

95M-200 GAS-FIRED DIRECT VENT MODULATING HOT WATER BOILER

HONEYWELL AM (HAM) 0-10VDC MOD- ULE INSTALLATION INSTRUCTIONS

(Requires Kit# 550001314)

The Honeywell AM (HAM) kit allows the boiler's modulation to be controlled by an external 0-10vdc signal supplied by most modulating multiple boiler controls.



⚠ WARNING ⚠

This document must only be used by a qualified heating installer or service technician. Read all instructions, including this Supplement, the Boiler Installation Manual (p/n# 240006103), the Control Manual and Operating Instructions (P/N# 240006104), and the Parameter Guide (P/N# 240006105), before installing. Perform steps in the order given. Failure to comply could result in severe personal injury, death or substantial property damage.

IMPORTANT: The alarm contacts of the HAM module are rated for 2 amps at 120 vac. All hard lockout conditions of the boiler control module will cause an alarm. Soft lockouts will not cause an alarm.

In addition to mounting and wiring the HAM module to each boiler operated by the multiple boiler controller, you will need to program the boiler control module of each boiler to accept a 0-10vdc input signal, as described in these instructions.

IMPORTANT: Installation must comply with local requirements and with the National Fuel Gas Code, ANSI Z223.1 for U.S. installations or CSA B149.1 or B149.2 for Canadian installations.



GAS FIRED DIRECT VENT MODULATING HOT WATER BOILER

HONEYWELL AM (HAM) 0-10VDC MODULE INSTALLATION INSTRUCTIONS
P/N# 240005544, Rev. 1.1 [04/06] • Printed in USA • Made In USA

INSTALLATION PROCEDURE



WARNING

Electrical shock hazard — Turn off power to the boiler before proceeding with the installation. Failure to comply could result in severe personal injury, death, or substantial property damage.

MOUNTING AND WIRING THE HAM MODULE

– KIT COMPONENTS –

- HAM Module with cable clamp and screws
- Ribbon Cable
- (2) 6 x 1/2" Hex Head Screws

– TOOLS REQUIRED –

- Phillips-head screwdriver
- Flat-head screwdriver
- Small flat-head screwdriver
- 1/4" nut driver
- Drill and 3/32" drill bit

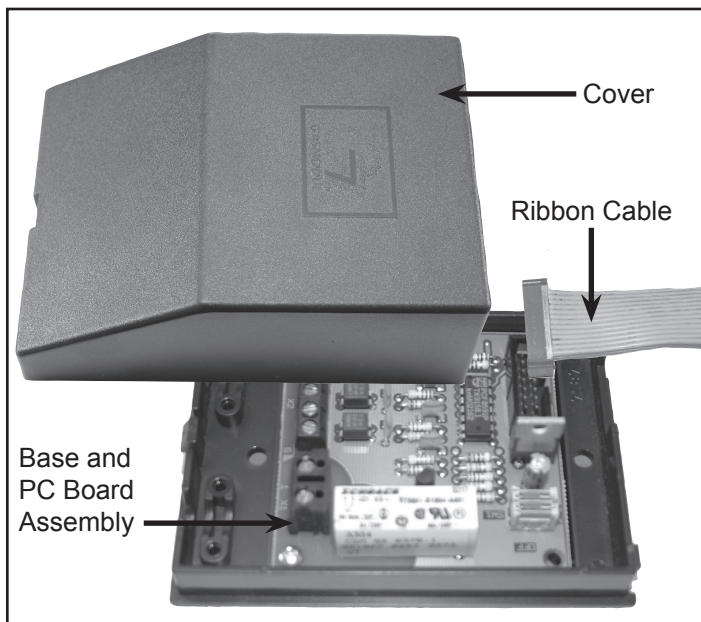


Figure 1 - HAM Module Assembly

1. Remove boiler front jacket panel by pulling panel away from boiler.

2. Insert a small flat-blade screwdriver into slot on bottom of HAM Module (at tapered end of module cover) and gently pry off the cover.

3. With HAM cover removed, carefully insert either end of the ribbon cable into the HAM plug. Cable will fit into the cutout on the end of the module cover and base. (See Figure 1.)

4. Route multiple boiler controller wires and alarm wires through the boiler cable ways, along with the other wiring. Strip ends and attach to the terminals shown in Figure 2. Use the cable clamp supplied in the HAM kit to secure the alarm wires to the module.

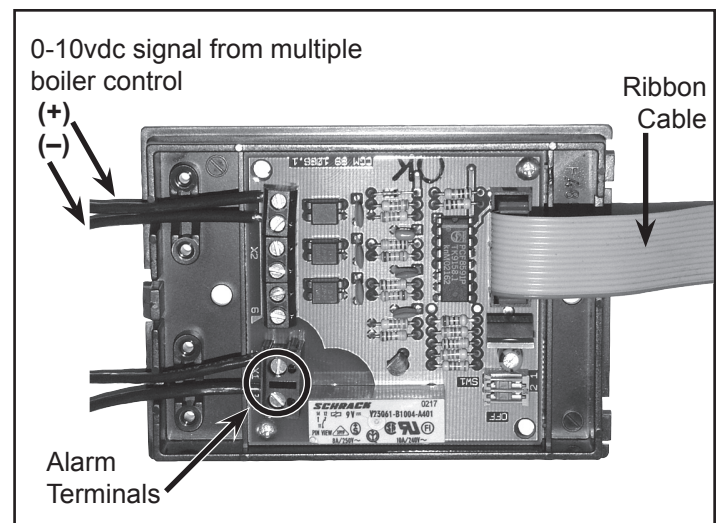


Figure 2 - HAM Wiring Connections

5. Mount HAM Module to right jacket or surface exterior of boiler.

6. Fasten HAM cover on the module.

7. Plug the end of the ribbon cable into the empty socket on the left end of the boiler control module.

8. Restore power to the boiler.

PROGRAMMING THE BOILER CONTROL MODULE

IMPORTANT: The factory default setting for operation of the boiler control module is for thermostat control. The module must be programmed, as described in the following, to operate from a 0-10vdc input signal to operate correctly with the AM4 module.

Follow instructions in the *“Installation Manual”* (P/N# 240006103) and the *“Control Manual and Installation Instructions”* (P/N# 240006104) to install, set up and adjust the boiler.

DIFFERENCES FROM STANDARD OPERATION

1. The HAM module responds to a signal from the multiple boiler controller. The boiler will not cycle on thermostat action, but on the control signal from the HAM module to the boiler control module. To test boiler operation, you will need to operate the multiple boiler controller to signal the boiler to initiate a call for heat to test the boiler and controls.

2. Parameter readouts (Boiler Control Module):

- Parameter 4 will not show outside temperature. The boiler control module does not use an outside sensor when using the HAM module.
- Parameter 6 will not show target outlet water temperature. Water temperature control is performed by the multiple boiler controller.

PROGRAMMING THE CONTROL MODULE FOR HAM INPUT

1. You must program the boiler control module to accept the 0-10 vdc input signal from the HAM module as described on the next page.



WARNING

Do not attempt to revise any other control settings except those covered in the Boiler Control Manual (P/N# 240006104) and Parameter Guide (P/N# 240006105). Perform only the revisions described in this document and the aforementioned manuals. Failure to comply could result in erratic or unreliable operation of the boiler.

2. Once the instructions for preparation of the boiler are completed, activate code mode on the boiler control module as follows:

- a. Press and hold the “Step” button. Continue holding “Step” and press “Mode” as well. Hold both buttons for 2 seconds or longer. The module readout will change to [CODE]. Release the “Step” and “Mode” buttons.
- b. Press “Step” once. The module readout will show [C - XX], where the “XX” will be a random number.
- c. Use “+” or “-” to change the last two digits until the display shows [C - 05].

NOTE: To change numbers one unit at a time, tap the “+” or “-” buttons. To make the number change quickly, hold down “+” or “-” buttons.

d. When the display shows “C - 05”, press “Store” to enter the code number.

3. Revise parameter 34 as follows:

- a. Once the code has been stored, change to the “Parameter” mode by pressing the “Mode” button until parameter mode is selected.
- b. Press repeatedly until the readout shows [P . 34]. The readout sequence as you press the button will be:
[1 140], [2 .01], [3 .01], [4 190], [P . 05], [P . 06], [P . 07], etc.

The readout will continue to show “P . ” followed by a two digit number that increases each time you press the “Step” button.

NOTE: The actual parameter values displayed may vary, depending on the application. The parameter sequence will always occur in the order shown.

- c. When the readout shows [P . 34], stop pushing the “Step” button. Wait a few seconds and the display will show the current setting for parameter 34 in the right two display spaces.
- d. Press the “+” or “-” buttons to change the value until the display shows [- - 04].
- e. Save the change by pressing the “Store” button.

NOTE: To return the boiler to thermostat operation, perform the above steps, but set parameter 34 so display shows [- - 00] instead of [- - 04].

4. Exit code mode by pressing once.

TEST & VERIFY BOILER/CONTROL OPERATION

1. Follow the steps in the *“Installation Manual”* and *“Control Manual and Operating Instructions”* to test operation of the boiler and its controls. To initiate a call for heat you will have to operate the multiple boiler controller to activate the boiler.

2. Verify the boiler modulates correctly by adjusting the multiple boiler controller.

3. The control response to the 0-10vdc signal will be:

- Boiler on for voltage above 0.5vdc.
- Boiler at low fire at voltage between 0.5 and 1.8vdc.
- Boiler at high fire at voltage of 10vdc.
- Boiler modulates between high fire and low fire for voltage between 1.8 and 10vdc.

TEST HAM ALARM CIRCUIT (IF USED)

IMPORTANT: The HAM will close the alarm relay contacts on any hard lockout of the boiler control module. It will not send an alarm on soft lockouts.

1. With the boiler electrical power OFF, unplug one of the electrical connectors to either the supply or return temperature sensor.

2. Restore power to boiler and allow to cycle.

3. The boiler control module should enter a hard lock-out, causing the HAM alarm relay to close. The remote alarm should activate.

4. Disconnect boiler power and replace the sensor lead removed in step 1.

5. Restore power and verify boiler operation before leaving the jobsite.

REPLACE BOILER COMPONENTS

Replace all boiler components and boiler front jacket panel.



Replace boiler jacket front door after servicing. The boiler front door must be securely fastened to the boiler to prevent boiler from drawing air from inside the boiler room. This is particularly important if the boiler is located in the same room as other appliances. Failure to keep the door securely fastened could result in severe personal injury or death.