Alerts

Alerts allows for real-time monitoring of incoming sensor data. Custom filters can be designed and run on incoming data to produce alerts as discussed in the following sections.

Alerts Workflow Overview

To create an alert in Info360, follow these steps:

1. Create a Search – Define the functions and Boolean qualifiers for querying data.
2. Create a Track – Apply a search to a specific sensor or group at given interval.
3. Create a Schedule – Define how and when a Track is run in real time and controls the response to any alerts.
4. View the Alerts – View, manage and delete any Alerts created from Tracking.

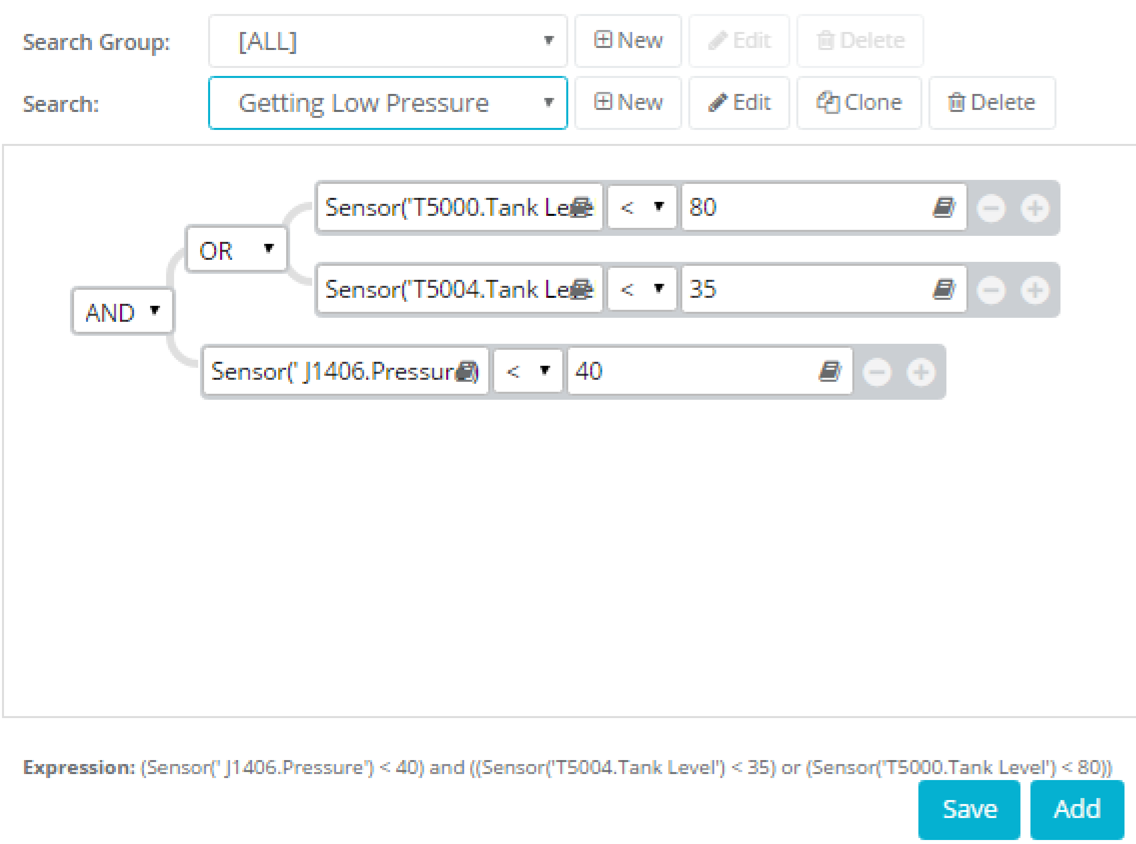
Search

Searches in Info360 can be used in three ways:

- Tracking of incoming live data
- Searches of historic data for a desired sensor our sensor group (see Run Search below)
- Applied to a Chart to highlight data points that satisfy certain criteria

Design

Searches are created and designed in the Search tab of the Command Center**.**

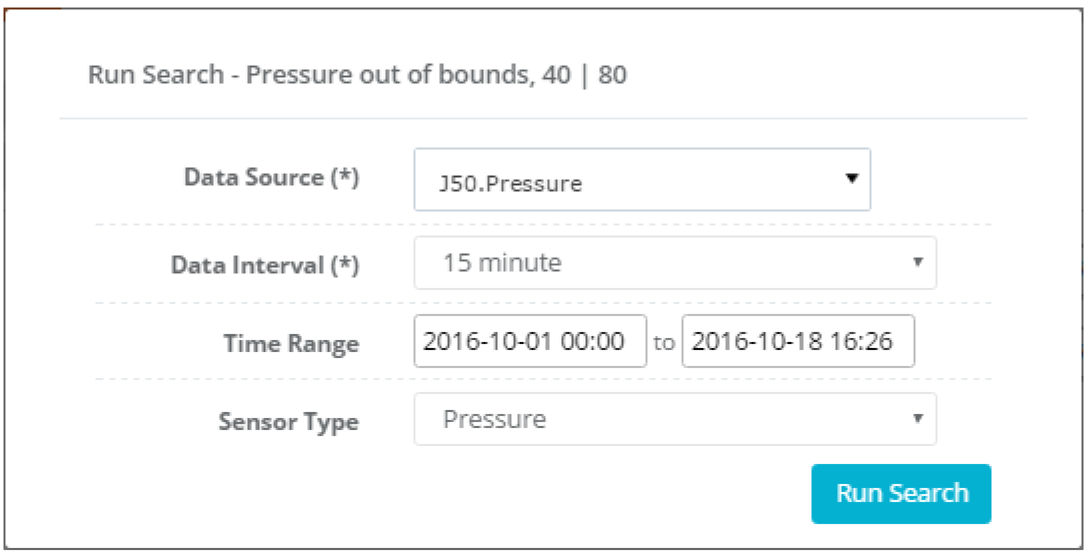


Feature	Description
Search Group Selection	A drop-down menu to specify a Search group to constrain the list of Searches.

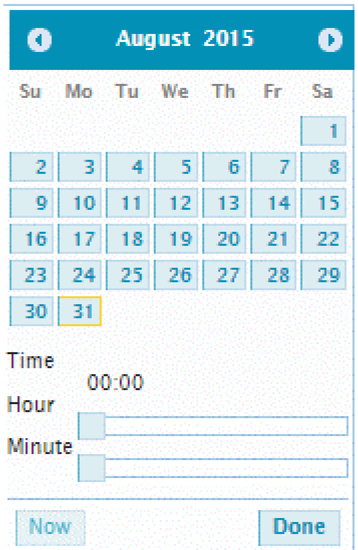
Search Selection	A drop-down menu to select any saved search for viewing and editing. The list of available searches is defined by the selected search group.
⊞ New	Opens the **New/Edit Search** window to create a new search or search group. This window controls the name and description of the search or group.
Edit	Opens the **New/Edit Search** window to edit a selected search or search group. This window controls the name and description of the search or group.
Delete	Deletes the selected Search or Group.
	By clicking the minus or plus sign buttons, the search can be edited to contain more or less filters, which are connected by **AND/OR** operators. The will open a new branch, while the will close the existing branch.
	Opens the Analytical Functions window that gives access to the **Info360 Functions** library as well as the ability to design a custom functional expression.

Run Search

To run the currently selected Search on historic data, click the Add button in the lower corner of the Search tab.

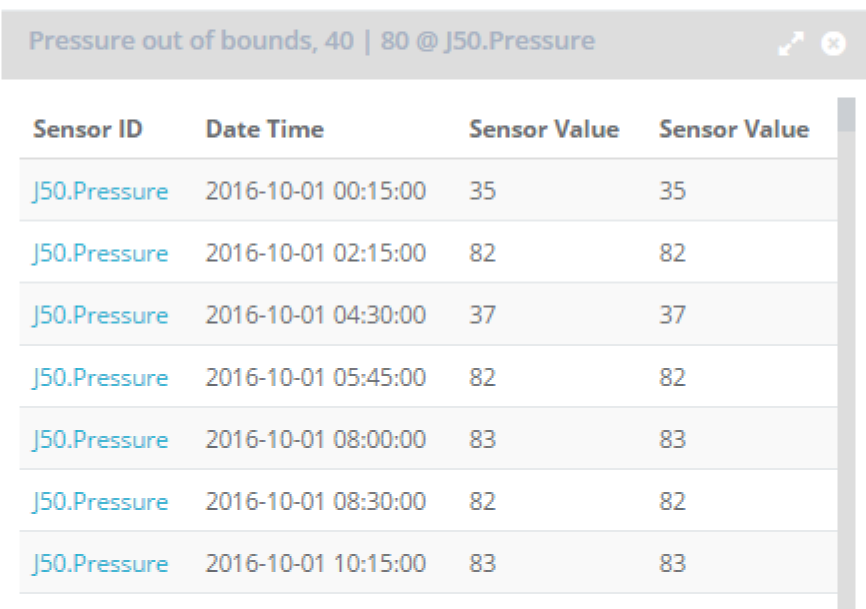


Field	Description
Data Source (*)	This drop-down menu specifies either a specific sensor from which data will be searched, a sensor group, or a Mass Balance Zone. Note: By default, Info360 shows the first 1000 sensor listing. To show search results beyond the first 1000, enter a keyword and then click the search icon (indicated by the red search icon).
Data Interval (*)	This drop-down menu specifies the time interval at which data is queried. Using a larger interval enables efficient long-term searches, but any data points between the intervals will be neglected.

Time Range	Specify the start and end time of historic data to be searched. Clicking in the box opens up a **Calendar Selection tool** to specify dates in the correct format. 
Sensor Type	This acts as an optional additional filter option to search only data from a certain sensor type. For example, a search could be applied to a sensor group including multiple sensor types; this field would restrict the sensor type within the group. The Sensor Type attribute is assigned to each sensor during the Sensor Data Configuration.

Search Results

Running the Search on data will produce a table of all the data points that satisfy the search criteria. The **Search Result** table shows all of the entries that satisfy all of the search criteria. Each row of the table shows the **Sensor ID** from which the data was taken, the **Date Time** at which the data entry occurred, the **Sensor Value** at that time, and any other fields that were calculated in the search.

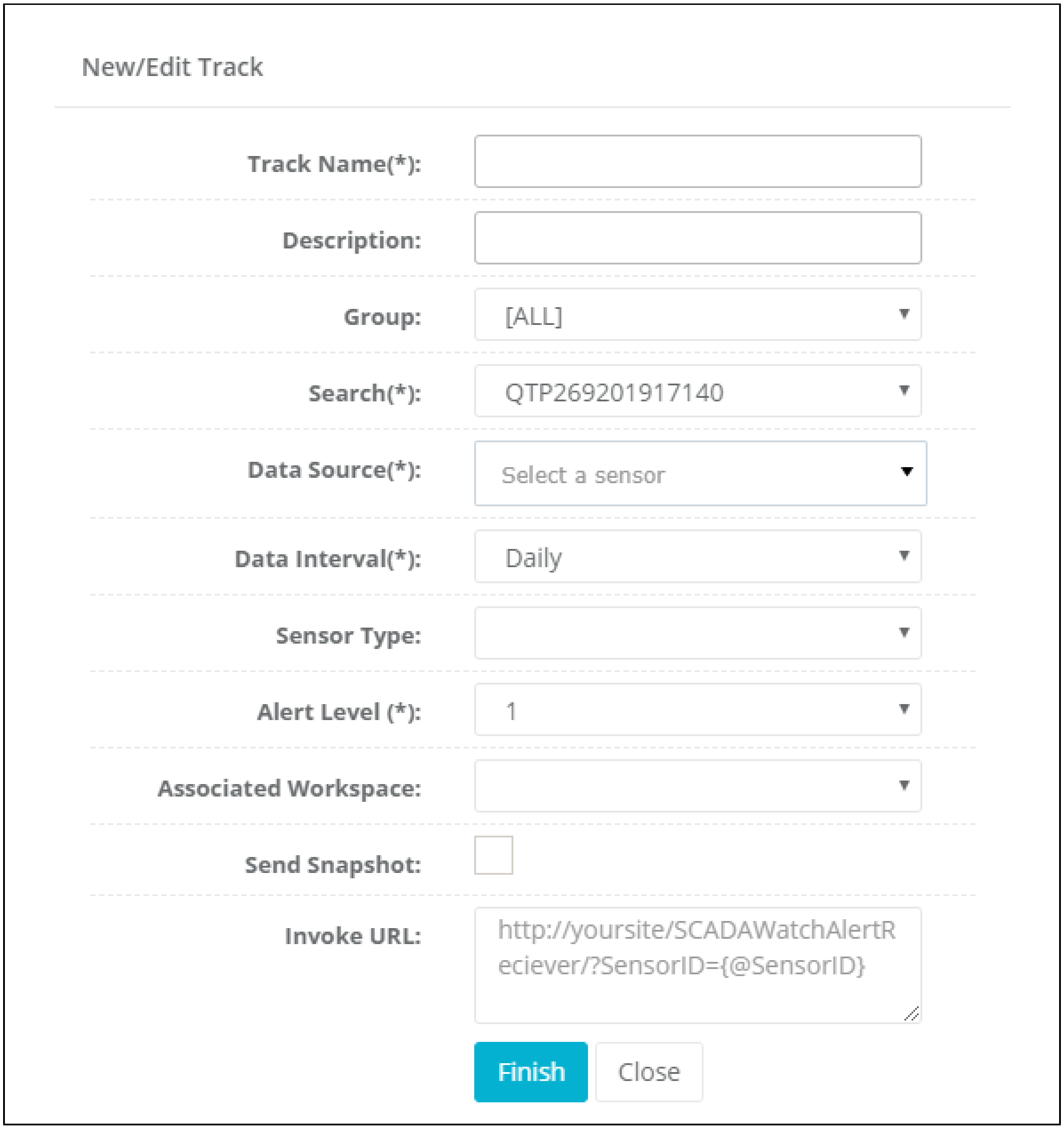

Pressure out of bounds, 40 | 80 @ J50.Pressure

Sensor ID	Date Time	Sensor Value	Sensor Value
J50.Pressure	2016-10-01 00:15:00	35	35
J50.Pressure	2016-10-01 02:15:00	82	82
J50.Pressure	2016-10-01 04:30:00	37	37
J50.Pressure	2016-10-01 05:45:00	82	82
J50.Pressure	2016-10-01 08:00:00	83	83
J50.Pressure	2016-10-01 08:30:00	82	82
J50.Pressure	2016-10-01 10:15:00	83	83

Track

The Track tab displays a table of all saved Tracks and their associated properties. Features allow for Tracks to be created, edited, cloned, deleted, or filtered by group.

The New/Edit Track window defines the properties of a Track, including the search that is used and which sensor/group is tracked.



Fields

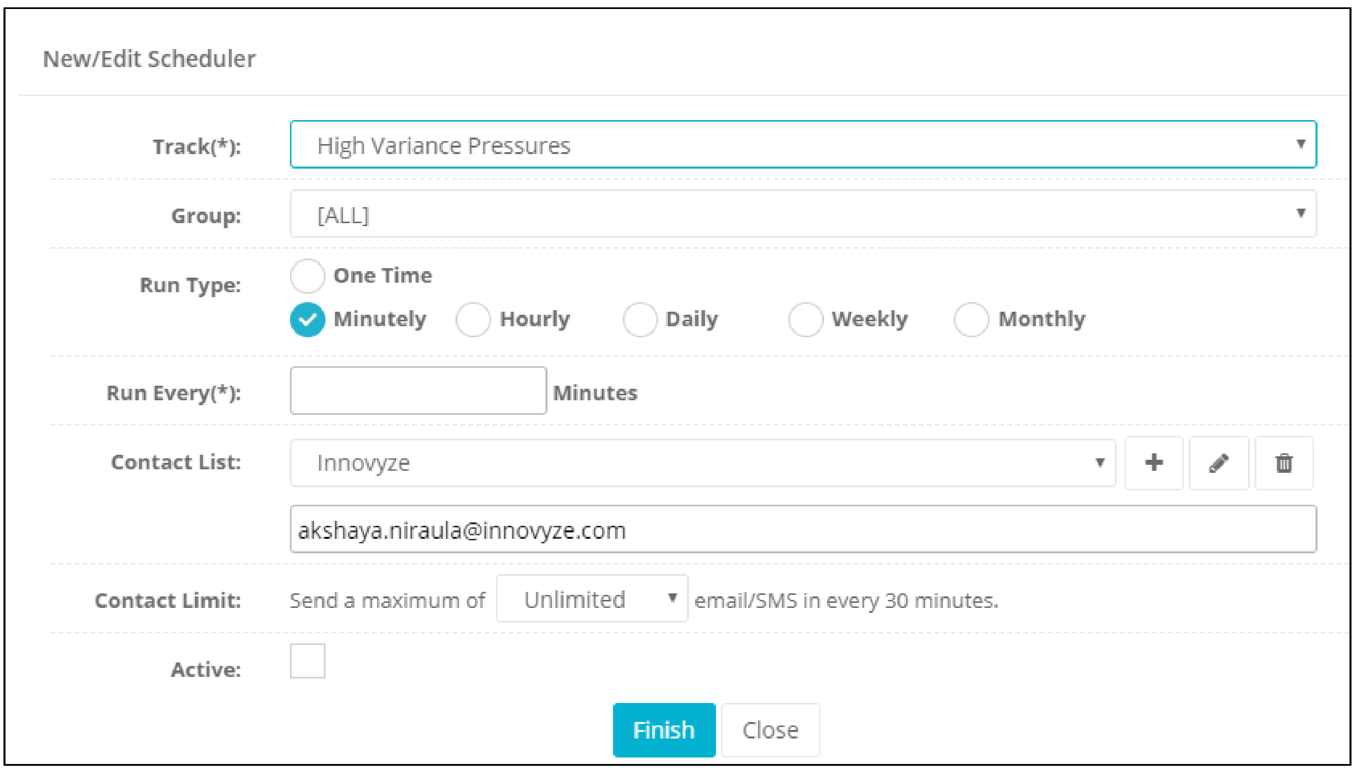
Field	Description
Track Name (*)	Specifies the name of the Track.
Track Description	Optional description that appears in table of saved Tracks.
Group	Optional drop-down menu to associate the Track in a saved Track Group.
Search (*)	Drop-down menu to select the Search that will be performed on the data.
Data Source (*)	Drop-down menu to select the data to be tracked; this can include individual sensors as well as sensor groups and Mass Balance Zones.

Data Interval (*)	Drop-down menu to select the time interval at which the Track is applied to the data.
Sensor Type	Optional drop-down menu to filter sensors of a certain type from a sensor group. This option is only available when the Data Source is set to a sensor group.
Alert Level (*)	Drop-down menu to select the Alert Level to be used when the Tracking criteria is met. This will appear in the Alert Tab and any Alert Dashlets that are created.
Associated Workspace	Drop-down menu to select a Workspace to be associated with the Track. Any alert emails triggered by this Track will include a snapshot of the Workspace at the time of the event. This allows staff that receive and email/text to get a glimpse of what is going on in the system without needing to log in to Info360. Refer to New/Edit Schedule for information on setting up email alerts.
Send Snapshot	When checked, any alert emails triggered by this track will include a snapshot of the Associated Workspace.
Invoke URL	Allows you to invoke URL using the following supported parameters: {@SensorID} {@Expression} {@SensorValue} {@AlertLevel}

Scheduler

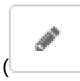
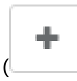
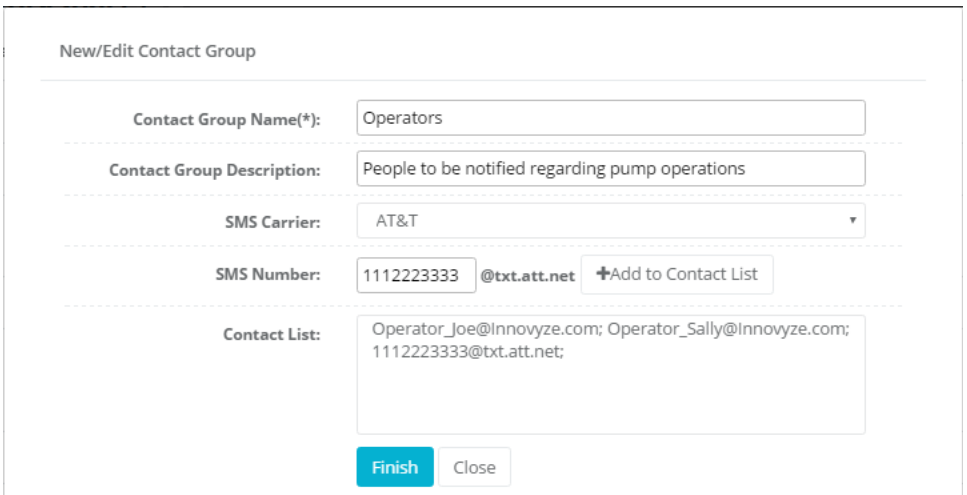
The Scheduler page of the Track tab displays a table of all saved Schedules and their properties. Features allow for Schedulers to be created, edited, cloned, deleted, or filtered by group.

The **New/Edit Schedule** window defines the properties of a Schedule, including the Track that is used and the time schedule at which it is run.



Fields

Field	Description
Track (*)	Drop-down menu to select from saved Tracks. The selected Track controls which data is searched and how it is monitored.

Group	Optional selection to assign Schedule to a group for organizational purposes.
Run Type (*)	Run Type selection controls the type of frequency to control how the schedule is run.
Run Time (*)	Controls time of day that the Track will be run. This field is only for Run Types: One Time, Daily, Weekly, and Monthly.
Recur every (*)	Controls the frequency that the Track will be run. The unit varies by Run Type and is posted to the right of the box.
Contact List	Optional field to enter email addresses to receive any alerts produced by the scheduled Track. Contacts are organized in Contact Lists which can be saved with sets of emails and SMS email addresses. Contact List You can manage email addresses into Contact Lists. Select a contact List and Edit () or create a new () list:  **Tip:** Most SMS Carriers provide domains that can be used to send an SMS/text via email. To send alerts via SMS, enter the 10 digit cell phone number followed @(domain). See example above.
Contact Limit	Drop-down menu to select a maximum number of emails sent per 30 minute period so that an email inbox is not flooded.
Active	Toggle switch to activate/deactivate the Schedule.

Alerts

The Alert tab displays a table of all current alerts.

The list of alerts can be filtered by several properties to quickly understand the alerts occurring in the system.

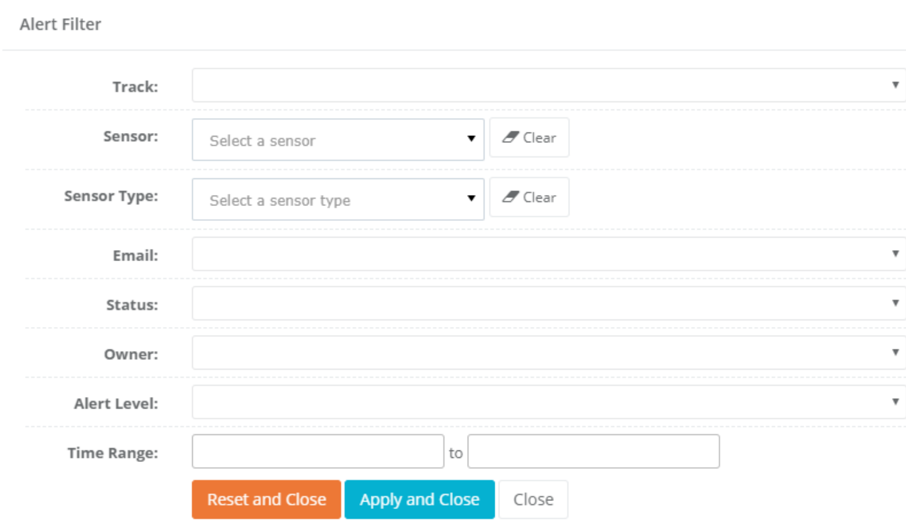
Feature	Description

<table>
<tr><td>Alert Filter</td><td>
Click Alert Filter... to open the filter window with optional filter categories.

Any filter categories can be combined, returning alerts that satisfy all active filters.

Categories include the following:

Track - Allows you to select the Track that you want to create an alert from.
Sensor - Allows you to define the sensor ID.
Sensor Type - Allows you to specify the particular sensor type.
Email - Allows you to select from Issued or Not Issued.
Status - Allows you to select from Handled or Closed.
Owner - Allows you to specify the owner of the Alert.
Alert Level - Allows you to specify the alert level from one through five.
Time Range - Allows you to define the time range for the Alert.



</td></tr>
<tr><td>Link to Map</td><td>Click the Sensor ID to switch to the Map tab and zoom to the sensor associated with the alert.</td></tr>
<tr><td>Comments</td><td>Comments can be added to each alert for review by others.</td></tr>
<tr><td>Status</td><td>Each Alert can have a status of Unhandled or Closed. Click an Unhandled status to change it to closed.</td></tr>
<tr><td>Delete</td><td>Alerts can be deleted individually using the Delete button, or the entire list can be cleared by clicking Clear All Alerts</td></tr>
</table>