

Installers Guide

CO₂ Sensing Kit

Used with 3 - 10 Ton Packaged Units with
ReliaTel™ Controls

Models:

BAYCO2K001BB
ASYSTAT712BB

BAYCO2K003BB
ASYSTAT714BB

Used With:

TH/YHC036A*R -120A*R
TH/YHC033A*R -063A*R
TS/YSC036A*R -120A*R
WSC036A*R -120A*R
TSC/YSC036E-060E*R
WSC036E-060E*R
TH/YHC036E*R - 060E*R

Installation

NOTICE:

Warnings and Cautions appear at appropriate sections throughout this manual. Read these carefully.



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, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

CAUTION— Indicates a situation that may result in equipment or property-damage-only accidents.

Parts List

CO₂ Sensor as Follows:

BAYCO2K001B:

ASYSTAT712B:

1 - CO₂ Demand-Controlled Ventilation Wall-Sensor (4190 4100) with instructions and mounting hardware.

BAYCO2K003B:

ASYSTAT714B:

1 - CO₂ Demand-Controlled Ventilation Duct-Sensor (4190 4101) with instructions and mounting hardware.

1 - Length of 1/8" X 3/4" foam gasket tape

2 - #8-32 Screws for mounting LTB

2 - WireTie, Standard

5 - WireTie, Pop-In AnchorType

1 - Wire Harness (4366-3302) with low Voltage Terminal Board, for CO₂ & Ventilation Override

1 - Plastic Bushing for 1.09 diameter hole

1 - Plastic Bushing for 0.88 diameter hole

1 - Wiring Diagram Adhesive Label

1 - "CO₂ Kit Has Been Installed" Label

1 - Enhanced Econ Logic Module

1 - Econ Logic Mounting Screw, # 6-19 x .625

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 and sending a corresponding control signal to the economizer module. This causes 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.

Installation



WARNING

Hazardous Voltage

w/Capacitors!

Disconnect all electric power, including remote disconnects and discharge all motor start/run capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. Verify with an appropriate voltmeter that all capacitors have discharged. Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury.

1. Remove Compressor/Control box access panel, Return air/Filter access panel and Fan access panel. See Figure 2.

Note: BAYCO2K001B, ASYSTAT712B, BAYCO2K003B, ASYSTAT714B and BAYVNOR002B contain identical harnesses. If at least one of these accessories has previously been installed, skip to step 3.

2. Install CO₂ and Ventilation Override wiring harness 4366-3302 in the unit according to **wiring diagram 4366-1048** provided in kit and the following directions. Refer to the unit wiring diagrams inside the compressor access panel for location and identification of components.

3. Check the indoor/outdoor divider panel for a knockout just below the control box as shown in Figure 2.
4. If knockout exists, remove it in preparation for installing the harness. If it does not exist, use an Greenlee type punch to install a 7/8" diameter hole in the location shown. See Figure 2.
5. Place the harness provided with the kit into the unit control box and install the Low Voltage Terminal Board (LTB) attached to the kit. Place the LTB adjacent to the similar LTB in the lower right hand corner of the unit control box and secure with the 2 # 8 screws provided using the two existing 0.136" diameter holes in the control box. See Figure 2.
6. Connect wire 100EE from the kit harness to the existing LTB, terminal 3. See Figure 3.
7. Connect wires 1R and 2K to the unit fan contactor F on the high voltage power line side of the fan contactor as shown on the kit diagram. Refer to the unit wiring diagrams inside the compressor access panel for location and identification of components.
8. Connect wire 101YY to the low voltage common side of the Fan Contactor coil as shown on the kit diagram. See Figure 3.
9. Route the remainder of the wires in the kit harness through the control box, pull them through the large hole in the far left side of the bottom of the control box and then through the hole made in the divider panel in **step "b"** above. Take the 0.88" diameter plastic bushing provided and place it around the wires and snap it into the hole to protect the wires.
10. If a ReliaTel™ options module (RTOM) has been installed in the unit (accessory BAYABRD001), connect 5P6 to 5J6. If a ReliaTel™ options module (RTOM) has not been installed in the unit, isolate and secure 5P6 for future use.

Note: Some RTOM versions have a 5J6 connector which only accepts bare wire. In this case remove plug 5P6 from the kit harness, strip the wire ends and connect individual wires 191A, 194A and 195A to the screw terminals of 5J6 per the Alternate RTOM Connection shown in Figure 2.

Installation

11. If a power exhaust accessory has been installed (accessory BAYPWRX026A, 027A or 028A), remove the red and blue power exhaust fan wires connected to the ID fan motor terminals and connect them to the red and blue kit wires 1R and 2K respectively, using the wire nuts provided. Otherwise leave these wires covered with the wire nuts for future use. Refer to unit and power exhaust wiring diagrams for wire numbers.
12. If a power exhaust accessory has been installed, go to step 16. If a power exhaust accessory has not been installed, remove knockout from the indoor top coil blockoff (6-10 ton units only). See Figure 2.
13. For 6-10 ton units where digit 7 = A and the WSC060E model, route wires 150A and 151A (multiconductor cable) along the bottom of the raceway and then through the top coil blockoff knockout (along with power exhaust motor wires, if present). Place the 1.09" plastic bushing around the cable and in the knockout hole to protect the cable if a bushing is not already present.
14. For 3-5 ton units except WSC060E, route wires 150A and 151A (multiconductor cable) along the bottom of the raceway and then between the roof and coil block off in line with one of the roof ribs. See Figure 2.
15. **NOTE:** Inspect existing economizer actuator for necessary logic module connections. If connections are not present, remove one mounting screw from the top of the existing logic module. Remove existing logic module. Install the new logic module included in the kit. Secure the new logic module with the existing mounting screw or mounting screw provided in the kit. See Figure 1.

16. Connect plug 6P8 to the jack marked "DCV" on the economizer module per the wiring diagram.
17. Install foam gasket tape around wires at plastic bushings to seal barrier penetrations so that air and moisture leakage does not occur.

Note: Use provided wire ties to secure excess wiring and prevent wires from contacting sharp edges or hot surfaces.

18. Apply provided CO₂ and Ventilation Override wiring diagram label next to the main unit wiring diagram label, located on compressor access panel.
19. Apply "BAYCO₂ Kit Has Been Installed" Label next to the main unit wiring diagram label.
20. Install CO₂ sensor in conditioned space or return air duct according to instructions packed with the sensor.
21. Make field wiring connections to LTB installed above per CO₂ and Ventilation Override wiring diagram.
22. Route low voltage external field wiring along with and secure to existing low voltage zone sensor or thermostat wiring.

23. Replace any filters that were removed in step 1 of installation instructions.

Unit Close up

1. Replace Filter/Coil access panel.
2. Replace Supply fan access panel.
3. Replace Compressor/Control box access panel.

CO₂ Sensor Connections for ReliaTel Units

With Economizer

CO₂ setpoint adjustment

DVC setpoint potentiometer on economizer module can be adjusted as follows:

0% - 500ppm

50% - 1000 ppm

100% - 1500ppm

Operation

The outside air damper will modulate from minimum position setting to up to 100% while attempting to maintain the CO₂ setpoint.

Figure 1

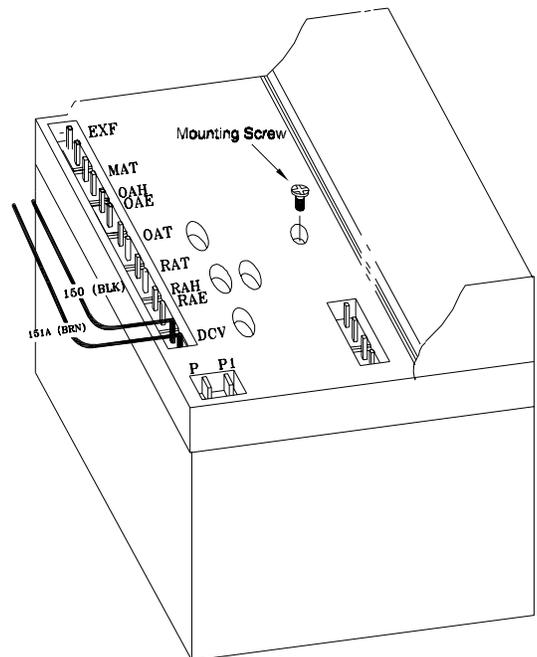


Figure 2

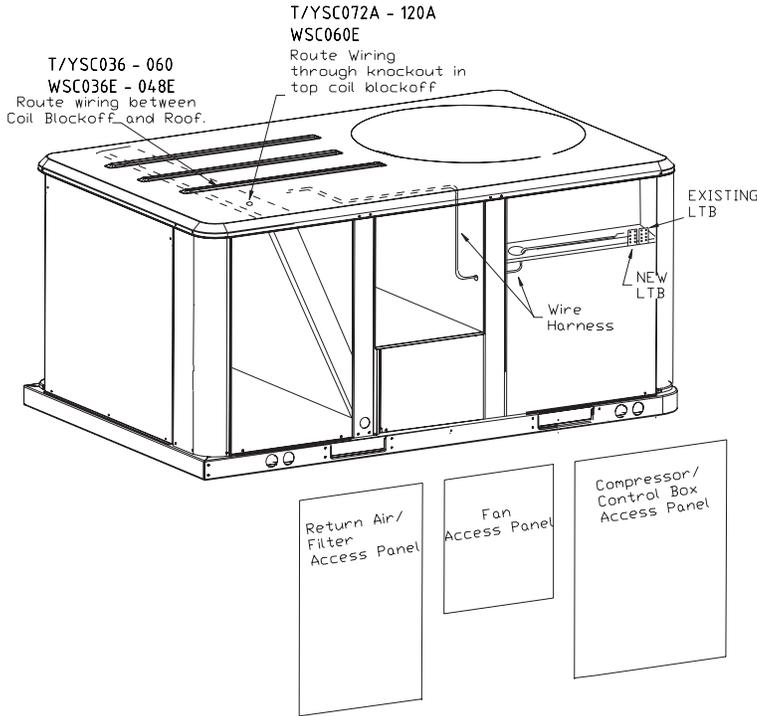
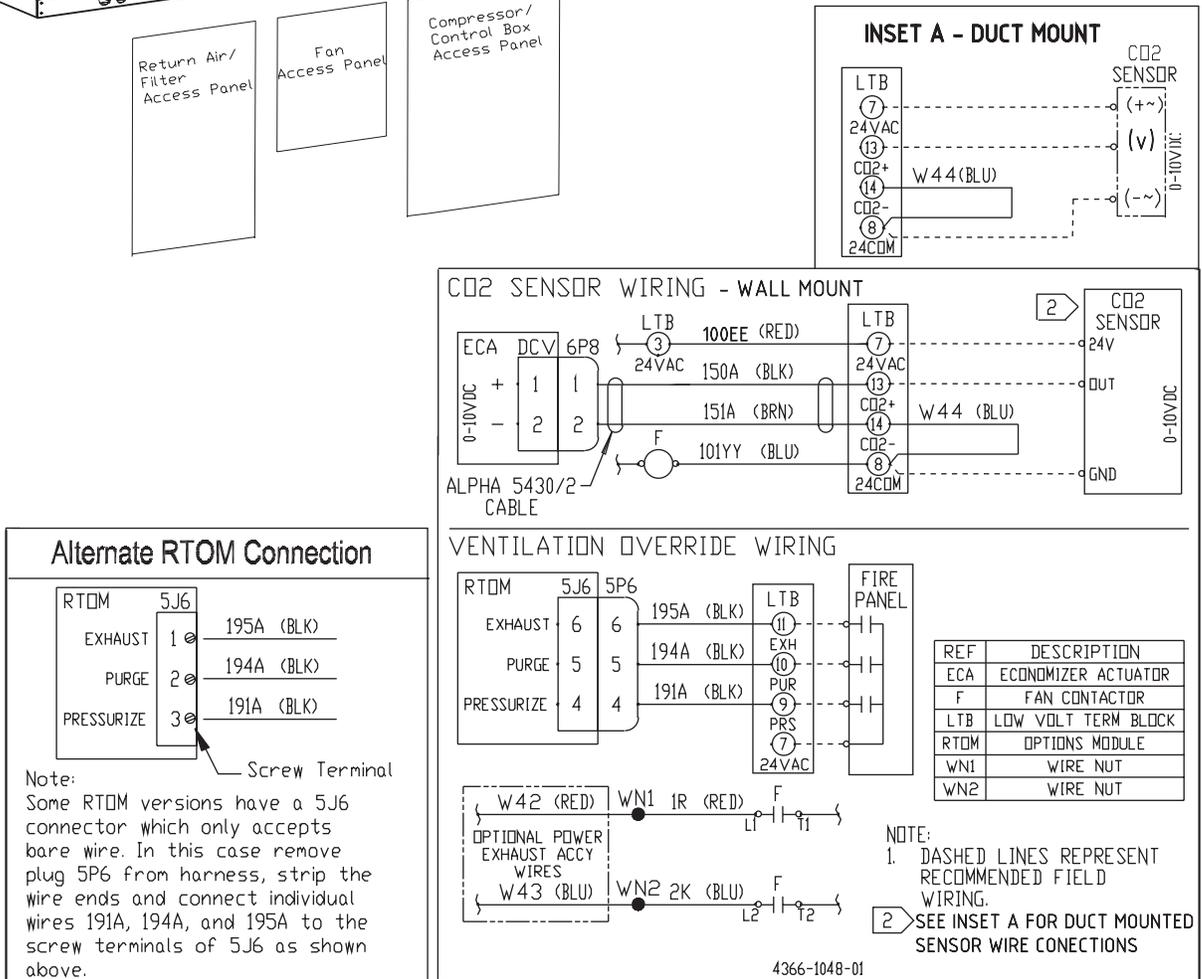


Figure 3



Literature Order Number	ACC-SVN12E-EN
File Number	SV-UN-ACC-ACC-SVN12E-EN 10/06
Supersedes	ACC-SVN12D-EN 10/05
Stocking Location	Webb Mason

The manufacturer has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.