

# Mod Gas Heat Install I/O/M manual

PD 02/04/2022 - v 1.31 PN IOM-0011

# **Table of Contents**

| Mod Gas Valve Setup   | 3 |
|-----------------------|---|
| Controller Navigation | 5 |
| Mod Gas Wiring        | 7 |

#### EXA STAR Modulating Valve Series

#### CONNECTIONS

- Step 1: Remove factory gas valve and install modulating valve.
- Step 2: Reinstall factory gas valve before modulating valve (note: modulating valve should be in-between factory (valve and the manifold).



- Step 3: Remove 2 screws holding cover.
- Step 4: Connect switched OFF 24V (AC/DC) power source to terminals 3 and 4 (see Figure 2, page 2).
- Step 5: Set DIP switches to match available control signal (see Table 3, page 2).
- Step 6: Connect switched OFF control signal to terminals 1 and 2. Observe polarity. Note that the return, or signal ground, must be connected to terminal 2 (see Figure 2, page 2).
- Step 7: Switch power and control signal ON.
- Step 8: Set valve (see "Valve Setting" in section below).
- Step 9: Replace cover.

#### VALVE SETTING

The EXA STAR modulating valve series has two (2) buttons and a communication LED for the user interface. The buttons are used to set the valve for high and low fire settings (see Figure 4).

Apply differential pressure gauge on gas manifold. Use port located on the burner manafold to adjust the high and low fire pressure. Refer to the unit's name plate for high gas value (should be between 2-5 in-wc).



- 1. High Fire Setting (LED will be solid red)
- 2. Low Fire Setting (LED will be blinking red)
- 3. Operating Mode (LED will be OFF)



Figure 4: EXA STAR Modulating Valve Series Adjustment Controls

Maxitrol Company 23555 Telegraph Rd., P.O. Box 2230 Southfield, MI 48037-2230 U.S.A. EXA\_MS\_EN\_11.2011 MAXITROL

www.maxitrol.com © 2011 Maxitrol Company, All Rights Reserved.

#### **HIGH FIRE SETTING - BUTTON #1**

To enter the high fire setting mode, press and hold button #1 until the LED lights solid red. Release. The valve is now in the high fire setting mode. Buttons #1 and #2 are used to set desired high fire setting.

Press or hold Button #1 to increase gas flow. Each button press equates to the minimum available step size and will increase flow slowly. Holding the button down auto steps and eliminates the need to repeatedly press the button. Use this feature to rapidly increase the flow.

Press or hold Button #2 to decrease gas flow. Each button press equates to the minimum available step size and will decrease flow slowly. Holding the button down auto steps and eliminates the need to repeatedly press the button. Use this feature to rapidly decrease the flow.

To save the high fire setting, simultaneously hold Buttons #1 and #2 until the LED turns OFF.

**NOTE:** Controls left in any setting mode will default to the current settings and return to normal operating mode after 5 minutes of inactivity.

#### SET UP FOR CARRIER UNITS WITH GAS HEAT

2 stage Carrier gas units on high fire should be set at 3.5" gas pressure.

This should be done with:

- W1 & W2 on
- Mod gas at 100%

To set the low fire on the Carrier units, the gas pressure should be approximately 0.6" of gas pressure.

This should be done with:

- W1 on, W2 off
- Mod gas at 0%

At this low setting, make sure that the unit has a good flame on the 1st stage burner. If not, slightly raise the gas pressure until you see a good flame.

Once you have completed this set up, the unit will modulate between the lowest and the highest pressure settings as the modulating heat tries to maintain the discharge air temperature.

#### LOW FIRE SETTING - BUTTON #2

To enter into the low fire setting mode, press and hold button #2 until the LED light blinks red. Release. The valve is now in the low fire setting mode. Buttons #1 and #2 are used to set the desired low fire setting.

Press or hold Button #2 to decrease gas flow. Each button press equates to the minimum available step size and will decrease flow slowly. Holding the button down auto steps and eliminates the need to repeatedly press the button. Use this feature to rapidly decrease the flow.

Press or hold Button #1 to increase gas flow. Each button press equates to the minimum available step size and will increase flow slowly. Holding the button down auto steps and eliminates the need to repeatedly press the button. Use this feature to rapidly increase the flow.

To save the low fire setting, simultaneously hold Buttons #1 and #2 until the blinking LED turns OFF.

**NOTE:** Controls left in any setting mode will default to the current settings and return to normal operating mode after 5 minutes of inactivity.

#### MAXITROL

www.maxitrol.com © 2011 Maxitrol Company, All Rights Reserved.

Maxitrol Company

EXA\_MS\_EN\_11.2011

23555 Telegraph Rd., P.O. Box 2230

Southfield, MI 48037-2230 U.S.A.

iAIRE Mod Gas Valve Install

#### NAVIGATING ON AN IAIRE CONTROLLER





POWER ON THE CONTROLLER AND THE FIRST MENU IS **STATUS MENU**. TO NAVIGATE THROUGH THE OPTIONS, PRESS THE **UP ARROW** KEY. PRESS **ENTER** TO MAKE CHANGES IN ANY SUB MENU. TO GO BACK TO THE MAIN STATUS MENU, PRESS THE **ESC** BUTTON.

MENU SCREENS BEGIN ON THE FOLLOWING PAGE.

## STATUS MENU

OPERATING STATUS

W1 0-1 DAT 60 - 120 HEAT % 0 - 100%

| MOD HEA'<br>STAT | T WAIT<br>US |
|------------------|--------------|
| RANGE:           | DEFAULT:     |
| 000s - 030s      | 030s         |

## **TEST MODE MENU**



#### **SETPOINTS MENU**

| HEAT       | SETPOINT |
|------------|----------|
| RANGE:     | DEFAULT: |
| 60 F_120 F | 95 F     |

## **CONFIGURATION MENU**

|                                      | R MODE<br>ITION        |  |
|--------------------------------------|------------------------|--|
| OPTION: DAT MODE                     |                        |  |
| RANGE:                               | DEFAULT:               |  |
| N/A                                  | [enabled]              |  |
| NOTE: Discharge Air Temp Controlled. |                        |  |
|                                      |                        |  |
| OPTION: SPACE MODE                   |                        |  |
| OPTION: SPACE MODE<br>RANGE:         | DEFAULT:               |  |
| OPTION: SPACE MODE<br>RANGE:<br>N/A  | DEFAULT:<br>[disabled] |  |

| GAS/E<br>CONFIG | LECTRIC<br>URATION |
|-----------------|--------------------|
| RANGE:          | DEFAULT:           |
| GAS_ELECTRIC    | ELECTRIC           |

| MOD    | ULATED   |
|--------|----------|
| HEA    | T GAIN   |
| RANGE: | DEFAULT: |

-20 \_ 20 04 NOTE: % Modulating heat signal = (((Act temp - setpoint temp)+ Mod Heat Offset)/Moulated Heat Gain) \* Mod Heat Multiplier.

## MOD HEAT OFFSET

| RANGE: | DEFAULT: |
|--------|----------|
| -10_10 | 01       |

NOTE: % Modulating reheat signal = (((Act. Temp - Setpoint Temp) + Reheat Offset) / Reheat Gain) \* Reheat Multiplier.

| MOD HEA | T MULTIPLIER |  |
|---------|--------------|--|
| RANGE:  | DEFAULT:     |  |
| 011     | 01           |  |

## GAS HEAT MIN RANGE: DEFAULT:

000%\_100%

000%

## GSA HEAT MAX

RANGE: 000%\_100% DEFAULT: 100%

## MOD HEAT WAIT TIME RANGE: DEFAULT:

000S\_300S

030S

## LOAD DEFAULTS

Note: If "Check SP" displayed, load defaults

| ROOM | TEMP | TYPE |
|------|------|------|
|------|------|------|

| OPTION: GreyStone                   |                |
|-------------------------------------|----------------|
| RANGE:                              | DEFAULT:       |
| N/A                                 | [enabled]      |
| NOTE: Allows user to select what    | it type of     |
| space sensor is being used.         |                |
| OPTION: User Defined                |                |
| RANGE:                              | DEFAULT:       |
| N/A                                 | [disabled]     |
| NOTE: Allows user to create cus     | tom curve to   |
| utilize their own space sensor. Sig | gnal is 0-10V. |
| OPTION: Tongdy 32F-122F             |                |
| RANGE:                              | DEFAULT:       |
| N/A                                 | [disabled]     |
| NOTE:                               |                |
| OPTION: Tongdy 32F-140F             |                |
| RANGE:                              | DEFAULT:       |
| N/A                                 | [disabled]     |
| NOTE:                               |                |
|                                     |                |

| ROOM TEMP L  | .0W   |
|--|---|
| RANGE:<br>-040 _ 080   | DEFAULT:<br>032                                       |
| ROOM TEMP H  | IGH   |
| RANGE:<br>000 _ 140  | DEFAULT:<br>095                                       |
| ROOM SETPO:<br>SOURCE  | INT   |
| OPTION: I/O<br>RANGE:<br>60 F_90 F<br>NOTE: When this is enabled, uni<br>room setpoint temperature for iAIF<br>space sensor.                 | DEFAULT:<br>[enabled]<br>it is getting<br>RE provided |
| OPTION: Remotely<br>RANGE:<br>BAS Controlled<br>NOTE: When this is enabled, uni<br>room setpoint temperature from B                          | DEFAULT:<br>[disabled]<br>it is getting<br>AS system. |
| OPTION: User Interface<br>RANGE:<br>60 F_90 F<br>NOTE: When this is enabled, uni<br>room setpoint temperature from iA<br>controller in unit. | DEFAULT:<br>[enabled]<br>it is getting<br>NRE         |
| ROOM SETPO:<br>LOW   | INT   |
| <b>RANGE:</b> 050 _ 082  | DEFAULT:<br>062                                       |
| ROOM SETPO:  | INT   |

|         | HIGH |          |
|---------|------|----------|
| RANGE:  |      | DEFAULT: |
| 062_130 |      | 082      |

