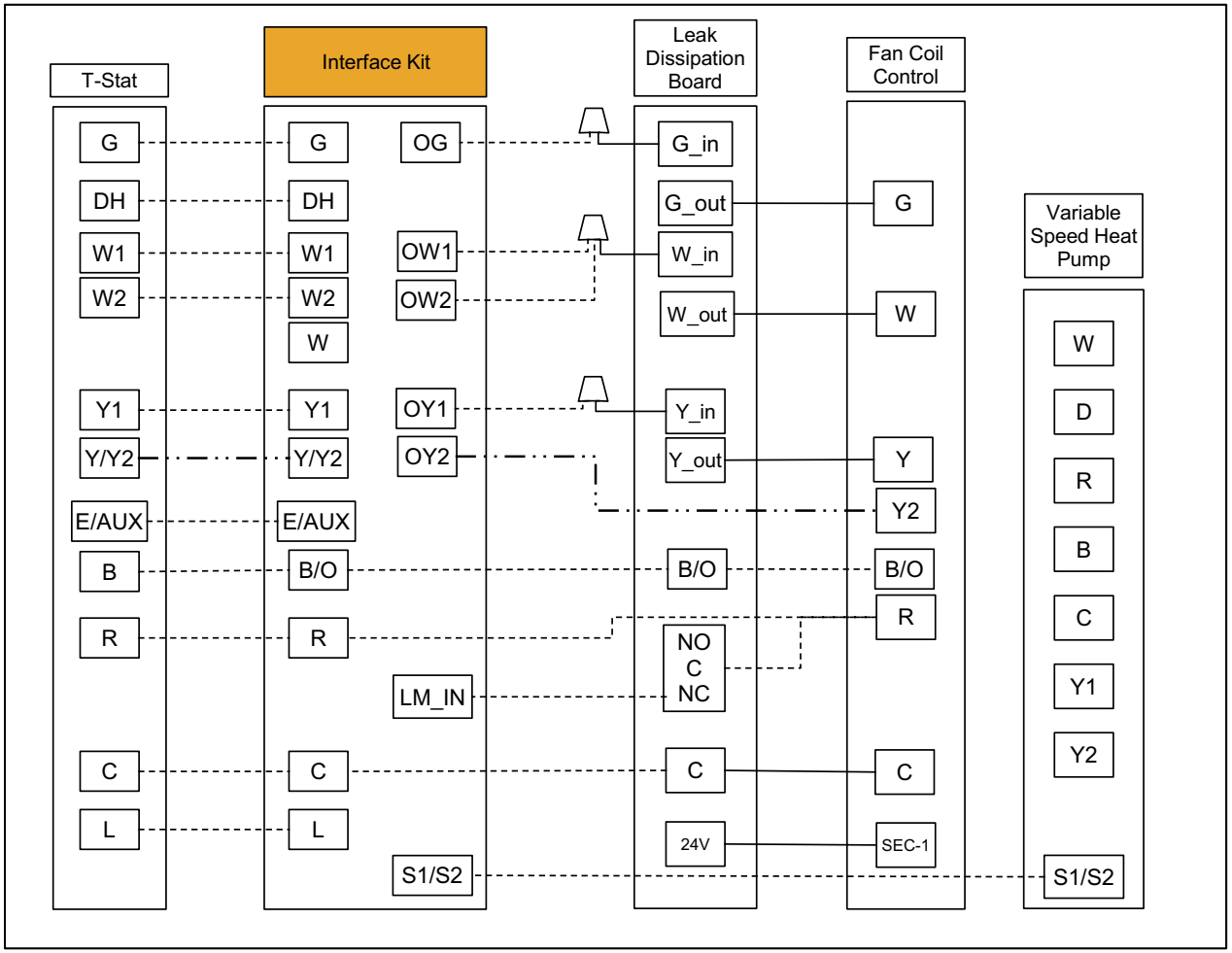
Notes:

- Heat pump must have a high pressure switch for dual fuel applications
- The reversing valve in the outdoor unit will still energize in heat pump heating mode; the logic change for O to energize in cool between the 24 volt thermostat, interface, and indoor unit is required to match the proper heat pump heating and cooling airflow associated with Y1 and Y/Y2 heat pump heating and cooling demands.
- Must use dual fuel thermostat for all furnace combinations. Simultaneous heat pump and furnace operation not permitted.
- Refer to indoor unit literature for additional information.
- None of the ODU 24 volt terminals can be used.
- The W terminal on the interface should not be used for dual fuel applications or if emergency heat is desired for use.
- Interface is only compatible with Crossover Outdoor Units (37MURA/37MUHA/D5CURA/D5CUHA)

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Wiring Diagram - Single/Two-Speed Fan Coils

Fancoil with variable speed heat pump



Factory Installed Wiring ———

Field Wiring (24VAC) - - - - -

Optional Wiring (24VAC) — · · —

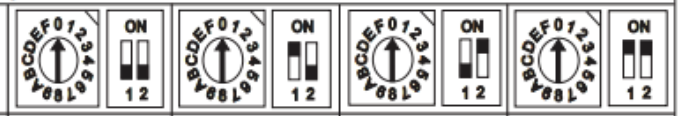
Field Splice ⏢

Notes:

- Heat pump must have a high pressure switch for dual fuel applications.
- The reversing valve in the outdoor unit will still energize in heat pump heating mode; the logic change for O to energize in cool between the 24 volt thermostat, interface, and indoor unit is required to match the proper heat pump heating and cooling airflow associated with Y1 and Y/Y2 heat pump heating and cooling demands.
- Must use dual fuel thermostat for all furnace combinations. Simultaneous heat pump and furnace operation not permitted.
- Refer to indoor unit literature for additional information.
- None of the ODU 24 volt terminals can be used.
- The W terminal on the interface should not be used for dual fuel applications or if emergency heat is desired for use.
- Interface is only compatible with Crossover Outdoor Units (37MURA/37MUHA/D5CURA/D5CUHA)

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Wiring Diagram - Control Board

FOR SETTING NET ADDRESS				
S1+S2				
CODE	0~F	0~F	0~F	0~F
NET ADDRESS	0~15	16~31	32~47	48~63
FACTORY SETTING	✓			

24V THERMOSTATS SETTING						
	S3	SW1	SW2	SW3	S4	SW5
CODE	0~F	ON~OFF	ON~OFF	ON~OFF	ON~OFF	ON~OFF
FACTORY SETTING	✓	✓	✓	✓	✓	✓

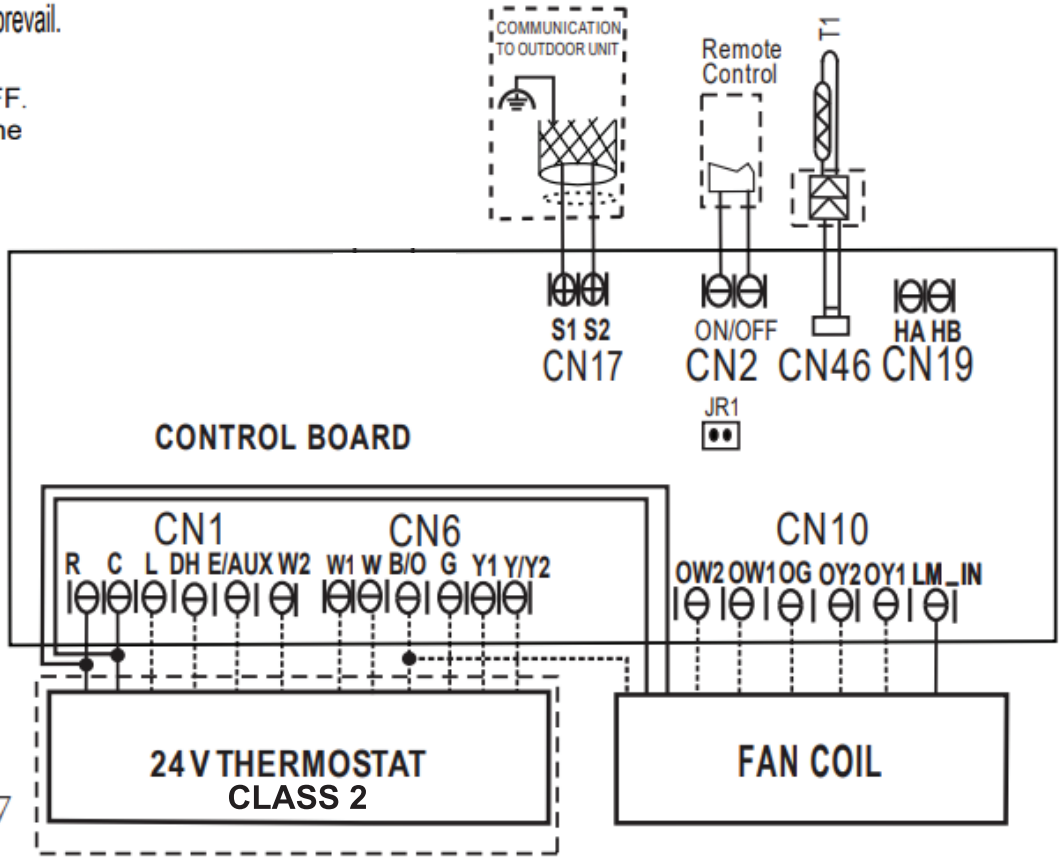
NOTE: 1. ⬚ This symbol indicates the element is optional, the actual shape shall prevail.
2. Remove the short connector of JR1 when you use the "on-off " function.
3. The default factory settings for other dip switches are OFF.
4. For the specific use of the dip switches, please refer to the installation manual.
5. CN1 terminals R and C are the 24VAC output from the fan coil and input to the 24V thermostat.

CN46/ CN17	Output:5VDC
CN43	Output:24VAC
CN10	Output:24VAC Input:24VAC(LM_IN)
CN1/CN6	Input:24VAC
CN2	Output:12VDC
CN19	Output:20VDC

WIRING DIAGRAM

CODE	PART NAME
T1	ROOM TEMP . SENSOR

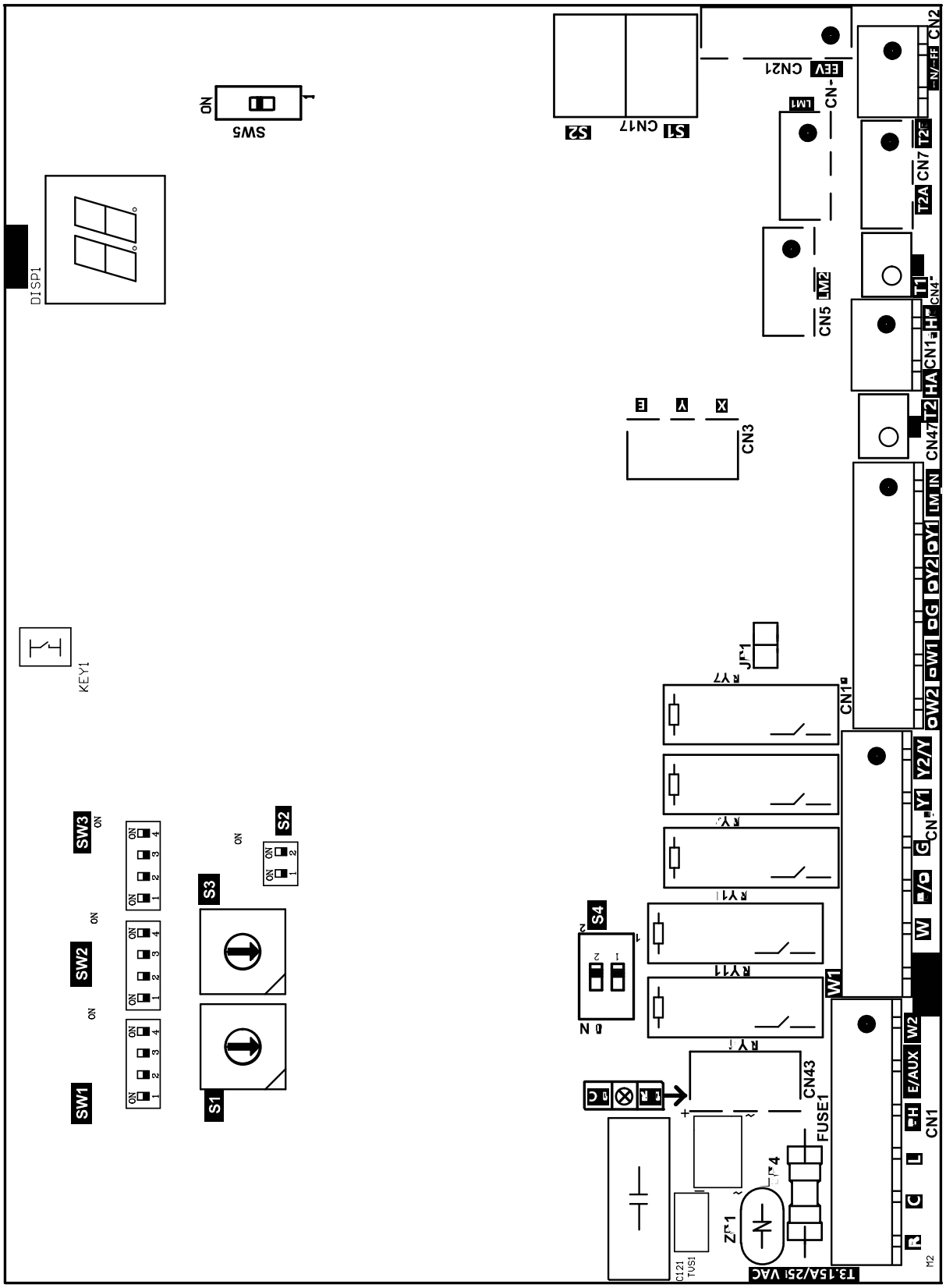
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NOTE: 7. CN10 terminal LM_IN should connect to fan coil dissipation board to receive A2L alarm.

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Control Board Switch and Connection Configuration



CONTROL SIGNALS TO THE INDOOR UNIT

Control signals to the indoor unit are the standard thermostat control signals R, C, OW1, OW2, OG, OY1 and OY2.

CONNECTOR	USAGE
R	Provides 24VAC power from the indoor unit to the board.
C	The 24VAC common wire between the indoor unit and the board.
OW1	First stage of indoor unit command line from the board to the indoor unit (OW1-W1). If the indoor units that only have a W and do not have a W2, connect OW1 to the W of the indoor unit and make no connection with the OW2 signal wire (OW1-W).
OW2	Second stage of indoor unit command line from the board to the indoor unit (OW2-W2). OW2 cannot be ON unless OW1 is already ON.
OG	Connect the OG signal to G of the indoor unit (OG-G). If the indoor units that do not have a G, connect OG to the Y or Y1 of the indoor unit (OG-Y or OG-Y1).
OY1	For 1-speed configuration, connect the OY1 signal to Y of the indoor unit and make no connection with the OY2 signal wire (OY1-Y). For 2-speed configuration, connect the OY1 signal to Y1 of the indoor unit (OY1-Y1).
OY2	For 2-speed configuration, connect the OY2 signal to Y2 of the indoor unit (OY2-Y2).

NOTE: Room temperature sensor should be installed in the return air outlet of the indoor unit?

Communication Wiring

Use 16 to 18 AWG wire with a length up to the system max piping length. It is recommended to use 16 AWG stranded shielded wire for RS 485 communication between the indoor and outdoor units. For retrofitting applications, 18 AWG thermostat wire may be reused provided the wire:

1. Is not coiled, creating a potential EMI field
2. Contains no splices for the wires chosen to be used
3. All unused wires are grounded to the ODU
4. The thermostat wire is in good working condition
5. There are no nearby sources of EMI. Some examples of EMI sources include, but are not limited to transformers, power lines, refrigerators, microwaves, Bluetooth speakers, and Wi-Fi routers and modems.

If communication problems occur with the use of 18 AWG thermostat wire it will be required to replace the wire with 16 AWG stranded shielded wire.

Specific Wiring Methods

WARNING: Please refer to the wiring nameplate for the wiring method. Do not connect the power cord to the communication line, as this may damage the system.

NOTE: The equipment must have S1 & S2 communication between the 24V interface and the outdoor unit.

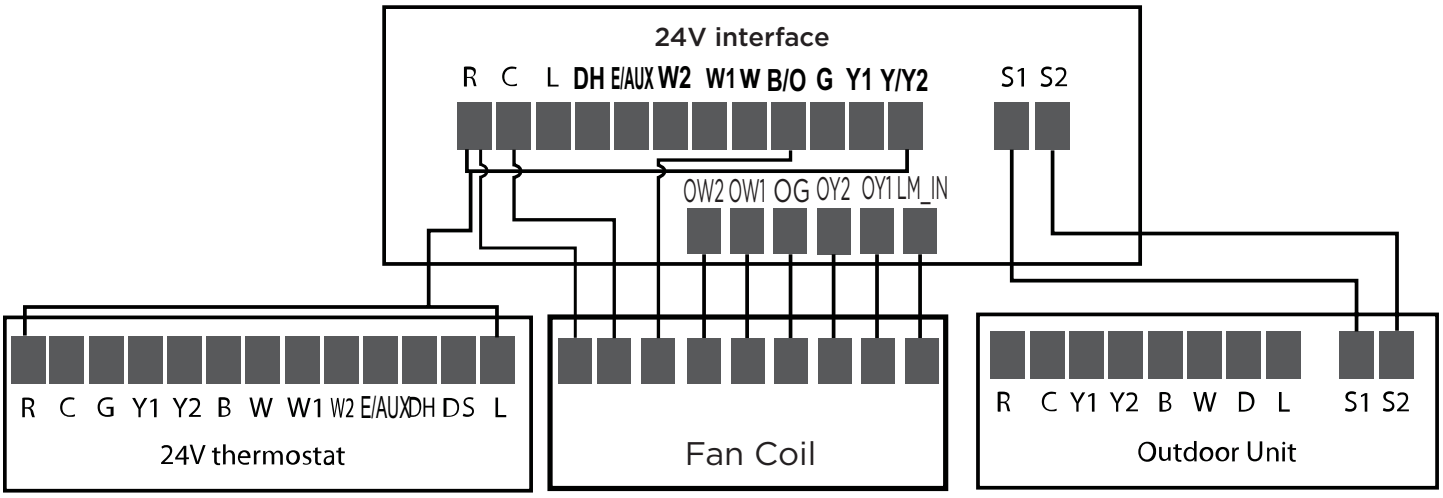
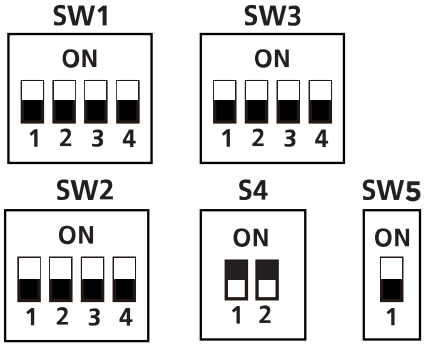


Fig. 8 —Specific Wiring Methods

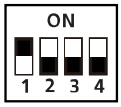
DIP SWITCH DEFINITIONS

DIP Switch Settings

The 24V thermostat mode needs to refer to the following settings:



Function combination table of SW1-1 and SW1-4:

SW1	Control type	IDU and ODU Connection	Note
	24V Thermostat	S1+S2	Scenario 1

Control Box Dial Codes

NO.	DIAL CODE	CONTROL SCENARIO	FUNCTION	ON	OFF	NOTE
1	SW1-2	1	Anti-cold blow protection option	NO	[Default] YES	
2	SW1-3	1	Single cooling / heating and cooling options	Cooling	[Default] Cooling & Heating	
7	SW3-1	1	System automatically stages up capacity to satisfy set point. This adds 1 to 5°F to the user set point in the calculated control point to increase capacity and satisfy user set point.	30 minutes	[Default] 90 minutes	
8	SW3-2	1	Cooling and heating Y/Y2 temperature differential adjustment.	Compressor slower speed	[Default] Faster Compressor	Only affects compressor
10	S4-1	1	Default ON	[Default] For single stage supplemental heat, W1 and W2 are connected	For dual stage supplemental heat, W1 and W2 are controlled independently	
11	S4-2	1	DH function selection	[Default] Dehumidification control not available	Dehumidification feature is enabled through thermostat	

IMPORTANT: Dual fuel applications should be configured through the third party thermostat purchased separately. It is recommended to use the third party thermostat for setting up the outdoor temperature drop out threshold between compressor and dual fuel operation.

TEST RUN

CAUTION

EQUIPMENT DAMAGE HAZARD
Failure to perform the test run may result in unit damage, property damage, or personal injury

Before test run

A test run must be performed after the entire system has been completely installed. Confirm the following points before performing the test:

- Indoor and outdoor units are properly installed.
- Piping and wiring are properly connected.
- No obstacles near the inlet and outlet of the unit that might cause poor performance or product malfunction.
- Refrigeration system does not leak.
- Drainage system is unimpeded and draining to a safe location.
- Insulation of piping and duct is properly installed.
- Grounding wires are properly connected.
- Length of the piping and additional refrigerant capacity have been recorded.
- Power voltage is the correct voltage for the air conditioner

Test run instructions

6. Open both the liquid and gas service valves.
7. Turn on the main power switch and allow the unit to warm up.
8. Set the air conditioner to COOL mode.
9. For the Indoor Unit
    a. Double check to see if the room temperature is being registered correctly.
    b. Ensure the manual buttons on the indoor unit works properly.
    c. Check to see that the drainage system is unimpeded and draining smoothly.
    d. Ensure there is no vibration or abnormal noise during operation.
10. For the Outdoor Unit
    a. Check to see if the refrigeration system is leaking.
    b. Make sure there is no vibration or abnormal noise during operation.
    c. Ensure the wind, noise, and water generated by the unit do not disturb your neighbors or pose a safety hazard.
11. Drainage Test
    a. Ensure the drainpipe flows smoothly. New buildings should perform this test before finishing the ceiling.
    b. Turn on the main power switch and run the air conditioner in COOL mode.
    c. Check to see that the water is discharged. It may take up to one minute before the unit begins to drain depending on the drainpipe.
    d. Make sure that there are no leaks in any of the piping.
    e. Stop the air conditioner. Turn of the main power switch and reinstall the test cover.

NOTICE: If the unit malfunctions or does not operate according to your expectations, please refer to the Troubleshooting section of Service Manual before calling customer service.

24V Signal Chart (Cooling and Heating)

THERMOSTAT INPUT SIGNAL												
Mode	**Priority**	**G**	**Y1**	**Y/Y2**	**B**	**W**	**W1**	**W2**	**E/AUX**	**DH/DS/BK**	**LM_IN (A2L ALM)**	**Display**
Shutdown	/	0	0	0	0	0	0	0	0	*	1	00
Air Supply	7	1	0	0	*	0	0	0	0	*	1	01
Cooling 1	6	*	1	0	1	0	0	0	0	1	1	02
Cooling 2		*	*	1	1	0	0	0	0	1	1	03
Dehumidification 1		*	1	0	1	0	0	0	0	0	1	04
Dehumidification 2		*	*	1	1	0	0	0	0	0	1	05
Heating 1	5	*	1	0	0	0	0	0	0	*	1	06
Heating 2		*	*	1	0	0	0	0	0	*	1	07
Heating 2		*	*	*	*	1	0	0	0	*	1	
Electric Heat 1	3	*	0	0	*	0	1	0	0	*	1	08
Electric Heat 2		*	0	0	*	0	0	1	0	*	1	09
Electric Heat 2		*	0	0	*	0	1	1	0	*	1	
Heating 1+ Electric Heat 1	4	*	1	0	0	0	1	0	0	*	1	10
Heating 1+ Electric Heat 1		*	1	0	0	0	0	1	0	*	1	
Heating 2+ Electric Heat 1		*	*	1	0	0	1	0	0	*	1	
Heating 2+ Electric Heat 1		*	*	*	*	1	1	0	0	*	1	
Heating 2+ Electric Heat 1		*	*	1	0	0	0	1	0	*	1	
Heating 2+ Electric Heat 1		*	*	*	*	1	0	1	0	*	1	
Heating 1+ Electric Heat 2		*	1	0	0	0	1	1	0	*	1	11
Heating 2+ Electric Heat 2		*	*	1	0	0	1	1	0	*	1	
Heating 2+ Electric Heat 2		*	*	*	*	1	1	1	0	*	1	
A2L Alm - Dissipation Active	1	*	*	*	*	*	*	*	*	*	0	/
Emergency Heating	2	*	*	*	*	*	*	*	1	*	1	12

Note:
1: 24V signal
0: No 24V signal
*: 1 or 0.
The AHU will turn off if the 24V input cannot meet the table.

24V Signal Chart (Cooling Only)

		Thermostat Input Signal										
Mode	Priority	G	Y1	Y/Y2	B	W	W1	W2	E/AUX	DH/DS/BK	LM_IN(A2L ALM)	Display
Shutdown	/	0	0	0	0	0	0	0	0	*	1	00
Air Supply	7	1	0	0	*	0	0	0	0	*	1	01
Cooling 1	6	*	1	0	1	0	0	0	0	1	1	02
Cooling 2		*	*	1	1	0	0	0	0	1	1	03
Dehumidification 1		*	1	0	1	0	0	0	0	0	1	04
Dehumidification 2		*	*	1	1	0	0	0	0	0	1	05
OFF	5	*	1	0	0	0	0	0	0	*	1	00
OFF		*	*	1	0	0	0	0	0	*	1	
OFF		*	*	*	*	1	0	0	0	*	1	
Emergency Heating	3	*	0	0	*	0	1	0	0	*	1	12
Emergency Heating		*	0	0	*	0	0	1	0	*	1	
Emergency Heating		*	0	0	*	0	1	1	0	*	1	
Emergency Heating	4	*	1	0	0	0	1	0	0	*	1	
Emergency Heating		*	1	0	0	0	0	1	0	*	1	
Emergency Heating		*	*	1	0	0	1	0	0	*	1	
Emergency Heating		*	*	*	*	1	1	0	0	*	1	
Emergency Heating		*	*	1	0	0	0	1	0	*	1	
Emergency Heating		*	*	*	*	1	0	1	0	*	1	
Emergency Heating		*	1	0	0	0	1	1	0	*	1	
Emergency Heating		*	*	1	0	0	1	1	0	*	1	
Emergency Heating		*	*	*	*	1	1	1	0	*	1	
A2L Alm - Dissipation Active	1	*	*	*	*	*	*	*	*	*	0	/
Emergency Heating	2	*	*	*	*	*	*	*	1	*	1	12

Note:
1: 24V signal
0: No 24V signal
*: 1 or 0.
The AHU will turn off if the 24V input cannot meet the table.

Signal Output for Each Mode

		Thermostat Input Signal										Crossover Interface Output Signal				
Mode	Priority	G	Y1	Y/Y2	B	W	W1	W2	E/AUX	DH/DS/ BK	A2L ALM	OY1	OY2	OG	OW1	OW2
Shutdown	/	0	0	0	0	0	0	0	0	*	1	0	0	0	0	0
Air Supply	7	1	0	0	*	0	0	0	0	*	1	0	0	1	0	0
Cooling 1	6	*	1	0	1	0	0	0	0	1	1	AUTO Fan Control		1	0	0
Cooling 2		*	*	1	1	0	0	0	0	1	1	AUTO Fan Control		1	0	0
Dehumidification 1		*	1	0	1	0	0	0	0	0	1	1	0	1	0	0
Dehumidification 2		*	*	1	1	0	0	0	0	0	1	1	0	1	0	0
Heating 1	5	*	1	0	0	0	0	0	0	*	1	AUTO Fan Control		1	0	0
Heating 2		*	*	1	0	0	0	0	0	*	1	AUTO Fan Control		1	0	0
Heating 2		*	*	*	*	1	0	0	0	*	1	AUTO Fan Control		1	0	0
Electric Heat 1	3	*	0	0	*	0	1	0	0	*	1	0	0	0	1	0
Electric Heat 2		*	0	0	*	0	0	1	0	*	1	0	0	0	0	1
Electric Heat 2		*	0	0	*	0	1	1	0	*	1	0	0	0	1	1
Heating 1+ Electric Heat 1	4	*	1	0	0	0	1	0	0	*	1	0	0	0	1	0
Heating 1+ Electric Heat 1		*	1	0	0	0	0	1	0	*	1	0	0	0	0	1
Heating 2+ Electric Heat 1		*	*	1	0	0	1	0	0	*	1	0	0	0	1	0
Heating 2+ Electric Heat 1		*	*	*	*	1	1	0	0	*	1	0	0	0	1	0
Heating 2+ Electric Heat 1		*	*	1	0	0	0	1	0	*	1	0	0	0	0	1
Heating 2+ Electric Heat 1		*	*	*	*	1	0	1	0	*	1	0	0	0	0	1
Heating 1+ Electric Heat 2		*	1	0	0	0	1	1	0	*	1	0	0	0	1	1
Heating 2+ Electric Heat 2		*	*	1	0	0	1	1	0	*	1	0	0	0	1	1
Heating 2+ Electric Heat 2		*	*	*	*	1	1	1	0	*	1	0	0	0	1	1
A2L Alm - Dissipation Active	1	*	*	*	*	*	*	*	*	*	0	0	0	1	0	0
Emergency Heating	2	*	*	*	*	*	*	*	1	*	1	0	0	0	1	1

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

ERROR CODES

For R454B Models

DISPLAY	MALFUNCTION & PROTECTION INDICATION
EC07	ODU fan speed out of control
EC0d	ODU malfunction
EC51	ODU EEPROM parameter error
EC52	ODU coil temp. sensor (T3) error
EC53	ODU ambient temp. sensor (T4) error
EC54	COMP. discharge temp. sensor (TP) error
EC56	IDU coil outlet temp. sensor(T2B) error
ECC1	Other IDU refrigerant sensor detects leakage (Multi-zone)
EH00	IDU EEPROM malfunction
EH03	IDU fan speed out of control
EH0A	IDU EEPROM parameter error
EH0b	IDU main control board and display board communication error
EH0E	Water-level alarm malfunction
EH3A	External fan DC bus voltage is too low protection
EH3b	External fan DC bus voltage is too high fault
EH60	IDU room temp. sensor (T1) error
EH61	IDU coil temp. sensor(T2) error
EH62 /EH66	Evaporator coil inlet temperature sensor T2B is in open circuit or short circuit
EH65	Evaporator coil temperature sensor T2A is in open circuit or short circuit
EHbA	Communication error between the indoor unit and the external fan module
EHb3	Communication malfunction between wire and master control
EHC1	Refrigerant sensor detects leakage
EHC2	Refrigerant sensor is out of range and leakage is detected
EHC3	Refrigerant sensor is out of range
EL01	IDU & ODU communication error
EL0C	System lacks refrigerant
EL16	Communication malfunction between adapter board and outdoor main board
FHCC	Refrigerant sensor error
FL09	Mismatch between the new and old platforms
PC00	ODU IPM module protection
PC01	ODU voltage protection
PC02	Compressor top (or IPM) temperature protection
PC03	Pressure protection (low or high pressure)
PC04	Inverter compressor drive error
PC0L	Low ambient temperature protection
----	IDUs mode conflict

Note: The digital tube will show DF in defrost mode and FC in forced cooling mode, DF and FC are not error codes.

SPECIFICATIONS

SPECIFICATIONS			
MODEL NUMBER	KSAIC0701230-01	**TEMPERATURE LIMITS OF MOUNTING SURFACES (Ts)**	-22-122°F
POWER SOURCE	24V ac~60Hz	**PROTECTION AGAINST ELECTRIC SHOCK**	Class 2
INPUT CURRENT	150mA	**LOAD TYPE**	GENERAL USE (SIGNAL USE)

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