Fume Hood Controller
FHC Series
FUME HOOD CONTROLLER

TABLE OF CONTENTS

Section 1 - Introduction
- Product Overview .......................................................... 1
- Fume Hood Controller (FHC) Features ........................ 1
- Fume Hood Interface (FHI) Features ......................... 2
- Sidewall Sensor (SWS) Features ........................... 2
- Sash Position Sensor (SPS) Features ...................... 2

Section 2 - Installation & Mounting
- Step-by-Step Installation ............................................. 3
- Fume Hood Location Considerations ....................... 5
- FHC Installation & Mounting .................................. 6
- Sidewall Sensor Installation & Mounting .................. 7
- Sash Position Sensor Installation & Mounting .......... 8
- Wiring Diagram ......................................................... 9

Section 3 - Sash, Sidewall & Hybrid Configuration
- Control Settings ....................................................... 11
  A. Equipment Calibration - Sidewall ........................... 12
  B. Equipment Calibration - Sash ............................... 13
  C. Sidewall - Control Method .................................. 15
  D. Sash - Control Method ......................................... 16
  E. Hybrid - Control Method ..................................... 18

Section 4 - Balance & Verification
- Balance & Verification ................................................ 20

Section 5 - Display Navigation
- FHI - Initial Start-up .................................................. 21
- Information Menu ..................................................... 21
- Controller ................................................................. 22
- Service Menu ........................................................... 22

Section 6 - Advanced
- Setup Wizard Menu .................................................. 23
- Service Menu Expanded ........................................... 26
- Alarm Points Menu ................................................... 28
- Occupancy Menu ....................................................... 29
- Input Menu ............................................................... 29
- Output Menu ............................................................ 29
- Network Menu .......................................................... 30
- Occupancy Priorities ............................................... 30
- FHI Set-Up Menu ...................................................... 31
- Diagnostic Menu ....................................................... 32

IMPORTANT NOTES

This mark indicates an important point for the proper function of the fume hood and the FHC. Improper installation or setup may cause unit failure and contamination of the laboratory space. Pay close attention to all caution points throughout this manual.

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FUME HOOD CONTROLLER

SECTION 1 - INTRODUCTION

Product Overview

Laboratory fume hoods serve as ventilation systems that efficiently exhaust chemical vapors, mist, and fumes. Fume hoods also provide a barrier protecting occupants from certain reactions, spills, and even fires. In most cases special fans exhaust the fumes outside, which greatly dilute their concentration and reduce their harmful effects. In some cases a specialized scrubber is also required to remove the vapors from the exhaust air.

Fume hoods require constant exhaust airflow to ensure that none of the air entering the fume hood ever escapes back into the laboratory space. This ensures the safety of the user and of any other occupants of the room or building. The exhaust airflow, measured in cubic feet per minute (CFM), creates a face velocity across the sash opening. This is the industry standard measure of fume hood safety. Typically the face velocity of a fume hood must be between 80 – 100 feet per minute (FPM), but this can vary based on local codes or the fume hood design. It is important to note the required face velocity for the hood you are using.

Fume Hood Controller (FHC) Features

The Fume Hood Controller can ensure a safe working environment by constantly monitoring and adjusting the exhaust to maintain a correct face velocity. The main control inputs are sash sensors and sidewall sensors. Sash sensors use a potentiometer attached to the sash to measure the current height. Face velocity in feet per minute (FPM) is calculated in real time. Sidewall sensors use an extremely sensitive, low pressure sensor to measure the negative pressure in the hood compared with the lab space.

- 16 bit – high speed flash based microprocessor with watch dog timer, brown out reset
- Multi-stage surge protection against voltage spikes on 24 VAC input
- Simple connections to sidewall sensors using RJ-12 jacks
- 3 Sash position inputs (10kΩ)
- 2 binary outputs rated at 0.5 amps each, protected with thermal fuse (RED LED on trip)
- 1 binary output (dry contact)
- 2 analog outputs (0-10 VDC), configurable for actuator and pressure points
- 2 configurable binary inputs
- Pluggable terminal blocks
- Mnet high-speed fume hood network port
- 1 LM(X) Price Venturi Valve input
- 1 pressure port input, 0"- 5" w.c. (For measuring DP across Price Venturi Valve)
- LED’s for Lnet data TX/RX, Lnet wiring fault, and RS-45 termination

CAUTION

A higher face velocity is not always safer. Too high a face velocity can cause turbulence within the fume hood, which can cause issues with spillage/blowback.
SECTION 1 - INTRODUCTION

Fume Hood Interface (FHI) Features

- Backlit 14x2 LCD Interface with true character display
- LED side bars offer 180 degree viewing of current room status
- Variety of colors displayed to indicate room status
- Password protected menu
- Easy to use MENU system for fast and simple setup of system
- Service port on back for use with Price LINKER2 setup software
- Included RJ45 plenum rated cable for fast, error free hookup
- Setup Wizard – walk through setup of FHC when first powered up

Sidewall Sensor (SWS) Features

- Ultra Low flow digital temperature compensated pressure transducer
- 25 ft. sensor cable with quick-connect installation
- Sidewall assembly with easy-to-mount hardware

Sash Position Sensor (SPS) Features

- Ultra long life potentiometer (over 250,000 cycles)
- Stainless steel cable for stability
- Metal mounting ring for stable installation and reliability
- Thick plastic cover for protection against airborne chemical agents
FUME HOOD CONTROLLER

SECTION 2 - INSTALLATION & MOUNTING

Step-by-Step Installation

1. Fume Hood Controller
You will need the items shown.
   a. Remove Fume Hood Controller from packaging.

   NOTE: The FHC will generally be factory mounted on the vavle if ordered with a Price Venturi Valve.


2. Price Fume Hood Interface
You will need the items shown.
   a. Remove the Price Fume Hood Interface from packaging.
   b. Mount the interface to the front of the fume hood.
   c. Connect one end of the RJ-45 cable to the back of the FHI. The other end connects to the FHC mounted on the fume hood exhaust venturi valve.

3. Sidewall Sensor (if available)
You will need the items shown.
   a. Remove the sidewall sensor from packaging; Ensure you have all parts required.
   b. Using one of the hollowed bolts provided, mount the sidewall sensor 5" up and 5" inwards from the base of the fume hood sash in its fully open position (not just the working height).
   c. Using the male pressure port provided, mount the second hollowed bolt to the front of the fume hood (generally just above the Fume Hood Interface).

Continued on next page...
4. REQUIRED ITEMS

**4. Sash Position Sensor**
*(if available)*

You will need the items shown.

- a. Remove the Sash Position Sensor from packaging; Ensure the stainless steel cable is in proper working order. **Do not let the cable retract rapidly on its own.**

- b. Mount the sensor on the internal sidewall of the fume hood. The mounting location should be as close to the sash as possible without restricting the sash movement. Ensure that the cable of the sensor extends in the same direction as the movement of the sash.

- c. Screw the metal ring on the end of the sensor cable to the sash. Ensure that the cable does not restrict the movement of the sash.

- d. Run the sensor cable back to the FHC now mounted to the venturi valve.

  **NOTE:** Installation & Mounting instructions on page 7.

5. **Fume Hood Controller Wiring**

- a. Connect all sensors to the FHC and run high power lines to the venturi valve control box.

  **NOTE:** Installation & Mounting instructions on page 8.
Fume Hood Location Considerations

- Ensure supply/exhaust overhead diffusers/returns are installed away from fume hood. Direct airflow running across the ceiling and then down the face of the fume hood will greatly affect the SIDEWALL SENSOR and general performance of the hood.

- Ensure hood is located away from pedestrian traffic and doors.

- Ensure fume hood has all components installed properly – such as air foils and sills.

CAUTION

The location of the fume hood and overhead diffusers is critical to proper safety and performance. These guidelines will ensure the effectiveness of the fume hood and the FHC.
Fume Hood Controller (FHC) Installation & Mounting

- Open the controls enclosure on the Price Venturi Valve currently installed in the fume hood exhaust duct.

- Follow the wiring diagram found on page 9 for the FHC electrical installation.

CAUTION

The Fume Hood Controller is factory mounted on the valve when ordered with a Price Venturi Valve. Only electrical installation is required.

Ensure the valve is facing the correct direction based on the airflow and is also mounted in the correct orientation (vertical or horizontal).
Sidewall Sensor (SWS) Installation & Mounting

- Ensure the sash is in the fully open position (not just to working height)

- Inside the fume hood, with the sash in the fully open position, drill a 5/16” hole 5” above and 5” inward from the base of the sash in the fully open position. (Not just the working height.)

- Drill a second 5/16” hole on the front of the fume hood near the PSWS. The second hole must be no more than 12” from the SWS.

- Using the male brass pressure port provided, attach one hollowed bolt to the front of the fume hood so that the rounded side faces out. Attach the second hallowed bolt to the inside of the fume hood, securing the PSWS.

- Use the kink-resistant tubing to attach the brass pressure port from the SWS to the brass pressure port that was just mounted.

---

**CAUTION**

Mounting position is critical to ensure the accuracy of the PSWS. Ensure that there are no sharp bends or kinks in the tubing during the installation. Improper installation will cause failure of the PSWS.
SECTION 2 - INSTALLATION & MOUNTING

Sash Position Sensor Installation & Mounting

- Mount the sash sensor on internal sidewall of the hood so that it will not interfere with the mechanical operation of the fume hood sash.

- Ensure the sensor is as close to the sash as possible so that the cable is completely parallel to the sash in all positions.

- Raise the sash to the fully open position (not just the working height). Screw the metal ring onto the sash. Ensure that the point of contact is chosen such that the cable is long enough to allow the sash to close fully.

- Once mounted, raise and lower the sash several times to ensure that the cable is clear of all obstructions and moves freely with the sash.

⚠️ CAUTION ⚠️

The sash position sensor cable must be parallel to the direction of sash movement. Any angle in the cable could cause severe sensitivity issues and improper flow settings.
FUME HOOD CONTROLLER

SECTION 2 - INSTALLATION & MOUNTING

Wiring Diagram

Ensure proper voltage is available for the FHC transformer in the enclosure. Double check all labels and wiring before applying high voltage.

CAUTION

The FHC is a 24 VAC low voltage controller. Do not apply any voltage above 24 VAC to controller.

1. Ensure disconnect switch is off. Route high voltage line to L1/L2/(N) terminal block using knockout/cable clamp (by others).

2. Connect blue RJ-45 (network type 8 position) plenum-rated cable to jack labeled Interface on the FHC. Connect the other end to the back of the FHI mounted on the side of the fume hood.

3. Connect AO1 terminal block space to the damper actuator on the exhaust duct of the unit.

4. Connect the sash sensor to the first Sash Position Sensor location on the FHC.

5. Connect green RJ12 (telephone type 6 position) cable to jack labeled Sidewall Sensor 1 on FHC. Connect the other end with the black (locking) connector into Sidewall Sensor 1. Ensure cable is not twisted, kinked or pinched during installation. The green LED above Sidewall Sensor 1 on the FHC will be green when powered up and functioning properly.
FUME HOOD CONTROLLER
SECTION 3 - SASH, SIDEWALL & HYBRID CONFIGURATION

Control Settings

**No Control**
This choice disables all control.

---

**CAUTION**
Choosing this option will turn off all control aspects of the FHC. The device will now only monitor the face velocity of the unit, but will not change the airflow or face velocity of the unit.

<table>
<thead>
<tr>
<th>Control Type</th>
<th>Response Time</th>
<th>Accuracy</th>
<th>Face Velocity</th>
<th>Airflow Control</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sash Sensor Control</td>
<td>Very Fast</td>
<td>Moderate</td>
<td>Calculated</td>
<td>Yes</td>
<td>Very Stable</td>
</tr>
<tr>
<td>Sidewall Sensor Control</td>
<td>Moderate</td>
<td>Very High</td>
<td>Measured</td>
<td>Yes</td>
<td>Stable</td>
</tr>
<tr>
<td>Hybrid Control</td>
<td>Very Fast</td>
<td>Very High</td>
<td>Measured</td>
<td>Yes</td>
<td>Very Stable</td>
</tr>
</tbody>
</table>

**Sidewall Sensor Control**
This method measures the face velocity through the fume hood by measuring the pressure within the unit from the sidewall sensor. This method will control face velocity. Refer to Section 3A for configuration.

**Sash Sensor Control**
This method calculates the face velocity using the dimensions of the fume hood opening and the current CFM. This method will control face velocity. Refer to Section 3A for configuration.

**Hybrid Control**
This method is an optimized combination of both sidewall sensor and sash sensor control. It is the most effective method of fume hood control and is recommended in all cases. Refer to Section 3D for configuration.

This should only be chosen if both a sidewall sensor and a sash sensor are connected.
A. Equipment Calibration - Sidewall

At initial power up the installer will have to step through the wizard. Ensure that all necessary sensors are installed and connected to the FHC.

The beginning of the setup wizard will detect the sash and sidewall sensors that are connected. **NOTE:** For safety purposes if no sensors are detected the controller will open the valve fully open.

Determines if sidewall sensors are detected. (up to 2 devices).

Determines if sash sensors are detected. (up to 3 devices).

Open the sash to working height. Typically 18 inches.

Prompt confirming that controller will now calibrate the valve. Press Enter to continue. Calibration takes 60 seconds. Do not move the sash during this time.

A message will prompt the installer to put tape over the sidewall sensors to begin the calibration process.

A count from 60 sec will indicate that the sidewall is zeroing. Ensure that tape is placed over the sidewall sensors both inside and outside the fume hood. After the countdown is complete wait for the setting it to save to continue.

After calibration is complete remove the tape. This concludes sidewall setup.

If sash sensors are detected (up to 3) a message prompting the installer to open the sash to working height (typically 18”) will start the sash calibration process.

Wait for the airflow measurement to stabilize. Once you have a stable reading, press Enter to continue to the next sash sensor.

Comparing measurements made by an external airflow measurement device, such as a Short Ridge Instrument, and the reading on the FHI, view if any adjustments are required to match the measurements made by the Short Ridge Instrument.

Comparing measurements made by an external airflow measurement device, such as a Short Ridge Instrument, and the reading on the FHI, adjust the scale to match the measurements made by the Short Ridge Instrument.

Check your scale after adjusting sensor scale.

Select yes if FPM are adequate or no to repeat scaling.

Minimum allowable cfm.
FUME HOOD CONTROLLER

SECTION 3 - SASH, SIDEWALL & HYBRID CONFIGURATION

A. Equipment Calibration - Sidewall Continued...

- **MAX CFM**
  3000 CFM
  Maximum allowable cfm.

- **AIRFLOW SOURCE**
  KAVLICO SENSOR
  Configure where airflow is being measured, such as LM module, Kavlico sensor, or no source.

- **K FACTOR**
  0
  Contact Price Ltd for more information. Available with Kavlico Sensor only.

- **CONTROL METHOD**
  SIDEWALL CTRL
  Refer to Section 3C for Sidewall Control, or continue to Sash Calibration if a Hybrid configuration (Section 3E) is requested.

B. Equipment Calibration - Sash

- **WELCOME! SETUP WIZARD**
  At initial power up the installer will have to step through the wizard. Ensure that all necessary sensors are installed and connected to the FHC.

- **DETECTED EQUIPMENT**
  The beginning of the setup wizard will detect the sash and sidewall sensors that are connected.
  **NOTE:** For safety purposes if no sensors are detected the controller will open the valve.

- **SIDEWALL SNSR1 NOT DETECTED**
  Determines if sidewall sensors are detected. (up to 2 devices).

- **SASH 1 DETECTED**
  Determines if sash sensors are detected. (up to 3 devices).

- **OPEN THE SASH TO WORKHEIGHT**
  Open the sash to working height. Typically 18 inches.

- **CAL VALVE OK**
  Prompt confirming that controller will now calibrate the valve. Press Enter to continue.
  Calibration takes 60 seconds. Do not move the sash during this time.

- **MIN CFM**
  0 CFM
  Minimum fume hood cfm.

- **MAX CFM**
  3000 CFM
  Maximum fume hood cfm.

- **CALIBRATING SASH #1**
  Shows the sash that will be calibrated in the next steps. **This section will repeat for each sash if multiple sash sensors are connected to the FHC.**

- **SASH TYPE VERTICAL**
  Choose the style of the sash being calibrated.
B. Equipment Calibration - Sash Continued...

- **MAX HEIGHT**
  - 25.0 IN

  Measure the height of the sash at its highest position and enter this value in inches.

- **MIN HEIGHT**
  - 1.0 IN

  Measure the height of the sash at its lowest position and enter this value in inches.

- **FULLY OPENSASH**
  - **OK**

  Place the sash in the fully open position and press the Enter/Menu button to save this position in the FHC memory.

- **CLOSE SASH**
  - **OK**

  Place the sash in the fully closed position and press the Enter/Menu button to save this position in the FHC memory.

- **SASH WIDTH**
  - 60.0 IN

  Measure the width of the sash and enter this value in inches. **NOTE:** Min Height, Max Height, and sash width are used by the FHC to calculate face velocity. **It is very important that these measurements are taken as accurately as possible.** Inaccurate measurements could cause unit failure and contamination of the laboratory space.

- **AIRFLOWSOURCE**
  - **KAVLICOSENSOR**

  Configure where airflow is being measured, such as LM module, Kavlico sensor, or no source.

- **K FACTOR**
  - 0

  Contact Price Ltd for more information. Available with Kavlico Sensor.

- **CONTROL METHOD**
  - **SASH**

  Refer to **Section 3D** for Sash Control, or refer to Sidewall Calibration (**Section 3C**) if a Hybrid configuration (**Section 3E**) is requested.
C. Sidewall - Control Method

Control Method determines the devices used to control the airflow to and from the fume hood. See section 3 for more details.

- **OCC. SETPOINT 100 FPM**
  - Set the minimum face velocity set point while room is occupied.

- **DEADBAND 10 FPM**
  - Set the minimum face velocity while room is in dead band. Sets the sensitivity of the FHC; a lower dead-band creates a higher sensitivity.

- **CAL VALVE OK**
  - This causes the valve to cycle through its range to calibrate the response. A countdown will be displayed until the valve calibration is complete. Available with Linear Cal.

- **LOW FPM ALARM 80 FPM**
  - Set the low alarm point for the face velocity of the fume hood.

- **HIGH FPM ALARM 120 FPM**
  - Set the high alarm point for the face velocity of the fume hood.

- **NETWORK TYPE MNET**
  - Choose between Mnet and BACnet.

- **MNET ADDRESS 1**
  - Set the unique network address of the FHC with a maximum of 16 devices.

- **EOL TERM DISABLED**
  - End of line termination - Enable this point if the current FHC is the final controller on the network chain. Disable this point if the current FHC is not the final controller on the network chain.

- **CALIBRATION COMPLETE**
  - Calibration is complete.

- **PRESS MENU TO EXIT**
  - Exit to Service Menu.
D. Sash - Control Method

Control Method determines the devices used to control the airflow to and from the fume hood. See section 3 for a more details.

- OCC. SETPOINT
  - 100 FPM
    - Set the minimum face velocity while room is occupied.

- DEADBAND
  - 10 FPM
    - Set the minimum face velocity while room is in dead band. Sets the sensitivity of the FHC; a lower dead-band creates a higher sensitivity.

- SETUP
  - SASH #1
    - Choose a method to calibrate the sash you wish to calibrate.

- SASHCTRL
  - METHOD
    - LINEAR CAL.
      - Choose a method to calibrate the sash you wish to calibrate. Linear, Cal Manually, or Cal. From SW.

- CAL VALVE
  - OK
    - Only available with Linear Cal as the Sash Control Method.

- OCCUPIED CAL.
  - OK
    - Repeats for 3”, 13”, 19”, and fully open sash heights. This menu will also repeat for Setback Cal, and is only available with ‘Cal. Manually’ as the Sash Control Method. Manual Cal will have you enter an FPM instead of a Stable FPM.

- CLOSE SASH
  - OK
    - Repeats for 3”, 13”, 19”, and fully open sash heights. This menu will also repeat for Setback Cal, and is only available with ‘Cal. Manually’ as the Sash Control Method. Manual Cal will have you enter an FPM instead of a Stable FPM.

- ENTER FPM
  - 100 FPM
    - Repeats for 3”, 13”, 19”, and fully open sash heights. This menu will also repeat for Setback Cal, and is only available with ‘Cal. Manually’ as the Sash Control Method. Manual Cal will have you enter an FPM instead of a Stable FPM.

- OPEN SASH 3”
  - OK
    - Repeats for 3”, 13”, 19”, and fully open sash heights. This menu will also repeat for Setback Cal, and is only available with ‘Cal. Manually’ as the Sash Control Method. Manual Cal will have you enter an FPM instead of a Stable FPM.

- SETBACK CAL.
  - OK
    - Repeats for 3”, 13”, 19”, and fully open sash heights. This menu will also repeat for Setback Cal, and is only available with ‘Cal. Manually’ as the Sash Control Method. Manual Cal will have you enter an FPM instead of a Stable FPM.

- LOW FPM ALARM
  - 80 FPM
  - Set the low alarm point for the face velocity of the fume hood.

- HIGH FPM ALARM
  - 120 FPM
  - Set the high alarm point for the face velocity of the fume hood.

- FPM ALARM HIGHT
  - 3.0 IN
  - FPM Alarm Height: set the minimum height that allows for a height FPM alarm.

- NETWORK TYPE
  - MNET
    - Choose between Mnet and BACnet.

- MNET ADDRESS
  - 1
    - Set the unique network address of the FHC with a maximum of 16 devices.
D. Sash - Control Method Continued...

- **EOL TERM DISABLED**
  - End of line termination – Enable this point if the current FHC is the final controller on the network chain. Disable this point if the current FHC is not the final controller on the network chain.

- **CALIBRATION COMPLETE**
  - Calibration is complete.

- **PRESS MENU TO EXIT**
  - Exit to Service Menu.
**E. Hybrid - Control Method**

- **CONTROL METHOD**
  Hybrid

- **MONITOR METHOD**
  SW Monitor

- **OCC. SETPOINT**
  100 FPM

- **DEADBAND**
  10 FPM

- **SETUP**
  SASH #1

- **SASH CTLMETHOD**
  CAL. FROM SW

- **CAL VALVE**
  OK

- **OCCUPIED CAL.**
  OK

- **CLOSE SASH**
  OK

- **STABLE?**
  0 FPM

- **OPEN SASH 3”**
  OK

- **CAL SETBACK?**
  NO

- **LOW FPM ALARM**
  80 FPM

- **HIGH FPM ALARM**
  120 FPM

- **LOPRESS ALARM**
  0.20 INH2O

- **HIPRESS ALARM**
  3.30 INH2O

Control Method determines the devices used to control the airflow to and from the fume hood. See section 3 for more details.

Monitor Method determines the devices used to monitor the airflow to and from the fume hood.

Set the minimum face velocity set point while room is occupied.

Set the minimum face velocity while room is in dead band. Sets the sensitivity of the FHC; a lower dead-band creates a higher sensitivity.

Choose a method to calibrate the sash you wish to calibrate.

Choose a calibration method for the sash you wish to calibrate. Linear Cal., Cal. Manually, Cal. From SW. **NOTE:** For Hybrid configuration, use Cal. From SW.

This causes the valve to cycle through its range to calibrate the response. A countdown will be displayed until the valve calibration is complete. Available with Linear Cal.

Repeats for 3”, 13”, 19”, and fully open. This menu will also repeat for Setback Cal, and available with Cal. Manually, and Manual Cal, as the Sash Control Method. Manual Cal will have you enter an FPM instead of a Stable FPM.

Repeats for 3”, 13”, 19”, and fully open. This menu will also repeat for Setback Cal, and available with Cal. Manually, and Manual Cal, as the Sash Control Method. Manual Cal will have you enter an FPM instead of a Stable FPM.

Repeats for 3”, 13”, 19”, and fully open. This menu will also repeat for Setback Cal, and available with Cal. Manually, and Manual Cal, as the Sash Control Method. Manual Cal will have you enter an FPM instead of a Stable FPM.

Repeats for 3”, 13”, 19”, and fully open. This menu will also repeat for Setback Cal, and available with Cal. Manually, and Manual Cal, as the Sash Control Method. Manual Cal will have you enter an FPM instead of a Stable FPM.

Set the low alarm point for the face velocity of the fume hood.

Set the high alarm point for the face velocity of the fume hood.

Low pressure alarm set point in inches of water. Alarm will be triggered if pressure goes below this value.

High pressure alarm set point in inches of water. Alarm will be triggered if pressure goes above this value.
E. Hybrid - Control Method Continued...

- **FPM ALARMHght**
  3.0 IN
  FPM Alarm Height: set the minimum height that allows for a height FPM alarm.

- **NETWORK TYPE**
  MNET
  Choose between Mnet and BACnet.

- **MNET ADDRESS**
  1
  Set the unique network address of the FHC with a maximum of 16 devices.

- **EOL TERM**
  DISABLED
  End of line termination – Enable this point if the current FHC is the final controller on the network chain. Disable this point if the current FHC is not the final controller on the network chain.

- **CALIBRATION COMPLETE**
  Calibration is complete.

- **PRESS MENU TO EXIT**
  Exit to Service Menu.
Balance & Verification

- Turn on fume hood and open the fume hood to full working height (typically 18”).
- Freeze the valve before taking measurements. Located in the “Diagnose Menu”. Enter the Service Menu using the passcode and scroll down to “Diagnose” and press Enter, scroll down to “Freeze Valve” and select “Yes”.

**NOTE:** To access the service menu hold ‘Enter/Menu’ for 5 seconds. This menu is password protected for safety. Please contact your local rep for Passcode or contact:

**Price Critical Controls:**
678-578-7495
criticalcontrols@price-hvac.com

- Set the air flow measurement instrument (i.e. Alnor) to take the average of all readings. Use the matrix airflow sensor to take the readings.
- Avoiding ~4” from the edges start taking measurements in a zig-zag pattern take about ten readings (the more the better)
- Depending on if a sidewall or a sash sensor is used compare with the readings displayed on the FHI and adjust the readings with the measurements taken.

**NOTE:** These settings can also be initially set using the Setup Wizard.

- Use “Sensor Scale” to scale the readings to the measurements made for Sidewall. Located in the CTRL/Monitor Menu. Enter the Service Menu using the passcode and scroll down to “CTRL/Monitor”, select Sidewall, press Enter, and select “Sensor Scale”.
- Use “Sensor Tweak” to tweak the readings to the measurements made for Sash. Located in the CTRL/Monitor Enter the Service Menu using the passcode and scroll down to “CTRL/Monitor”, select Sash, press Enter, and select “Sensor Tweak”.

![SERVICE MENU](image)

![DIAGNOSTICS MENU](image)

![MEASUREMENT PATTERNS - MATRIX FLOW SENSOR](image)

![SENSOR SCALE](image)

![SENSOR TWEAK](image)
**FUME HOOD CONTROLLER**

**SECTION 5 - DISPLAY NAVIGATION**

**FHI - Initial Start Up**

When the FHI is first powered from the FHC controller, it will display the following information: (Also press both UP/DOWN at same time to show this screen anytime.)

<table>
<thead>
<tr>
<th>PRICE ELECTRONICS</th>
<th>Start-up screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHI STANDARD MODEL</td>
<td>FHC Interface</td>
</tr>
<tr>
<td>FHI VERSION 3.XX</td>
<td>Fume Hood Interface - Firmware Version V3.xx or higher</td>
</tr>
<tr>
<td>LOADING: 0-100 %</td>
<td>Loading Screen – Thermostat pulls in variables from FHC</td>
</tr>
<tr>
<td>FHC VERSION 1.XX</td>
<td>FHC Controller - Firmware Version 1.XX or higher</td>
</tr>
<tr>
<td>FACE VELOCITY 60 FPM</td>
<td>After start up LCD will display default screens depending on mode of operation</td>
</tr>
</tbody>
</table>

**Information Menu**

Pressing the Enter/Menu button from the default display screen will open this menu.

<table>
<thead>
<tr>
<th>INFORMATION MENU</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIRFLOW 350 CFM</td>
<td>Displays the overall airflow through the hood.</td>
</tr>
<tr>
<td>SASH 1 HEIGHT 0.0 IN</td>
<td>Displays the current height of sash 1.</td>
</tr>
<tr>
<td>SASH 2 HEIGHT 0.0 IN</td>
<td>Displays the current height of sash 2.</td>
</tr>
<tr>
<td>SASH 3 HEIGHT 0.0 IN</td>
<td>Displays the current height of sash 3.</td>
</tr>
<tr>
<td>VALVEPRESSURE 0.050 INH20</td>
<td>Displays the pressure across the duct valve.</td>
</tr>
<tr>
<td>VELOCITY TRGT 60 FPM</td>
<td>Displays the set-point for the unit face velocity.</td>
</tr>
<tr>
<td>CONTROL METHOD AUTO CONTROL</td>
<td>Displays the current control method for face velocity of the fume hood.</td>
</tr>
<tr>
<td>OCCUPANCY OCCUPIED</td>
<td>Displays whether the fume hood is in use or not.</td>
</tr>
<tr>
<td>A01 USAGE ACTUATOR</td>
<td>Displays the current usage of analog output 1.</td>
</tr>
<tr>
<td>A01 10 VDC</td>
<td>Displays the current analog output 1 voltage.</td>
</tr>
<tr>
<td>A02 UNUSED</td>
<td>Displays the current usage of analog output 2.</td>
</tr>
<tr>
<td>A02 0.0 VDC</td>
<td>Displays the current analog output 2 voltage.</td>
</tr>
<tr>
<td>PRESS MENU TO EXIT</td>
<td>Exits back to the main display default screen.</td>
</tr>
</tbody>
</table>
Controller

**Down Button**
Used for menu selection and adjustment – press both Up and Down arrows at the same time to display interface Startup screens.

**Up Button**
Used for menu selection and adjustment – press both Up and Down arrows at same time to display interface Startup screens.

**Menu/Enter**
Used to Enter service menu(s). The menu(s) are password protected.

**Mute**
Used to temporarily mute the local alarm for a certain number of minutes.

**Emergency**
Used to trigger emergency mode. Local Alarm will sound and BACnet point will change to Alarm alerting the front end system.

Service Menu

The service menu contains all setup and configuration parameters. Each FHC ships with factory defaults, but virtually all settings can be adjusted in the field. All MAIN menus are listed on this page. Use the WIZARD and/or menus shown to setup the FHC for your application.

**NOTE:** To access the service menu hold ‘Enter/Menu’ for 5 seconds. This menu is password protected for safety. Please contact your local rep for Passcode or contact:

**Price Critical Controls:**
678-578-7495
criticalcontrols@price-hvac.com

---

**SERVICE MENU ▼**

- **SERVICE MENU: CTRL/MONITOR**
  - Control/Monitor – Manual setup menu for control and monitor methods

- **SERVICE MENU: ALARM POINTS**
  - Alarm Points – Manual setup menu for alarm points

- **SERVICE MENU: OCCUPANCY**
  - Occupancy Menu – To force occ, force setback, etc.

- **SERVICE MENU: INPUTS**
  - Inputs – Configure the functions of the FHC binary inputs

- **SERVICE MENU: OUTPUTS**
  - Outputs – Configure the functions of the FHC binary and analog outputs

- **SERVICE MENU: NETWORK**
  - Network – Choose network type (BACnet, or Mnet)

- **SERVICE MENU: FHI SETUP**
  - FHI Setup – Configure the FHI such as display options, LED color, alarm type, etc.

- **SERVICE MENU: DIAGNOSTIC**
  - Diagnostics – Provides manual control and monitoring of important FHC variables.
FUME HOOD CONTROLLER

SECTION 6 - ADVANCED

Setup Wizard Menu

The first time the FHC is powered on the attached FHI will step through the setup wizard. This allows a quick setup of the parameters needed. The Wizard can then be run at any time from the Service Menu.

**SERVICE WIZARD**

**MENU**

**WELCOME**

Setup Wizard – **Press Menu** key to advance through the wizard.

**DETECTED**

**EQUIPMENT**

This is the beginning of the list of detected equipment connected to the FHC.

**SIDEWALLSNSR1**

**DETECTED**

Shows the connection status of Price Sidewall Sensor 1.

**SIDEWALLSNSR2**

**NOT DETECTED**

Shows the connection status of Price Sidewall Sensor 2.

**SASH 1**

**DETECTED**

Shows the connection status of Price Sash Sensor 1.

**SASH 2**

**NOT DETECTED**

Shows the connection status of Price Sash Sensor 2.

**SASH 3**

**NOT DETECTED**

Shows the connection status of Price Sash Sensor 3.

**OPEN THE SASH TO WORKHEIGHT**

Open the sash to working height. Typically 18 inches.

**CAL VALVE**

**OK**

Prompt confirming that controller will now calibrate the valve. Press Enter to continue. Calibration takes 60 seconds. Do not move the sash during this time.

**PUT TAPE OVER THE SIDEWALLSENSOR**

Message instructing to “Put tape over the Sidewall sensor” to start calibration. **NOTE:** Tape must be put over all Sidewall sensors. Ensure tape is tightly sealed over the Sidewall sensor.

**ZERO SWSENSOR**

**OK**

Read the note below before pressing the **Enter/Menu** button to continue. This will calibrate the zero-pressure point of all sidewall sensors simultaneously. **NOTE:** Before calibrating the zero-pressure point of the sidewall sensors, do the following:
1. Turn off all fans connected to the fume hood.
2. Tape off both pressure ports of ALL sidewall sensors ensuring that port opening is completely sealed.

Remove the tape from all sensors.

**OPEN SASH TO WORKING HEIGH**

Open sash to working height. Typically 18 inches.

**STABLE?**

**100 FPM**

Wait for the airflow measurement to stabilize. Once you have a stable reading, press Enter to continue to the next sash sensor.
## Setup Wizard Menu Continued...

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FPM AT SCALE</strong></td>
<td>100 FPM</td>
</tr>
<tr>
<td><strong>SENSOR SCALE</strong></td>
<td>1.000</td>
</tr>
<tr>
<td><strong>FPM AT SCALE</strong></td>
<td>100 FPM</td>
</tr>
<tr>
<td><strong>SW SCALE OK?</strong></td>
<td>YES</td>
</tr>
<tr>
<td><strong>MIN CFM</strong></td>
<td>0 CFM</td>
</tr>
<tr>
<td><strong>MAX CFM</strong></td>
<td>1500 CFM</td>
</tr>
<tr>
<td><strong>CALIBRATING SASH</strong></td>
<td>#1</td>
</tr>
<tr>
<td><strong>SASH TYPE</strong></td>
<td>VERTICAL</td>
</tr>
<tr>
<td><strong>MAX HEIGHT</strong></td>
<td>25.0 IN</td>
</tr>
<tr>
<td><strong>MIN HEIGHT</strong></td>
<td>1.0 IN</td>
</tr>
<tr>
<td><strong>FULLY OPENSASH OK</strong></td>
<td></td>
</tr>
<tr>
<td><strong>CLOSE SASH OK</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SASH WIDTH</strong></td>
<td>60 IN</td>
</tr>
<tr>
<td><strong>AIRFLOWSOURCE</strong></td>
<td>NO SOURCE</td>
</tr>
<tr>
<td><strong>K FACTOR</strong></td>
<td>0</td>
</tr>
</tbody>
</table>

Comparing measurements made by an external airflow measurement device, such as a Short Ridge Instrument, and the reading on the FHI, view if any adjustments are required to match the measurements made by the Short Ridge Instrument.

Comparing measurements made by an external airflow measurement device, such as a Short Ridge Instrument, and the reading on the FHI, adjust the scale to match the measurements made by the Short Ridge Instrument.

Comparing measurements made by an external airflow measurement device, such as a Short Ridge Instrument, and the reading on the FHI, view if any adjustments are required to match the measurements made by the Short Ridge Instrument.

This is a secondary confirmation check to ensure that the face velocity reading is accurate.

Confirm that sidewall sensor is at scale. If ‘Yes’, the Wizard will proceed with the setup process. If ‘No’, the Wizard will repeat the Sensor Scaling/Stability process.

Select the minimum scheduled CFM value that the fume hood will be operating at. This is not the minimum range of the valve.

Select the maximum scheduled CFM value that the fume hood will be operating at. This is not the maximum range of the valve.

Shows the sash that will be calibrated in the next steps. *This section will repeat for each sash if multiple sash sensors are connected to the FHC.*

Choose the style of the sash being calibrated. Select Vertical if the entire sash moves and operates in the vertical orientation. Select Horizontal if the entire sash moves and operates in the horizontal orientation.

Measure the height of the sash at its highest position and enter this value in inches. This is the measurement from the base of the sash to the work surface of the fume hood.

*NOTE:* Ensure that the measurement is to the work surface and not the airfoil.

Measure the height of the sash at its lowest position and enter this value in inches. This is the measurement from the base of the sash to the work surface of the fume hood.

*NOTE:* Ensure that the measurement is to the work surface and not the airfoil.

Place the sash in the fully open position and press the Enter/Menu button to save this position in the FHC memory.

Place the sash in the fully closed position and press the Enter/Menu button to save this position in the FHC memory.

Measure the width of the sash and enter this value in inches.

*NOTE:* Min Height, Max Height, and Sash Width are used by the FHC to calculate face velocity. **It is very important that these measurements are taken as accurately as possible.** Inaccurate measurements could cause unit failure and contamination of the laboratory space.

Configure where airflow is being measured, such as LM module, Kavlico Sensor, or no source.

*NOTE:* This option is not available with Venturi Valves.

Contact Price Ltd for more information.

*NOTE:* This option is not available with Venturi Valves.
FUME HOOD CONTROLLER

SECTION 6 - ADVANCED

Setup Wizard Menu Continued...

**CONTROL METHOD**
- SIDEWALL CTRL
  - Provides a selection of control methods. This is the primary type of control that the fume hood will use.
  - **Sash Sensor Control**: This method calculates the face velocity using the dimensions of the fume hood opening and the current CFM. This method will control face velocity.
  - **Sidewall Sensor Control**: This method measures the face velocity through the fume hood by measuring the pressure within the unit from the sidewall sensor. This method will control face velocity.
  - **Hybrid Control**: This method is an optimized combination of both sidewall sensor and sash sensor control. It is the most effective method of fume hood control and is recommended in all cases.

**FALBACK CTRL**
- NO FALLBACK
  - Provides a selection of fallback control methods.
  - This is the type of control the fume hood will use if the primary control method fails.
  - **Sash Sensor Control**: This method calculates the face velocity using the dimensions of the fume hood opening and the current CFM. This method will control face velocity.

**MONITOR METHOD**
- SW MONITOR
  - Provides a selection of monitor methods. This is how the face velocity of the fume hood is monitored and displayed.
  - **Sash Sensor Monitoring**: The face velocity is monitored and displayed using the position of the sash and by calculating the open space area of the fume hood.
  - **Sidewall Sensor Monitoring**: The face velocity is monitored and displayed using the Sidewall sensors. The Sidewall sensors calculates the face velocity by measuring the difference in pressure between the outside of the fume hood and the inside work area of the fume hood.

**OCC. SETPOINT**
- 100 FPM
  - Choose the default face velocity set point when the fume hood is occupied.

**DEADBAND**
- 10 FPM
  - Sets the sensitivity of the FHC; a lower dead-band creates a higher sensitivity.
  - This is the minimum/maximum allowable deviation in face velocity before the FHC will make adjustments to the valve.

**SASHCTRLMETHOD**
- LINEAR CAL.
  - Choose a method to calibrate the sash you wish to calibrate. Linear, Cal Manually, or Cal from SW.

**LOW FPM ALARM**
- 80 FPM
  - Set the low alarm point for the face velocity of the fume hood.
  - If the face velocity drops below the user set value, the controller will go into alarm mode.

**HIGH FPM ALARM**
- 120 FPM
  - Set the high alarm point for the face velocity of the fume hood.
  - If the face velocity rises above the user set value, the controller will go into alarm mode.

**FPM ALARM HEIGHT 3.0 IN**
  - FPM Alarm Height: set the minimum height that allows for a height FPM alarm.

**NETWORK TYPE**
- MNET
  - This sets the communication protocol the FHC will use. Select BACnet if the controller is not being connected to a Price Lab Space Controller (LSC) and is instead being connected directly to a BACnet front-end. Select MNET if the FHC will be connected to a Price LSC.

**MNET ADDRESS**
- 1
  - Set the unique network address of the FHC with a maximum of 16 devices.

**EOL TERM**
- DISABLED
  - **End of Line Termination** – Enable this point if the current FHC is the final controller on the network chain.
  - Disable this point if the current FHC is not the final controller on the network chain.

**CALIBRATION COMPLETE**
  - Calibration Complete.

**PRESS MENU TO EXIT**
  - Exit to service menu.
Service Menu

Control Method determines the devices used to control the airflow to and from the fume hood. Options are: No Control, Sidewall Control, Sash Control, and Hybrid. See Section 3 for more details.

Monitor Method determines the devices used to monitor the airflow to and from the fume hood. Options are: Sash Monitor and Sidewall Monitor.

Set the minimum face velocity set point while the room is occupied.

Set the minimum face velocity while the room is in dead band. Sets the sensitivity of the FHC; A lower dead band creates a higher sensitivity.

Set the minimum face velocity set point while the room is in Setback mode.

Actuator target (in %) when the fume hood is off.

Set the minimum allowable CFM to the unit.

Set the maximum allowable CFM to the unit.

Configure control and monitoring options for the Sidewall sensor.

This can be used to hold the venturi valve in its current position. Enabling freeze valve will disable all control aspects of FHC while enabled.

Comparing measurements made by and external airflow measurement device, such as a Short Ridge Instrument, and the reading on the FHI, adjust the scale to match the measurements made by the Short Ridge Instrument.

Displays the current face velocity of the fume hood in FPM.

Full offset of the FPM that the sensor reads.

Option to zero the sidewall sensor.

Set the sensitivity of the fume hood controller.
Service Menu Continued...

- **CTRL/MONITOR:**
  - SASH

- **SASH MENU:**
  - CALIBRATESASH

- **CALIBRATING SASH #1**
  - **SASH TYPE**
    - VERTICAL
  - **MAX HEIGHT**
    - 25.0 IN
  - **MIN HEIGHT**
    - 1.0 IN
  - **FULLY OPENSASH**
    - OK
  - **SASH WIDTH**
    - 60.0 IN

- **SASH TYPE:**
  - VERTICAL

- **MAX HEIGHT**
  - 25.0 IN

- **MIN HEIGHT**
  - 1.0 IN

- **FULLY OPENSASH**
  - OK

- **SASH WIDTH**
  - 60.0 IN

- **NOTE:** Min Height, Max Height, and Sash Width are used by the FHC to calculate face velocity. It is very important that these measurements are taken as accurately as possible. Inaccurate measurements could cause unit failure and contamination of the laboratory space.

- **SASH MENU:**
  - SASH CTRL

- **SASH CTRL METHOD**
  - CAL. FROM SW

- **SASHCTRLMENU:**
  - OCCUPIED CAL
  - SETBACK CAL

- **SASH TWEAK**
  - 0

- **SASH OFFSET**
  - 0

- **PRESS MENU TO EXIT**

- **PRESS MENU TO EXIT**

- **CTRL/MONITOR:**
  - CAL VALVE

- **CAL VALVE**
  - NO

- **CAL VALVE**
  - NO

- **PRESS MENU TO EXIT**

- **PRESS MENU TO EXIT**

- **NOTE:** Min Height, Max Height, and Sash Width are used by the FHC to calculate face velocity. It is very important that these measurements are taken as accurately as possible. Inaccurate measurements could cause unit failure and contamination of the laboratory space.

- **PRESS MENU TO EXIT**

- **PRESS MENU TO EXIT**

- **NOTE:** Min Height, Max Height, and Sash Width are used by the FHC to calculate face velocity. It is very important that these measurements are taken as accurately as possible. Inaccurate measurements could cause unit failure and contamination of the laboratory space.

- **PRESS MENU TO EXIT**

- **PRESS MENU TO EXIT**

- **NOTE:** Min Height, Max Height, and Sash Width are used by the FHC to calculate face velocity. It is very important that these measurements are taken as accurately as possible. Inaccurate measurements could cause unit failure and contamination of the laboratory space.

- **PRESS MENU TO EXIT**

- **PRESS MENU TO EXIT**

- **NOTE:** Min Height, Max Height, and Sash Width are used by the FHC to calculate face velocity. It is very important that these measurements are taken as accurately as possible. Inaccurate measurements could cause unit failure and contamination of the laboratory space.

- **PRESS MENU TO EXIT**

- **PRESS MENU TO EXIT**

- **NOTE:** Min Height, Max Height, and Sash Width are used by the FHC to calculate face velocity. It is very important that these measurements are taken as accurately as possible. Inaccurate measurements could cause unit failure and contamination of the laboratory space.

- **PRESS MENU TO EXIT**

- **PRESS MENU TO EXIT**

- **NOTE:** Min Height, Max Height, and Sash Width are used by the FHC to calculate face velocity. It is very important that these measurements are taken as accurately as possible. Inaccurate measurements could cause unit failure and contamination of the laboratory space.

- **PRESS MENU TO EXIT**

- **PRESS MENU TO EXIT**

- **NOTE:** Min Height, Max Height, and Sash Width are used by the FHC to calculate face velocity. It is very important that these measurements are taken as accurately as possible. Inaccurate measurements could cause unit failure and contamination of the laboratory space.

- **PRESS MENU TO EXIT**

- **PRESS MENU TO EXIT**

- **NOTE:** Min Height, Max Height, and Sash Width are used by the FHC to calculate face velocity. It is very important that these measurements are taken as accurately as possible. Inaccurate measurements could cause unit failure and contamination of the laboratory space.

- **PRESS MENU TO EXIT**

- **PRESS MENU TO EXIT**

- **NOTE:** Min Height, Max Height, and Sash Width are used by the FHC to calculate face velocity. It is very important that these measurements are taken as accurately as possible. Inaccurate measurements could cause unit failure and contamination of the laboratory space.

- **PRESS MENU TO EXIT**
FUME HOOD CONTROLLER

SECTION 6 - ADVANCED

Alarm Points Menu

- **LOW FPM ALARM**
  - **DISABLED**
  - Set the low alarm point for the face velocity of the fume hood.

- **HIGH FPM ALARM**
  - **120 FPM**
  - Set the high alarm point for the face velocity of the fume hood.

- **SETBACK LOW FPM**
  - **60 FPM**
  - Set the low alarm point for the face velocity of the fume hood when in Setback mode.

- **SETBACK HIGH FPM**
  - **120 FPM**
  - Set the high alarm point for the face velocity of the fume hood when in Setback mode.

- **FPM ALARMS HEIGHT**
  - **3.0 IN**
  - FPM Alarm Height: Set the minimum height that allows for a height FPM alarm.

- **SASH HEIGHT CAUTION**
  - **0.0 IN**
  - If sash goes above this value, the controller goes into caution mode.

- **LOW PRESS ALARM**
  - **DISABLED**
  - Set the low alarm point for the pressure of the fume hood valve.

- **HIGH PRESS ALARM**
  - **3.30 IN H2O**
  - Set the high alarm point for the pressure of the fume hood valve.

- **LOW CFM ALARM**
  - **DISABLED**
  - Set the low alarm point for the CFM of the unit.

- **HIGH CFM ALARM**
  - **DISABLED**
  - Set the high alarm point for the CFM of the unit.

- **FACE VELOCITY**
  - **10 SEC.**
  - Delay before face velocity alarm activates.

- **VALVE PRESSURE**
  - **10 SEC.**
  - Delay before valve pressure alarm activates.

- **AIRFLOW**
  - **10 SEC.**
  - Delay before airflow alarm activates.

- **SASH HEIGHT CAUTION**
  - **0 SEC.**
  - Delay before sash height caution activates.

- **PRESS MENU TO EXIT**

PRESS MENU TO EXIT
FUME HOOD CONTROLLER

SECTION 6 - ADVANCED

Occupancy Menu

SERVICE MENU: OCCUPANCY

OCC OVERRIDE

NO OVERRIDE

Occupancy Override – Allows to Force setback, Force Occupancy, or Disable.

PRESS MENU TO EXIT

Input Menu

SERVICE MENU: INPUT

B11 CONFIG UNUSED

B12 CONFIG UNUSED

Configuration of the binary inputs.
Unused, Setback on Close, Setback on Open, Off on Closed, Off on Opened, Alarm on Closed, Caution on Closed, Emergency Purge on Closed.

PRESS MENU TO EXIT

Output Menu

SERVICE MENU: OUTPUT

OUTPUT BINARY

OUTPUT

Configuration of the binary outputs. Options are:
Unused, Force On, Force Off, Normal, Occupied, Setback, Alarm, Caution, Follow BI 1, Follow BI 2, Emergency.

OUTPUT ANALOG

OUTPUT

Configuration of the analog outputs. Options are:
Unused, Actuator, Alarm 5V, Face Velocity, Valve Pressure, Valve Flow.

A01 USAGE

ACTUATOR

A02 USAGE

VALVE FLOW

CURRENT A01

0.00 VDC

Displays the current value of A01

CURRENT A02

0.00 VDC

Displays the current value of A02

PRESS MENU TO EXIT
Network Menu

- **NETWORK TYPE**
  - MNET
    - This sets the communication protocol the FHC will use. Select BACnet if the controller is not being connected to a Price Lab Space Controller (LSC) and is instead being connected directly to a BACnet front-end. Select Mnet if the FHC will be connected to a Price LSC.

- **MNET ADDRESS**
  - 1
    - Set the unique network address of the FHC with a maximum of 16 devices.

- **EOL TERM**
  - DISABLED
    - End of Line Termination – Enable this point if the current FHC is the final controller on the network chain. Disable this point if the current FHC is not the final controller on the network chain.

Occupy Priorities

The Occupancy Priority list is a list that explains which occupancy sources take precedence over one another. 0 being the highest priority, and 6 being lowest priority. The priority list is factory set and can not be edited.

<table>
<thead>
<tr>
<th>Priority Level</th>
<th>Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>LCD FHI Force Occupied</td>
<td>Force Occupancy through the LCD FHI Occupancy Menu.</td>
</tr>
<tr>
<td>1</td>
<td>LCD FHI Force Setback</td>
<td>Force Setback through the LCD FHI Occupancy Menu.</td>
</tr>
<tr>
<td>2</td>
<td>LCD FHI Force Off</td>
<td>Turn occupancy off through the LCD FHI Occupancy Menu.</td>
</tr>
<tr>
<td>3</td>
<td>BACnet Force Occupied</td>
<td>Force Occupancy through BACnet. Can not Force Setback, or Force off, this is to prevent the fumehood from being forced into setback, or forced off remotely while in use.</td>
</tr>
<tr>
<td>4</td>
<td>Off Source (eg Bls)</td>
<td>Source to trigger Force Off.</td>
</tr>
<tr>
<td>5</td>
<td>Setback source (eg Bls)</td>
<td>Source to trigger Force Setback.</td>
</tr>
<tr>
<td>6</td>
<td>Occupied</td>
<td>When no other priorities are met the fumehood defaults into Occupancy.</td>
</tr>
</tbody>
</table>
FUME HOOD CONTROLLER

SECTION 6 - ADVANCED

FHI Setup Menu
Once in Service Menu, Scroll Down and press ‘Enter Menu’ to enter the FHC Service Menu.

<table>
<thead>
<tr>
<th>SERVICE MENU: FHI SETUP</th>
<th>DISPLAYOPTIONS</th>
<th>FACE VELOCITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUMEHOOD NAME</td>
<td>Choose a name for the fume hood.</td>
<td></td>
</tr>
<tr>
<td>ALARM TYPE WAIL</td>
<td>Choose the alarm type. No Tone, Steady 2KHz, Wail, or Red Alert.</td>
<td></td>
</tr>
<tr>
<td>FHI MUTE TIME 240 SEC.</td>
<td><strong>FHI Mute Time</strong> – This provides control over the length of time the mute button will silence an alarm.</td>
<td></td>
</tr>
<tr>
<td>EMERG BUTTON ENABLED</td>
<td>Enables or disables the Emergency button.</td>
<td></td>
</tr>
<tr>
<td>LITEBAR-NORM. GREEN</td>
<td>Choose the light bar color for normal conditions.</td>
<td></td>
</tr>
<tr>
<td>LITEBAR-CAUT. YELLOW</td>
<td>Choose the light bar color for caution conditions.</td>
<td></td>
</tr>
<tr>
<td>LITEBAR-ALARM BLINK RED</td>
<td>Choose the light bar color for alarm conditions.</td>
<td></td>
</tr>
<tr>
<td>LITEBAR-STBCK SKY BLUE</td>
<td>Choose the light bar color for setback conditions.</td>
<td></td>
</tr>
<tr>
<td>LITEBAR-OFF SKY BLUE</td>
<td>Choose the light bar color when the fume hood is off.</td>
<td></td>
</tr>
</tbody>
</table>

PRESS MENU TO EXIT
Diagnostic Menu

Once in Service Menu, Scroll Down and press ‘Enter Menu’ to enter the FHC Service Menu.

- **DIAGNOSTIC: LOAD DEFAULTS**
  Resets the controller to the factory defaults.
- **DIAGNOSTIC: RESETCONTROLLER**
  Manually resets the FHC.
- **SIDEWALLSNSR1 NOT DETECTED**
  Shows the connection status of Sidewall Sensor 1.
- **SIDEWALLSNSR2 NOT DETECTED**
  Shows the connection status of Sidewall Sensor 2.
- **A01 OVERRIDE DISABLED**
  Analog Output 1 Override – Allows control over the output voltage of AO1.
- **A02 OVERRIDE DISABLED**
  Analog Output 2 Override – Allows control over the output voltage of AO2.
- **FREEZE VALVE NO**
  Freeze Valve – This can be used to hold the venturi valve in its current position. **NOTE**: Enabling freeze valve will disable all control aspects of FHC while enabled.
- **K FACTOR 0**
  Contact Price Ltd for more information. Available with Kavlico Sensor only.
- **SASH 1 DETECTED**
  Shows the connection status of Sash 1.
- **SASH 2 NOT DETECTED**
  Shows the connection status of Sash 2.
- **SASH 3 NOT DETECTED**
  Shows the connection status of Sash 3.
- **SASH 1 HEIGHT 25.0 IN**
  Shows the current height of Sash 1 in inches.
- **PRESS MENU TO EXIT**

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**FREEZE VALVE**

**NOTE:** Enabling freeze valve will disable all control aspects of FHC while enabled.