



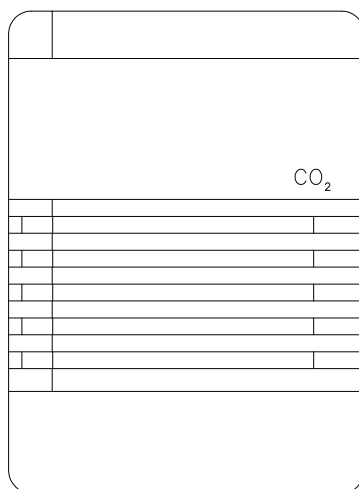
Installation Guide

CO₂ Sensing Kit

Used with:

IntelliPak™ I 20-130 Ton Rooftops,
Air Handler 2-9 Casings

IntelliPak™ II 90-162 Ton Rooftops,
Air Handler A-C Casings



Model:

BAYCO2K011A (Wall Mounted)
BAYCO2K012A (Duct Mounted)

Used with:

S_HJ - 090-162 S_HF, S_HL: 20-75
W_HC - A, B, C W_HB, W_HE: Case 2-9

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:

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

⚠ CAUTION 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.

NOTICE 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-including industry replacements for CFCs and HCFCs such as saturated or unsaturated HFCs and HCFCs.

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 Labeling 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.

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Revision History

Updated Wiring the Sensor - IntelliPak I section in Installation chapter.





Overview

General

An economizer must be installed and functional before attempting to install a CO₂ Sensing Kit. These sensors detect and control the carbon dioxide level in the conditioned space by measuring CO₂ concentration, comparing it with a user-adjustable set point (set at the Human Interface). The CO₂ signals cause the economizer damper to be positioned so that sufficient fresh air is introduced into the conditioned space to reduce and maintain the CO₂ concentration to a minimum level as selected by the user.

Inspection

1. Unpack all components of the CO₂ Sensing kit.
2. Check carefully for any shipping damage. If any damage is found it must be reported immediately and a claim made against the transportation company.

Parts List

CO₂ sensor as follows: BAYCO2K011A (Wall Sensor), BAYCO2K012A (Duct Sensor)

- 1 - CO₂ Demand-Controlled Ventilation Wall Sensor with instructions and mounting hardware
- 1 - CO₂ Demand-Controlled Ventilation Duct Sensor with instructions and mounting hardware
- 1 - Length of 1/8" X 3/4" foam gasket tape
- 2 - #8-32 Screws for mounting
- 2 - Wire Tie, Standard
- 5 - Wire Tie, Pop-In Anchor Type
- 1 - Plastic Bushing for 1.09 diameter hole
- 1 - Plastic Bushing for 0.88 diameter hole
- 1 - "CO₂ Kit installed" Label



Installation

⚠ WARNING

Hazardous Voltage!

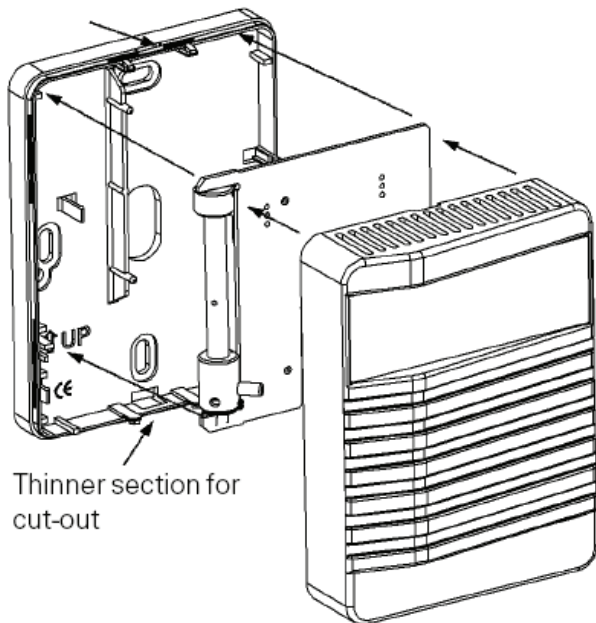
Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

Instructions

Mounting the Wall Sensor

1. Select a proper location in the room to mount the CO₂ sensor. Look for an interior wall with good air circulation, approximately 54 in. (1.4 m) from the floor.

Figure 1. Field wiring of CO₂ wall sensor



2. Remove the back plate from the sensor and thread the power wires and output signal wire through the hole in the back plate (Figure 1, p. 5). For surface wiring, make cut-outs with pliers to the thinner section of the upper or lower edge of the back plate and to thread the wires through.
3. Mount the back plate to the wall with screws. Note that the arrow on the back plate shows the mounting direction.

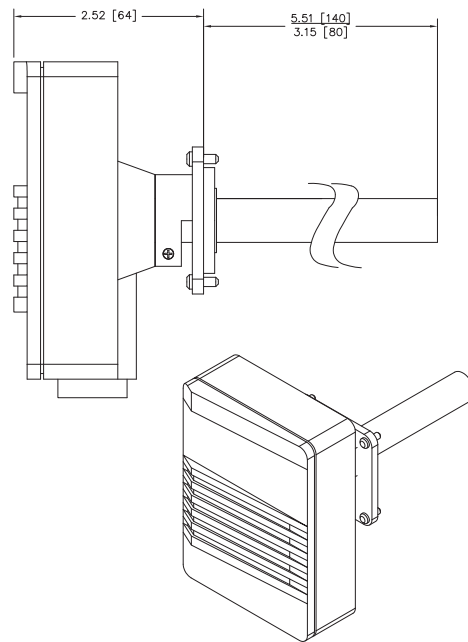
4. On the circuit board, use the two jumpers next to the terminal block to set up the type of output (0-10 Vdc, 0-20 mA, 4-20 mA).
5. Insert the circuit board in the back plate as shown on Figure 1, p. 5. Do not press the metal tube while inserting the circuit board.
2. Drill a 7/8-inch to 1-inch hole in the mounting surface for sensor insertion (Figure 2, p. 6).

Mounting the Duct Sensor

1. Select a proper location on the duct to mount the CO₂ sensor.

3. Attach the mounting plate to the duct wall with four screws.
4. Insert the sensor through the mounting plate, adjusting the depth for optimal air sensing.
5. If conduit is required, remove the wiring grommet and install the supplied 1/2-inch National Pipe Thread (NPT) conduit fitting.
6. On the circuit board, use the two jumpers next to the terminal block to set up the type of output (0-10 Vdc, 0-20 mA, 4-20 mA). The default setting is 4-20 mA. This needs to be changed to 0-10 Vdc.

Figure 2. CO₂ duct sensor

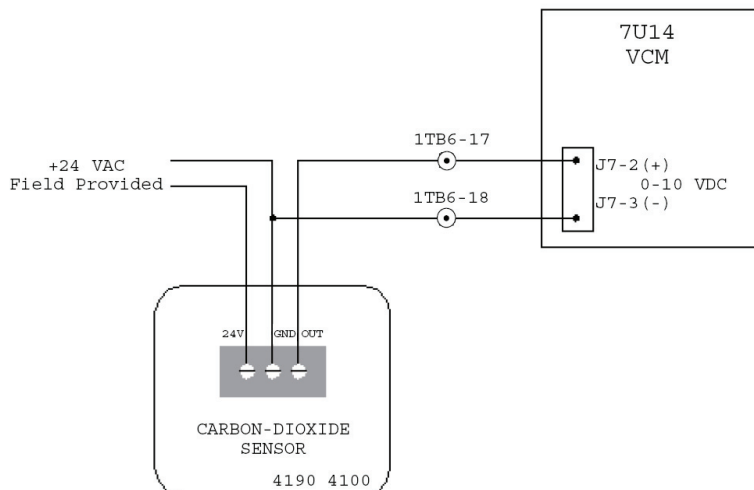


Wiring the Sensor - IntelliPak II

1. Wire the sensor from the ground terminal (terminal 0) to 1TB6-18. 1TB6-18 is wired to J7-3 on the VCM.

2. For voltage output, wire terminal V(OUT) on the sensor to 1TB6-17. 1TB6-17 is wired to J7-2 on the VCM.

Figure 3. IPak II wiring from the CO₂ sensor to the VCM



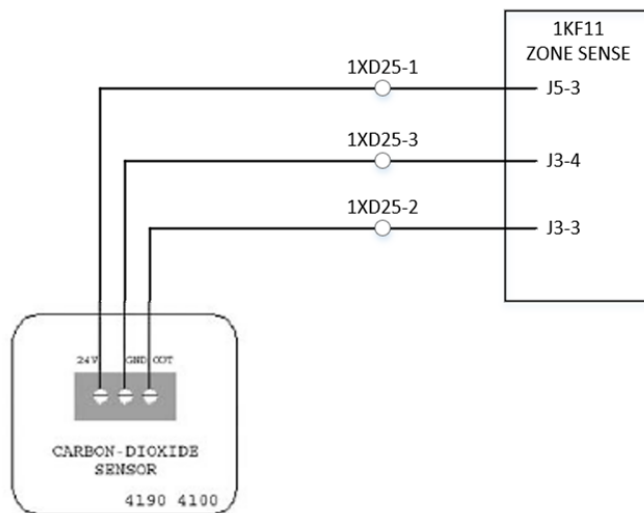
Wiring the Sensor - IntelliPak I

1. Wire the sensor to the unit according to the following table.

Note: The 1XD25 terminals are factory wired to the 1KF11 board.

Wall sensor	Unit
24V	1XD25-1
OUT	1XD25-2
GND	1XD25-3

Figure 4. Wiring from the CO₂ wall sensor to the unit





Installation



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