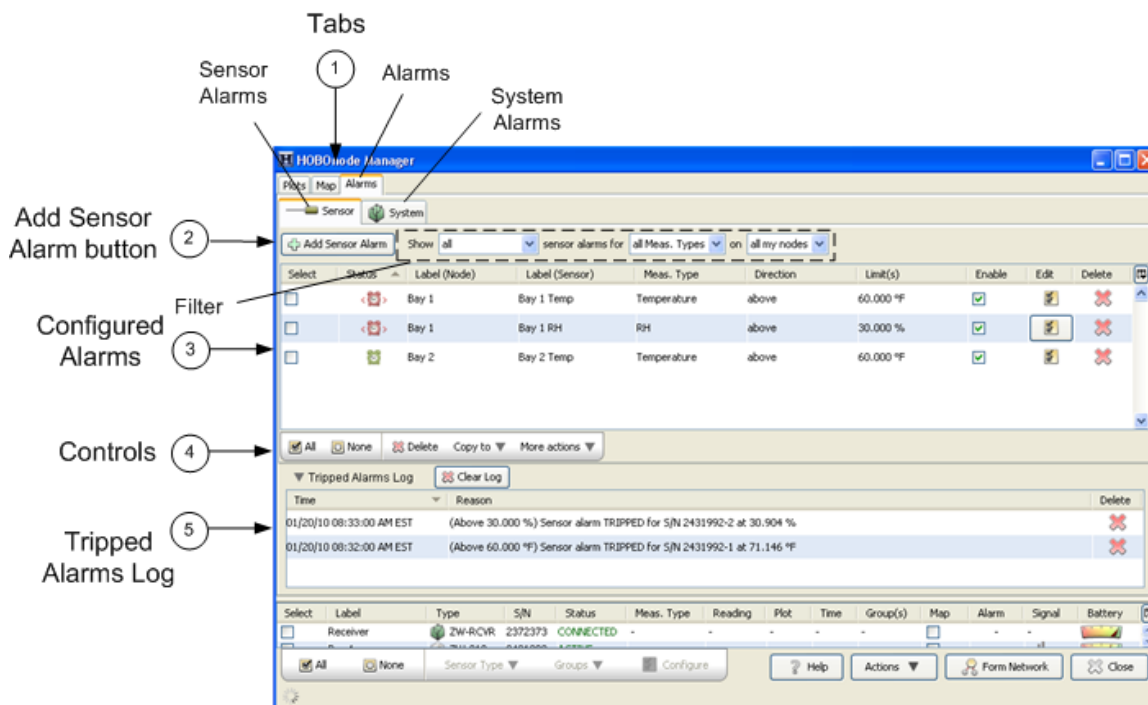


# Setting Up Alarms in a HOBO® ZW Wireless Network

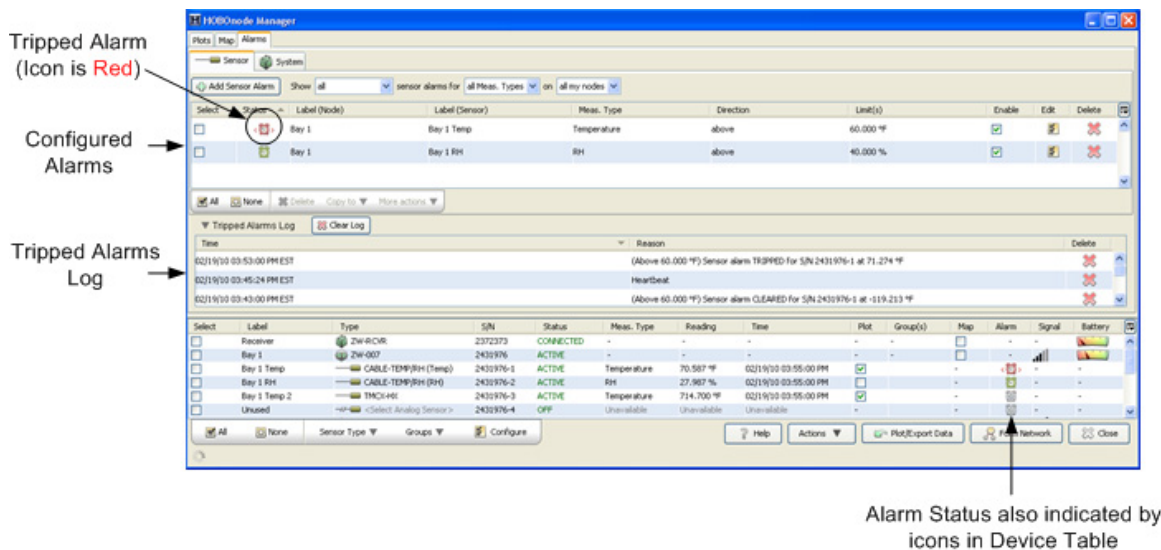
There are two types of alarms in HOBOnode Manager in HOBOware®: sensor alarms and system alarms. With sensor alarms, you can set an alarm to trip when a sensor reading is out of a range you specify. With system alarms, you can set an alarm to trip when a node is missing from the network or has a low battery. You can also configure a heartbeat alarm, which periodically notifies you the receiver is active and communicating with the nodes in the network. You can also set alarm actions, or notifications, to alert you via email, text, and/or audible/visual cue on your computer when an alarm trips. **NOTE:** When an alarm trips, HOBOnode Manager is opened, if it is not already.

Click the Alarms tab to access the following:



1. Tabs. Click the Sensor tab to set or view sensor alarms. Click the System tab to set Missing Node, Heartbeat, and Low Battery alarms.
2. Add Sensor Alarm button (Sensor tab only). Click this button to go to the Add Sensor Alarms window.
3. Configured Alarms. Configured sensor alarms appear here. Use the filter to control what alarms shown in the sensor alarms pane. **NOTE:** If an alarm you configured is not appearing in the Alarms window, make sure the filter is set to show all.
4. Controls (Sensor tab only). Use the controls to apply an action to multiple alarms, including delete, copy, enable/disable, and apply default actions.
5. Tripped Alarms Log. All tripped alarms appear here. Click the Clear Log button to delete all tripped alarms.

Alarms that have been configured, but not tripped, display as green alarm clock icons in both the Sensor and Systems tab as well as the Device Table (sensor alarms only). Once the alarm is tripped, the alarm clock icon changes to red.



## Adding a Sensor Alarm

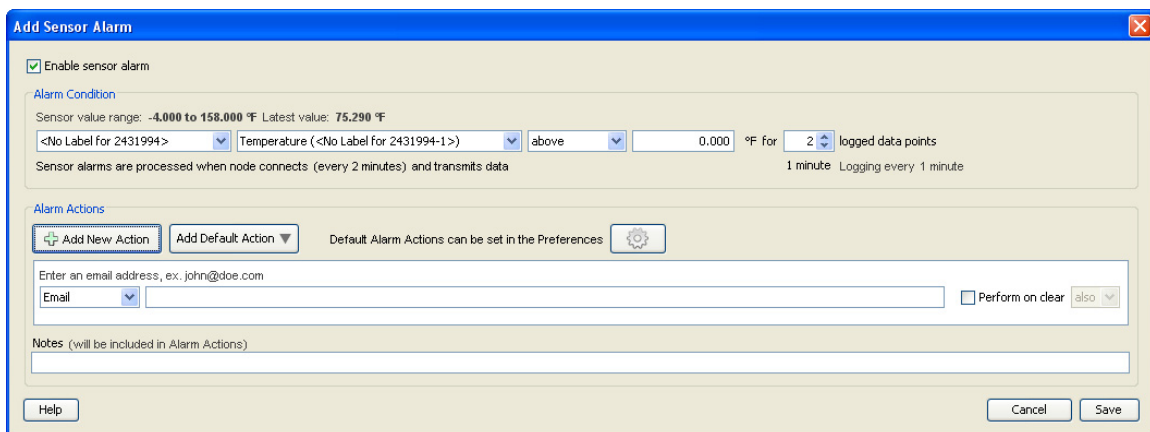
A sensor alarm trips when a sensor reading is outside a threshold that you configure. You can set up actions so that you are notified by email, text message, or by an audio or visual alarm in HOBOnode Manager when a sensor alarm trips. Once you create an alarm, you can copy it to multiple sensors of the same measurement type or the same measurement type and group.

**Note:** Sensor data is sent to the receiver periodically (based on the Connection Interval) and not continuously. Therefore, there is a delay between the time the alarm condition occurs and is recorded by the sensor and when you are alerted by any notifications you have configured. The default Connection Interval is 10 minutes. For critical applications, you may want to decrease the Connection Interval so that you are alerted to alarm conditions more frequently.

### Opening the Add Sensor Alarm window

The first time you add an alarm for a sensor, you can click the alarm icon for the sensor in the Device Table. This will open the Add Sensor Alarm window with the sensor already selected.

Otherwise, click the Alarms tab, then the Sensor tab, and then the **Add Sensor Alarm** button. With this method you will then need to select the sensor from a drop-down list.



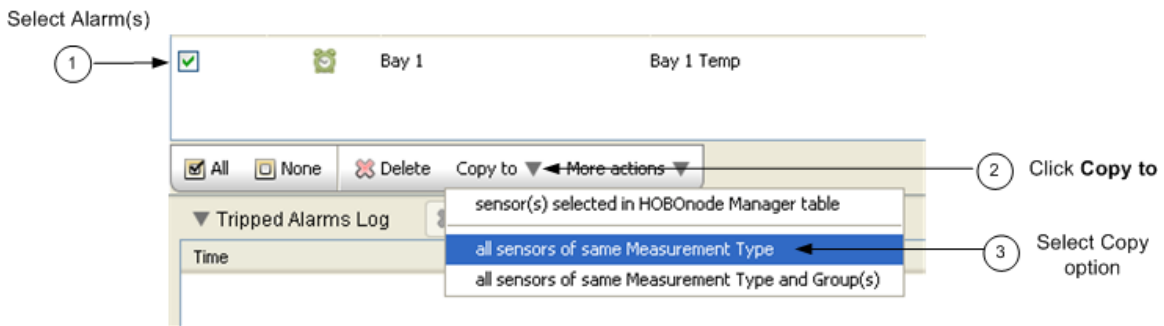
1. Make sure the "Enable sensor alarm" checkbox is selected.

2. Select the sensor (if not already selected). If you accessed the Add Sensor Alarm window by clicking on the alarm icon in the Device Table, the sensor will automatically be populated. Otherwise, select the sensor you want to add the alarm to.
3. Configure Alarm Parameters.
  - a. Select the threshold: Above, Below, or Outside Range.
  - a. Enter the value for the alarm.
  - b. Enter the Number of Data points. This is the number of readings that must be outside of the limits for the alarm to be tripped or cleared.
4. Configure Alarm Actions (Notifications).
5. Click **Save**.

**Note:** Any time you edit an existing alarm, the alarm state is reset to untripped and the logged data points are reset to zero.

### ***Copying a Sensor Alarm to Other Sensors***

To copy an alarm to other sensors:



1. Select Alarm(s). Select the alarms you want to copy. You can select alarms for multiple measurement types and each alarm will only be copied for sensors of that type.
2. Click the **Copy to** button.
3. Select the copy option. You can copy the alarm to all sensors of the same Measurement Type, or to Measurement Type and Group(s).

The alarms are copied to the sensors, as shown below.

Temp alarm copied

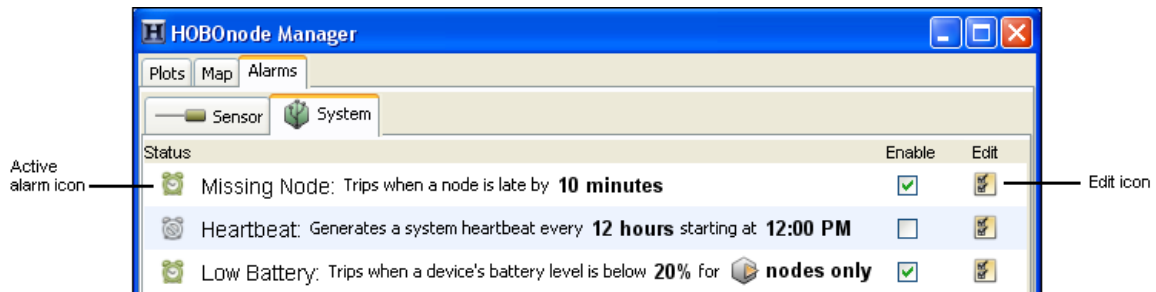
Status	Label (Device)	Label (Sensor)	Meas. Type	Direction	Limit(s)
<input checked="" type="checkbox"/>	Building 1 Boiler Room	RH	RH	above	43.000 %
<input checked="" type="checkbox"/>	Building 1 Boiler Room	Temp	Temperature	below	35.001 °F
<input type="checkbox"/>	Building 1 Lab	RH	RH	above	43.000 %
<input type="checkbox"/>	Building 1 Lab	Temp	Temperature	below	35.001 °F
<input type="checkbox"/>	Building 2 Office	Temp	Temperature	below	35.001 °F

## Enabling a Missing Node Alarm

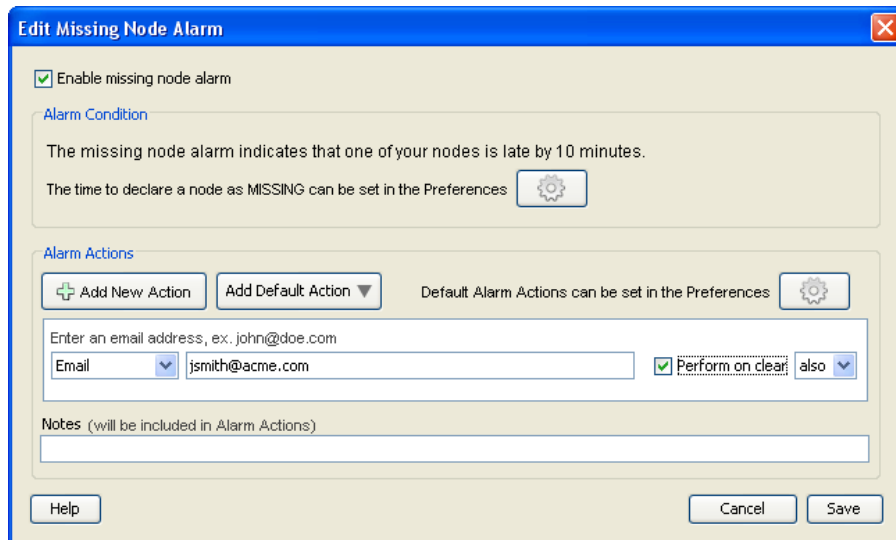
A Missing Node alarm trips when a data node has not connected to the receiver within the specified timeframe. The default period to determine that a node is missing is 10 minutes. You can change this in the Preferences.

To enable a missing node alarm:

1. Click the Alarms tab.
2. Click the System tab and select the checkbox in the Enable column for Missing Node. If alarm actions have already been configured by a previous edit, then the Status icon for Missing Node will change to an active alarm icon (green) as shown below. This means the alarm is enabled. If an Edit Missing Node Alarm dialog box appears or you wish to make additional changes to this alarm, then proceed to next step.



3. An Edit Missing Node Alarm dialog box may open automatically. If it does not and you wish to change the settings, then click the Edit icon for Missing Node as shown above.



4. Make sure the "Enable missing node alarm" checkbox is selected.
5. By default, the alarm will trip after the node is missing for 10 minutes. Click the Preferences button if you wish to change the default time period.
6. Add one or more alarm actions, which is how you will be notified when the alarm trips. You can be notified via email or text, or by a visual cue or audible sound on the computer where HOBOnode Manager is running.
7. Click **Save**. The changes you made to the missing node alarm are displayed on the System tab.

**Note:** Nodes may temporarily go missing after upgrading their firmware. In most instances, the node will not be reported as missing after upgrading its firmware. However, depending on how long the upgrade process takes and the length of the connection interval, the node may occasionally be reported as missing. If a node is reported as

missing after updating its firmware, wait one or two connection intervals for the node to reappear. For example, if the connection interval is set to 20 minutes, wait for 40 minutes to make sure the node reappears. If the node is then still reported as missing, add it back to the network by following these steps:

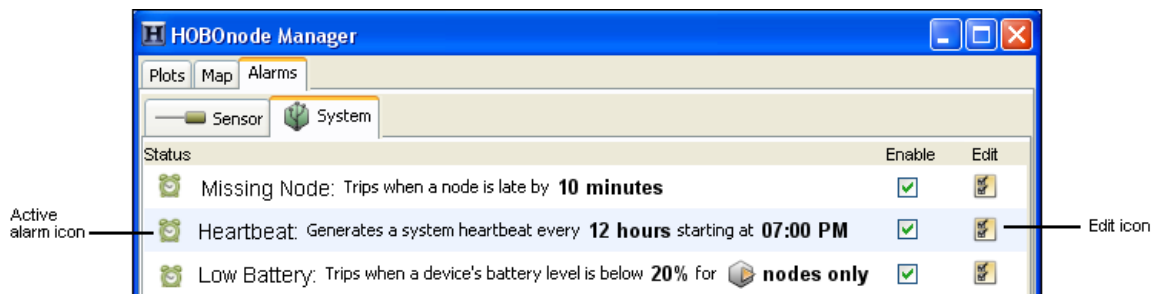
1. Click the Form Network button in HOBOnode Manager.
2. Press the reset button with a quick 1-second push to reactivate the data node.
3. Verify that the data node appears in the HOBOnode Manager table and is identified as a router or data node as expected.

## Enabling a Heartbeat Alarm

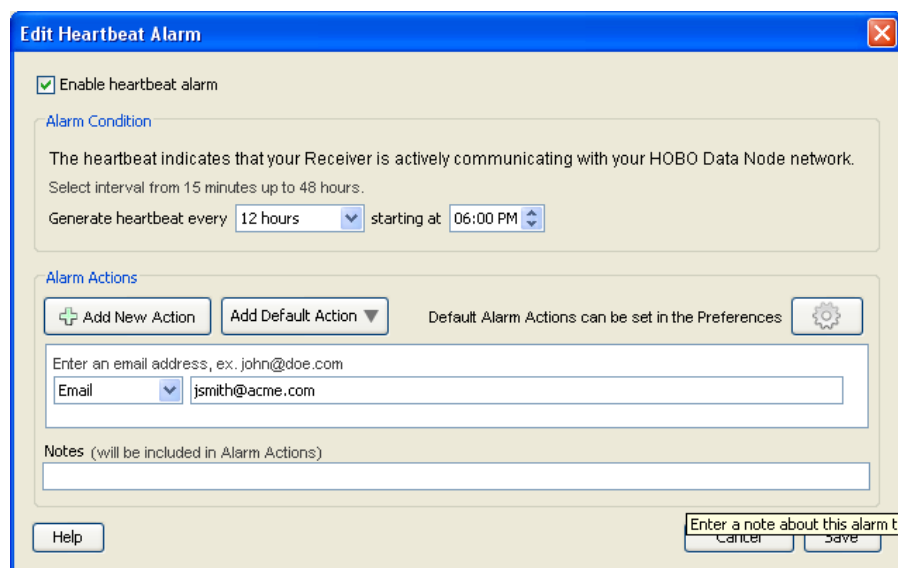
If you enable a Heartbeat alarm, a heartbeat is generated every 12 hours (configurable) to let you know that the system is up and running. If you do not receive a heartbeat notification, check the status of your receiver and restart HOBOWare if necessary.

To configure a heartbeat alarm:

1. Click the Alarms tab.
2. Click the System tab and select the checkbox in the Enable column for Heartbeat. If alarm actions have already been configured by a previous edit, then the Status icon for Heartbeat will change to an active alarm icon (green) as shown below. This means the alarm is enabled. If an Edit Heartbeat dialog box appears or you wish to make additional changes to this alarm, then proceed to next step.



3. An Edit Heartbeat dialog box may open automatically. If it does not and you wish to change the settings, then click the Edit icon for Heartbeat as shown above.



4. Make sure the "Enable heartbeat alarm" checkbox is enabled.

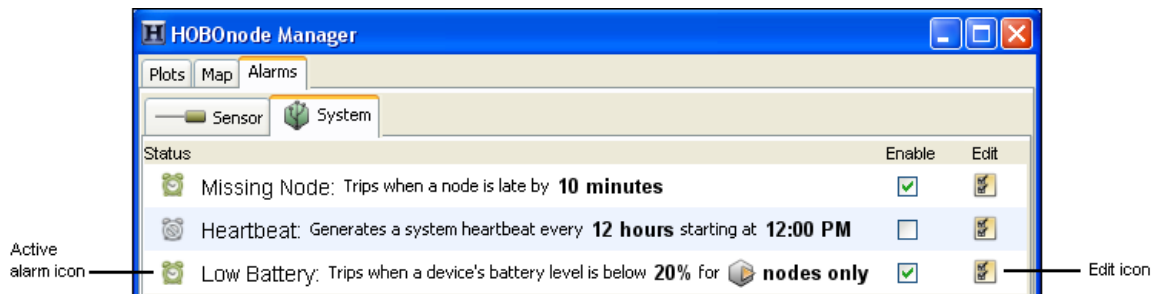
5. Select how often you want to generate a heartbeat and what time you want to start.
6. Add one or more alarm actions, which is how you will be notified when the alarm trips. You can be notified via email or text, or by a visual cue or audible sound on the computer where HOBOnode Manager is running.
7. Click Save. The changes you made to the heartbeat alarm are displayed on the System tab.

## Enabling a Low Battery Alarm

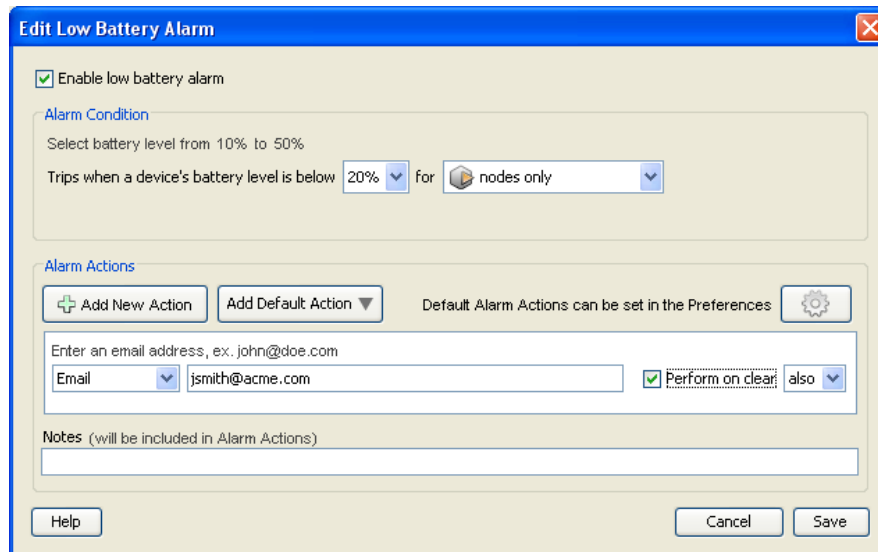
You can set an alarm to trip when the battery level in a data node or a router drops below a specific threshold. This can help you determine when it is time to change the batteries for devices in your network. The low battery alarm is a system-wide alarm, which means it applies to all devices (either all nodes or all nodes and routers) in the network. You cannot set a low battery alarm for some nodes and not others.

To configure a low battery alarm:

1. Click the Alarms tab.
2. Click the System tab and select the checkbox in the Enable column for Low Battery. If alarm actions have already been configured by a previous edit, then the Status icon for Low Battery will change to an active alarm icon as shown below. This means the alarm is enabled. If an Edit Low Battery dialog box appears or you wish to make additional changes to this alarm, then proceed to next step.



3. An Edit Low Battery dialog box may open automatically. If it does not and you wish to change the settings, then click the Edit icon for Low Battery as shown above.



4. Make sure the "Enable low battery alarm" checkbox is enabled.
5. Select the battery level at which you want the alarm to trip, from 10 to 50%. For example, if you choose 20%, then the alarm will trip once the device's remaining battery power drops below 20%.

6. Select whether the battery alarm should trip for nodes only or for both nodes and routers. **Notes:** You cannot set a low battery alarm for a receiver because it should always be powered by an AC adapter. In addition, you should not set a low battery alarm for routers that do not have batteries installed. If your routers are powered by AC adapters only and do not have backup batteries installed, then you should set the battery alarm for nodes only.
7. Add one or more alarm actions, which is how you will be notified when the alarm trips. You can be notified via email or text, or by a visual cue or audible sound on the computer where HOBOnode Manager is running.
8. Click Save. The changes you made to the low battery alarm are displayed on the System tab. **Note:** If the low battery alarm was previously configured and had tripped, then clicking Save will clear the tripped state. If the newly saved settings result in an alarm condition, then the alarm will trip at the next connection interval.

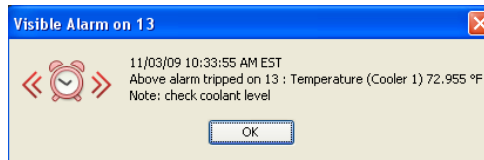
## Adding Alarm Actions (Notifications)

An alarm action is a notification when an alarm trips or and/or clears. You can configure the alarm action to notify you in four ways:

- Via email
- Via text message
- With a visible message on your computer
- With a sound on your computer

Before you set up email or text notifications, you must configure your SMTP settings. See *Setting Alarm Preferences* on the next page.

1. Click the Add New Action button. A new action is added. **Tip:** To save time, you can configure default alarm actions. See *Setting Alarm Preferences* on the next page for information.
2. Select the type of notification: Email, Text Message, Visible, or Audible.
3. Enter information or make a selection depending on the type of notification. **NOTE:** If you add an email or text notification and you have not already set up your SMTP settings, you will be prompted to do so.
  - Email: Enter the email address where you want the alarm notification sent.
  - Text Message: Enter the email address where you want the alarm notification sent.
  - Visible: No further configuration required. A pop-up window will appear in HOBOnode Manager if the alarm trips.



- Audible: Select the sound that you want to play when an alarm trips. Click the Play icon to hear the alarm.

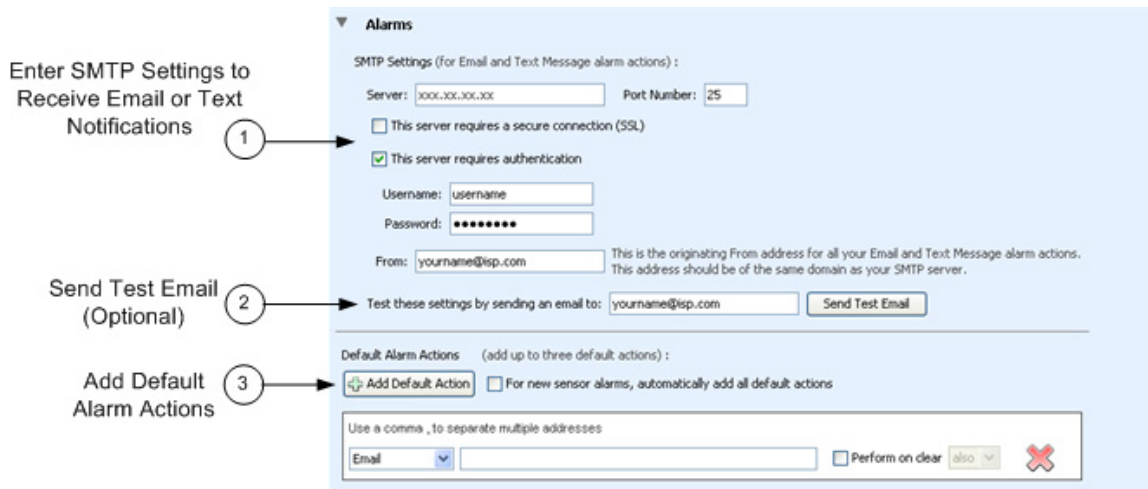
**Note:** If multiple audible alarms are set, only the most recent will play. Any other actions configured for the alarm will be sent.

4. Check the "Perform on clear" box if you want a notification when the alarm clears. If you only want a notification when the alarm clears and not when it is tripped, change the drop-down selection to "only."
5. Add Notes to be included in the alarm notification (optional).
6. Click Save.

To add another action, repeat the procedure.

## Setting Alarm Preferences

Before you add sensor alarms, set up your Alarm Preferences for email notifications and create default actions (notifications). To open the Preferences window, click Actions at the bottom of the HOBOnode Manager window and select Edit Data Node Preferences.



1. Enter SMTP settings for email or text notifications. To receive email or text message alarm notifications, enter the Server IP Address for your mail server, and enable SSL or authentication if required by your network. See your Network Administrator or your Internet Service Provider for information; see also *Alarm Email/Text Configuration* on the next page for more information.
2. Send a test email. Enter your email address and click the Send Test Email button to verify that your settings are correct. Make sure you check your Junk Mail or Spam folder for the email if it is not in your email inbox.
3. Add default alarm actions (optional). Entering default alarm actions simplifies alarm configuration. For example, instead of entering the same email address for every alarm, you can select an address from a list of drop-down entries when you add the alarm action.



If you check “For new sensor alarms, automatically add all default actions” when you click the Add Sensor Alarm button, the alarm actions you configured are automatically added, as shown below. This is helpful if you want the same actions for every alarm.

### **Alarm Email/Text Configuration**

You must configure the SMTP Settings to allow email from the data node network to get to your email recipients. If your data node network is within a corporate network environment, you should contact your Network Administrator (IT/MIS dept.) for this information. Also, they may need to add the receiver to a White List to allow it to relay email through the corporate email server.

If you use a private mail account such as Yahoo or Google, or if you do not know your corporate information, you can get the outgoing mail parameters from your mail provider. The following are links to this information for some providers. For other providers, search the Internet for “SMTP Settings for <provider name>.”

- Gmail: <http://mail.google.com/support/bin/answer.py?hl=en&answer=13287>
- Hotmail: <http://liveunplugged.spaces.live.com/blog/cns!F92775FC46A390CA!422.entry>

### **Sending an Alarm to a Cell Phone**

To send an email to your cell phone when an alarm occurs, enter the email address for your cell phone. Contact your provider if you need help identifying the format for your phone.