BACVIEW MANUAL
Software Version 7.03.00

INSTALLATION
AND
OPERATION
MANUAL

641-K31

Bosch Group
BACVIEW INSTALLATION AND OPERATION

IMPORTANT: This manual is for use with FHP controller with software version 7.03.00 on factory installed equipment. See controller label as shown in figure on page 24 to verify correct part number.

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The BACview Interface

The BACview module (as shown in figure 1) is a combination keypad/display unit that attaches to a control module to let you view and change property values and the controller's real time clock in application where a system server is not available.

Figure 1 – BACview – 641-231

The contrast of the LCD display can be adjusted by using a screw diver and turning the contrast screw counterclockwise or clockwise, see figure 1 to locate this feature on the BACview display.
**BACview screens**

Screens can only be accessed if the BACview programmer created links to them, screens shown in this manual have been custom programmed at FHP to support the different Zone controller applications and this manual shows only the ones for the software version 7.03.00 for other software versions please visit our website at www.fhp-mfg.com.

**Alarm**

On this screen the user could see the 100 most recent alarms received by the controller

**Clockset**

This screen allows the user to set the controller real time clock, however when operating on a network with a server and a gateway the controller will take the time of the gateway and it will always take precedence over the one set by the keypad/display.

**Keypad**

This screen allows the user or operator to define:

- The period of inactivity required before the Display dims out
- The priority (1-16) the BACview uses to write BACnet® properties. 1 being the highest priority. 16 is the default.

**BACnet®**

This screen allows the user to see the controller’s BACnet® name and ID.

**Comm**

This screen allows the user set the communications protocol and parameters for the port to which a third party device is connected to.
Symbols that may appear in the Display

If the operator selects a screen that requires a password, the LOGIN screen is displayed. How to log in will be covered in detail in the login in section.

Question marks (??????) indicate a programming error that must be fixed by the BACview6 programmer.

A Question marks in a square parenthesis [?] means the program has detected a feature but needs jumper setting configuration to work properly.

Pound signs (#####) indicate that a value has too many digits to display in the existing field.

User may be able to navigate the available screens using pre-programmed “Hotkeys” or “Highlighting Links”.

These terms will be covered in detail in the navigating the BACview screens section.
BACview help screens [?]

When the user configures the unit for a particular setting there may be some hardware settings that are required for the new configuration to work for instance jumper settings. The program has self diagnostics capability to inform the user of such as setting. A question mark [?] means the program has detected a feature but needs jumper setting configuration to work properly.

Figure 3 - Help link [?] on screen

Figure 4 - Help description example
Using the BACview

How to Activate the BACview

The BACview screen goes dim after 1 minute of inactivity. Press any key except MUTE or FN, to activate the screen.

TIP: The inactivity time can be changed by accessing the keypad screen pressing FN + 6.

In the BACview control section, change the number in the Keypad Inactivity timeout field.

How to Activate the BACview

Press any key except MUTE or FN, to activate the screen located above the enter button.

To navigate

To navigate or move within selected screen press the up, down, left and right arrow buttons.

Changing a point value

Use the navigation keys to highlight the point or property that needs to be changed and press enter.
Press the arrows to navigate to the character that will have a change in value

```
[22]: 0 2 : 1 2
```

Highlighted character

Once selected; three different scenarios can be presented depending on the type of point is being changed as follows:

1. If the value is a decimal number, one of the numbers available in the keypad can be pressed to change its value.
2. The point has a binary or multi stage value; in this case the softkeys can be utilized to increase (INCR) or decrease (DECR) the variable value or to navigate through the different multistage values available.
3. The user can press the CANCEL softkey to restore the variable to its original value.

If additional points or variables need to be changed repeat the “changing a point value” procedure for every point required.

IMPORTANT:

Information edited on the BACview will affect only the control module until they are uploaded to the Building Automation Server.

If a gateway module is on the network, the time set in the gateway takes precedence over a time entered in the BACview.
Using Hotkeys

Hotkeys are to BACview as to shortcuts are to computers, the BACview can support up to 10 hotkeys, FHP has programmed the following as standard as shown in table 1.

<table>
<thead>
<tr>
<th>HOTKEY</th>
<th>SCREEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function 1</td>
<td>Admin or user password</td>
</tr>
<tr>
<td>Function 2</td>
<td>View/Set User password</td>
</tr>
<tr>
<td>Function 3</td>
<td>Set Current Time</td>
</tr>
<tr>
<td>Function 4</td>
<td>Alarm</td>
</tr>
<tr>
<td>Function 5</td>
<td>BACnet (Exec B)</td>
</tr>
<tr>
<td>Function 6</td>
<td>Keypad Configuration</td>
</tr>
<tr>
<td>Function 7</td>
<td>Tuning Parameters</td>
</tr>
<tr>
<td>Function 8</td>
<td>Calibration</td>
</tr>
<tr>
<td>Function 9</td>
<td>Checkout/Overrides</td>
</tr>
</tbody>
</table>

Table 1 – Standard Hotkeys
To Activate the Hotkey press FN + Number:

In the example above the BACview will jump to the View/Set user password screen

Muting Alarms

Alarms are displayed and broadcasted through the network and usually indicate equipment malfunctioning or maintenance required.

To mute or silence an alarm press MUTE key on the BACview:

Once the mute key is pressed the alarm will be silenced, however it will not be removed from the active status window, the user will be required to press FN+MUTE to silence an alarm and remove its active status in the BACview6.

NOTE:
The alarm is moved from the Active Alarms category to the Manually Cleared category on the Alarms screen
Logging in to the BACview

The BACview has the capability for password protecting some of the screens that the user will be interacting with; this is done to prevent critical parameters changes by non qualified personnel in a particular unit.

If while accessing a particular screen or variable a log in is required the user needs to enter the four (4) digits password FHP has preprogrammed these to be the following:

Technician password: 1111
User/ Customer password: 0000

BACview allows screens to be programmed with different access restrictions or access levels as shown in table 2.

In some cases the screen is not password protected, however some of the parameters or variables within the screen may be, a common indication that the variable or parameter is password protected that the user is prompted to log in to change a particular value.

<table>
<thead>
<tr>
<th>Restriction Level</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Anyone can access, but to edit a field in this screen, the operator must log in with either the User or Admin password.</td>
</tr>
<tr>
<td>User or Customer</td>
<td>An operator logged in with the User or Admin password.</td>
</tr>
<tr>
<td>Technician</td>
<td>An operator logged in with the Admin password.</td>
</tr>
</tbody>
</table>

Table 2 – Screens’ access levels

IMPORTANT:
Critical set points such as High/Low cooling and heating limit set points should only be changed by qualified personnel and/or as directed by test and balancing agency.
Navigating the BACview screens

BACview screens can be accessed and navigated using three methods as mentioned in *Using the Bacview* section.

This section uses both concepts combined so that the user is familiar with both as most real applications need the combination of the arrow keys and soft keys methods to access the different screens.

From the HOME screen use the arrow key to highlight and access different properties in screen as shown.

Use the Soft Keys to access screens that are assigned to them.

**HOME**

The HOME screen shows the major categories the user can interface with; most of them along with the parameters within them can be configured via the BACview.

---

Figure 6 – HOME Screen – Water to Air Standard
Figure 7 - HOME Screen - Humidity control

Figure 8 - HOME Screen - Humidity & CO2
Unit Setup Screen

This screen can be accessed via the home screen via its third softkey from left to right.

This screen allows the commissioning agent to setup or change the following parameters of the unit:

- Occupancy Command Entity
- Zone Sensor Type
- Compressors/Stages
- Heat/Cool Options
- CO2 Sensor Options

The unit is normally configured at the factory to match the configuration requested by the customer, however there are cases where additional on site changes need to be made and this screen will allow the qualified technical personnel or commissioning agent to incorporate such changes (without having to download a different software application) via the commissioning tool.

Figure 9 - Unit Operation Setpoint - Setup Screen
Occupancy Command Entity

This parameter is used to define the entity that will be providing the occupancy command to the unit.

The options for this variable are the following:

- Keypad_Schedule
- BAS_Command
- Digital input
- Manual On

The unit factory default is set to Keypad_schedule as this will allow the unit to run in an 8:00 AM to 5:00 PM default schedule everyday if the unit is to be started up during the construction phase of the project.

If the unit is intended to run all the time it can be set to Manual_On this will override the schedule and set the unit into occupied mode all the time.

If the unit occupancy is needed to be controlled remotely via a (dry contact) switch or a relay while it is integrated into the BAS, the user can set the variable to Digital_Input, this will allow the unit to be set to occupied once IN1 is shorted to ground and unoccupied while it is open.

**IMPORTANT:**
This feature is disabled when the unit has a sensor terminated in IN1, for instance when the unit requires CO2 or Humidity sensors the user will not be able to configure the unit for Digital Input occupancy command.

The qualified technical agent can change this parameter to be BAS_Command, this will enable the unit to be commanded from the BAS Server.

The unit is ready for BAS integration once this parameter is set up, the unit can then be commanded to occupied or unoccupied via the BAS by using the integration point Occupancy Status.
Once in the **Unit Operation Setpoint** screen the user will be able to configure the unit to match the intended application. The following list provides the most common water to air applications:

- Standard Heat Pump (HP)
- Heat Pump Aux Electric Heat
- Heat Pump with Hot Gas Re-Heat
- Straight Cooling
- Straight Cooling with Aux Electric heat
- Straight cooling with Hot Gas Re-Heat
- Heat Pump with CO2 Monitoring
- Heat Pump with CO2 and OA Damper
- Heat Pump with Remote Temp Sensor (RAT)
- Heat Pump BAS Temp Sensor (BACnet® point)
- Heat Pump BAS CO2 Sensor (BACnet® point)
- Heat Pump - ECM Blower/2 Stage Compressor

Some of the Features are mutually exclusive as the controller only has a fix number of physical Inputs and Outputs.

For example if the unit has been order as a Humidity Control unit it cannot add an additional stage of Electric Heat or a ventilation damper.

FHP has the ability to provided customized solutions to meet the project/customer requirements; however, and due to the complexity that some systems require FHP will manage them under the custom programming category which may required a controller with a greater I/O capacity.

If special unit requirements are needed, please contact us:

**By Phone:**

Applications Engineering Team
954-776-5471

**On-line:**

[www.fhp-mfg.com](http://www.fhp-mfg.com)
**Unit Operation screen**

The unit operation screen can be accessed by selecting its link on the Home screen.

Use the navigation keys to scroll down and see all parameters available on this screen.

This screen allows the user to check the current status of both unit configuration and unit operating modes.

User can change these parameters by selecting *SETUP* link from the home screen or by selecting the *stpt* link on the bottom of the screen.

---

**Figure 10 – Unit operation screen**

Note: The example configuration above does not allow the user to use DI1 for occupancy command as all the physical inputs on the DDC have been used, and therefore does not show the status of it.
Temperature screen

The Temperature screen can be accessed by selecting its link on the Home screen.

Use the navigation keys to scroll down and see all parameters available on this screen.

This screen allows the user to see all the current values of the temperature variables.

From the Temperature screen the user can access the temperature set points values which allow the user to set up the occupied and unoccupied set points to which the unit will operate on the daily basis.

The set points can be access via the soft keys as shown on below.

---

**IMPORTANT:**

The user will not be able to change the heating and cooling set points below the high and low limits.

In order to change heating and cooling set points below the limits, the limits will have to be changed on the Tuning parameters screen FN + 7.

---

### Temperature

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone Temperature</td>
<td>81.1°F</td>
</tr>
<tr>
<td>Discharge Air Temperature</td>
<td>25.7°F</td>
</tr>
<tr>
<td>Leaving Water Temperature</td>
<td>26.5°F</td>
</tr>
<tr>
<td>Effective Cooling Setpoint</td>
<td>74.0°F</td>
</tr>
<tr>
<td>Effective Heating Setpoint</td>
<td>70.0°F</td>
</tr>
<tr>
<td>Setpoint Adjustment</td>
<td>0°F</td>
</tr>
</tbody>
</table>

---

### Temperature Setpoint

<table>
<thead>
<tr>
<th>Mode</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupied Heating</td>
<td>70°F</td>
</tr>
<tr>
<td>Occupied Cooling</td>
<td>74°F</td>
</tr>
<tr>
<td>Unoccupied Heating</td>
<td>55°F</td>
</tr>
<tr>
<td>Unoccupied Cooling</td>
<td>90°F</td>
</tr>
</tbody>
</table>

**IMPORTANT:**

The user should never overlap the High and Low set points for heating and cooling operation, as this may cause the unit to be trapped in a dead band and will try to cool and heat at the same time.

**Example:**

Occupied cooling set point 69 °F
Occupied heating Set point 71 °F
Fan screen

The Fan screen can be accessed by selecting its link on the Home screen.

The fan screen allows the user to see the fan runtime hours, in addition the user can access the Fan Setpoints screen which let’s the user set the fan to run continuously or to run only when the compressors are running.

From the Fan screen the user can access the service screen (stpt) on which the fan runtime hours are displayed this parameter is normally utilized as a remainder for filter change.

Once on the Set point screen the user can reset the timer to start a new count after replacing the filter.

The stpt can be access via the soft keys as shown on below.

![Fan Screen Example](image)

Figure 12 - Fan Screens
Heating and Cooling screen

The **Heating/Cooling** screen can be accessed from the Home screen.

As explained in the previous sections the softkeys will allow the user to access other frames/screens by pressing the navigation arrows.

To navigate and or change properties on this screen the user may follow the same steps as illustrated in the **changing a value** section of this manual.

From the **Heating/ Cooling** screen the user can see the actual state of the different points that are involved and needed for the cooling and heating operation respectively as shown in figure 8.

The service screen is accessed by pressing "Stpt" the runtime hours and counters for the compressors are displayed as shown in figure 9 and can be reset by navigating selecting and changing the particular value.

**IMPORTANT:**
The user will not be able to change the heating and cooling set points below the high and low limits.

In order to change heating and cooling set points below the limits, the limits will have to be changed on the **Tuning parameters** screen.
**Tuning parameters**

Tuning parameters are a very important feature as they provide the high and low limits of the different modes occupied and unoccupied heating and cooling respectively. This can be accessed through the hot keys by pressing:

![Hot keys](image)

In addition, on this screen the unit heating and cooling percentage demands are shown.

Based on these values the unit will determine when to initiate a cooling or heating operation.

See figure on the right for a Tuning Parameters screen snap shot.

If the unit is configured for cooling only operation, this screen will not show the points associated with heating controls and demands.

---

**IMPORTANT:**

The user should never overlap the High and Low limits for heating and cooling operation, as this may cause the unit to be trapped in a dead band and will try to cool and heat at the same time.

**Example:**

Occupied cooling Low Limit 69 °F
Occupied heating Hi Limit 71 °F
**UPM Faults Screens**

The UPM FAULT screen can be accessed from the Home screen.

To navigate on this screen the user may follow the same steps as illustrated in the *changing a value* section of this manual.

Once an alarm is received via pulse feedback from the UPM board, it is displayed in the screen as shown below.

From this screen the user may reset the UPM board after it has enter the lockout mode by navigating to “Reset UPM now?” selecting yes and pressing the enter key.

---

**Figure 16 - UPM faults screen**

- **Current Fault:**
  - HP1 Faults (Total): 00000
  - HP1 Faults (Last hr): 00000
  - LP1 Faults (Total): 00000
  - LP1 Faults (Last hr): 00000
  - FRZ Faults (Total): 00000
  - FRZ Faults (Last hr): 00000
  - CON Faults (Total): 00000
  - CON Faults (Last hr): 00000
  - BRN Faults (Total): 00000
  - BRN Faults (Last hr): 00000

- **Alarm:** Open

- **Reset counts now? Yes**

- **Enable UPM Alarms? Yes**

[→Prev] [→ALARM]
Schedule Screens

The Schedule screen can be accessed from the Home screen.

To navigate and or change properties on this screen the user may follow the same steps as illustrated in the **changing a value** section of this manual.

The user will have the ability to configure and set up different operation schedules for the particular system.

**Daily Schedule**

The user will have the ability to configure up to four (4) different daily schedules this provides flexibility in case the end user has different occupied/ unoccupied times depending on time of day or day or week or both.

**Example:**

Customer operates as follows:
Mo – We – Fr 8:00AM – 5:00PM
Tu – Th 10:00AM – 4:00PM

In this case the system can be configured as follows:
Daily 1 for Mo – We – Fr
Daily 2 for Tu – Th
Daily 3 for Saturday and Sunday

**Holiday Schedule**

The user will have the ability to configure up to twelve (12) different Holiday schedules this provides flexibility to override the daily schedule during these days.

**Override Schedule**

The user will have the ability to configure up to two (2) different override schedules this provides flexibility to override the daily and holiday schedule.
Modifying the Schedule

The Schedule screen can be accessed from the Home screen if the user is not logged in the system it may be asked to log in.

If prompted enter the four digit password and press O.K.

**NOTE:**
The user and admin passwords can be found in the logging in to the BACview section of this document.

1. Highlight Daily as shown in figure 15, once highlighted press

**Enter**

“Schedule number” will appear with

**Use? [YES]** Property highlighted.

This means the user will enable the Daily schedule that has been selected and with the particular hours as shown in figure 15.

Once finish please use the arrow keys or the softkeys “Next” or “Prev” to go to the next Daily schedule available.

2. From this screen the user may highlight a character and change:
   - Start and End times
   - Days
   - Blank day

3. To **save** any of the changes made the user must press “OK” before the BACview is removed or it is timed out.

   ![Figure 20 - Daily Schedule](image)

To program “Holiday” or “Override” schedules; repeat steps 1 through 3 changing step 1 and highlighting “Holiday” or “Override” all other steps to configure these schedules are the same.

![Figure 21 -- Schedule Screen](image)
Help Screens

The Help screen can be accessed from the Home screen.

To navigate on this screen the user may follow the same steps as illustrated in the changing a value section of this manual.

From the Help screen the user is able to access the software version of the controller to which is connected, this information will be asked whenever technical support is contacted or will be needed to download the correct manuals or integration point list files from our website.

Figure 22 - Help Screen

The technical support phone numbers can also be found in this screen as shown in the figure above.

Changing the Password

The user or administrator can change the user password by pressing the soft key “LOGIN”. This screen can also be accessed by pressing:

Make sure the new user password is recorded in an accessible place otherwise user will have to use the administrator password to reset it and/or retrieve it

Figure 23 - User password

Keypad Configuration

The user or administrator can change the amount of time the Key pad is kept lit by pressing the function key and number six and then changing the number of minutes the key pad is to remain lit.

Figure 24 - Key pad Configuration
Stand by Screen
This screen is what will be normally shown in the BACview before any key is pressed.

Figure 25 - Stand by screen

BACnet® Screen
This screen can be accessed by pressing the following:

On the screen the BACnet® ID will be displayed, it can be changed however FHP does not recommend changing it arbitrarily as it may cause network problems.

Always consult with Network Administrator (Front End company) before changing the controllers BACnet® ID as it may interfere with other devices in the network.

Set Time Screen
This screen can be accessed by pressing the following:

Once in this screen move with the arrow keys until the parameter that needs change is highlighted, press enter to selected and press the desired value.
**Alarm Screen**

This screen can be accessed by pressing the following:

![FN + 4](image)

The Alarm screen allows the user to up to 100 events starting with the most recent.

It also allows user to see which points have gone into alarm and retuned to normal as well as the ones that have been manually cleared.

Figure 36 illustrates the Alarm screen with no alarms registered in the system.

![Module Event History](image)

*Figure 27 - Alarms screen*

---

**Overrides Screen**

This screen can be accessed by pressing the following:

![FN + 9](image)

The checkout/overrides screen allows the user to start up the unit by overriding its outputs.

The user can also use this screen as test procedure to ensure the low voltage components are working according to the unit wiring diagram.

When overriding inputs or outputs the alarm LED of the BACview will lit up indicating an override condition, in addition, if the unit has the RS-Pro sensor connected to the Rnet port it will display the bell that indicates alarm condition and show error code 20 when pressing the info button. (See RS-pro sensor section of this manual for additional information)
### CHECKOUT/OVERRIDES

**Unit Configuration:** [2 Comp 2 Stages]

**Digital Outputs**

- **Lock Fan** (DO1) Off ? No
- **Lock REV VALUE** (DO2) Off ? No
- **Lock COMP1** (DO3) Off ? No
- **Lock COMP2** (DO4) Off ? No
- **Lock AUX HEAT** (DO5) Off ? No

**Analog Inputs**

- **Zone Temp** (RNET) 80.8° OK
- **DA Temp** (IN6) 31.3° OK
- **LVG Water** (IN3) 26.7° OK

**UPM Fault (IN4)** 0 pulse(s) No_Fault

- **UPM Fault (IN4)** wired Normally Open

**Reset UPM now?** No

**Binary Inputs**

- **DI Unit Enable** (IN1) On
- **DI Filter Switch** (IN5) Clean-Open

**Lock Ctrl Temp input to** 0.0 °? No

"Help" phone number: 954 - 776 - 5471

2 Comp 2 Stages

[Prev] [Alarm] [Tuning] [Calibrate]
## CHECKOUT/OVERRIDES

Unit Configuration: 2 Comp 2 Stages

<table>
<thead>
<tr>
<th>Digital Outputs</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lock Fan (DO1)</td>
<td>Off</td>
<td>?</td>
</tr>
<tr>
<td>Lock REV VALVE (DO2)</td>
<td>Off</td>
<td>?</td>
</tr>
<tr>
<td>Lock COMP1 (DO3)</td>
<td>[Off]</td>
<td>?</td>
</tr>
<tr>
<td>Lock COMP2 (DO4)</td>
<td>Off</td>
<td>?</td>
</tr>
<tr>
<td>Lock RH VALVE (DO5)</td>
<td>Off</td>
<td>?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analog Inputs</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone Temp (RNET)</td>
<td>80.8°</td>
<td>OK</td>
</tr>
<tr>
<td>Zone Hum (IN2)</td>
<td>0.1%</td>
<td>OK</td>
</tr>
<tr>
<td>DA Temp (IN6)</td>
<td>31.2°</td>
<td>OK</td>
</tr>
<tr>
<td>LVG Water (IN3)</td>
<td>26.6°</td>
<td>OK</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Binary Inputs</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DI Unit Enable (IN1)</td>
<td>On</td>
<td></td>
</tr>
<tr>
<td>DI Filter Switch (IN5)</td>
<td>Clean-Open</td>
<td></td>
</tr>
<tr>
<td>Lock Ctrl Temp input to</td>
<td>0.0 °?</td>
<td>No</td>
</tr>
</tbody>
</table>

Help: phone number: 954 - 776 - 5471

2 Comp 2 Stages

Figure 29 - Override/Checkout – HP with Re-Heat

Note: These screens will change depending on the user configurations, the two shown above on figures 26 and 27 are just two examples of commonly used unit configurations.
Calibration Screen

This screen can be accessed by pressing the following:

Once in the calibration screen the user may change the offset points for the different temperatures as shown in figure 25. From this screen the user can also access the calibration parameters and offset the sensors readings in order to test the unit prior or during the commissioning process.

### Factory defaults are shown below

<table>
<thead>
<tr>
<th><strong>Calibration</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>000.0° Zone Sensor Offset: 00 °</td>
</tr>
<tr>
<td>000.0° LYS Water Sensor Offset: 00 °</td>
</tr>
<tr>
<td>000.0° DA Temp Sensor Offset: 00 °</td>
</tr>
</tbody>
</table>

Figure 30 - Calibration

IMPORTANT:

The BACview red LED is normally lit during an alarm condition (in normal operation mode). It will turn on once the user overrides a variable in order to alert or remind the user that the system is not operation according to its programmed sequence of operation but in overridden mode.

Alarm Configuration Screen

The Schedule screen can be accessed from the Home screen if the user is not logged in the system it may be asked to log in.

In this screen the user can set the alarm trip limits and differential points for the different sensors installed in the unit.

In addition the user can set the fan runtime hours for the filter alarm as well as enable or disable this feature.

Factory defaults are shown below

<table>
<thead>
<tr>
<th><strong>Alarm Configuration</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Zone Temp Differential: 10 °</td>
</tr>
<tr>
<td>High Zone Temp Differential: 10 °</td>
</tr>
<tr>
<td>Low Zone Hum Temp Diff: 10 °</td>
</tr>
<tr>
<td>High Zone Hum Temp Diff: 21 °</td>
</tr>
<tr>
<td>Low Discharge Air Trip: 70 °</td>
</tr>
<tr>
<td>High Discharge Air Trip: 75 °</td>
</tr>
<tr>
<td>Low Leaving Water Trip: 21 °</td>
</tr>
<tr>
<td>High Leaving Water Trip: 135 °</td>
</tr>
<tr>
<td>Compl Runtime Trip (hrs): 07:60</td>
</tr>
<tr>
<td>Filter alarm after: 2000 hrs runtime</td>
</tr>
</tbody>
</table>

Use runtime to trig filter alarm? Yes

Figure 31 - Alarm Configuration
The RS-Pro Sensor interface

The RS-Pro sensor FHP part number 641-230 is a combination keypad/display unit that attaches to a control module to let you view and change temperature and set points values and the controller’s components status, the following features only apply to the software version covered on this manual.

ICONS

**Alarm Bell**
Indicates Alarm Condition (see INFO button for more information)

**Cooling**
Indicates unit enabled in cooling mode

**Heating**
Indicates unit enabled in heating mode

**Occupied**
Indicates unit in occupied mode

**Unoccupied**
Indicates unit in unoccupied mode

**Fan**
Indicates fan output energized

BUTTONS

**ANUAL ON**
Places unit into occupied mode. Allows for incremental increase in override time (60min, 120min, 180 min, 4hrs, 5hrs, 6hrs, 0 min) each time button is pressed

**WARMER**
Allows for increase in zone temperature setpoint (+1° to per push to a maximum of +5° or as configured at DDC through BAC view6) from default setpoint value

**COOLER**
Allows for decrease in zone temperature setpoint (-1° to per push to a maximum of -5° or as configured at DDC through BAC view6) from default setpoint value.
### INFO BUTTON

**PRESS 1** – Displays occupancy override time (in minutes)

**PRESS 2** – Displays actual heating setpoint (in degrees F)

**PRESS 3** – Displays actual cooling setpoint (in degrees F)

**PRESS 4** – [1] - Displays discharge air temperature (in degrees F)

**PRESS 5** – [2] - Displays leaving water temperature (in degrees F)

**PRESS 6** – [3] - Displays active alarm code

<table>
<thead>
<tr>
<th>Alarm Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Indicates NO ALARM</td>
</tr>
<tr>
<td>1</td>
<td>Indicates active HP alarm comp 1</td>
</tr>
<tr>
<td>2</td>
<td>Indicates active LP alarm comp 1</td>
</tr>
<tr>
<td>3</td>
<td>Indicates active HP alarm comp 2</td>
</tr>
<tr>
<td>4</td>
<td>Indicates active LP alarm comp 2</td>
</tr>
<tr>
<td>5</td>
<td>Indicates active freezestat alarm</td>
</tr>
<tr>
<td>6</td>
<td>Indicates active condensate alarm</td>
</tr>
<tr>
<td>7</td>
<td>Indicates brownout condition</td>
</tr>
<tr>
<td>20</td>
<td>Indicates input/out in MANUAL lock position. It is not in AUTO</td>
</tr>
<tr>
<td>30</td>
<td>Indicates RS zone, CO2, Relative humidity discharge or leaving water sensor failure.</td>
</tr>
<tr>
<td>40</td>
<td>Indicates high or low leaving water temperature condition</td>
</tr>
<tr>
<td>50</td>
<td>Indicates high or low zone temperature condition</td>
</tr>
<tr>
<td>60</td>
<td>Indicates high or low discharge air temperature condition</td>
</tr>
<tr>
<td>70</td>
<td>Indicates filter or compressor runtime alarm</td>
</tr>
<tr>
<td>80</td>
<td>Indicates high or low zone humidity condition</td>
</tr>
<tr>
<td>90</td>
<td>indicates high zone CO2 condition</td>
</tr>
</tbody>
</table>

**PRESS 7** – [1] – Displays status of compressor 1 output (ON/OF)

**PRESS 8** – [2] – Displays status of compressor 2 output (ON/OF)

**PRESS 9** – [3] – Displays status of auxiliary heat output (ON/OF)
PRESS 10 – Displays fan status (fan icon=fan ON), unit condition (AU=auto)
PRESS 11 – Displays unit mode (AU=auto)
PRESS 12 – Goes back to default screen display

RS – Sensor