

# E/One Sentry Advisor 2.0 Remote Monitoring System Operation Manual

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*Environment One Corporation*



## Disclaimer

THE SENTRY ADVISOR REMOTE MONITORING SYSTEM PROVIDES AN OPTIONAL MEANS OF OBTAINING OPERATIONAL INFORMATION FROM AN ENVIRONMENT ONE ALARM PANEL, INCLUDING INDICATIONS OF VARIOUS TROUBLE CONDITIONS, AND SPECIFICALLY, HIGH LEVEL ALARMS. THE SENTRY ADVISOR SYSTEM IS INTENDED TO BE A SECONDARY NOTIFICATION SYSTEM AND IS NOT INTENDED TO REPLACE PRIMARY, LOCAL NOTIFICATIONS. ENVIRONMENT ONE ALARM PANELS ARE EQUIPPED WITH BOTH AUDIBLE AND VISUAL NOTIFICATIONS OF HIGH LEVEL ALARMS WHICH SHOULD NEVER BE BYPASSED IN LIEU OF SECONDARY NOTIFICATION SYSTEMS, SUCH AS THE SENTRY ADVISOR SYSTEM. ENVIRONMENT ONE CORPORATION IS NOT RESPONSIBLE FOR ANY INCIDENTAL, INDIRECT, CONSEQUENTIAL OR SPECIAL DAMAGES AS A RESULT OF THE USE OF THE SENTRY ADVISOR AS A PRIMARY MEANS OF HIGH LEVEL ALARM NOTIFICATION. THIS INCLUDES BUT IS NOT LIMITED TO FAILURE OR OUTAGES OF THE CORRESPONDING CELLULAR NETWORKS, OR WEBSITE SERVERS USED IN COLLECTING, STORING, AND TRANSMITTING OF SYSTEM DATA.

## Software Compatibility

For Simplex and Duplex Protect Plus panels, the optional Advanced Data Option requires the following software versions or later is installed on the PCB assembly:

PCB Assembly	Software Revision	Software ID
Simplex (NB0189G02)	NA0284P01 Rev J	1.2u
Duplex (NB0189G05)	NA0284P02 Rev C	2.3a

For information about identifying the software installed in a specific panel or updates to the existing software, contact E/One.

## Using and Printing this Manual

Within this document hyperlinks are used to link to other sections as they are referenced. A hyperlink is identified as [Colored Underlined](#) text within the body of the document and can be used when navigating the document in electronic format by using Ctrl + Click to follow the link. In addition, several portions of this document include full color graphics, including wiring schematics and many of the screenshots from the E/One Sentry Advisor website. Some information may be lost if this manual is printed in black and white. When possible, print in full color and refer to a current, electronic format for the most up-to-date information.

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# 1 Overview

This manual provides information on the installation, operation and use of the E/One Sentry Advisor Remote Monitoring System. E/One Sentry Advisor is an add-on for Environment One alarm panels. The user interface (UI) for E/One Sentry Advisor is accessed via a website that uses unique and secure user logins. The website is [www.sentryadvisor.com](http://www.sentryadvisor.com).

E/One Sentry Advisor has two levels of operation, a Basic Package and an Advanced Data Option. The Basic Package can be used with most existing E/One panels and can remotely monitor Pump Running and High-Level Alarm events. The Advanced Data Option works only with the E/One Sentry Protect Plus line of panels (Simplex thru Quadplex) and adds additional visibility into system operation. See below for details on the information provided for each level of functionality.

## 1.1 Basic Package

A standard panel fitted with E/One Sentry Advisor can monitor for the following events:

- Pump Running
- High Level Alarm
- Power to the Cellular Modem
- Cellular Strength (i.e. last communication & dB level of signal)

Each of these inputs will result in an “event” from the panel that is detected by the website and recorded. From the website, this information can then be used to calculate several operating characteristics, including:

- Minimum, Maximum, Average Runtimes
- Excessive Runtime
- Daily and Total Cycle Counts
- Daily and Total Runtimes
- Estimated Flow
- Imbalanced Run Times on Multiplex Stations
- Overnight Flow or Similarly High “Off-Peak” Flow (I&I)
- Running Trends

## 1.2 Advanced Package

When added to an E/One Sentry Protect Plus Simplex or Duplex Panel, E/One Sentry Advisor can monitor all the above, as well as:

- Brownout and Overvoltage
- Run Dry
- Overpressure
- Minimum, Maximum and Average Voltage
- Minimum, Maximum and Average Amperage
- Minimum, Maximum and Average Wattage
- 58-206 Registers of Data (from simplex (58) through quad (206))

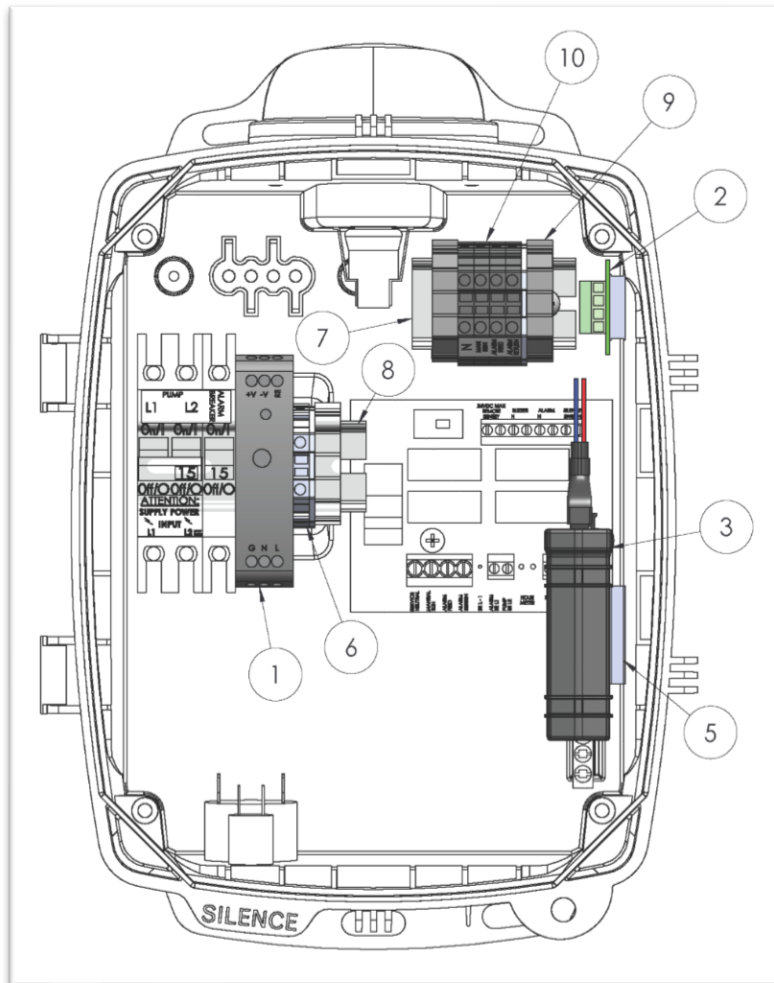
The Protect Plus option also makes available a host of other lower level operating parameters that can be monitored for overall system status. These fault conditions offer more insight into the general health of the E/One system and can be useful when speaking with service personnel for identifying system settings and status. These include:

- Power Up Delay
- Delayed High Level Alarm
- Watt-Meter Fault
- DIP Switch Fault

## 2 E/One Sentry Advisor Hardware Components

E/One Sentry Advisor can be configured into a new panel from the E/One factory, can be retrofit into *most* existing panels in the field (based on available space within the panel), or is available as a standalone panel for connecting to a host panel. In any case, there are several components needed to remotely access events from the panel. The panel image below shows an example of an E/One panel equipped with E/One Sentry Advisor. The user's specific panel may look different.

The E/One Sentry Advisor System requires Dry Contacts for both High Level Alarm and Pump Runtime. Most E/One panels come equipped with High Level Alarm Dry Contacts built into the main printed circuit board. If the circuit board is not equipped with High Level Alarm Dry Contacts, a board replacement or additional DIN rail mounted solid state signal detector printed circuit board will be required. For Runtime Dry Contacts, a separate DIN rail mounted solid state signal detector printed circuit board (2) can be added if needed.



Panels for retrofit need to be assessed to determine if they already contain these contacts, or if they need to be added as part of the retrofit kit. At the heart of the E/One Sentry Advisor system is a cellular transceiver modem (3). This component receives input from the panel and transmits data over the cellular network to the secure web server. The modem has an internal antenna as well as a battery backup to allow loss of power indication and connects to the panel with its own wire harness (4). (Note: In areas where it is needed, modem configurations with an external antenna are available.) The modem is fastened to the panel wall using an interlocking adhesive strip (5).

**BATTERY BACKUP PROVIDES ONLY ENOUGH RESERVE POWER FOR THE MODEM TO MAKE A FINAL TRANSMISSION THAT THE SITE HAS LOST MAIN POWER. IT DOES NOT PROVIDE FOR SYSTEM OPERATION DURING A POWER OUTAGE.**

A separate DIN rail mounted power supply is needed (1) to provide power to the cellular modem. This power supply connects to the incoming AC main power and provides the proper voltage required by the modem. In addition to these

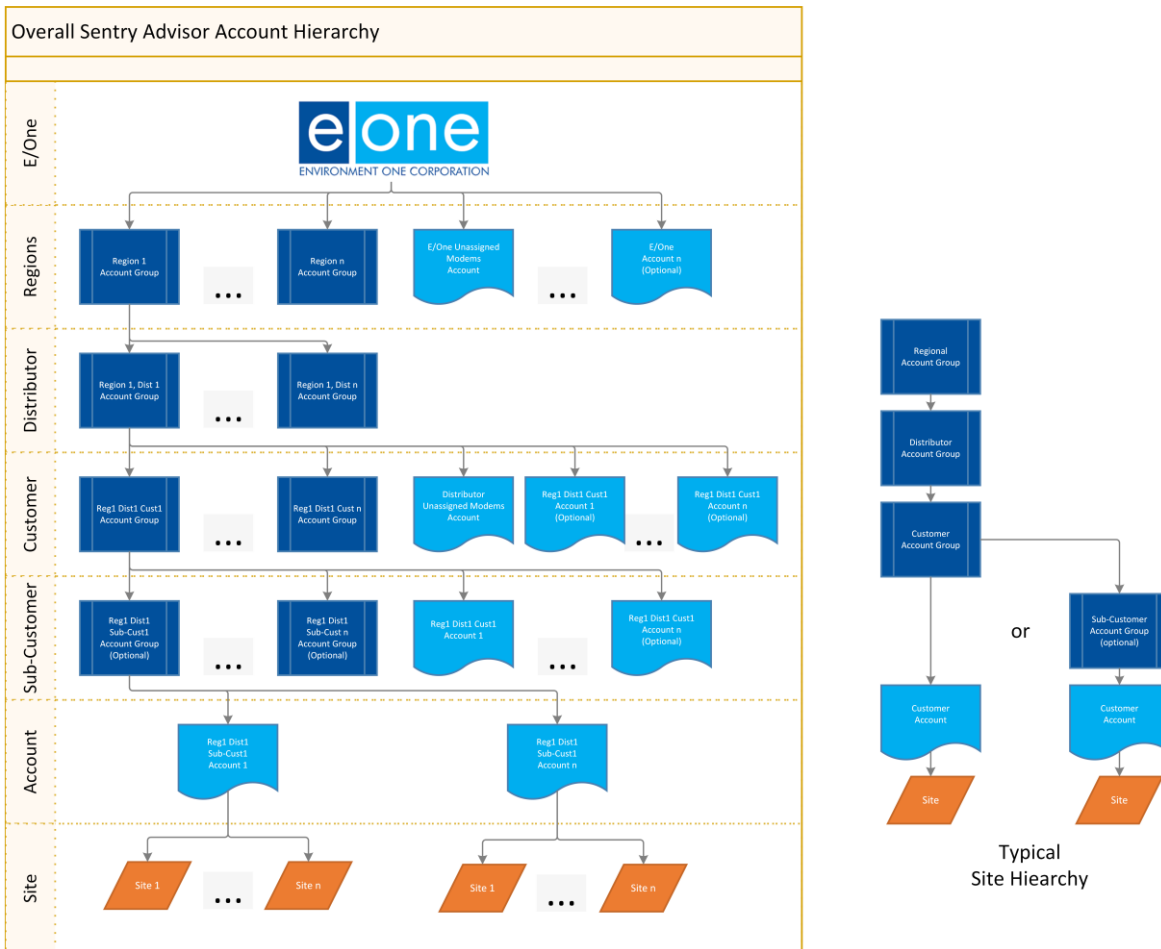
main components, extra terminal blocks (6, 9, 10), longer DIN rails (7, 8), and associated wiring make up the remainder of the hardware needed to equip an E/One alarm panel with E/One Sentry Advisor.

### 3 E/One Sentry Advisor Website – [www.sentryadvisor.com](http://www.sentryadvisor.com)

The user interface for the E/One Sentry Advisor system is provided by a secure website. Access to the website is granted using secure login credentials. Each user will gain access only to the E/One Sentry Advisor units that are directly under their control.

#### 3.1 Account Organization

The website uses a hierarchical account organization for ease of navigation. Customers can be arranged in Accounts or Account Groups to aid in organization. From the bottom up, an individual grinder pump site must be added to an Account. Accounts can then be arranged in Account Groups to help break up an organization logically. Account Groups can be nested as “sub-accounts” to allow multiple levels of organization. Permissions can be given based on these Account Groups to control access as needed. The following diagram shows how the overall website is arranged:



##### 3.1.1 E/One (Account Group)

All account groups fall under the top-level E/One Account Group, which is accessible only to Environment One personnel. There is no Customer access at this level.

##### 3.1.2 Regions (Account Group)

The Regional level is divided up into the major regions of the United States, typically as covered by E/One regional managers, as well as additional “regions” of the world as needed to cover all customers outside of the United States. This level also has no Customer access.

### 3.1.3 Distributor (Account Group)

The Distributor level includes each Distributorship throughout the United States and other regions of the world. This is the top user level where activity regarding most E/One Sentry Advisor accounts will exist. A Distributor typically has one or more Customer Account Groups under it such as townships, municipalities, water and sewer authorities, etc. Individual Accounts may be linked directly to the Distributor account for sites that are directly under the distributor's control. Logging in at this level provides access to any grinder pump site managed directly by the Distributor and all Customer Accounts, Account Groups and associated grinder pump sites that fall under the jurisdiction of that distributor.

### 3.1.4 Customer (Account or Account Group)

The Customer level includes organizations directly responsible for one or more grinder pump sites. These sites can be arranged directly within Customer accounts or divided over one or more Account Groups to aid in organizing and controlling access to customer sub-accounts. Examples include a township, municipality, water and sewer authority, etc. The Customer Account is typically linked to a specific Distributor Account Group and will have one or more E/One Sentry Advisor equipped grinder pump sites under it. Logging in at this level provides access only to the grinder pump sites managed directly by that customer.

### 3.1.5 Sub-Customer - Optional (Account or Account Group)

Optionally, Customer account groups can be further divided into one or more Account Groups or Accounts to allow arranging and providing access to only a portion of an account. This level is useful for large organizations with many grinder pump sites where further breakdown of the population is needed and access to various portions of the population may need to be controlled separately from other Accounts within the Customer's Account Group.

### 3.1.6 Account

The Account level is the lowest customer level of access, below which there are only one or more grinder pump sites. A Customer Account Group can have any number of Accounts below it, and access to each Account is unique.

### 3.1.7 Site

An E/One Sentry Advisor site indicates a specific grinder pump installation that is equipped with an E/One Sentry Advisor Remote Monitoring System. This is the lowest accessible level within the E/One Sentry Advisor website and contains nothing beneath it. Individual sites are displayed in the Sites List and Sites Map, and what is accessed to view individual grinder pump operating characteristics. Sites will typically be under ownership of a Customer account but may also be under ownership of a Distributor directly.

## 3.2 Site Navigation

### 3.2.1 Customer Login

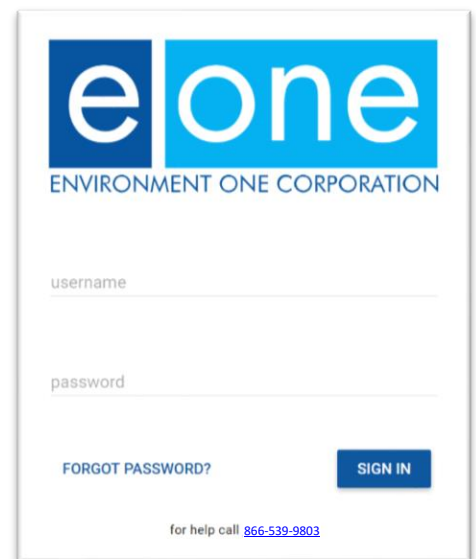
Each user will access the website by logging in at [www.sentryadvisor.com](http://www.sentryadvisor.com). A unique [User](#) ID and Password will permit access only to the E/One Sentry Advisor accounts and sites that have been assigned to that specific login ID.

Distributor accounts are setup directly by E/One. Customer accounts are typically setup by the Distributor that oversees that Customer. Each Customer account should have at least one User with an Administrative role so that additional Users can be created/edited at the Customer's discretion. Please contact E/One or local E/One distributor for initial account access to the website.

Once logged in, the Account Dashboard will appear, allowing both the viewing of, and access to, all E/One Sentry Advisor sites and/or Customer accounts accessible with a customized specific login ID.

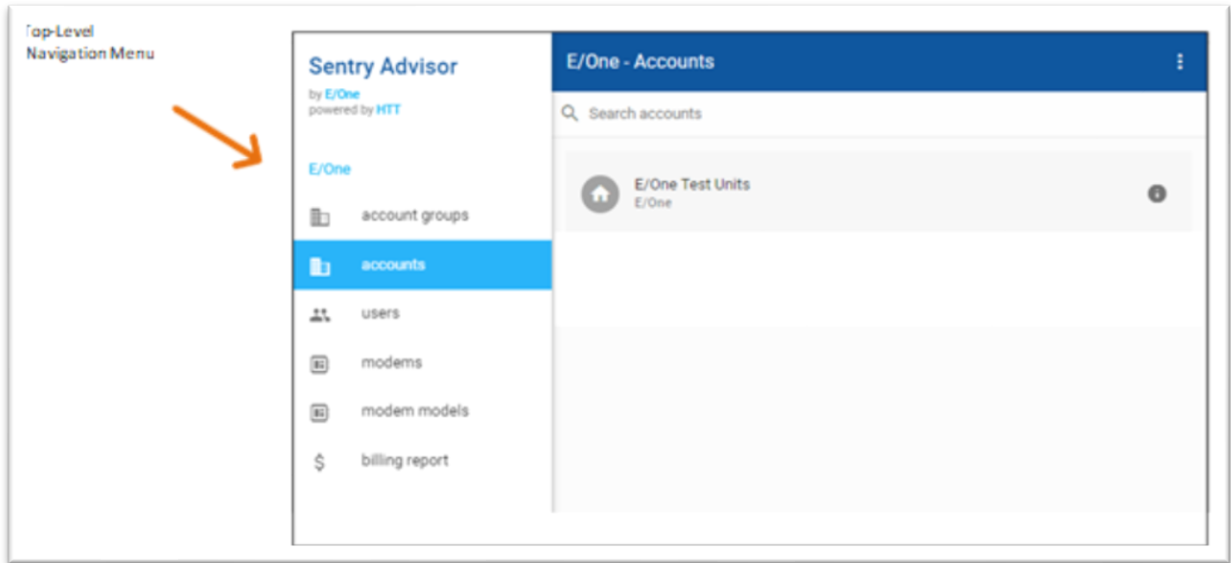
### 3.2.2 Main Accounts Page

The first page displayed after logging in is the main Accounts page. On the left side of the page at the top is the Top-Level Navigation Menu, which provides access to all accounts and account groups that exist below the current account.





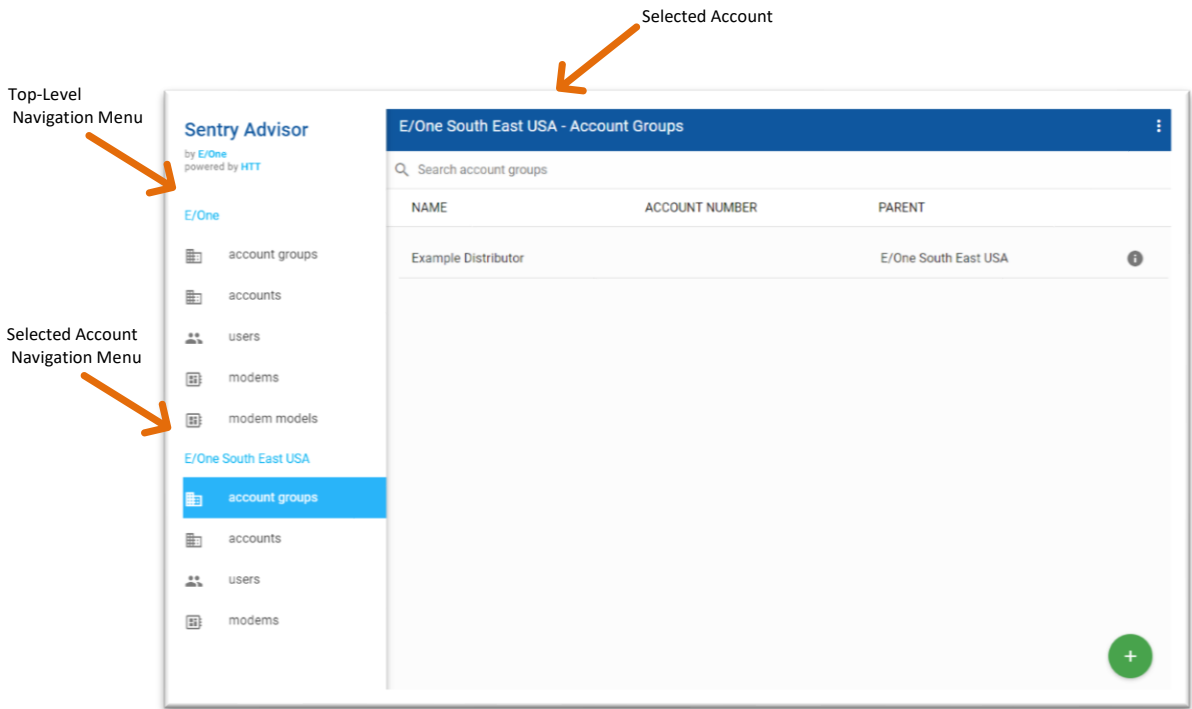
If the user selects an Account Group (from the center of the screen – i.e. “E/One Test Units”), the user will see a new menu selection show up underneath the Top-Level Navigation Menu. This is the Selected Account Navigation Menu. This displays information relative to subsequent Account Groups and/or Accounts as selected under the Top-Level Account.



### 3.2.2.1 Top-Level Account Menus

#### 3.2.2.1.1 Account Groups

Account Groups provide an option to add organizational layers to the user’s top-level account structure and may or may not be used. If subsequent account groups have been created, selecting Account Groups from the navigation menu will display a list of all subsequent account groups of the top-level account. Selecting any of the listed Account Groups, will display a second navigation menu for that account, below the top-level account navigation menu.



Main Accounts Page

### 3.2.2.1.2 Accounts

Accounts are the lowest level of the hierarchy where individual grinder pump sites are located. Any number of accounts can be created under an Account Group.

### 3.2.2.1.3 Users

The Users menu provides access to manage all users that exist within the current account. New users can be added by selecting the '+' icon (●) in the lower right corner. Only Users with an Admin permission level can add new Users. Refer to the Add New Users section of this document for more information about this feature. All users are listed displaying the NAME, USERNAME, and PERMISSION LEVEL. Selecting any User in the list opens a window that allows editing any of these fields, as well as adding/editing/deleting a phone number and e-mail address, which are subsequently used for notifications. Users can be deleted from this window as well.

### 3.2.2.1.4 Modems

The Modems menu provides access to ALL modems that exist below the current account, including all modems within all Account groups, and subsequent accounts under the current account. From this menu, each modem is displayed with the following fields:

#### 3.2.2.1.4.1 IMEI

The IMEI field (International Mobile Equipment Identification) is a unique number assigned to each modem by the manufacturer. This number is used to identify the device for assignment to a cellular network and is the primary identification of a modem for E/One Sentry Advisor. The IMEI is also used for billing purposes. The IMEI has also been referred to as one of the following: MEID, ESN or IMEI. This information must be entered exactly as shown on the modem (only numbers, no dashes) for it to effectively connect to the cellular network and be assigned to a site and communicate activity from the E/One grinder pump.

#### 3.2.2.1.4.2 Serial Number

The Serial Number field is a customer-assigned identification. This can be any alphanumeric with spaces and special characters (if desired).

#### 3.2.2.1.4.3 Status

The Status field shows the current state of a modem. This can be: INSTALLED, INVENTORY, DECOMMISSIONED.

##### 3.2.2.1.4.3.1 Installed

Indicates that this modem is currently installed and assigned to an active site. Installed modems are owned by the account in which they are installed and are subject to billing.

##### 3.2.2.1.4.3.2 Decommissioned

This is a temporary state that indicates that the modem is currently decommissioned within the customer's account. Further action is required to have this modem either removed from the account due to in-operation, desire to remove, or have reassigned to inventory for reuse in an active site after repair. Modems are decommissioned when the need arises to remove it from service or replace it within an active site. Decommissioned modems can be suspended from billing temporarily, either until resolved or removed from the account. Unless E/One is notified and proper Monthly Service Contract cancellation protocols are followed, decommissioned units can and will still appear on the Distributors Monthly Service Contract Statement and will be billed accordingly. Refer to Cancellation of Service for details on how to properly request cancellation of service.

##### 3.2.2.1.4.3.3 Inventory

Modems in Inventory are available to be assigned to an active site. Modems are added to Inventory initially upon purchase and assignment to an Account or returned to Inventory after a decommissioning and subsequent repair or desire to be made available for use. Modems in Inventory are owned by the customer and will be billed as such.

##### 3.2.2.1.4.3.4 RMA

RMA (Return Material/Merchandise Authorizations) will follow E/One's standard RMA protocol. The Distributor (or E/One) will request one or more components from the Advisor kit to be returned to the factory for evaluation. An RMA will be generated by E/One and sent to the Distributor. Upon receipt of the returned materials, an evaluation will be

conducted and a decision made regarding how to process the replacement of the returned material based on the results of the evaluation.

#### 3.2.2.1.4.4 Owner

The Owner field identifies the specific customer account that the modem is assigned to.

#### 3.2.2.1.5 Modem Models



Modem Models is a list of the modem types that are accessible for a given account. This field is not editable but provided by the system for use when adding new modems to an account (as reference material). Each modem must identify a model from the dropdown list. The different modem models are:

- LMU2630LA – CalAmp LTE AT&T
- LMU2630LV – CalAmp LTE Verizon
- LMU2630CV – CalAmp CDMA Verizon
- LMU2631LV – CalAmp LTE w/ External Antenna Verizon


### 3.2.2.2 Selected Account Group / Account Navigation Menu

On the left side of the screen, below the top-level account navigation menu, is the Selected Account Navigation Menu, which provides information relative to the selected account group or account under the top level. If an Account Group is selected, menus are the same as described above in the Top-Level Account Menus section with access to subsequent information relative to Account Groups, Accounts, Users and Modems of the selected account. If an Account is selected, the menu provides access to the following:

#### 3.2.2.2.1 Site List

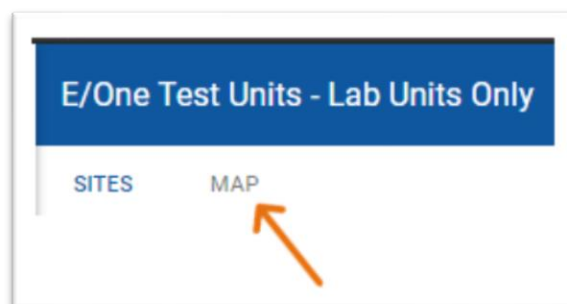
The site list provides a list of every site within the selected account. An icon by each site indicates its status, either all clear  or alert/alarm . A search feature allows finding any site based on its site name. New sites can be added by selecting the '+' icon in the lower right corner of the window (This feature is not available to Users with a Viewer role). Refer to [Add New Site](#) for more information about this feature.

#### 3.2.2.2.2 Sites Map

The Sites Map provides a geographic overlay of all sites within the account using a web mapping service. Icons represent each site in the account and display the site's status the same as in the site list. Selecting the icon displays a summary of the site's status in a popup window. In the popup window, selecting on the site's name takes the User directly to that site's individual dashboard. Selecting the "back arrow"  to the left of the site's name returns the User to the Sites Map.

#### 3.2.2.2.3 Site Group

Any group that has been created within the account will be listed to allow viewing a list of just those sites. Viewing a map of just the sites associated with a group is also accessible by choosing a specific group from this list. Click the Map button directly below the main account bar (LARGE BLUE BAR that runs almost the entire length of the main dashboard).



Using the Sites Map button under the Selected Account Navigation Menu shows the user a map of ALL sites in the associated account (without respect to the individual groups).

#### 3.2.2.2.4 Users


This menu is identical to the Users menu at the top level; however, these actions apply only to users in the selected account. Refer to the top-level account Users menu for more information.

#### 3.2.2.2.5 Modems

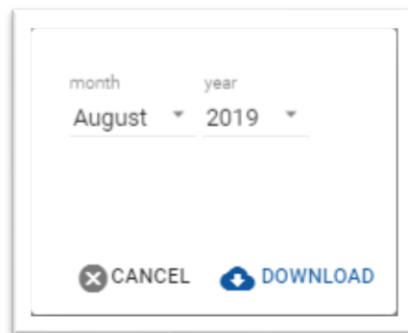
This menu is identical to the Modems menu at the top level; however, these actions apply only to modems in the selected account. Refer to the top-level account Modems menu for more information.

#### 3.2.2.2.6 Notes

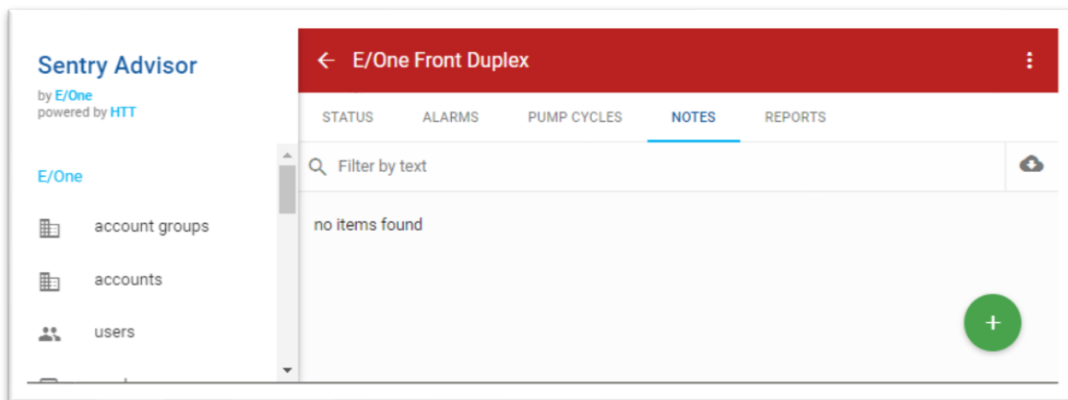
The Notes section of the Selected Accounts Navigation Menu shows all associated notes that have been entered for any individual site within the selected top-level account.


Run a report to pull notes from a selected date range by selecting the Report button: 

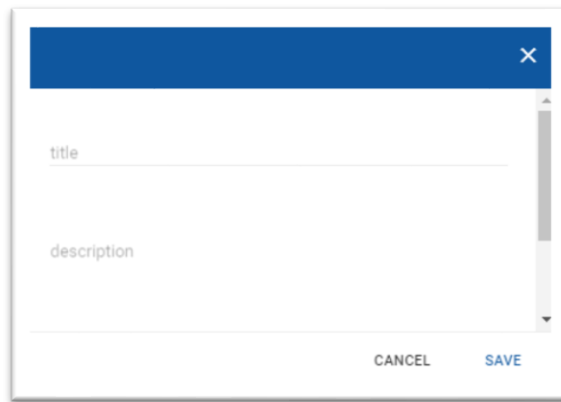
A popup window will appear, asking for the desired month and year:



Notes may not be entered in this view. All notes must be submitted within the individual site's dashboard.



From within the individual site, click the “+” button (  ) to initiate creating a note. A popup window will appear where the user can create a title and note.



### 3.2.2.2.7 Alarm History

Alarm History lists all alarms and alerts that have occurred at all sites in the selected account. By default, the list displays all alarms and events sorted newest to oldest. The list can be filtered to show All events or the following:

#### 3.2.2.2.7.1 Active Not Acknowledged

Any alarm or alert that is currently active and has yet to be acknowledged. Refer to Alarm Acknowledge for more information about acknowledging alarms.

#### 3.2.2.2.7.2 Active

Any alarm or alert that is currently active, despite it having been acknowledged.

#### 3.2.2.2.7.3 Cleared

Any alarm or alert that has since cleared and is no longer currently active.



### 3.2.2.2.8 Notification Settings

The Notification Settings menu lists all users within the selected account that are currently set up to receive a notification of any kind. The user's name and means of notification are displayed, as well as if a "NAG" has been setup, and the times for shift start and end (if that option has been selected). The option to activate or deactivate notifications for a user is available via the button next to the user's name. Notifications for each user can also be deleted by selecting the corresponding trash can next to the user's name. Selecting any user will display the shifts for which that user's notifications are active. Refer to Notification Setup for more information about setting up notification features.

The NAG and Shift Start/End features are covered later in this manual.

### 3.2.2.2.9 Settings

The Settings menu allows management of the selected account including the ability to edit the following fields to provide further description and refinement of account sites:

- Name
- Abbreviation
- Description
- Time Zone
- Sites Group - Custom Site Groups can be managed from this menu. A new Sites Group can be added by selecting the  symbol in the lower right of the . Groups can be edited or deleted by selecting the appropriate icon associated with each group. Editing a group includes turning ON or OFF the Mass Event notification filter. Assigning sites to a group is NOT done via this menu; refer to Custom Site Groups for more information about this feature.

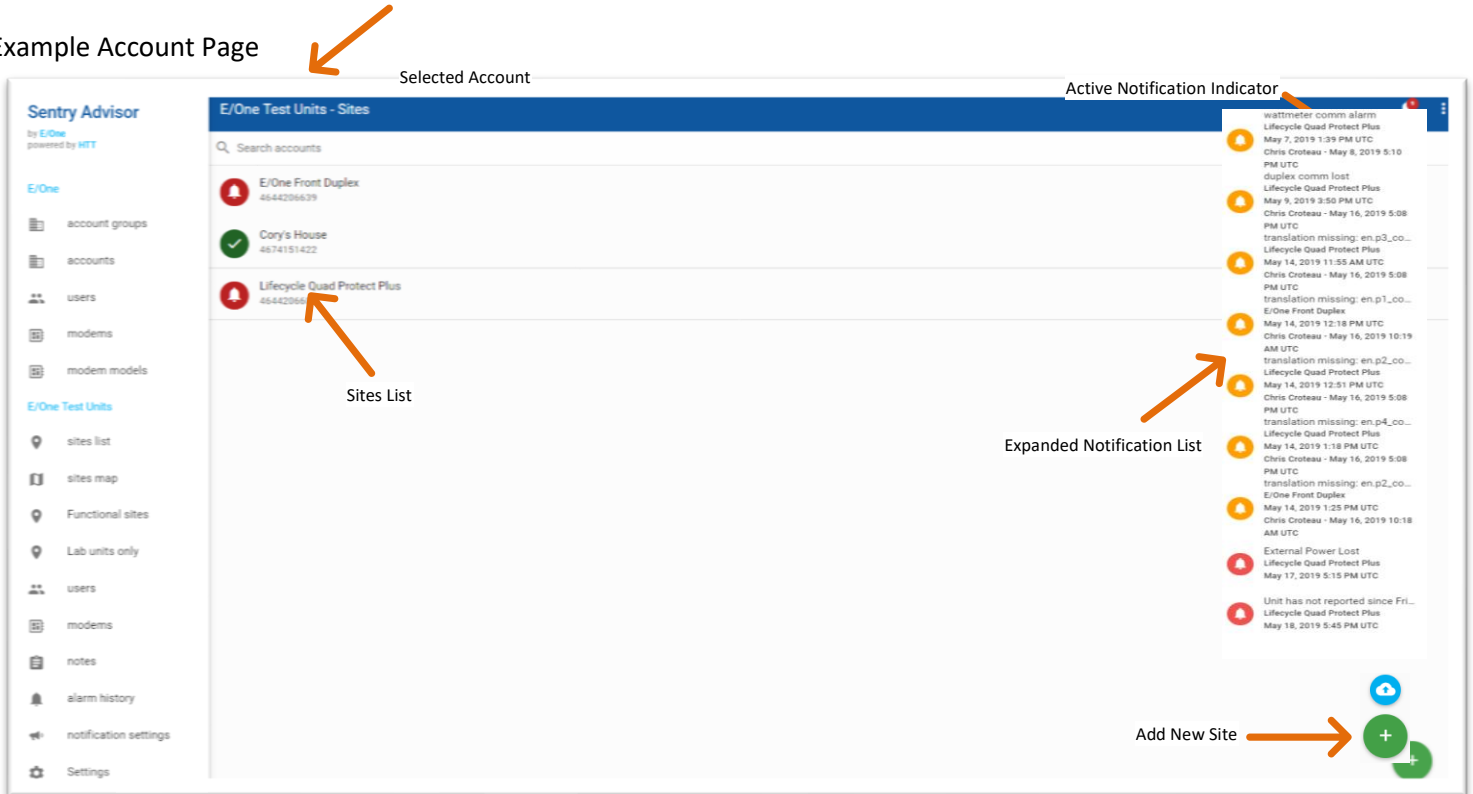
### 3.2.3 Account Sites and Pump Data

Selecting an individual account displays the Account Sites Page, showing a list of all sites allowing access to any individual site to observe current alert and alarm status, alarm history, real-time activity, historical data and more information related to the site.

#### 3.2.3.1 Active Notification Indicator

In the upper right corner is the Active Notification Indicator (🔔), showing any alarms or alerts that are currently active within the entire account. Selecting the icon expands a list of all such events for further review. Selecting an individual entry will open the site associated with that event.

Example Account Page



#### 3.2.3.2 Add New Site

In the lower right-hand corner is the Add New Site icon (+). Users with a Viewer role cannot add sites and will not see this icon. Selecting the icon advances through a series of steps to add a new site, including:

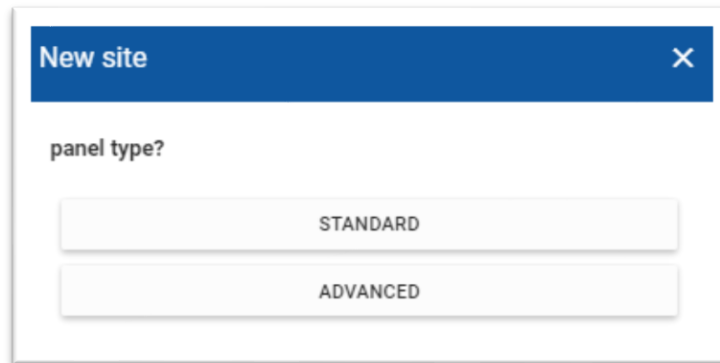
##### 3.2.3.2.1 Number of Pumps

Select the number of pumps in the site from the dropdown menu. One to 4 pumps can be supported by a single E/One Sentry Advisor site. This setting determines how the site displays pump information.

The screenshot shows a 'New site' dialog box with a blue header and a close button (X). Below the header, the text 'How many pumps?' is displayed. There are four radio button options in a list: 1, 2, 3, and 4. The '1' option is selected.

### 3.2.3.2.2 Panel Type

E/One Sentry Advisor supports two types of panel data. This setting also determines how the site displays certain pump information.



#### 3.2.3.2.2.1 Basic Data

A basic E/One Sentry Advisor site can be configured to monitor only pump running and high-level alarm discrete events, as well as loss of power and loss of communication status, in any E/One or non-E/One panel. Provisions exist to monitor run times for up to 4 pumps where simple ON or OFF data is collected. Similarly, a single, collective alarm for High Level can be monitored, which can also be either ON or OFF. While typical applications are associated with grinder pump installations, it is possible to connect E/One Sentry Advisor to any system that has 4 discrete ON/OFF events and 1 discrete ON/OFF alarm event. Contact your distributor or E/One for more information about using E/One Sentry Advisor in non-grinder pump applications and non-E/One grinder pump applications.

#### 3.2.3.2.2.2 Advanced Data

The Advanced Data Option collects and records the same information as the Basic package plus the ability to record the data that are monitored and accumulated locally on the Protect Plus panels.

Advanced data can be collected and recorded for up to four pumps (data packets are collected and recorded independently in pairs). For example, a Duplex panel would comprise a single packet with data from both pumps. A Triplex would consist of one packet for two pumps and a second packet for the third pump. A Quadplex would consist of TWO packets for two pairs of pumps. Packets contain all of the information the panel has stored and are transmitted at least once approximately 10 seconds after the start of each pump run cycle. In addition, the data will also be transmitted in response to any of the following Protection conditions:

- Brownout — Mains voltage under 12% of nameplate rating
- Overvoltage — *Mains voltage* above 12% of nameplate rating
- Run Dry — Pump running out of water
- Overpressure — Pump operating at abnormally high wattage level
- Runtime Limit — Individual pump run cycle exceeds the set value

The Protect Plus panel also monitors several system-level operating parameters that provide information about the overall health of the system. These include the following and will also result in a transmission of the data packet:

- Alarm Protect — Short or miswire in the alarm circuit causing the circuit board to open the circuit to prevent permanent damage to the printed circuit board
- Delayed Alarm — High Level is present but both pumps are enabled and pumping together
- Failed WM COM — Circuit board is unable to read a pumps voltage, amperage, or wattage

- OSC Fail — A problem with the microprocessor timing and that certain external communication may be unavailable
- DIP SW Error — The DIP switches are set to an invalid setting or there is a hardware problem with the switches
- Leak Detected — This message does not apply to hardwired pumps
- Wireless Alarm — This message does not apply to hardwired pumps
- Latched Alarm — Despite the alarm condition no longer being present, the indications associated with that alarm remain active indefinitely until cleared
- Latched RD/OP – A Latched Alarm associated with Run Dry (after third failed retry) and Overpressure (after third failed retry)

Refer to the user manuals for the Protect Plus simplex (NA0269P02) and duplex (NA0269P03) alarm panels, available at [www.eone.com/sewers](http://www.eone.com/sewers), for more information about each of these parameters, as well as additional detail about all data that is monitored by the E/One Sentry Protect Plus panel.

### 3.2.3.2.3 Modem

Select which modem is associated with the site. The dropdown menu provides a list of all modems that are listed as inventory for the associated account. Any modem that is intended to be added to a new site shall first be added to the accounts modem inventory list. Refer to Modems for more information about this feature.

The screenshot shows a modal window titled "New site" with a close button (X) in the top right corner. Below the title, the text "which modem?" is displayed. Underneath is a dropdown menu with the placeholder text "modem". At the bottom of the modal, there are three buttons: "BACK", "SKIP", and "SET".


### 3.2.3.2.4 Sites Group (optional)

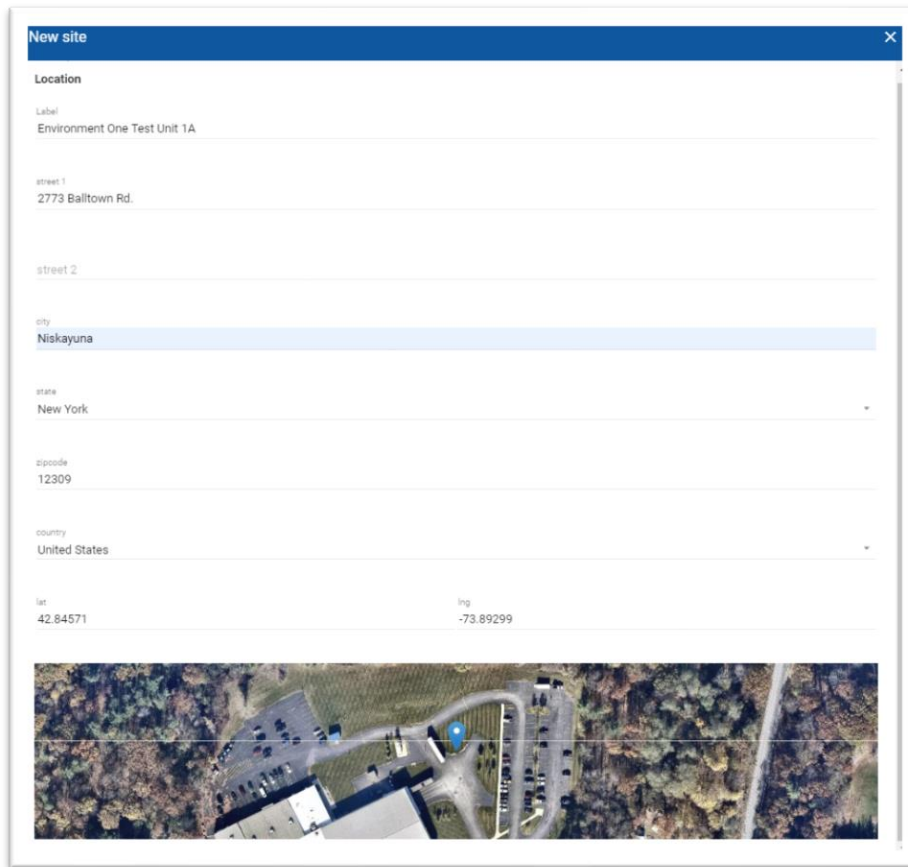
The Sites Group menu provides a way of assigning the new site to an existing group for organizing the account. Only groups that have been previously created are available from the dropdown menu. Refer to the Account Settings menu to add a new group.

The screenshot shows a modal window titled "New site" with a close button (X) in the top right corner. Below the title, the text "sites group" is displayed. Underneath is a dropdown menu with the placeholder text "sites group". At the bottom of the modal, there are three buttons: "BACK", "SKIP", and "SET".



### 3.2.3.2.5 Location

Enter information relative to the site's physical address via the Location menu. Once created, this information can be edited by selecting on the site from the account site list, then selecting on the additional optic  menu, then choosing settings/edit address.



The screenshot shows a 'New site' form with the following fields:

- Label: Environment One Test Unit 1A
- street 1: 2773 Balltown Rd.
- street 2: (empty)
- city: Niskayuna
- state: New York
- zip code: 12309
- country: United States
- lat: 42.84571, lng: -73.89299

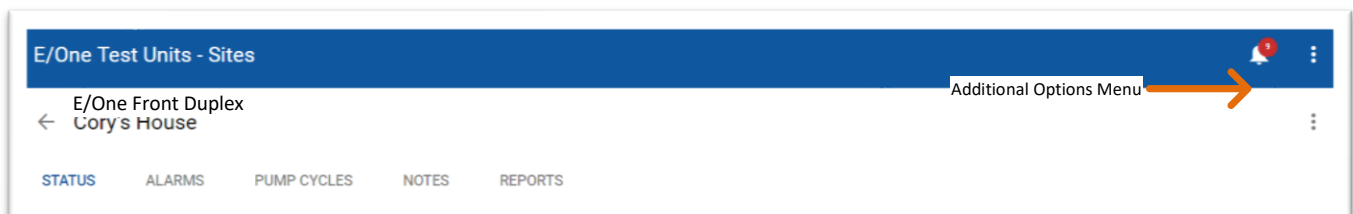
An aerial map is displayed at the bottom of the form, showing the location of the site.

#### 3.2.3.2.5.1 Label

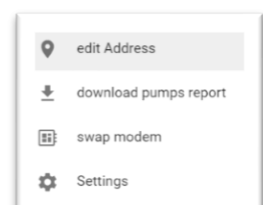
This field holds the name of the site that will be used to identify it throughout the rest of the platform. If this field is left blank, the site will be identified the information that is entered into the Street 1 field below.

#### 3.2.3.2.5.2 Street 1 / Street 2, City, State, Zip, Country

These fields are for the physical address of the site. Fields must be entered accurately because they are used to physically locate the address on the map.



#### Site Additional Options Menu



### 3.2.3.2.6 Lat/Long (latitude and longitude)

In addition to entering street address information, standard global positional system (GPS) coordinates may be entered in the Lat and Long fields. This information must be entered correctly in order for the map to correctly show the location of the site. Most mobile devices can provide GPS coordinates in several formats to provide this information while on site. Additionally, this information can be edited by using the “edit address” option within the “Additional options” menu (above). Once entered, the map can be ‘dragged’ while the site pin remains stationary to allow placing the pin precisely where the site is located.

### 3.2.3.2.7 Summary/Save

After filling in the required information, a summary of the entry is shown. If the information entered is correct, click Save to continue.

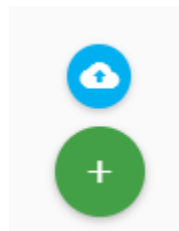


Pumps	1
Panel Type	advanced
Modem	not set
Sites Group	not set
Location	Environment One Test Unit 1A

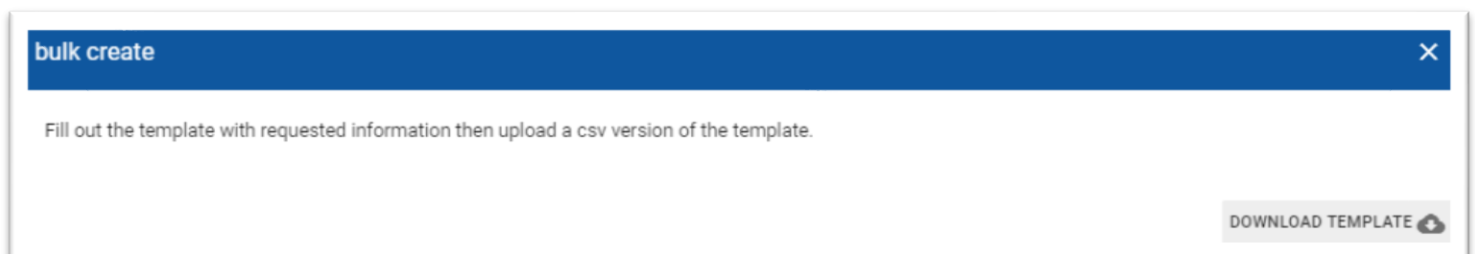
BACK SAVE

### 3.2.3.3 Bulk Upload New Sites

Moving the cursor over the Add New Site icon displays the bulk upload (📁) icon. To do this, move the cursor onto the green “+” sign (⊕) but do not click the mouse. The bulk upload icon (📁) will show up above the green “+” sign (⊕):



Selecting the bulk upload (📁) icon will create a popup window:



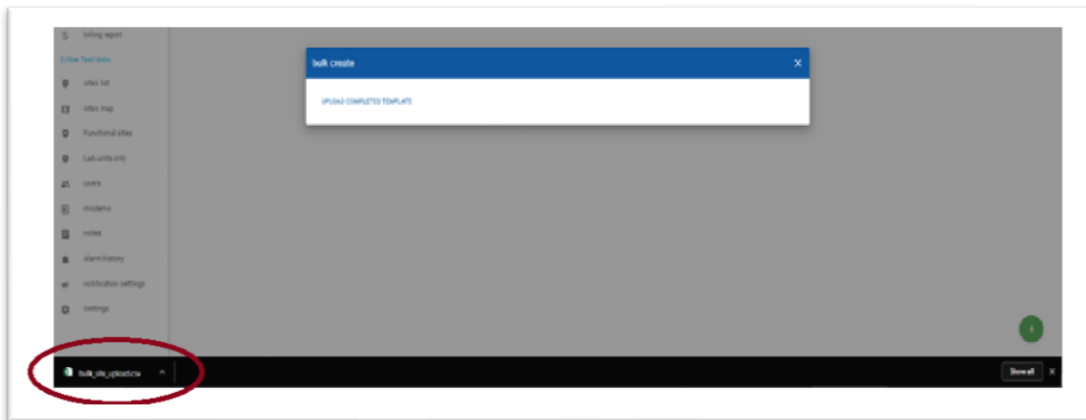
bulk create

Fill out the template with requested information then upload a csv version of the template.

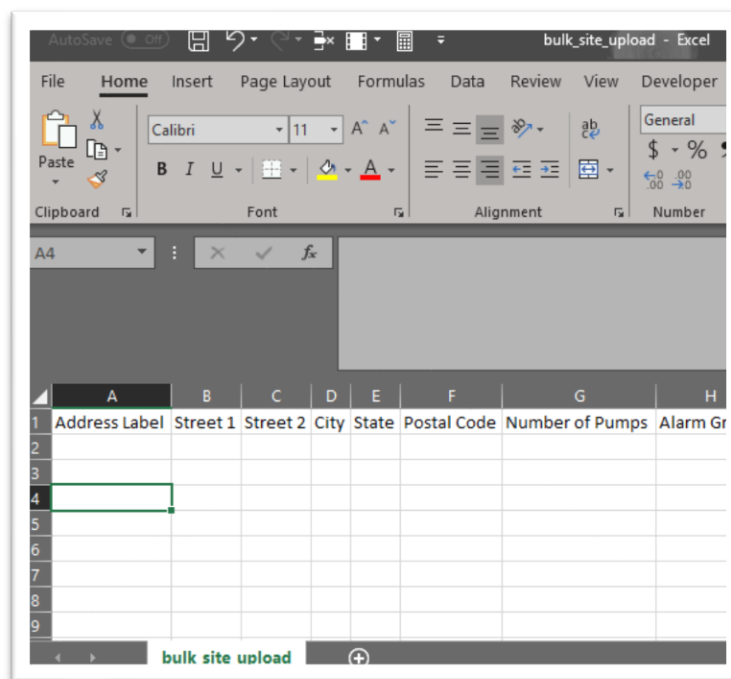
DOWNLOAD TEMPLATE

Selecting the Download Template button ( DOWNLOAD TEMPLATE 📁 ) creates and downloads a Microsoft Excel file that the user will populate in order to proceed with a bulk new site upload.

After selecting the button, the user should see the download appear in the browser's window (bottom left hand corner).



Double-click the downloaded file to open the Excel document:



Fill in the required information for all sites. Save the file.

After saving the file, return to the website and a popup should be on the screen to continue the bulk new site upload:



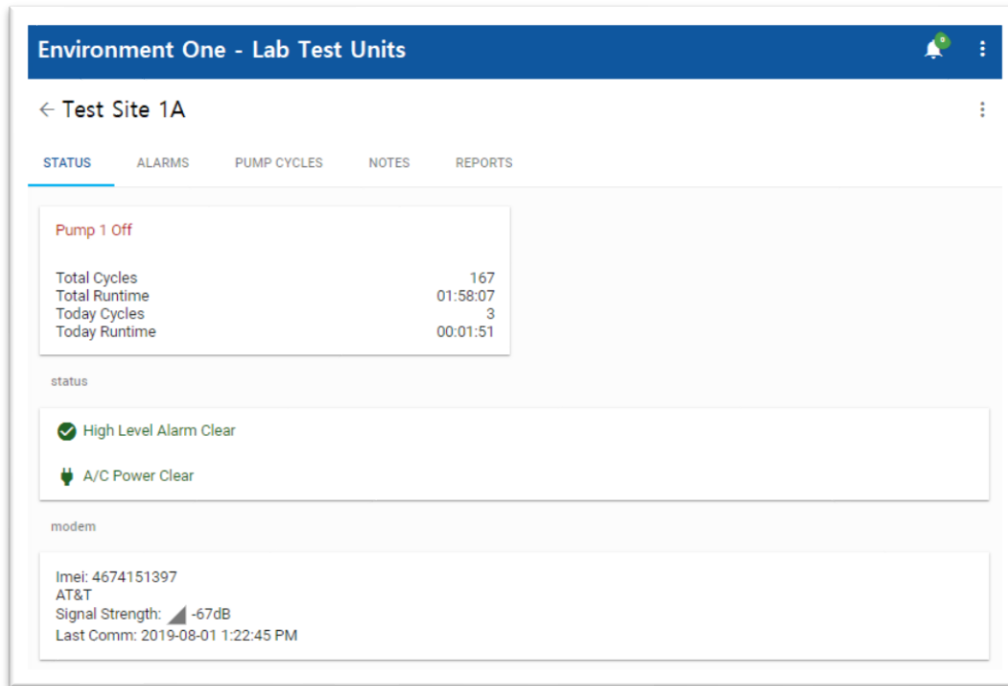
Note: If the User does NOT see Upload Completed Template, select the Download Template button again ( DOWNLOAD TEMPLATE ). This will advance the popup to allow the user to Upload Completed Template.

Select the completed template file in order to proceed with the bulk new site upload.

### 3.2.3.4 Basic Package

#### 3.2.3.4.1 Status

The Status tab contains top-level Pump Status information. For the Basic package, this includes indications for Pump Running, High Level Alarm, Signal Strength (in decibels, dB) and last communication check-in information. The Status tab also displays both today's run time and cycle counts as well as total runtime and cycle counts. (Note: Counters start accumulating data when E/One Sentry Advisor is activated via the web interface). These indicators mimic in real time what is occurring locally at the pump.



The Status tab includes readouts for Today's Pump Runtime Information. This includes the following information and represents data that have accumulated from 12:00 a.m. of the current day up to the present time:

#### *Runtime and Cycles*

These values accumulate each day in the 24-hour period beginning at 12:00 a.m. through 11:59 p.m. These values will reset each day at 12:00 a.m.

#### 3.2.3.4.2 Alarms

This window is the same for both the Basic and Advanced Data options and displays all Alarms and Alerts that have occurred at the station. Items can be Viewed or Acknowledged individually. Each event has a status icon 'ST' to indicate if the event is current and requires attention (RED) 🔴, or if it has already been acknowledged (GRAY) ⚪. Entries in the list can be filtered several ways: to show All events or only the following:

- Active Not Acknowledged — Any alarm or alert that is currently active and has yet to be acknowledged. Refer to Alarm Acknowledge for more information about acknowledging alarms.
- Active — Any alarm or alert that is currently active, despite it having been acknowledged
- Cleared — Any alarm or alert that has since cleared and is no longer currently active

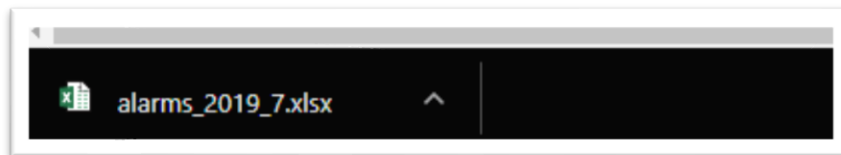
The list of alarms and alerts can be filtered further by entering a customer start and end date:

A screenshot of a web interface showing a filter section. At the top is a search bar labeled 'filter text'. Below it are four radio button options: 'All' (selected), 'ActiveNotAcknowledged', 'Active', and 'Cleared'. Underneath these are two text input fields labeled 'Start Date' and 'End Date', which are circled in red. At the bottom right of the filter section is a blue button with a download icon and the text 'DOWNLOAD'.

The list is maintained indefinitely for historical purposes. Active events require selection in order to formally acknowledge them. This has the effect of 'clearing' the Trouble WITHIN THE WEBSITE ONLY.

**NOTE – Acknowledging a Trouble indication through the website should be done only after the actual Trouble event at the grinder pump station has been addressed. Clearing a Trouble indication through the website DOES NOT CLEAR THE ACTUAL EVENT AT THE STATION.**

Download an Alarms report by selecting the Download button on the right side of the screen (below the Start and End date custom filter). After selecting the Download button, a popup window will appear. Enter the month and year that they would like to pull data from. The report will appear in the bottom left hand corner of the browser window.



A Microsoft Excel document that shows all alarms and alerts for the selected month and year is created.

A screenshot of an Excel spreadsheet titled 'Alarm Logs'. The spreadsheet has four columns: 'Contact', 'Contact Method', an unlabeled column, and 'Delay (Min)'. The data is organized into sections with pink headers. The first section is 'External Power Ok', followed by two rows for 'USER 1' and 'USER 2' with '5555555555' in the 'Contact Method' column, 'textmessage' in the unlabeled column, and a 'Delay (Min)' of 5. The second section is 'Communication has been restored', followed by two rows for 'USER 1' and 'USER 2' with '5555555555' in the 'Contact Method' column, 'textmessage' in the unlabeled column, and a 'Delay (Min)' of 110.

Contact	Contact Method		Delay (Min)
External Power Ok			
USER 1	5555555555	textmessage	5
USER 2	5555555555	textmessage	5
Communication has been restored			
USER 1	5555555555	textmessage	110
USER 2	5555555555	textmessage	110

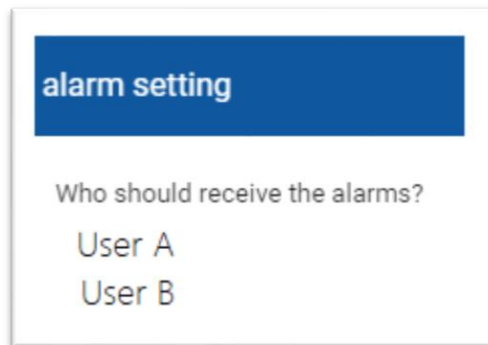
### 3.2.3.4.2.1 Notification Settings

This sub menu allows for setup and management of Alarm and Alert notifications. Notifications can be configured for any number of individuals, for any of the events that are available, including pump running events, alarms, power loss, etc. By selecting on the green '+' (+) in the bottom right hand corner of the "NOTIFICATION SETTINGS" sub menu. Notifications can be made by phone, e-mail or text message. Each notification method will result in either a written or recorded message indicating both the trouble condition and location. Each notification can be individually enabled or disabled by the "slider" ( ) built in to the user interface.

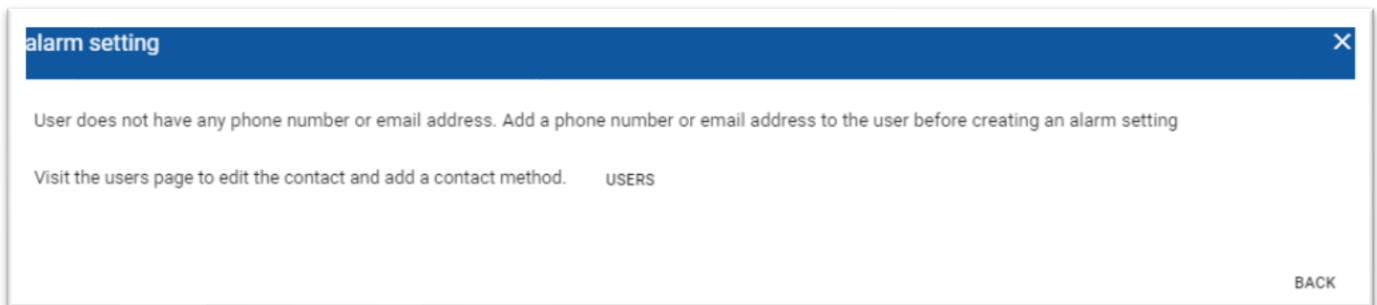
#### 3.2.3.4.2.1.1 Adding New Alarm and Alert Contacts

In order to create an alarm or alert notification, a recipient must already be registered as a user of the account in which the alarm or alert notification originates.

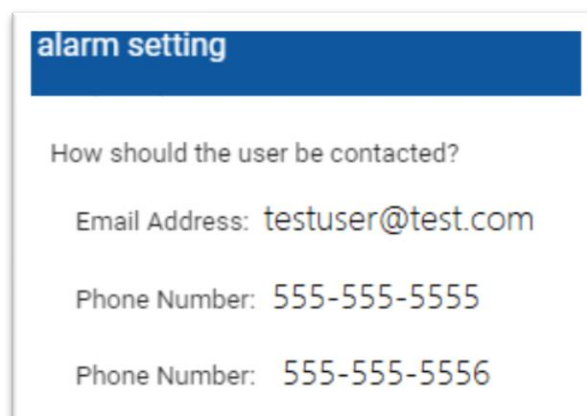
Upon selecting the green '+' (+), a popup window will appear:



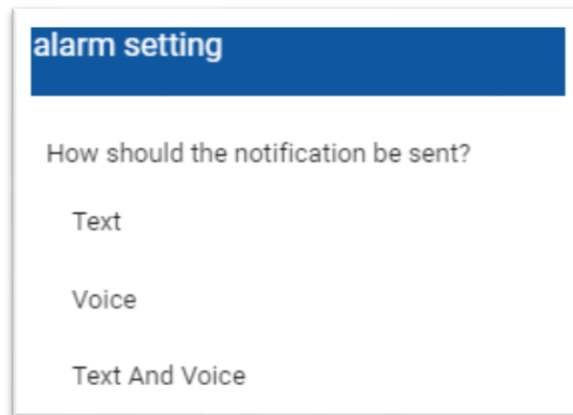
If the user does NOT have a phone number or email address set up, a popup message will alert the user about the issue.



If the user has the proper contact information entered, a popup window will appear asking how the user should be contacted:



If the user selects a phone number, a new popup will ask how that phone number should be contacted:



alarm setting

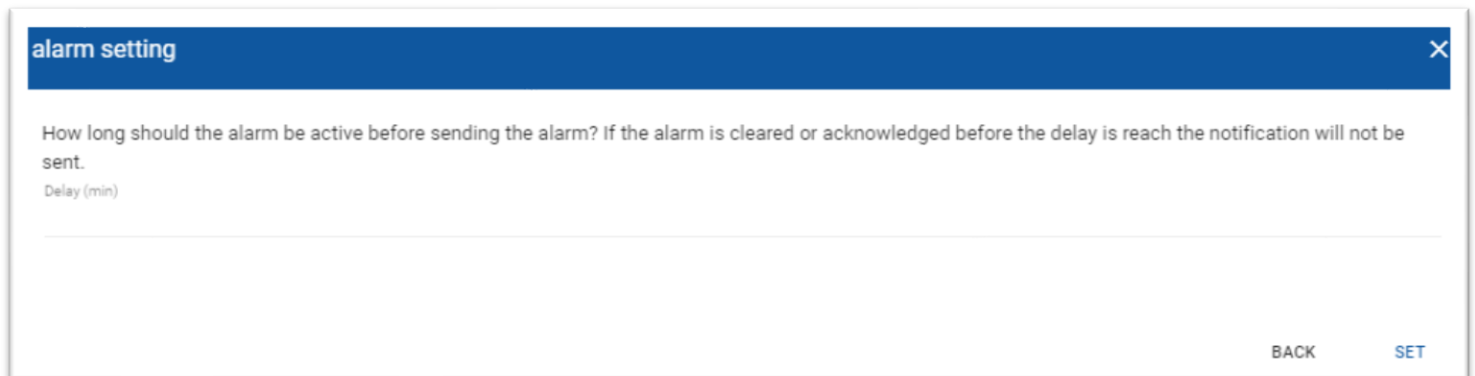
How should the notification be sent?

Text

Voice

Text And Voice

If the user selects an email address, a new popup will ask how long the alarm should be active (in MINUTES) before sending the alarm. (Note: If the alarm is cleared or acknowledged before the delay is reached, the notification will not be sent.)



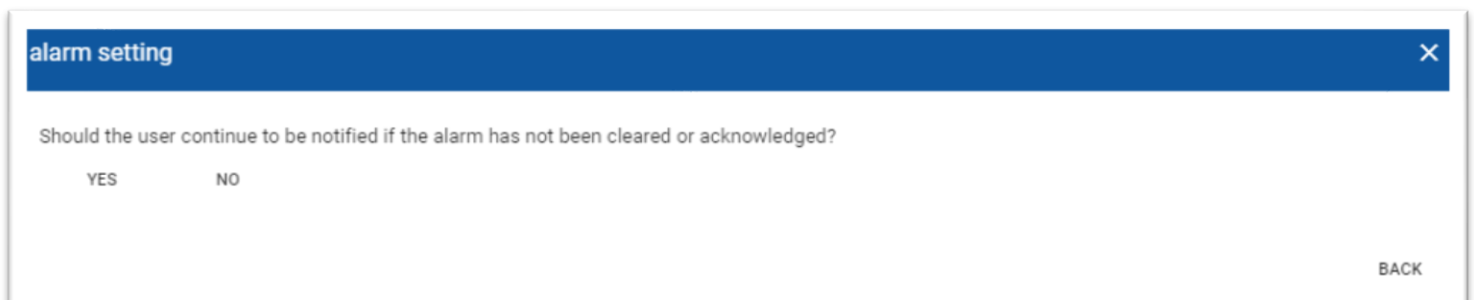
alarm setting

How long should the alarm be active before sending the alarm? If the alarm is cleared or acknowledged before the delay is reached the notification will not be sent.

Delay (min)

BACK SET

Enter the desired time (in MINUTES) and click "Set" to proceed. This will generate another popup window asking if the user should continue to be notified in the event that the alarm or alert has not been cleared or acknowledged:



alarm setting

Should the user continue to be notified if the alarm has not been cleared or acknowledged?

YES  NO

BACK

Select the desired response. If the user selects Yes, the user will be asked how long the user would like the NAG feature to wait before another notification is generated. The interval should be entered in MINUTES:

The screenshot shows a dialog box titled "alarm setting" with a close button (X) in the top right corner. The main text asks, "How often should the user continue to be notified?". Below this, it says "Nag Interval (Min)" followed by a text input field containing the number "10". At the bottom right, there are two buttons: "BACK" and "SET".

After setting the "NAG" timer, another popup window will ask whether or not this alarm and alert notification setting should only be active during certain "shifts" (both for time of day and day of week):

The screenshot shows a dialog box titled "alarm setting" with a close button (X) in the top right corner. The main text asks, "Do you want to specify shift times/days for the alarm settings?". Below this, there are two radio button options: "YES" and "NO". At the bottom right, there is a "BACK" button.

If the user selects Yes, a new popup window will ask the user to specify the user's "shift":

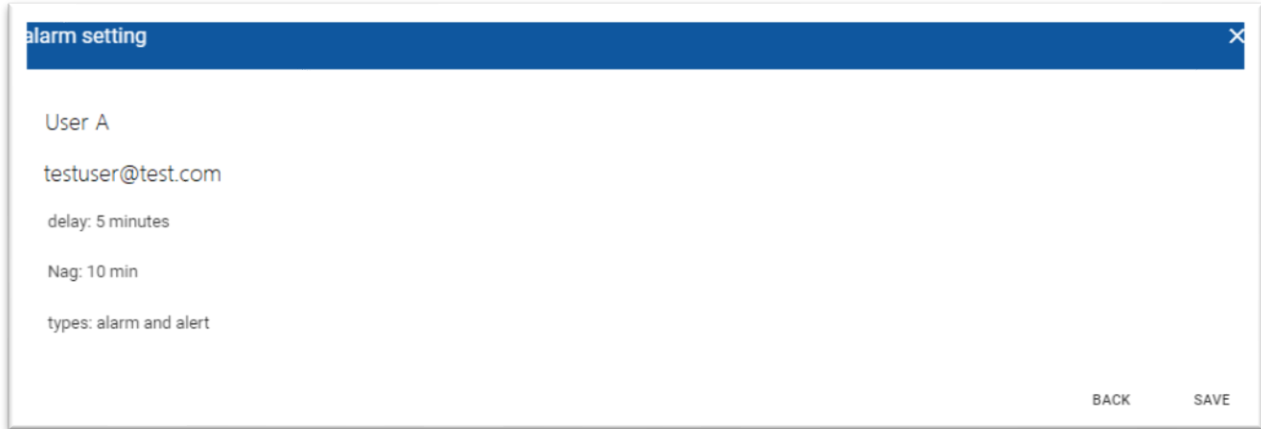
The screenshot shows a dialog box titled "alarm setting" with a close button (X) in the top right corner. The main text says, "Notification will be sent according to the shift start times day." Below this, there are two columns: "Shift Start" with the value "12:00 AM" and "Shift End" with the value "12:00 AM". Below these, there is a row of days with checkboxes: Sun, Mon, Tue, Wed, Thu, Fri, and Sat, all of which are checked. At the bottom right, there are two buttons: "BACK" and "SET".

After setting the user's "shift" alarm and alert notification schedule, a new popup will appear asking the user to identify what types of notifications the user should receive. Either alarm, alerts or both:

The screenshot shows a dialog box titled "alarm setting" with a close button (X) in the top right corner. The main text asks, "Which types of notifications should the user receive?". Below this, there are three radio button options: "Alarm and Alert", "Alarm", and "alert". At the bottom right, there is a "BACK" button.



Upon choosing which combination of alarms and alerts the user would like to receive, the user can verify the alarm and alert settings prior to saving the data:



\* Shifts can be altered at any time by returning to this menu.

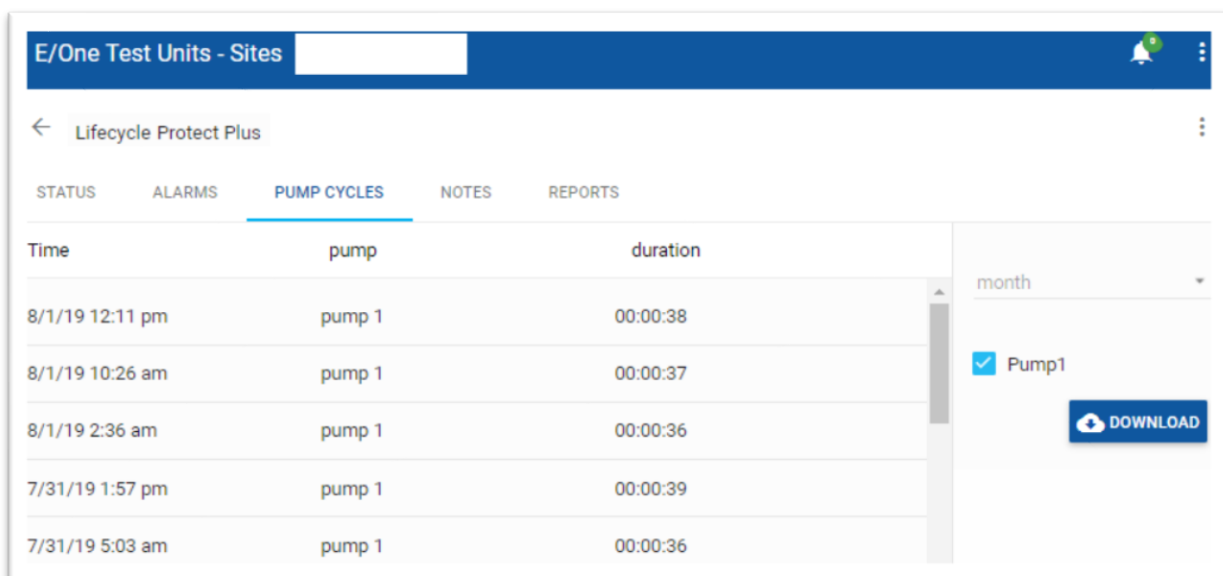
\*\* When a user creates a customer notification, they will receive notifications for ALL sites in the account for which they created the notification. A user can create a notification inside of an account (below the main account) which will allow them to be notified for a select number of units (all units that appear in the specified customer account group).

To identify the hierarchy of the User, look at the large BLUE header bar at the top of the screen. The user can toggle between account groups by selecting on the desired header.



### 3.2.3.4.2.2 Pump Cycles

This window is the same for both the Basic and Advanced Data options and provides a more detailed look at the historical pump operating information. For duplex through quadplex stations, checkboxes for selecting among pumps 1 through 4 are included.



A dropdown list in the top right-hand corner of the chart area (above the Pump Selector) allows selecting a Cycle Period over which the data can be viewed. Selecting the desired month will update the chart automatically.

This chart represents a list that displays each pump cycle. Each entry in this list shows the start time and elapsed time of each pump cycle within the date range. The information will be displayed for all pumps that exist in the station.

### 3.2.3.5 Advanced Data Option (E/One Sentry Simplex and Duplex Protect Plus panels only)

The Advanced Data Option provides the information in the Basic package plus the ability to read all of the data that are monitored and accumulated locally on the Protect Plus style panels. The data are collected in a single data packet that contains ALL of the information the panel has stored. At a minimum, this data packet is transmitted once approximately 10 seconds after the start of each pump run cycle. In addition, the data will also be transmitted in response to any of the following Protection conditions:

- Brownout, Overvoltage, Run Dry, Overpressure, Runtime Limit

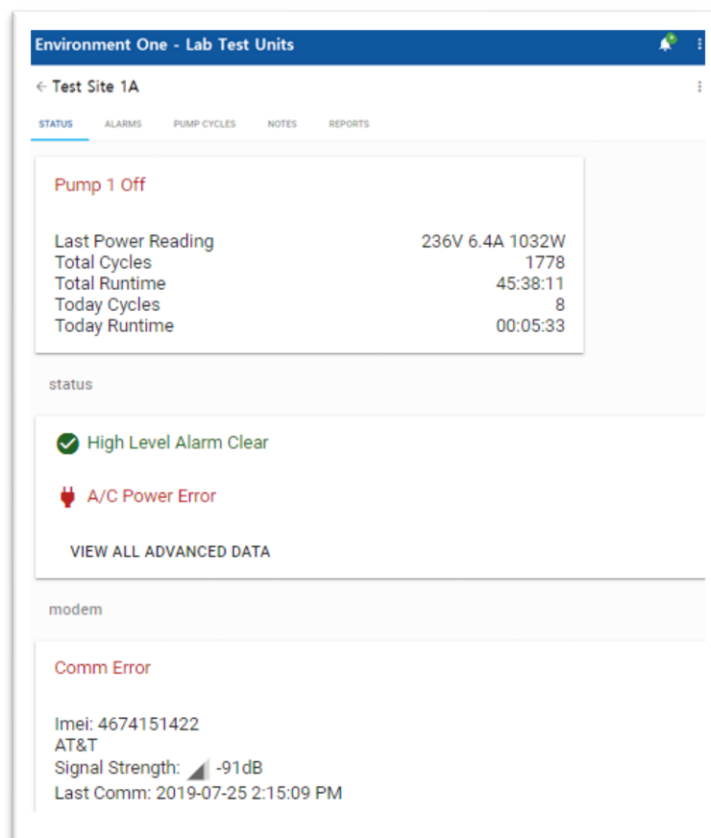
The Protect Plus panel also monitors several system-level operating parameters that provide information about the overall health of the system. These include the following and will also result in a transmission of the data packet:

- Alarm Protect, Delayed Alarm, Failed WM COM, OSC Fail, DIP SW Error, Leak Detected, Wireless Alarm, Latched Alarm, Latched RD/OP

Refer to the user manual for the Protect Plus panel (NA0269P02), available at [www.eone.com/sewers](http://www.eone.com/sewers) for more information about the meaning of each of these parameters.

#### 3.2.3.5.1 Status

The Status tab contains top-level pump status information. For the Advanced package, this includes indications for Pump Running, High Level Alarm, Signal Strength (in decibels, dB) and last communication check-in information. It also includes Last Power Reading, which will display the last data recorded values for Volts, Amperage and Wattage. The Status tab also displays both TODAY'S runtime and cycle counts as well as TOTAL runtime and cycle counts. (Note: Counters start accumulating data when E/One Sentry Advisor is ACTIVATED via the web interface). These indicators mimic in real time what is occurring locally at the pump.



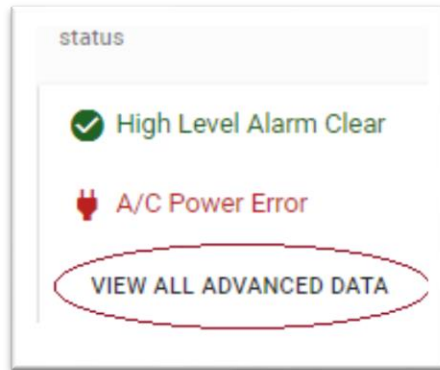
The Status tab includes readouts for Today's Pump Runtime Information. This includes the following information and represents data that has accumulated from 12:00 a.m. of the current day up to the present time:

*Runtime and Cycles*

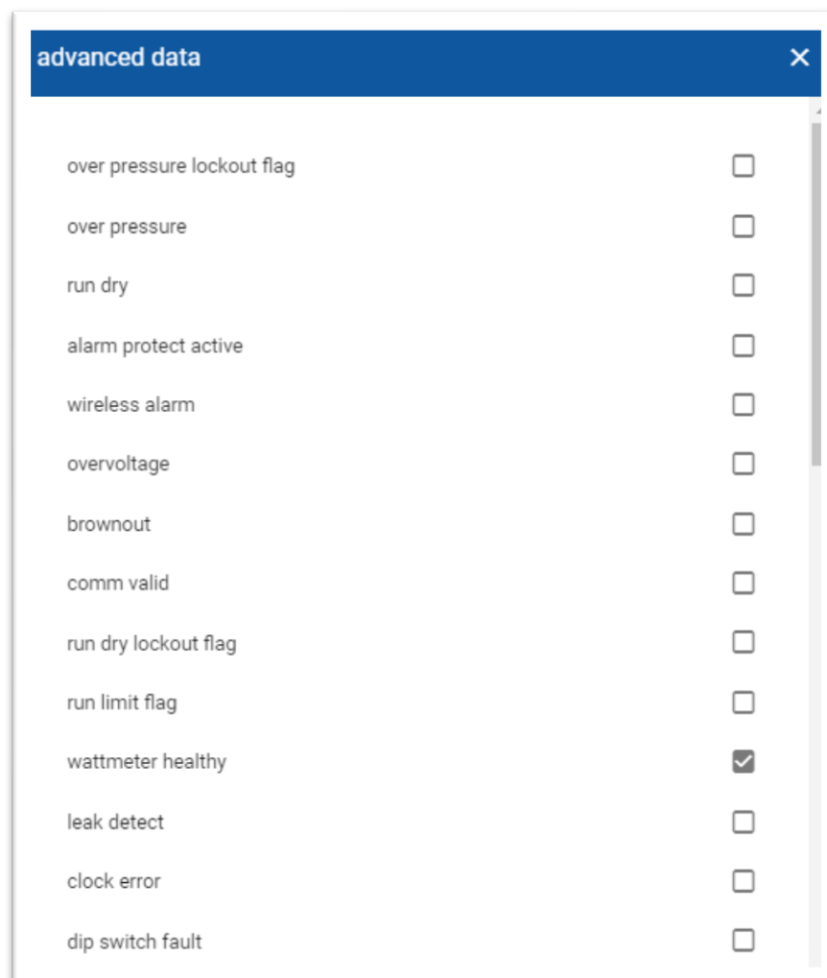
These values accumulate each day in the 24-hour period beginning at 12:00 a.m. through 11:59 p.m. These values reset daily at 12:00 a.m.

The "STATUS" tab is where the user can find the advanced data via the "VIEW ALL ADVANCED DATA" button:

[VIEW ALL ADVANCED DATA](#) . This button is found below the A/C Power Check:



Selecting the ( [VIEW ALL ADVANCED DATA](#) ) button will generate a popup window that shows a portion of the registers displayed in a check box format:

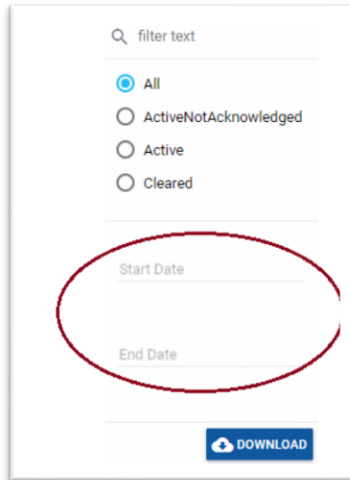


### 3.2.3.5.2 Alarms

This window is the same for both the Basic and Advanced Data options and displays all Alarms and Alerts that have occurred at the station. Items can be Viewed or Acknowledged individually. Each event has a status icon ST to indicate if the event is current and requires attention (RED) or if it has already been acknowledged (GRAY). Entries in the list can be filtered to show All events, or only the following:

- Active Not Acknowledged — Any alarm or alert that is currently active and has yet to be acknowledged by any means. Refer to the Alarm Acknowledge section of this manual for more information on acknowledging alarms.
- Active — Any alarm or alert that is currently active, despite it having been acknowledged
- Cleared — Any alarm or alert that has since cleared and is no longer currently active

The list of alarms and alerts can be filtered further by entering in a customer start and end date:



The list is maintained indefinitely for historical purposes. Active events require selection in order to formally acknowledge them. This has the effect of clearing the Trouble WITHIN THE WEBSITE ONLY.

**NOTE – Acknowledging a Trouble indication through the website should be done only after the actual Trouble event at the grinder pump station has been addressed. Clearing a Trouble indication through the website DOES NOT CLEAR THE ACTUAL EVENT AT THE STATION.**

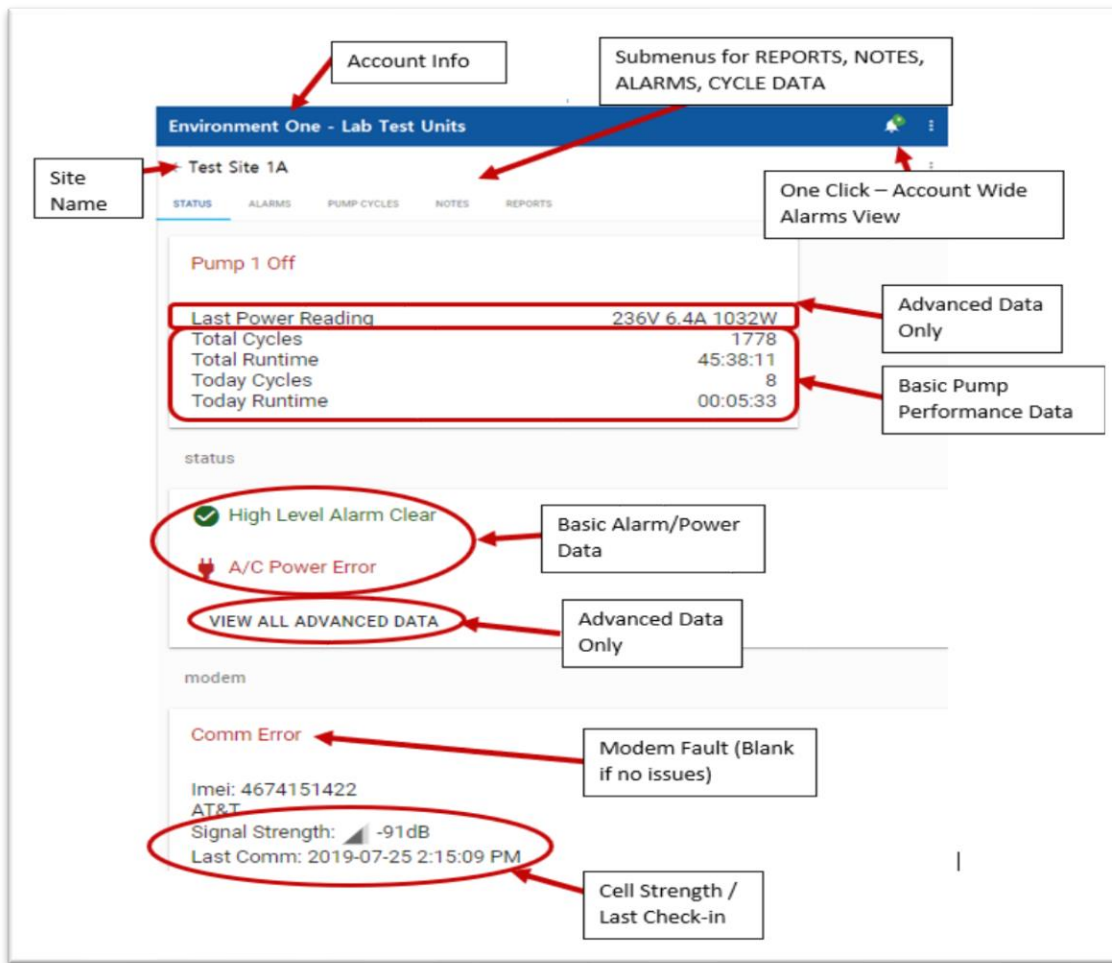
Lastly, an Alarms report can also be generated by selecting the Download button on the right side of the screen (below the Start and End date custom filter). After selecting the Download button, a popup window will appear. Enter the month and year to pull data. The report will appear in the bottom left hand corner of the user’s browser window.



A Microsoft Excel document will be created and downloaded that shows all alarms and alerts for the selected month and year.

Alarm Logs			
Contact	Contact Method		Delay (Min)
External Power Ok			
USER 1	5555555555	textmessage	5
USER 2	5555555555	textmessage	5
Communication has been restored			
USER 1	5555555555	textmessage	110
USER 2	5555555555	textmessage	110

### 3.2.3.6 Site Page



The top portion of the Site Information Display contains menu tabs to navigate between the following menus: STATUS, ALARMS, PUMP CYCLES, NOTES and REPORTS.

Below the menu tabs is a pump status indication, PUMP X OFF or PUMP X ON.

Below the Pump Status indication, for panels configured for the Advanced Data Option, the user will see a read out of the last power reading (Volts, Amperage and Wattage).

Below LAST POWER READING is the Pump Performance section, which includes readouts for Today's Pump Runtime Information. This includes the following information, and represents data that has accumulated from 12:00 a.m. of the current day up to the present time:

#### *Runtime and Cycles*

These values accumulate each day in the 24-hour period beginning at 12:00 a.m. through 11:59 p.m. These values reset daily at 12:00 a.m.

Below the Basic Pump Performance Data are Alarm and Power indications. These values are a snapshot of the corresponding parameters taken the last time data were received from the station. This will occur approximately 10 seconds after the start of any pump Run cycle under Normal conditions or will correspond to any of the events that result in a push of data from the station. This will allow viewing these operating parameters under Normal conditions, or at the time a fault has occurred. In either case, this information can be used to evaluate the overall health of the system at that time.

Below the Alarm and Power Data indications, if the panel is configured for the Advanced Data Option, the user will have the ability to VIEW ALL ADVANCED DATA.

At the bottom of the STATUS tab, is a section dedicated to the health of the cellular modem as well as visual indications regarding the modems last recorded communication and signal strength.

### 3.2.3.6.1 Alarm/Trouble Events, Historical Pump Information, User and System Settings

#### 3.2.3.6.1.1 Alarms

This menu tab is the same for both the Basic and Advanced Data options and displays all Alarm and Trouble events that have occurred at the station. Refer to the corresponding section above for the Basic Package for information about this window.

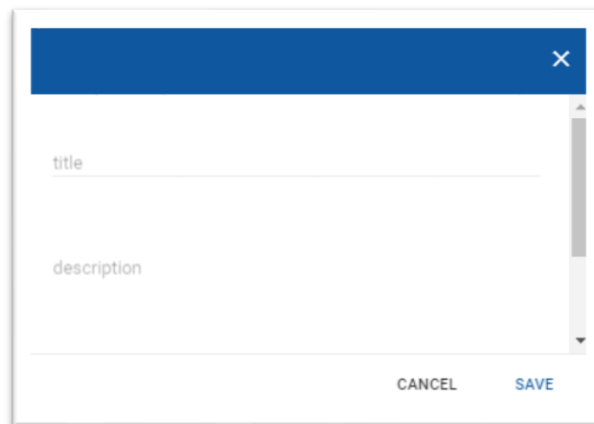
#### 3.2.3.6.1.2 Pump Cycles

This menu tab is the same for both the Basic and Advanced Data options and provides a more detailed look at the historical pump operating information. Refer to the corresponding section above for the Basic Package for information about this window.

#### 3.2.3.6.1.3 Notes

This menu tab is the same for both the Basic and Advanced Data options and provides the ability to enter a customer note for the E/One Sentry Advisor-equipped station that is currently shown.

From within the individual site, click the “+” button (●) to create a note. A popup window to create the title and note.



#### 3.2.3.6.1.4 Reports

The Report menu tab (under the Site Information Display) allows the user to select between a few individual parameters (via dropdown menus) to customize a visual output. Depending on the selection, the visual displays will be updated, providing either graphical representations or a summary of the performance characterizes for the selected pump(s).

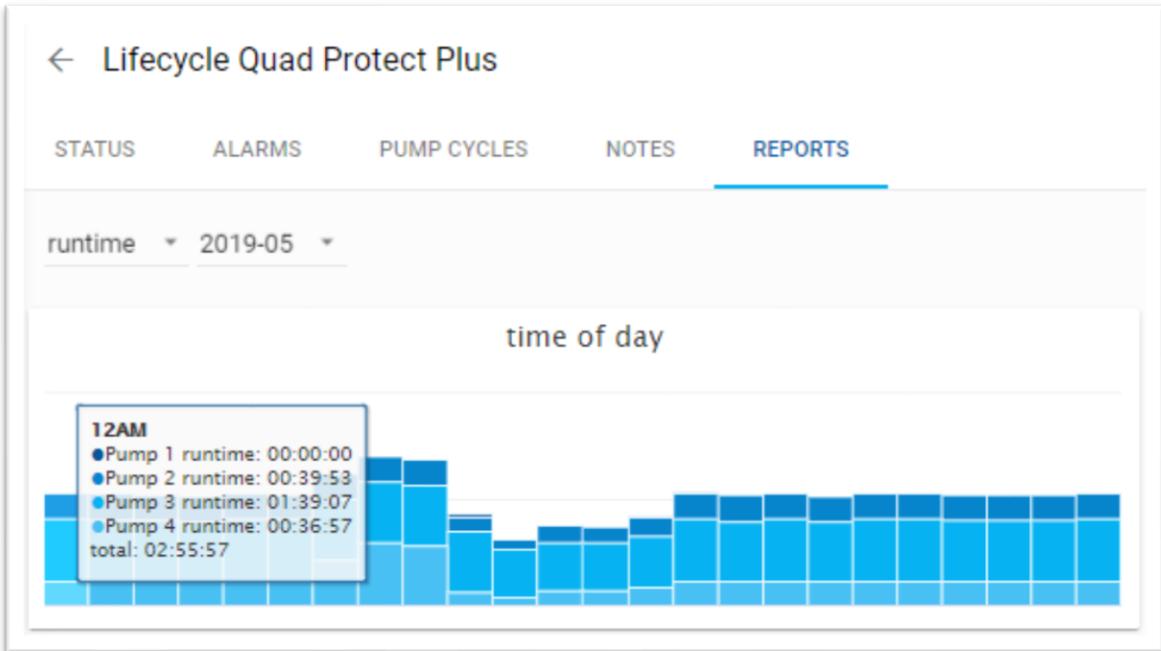
The dropdown filterable parameters include: runtime or cycle quantities by either the last 180 days or by single month increments.

Additional formats may be added to this section as future reports are requested. Each report will contain a brief description of the information that it provides.

Current Graphical Outputs include the following:

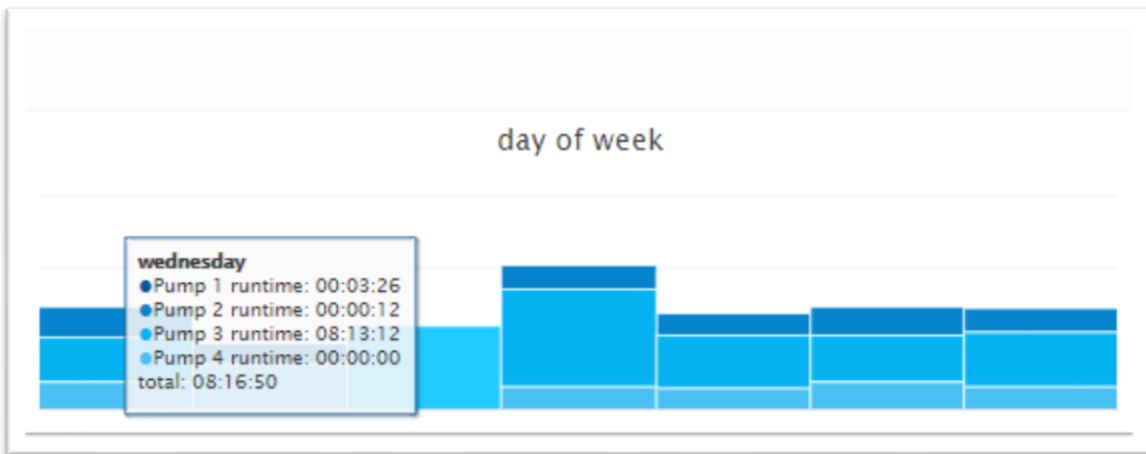
#### **TIME OF DAY**

- Displays a breakdown (by pump) of when a pump has run by hour, filtered by the dropdowns above:
  - o Pump 1 did NOT run between 12:00 a.m. and 1:00 a.m. at any time in May 2019. Pump 2 ran for 39 minutes and 53 seconds total during May 2019.



**DAY OF WEEK**

- Displays a breakdown (by pump) of when a pump has run by day, filtered by the dropdowns above:
  - o Pump 1 ran for 3 minutes and 26 seconds cumulatively on Wednesdays in May 2019. Pump 2 ran for 12 seconds cumulatively on Wednesdays in May 2019.

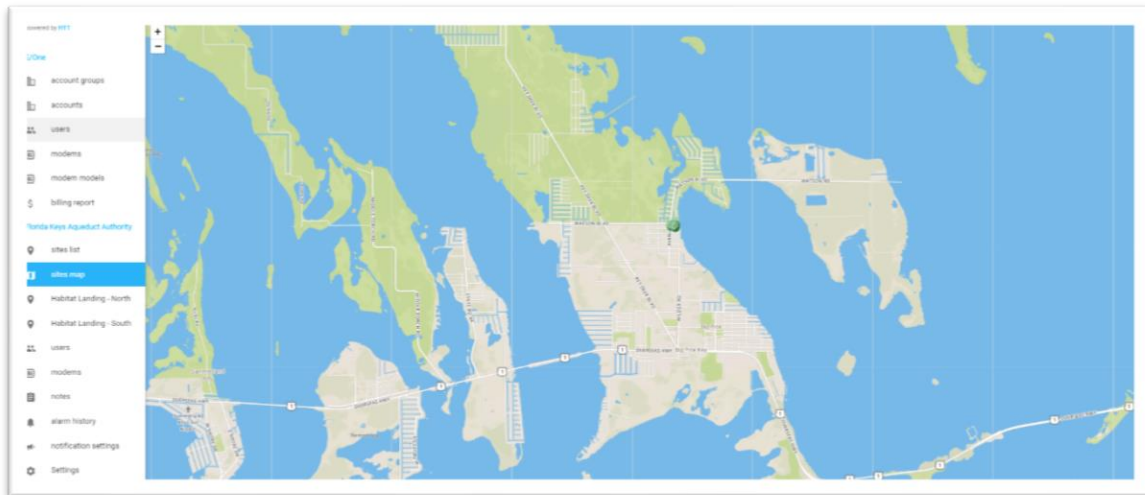


The main chart at the bottom of the Reports tab is controlled by the slider below (but also respects the user-based filtering from the dropdown menus above). The data in this chart will be filtered differently depending if the slider has been modified and by what has been selected in the dropdown menus above.

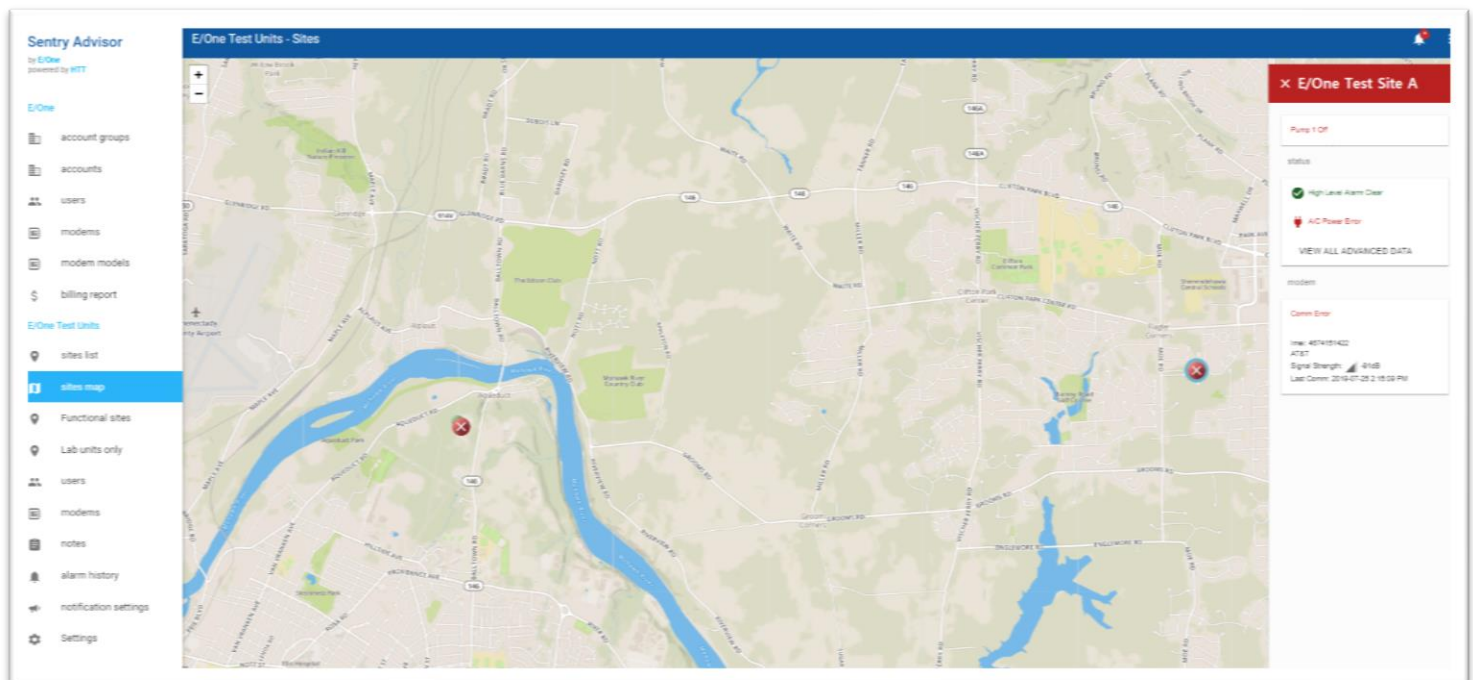


## Sites Map

E/One Sentry Advisor includes a Map feature that shows where all of an account's activated units are installed. From the Selected Account Navigation menu, select the SITES MAP option. This opens a map feature zoomed to display all E/One Sentry Advisor units under the current account. Individual units appear as colored tiles. The color of the tile reflects the status of the station. Selecting on the tile for a specific grinder pump site provides access to that pump's [Pump Data Screen](#).

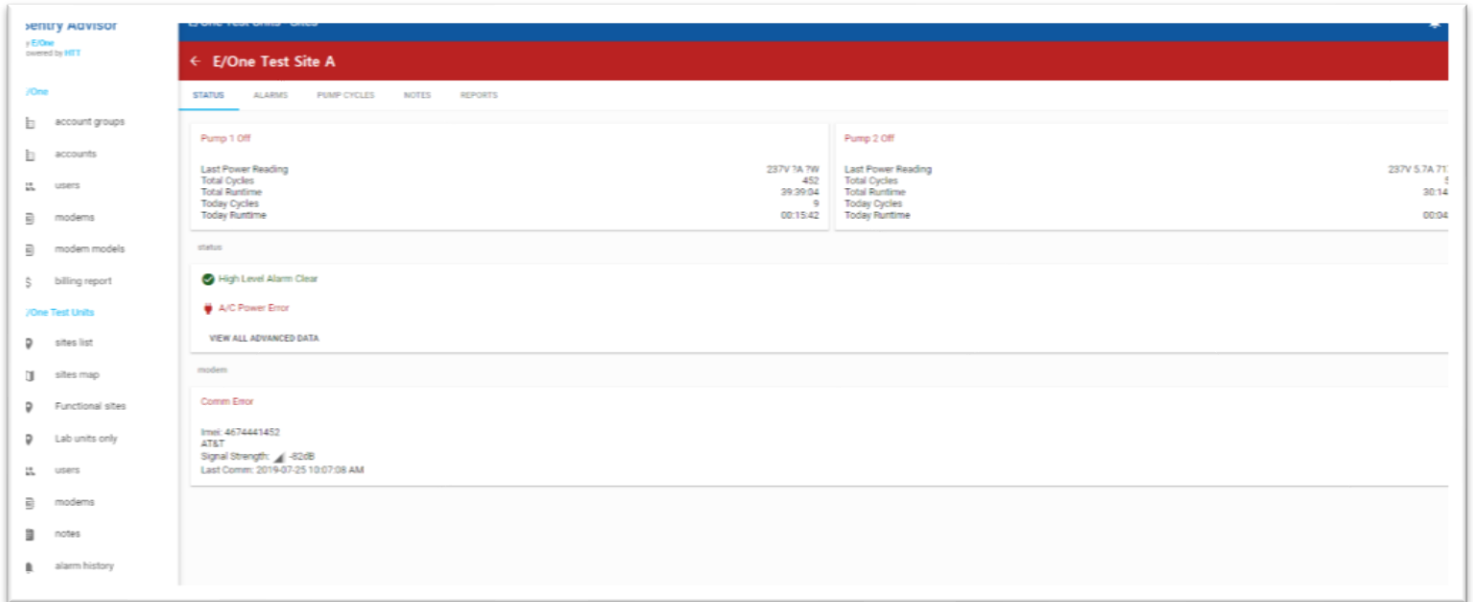


Selecting on this icon or zooming in on the map will display all individual pumps represented. These data are shown on the far-right side of the screen.



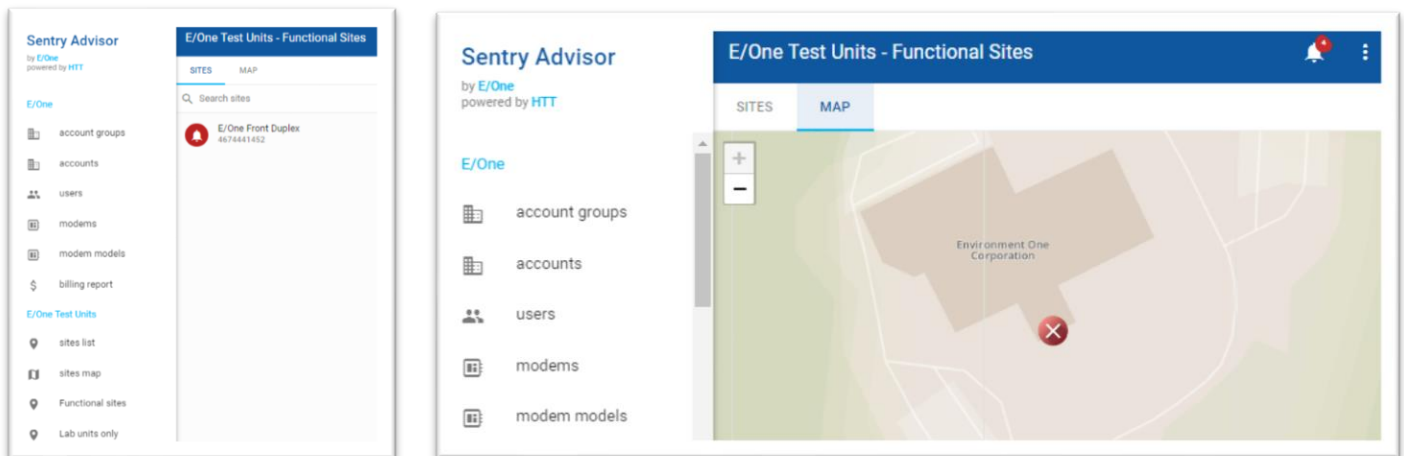


Click on the Site Name (in the RED BAR shown in the pop-out window on the left) to drill down further. Selecting the name opens the Site Information page.



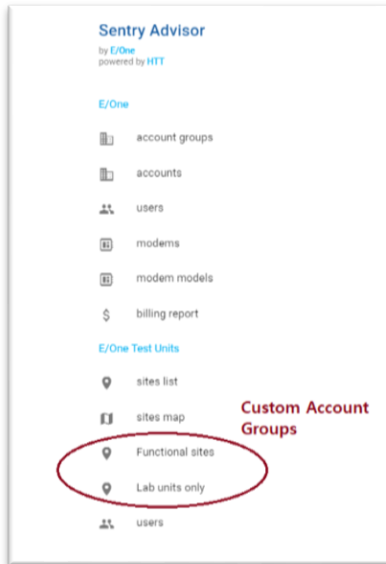
Selecting the “←” to the LEFT of the site name returns to the account map.

Viewing maps can be further refined by selecting on an ACCOUNT GROUP. This limits the number of sites displayed to those specifically assigned to that account group. At the top, below the name of the account group, are two tabs: SITES and MAP. Selecting MAP will map ONLY the units in the specific account group that they have navigated to.




### 3.2.4 Account Groups

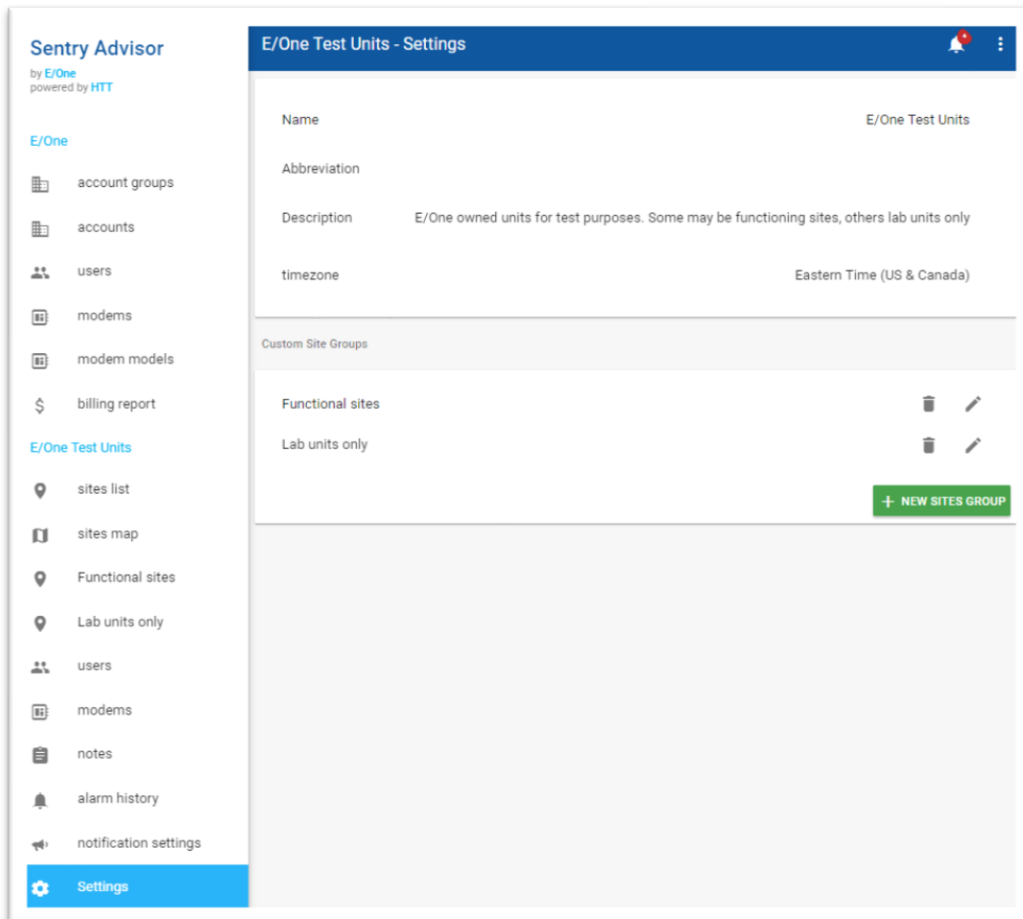
The NEW SITES GROUP feature provides an easy way to organize individual grinder pumps. Groups can be created based on a common characteristic such as location, neighborhood, type of station, or any other distinguishing characteristic. Once the group is created and saved, grinder pump sites can easily be added. The dashboard then displays all grinder pump sites arranged into these defined groups. A group is represented in the Selected Account Navigation (located in the lower left-hand corner) by a name (assigned by the user), residing below the SITES MAP category.




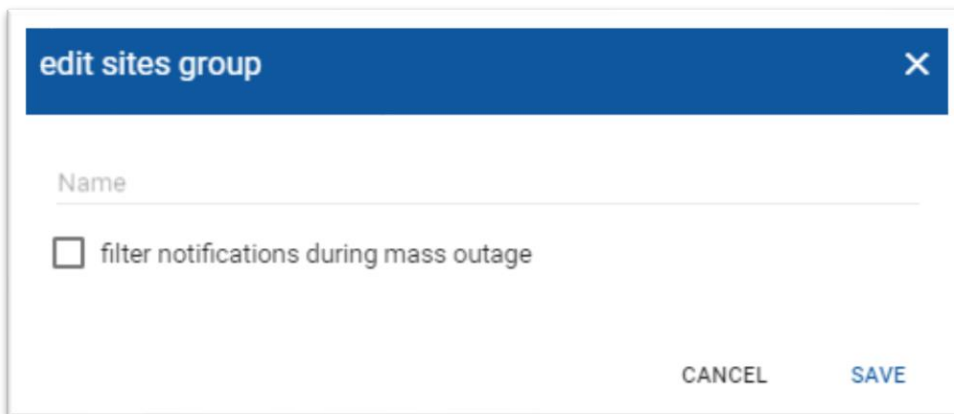
**NOTE – A group can only include E/One Sentry Advisor sites that are accessible within a single Customer account.**

### 3.2.4.1 Creating Groups

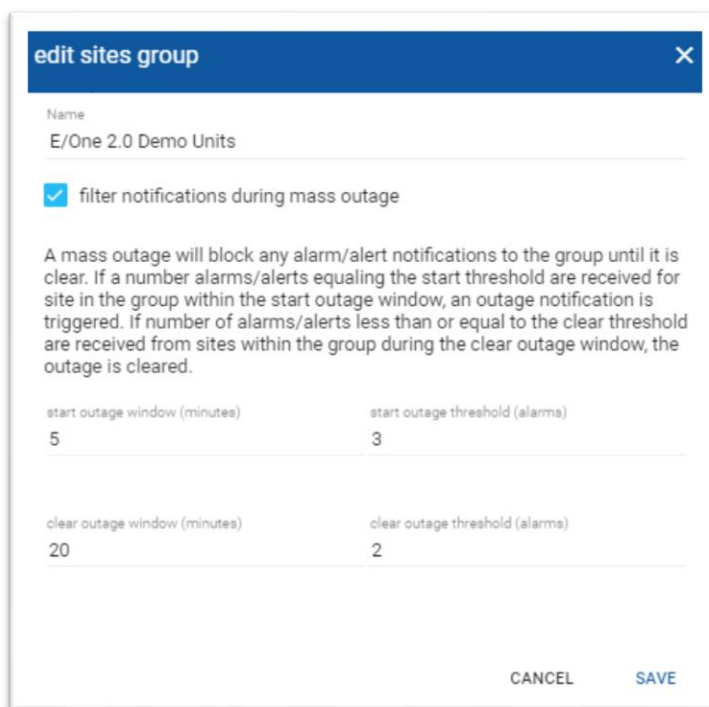
From the Selected Accounts Navigation Menu, click SETTINGS at the BOTTOM of the list. A list of all existing groups is displayed. A pencil icon to the far right of each group is used to edit the name and description of each group. To the far right of each group is a TRASH CAN symbol (  ) that is used to delete that group.



To add a new group, click the green '+ NEW SITES GROUP' (  ). Enter a name for the group (ex. Sandy Point – 24 homes; Steve Jones – Steve's territory). The user will also need to choose whether to filter notifications during mass outage. If this is a desired feature, check the box; if not, leave it unchecked.



If the user selected FILTER NOTIFICATIONS DURING MASS OUTAGE, a new popup window will appear.




**Note: A mass outage will block any alarm/alert notifications to the group until it is clear. If a number of alarms/alerts equaling the start threshold are received for sites in the group within the start outage window, an outage notification is triggered. If a number of alarms/alerts is less than or equal to the clear threshold is received from sites within the group during the clear outage window, the outage is cleared.**

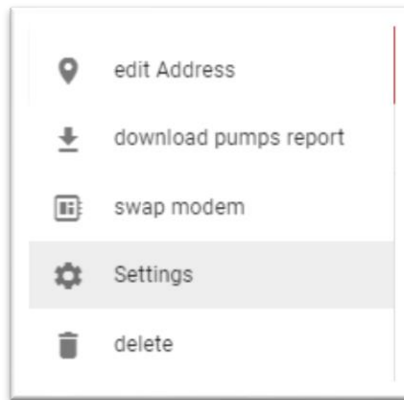
Select the following:

- Start Outage Window (minutes)
- Start Outage Threshold (quantity of alarms)
- Clear Outage Window (minutes)
- Clear Outage Threshold (quantity of alarms)

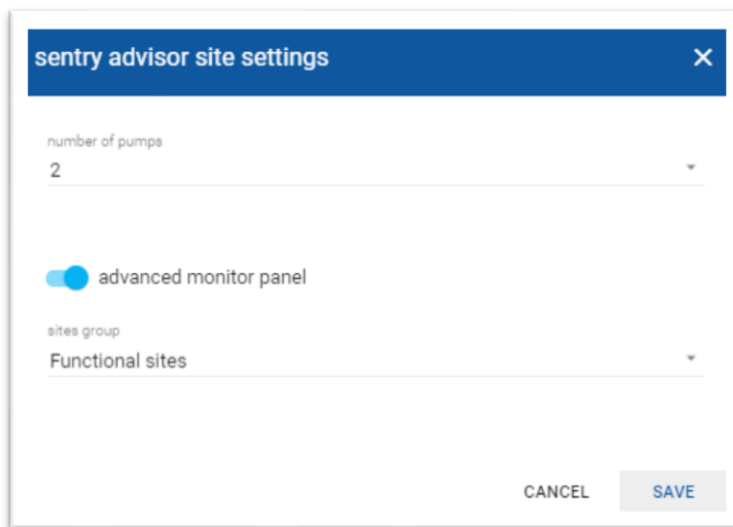
If the user did NOT select FILTER NOTIFICATION DURING MASS OUTAGE, then the new group will be saved immediately after selecting SAVE.

### 3.2.4.2 Assigning Groups

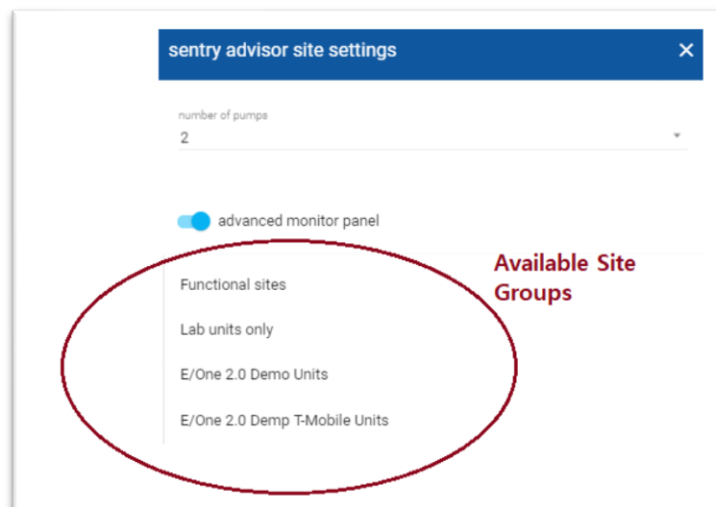
To assign a site to an individual group, navigate to the individual's site's dashboard. Click the menu button — (3) vertical dots  — in the top right-hand corner.



Next, click SETTINGS. The SETTINGS menu provides the user the ability to do three things:



- 1) Modify the quantity of pumps that the site contains
- 2) Enable or disable the “Advanced Data” service for the panel
- 3) Assign the “Sites Group” from the list of sites groups available to this account.
  - a. Note: The new group MUST have been created PRIOR to assigning a site to it

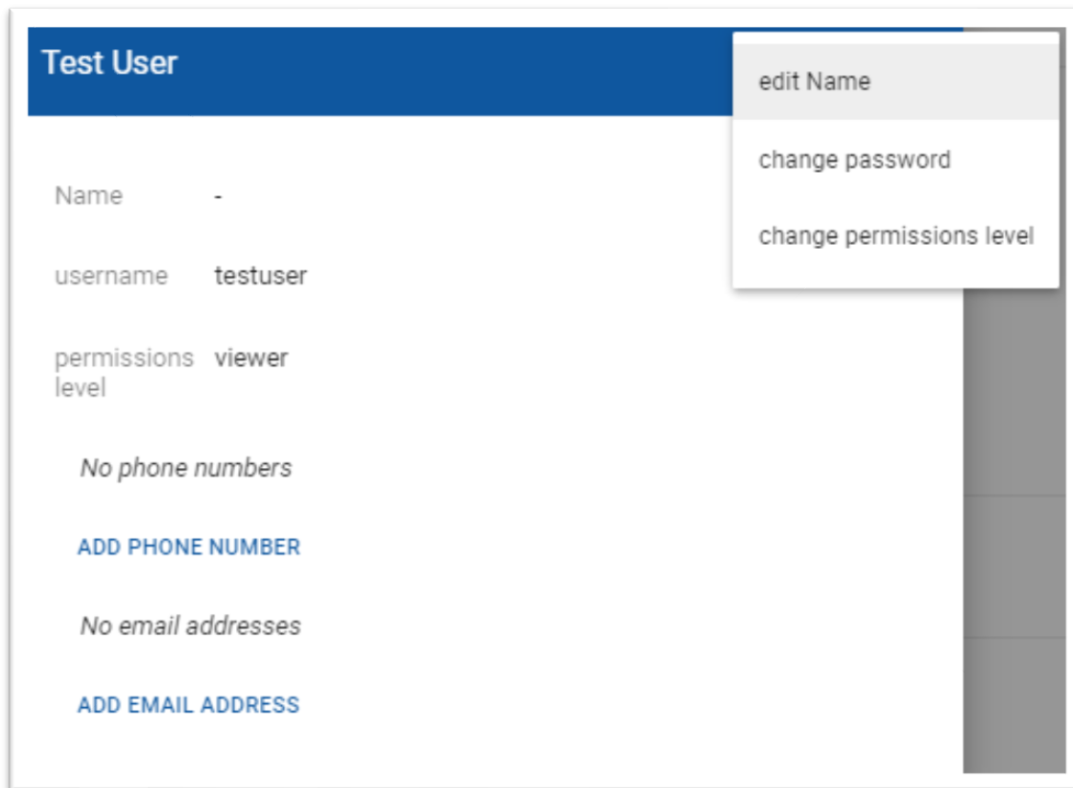


### 3.2.4.3 Users Menu

The USERS menu allows for editing the current user profile as well as managing all user accounts. Portions of this menu are not accessible to all users but is intended to be used by an Administrator to add, delete and update user profiles, including resetting passwords, for current users under that account.

### 3.2.4.4 User Profile/Information

From the USERS menu, basic information such as password, first and last name, w-mail address and SMS (text) phone number and permission level can be edited. Make any changes and press the Save Changes button.



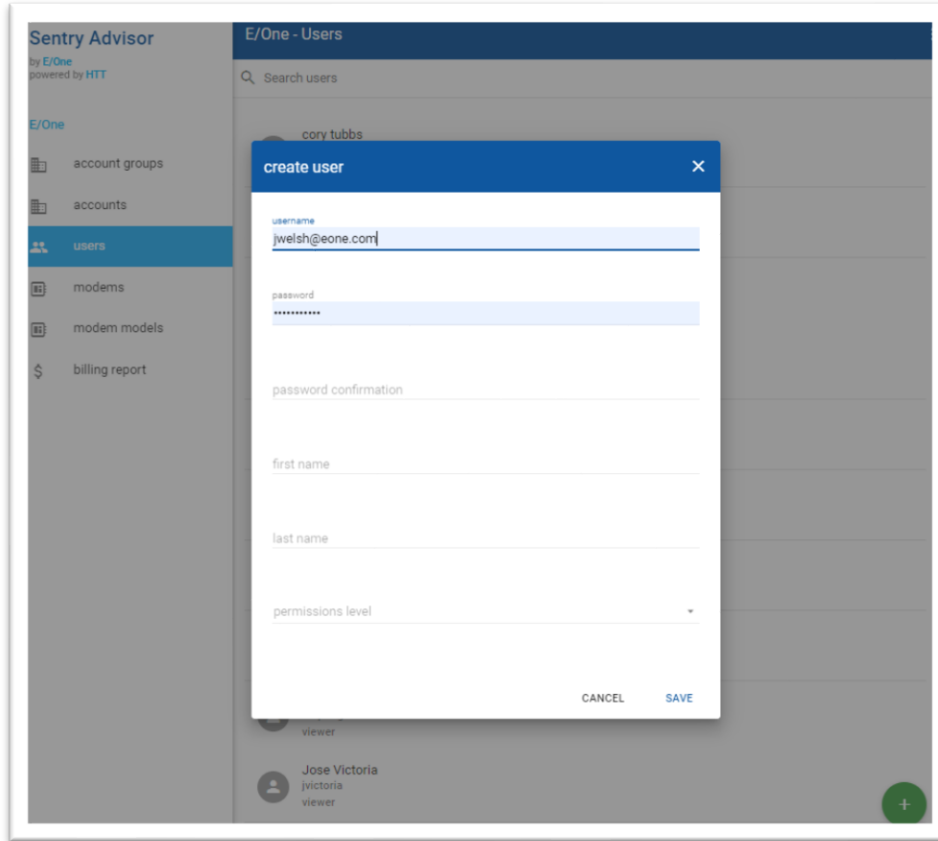
The screenshot shows a user profile page for 'Test User'. The page has a blue header with the name 'Test User'. Below the header, there are several fields: 'Name' with a dash, 'username' with the value 'testuser', and 'permissions' with the value 'viewer level'. There are also sections for 'No phone numbers' and 'No email addresses', each with a corresponding 'ADD' button. A dropdown menu is open on the right side of the page, showing three options: 'edit Name', 'change password', and 'change permissions level'.

### 3.2.4.5 Creating Users

The USERS menu allows for adding, editing, or deleting user accounts provided the current account has the proper administrative rights to perform these functions. The User Manager screen displays all users currently assigned under the current account. Selecting the green '+' (🟢) opens a window for entering details for a new user to be added.

The username and password will be initially filled with the current user's information. Delete this information and complete with the new user's information. The username must be a unique combination of at least three characters. The password does not have specific character requirements other than meeting a level 'good' or better strength when measured by the "zxcbn" password strength test algorithm. Although not guaranteed to meet the level 3 strength requirement, a recommended password has at least 8 characters and includes the following: upper case letter, lower case letter, number and special character. If the password does not meet the required strength, the User will not be created and you will not be able to progress to the next screen.

Click Save to commit the changes and add the user to the account. During this step, user roles will have to be selected for the proper level of access granted to the user.



Roles are defined as:

- ADMIN – This role has the highest level of permission and can perform all functions within the E/One Sentry Advisor Website. At least one ADMIN account is expected to be set up within each organization. This account has administrative privileges that allow setting up additional User accounts. Use this role type sparingly to help maintain control with User accounts and permissions.
- SUPERVISOR – This role can perform all functions within the E/One Sentry Advisor website except adding Users.
- OPERATOR – A User with the Operator permission level can acknowledge alerts/alarms, install/uninstall modems, edit site settings, and create/edit/delete notes.
- VIEWER –The Viewer permission level grants the User the ability to View the E/One Sentry Advisor sites and nothing more.

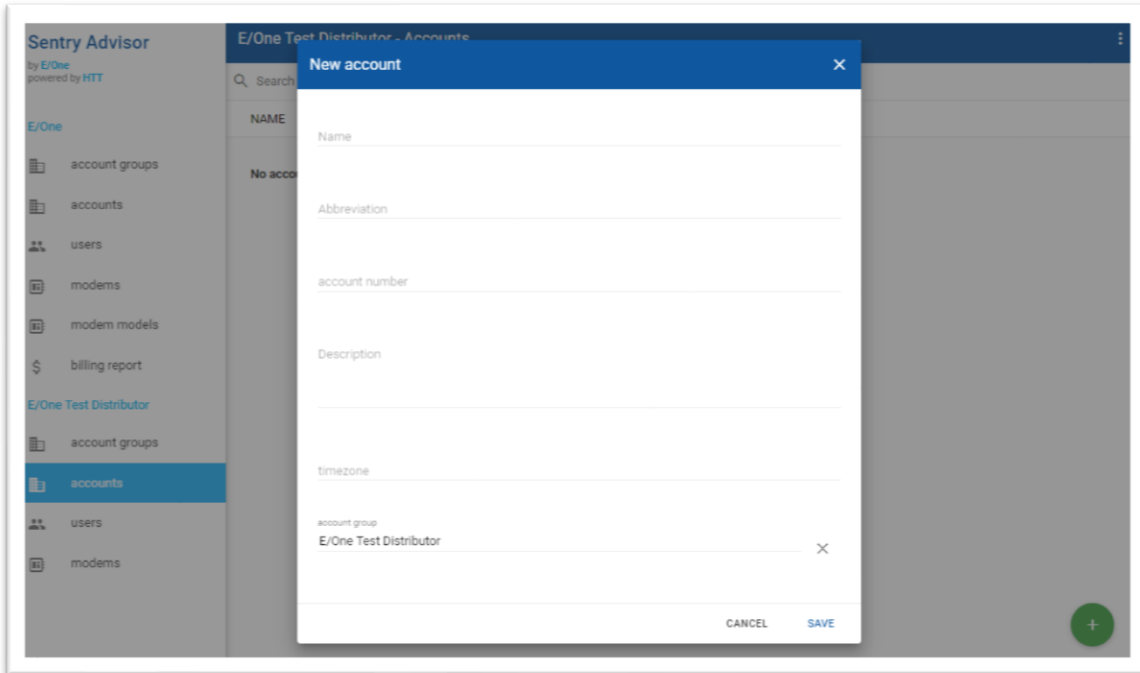
**Table 3.2.2.5 User Roles and Permissions**

User Role	Create, Edit, Delete Notes	Edit Site Settings	Install & Uninstall Modems	Acknowledge Alarms	Assign Modems to Subgroups	Delete Sites	Change Alarm Notification Settings	Create Sub-Account Groups	Create Sub-Accounts	Create & Delete Users
Admin	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Supervisor	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Operator	✓	✓	✓	✓						
Viewer										


As described above, the E/One Sentry Advisor website uses a hierarchical organization for ease of navigation. This requires that every individual E/One Sentry Advisor installation site will fall underneath a Customer Account (ACCOUNT), which in turn falls underneath a Distributor Account. Prior to adding sites, it is necessary to create these Customer accounts.

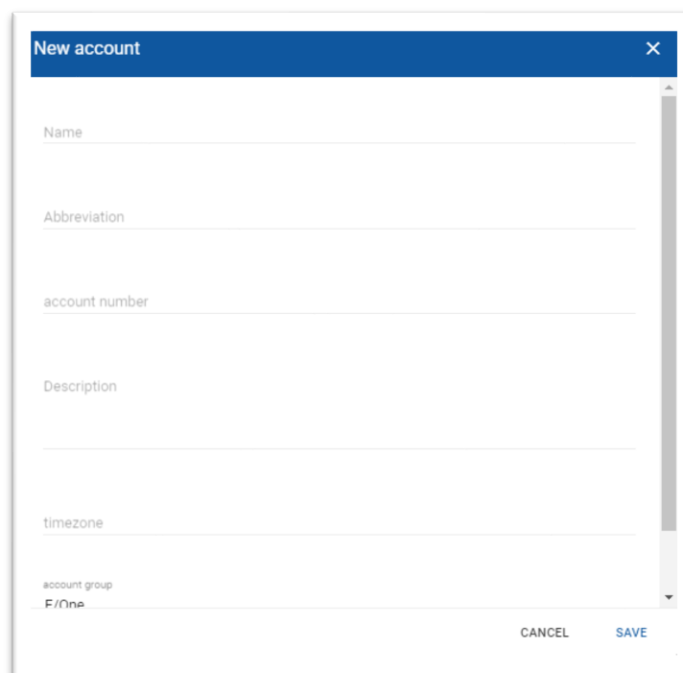
### 3.2.4.6 Adding a New Customer Account

A Customer Account (ACCOUNT) is the lowest level in the hierarchy and is where most of the everyday viewing and activity will take place. To setup a new Customer account, follow the steps outlined below:



From the available accounts within the ACCOUNT GROUPS menu, be sure the user is at the level where the new Customer Account is being added. This will typically be at the Distributor Account or the top level in the list. Note: Once the user is in the desired ACCOUNT GROUP the need to select ACCOUNTS in the Selected Account Navigation Menu (in the LOWER LEFT hand portion of the user interface).

Upon selecting the GREEN “+” (  ) button, a popup window will show up.



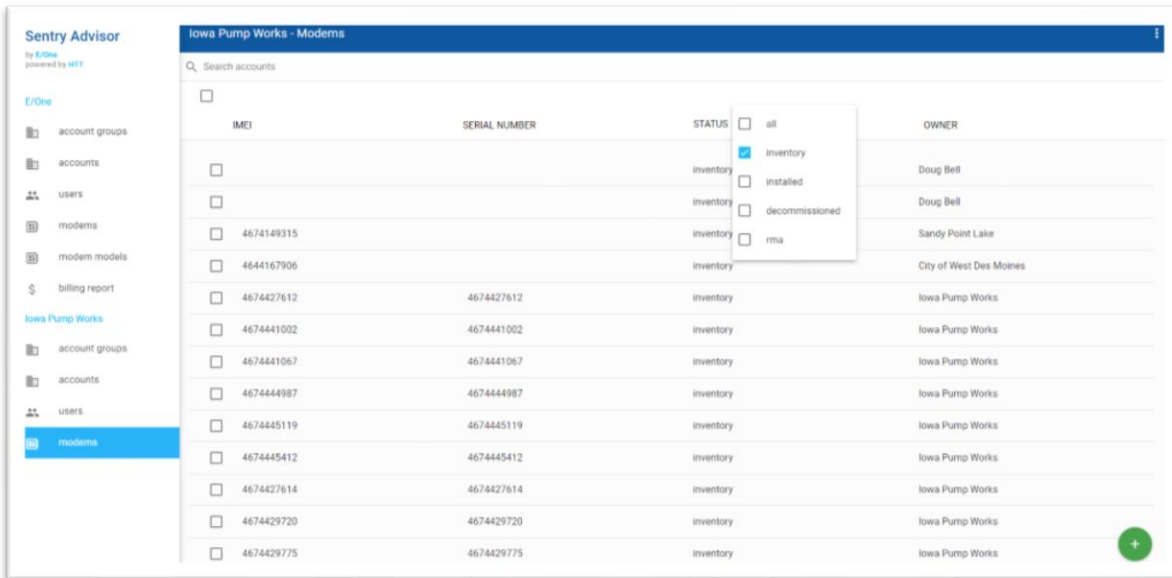
Fill in the required fields and click SAVE to continue.

### 3.2.4.7 Moving a Modem Within Accounts

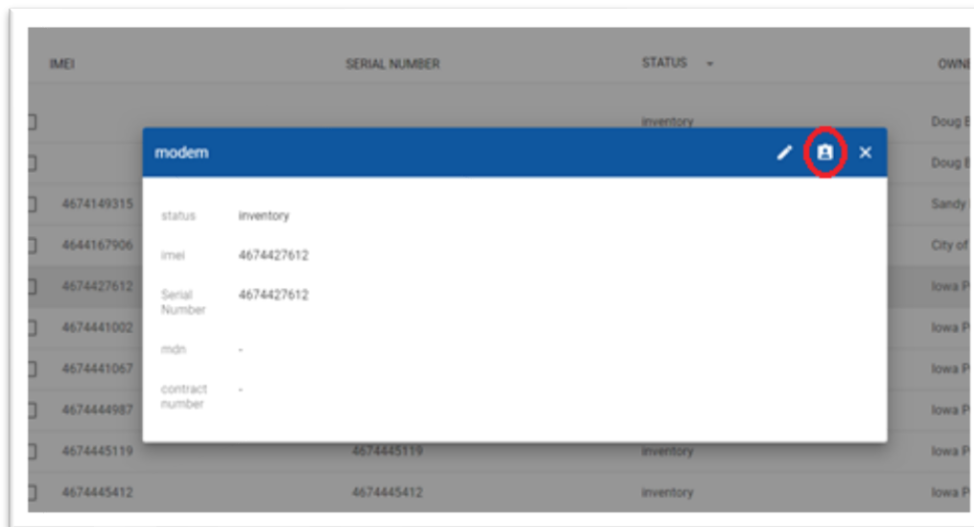
Modems that are not assigned to sites are considered, 'inventory'. When sites are deactivated, the modem must be unassigned and placed in inventory.

New modems from the factory will be added to a distributor's top level account and must be moved to the sub-account where the site resides in order to be assigned.

For example, shown below is a screen shot of the modems in a distributor's top-level account group. To easily find modems that are available to be installed, choose the STATUS column header and deselect all but 'inventory' modems.



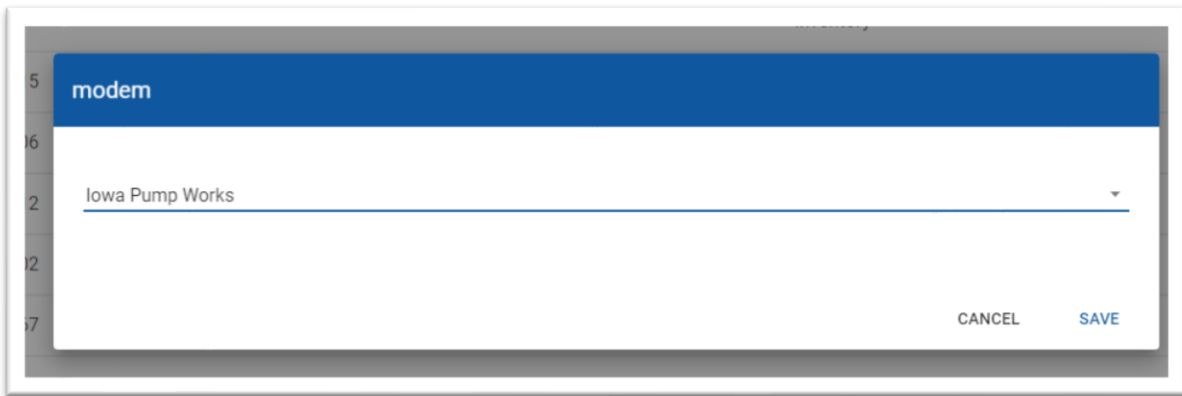
Select the modem to be installed. Once selected the following pup-up will appear:



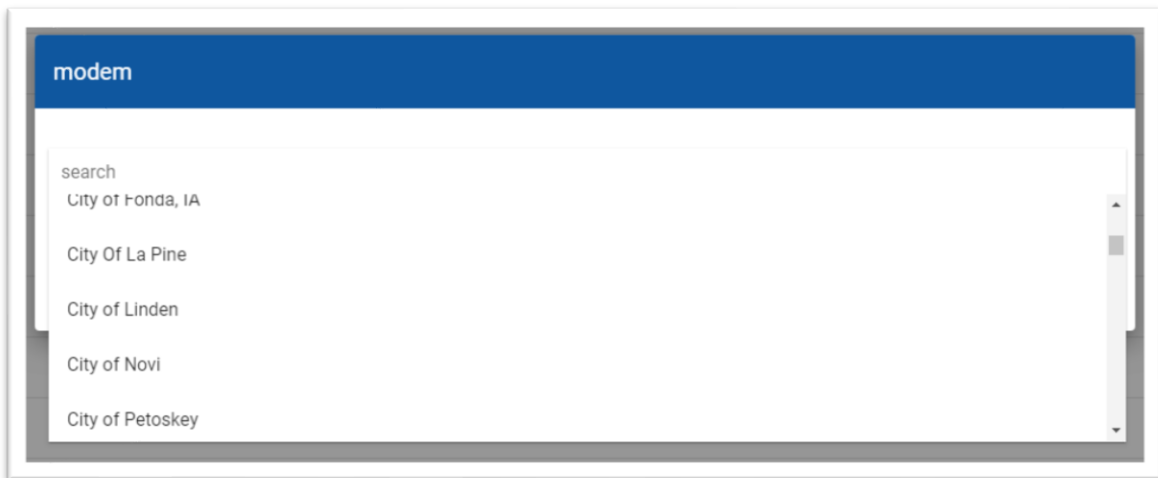
The first icon (a pencil) allows for editing of the modem information. The second icon (portrait) allows the modem to be reassigned to a different account. The third icon (an x) closes out the pop-up.



Select the middle icon, circled red in the screenshot above. Once the portrait icon is selected, the pop-up below will appear:



Select the small triangle and a drop-down menu will appear.



From this menu, select the account where the site for the intended modem will be located and select 'Save'.

### 3.2.4.8 Adding a New Site

A site represents an individual E/One Sentry Advisor installation. These are typically added to a Customer Account but can also be added directly to a Distributor Account if those locations will be under direct control of the Distributor. The process for adding a site is the same whether being added to the Distributor or Customer Account. See Section 4.2.3.2 above.

The final step in adding a new site is to activate the wireless modem. This links the specific modem to the website and officially initiates the collecting of data from this grinder pump location to the E/One Sentry Advisor website.

**To do this, the modem must be installed and powered.**

Add the MEID / ESN number of the modem from the dropdown list. This number can be found on the label that is affixed to one side of the modem (example below). After this number is entered, select Install Modem.



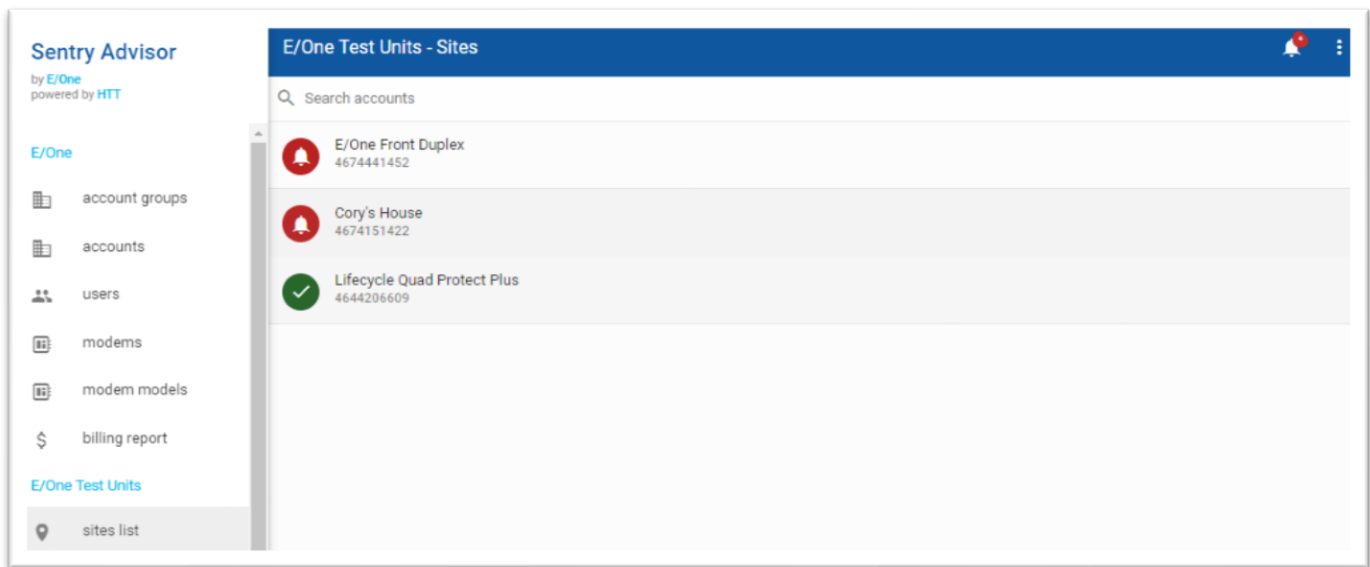
If the activation is successful, the signal strength will be shown at the bottom of the site status page in DB. If the activation is not successful, the signal strength will be blank with only the DB showing.

**NOTE – This modem is now tied to this physical address and cannot be relocated to a different panel at a different location without following the proper steps. Refer to the section of this document on the process swapping a modem.**

After the modem has been properly activated, perform a functional test of the system. Refer to [Functionally Testing the Operation of the E/One Sentry Advisor System](#). This will verify not only that the modem is activated on the system, but that the system can detect Pump Run Time and High Level Alarm events as it is intended to, and for panels equipped with the Advanced Data option that serial data can properly be communicated from the panel.

### 3.2.4.9 Manage Sites

Sites can be viewed and updated individually via the specific account's Sites List in the Selected Account Navigation Menu.



### 3.2.5 Functionally Testing the Operation of the E/One Sentry Advisor System

Performing this step assumes that the site has been properly activated as defined in [Activating a New Site](#). After the modem is shown to be operating properly, verify that all connections in the system are correct and that the panel can accurately communicate all of its intended signals to the E/One Sentry Advisor website. This section covers how to verify that the E/One Sentry Advisor website can properly detect Pump Running and High Level Alarm events, and for panels with the Advanced Data Option, that serial data can be communicated.

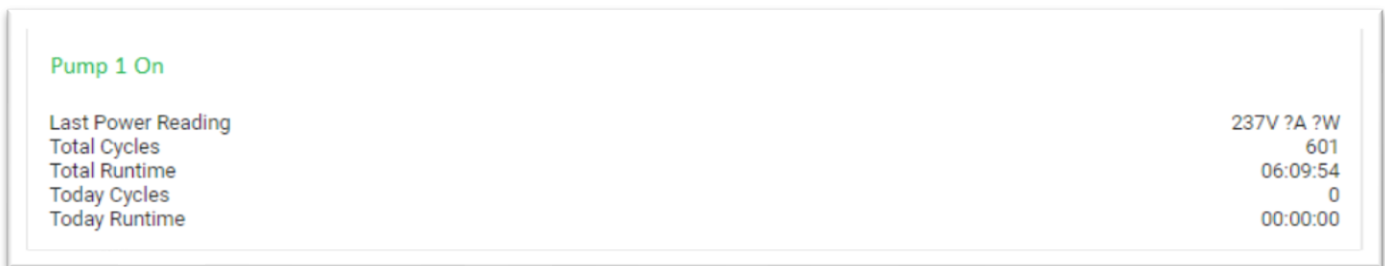
**Note – E/One offers many different styles and configurations alarm panels. The following sections provide an overview of what actions need to be taken to simulate the Alarm and Pump Running events. Each panel may achieve these differently; therefore, modifications to the specific steps to perform these actions need to be considered.**

### 3.2.5.1 High Level Alarm Detection Verification

With many panels, it may be possible to simulate both a High Level Alarm and a Pump Running concurrently. Because several models of E/One alarm panels are equipped with a Redundant Run feature that automatically starts the pump in conjunction with a High Level Alarm, simulating a High Level Alarm will also cause the pump to run. If the panel does not have this Redundant Run Feature, it will be necessary to verify the High Level Alarm detection as explained below, and then to separately verify Pump Running Detection as explained in [Pump Running Detection](#).

To verify detection of the High Level Alarm, navigate to the Site for the account where the system the user is verifying is located. Select the Alarm tab. This will need to be monitored throughout this process to ensure that activity at the station is detected on the website. With the pump and panel fully powered, fill the station with enough water to create a High Level Alarm. Alarm indications at the panel will activate once the high level is reached. This will include at a minimum the audible buzzer and red alarm lamp. If water is not available, a High Level Alarm can be simulated by using a jumper wire connecting the blue wire and yellow wire in the panel. This simulation should create the same result as the description above using water.

In addition to these indications, for panels with the Redundant Run feature, the pump should also start. During this time, monitor the Pump Cycles tab in the Site.



Pump 1 On	
Last Power Reading	237V ?A ?W
Total Cycles	601
Total Runtime	06:09:54
Today Cycles	0
Today Runtime	00:00:00

Note: These alerts will trigger an event that should change the color of the “Global Alert Icon” red.



Once the Run and Alarm Indications are visible, allow the station to pump down. When the station level falls below the Alarm Level (buzzer and lamp at the panel shut off), the Site label will change from red to blue in color, indicating that the Alarm at the station is no longer a present. Refer to [Dashboard Section](#) for more information about the various status indications of the Site label. At this point, the station can be allowed to pump down until the pump shuts off under its own control, after which the Pump Run indicator should disappear. Repeat the above process for each pump that is tied to the E/One Sentry Advisor System. To further verify that the alarm was recorded, navigate to the Alarm tab from the Pump Data Screen. The list (below) may contain multiple entries indicating the alarm and the clearing of the alarm, both of which should have their status icon as RED or GRAY or GREEN. Follow the steps outlined in the Alarm Section for more information.

E/One Test Units - Sites		
← E/One Front Duplex		
STATUS	ALARMS	PUMP CYCLES
	Unit has not reported since Thu, Jul 25 2019 10:07:08 AM EDT	7/26/19 10:38 am ✓
	External Power Lost	7/25/19 10:07 am ✓
	External Power Ok	7/25/19 10:06 am
	External Power Lost	7/25/19 10:02 am
	External Power Ok	7/25/19 10:02 am
	External Power Lost	7/25/19 9:53 am
	External Power Ok	7/21/19 5:33 am
	External Power Lost	7/20/19 7:35 pm

To further verify that the corresponding Redundant Run cycle was recorded, navigate to the PUMP CYCLES tab. At the top of the window is a cycle list (below) that displays each cycle. This list should now include the cycle corresponding to the redundant run that was just completed, including Pump number / Start Date / Time, Run Time and (if the station is compatible for Advanced Data) Volts, Amps and Wattage.

E/One Test Units - Sites						
← E/One Front Duplex						
STATUS	ALARMS	PUMP CYCLES	NOTES	REPORTS		
Time	pump	duration	wattage	Volts	Current	
7/25/19 9:50 am	pump 2	00:01:42	717W	237V	5.7A	month <input checked="" type="checkbox"/> Pump1 <input checked="" type="checkbox"/> Pump2 <input type="button" value="DOWNLOAD"/>
7/25/19 8:50 am	pump 2	00:01:28	717W	238V	5.8A	
7/25/19 7:41 am	pump 2	00:01:25	693W	238V	5.7A	
7/24/19 8:29 pm	pump 2	00:01:26	723W	239V	5.8A	
7/24/19 5:47 pm	pump 2	00:01:39	748W	237V	5.8A	
7/24/19 4:43 pm	pump 2	00:01:19	705W	238V	5.8A	
7/24/19 3:48 pm	pump 1	00:01:42	723W	237V	6.0A	

If the Alarm and/or Run events were not detected as explained above, it will be necessary to troubleshoot the E/One Sentry Advisor system. Refer to [Troubleshooting](#) for more information.

### 3.2.5.2 Pump Running Detection Verification

Follow these steps if the Pump Running event is to be verified alone without filling the station to the High Level.

**WARNING – Ensure the station has sufficient water to prevent the pump from running dry before manually running the pump.**

Navigate to the Site that contains the system the user is verifying. This will need to be monitored throughout this step to ensure that activity at the station is detected in E/One Sentry Advisor. To verify detection of the Pump Running, perform a Manual Run of the pump. This is typically accomplished by pushing the Manual Run button. Refer to the operation manual for the user’s specific system/panel for more information about performing a Manual Run function.

Initiate a Manual Run for at least 15 seconds. During this time, monitor the Site ‘Pump Cycle’ tab and verify that the Pump Run indicator appears in the upper left corner (PUMP 1 ON, PUMP 2 ON, etc.). It may be necessary to scroll or adjust the display in order to see this location within the associated group. Once the Run indication is visible ,the Manual Run button can be released, after which the Pump Run indicator should disappear.

**Pump 1 On**

Last Power Reading	237V ?A ?W
Total Cycles	601
Total Runtime	06:09:54
Today Cycles	0
Today Runtime	00:00:00

Repeat the steps above for each pump in the system that is tied to the E/One Sentry Advisor system. At the top of the window is a cycle list (below) that displays each cycle. This list should now include the cycle that corresponds to the redundant run that was just completed, including Pump number / Start Date / Time, Run Time and (if the station is compatible for Advanced Data) Volts, Amps and Wattage.

E/One Test Units - Sites

← E/One Front Duplex

STATUS	ALARMS	PUMP CYCLES	NOTES	REPORTS	
Time	pump	duration	wattage	Volts	Current
7/25/19 9:50 am	pump 2	00:01:42	717W	237V	5.7A
7/25/19 8:50 am	pump 2	00:01:28	717W	238V	5.8A
7/25/19 7:41 am	pump 2	00:01:25	693W	238V	5.7A
7/24/19 8:29 pm	pump 2	00:01:26	723W	239V	5.8A
7/24/19 5:47 pm	pump 2	00:01:39	748W	237V	5.8A
7/24/19 4:43 pm	pump 2	00:01:19	705W	238V	5.8A
7/24/19 3:48 pm	pump 1	00:01:42	723W	237V	6.0A

month
▼

Pump1  
 Pump2

DOWNLOAD

If the Run event was not detected as explained above, it will be necessary to troubleshoot the E/One Sentry Advisor system. Refer to [Troubleshooting](#) for more information.

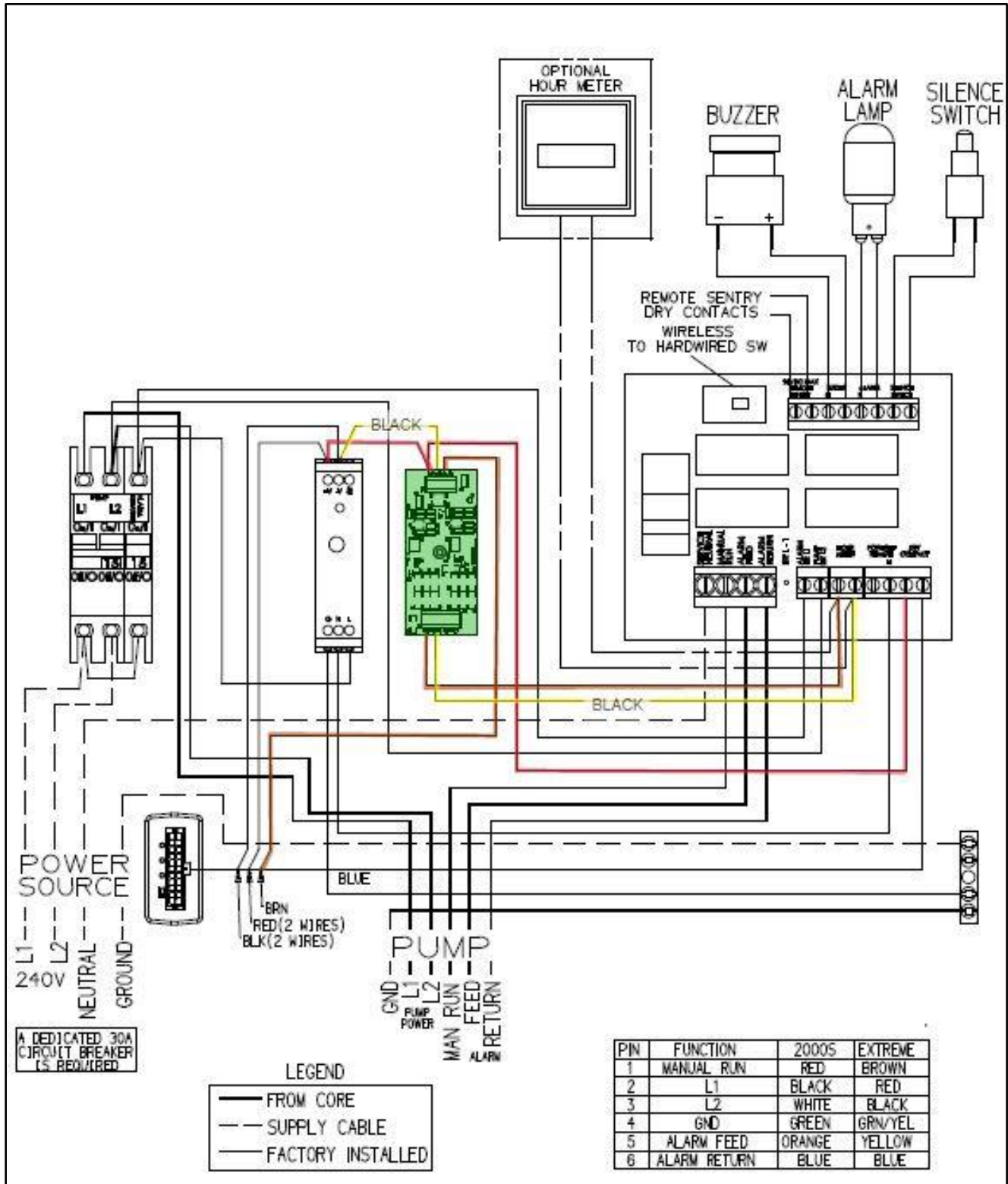
### 3.2.6 Troubleshooting

The troubleshooting process is intended to isolate the specific E/One Sentry Advisor component that may not be functioning properly. It is also aimed at ruling out E/One Sentry Advisor components as faulty. While this may suggest that other panel or pump components are at fault, this manual does not identify specific failure of any non-E/One Sentry Advisor component. Refer to the documentation for the specific panel or pump in question for more information about troubleshooting those devices.

For troubleshooting the E/One Sentry Advisor system, there is a logical sequence to follow to help identify a problem component relative to how the system operates. The following diagrams identify this sequence and provide general information regarding how each of the components is connected. These images show a specific panel configuration that may not exactly match the user's panel but are shown for illustrative purposes and provide a top-level view of what connections are made to wire the components into the panel.

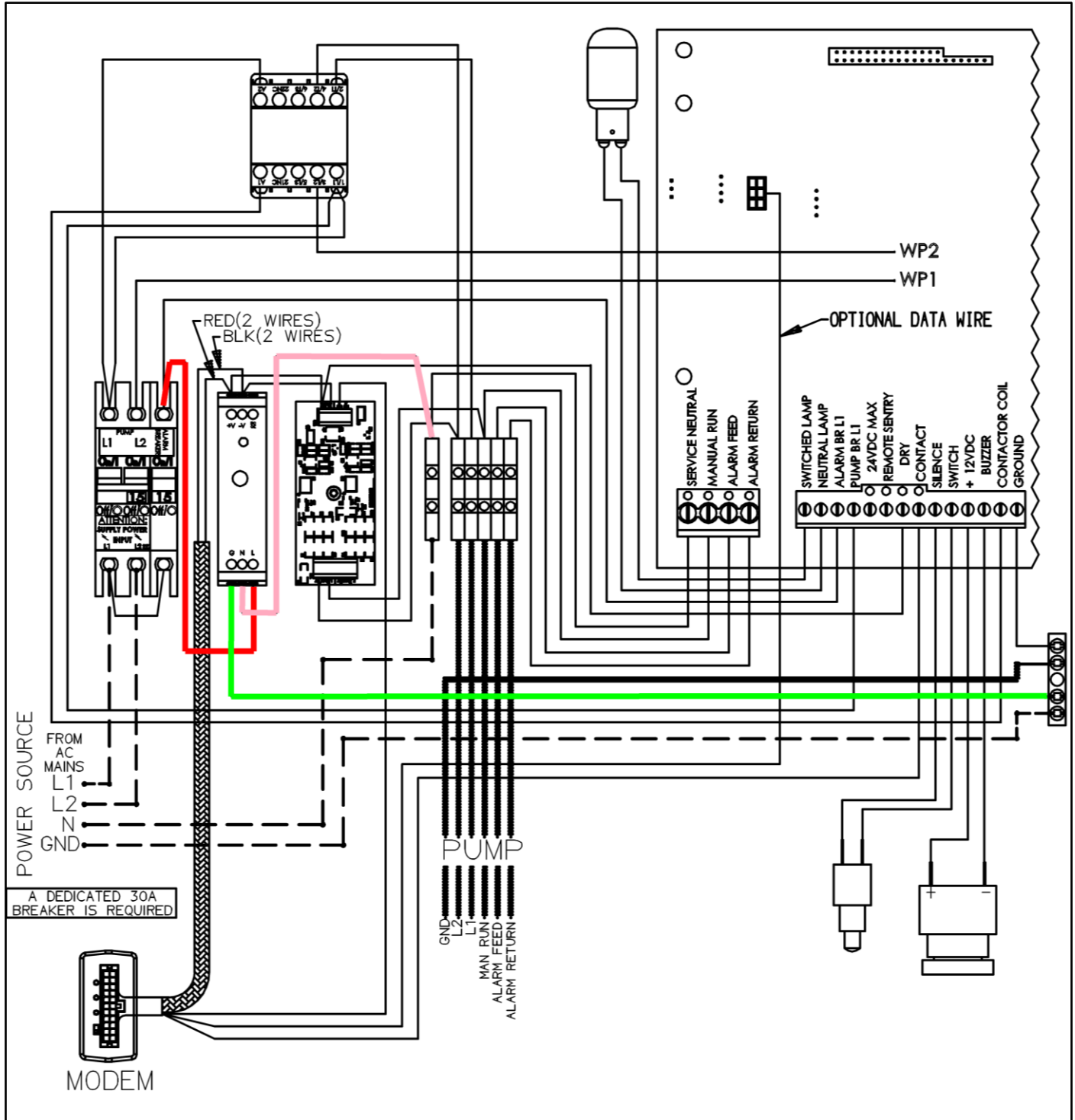
### 3.2.6.1 Solid State Signal Detector printed circuit board assembly (PCBA)

The Solid State Signal Sensor Board provides contact closure when the pump(s) run. This board functions much like a Solid State relay would. There are 2 versions: NB0334G01 has (2) channels and is used in Duplex and Quad panels; it handles the signals for 1 or 2 pumps. NB0334G02 has just one channel and is used in Simplex panels; it handles the signals from just one pump.



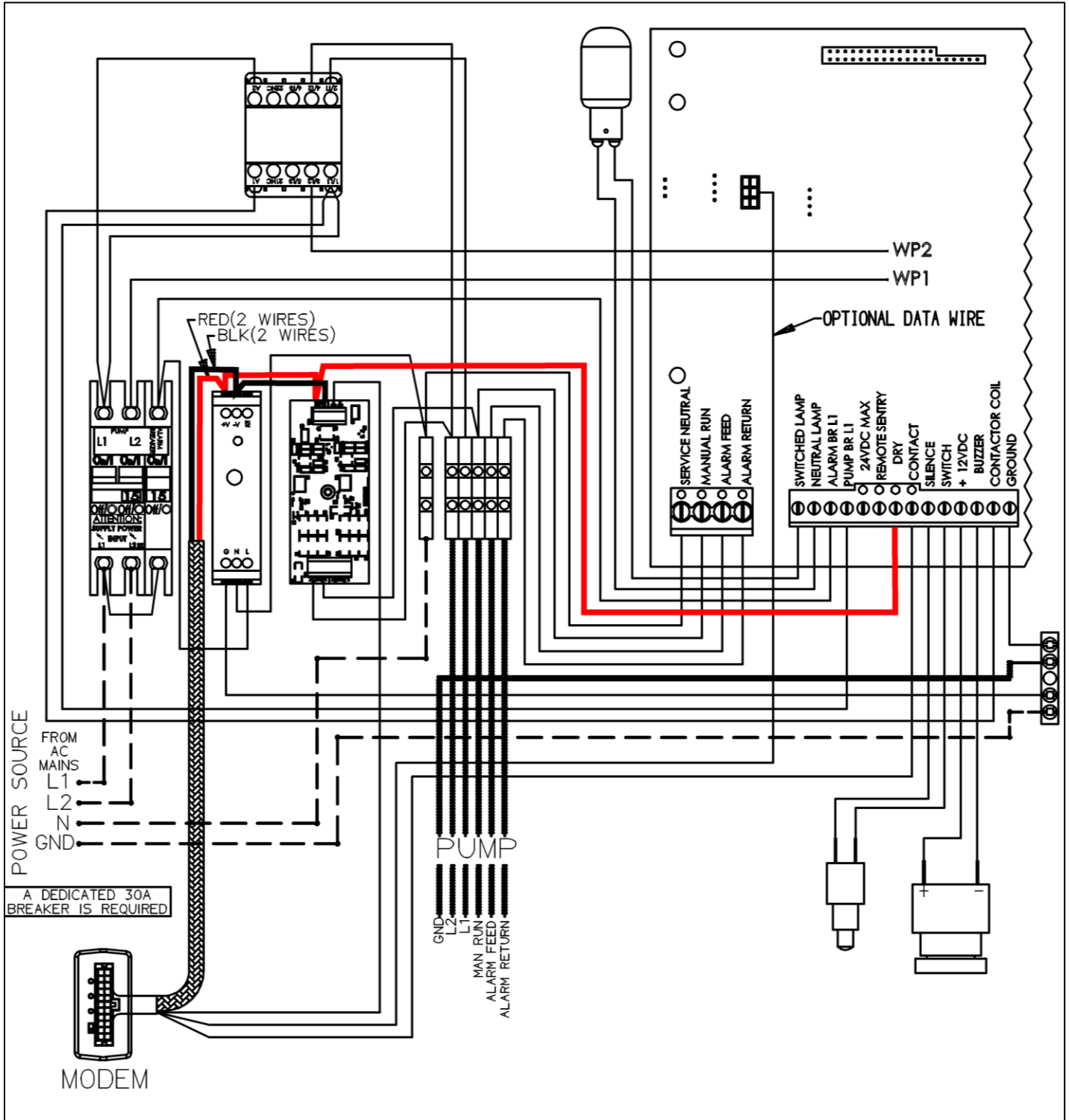
### 3.2.6.2 12VDC DIN-rail mounted power supply inputs

The first component in the sequence is the power supply. The DIN Rail-mounted power supply is a 120 – 240VAC universal input supply that provides the necessary 12VDC required by the E/One Sentry Advisor components. Its inputs get connected to the panels Alarm Breaker L1 (RED), N/L2 (PINK), and GND (GRN) signals. The diagram below provides an example of how these connections can be made, which may differ from the user's specific panel configuration. Ensure there is the proper input voltage (120 or 240VAC depending on the panel configuration) between L1 and N/L2. 12VDC DIN-rail mounted power supply outputs



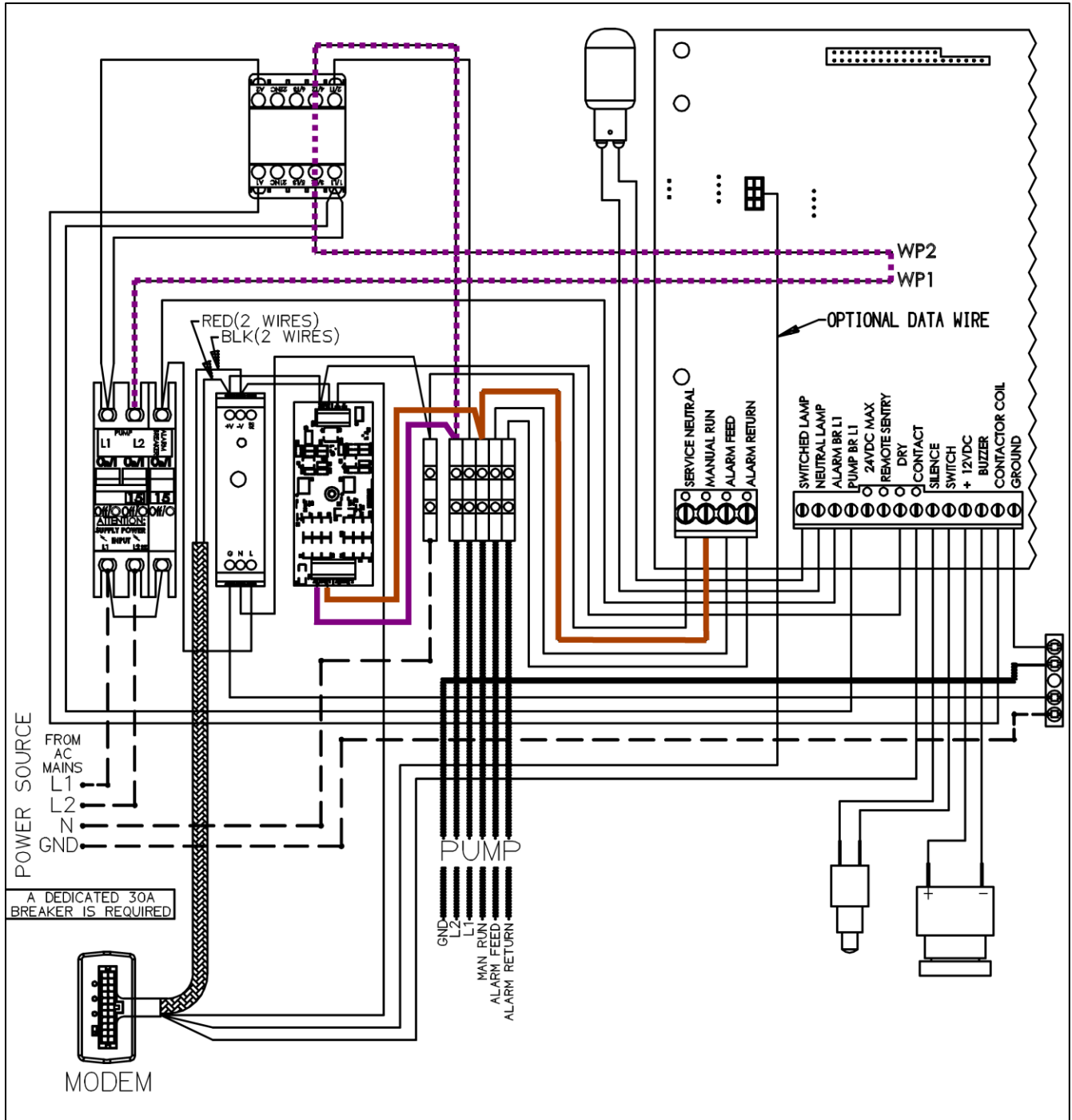


The output of the DIN Rail-mounted power supply is +12VDC between the V+ and V- terminals. The 12VDC terminals connect into the modem wire harness as shown (RED wires to V+, BLACK wires to V-). Additionally, both + and - 12VDC signals connect to the corresponding 12VDC inputs of TB2 on the solid state signal detection printed circuit board as shown. The RED +12VDC signal then continues to the common side of the alarm dry contacts, which in the diagram below are incorporated into the circuit board. Verify that +12VDC is present between all corresponding +12VDC connections and the -V terminal on the power supply.



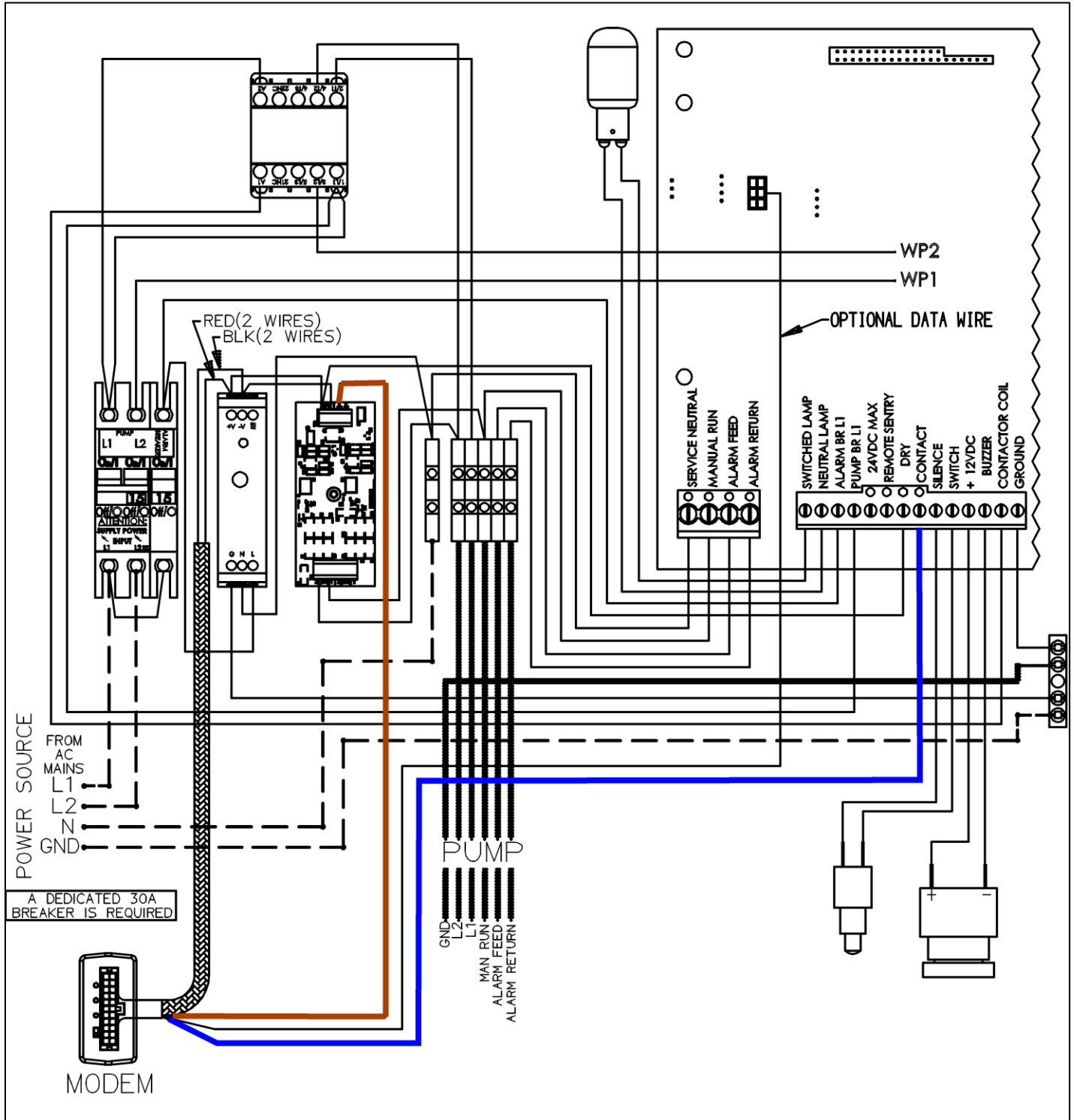
### 3.2.6.3 Pump Runtime Switched Signals

Pump Runtime Dry Contacts are achieved by the solid state signal detector printed circuit board assembly. The inputs of this board get energized in response to a pump run event and relate to the AC +/- INPUT terminals of TB1. The “+” AC Input 1 is connected to the panels Pump Breaker L2 signal. The diagram below shows this being achieved via a terminal block (VIOLET – solid) that is indirectly connected to that signal through the circuit board and panel contactor (VIOLET – dashed). The “-” AC Input 1 is connected to the Manual Run wire from the pump itself (BRN) via a terminal block. This signal is energized with Pump Breaker L1 any time the pump is called to run and is detected by the printed circuit board, which presents it to the modem for transmission. Refer to [Modem Inputs](#) for more information about these connections. An LED on the PCB indicates that an active signal is present on the boards input terminals. Ensure that the + / - AC inputs to the printed circuit board are properly connected to the panels Pump Breaker L2 and Manual Run signals respectively and that when the pump runs there is the appropriate voltage (~120VAC or 240VAC depending on the panel configuration). Duplex panels will also use the AC INPUTS 2.



### 3.2.6.4 Modem Inputs

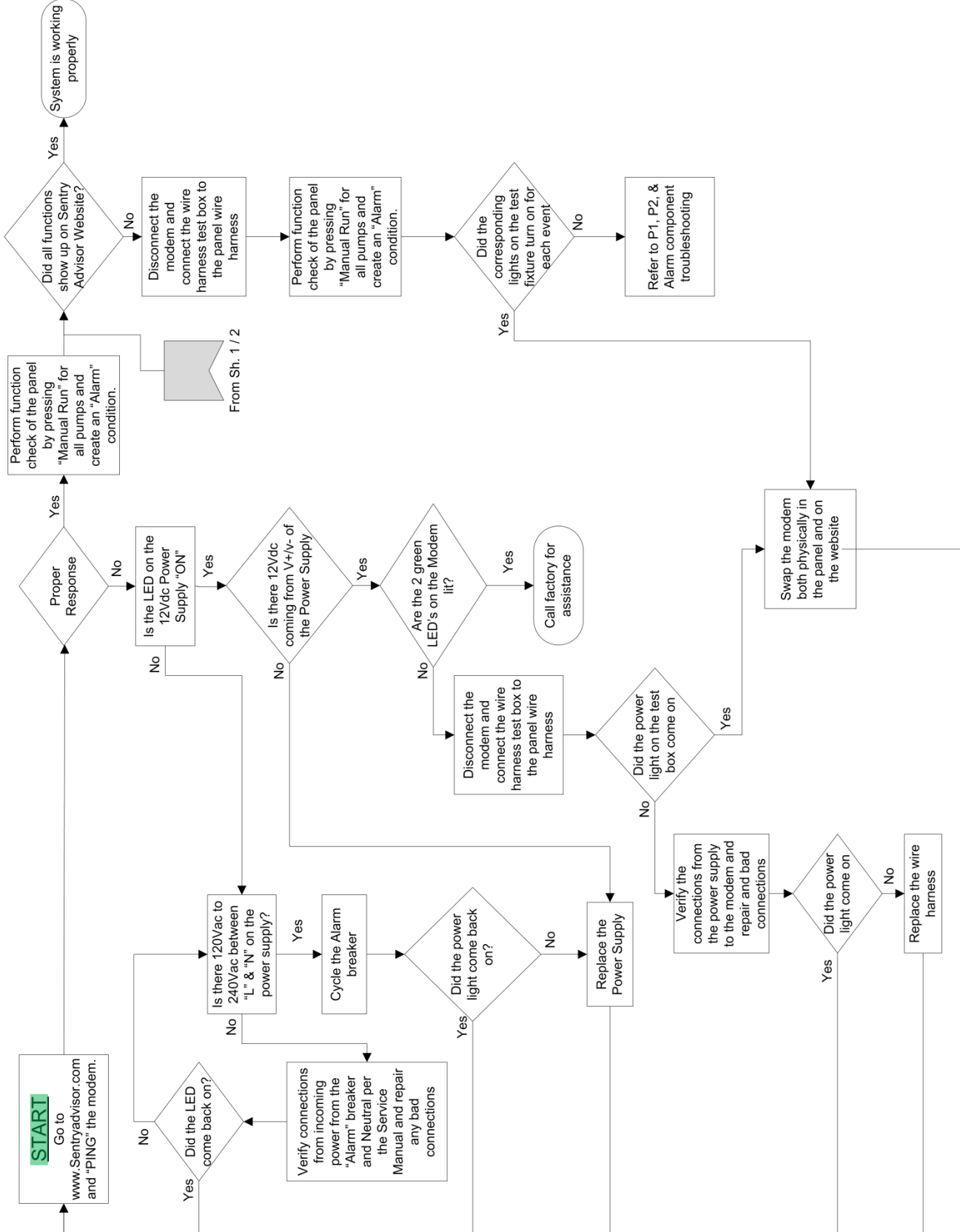
The modem inputs correspond to the outputs of the solid state signal detector printed circuit board and Alarm Dry Contacts. The COMMON side of each of these is connected to the +12VDC signal from the DIN rail power supply (refer to [12VDC DIN-rail mounted power supply outputs](#) for more information about these connections). When these contacts close, +12VDC is routed to the modem input for a Pump Run (BRN) or Alarm (BLU) accordingly. This triggers the modem to transmit a message corresponding to that event. Ensure that the solid state signal detector printed circuit board and the COMMON side of the Alarm Dry Contacts has +12VDC relative to the V- terminal of the DIN rail power supply. Also verify that when the contacts are believed to be closed, the outputs (identified below) of these also have +12VDC relative to the V-terminal on the DIN rail power supply. The contacts should be “closed” if either the pump is called to run (Brown wire) or the High Level Alarm switch is closed (Blue wire).



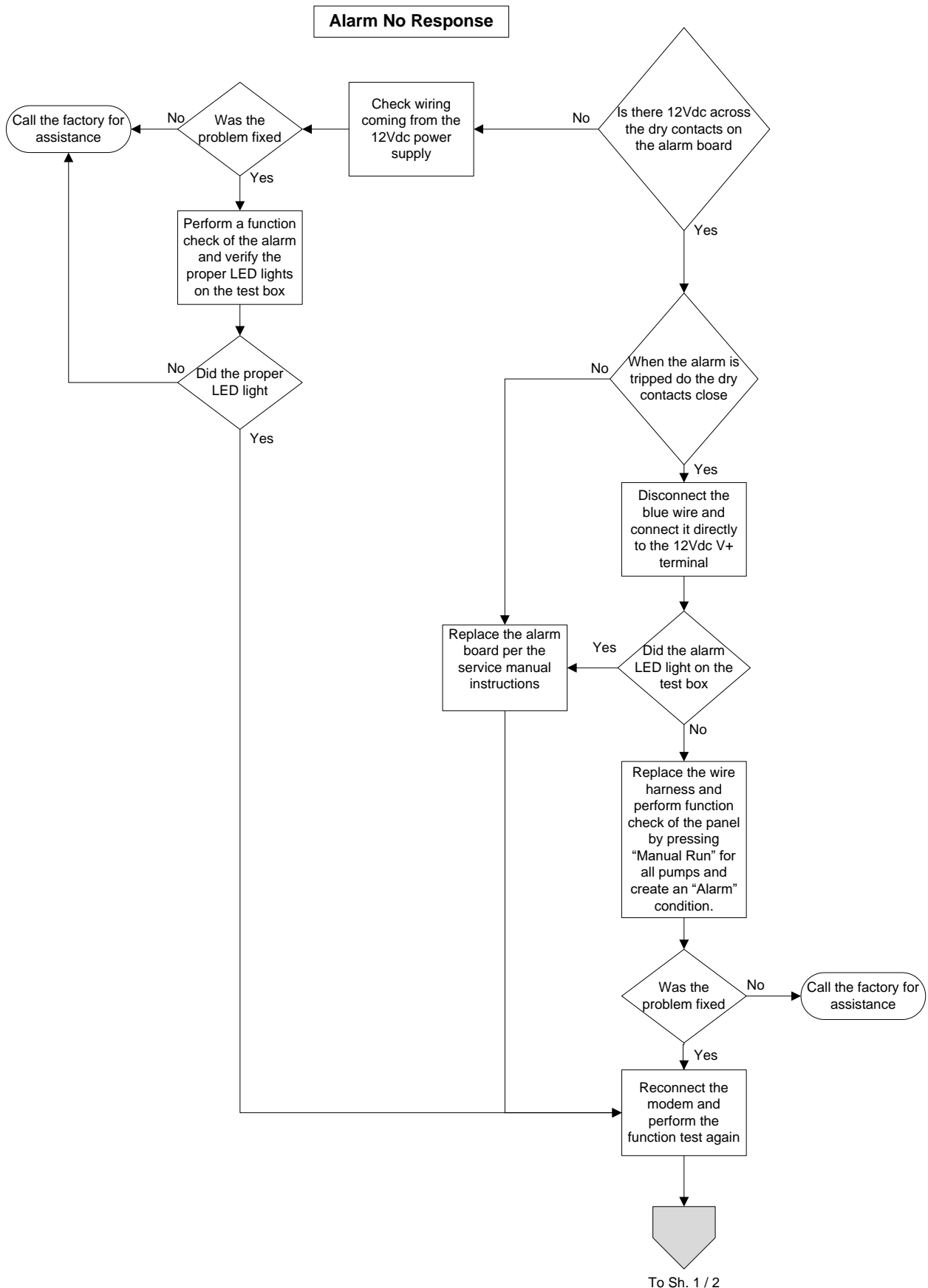
### 3.2.6.5 Flow Chart

The following flow chart is intended to guide the troubleshooting process. The focus is on identifying which E/One Sentry Advisor component or wiring may be faulty, or that it is not E/One Sentry Advisor but possibly the pump or other panel components that are in question. Start at the bottom left in the box labeled START.

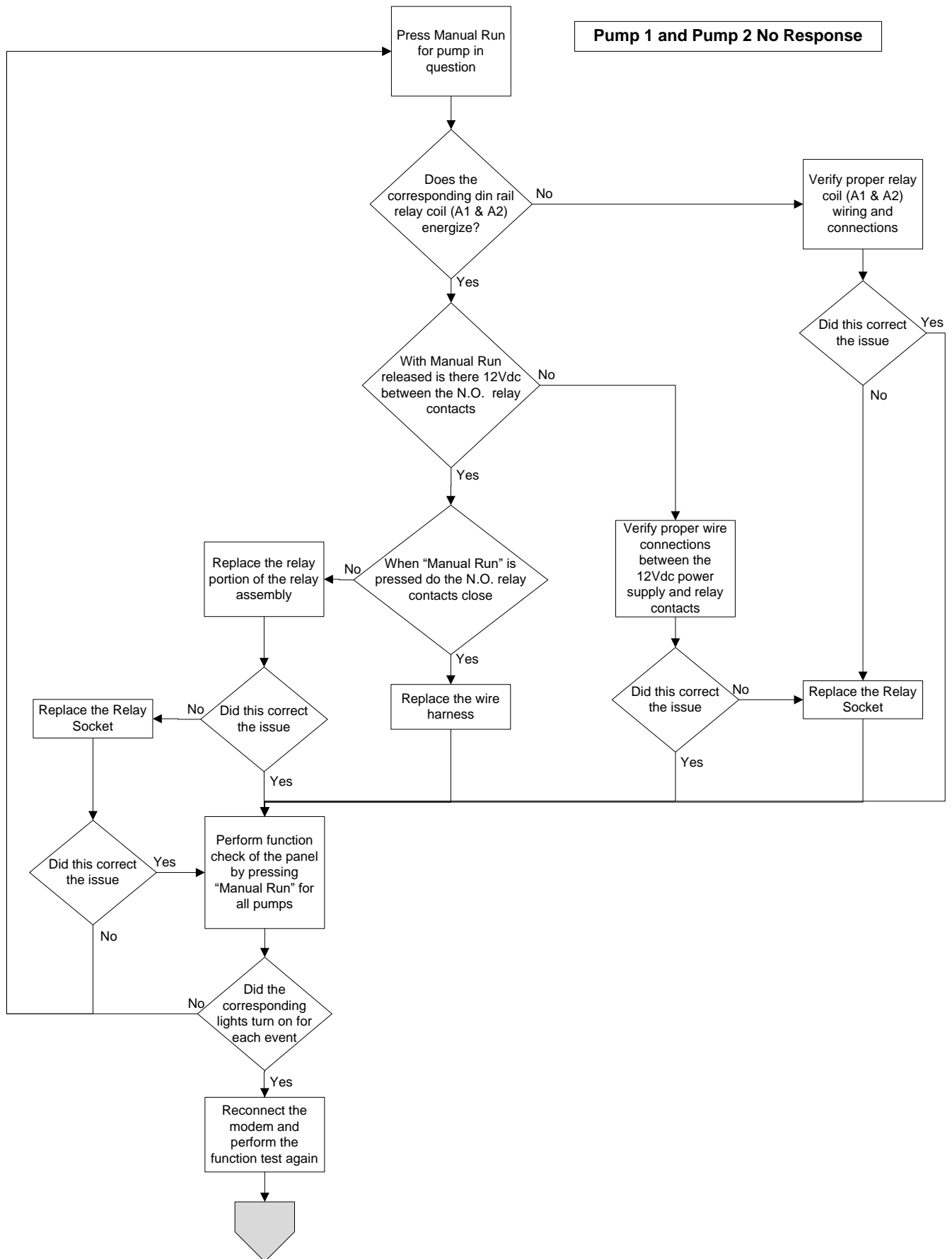
#### 3.2.6.5.1 Top Level



### 3.2.6.5.2 Alarm Dry Contact No Response



### 3.2.6.5.3 Pump Runtime Dry Contact No Response





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