

Installation Instructions

Reference, Comparative, and Differential Dry Bulb Enthalpy for Economizer

Odyssey™ with Symbio™ Controls

Air Handler – 6 to 25 Tons

Model Number:

BAYENTH310* (Reference Enthalpy)

BAYENTH311* (Comparative Enthalpy)

BAYDFDB002* (Differential Dry Bulb)

Used With:

All TWE Units (Except TWE060)

All TWE Units (Except TWE060)

All TWE Units (Except TWE060)

SAFETY WARNING

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

Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

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

The three types of advisories are defined as follows:



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



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



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

Important Environmental Concerns

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

Important Responsible Refrigerant Practices

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

WARNING

Proper Field Wiring and Grounding Required!

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

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

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

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

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

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

⚠ WARNING**Follow EHS Policies!**

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

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

⚠ WARNING**Cancer and Reproductive Harm!**

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

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General Information

Inspection

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

Parts List

Note: This literature is common for all the economizer sensor configurations, but the parts listed in the table below vary based on the selected economizer sensor configuration. The parts listed in the table are included in the corresponding Baykit.

Table 1. Parts list

Description	Qty		
	BAYENTH310*	BAYENTH311*	BAYDFDB002*
Duct mounted sensor	1	2	1
Harness, Controls Economizer, Differential Dry Bulb	—	—	1
Harness, Controls Economizer, Reference Enthalpy	1	—	—
Harness, Controls Economizer, Comparative Enthalpy	—	1	—
Wire tie	10	10	10
Installed Accessory Label	1	1	1
Accessories Bag	1	1	1

Installation

Horizontal and Vertical Configuration

Note: Outdoor Air Temperature sensor is factory installed in the condenser.

Reference Enthalpy

Outdoor Air Humidity Sensor

1. Connect black (+) wire to the positive terminal on the humidity sensor.
2. Connect white (-) wire to the negative terminal on the humidity sensor.
3. Route sensor wires to P9 of fresh air options module located in the economizer control box enclosure.
4. Secure wires with wire tie as shown in [Figure 1, p. 6](#) and [Figure 2, p. 7](#). After installation is complete, Symbio™ 700 UC unit configuration will need to be updated to reflect installed option. Set Economizer type = Reference Enthalpy
5. See fresh air options module schematic for electrical connections.

Figure 1. Reference enthalpy harness routing – vertical/horizontal

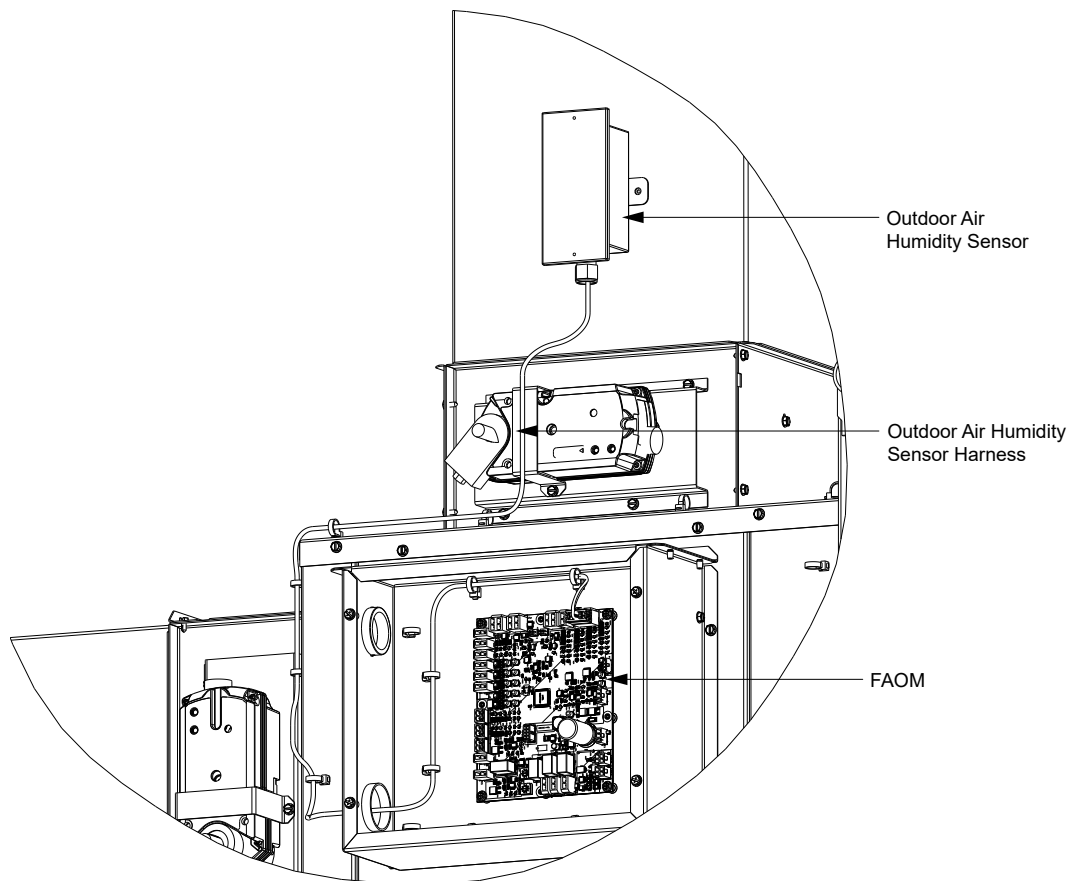
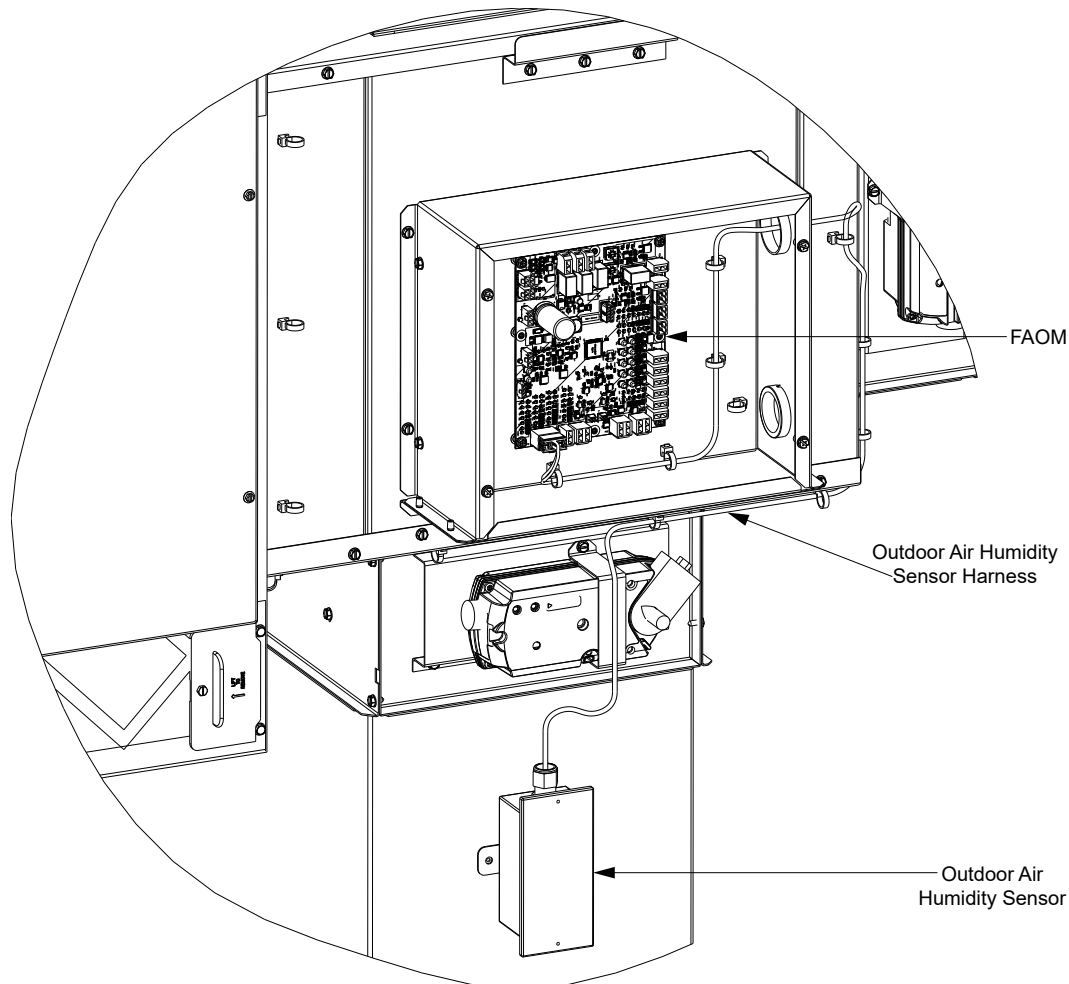


Figure 2. Reference enthalpy harness routing – alternate



Comparative Enthalpy

Outdoor Air Humidity Sensor

1. Connects black (+) wire to the positive terminal on the humidity sensor.
2. Connect white (–) wire to the negative terminal on the humidity sensor.

Return Air Humidity and Return Air Temperature Sensor

1. Connect black (+) wire to the positive terminal on the humidity sensor.
2. Connect white (–) wire to the negative terminal on the humidity sensor.
3. Connect white and black to the return air temperature sensor.
4. Route sensor wires to P9 of fresh air options module located in the economizer control box enclosure.
5. Secure wires with wire tie as shown in [Figure 3, p. 8](#) and [Figure 4, p. 9](#). After installation is complete, Symbio™ 700 UC unit configuration will need to be updated to reflect installed option. Set Economizer type = Comparative Enthalpy.
6. See fresh air options module schematic for electrical connections.

Figure 3. Comparative enthalpy harness routing – vertical/horizontal

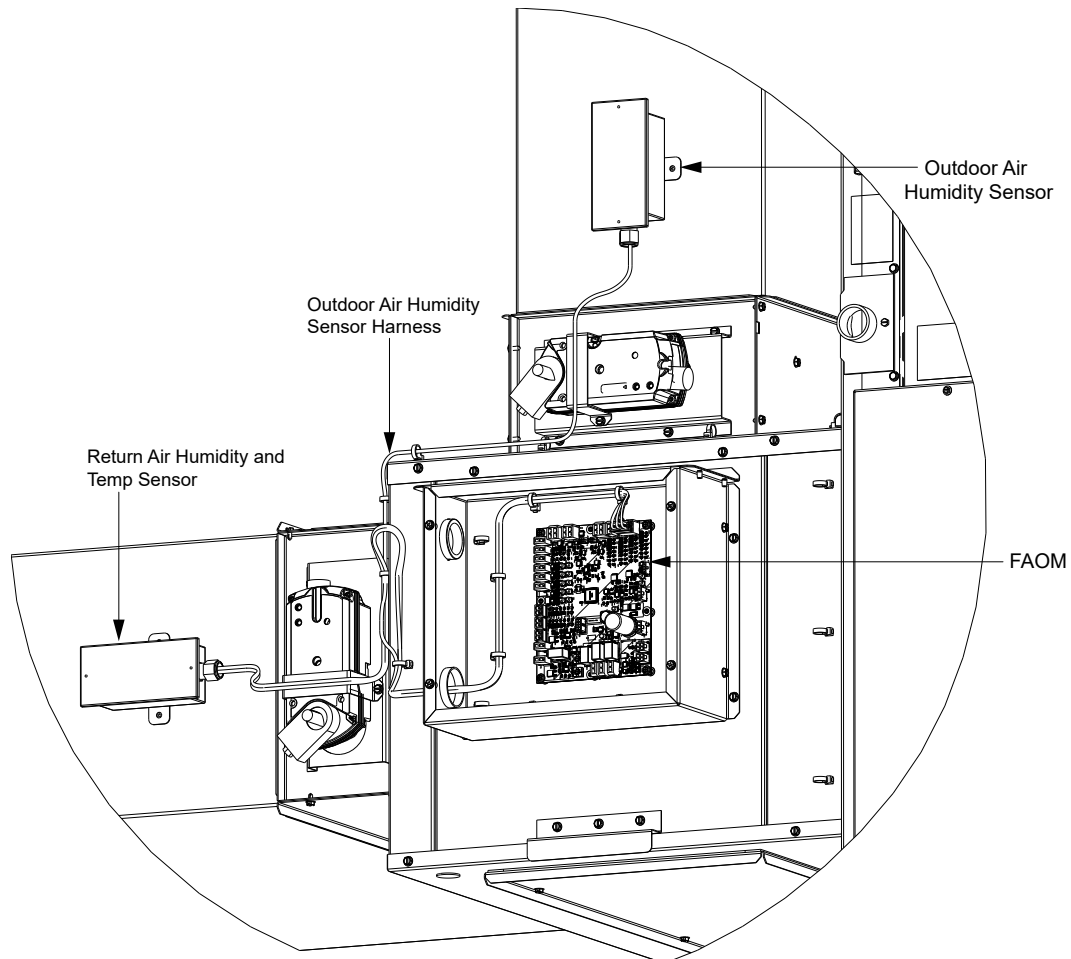
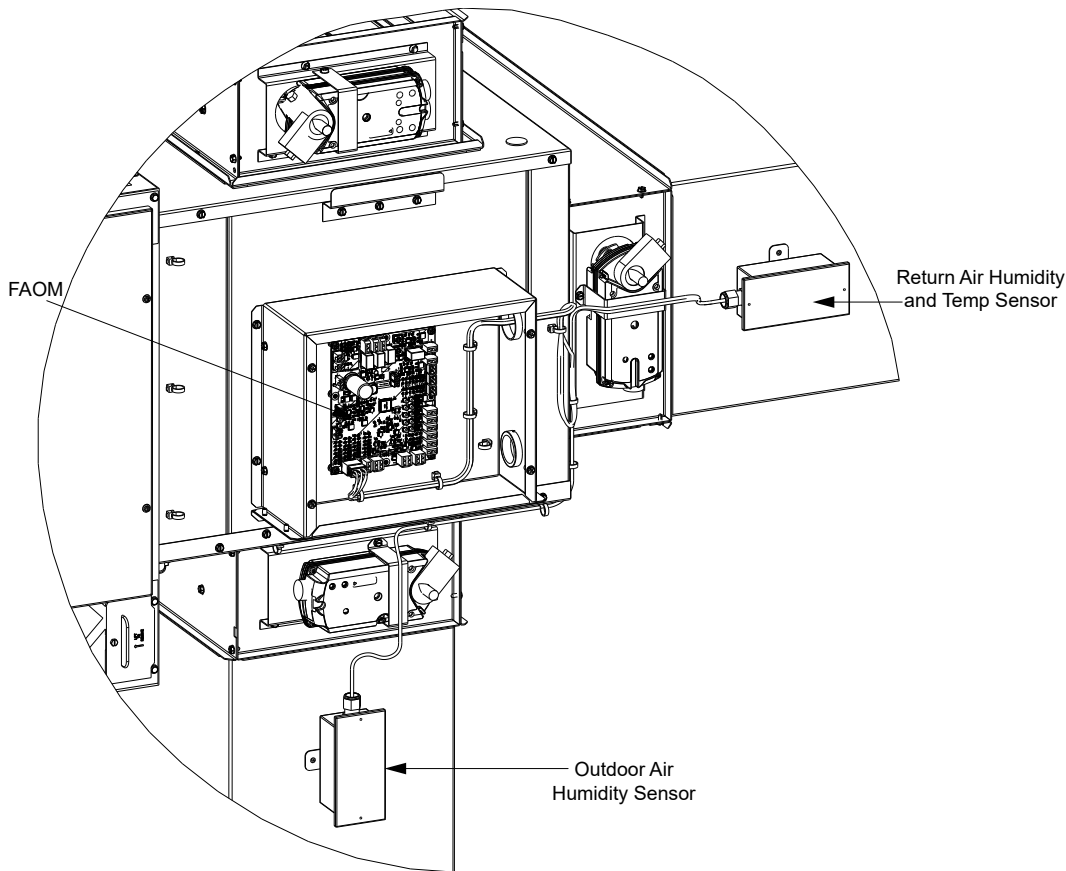


Figure 4. Comparative enthalpy harness routing – alternate



Differential Dry Bulb

Return Air Temperature Sensor

1. Connect W (White) and BK (Black) to the return air temperature sensor.
2. Route sensor wires to P9 of fresh air options module located in the economizer control box enclosure.
3. Secure wires with wire tie as shown in [Figure 5, p. 10](#) and [Figure 6, p. 10](#). After installation is complete, Symbio™ 700 UC unit configuration will need to be updated to reflect installed option. Set Economizer type = Differential Dry Bulb.
4. See fresh air options module schematic for electrical connections.

Figure 5. Differential dry bulb harness routing – vertical/horizontal

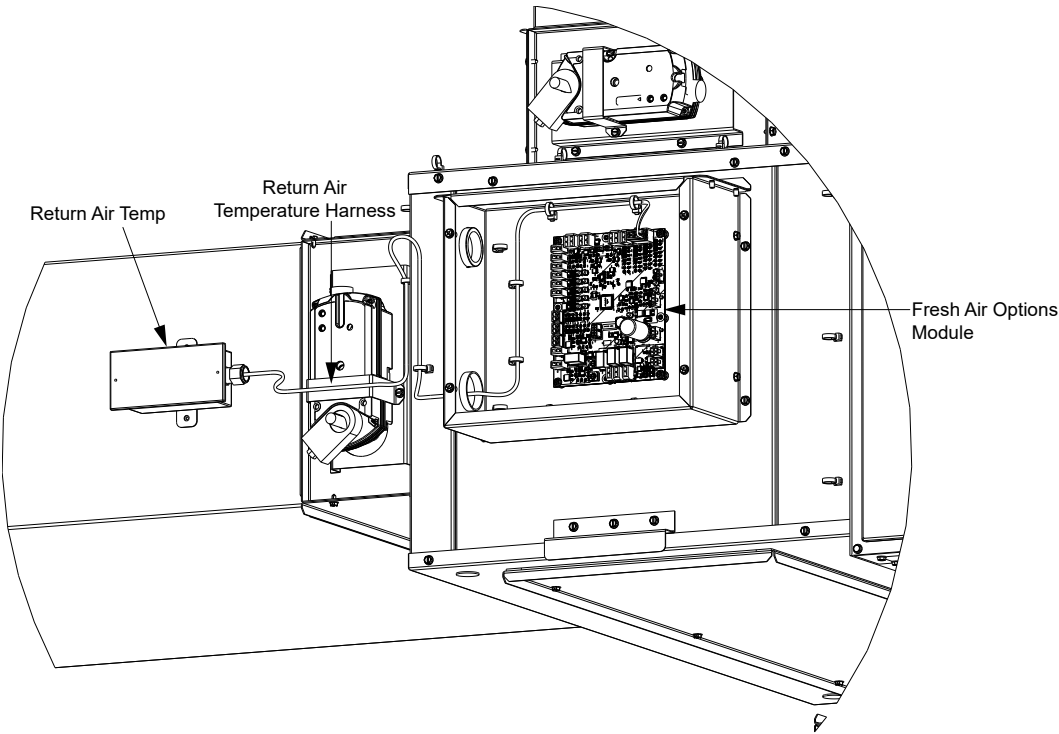
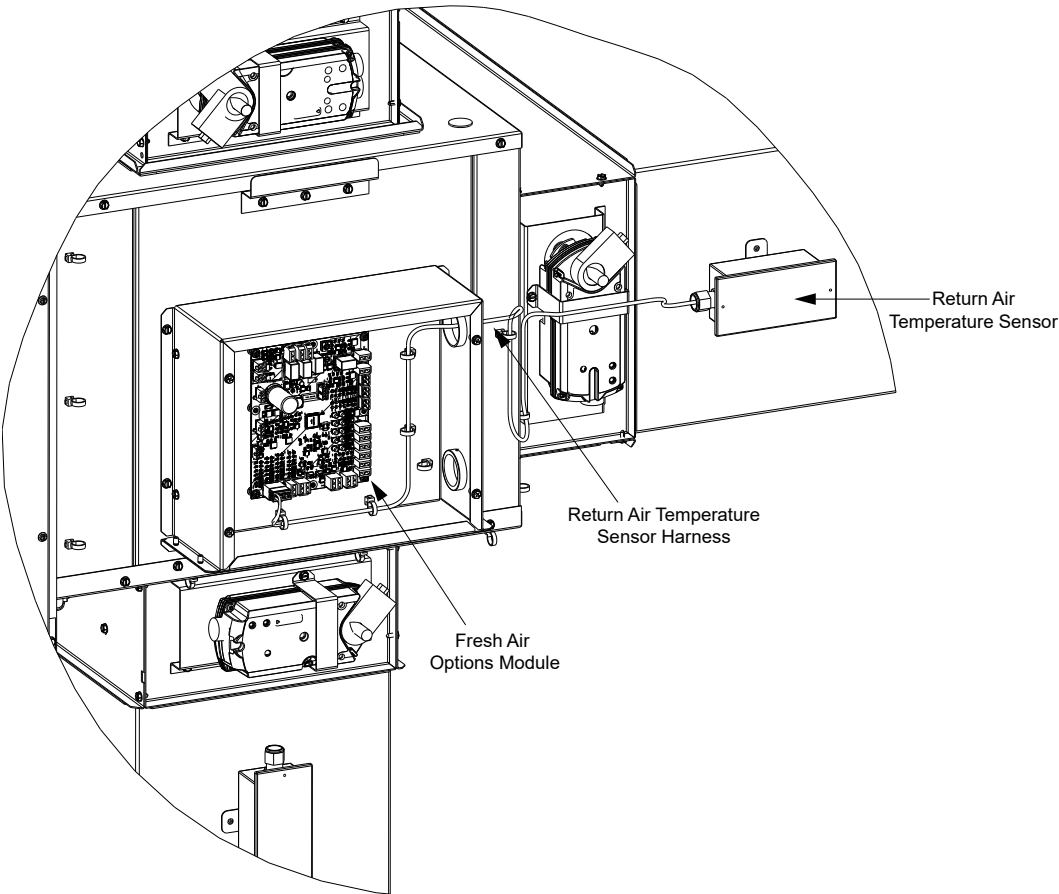


Figure 6. Differential dry bulb harness routing – alternate



For additional information or technical support, scan the QR code below to access the help center.

Figure 7. QR - Trane light commercial support



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