

AM-4 Interface Module Kit



Kit Part Number: PSRKIT23

Description

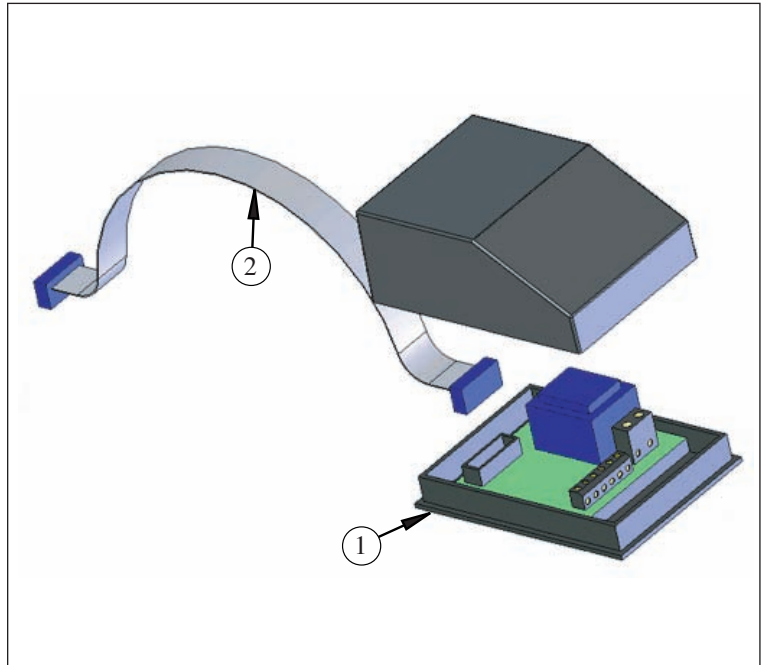
The AM-4 is used whenever an external control is used to modulate the boiler with a 0 to 10V signal or to provide contacts for an external alarm in the event the boiler enters into a hard lock out.

Parts List

1. AM-4 Interface Module
2. Ribbon Cable
3. (2) #10 x 3/4" screws
4. Terminal Block Tool

Recommended Tools

- Phillips-head screwdriver
- Flat-blade screwdriver



WARNING

Indicates a potentially hazardous situation which, if ignored, can result in serious injury or substantial property damage.

NOTICE

Indicates special instructions on installation, operation or maintenance, which are important to equipment but not related to personal injury hazards.

WARNING

Failure to follow instructions below can result in severe personal injury or damage if ignored:

- Instructions are for a qualified installer / service technician
- Read all instructions before proceeding
- Follow instructions in the proper order.

NOTICE

The following instructions will reference the following Prestige installation manuals and supplements: Prestige Installation and Maintenance manual, Prestige Control Supplement and Prestige Multiple Boiler supplement. Ensure these manual and supplements are readily available before proceeding with the installation of the AM-4 interface module.

WARNING

For your safety, turn off electrical power supply at service panel and allow unit to cool before proceeding. Failure to do so can cause severe personal injury or death.

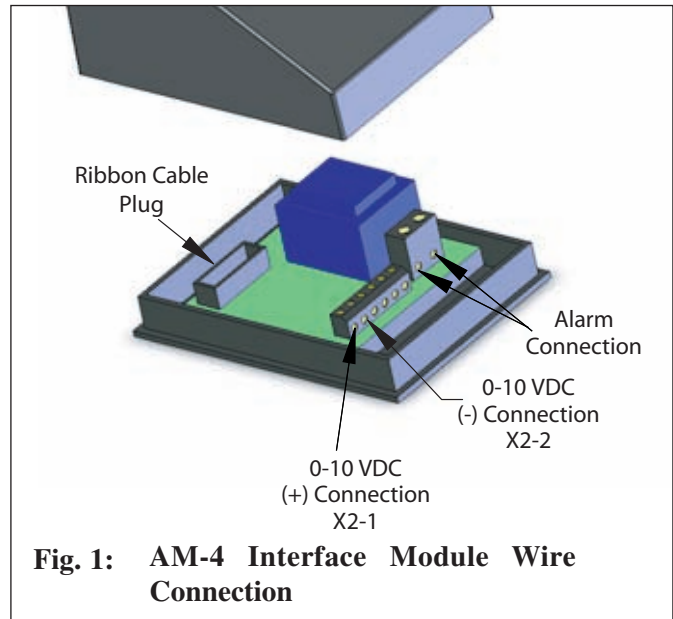
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Mounting and Wiring AM-4 Module

WARNING

Electrical Shock Hazard. Turn off the power to the boiler before proceeding with the installation of the AM-4 module. Failure to comply could result in severe personal injury, death, or substantial property damage.

1. Remove the front panel of the Prestige by removing the mounting screws along the upper edge of the unit. Lift the panel up and pull forward to remove the front panel from the unit.
2. Remove the screw retaining the control panel. Open the display panel cover and swing the control panel out.
3. Insert a small flat-blade screwdriver into slot on the bottom of the AM-4 module near the tapered end of the module and gently pry off the cover. Use care not to damage the cover or the module.
4. With the AM-4 cover removed and facing the electronics orient the AM4 with the ribbon cable connection toward the top. Insert the ribbon cable according to the keyed connector and the red strip on the right. Route the ribbon cable through the top cutout of the control cover.
5. Route the wires from the Multiple Boiler Controller 0 –10v terminals and any optional alarm wires through the wire ways of the Prestige boiler and along the Prestige factory wiring. Strip the wire ends and connect to the AM-4 terminals X2-1 and X2-2 for the 0-10 vdc analog signal and X1-1 and X1-2 for the alarm as shown in Figure 1. Use the cable clamps provided in the AM-4 kit to secure the incoming wires to the module.



NOTICE

Ensure the polarity of the wire connections from the Boiler Controller to the AM-4 is maintained as shown in Figure 1. Failure to maintain polarity will cause the AM-4 to receive erratic and/or no signal from the Boiler Controller

6. Snap the cover back on the AM-4 module.
7. Place the AM-4 on the backside of the control panel as shown in Figure 2 on page 3. Align the mounting holes of the AM-4 with upper or lower clearance holes along the hinged side of the control panel. Secure the AM-4 module using the two screws provided in the AM-4 kit, from the front of the control panel as shown in Figure 2 on page 3.
8. Insert the ribbon cable according to the keyed connector into the empty socket of the Prestige MCBA control module. The red strip on the ribbon cable should be positioned toward the top or left side depending upon MCBA control orientation.

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9. Replace the front jacket panel and secure with the 3 mounting screws along the upper edge.

10. Restore power to the Prestige and place back into service.

NOTICE

For additional information on revising the Prestige MCBA Control Module operational parameter settings, reference the Prestige Control Supplement.

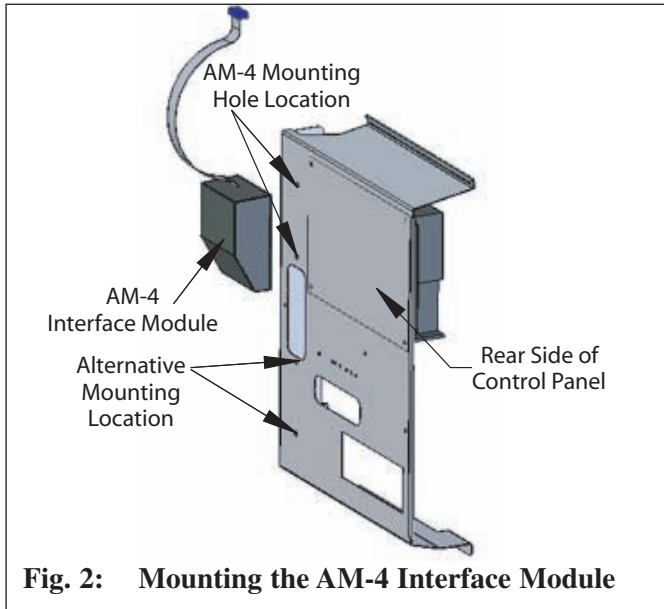


Fig. 2: Mounting the AM-4 Interface Module

Program Access of the MCBA Control

NOTICE

The Prestige MCBA control module must be programmed to accept a 0 - 10 vdc analog signal and correctly respond to the external boiler control module.

To adjust the factory parameter setting of the Prestige MCBA Control, the installer must enter into the parameter menu of the control.

WARNING

Do not attempt to revise any other control parameter setting except those listed in this supplement. Perform only those parameter revisions described in this supplement. Failure to comply could result in erratic or unreliable operation of the Prestige resulting in severe personal injury, death or substantial property damage.

Program Access

To enter the parameter listing of the MCBA control, the installer must enter the activation code as follows:

1. Press and hold the MODE button
2. Continue holding the MODE and press STEP button until *STBY* appears and hold both STEP and MODE buttons for 2 to 3 seconds.

The display should read *CODE*

3. Release the STEP and MODE buttons on the control panel.
4. Press STEP once.

The display should read *E_XX* (XX should be a random number from 00 to 99)

5. Press the + or - button to change the display number *E_XX* to read *E_05*. Press and release the + or - to change the display one number at a time. Press and hold the + or - to rapidly change the display number.
6. When the display reads *E_05* press STORE to save the activation code. The display *E_05* should flash when the code is entered and saved.

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After the activation code is entered press the MODE button until the display shows *AAAA*. At this point the installer can access the parameters required for application.

Once in the parameter mode, press the STEP repeatedly to reach the appropriate parameter setting. The display should show the following sequence, as the STEP button is press repeatedly:

Press STEP once- *1140*
Press STEP x2 - *2_01*
Press STEP x3 - *3_01*
Press STEP x4 - *4186*
Press STEP x5 - *P_05*
Press STEP x6 - *P_06*
Etc.....

After Parameter 4 the display will continue to show P followed by a two-digit number that increases with each press of the STEP button.

NOTICE

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

Once a particular parameter is reached, release the STEP button. Wait a second and the display will show the current setting for that parameter in the right two display digits.

To Change a Parameter Setting

Use the + or - button to change the value of the display.

Press the STORE button once to save the change.

WARNING

If a parameter setting is changed from the factory default and the STORE button is not pressed to save the setting, the MCBA module will automatically store the setting after 15 minutes. Ensure all parameters settings are either factory default or revised based on the application. Review all parameters settings on page 10 when completed and prior to commission of the boiler. Failure to comply could result in erratic or unreliable operation of the Prestige boiler.

NOTICE

Once a parameter setting value has been revised and stored, if the STEP button is pressed for the next parameter setting the value setting of that parameter will appear. The display will not show P_XX of the next sequential parameter. The sequence of parameters may be scrolled through, as the display will roll over from parameter 42 to parameter 1.

BEST PRACTICES

If sequential parameters are being revised and since the display will not show P_XX of the sequential parameter, it is recommend to press and hold the STEP button to scroll through the entire list of parameters before making any additional changes to avoid any potential confusion.

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0 TO 10 VDC EXTERNAL CAPACITY WITH PARAMETER

In this application the external boiler controller will control the modulation of the multiple Prestige Boilers based on the system load requirements.

The external controller will provide a 0 to 10 vdc analog input to the Prestige AM4 interface module based on the time to meet the system load requirements. The initial analog input of 1.8 vdc or less will indicate the minimum load. An analog input of 10 vdc will indicate the maximum load requirements. The actual function of the external controller will vary from manufacturer to manufacturer.

To configure the MCBA control to react based on the output signal of an external boiler controller Parameter 34 must be revised accordingly.

Parameter Adjustment

The adjustment of Parameter 34 in the CODE mode is done by following the steps given in Program Access Section on page 3 until the display shows *P_34*. Use the + or - to adjust to the revised setting listed below and press STORE to save the setting.

Parameter	Factory Setting	Revised Setting
P_34	00	04

Test / Verify Boiler and Control Operation

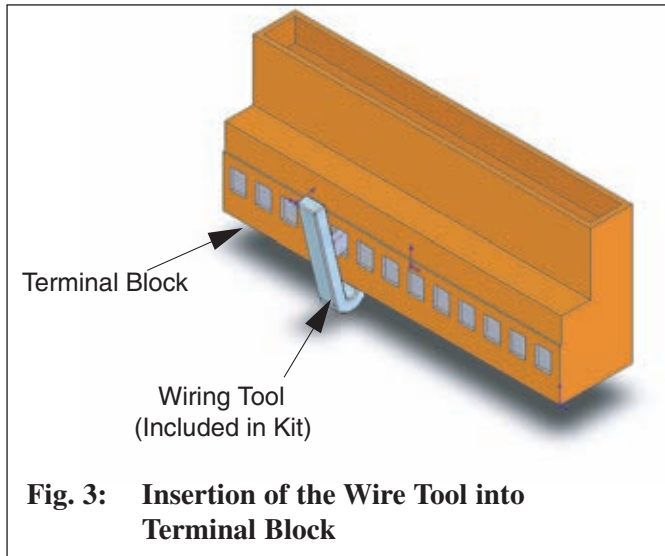
1. Refer to and follow the instructions given in the Prestige Installation manual to test operation of the boiler and the MCBA control. To initiate any calls for heat during the test you will have to operate the external boiler controller.
2. Verify the boiler modulates correctly by adjusting the external boiler controller.
3. The boiler MCBA control response to the external 0 - 10 vdc analog signal should be:
 - Boiler ON for a signal voltage above 0.5 vdc
 - Boiler at low input fire rate for a signal voltage between 0.5 vdc and 1.8 vdc.
 - Boiler at high input fire rate for a signal voltage of 10 vdc.
 - Boiler will modulate the input fire rate between high and low inputs for a signal voltage between 1.8 vdc and 10 vdc.

NOTICE

This test and verification procedure only applies to an external boiler controller that reacts to the system load requirements. For information on testing and verifying the operation of a boiler control that reacts to the temperature conditions of the system, contact Triangle Tube Engineering Department.

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AM-4 Alarm Wiring



The alarm contacts of the AM-4 module are rated for 2 amps at 120 volts.

Test / Verify Alarm Contacts

NOTICE

The AM-4 module will close the alarm relay contacts on any hard lockout (manual reset required) of the Prestige MCBA control module. The AM-4 will not close the alarm contacts on a soft lockout (auto reset).

1. Disconnect power supplied to the boiler. Remove the factory jumpers from terminals 13 and 14 on the low voltage terminal of the Prestige boiler. See Figure 3 on how to use the wire tool to remove the jumper from the terminal block.
2. Restore power to the boiler, initiate a demand and allow the boiler to proceed through its start-up sequence.
3. The Prestige MCBA control module should enter a hard lockout, causing the alarm contacts on the AM-4 to close. The remote alarm should then be activated.
4. Disconnect the power supplied to the boiler and replace the jumper across the terminals 13 and 14 on the terminal block.
5. Restore power to the boiler placing it back into service.
6. Repeat the verification sequence with the remaining boilers.