BaseStation3

Version 3.5

User Guide

0999302_B

www.valleyirrigation.com

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Communication Regulation

This manual illustrates how to use BaseStation3 on a personal computer by using a mouse to click objects on the screen. If you're using BaseStation on a touchscreen computer, tablet or mobile phone, substitute the word tap when you read the word click.

- Tapping once is the same as clicking.
- Tapping twice is the same as double clicking.
- To right click, touch and hold your finger on the glass, and lift your finger when the menu appears.

Communication Regulations

Radio and Telephone Communications

Radio and telephone communications outside of the United States and Canada are subject to the rules and regulations and licensing requirements of the governing bodies in which they operate. The governmental body may require the radio operator to obtain a license. Information concerning application for an end-user license can be obtained by contacting the local governmental agency or your local Valley Dealer. Valmont Industries Inc. takes no responsibility for any unauthorized use of these devices.

Regulaciones

Comunicaciones De La Radio Y Del Teléfono

Las comunicaciones de la radio y del teléfono fuera de los Estados Unidos y del Canadá están sujetas a las reglas, regulaciones y requerimientos de licencias de los organismos que gobiernan en los cuales funcionan. El organismo gubernamental puede requerir al operador de radio obtener una licencia. La información referente al uso de la licencia del usuario final puede ser obtenida contactando con la agencia gubernamental local o con su distribuidor local Valley. Valmont Industries Inc. no se responsabiliza del uso desautorizado de estos dispositivos.

Règlements

Communications Par Radio Et Téléphone

Les communications par radio et téléphone en dehors de des Etats-Unis et le Canada sont assujetties aux règlements et conditions d'autorisation des pays dans lesquels ils sont utilisés. L'organisme gouvernemental peut exiger de l'opérateur l'obtention d'une licence. L'information concernant la demande de licence radio peut être obtenue en contactant l'agence gouvernementale locale ou votre concessionnaire Valley. Valmont Industries Inc. ne prend aucune responsabilité pour tout usage non autorisé de ces dispositifs.

Regolazioni

Comunicazioni Del Telefono E Della Radio

Le comunicazioni radiofoniche e telefoniche al di fuori degli Stati Uniti e del Canada sono soggette alle leggi, ai regolamenti e alle licenze richieste dagli Stati in cui si opera. Le legislazioni locali possono richiedere licenze specifiche al radio-operatore. Le informazioni, inerenti la domanda di autorizzazione dell'utilizzatore finale, possono essere ottenute contattando l'autorità locale oppure il Distributore Valley di zona. Valmont Industries Inc. non si assume nessuna responsabilità per usi non autorizzati di questi dispositivi.

Regulamentos

Comunicações Por Rádio E Telefone

Comunicações por Rádio e Telefone fora dos Estados Unidos da América e Canadá são sujeitas às regras, regulamentações e requisitos de licenciamento das autoridades locais onde operam. O órgão governamental responsável pode exigir uma licença do operador de rádio. Informações para obtenção de tal licença pelo cliente final deverão ser obtidas com a agência regulatória local ou o Revendedor Valley da região. A Valmont não se responsabiliza pelo uso não autorizado desses equipamentos.

Recommended Hardware/Software Environment

Recommended Hardware

- Intel® Xeon® Core™ i7 CPU @ 3.60 GHz
- 16 GB RAM
- 500 GB 7200 RPM Drive
- UPS battery backup
- Monitor adequate for environment and user needs. Landscape or Portrait orientation.
- Video adapter with 2 GB memory
- External storage for data backup (optional)

Software

- SQL Server® 2012 Express or Standard 2012*
- TeamViewer 12
- IIS version 7.5*
- Microsoft® Office® (or similar Office product) if exporting reports to a spreadsheet application (optional)
- Adobe® PDF reader for additional documentation
- Net Framework 4.6

  *BaseStation3 Setup will install these if not already present

Web Browser minimum

- Chrome™ browser version 27 (One of the preferred browsers for best compatibility)
- Microsoft® Internet Explorer® version 10 or Edge®
- Firefox® version 30 (One of the preferred browsers for best compatibility)
- Safari® version 6.1

Internet Service

1. Internet Service Provider
   (a) A Public IP address that can be mapped to a No-IP™ account for the URL address of the BaseStation.
   (b) Cannot be a Private IP address.
   (c) A Public Static IP address can be used, but is not necessary.
   (d) Router must have NAT Loopback, NAT Reflection or NAT Hairpin capabilities for internal mobile App Connections.
2. Minimum 5 Mb/sec upload speed (a slower upload speed will result in performance delays).
3. Customer's premise router for internet access must have the manufacturers most recent firmware release.
   (a) Must have the ability to configure the router for BaseStation3 connection.
   (b) Must be able to port forward.
   (c) Requires DCHP capabilities.

NOTE: It is not recommended that this computer be used for anything other than BaseStation3 software. Dedicating this machine for BaseStation3 ensures proper operations and usability.

Recommended Hardware/Software Environment

Internet is required for these functions to operate:

- Google map background in the Map View
- Browser and Mobile Application access to the web server page for BaseStation3
- Delivery of notifications to e-mail and text messages

Base to Machine Communication Equipment Options

Radio

- Valmont Spread Spectrum Radio
- Valmont DataRadio®

Ethernet

- Valmont Cellular Modem
- Optional: Ethernet-Serial server for adapting the control panel serial communications to a user provided ethernet network communications device.

NOTE: Customer cell phone service must be provided in order to receive texts for alarm notification. Without this information customer can only receive e-mail alerts for alarm notifications.

BaseStation Product Information

What It Is

BaseStation3 is a Microsoft Windows software program that runs as a set of services in conjunction with Microsoft SQL Server database software. This allows the BaseStation3 processes to run continually, even when no users are logged in.

Users access the BaseStation3 via browser (Internet Explorer or Edge, Chrome, Firefox, Opera, Safari) or with mobile application (android, iOS). The user connection sign-in with the browser or mobile app is routed through a web service that directs the browser or mobile app to the BaseStation3 computers URL, as a local web server. (Example: http://MyFarm.com:8080/basestation3/pages.) BaseStation3 is accessible from the internet (or cellular network) any time that the BaseStation3 computer and the network router that it is connected to is configured to open that local network to the BaseStation3 computer.

What It Does

BaseStation3 can:

- Monitor Valley and AgSense equipment status
  - Record history data
  - Generate reports
  - Send alarms and notifications
  - Display status and progress of running equipment
- Send user commands to control the actions of the irrigation equipment
  - Immediate commands
  - Stored Programs for local execution
  - Irrigation Prescriptions
- Configure for each individual user account
  - Language
  - User role permissions
  - Contact method for alarms
  - Default view selection

How to Use BaseStation3

Set it Up to Use for Your Farm Operation

Read the computer requirements document to verify that the computer and environments meet the minimum specifications.

BaseStation3 uses internet for these functions:

- Mobile Application and external browser connection with the BaseStation3 web server
- Google Maps - Notifications (text/email/passwords) - Web Updates - Valley support
- AgSense device connection

BaseStation3 is configurable so that it is organized according to the farm structure.

BaseStation Product Information

Follow the Quick Step Guide found in the computer folder that ships with the BaseStation3 computer. (The guide is also available in online via the link provided in the BaseStation3 browser.)

Use the tools under the “gear” icon to navigate the initial setup for “BaseStation Settings” and “Farm Administration”.

- **Tools:** BaseStation3 has a list of utilities in the drop down list under the “gear” icon. These tools provide internal links to multiple features. The available utilities vary by user privileges and access to add-on options. There is information about BaseStation3 software and a link for requesting Help from Valmont. The phone number and e-mail address can be contacted for help. (Contact a Valley dealer for the add-on options.) BaseStation3 also has a set of desktop icons for shortcuts, including a check for software version updates. All minor updates are available to registered installations with the web update. Version release notes state the changes that have been made to the release.
- **The Farm Map:** BaseStation3 uses Google Maps to display their satellite images as a background layer for the Map View. BaseStation3 also uses the GPS location data to place and scale the devices (pivot, linear, pump, etc.) on the farm map. Enter the base GPS location for the farm, along with the GPS and machine information when creating devices, and the map with devices emerges.
- **Users:** Create user profiles that define their control privileges; then, set them up for receiving alarm notifications for the devices that they need to stay aware of. User roles range from Administrator (full rights for managing and using BaseStation3), Operator (using BaseStation3, except setup/configuration privileges), and Monitor (just a viewer and running reports.) A built-in admin user with default password is provided for getting started.
- **Views and Groups:** Users have a selection of views, including spatial representation on a Google map background, a collage of devices created on a fixed background image, or as an array of “tiled” devices. Additional views are for Soil Moisture, VRI, Overlap Zone, Restricted Entry, and Device Management. The view utilities collection is in the gray bar across the top of the map. Groups are a collection of devices selected and saved as a group for filtering the views and granting users rights. Groups are used for associating devices. Groups are useful for crop management organization, focused reports generation, and map view filtering.
- **Devices:** The “device” is an object that is created for the Farm Map, used for irrigation management. Devices represent and provide access to the equipment in the field. The drop down drawer from the View controller provides access to the Device Management view, where BaseStation3 devices are setup. Not all device information is mandatory for operation; but, entering as much information as possible about the machine will add to the value of using BaseStation3 for accurate synchronization with the control panel and collecting data that is used for reports. Accurate configuration information will provide realistic representation of water application and machine movement. In addition to actual machine status, there are several BaseStation3 utilities that enhance the past movement and predictive travel of the machine.
- **Alarms:** Each device has a set of status attributes that are monitored. A change in device status from what is last known as the BaseStation3 is expected status triggers an alarm event. Alarms have two functions 1) display graphically an icon on the device and 2) send a notification to the specified contact list for the device. (See Notifications, below.) Alarms are classified by importance as High Level, Low Level, Information only, or None. Selecting None is a simple “don’t care” about that particular machine state. High Level selection triggers a notification. Each alarm level is configurable.
- **Notifications:** BaseStation3 is designed to alert users of important machine events, when BaseStation3 is setup to send text or e-mail for those important events. By defining a “contact list”, or a variety of lists, from a selection of users, those users that are in a list can be notified by text message and/or e-mail. Each device has a selection for a contact list choice. A high level alarm triggers a notification to be sent.

Navigation and Getting Around in BaseStation3

BaseStation3 provides the fundamental device information visually as a graphic image, representing the equipment status.

See the legend sheets found in the computer folder that ships with the BaseStation3 computer. (The legend is also available in this manual, and available via the link provided in the BaseStation3 browser and mobile app.)

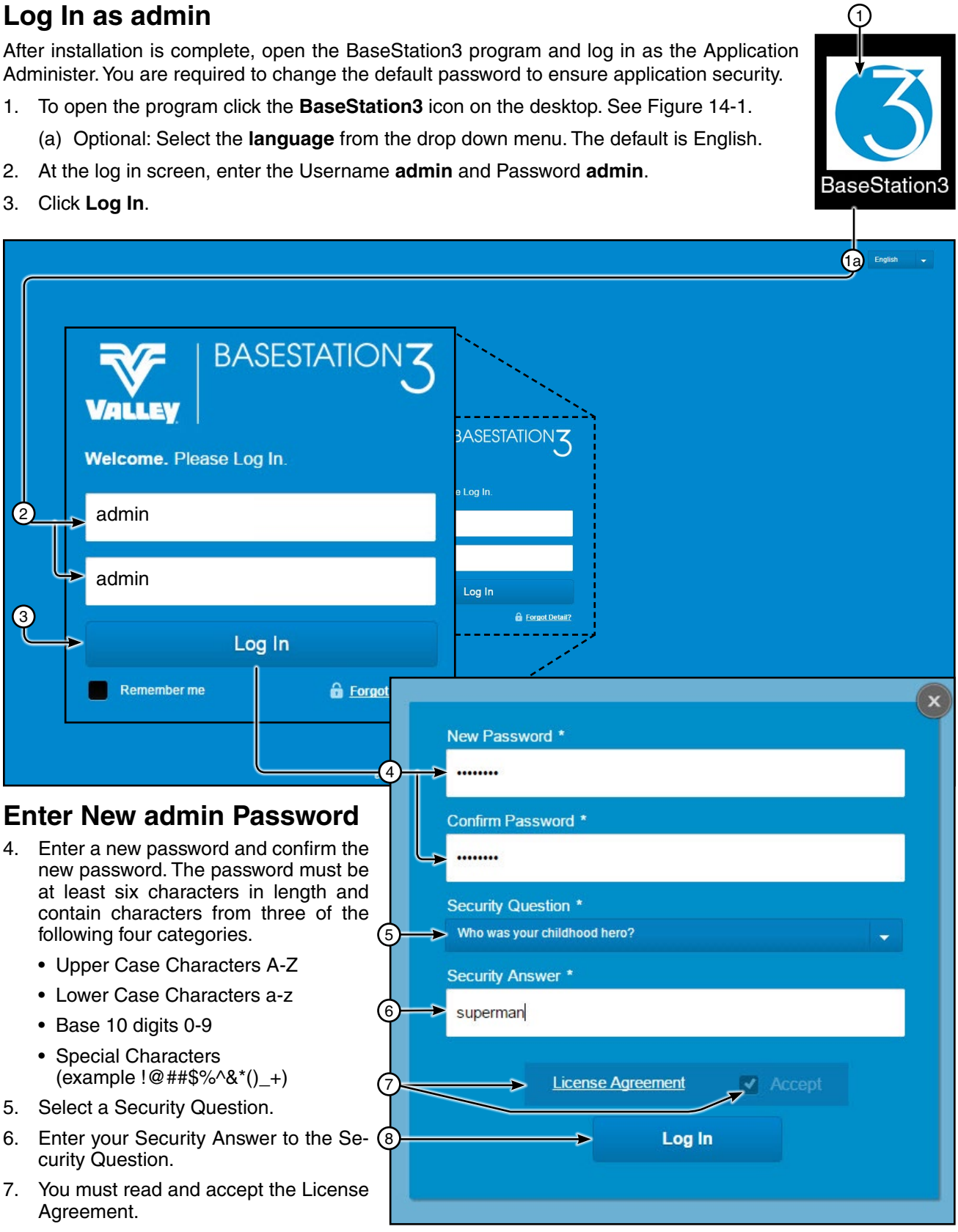
- **User Preferences:** Each user is able to set their personal preferences for basic viewing options, making the BaseStation3 more "user-friendly" to the way they like to see the browser. Preferences include language, units of measure, and default display options for map view, supplemental pop-up, and light/dark display theme.
- **Main Screen:** Primary information is displayed in one of the map views in a browser page. Hovering the mouse over a device pops up more supplemental information. Primary information is displayed as a list view on the mobile applications. In both, browser and app environments, a click (or a screen touch) on the device opens a more detailed device view where controls are exposed.
  - Navigation and viewing controls are organized by function around the perimeter of the browser page. Across the top is the View controller drawer, the farm and group selectors, device filter, and the gear utilities. The lower right corner of the browser has the map scaling and the link tools.
  - When the browser header is not needed, the full screen view (F11) will expand the map area.
- **Device Interfaces:** The device view arranges the panel functions into frames for status information, quick commands that reflect the primary controls for the local panel at the machine, plus some additional tabs for the extended commands and programming, when available.
  - Each device view has a few generic functions that surround the specific panel type, providing access to requesting fresh status updates, polling management, and alarm reset (Clear Alarms).
  - The irrigation device interfaces have tabbed screens that give access to additional BaseStation3 operations and in the field panel utilities. There are utilities that directly link with the control panel; and, some utilities that take advantage of information received from the control panel, providing additional management functions and diagnostics. These utilities are grouped into frames that help the user understand their purpose.
- **Reports:** There are several fundamental reports available to review machine activity and compose water discharge information. Two locations in the user interface are used for reports, the device view and the Reports utility, under the Gear tool icon.
  - Status change history is extracted from the database as an individual machine report, from the device view. Applied Water Depth report is an individual machine report, showing the calculated depth of water across the field.
  - More reports for farm, group and device type selections are available for configuration settings for devices, current status and water volume.
  - Water Volume reports can be configured to run automatically at daily, weekly, monthly and annual intervals.
- **Add-On Subscriptions:** Valley offers add-on features that can be enabled with an annual subscription.
  - SCADA Management application data sharing works with pump control software to coordinate water delivery.
  - Fertilizer Application Rate Report shows a profile of flow that has been recorded by monitoring the input from the BaseStation3's second flow meter option.
  - Restricted Entry displays chemical application information that reflects the Worker Protection Standard guidelines. A tabular list shows the chemical application schedule and the re-entry timer. The mobile application displays the restricted entry icon with the timer countdown.
  - Irrigation Exchange is a no fee utility that coordinates with other industries to share data relevant to irrigation processes. Valley has an approved partner list with agriculture industries that comply with the Valley standards for information sharing.

Initial Setup

Log In as admin

After installation is complete, open the BaseStation3 program and log in as the Application Administer. You are required to change the default password to ensure application security.

1. To open the program click the **BaseStation3** icon on the desktop. See Figure 14-1.
   (a) Optional: Select the **language** from the drop down menu. The default is English.
2. At the log in screen, enter the Username **admin** and Password **admin**.
3. Click **Log In**.



Enter New admin Password

4. Enter a new password and confirm the new password. The password must be at least six characters in length and contain characters from three of the following four categories.
   - Upper Case Characters A-Z
   - Lower Case Characters a-z
   - Base 10 digits 0-9
   - Special Characters (example !@##$%^&*()_+)
5. Select a Security Question.
6. Enter your Security Answer to the Security Question.
7. You must read and accept the License Agreement.
8. Click **Log In**.

Figure 14-1
1. Click BaseStation3 - (1a) Select the language from the drop down list
2. Enter the Username admin, then enter the Password admin
3. Click Log In
4. Enter New Password and Confirm Password
5. Select Security Question
6. Enter Security Question Answer
7. Read and Accept License Agreement
8. Click Log In

Change admin Profile

1. Click **Settings** and then select **BaseStation Settings**.
2. Click **User Profiles**.
3. Select the **admin** user profile.
4. Enter the **Email Address** where you want alarm contact notifications to be sent.
5. Click **Save**.
6. Continue with **Create Administrator Account(s) (Optional)** on the next page.

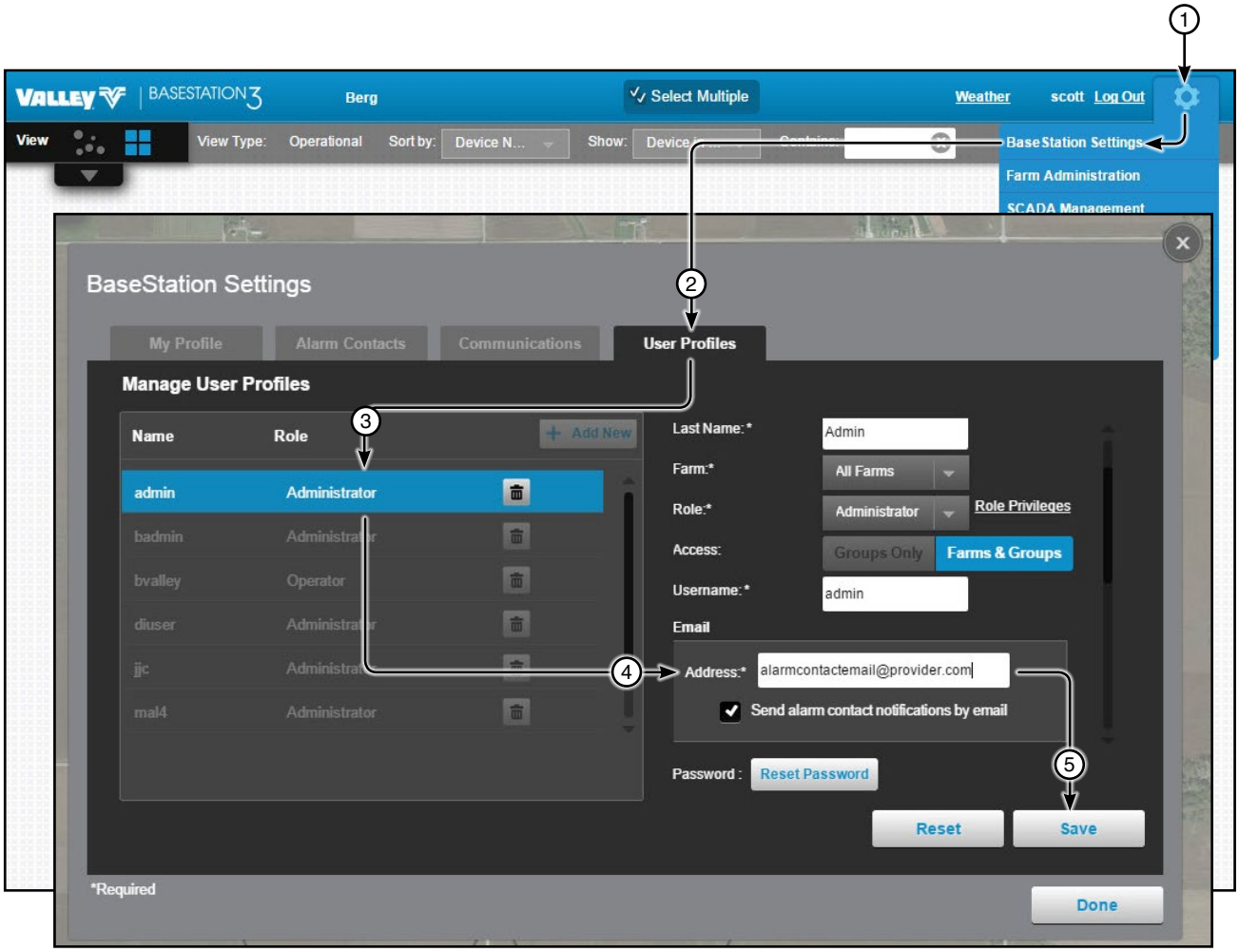


Figure 15-1
1. Click Settings and Select BaseStation Settings
2. Click User Profiles
3. Click Admin
4. Enter New E-mail Address
5. Click Save

Initial Setup

Create Administrator Account(s) (Optional)

After the initial log in, create any additional Application Administrator account(s) that may be needed.

To create an All Farms Administrator do the following:

1. Click **Settings** and then select **BaseStation Settings**.
2. Click **User Profiles**.
3. Click **Add New**.
4. Enter the First and Last Name.
5. Select **All Farms** from the Farm drop down list.
6. Select **Administrator** from the Role drop down list.
7. Choose **Farms & Groups**.
8. Enter the **Username** for log in.
9. Enter the users **email Address** where the temporary log in password will be sent.
10. Click **Save**.
    (a) A temporary log in password will be sent to the users email address.
    (b) Log out of the BaseStation application, and then log in as the All Farms Administrator or continue with Initial Settings on page 18.

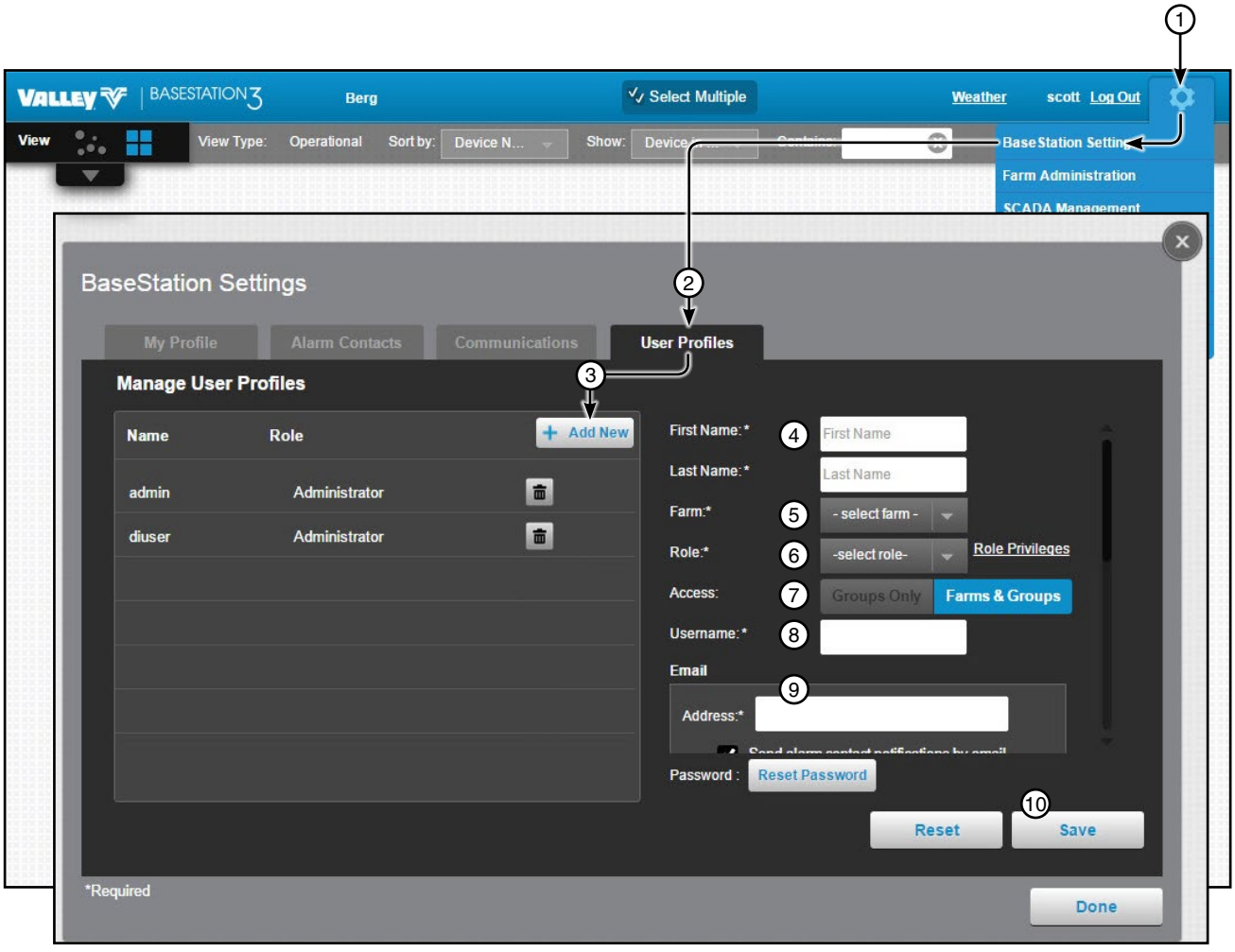


Figure 16-1

1. Click Settings and select BaseStation Settings
2. Click User Profiles
3. Click Add New
4. Enter the First and Last Name
5. Select All Farms from the Farm drop down list
6. Select Administrator from the Role drop down list
7. Choose Farms & Groups
8. Enter the Username for log in
9. Enter the users Email Address
10. Click Save

Log In as All Farms Administrator (Optional)

1. Retrieve the username and temporary password from the users email application.

   Log in to BaseStation3 using the temporary password. When the user logs in for the first time they will have to change the password, select a security question and provide the security answer.

2. Enter a new password and confirm the new password. The password must be at least six characters in length and contain characters from three of the following four categories.
   - Upper Case Characters A-Z
   - Lower Case Characters a-z
   - Base 10 digits 0-9
   - Special Characters (example !@##$%^&*()_+)
3. Select a Security Question.
4. Enter your Security Answer to the Security Question.
5. Click **Log In**.
6. Continue with Initial Settings on the next page.

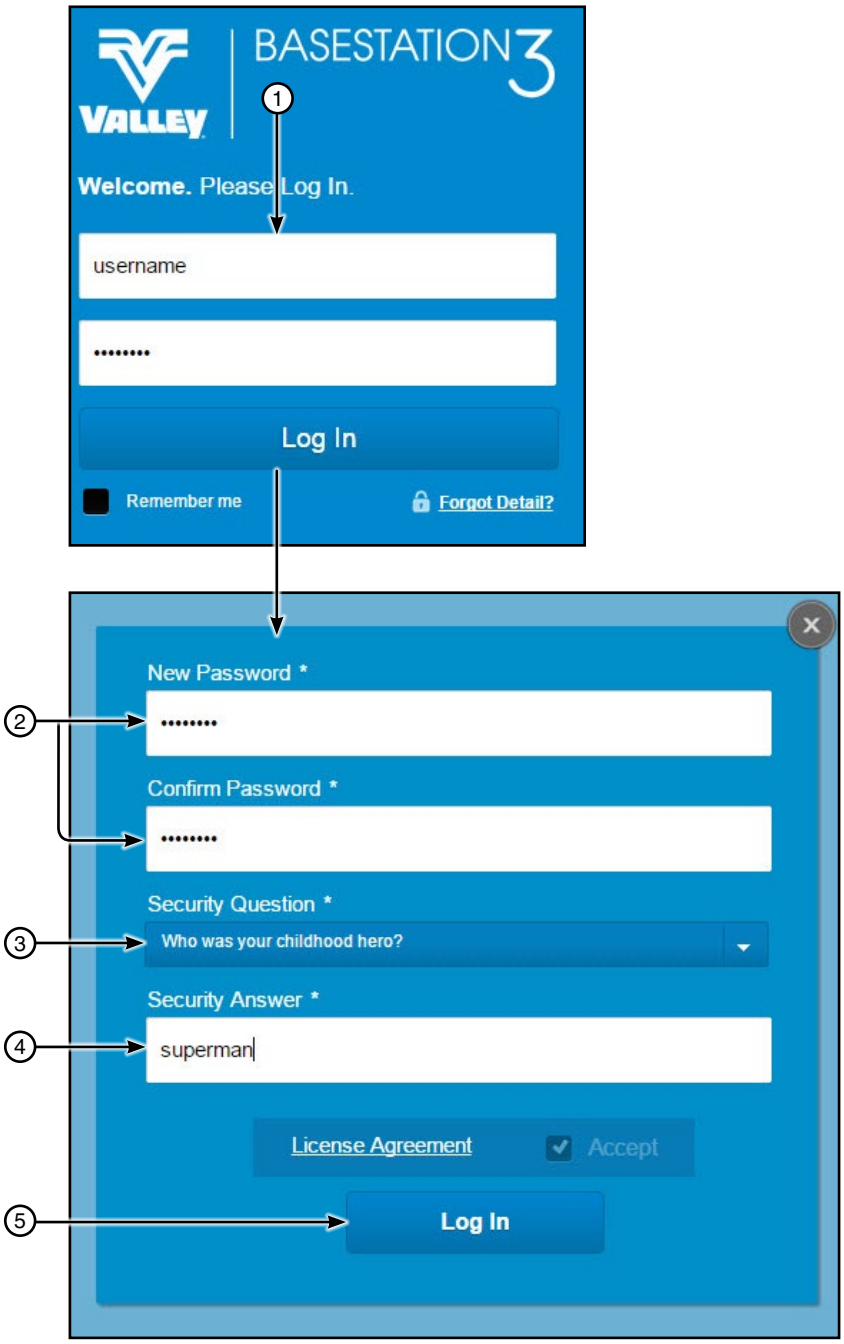
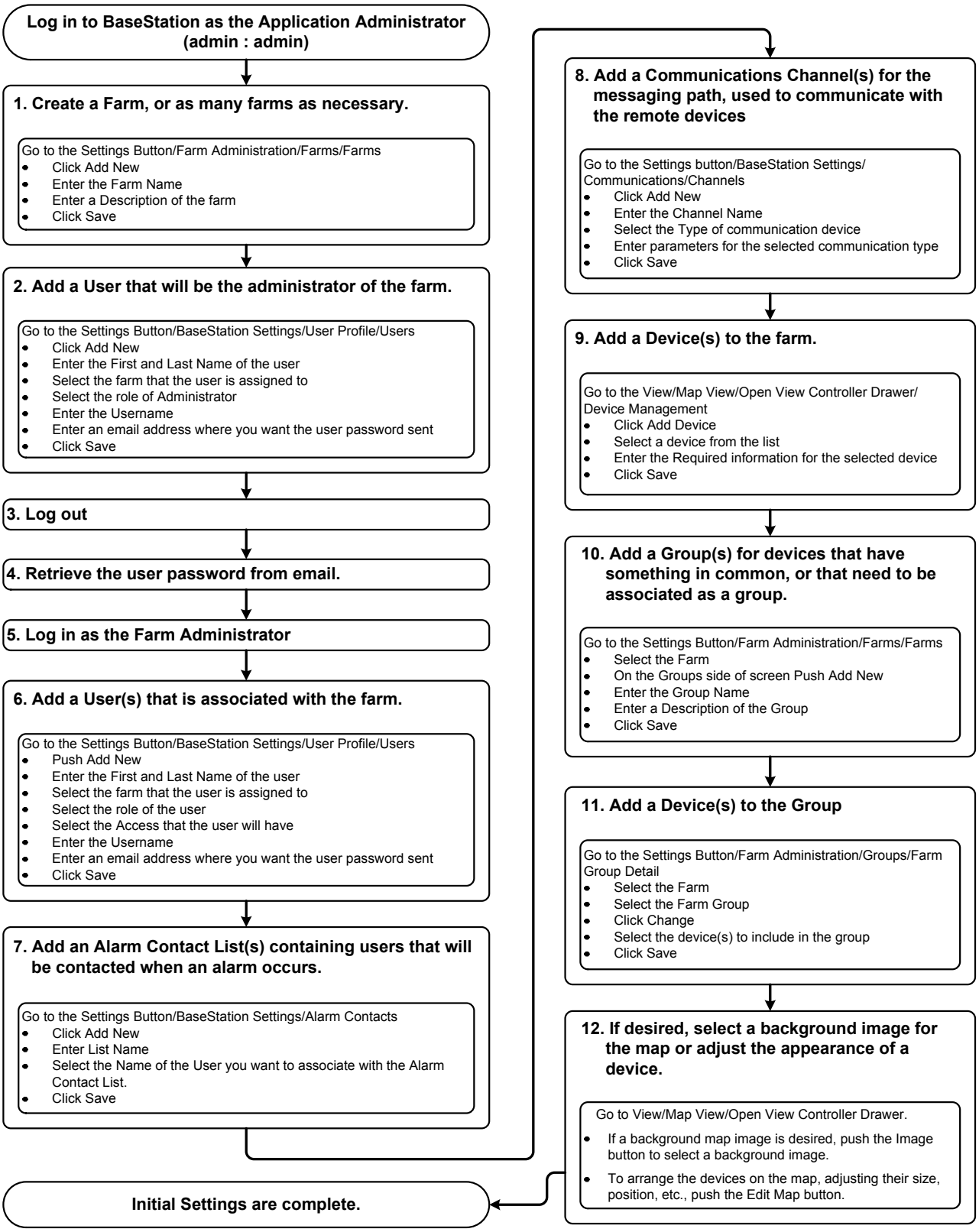


Figure 17-1
1. Log In Using Temporary Password
2. Enter New Password and Confirm Password
3. Select Security Question
4. Enter Security Question Answer
5. Click Log In

Initial Setup

Initial settings

Before BaseStation3 can be used, BaseStation Settings and Farm Administration must be configured. The flow chart below illustrates the order to follow when setting the initial configuration.



Valley BaseStation

The BaseStation software is designed to monitor and control devices equipped with control panels, from a centrally located position. It can also control the function of pumps, valves, and other auxiliary equipment using sensor devices.

Supported control and monitor devices	Valley Auxiliary Link v1.0
Valley ICON1, ICON5, ICON10 or ICONX	Irrometer 950 v2.6 or 975 v1.0
Valley Pro2+ v9.00 or v9.01, Pro2 v8.40 or Pro v7.X.5	Torrent pump
Valley Select2+ v2.00, Select2 v1.21 or Select v1.9	Yaskawa iQpump 1000
Valley AutoPilot v1.11, in Standard Linear Mode	IP Rate Cameras rated for outdoor use
Valley PanelLink v9.0	Web camera, requiring Ethernet data rates

Many functions, which can be performed at the control panel in the field, can be accomplished from the BaseStation computer at a home, office, or mobile location.

Some of the basic machine functions that can be utilized are obtaining the current status, stopping and starting, turning the water off and on, changing direction, speed, and depth of water application, along with additional features that are available in the control panel.

The control functions are defined according to the type of control panel at the device. With the Auxiliary Link, the devices being controlled and/or monitored can be defined to represent many unique requirements.

Communications between the computer/BaseStation and the control panel at the device is accomplished through the use of radio modem connections and Ethernet IP addresses.

The **BaseStation** is a polling application that processes status information either returned in response to transactions that are originated by the BaseStation or sent in a Real-Time Update from a Pro2 control panel to the BaseStation. The BaseStation can send commands to control the devices and/or request information from the devices.

Reports can be obtained on the device configuration and status event history. The data is maintained in Microsoft® SQL Server® Express (or Standard, if installed) 2012 database files that can be exported to other applications where desired.

The **Panel Link** is used with a Valley ClassicPlus control panel or other manufacturers pivot control panel, on a center pivot to provide status of the machine and control of start, stop, and direction, along with percent timer bypass and one auxiliary output.

Auxiliary Link panels can be configured to represent many sensors that monitor critical process controls. A set of input and output relays can be used to control and/or monitor the equipment that regulates water distribution or any device that can be switched. Auxiliary Link panels can be configured in the BaseStation by defining labels and scaling values for a large assortment of devices. Each Auxiliary Link can support a group of relay output controls, relay input sensors, logic counter inputs, and 4-20 mA or –10 VDC to +10 VDC analog sensor inputs.

Soil moisture monitoring information is available through BaseStation. The Irrometer 950 (no longer available) has two data communications options. Cellular, requiring an Irrometer service account, and, data radio, using BaseStation radio network. The IRROmesh 975 uses the BaseStation data radio network.

Pump Link Connection is an interface device used to communicate with the Yaskawa iQpump controller or the Torrent pump controller. It provides monitoring of the pump status; and, is capable of sending some controls for on/off and managing the pump pressure setpoint.

Engine Interface is an interface device with wired connections for connecting BaseStation3 with an engine. The Engine Interface provides logic that gives the BaseStation the ability to work with electronic engine controllers, and also some basic functions when connected to a non-electronic engine controller setup. The device has connections for integrating with a pivot/linear machine to coordinate the automatic engine shutdown process with the attached machine shutdown event.

Overview

BaseStation Basic Organization

The basic organization of a farm in the BaseStation application can look similar to the illustration shown in Figure 20-1.

Multiple user accounts can be created with privileges based on preset user roles. Users can be assigned to multiple Alarm Contact Lists. Alarm Contact Lists can be associated with multiple devices. For example; Operator 1 is only notified when there is an alarm on a pivot device, because the operator is only in the Pivot Device Alarm Contact list. However, Operator 2 is notified when there is an alarm on a pivot or linear device, because this operator is in both Alarm Contact lists. Individual devices can be included in multiple groups. For example; Device 5 (Select2) is in the Beans Group and the Select2 Group.

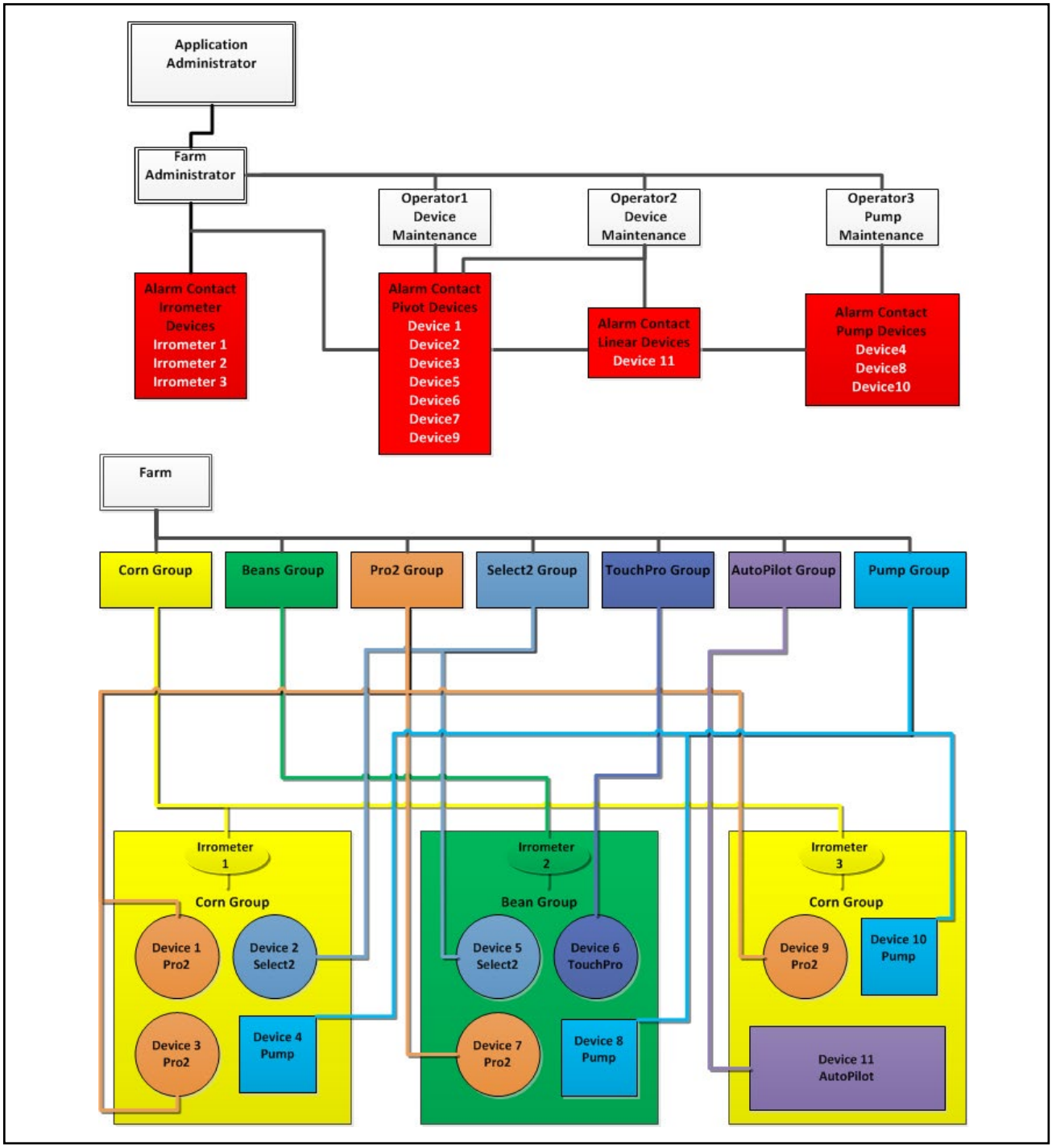


Figure 20-1

Status Screen

The status screen displays all the devices for the farm and groups within the farm.

Farm (2) and Groups (3) Lists: When more than one farm or group is available, the farm and/or group can be selected from the lists on the header bar.

Select Multiple (4): Use Select Multiple to make a change(s) to multiple devices at one time. The changes that will be allowed are determined by the devices that are selected, equipment installed at the device and the View Type. In the Operational view type the user can send commands. In Device Management view type the user can make changes to configuration. An individual farm must be selected from the Farm List, Select Multiple is not available when All Farms is selected.

Hypertext Link (5): When enabled in Preferences the hypertext link is displayed on the header bar. Click to open website. The label and website URL are set up in Preferences under Show Weather Link.

Settings Button (6): Menu of the configurable areas within BaseStation.

View Controller (7): The view can be changed by clicking the map (8) or tile (9) button. The view type can also be changed. This does not change the default view set in Preferences.

Sort By, Show and Contains (10): Use to **sort** (tile view) the devices on the screen in a particular order, **show** a particular type of device or search for a specific device name that **contains** the user entered text.

Communications Status Bar (11): Shows the data transaction activity between the BaseStation and the devices.

Highlight No Response and Pressure Dry/Stopped (12): When a device fails to communicate with the BaseStation, an alarm pop-up is displayed in the lower left hand corner of the screen. The No Response Alarm must be enabled for Display in Preferences under Map and Tile View Alarm Pop Up. The configuration options for the Alarm Pop Up display is in User Preferences for the No Response and Water Pressure Dry/Stopped alarms.

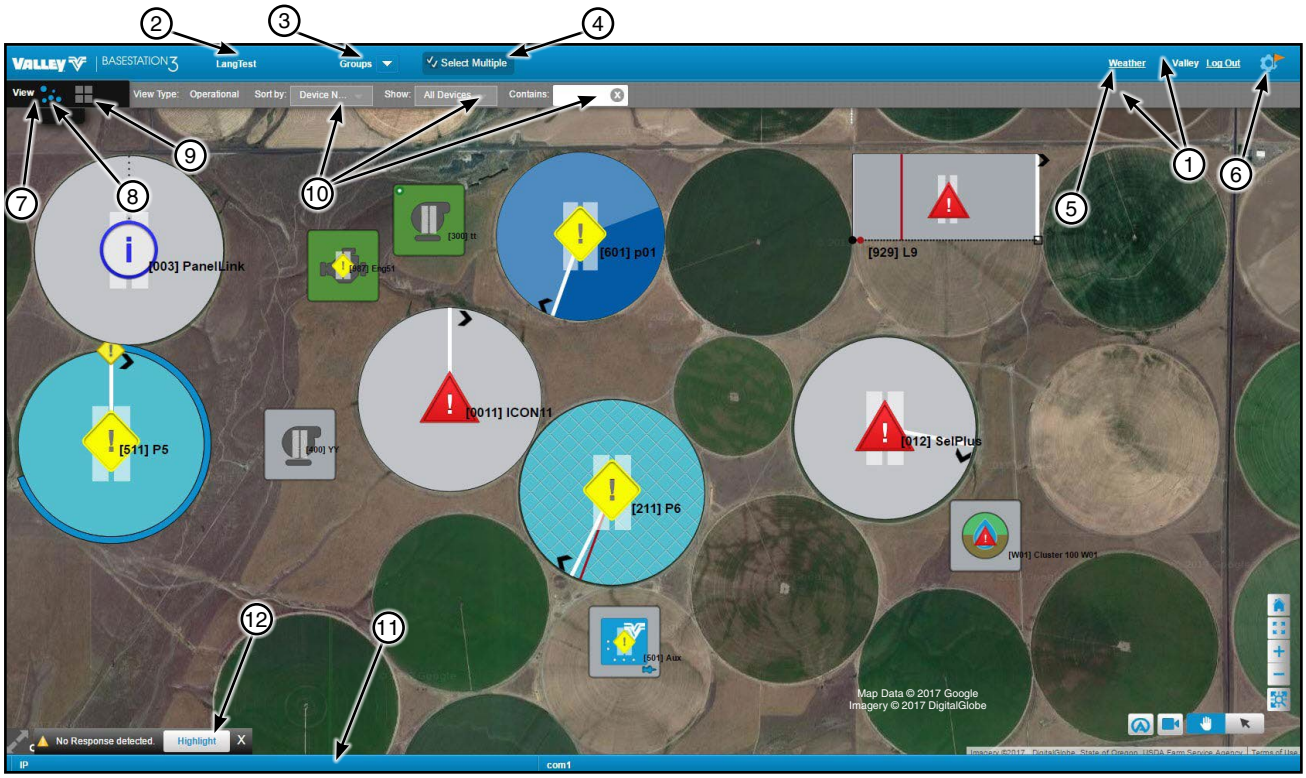


Figure 21-1

1. BaseStation Header Bar
2. Farm List
3. Groups List
4. Select Multiple Button
5. Hypertext Link
6. Settings Button
7. View Controller
8. Map View Button
9. Tile View button
10. Sort By, Show, Contains Search
11. Communications Status Bar
12. Highlight No Response and Pressure Dry/Stopped Button

Status Screen

View Controller

Map View

Map View displays the devices on a map. There are two different Map Views, either Google Map or My Map.

Google Map

Figure 22-1 illustrates how the screen looks in Map View (1) with Operational view type (2) selected. Google Map (3) Displays a satellite image of the farm based on the user entered GPS location. To use Google Map an Internet connection is required. When an Internet connection is not available, use Tile View or My Map to view devices.

- **Make Home View (4):** After adjusting the map, the Make Home View button is active. Click Make Home View to set the current view as the user's home view.
- **Full Screen (5):** To switch to full screen click the Full Screen button in the bottom left hand corner of the screen, select Full Screen Mode from the View Controller Drawer or push the Esc key. To exit full screen, click the Full Screen button again or push the Esc key. Full Screen is not available in Device Management view type.
- **AgSense (6):** Displays AgSense device configurations. Click on a device for individual configuration.
- **Web Camera (7):** Displays a list of the Web Cameras Associated with the Devices. Add web cameras and associate them with a device.
- **Pan Tool (8)/Pointer Tool (9):** Toggle between the pan tool and pointer tool. Use the Pan Tool to move the map with devices. Depending on View Controller View type, use the pointer Tool to select and move, size, change, copy, open or delete a device or select and move an Auxiliary Link pin status box (only available on My Map).
- **My Home View (10):** Changes the view back to the user's saved home view. (Google Map Only)
- **Zoom to Fit Screen (11):** Changes the view to display all of the devices on the screen.
- **Zoom In (12):** Zooms into the center of the screen. In Google Map you can also use the mouse wheel to zoom in.
- **Zoom Out (13):** Zooms out from the center of the screen. In Google Map you can also use the mouse wheel to zoom out.
- **Zoom to Area (14):** Click the button and draw a rectangle around the area to zoom in. (Google Map Only)

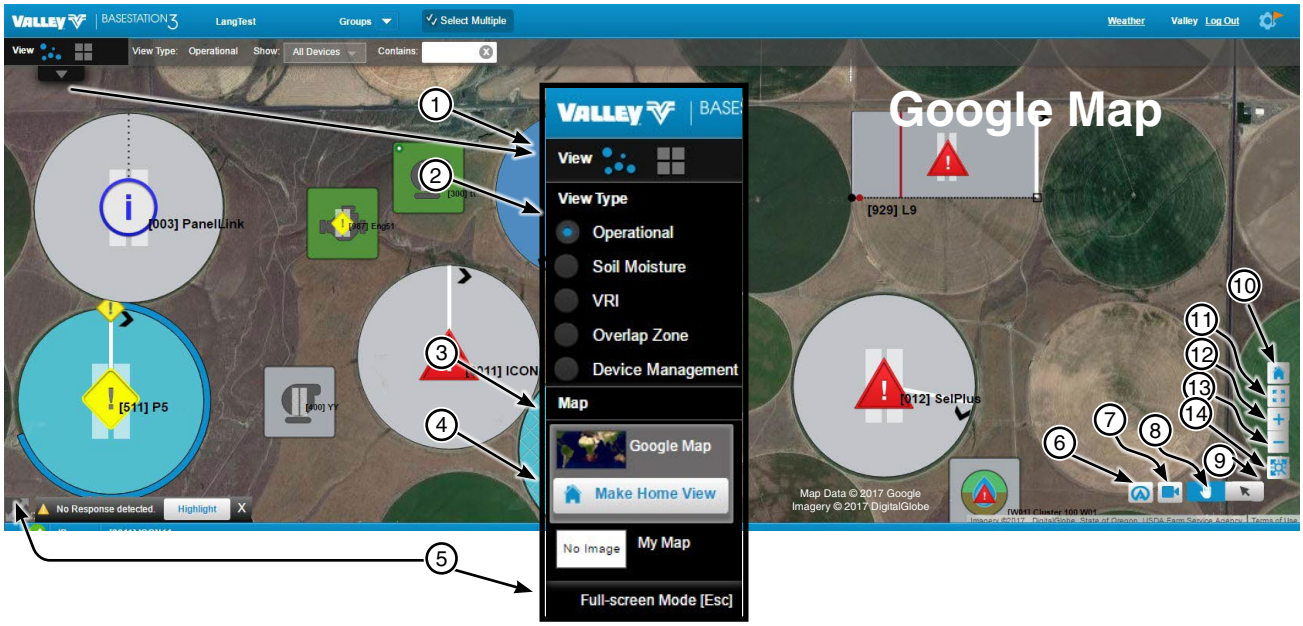


Figure 22-1
1. View Controller Drawer (Map View)
2. View Type/(Operational Selected)
3. Google Map Selected
4. Make Home View Button
5. Full Screen Mode
6. AgSense
7. Web Camera
8. Pan Tool
9. Pointer Tool
10. My Home View
11. Zoom to Fit Screen
12. Zoom In
13. Zoom Out
14. Zoom to Area

View Controller

Map View

My Map

Figure 23-1 illustrates how the screen looks in Map View (1) with Operational view type (2) selected. My Map (3) Displays the devices over the screen capture of an image; this can be any type of image file that shows meaningful background information. Other types of images can be engineering drawings of field layout, pipeline routing, property survey, etc. To use My Map an Internet connection is NOT required.

» Upload and change the background image file. Images are loaded as a layer that can be changed when desired. Scaling is independent for all images.

- **Full Screen (4):** To switch to full screen click the Full Screen button in the bottom left hand corner of the screen, select Full Screen Mode from the View Controller Drawer or push the Esc key. To exit full screen, click the Full Screen button again or push the Esc key. Full Screen is not available in Device Management view type.
- **AgSense (5):** Displays AgSense device configurations. Click on a device for individual configuration.
- **Web Camera (6):** Displays a list of the Web Cameras Associated with the Devices. Add web cameras and associate them with a device.
- **Map Off (7)/Map On (8):** Turn the map background On or Off. (My Map Only)
- **Pan Tool (9)/Pointer Tool (10):** Toggle between the pan tool and pointer tool. Use the Pan Tool to move the map with devices. Depending on View Controller View type, use the pointer Tool to select and move, size, change, copy, open or delete a device or select and move an Auxiliary Link pin status box (only available on My Map).
- **My Home View (11):** Changes the view back to the user's saved home view. (Google Map Only)
- **Zoom to Fit Screen (12):** Changes the view to display all of the devices on the screen.
- **Zoom In (13):** Zooms into the center of the screen. In Google Map you can also use the mouse wheel to zoom in.
- **Zoom Out (14):** Zooms out from the center of the screen. In Google Map you can also use the mouse wheel to zoom out.

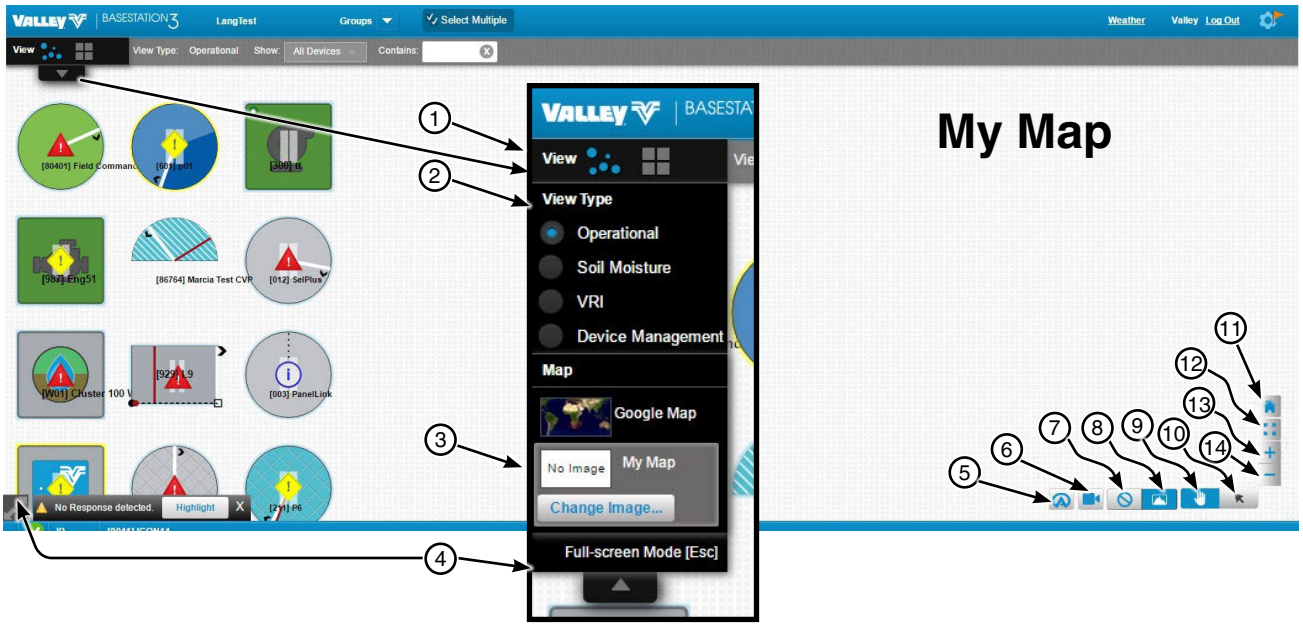


Figure 23-1

1. View Controller Drawer (Map View)
2. View Type/(Operational Selected)
3. My Map Selected
4. Full Screen Mode
5. AgSense
6. Web Camera
7. Map On
8. Map Off
9. Pan Tool
10. Pointer Tool
11. My Home View (Google Map Only)
12. Zoom to Fit Screen
13. Zoom In
14. Zoom Out

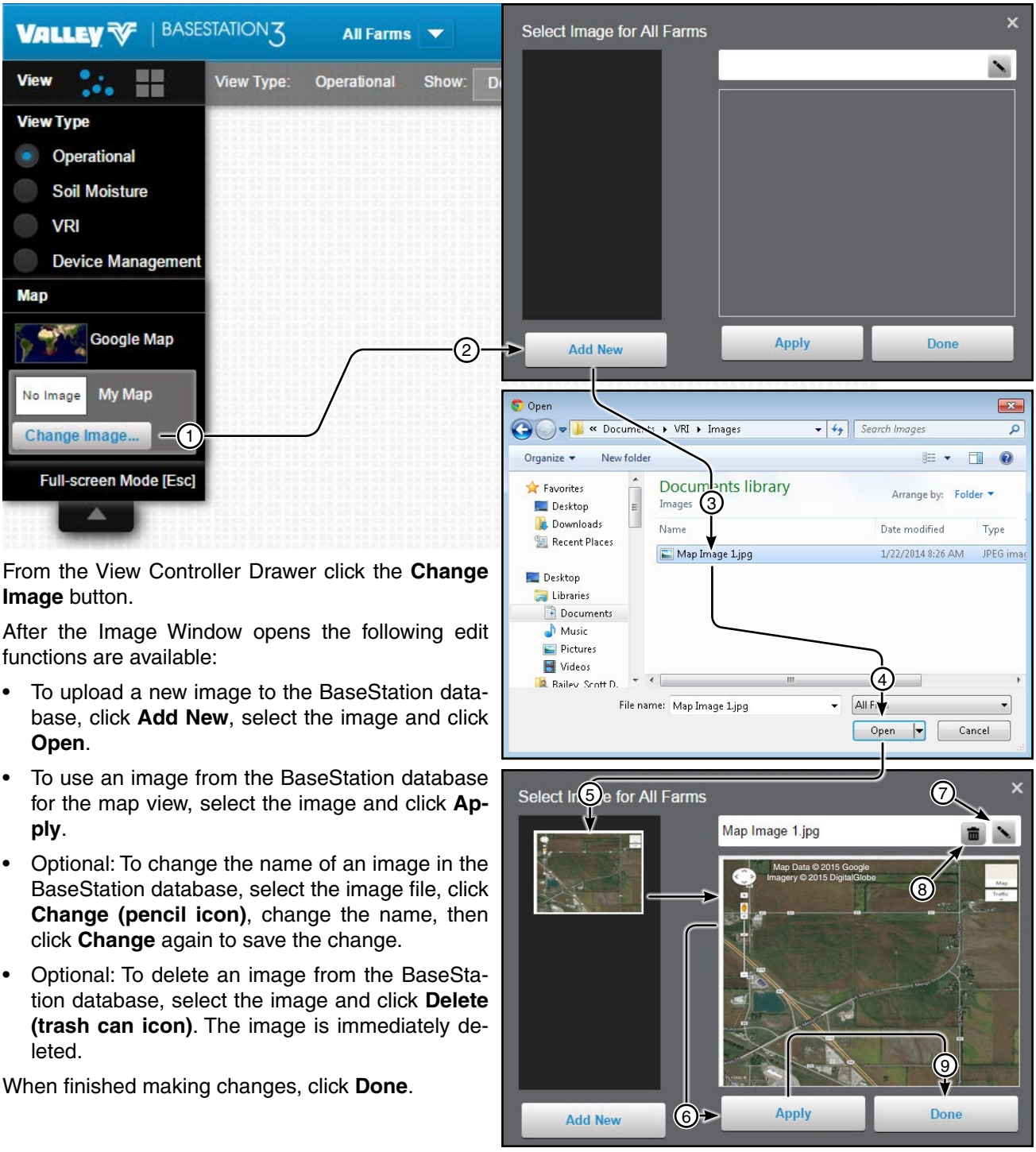
Status Screen

View Controller

Map View

My Map Change Image

In My Map click Change Image to change or upload a map image, delete an image or change an image name. The image size when captured is the image size that will be displayed in BaseStation. Acceptable file types are .jpg, .png and .gif.



From the View Controller Drawer click the **Change Image** button.

After the Image Window opens the following edit functions are available:

- To upload a new image to the BaseStation database, click **Add New**, select the image and click **Open**.
- To use an image from the BaseStation database for the map view, select the image and click **Apply**.
- Optional: To change the name of an image in the BaseStation database, select the image file, click **Change (pencil icon)**, change the name, then click **Change** again to save the change.
- Optional: To delete an image from the BaseStation database, select the image and click **Delete (trash can icon)**. The image is immediately deleted.

When finished making changes, click **Done**.

Figure 24-1

1. Click Change Image Button
2. Click Add New Button
3. Select Image File
4. Click Open Button
5. Select the Image
6. Click Apply Button
7. Option: Edit Image Name - Click Change Button
8. Option: Delete image - Click Delete Button
9. Click Done Button

View Controller

Tile View

Tile View displays the devices in rows across the screen. To set the sort order go to Settings/Preferences.

- **Full Screen:** To switch to full screen click the Full Screen button in the bottom left hand corner of the screen, select Full Screen Mode from the View Controller Drawer or push the Esc key. To exit full screen, click the Full Screen button again or push the Esc key. Full Screen is not available in Device Management view type.

Figure 25-1
1. View Controller Drawer (Tile View)
2. View Type (Operational Selected)
3. Full Screen Mode

Status Screen

View Controller

View Controller Drawer

Open the View Controller Drawer to change the View Type. There are four View Types available; Operational, Soil Moisture, VRI and Device Management. Changing the view type here does not change the default view type set in Preferences.

- Operational shows the operating status of the devices and provides panel interface operations.
- Soil Moisture shows the soil moisture status associated with the device.
- VRI shows the status of devices with VRI enabled.
- Device Management is used to add, change, copy or delete a device, with full device configuration tools.

Operational View Type - Map View

When Operational View Type is selected, the last reported operational status is displayed on each device. Selecting this View Type does not change the default view type set in Preferences.

Figure 26-1 1. Operational Selected

View Controller

Soil Moisture View Type - Map View

When Soil Moisture is selected as the View Type, the last reported soil moisture status obtained from soil moisture sensors is displayed on the associated device for the soil layer selected. Soil Layers correspond with the sensor depth; Soil Layer 1 is the sensor closest to the ground surface (or a temperature sensor); Soil Layer 4 is the deepest sensor. Selecting this View Type does not change the default view type set in Preferences.

A soil moisture status key is displayed below the tool bar.

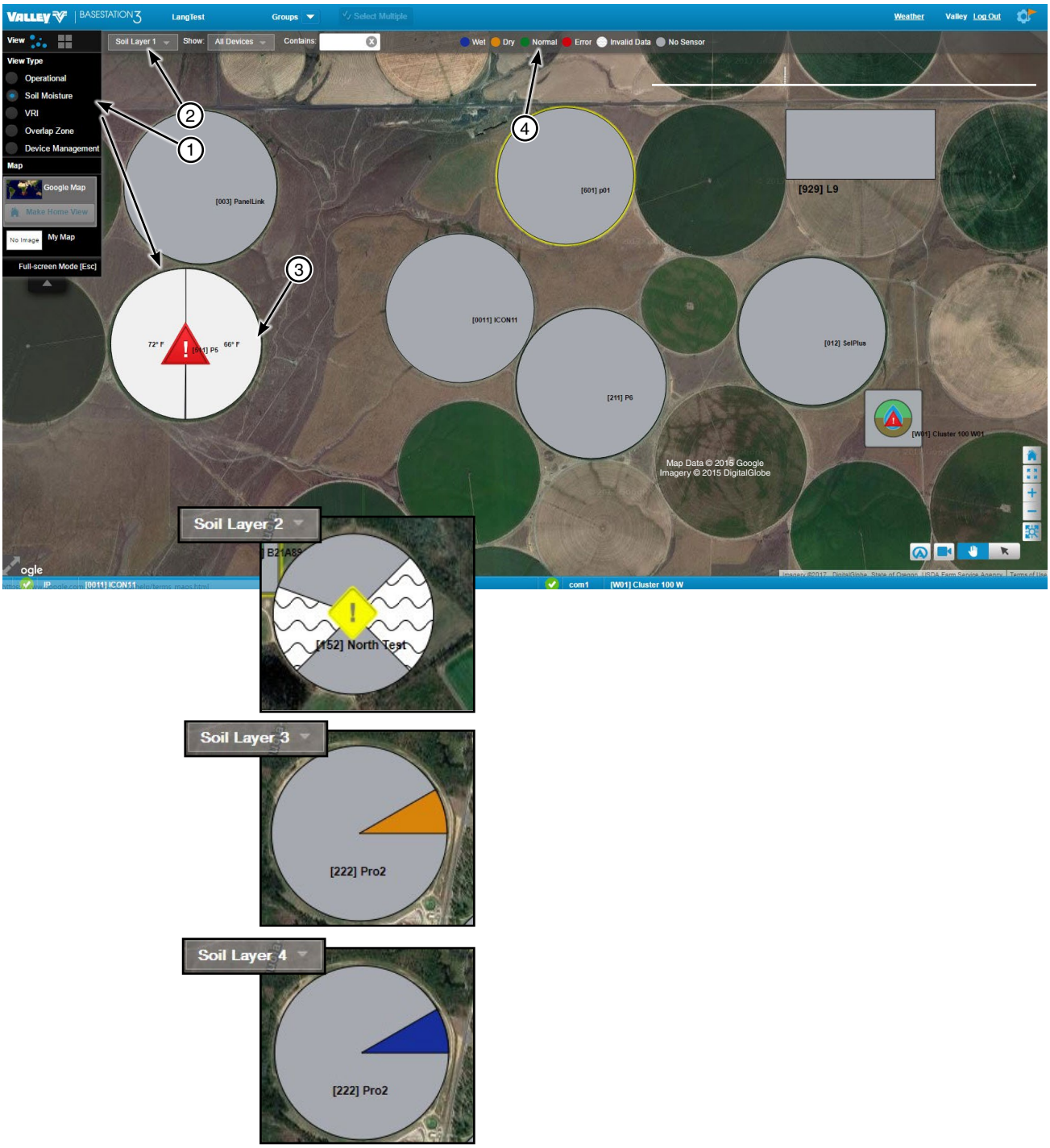


Figure 27-1
1. Soil Moisture Selected
2. Soil Layer
3. Device Showing Status
4. Soil Moisture Status Key

Status Screen

View Controller

VRI View Type - Map View

When VRI is selected as the View Type, the last reported VRI status obtained from the applicable devices is displayed and VRI Show defaults to show only pivot devices. Selecting this View Type does not change the default view type set in Preferences.

A VRI status key is displayed below the tool bar.

Figure 28-1

1. VRI Selected
2. VRI Show Pivot
3. Device Showing Status
4. VRI Status Key

View Controller

Overlap Zone Type - Map View

When Overlap Zone Type is select as the View Type, it will show where different devices overlap. Viewing overlap zones allows users to see partnerships between devices and add new partnerships by selecting individual plots. The Overlap Zone Type can only be viewed in map mode.

An Overlap Zone Status key is shown below the tool bar.

Figure 29-1
1. Overlap Zone Selected
2. Show Devices
3. Device Showing Status
4. Overlap Zone Status Key

Status Screen

View Controller

Device Management View Type - Tile View

1. **In Tile View, when Device Management is selected** as the View Type, devices can be added, changed, copied, and deleted. Selecting this View Type does not change the default view type set in Preferences.
2. **Add Device Button:** Click and then select a device to add from the drop down menu.
3. **Change Button:** The Change button is only displayed when a device is selected. Use to edit the device configuration.
4. **Copy Button:** The Copy button is only displayed when a device is selected. Create one or more devices like the one being copied.
5. **Delete Button:** The Delete button is only displayed when a device is selected. Permanently removes a device.
6. **Sort By Group Menu:** Show all devices for all groups or only devices for one group. Select a group from the drop down menu.
7. **Show Device Menu:** Show all devices or only one type of device. Select a device type from the drop down menu.
8. **Contains Search:** Search for a specific device. Enter search criteria in the Contains field and the device labels are instantly searched. Only devices that match the search criteria are displayed.
9. **Web Cameras Button:** Shows all web cameras associated with devices. Web cameras that are stand alone and not associated with devices are shown as devices in the Map or Tile View.
10. **AgSense:** Displays AgSense device configurations. Click on a device for individual configuration.

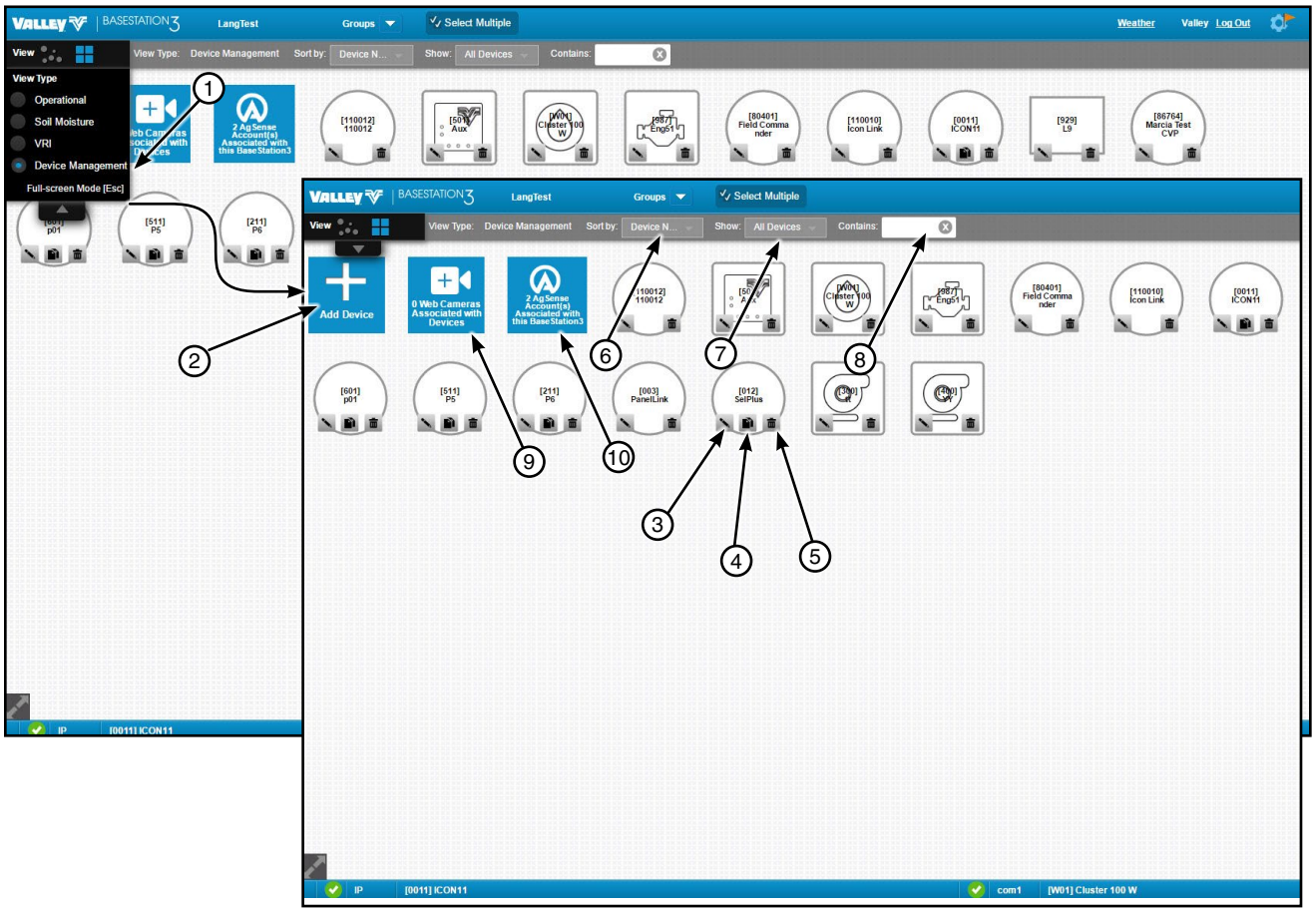


Figure 30-1

1. Device Management Selected
2. Add Device Button
3. Change Button
4. Copy Button
5. Delete Button
6. Sort By Group Menu
7. Show Device Menu
8. Contains Search
9. Web Camera Button
10. AgSense Button

View Controller

Device Management View Type - Map View

1. **In Map View, when Device Management is selected** as the View Type, devices can be added, changed, copied, deleted and customized to match field size and position on the map image. This includes re-sizing any device on the map; changing a device position or label position. Selecting this View Type does not change the default view type set in Preferences.
2. **Add Device:** Click and then select a device to add from the drop down menu.
3. **Change:** The Change button is only displayed when a device is selected.
4. **Copy:** The Copy button is only displayed when a device is selected. Copy will not appear on a device that has not communicated with BaseStation.
5. **Delete:** The Delete button is only displayed when a device is selected.
6. **Show (device menu):** Show all devices or only one type of device. Select a device type from the drop down menu.
7. **Contains (search):** Enter a key word or number to search for a device in the farm or group that is currently selected.
8. **Device Key:** A device component key displayed below the tool bar; that describes the graphics associated with the 0° Reference Angle, Road Angle, SIS Angle, Current Position and New Device.

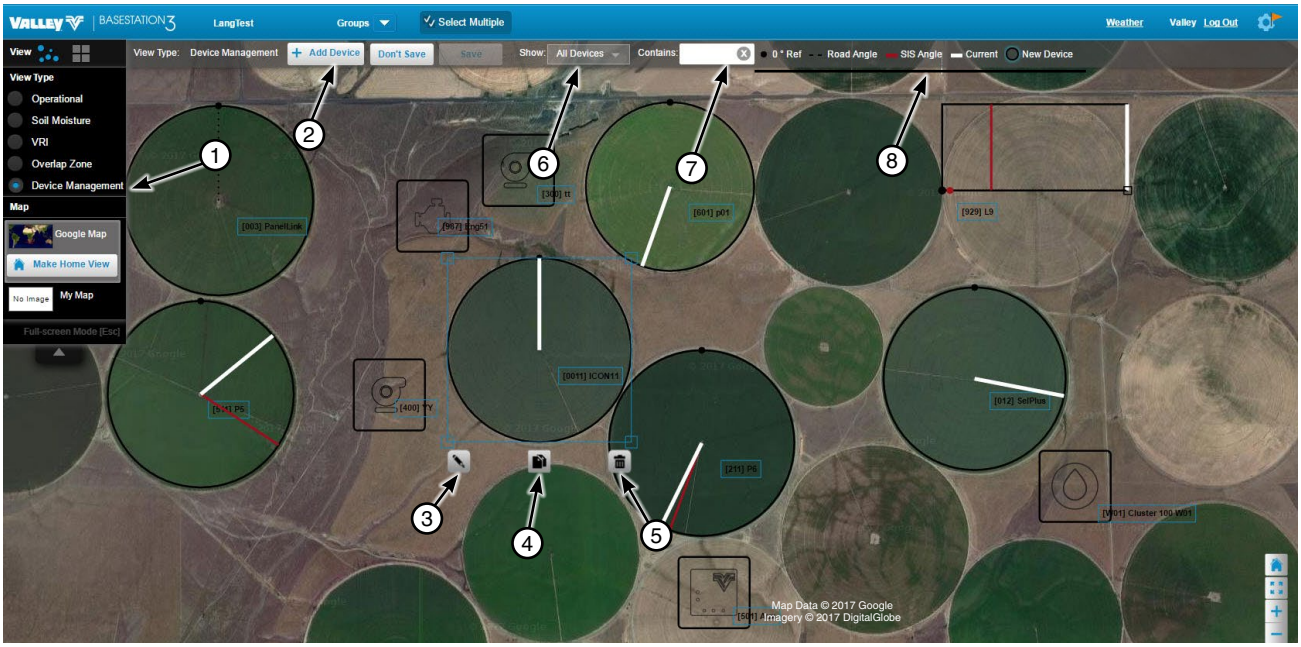


Figure 31-1

1. Device Management Selected
2. Add Device Button
3. Change Button
4. Copy Button
5. Delete Button
6. Show Device Menu
7. Contains Search
8. Device Key

Status Screen

Highlight No Response

When a device fails to communicate with the BaseStation, an alarm pop-up can be displayed in the lower left hand corner of the screen. To use Highlight No Response, the No Response Alarm must be enabled for Display in Preferences under Map and Tile View Alarm Pop Up. When enabled it will appear in the Operational, Soil Moisture and VRI view types.

To highlight the devices that did not communicate, refer to Figure 32-1 and do the following.

1. Click **Highlight** and a yellow halo is displayed around the device.
2. To remove the highlight, click **No Highlight**.

Figure 32-1
1. No Response Pop-Up
2. Highlight
3. Yellow Halo
4. No Highlight

Supplemental Status

Supplemental Status shows the last known status of the device including information dependent on the control panel type and the features enabled. The supplemental status box appears when the mouse pointer is positioned over a device. It persists until the pointer is moved over another active device, or clicked in a neutral area.

Auxiliary Link Pinned Status shows Auxiliary Link inputs, outputs, counters and sensors can be enabled. The status can remain open and can also be moved to any location on the screen. When enabled, an icon appears on the auxiliary link device. To display the pinned status, click the pin icon before the supplemental status appears. To enable the pinned status, go to View Controller/Device Management/Auxiliary Link/Select Inputs, Outputs, Counters or Sensors/Check the Show On Pin Status View.

Figure 33-1
1. Supplemental Status (Pivot Shown)
2. Pin Icon (Auxiliary Link Only)
3. Pin Status (Auxiliary Link Only)

Status Screen

Communications Status Bar

The Communications Status Bar displays each Communications Channel with the status of data transaction activity icon Device name and Device RTU ID. The number of communications channels that can be displayed is based on screen size. The bar will be blank when communication connections have not been configured. To configure communications go to Settings/BaseStation Settings/Communications/Channels.

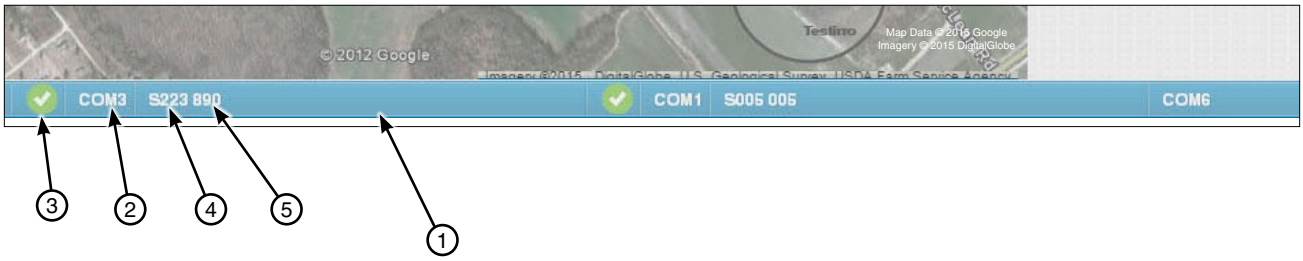


Figure 34-1

1. Communications Bar
2. Communications Channel
3. Status Transaction Activity Icon
4. Device Name
5. Device RTU ID

STATUS	COLOR AND SHAPE	GRAPHIC
Transaction In Process When more than one message is required in a complete transaction, the in process icon will remain displayed for the duration of the transaction; then, the success or fail icon will be shown as a result.	White communication symbol	
Transaction Completed Successfully	Green circle with white check mark	
Transaction Completed but Failed	Red circle with white X	

Figure 34-2

Device Status Color

The BaseStation Computer and the BaseStation Mobile applications use a graphic color to represent the current known status of the devices.

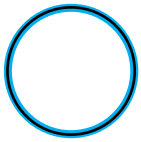
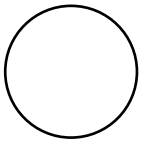
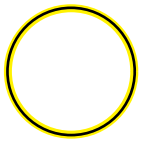
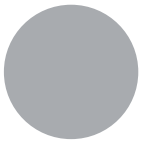
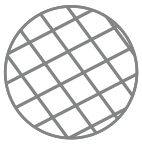
Status	Color	Graphic
Device is new.	A translucent device (circle shown) with black border and blue halo.	
Device has never communicated with BaseStation.	A translucent device (circle shown) with black border.	
Device failed to communicate with BaseStation. An alarm pop up is displayed at the bottom of the screen.	Click the pop up Highlight, with a yellow halo (circle shown) is displayed around the device. The color of the device will vary. No Response alarm pop-up must be enabled in Preferences	
Device is running wet.	A blue device (circle shown).	
Device is stopped.	A gray device (circle shown). NOTE: PanelLink Only; when a pressure transducer is not configured, a gray device indicates both a stopped or running status. When running, a direction arrow is shown. 	
Device is running dry.	A green device (circle shown).	
Device is running **dry**, with Auxiliary 1 On.	An orange device (circle shown).	
Device is running **wet**, with auxiliary 1 On.	A cyan device (circle shown).	
VRI or Cruise is On	Gray Hatch Marks appear on the device. The color of the device will vary. VRI (Zone, Speed or Individual Sprinkler) or Cruise Control	
Program is On	White diagonal lines appear on the device. The color of the device will vary. Step and sector programs	

Figure 35-1

Status Screen

Device Status Color (Continued)

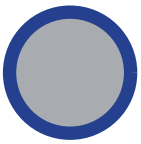
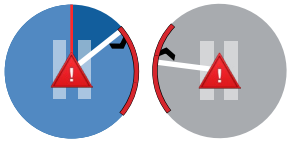
Status	Color	Graphic
Polling Off	White bars appear over the device. The color of the device will vary.	
Water Pressure Dry/Stopped Alarm	A gray, green or orange device with blue ring (gray circle shown). Device is stopped, or running dry, with water pressure above the minimum threshold and the Water Pressure Dry/Stopped Alarm has triggered.	
Overlap Zone Alarm	A red stroke (overlap zone) and the alarm icon will appear on each device only when both pivots are in the defined overlap zone. User must configure the overlap zone in Overlap Zone View.	

Figure 36-1

Device Status Color (Continued)

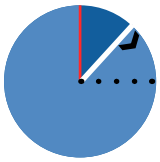
Pivot Status	Color and Shape	Graphic
Pivot Position	The white line is shown in the pivot location.	
Direction indicator	A black arrow at the end of the pivot line Indicates the direction that the pivot is moving.	
Stop in Slot is enabled.	A red line is shown in the stop in slot location.	
Pivot Road location	A black dotted line is shown in the road location.	
Elapsed travel indicator.	A darker shade of color between the starting location and the current pivot location	
Pivot End Gun 1 On	A blue line on the outside of the device. The line appears when the pivot is running in between the user set angle range. The End Gun 1 must be On and the angles must be set at the control panel. The color of the device will vary.	
Pivot End Gun 2 On	A blue line on the outside of the device. The line appears when pivot is running in between the user set angle range. End Gun 2 must be On and the angles must be set at the control panel. The color of the device will vary.	
Pivot End Gun 3 On Not Available on Panel Link, Select2 or AutoPilot control panels.	A blue line on the outside of device. The line appears when pivot is running in between the user set angle range. End Gun 3 must be On and the angles must be set at the control panel. The color of the device will vary.	
Pivot End Gun 4 On Not Available on Panel Link, Select2 or AutoPilot control panels.	A blue line on the outside of the device. The line appears when pivot is running in between the user set angle range. End Gun 4 must be On and the angles must be set at the control panel. The color of the device will vary.	

Figure 37-1

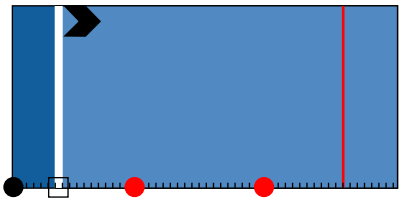
Linear Status	Color and Shape	Graphic
Standard Linear Machine		
Linear position.	White line across linear graphic..	
Cart starting position	A black circle at zero feet.	
Direction indicator	A black arrow is displayed pointing in the direction of travel.	
Cart Location on Machine	Black rectangle over the intersection of the cart path and position line.	
Cart path	Black Line with hash marks.	
Marker locations	Red circles on cart path.	
Stop in slot is enabled.	Red line appears in the stop in slot location.	
Elapsed travel indicator.	A darker shade of color between the starting location and the current pivot location	

Figure 37-2

Status Screen

Device Status Color (Continued)

Soil Moisture Status Color

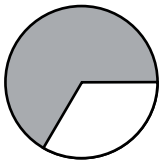
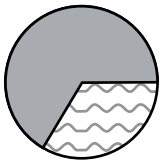
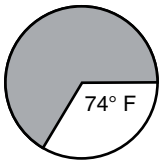
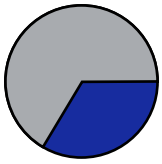
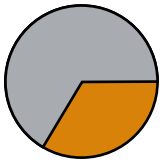
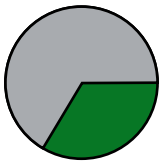
Status	Color	Graphic
No Sensor	A gray fill with a black border over the specified area between angles where the sensor is not located.	
Invalid Data	A white fill with gray wavy lines and black border over the specified area between angles where the sensor is located.	
Alternate Sensors	A white fill with black border over the specified area between angles where the sensor is located. Temperature is displayed.	
Wet	A dark blue fill with black border over the specified area between angles where the sensor is located.	
Dry	A dark orange fill with black border over the specified area between angles where the sensor is located.	
Normal	A dark green fill with black border over the specified area between angles where the sensor is located.	

Figure 38-1

Device Status Color (Continued)

VRI Status Color

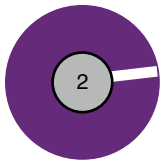
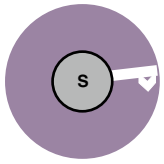
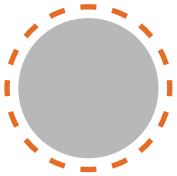
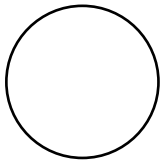
Status	Color	Graphic
Zone/iS On	A magenta fill when VRI Zone or Individual Sprinkler is On	
Zone/iS Off	A pink fill when VRI Zone or Individual Sprinkler is Off	
Speed On	A violet fill under a gray circle displaying the speed prescription number.	
Speed Off	A red violet fill under a gray circle displaying “S” for VRI Speed.	
No Prescription	A gray fill.	
Non-BS3 Prescription	An orange dashed line around the outside of field when VRI is On and running a prescription not loaded through BaseStation3.	
No Communication	A white fill.	

Figure 39-1

Status Screen

Alarms

Alarm levels are configured on the device based on the alarm condition and computer hardware. Go to Device Management/Add Device or Select Device/Configuration Alarms.

Visual Notification

When an alarm condition exists, a graphic alarm status icon will be displayed on the device experiencing the alarm condition.

Notification Methods

Alarm notification by e-mail, text message or ringing the telephone of a contact in the Contact List.

- Contact List: A Contact List must be created for E-mail, Text Message or Telephone Call. Go to Settings/ BaseStation Settings/Alarm Contacts.
- E-mail/Text Message: E-mail and Text Messages can be sent to each contact in a Contact List.
- Telephone Call: This is ring only, no voice message. Requires additional modem. Telephone Call must be checked in Settings/BaseStation Settings/My Profile or User Profile.
- Device Configuration: A Contact List must be selected before the E-mail, Text Message or Telephone Call features will work. Go to Device Management/Add Device or Select Device/Configuration Communication/Contact List.

Alarm Status Color And Shape

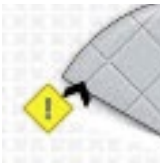
Alarms	Color and Shape	Graphic
None No notification is sent.	The green square used to select the alarm response level during configuration is **never** displayed on a device.	
Information Level Alarm No notification is sent. Typically the Information Alarm is configured to identify machine state change information that is the result of an expected action by the user. (Local programs running at the panel can properly manage the equipment, without BaseStation or user intervention.)	A white circle with a blue “i” and border appears on the device. The color of the device will vary.	
Low Level Alarm No notification is sent.	A yellow diamond with a gray exclamation point appears on the device. The color of the device will vary.	
End Gun Alarm Two conditions can cause the End Gun alarm. 1. An End Gun is On when BaseStation expects it to be Off. 2. An End Gun is Off when BaseStation expects it to be On.	A yellow diamond with a gray exclamation point appears on the end of the pivot. The pivot must be running in between the user set angles and the end gun must be On.	
Field Boundary Alarm • **Part circle center pivot:** When a machine runs beyond the left or right angle for the user specified angle tolerance. • **Linear:** When a machine runs beyond the start or end position.	A yellow diamond with a gray exclamation point appears at the end of the current position line.	
High Level Alarm Notification is sent to contact lists that are configured to the device.	A red triangle with a white exclamation point appears on the device. The color of the device will vary.	

Figure 40-1

Status Screen

Alarm Types, Names, Descriptions and Default Settings

Alarm Type	Alarm Name	Description	ICON	Pro2+ v9.00	Pro 2+ v9.01	Pro2 v8.40	Pro v7.x.5	Select 2+ v2.00	Select2 v1.21	Select v1.9	Standard Linear	PanelLink	AuxLink	Irrometer	Pump Station	Engine Control
State	Running	• When device was stopped and now is running. • The Running alarm level will generate a notification only if the level is set to High. • Setting the Running alarm level to None may affect shutdown Alarm recognition.	Indicated by Pivot Color	Info	Info	Info	Info	Info	Info	Info	Info	Info	NA	NA	NA	NA
State	Wet/Dry	When the state has changed and is different than the BaseStation expected state.	Indicated by Pivot Color	Low	Low	Low	Low	Low	Low	Low	Low	NA	NA	NA	NA	NA
State	Direction	When the state has changed and is different than the BaseStation expected state.		Info	Info	Info	Info	Info	Info	Info	Info	Info	NA	NA	NA	NA
State	SIS On/Off	When the state has changed and is different than the BaseStation expected state.	Indicated by Pivot Color	Low	Low	Low	Low	Low	Low	Low	Low	NA	NA	NA	NA	NA
State	End Gun 1	When the state has changed and is different than the BaseStation expected state.		Low	Low	Low	Low	Low	Low	Low	Low	NA	NA	NA	NA	NA
State	End Gun 2 (Wide Boundary)	When the state has changed and is different than the BaseStation expected state.		Low	Low	Low	Low	Low	Low	NA	Low	NA	NA	NA	NA	NA
State	End Gun 3 (Wide Boundary 2)	When the state has changed and is different than the BaseStation expected state.		Low	Low	Low	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
State	End Gun 4 (Wide Boundary 3)	When the state has changed and is different than the BaseStation expected state.		Low	Low	Low	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
State	Speed	When the state has changed and is different than the BaseStation expected state.		Low	Low	Low	Low	Low	Low	Low	Low	NA	NA	NA	NA	NA
State	Aux 1 In	When the state has changed and is different than the BaseStation expected state.		None	None	None	None	None	None	None	None	NA	NA	NA	NA	NA
State	Aux1 Out	When the state has changed and is different than the BaseStation expected state.		Low	Low	Low	Low	NA	NA	NA	Low	NA	NA	NA	NA	NA
State	Aux 2 In	When the state has changed and is different than the BaseStation expected state.		None	None	None	None	None	None	None	None	NA	NA	NA	NA	NA
State	Aux 2 Out	When the state has changed and is different than the BaseStation expected state.		None	None	None	None	NA	NA	NA	None	NA	NA	NA	NA	NA
State	No Response	When device has not responded to a transaction within the allowable time delay.		Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	NA
State	Daily Operations Restart	When Daily Operations restarts.	No ICON	Info	Info	Info	Info	NA	NA	NA	Info	NA	NA	NA	NA	NA
State	Data Exchange Error	When the BaseStation cannot process a command. • Command is not recognized. • Command has a bad parameter. • Command string has invalid checksum value. • Unknown command.		Low	Low	Low	Low	Low	Low	Low	Low	NA	NA	NA	NA	NA
State	No Power	When power is off.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA	NA	NA	NA
State	IP Connection Error	When the BaseStation cannot make an IP connection.	No ICON	Low	Low	Low	Low	Low	Low	Low	Low	NA	NA	NA	NA	NA

Status Screen

Alarm Types, Names, Descriptions and Default Settings

Alarm Type	Alarm Name	Description	ICON	Pro2+ v9.00	Pro2 v9.01	Pro2 v8.40	Pro v7.x.5	Select 2+ v2.00	Select2 v1.21	Select v1.9	Standard Linear	PanelLink	AuxLink	Irrometer	Pump Station	Engine Control
Shutdown (Fault)	Power	Pivot stopped due to power outage or Voltage may be low or may have temporarily fallen below the low voltage limit for more than 15 seconds while the machine was running.		High	High	High	High	High	High	High	High	NA	NA	NA	NA	NA
Shutdown (Fault)	Safety	When Safety return circuit is broken for more than 3 seconds. The Safety shutdown alarm will trigger when the machine is not started by BaseStation, and BaseStation did not expect the machine to be running.		High	High	High	High	High	High	High	High	NA	NA	NA	NA	NA
Shutdown (Fault)	Daily Operations	When the device is stopped by the Daily Ops function.		Info	Info	Info	Info	NA	NA	NA	Info	NA	NA	NA	NA	NA
Shutdown (Fault)	Command	When the device was intentionally commanded to stop by one of the following: 1) The stop key was pressed. 2) An autostop condition occurred at the end-of-field stop. 3) A programmed stop command was executed.		Info	Info	Info	Info	Info	Info	Info	Info	NA	NA	NA	NA	NA
Shutdown (Fault)	Temperature	When the machine shuts down because the temperature fell below the Low Temperature Limit.		High	High	High	High	NA	NA	NA	High	NA	NA	NA	NA	NA
Shutdown (Fault)	Wind	When the machine shuts down because the wind speed reached the High Wind Limit.		High	High	High	High	NA	NA	NA	High	NA	NA	NA	NA	NA
Shutdown (Fault)	Pressure	When the pressure falls below the Low Pressure Limit for more than thirty seconds or the Pressure Delay is not a sufficient amount of time to build pressure in the machine after it is started.		High	High	High	High	High	Info	Info	High	NA	NA	NA	NA	NA
Shutdown (Fault)	RelayBD Comm	When there is a hardware or software communication problem between the module and the electrical relay board within the control panel.		High	High	High	High	High	Info	NA	High	NA	NA	NA	NA	NA
Shutdown (Fault)	SIS	When the device is stopped by the Stop In Slot function.		Info	Info	Info	Info	Info	Info	Info	Info	NA	NA	NA	NA	NA
Shutdown (Fault)	Transition	While the system was running in manual mode: 1. In Linear mode, when the machine transitions between zones. 2. In Pivot mode, when the machine reaches the transition position. While the system was running in auto mode: 1. A transition programmed stop occurs. 2. While in linear mode, a wrong transition was detected. 3. While in pivot mode, the pivot cart alignment proximity switch was actuated after the 2° buffer expired.		High	High	High	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Shutdown (Fault)	Proximity	Universal linear cart / span misalignment.		Info	Info	Info	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Shutdown (Fault)	Program	When the device is stopped by a program.		Info	Info	Info	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Shutdown (Fault)	Auto-Stop	When the device is stopped by the Auto Stop function.		Info	Info	Info	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Shutdown (Fault)	No Ack	When acknowledgement was NOT received from the BaseStation after sending a real-time update. Notice Message Shutdown with No Acknowledge must be selected in the control panel.		High	High	High	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Shutdown (Fault)	BB Ram	When the Battery Backed Ram check failed at power up.		High	High	High	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Shutdown (Fault)	Direction Shutdown	When both the forward and reverse sense relays were on simultaneously for more then 15 seconds while the system was running or waiting.		High	High	High	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Status Screen

Alarm Types, Names, Descriptions and Default Settings

Alarm Type	Alarm Name	Description	ICON	Pro2+ v9.00	Pro2+ v9.01	Pro2 v8.40	Pro v7.x.5	Select 2+ v2.00	Select2 v1.21	Select v1.9	Standard Linear	PanelLink	AuxLink	Irrometer	Pump Station	Engine Control
Shutdown (Fault)	GPS Com	When there is no communication with GPS for a user specified time set in control panel. While system was running or waiting, all of the following must have occurred: 1. GPS is selected as a protocol. 2. GPS signal loss is set to shut down the machine. 3. The machine shut down due to no communication with the GPS for a user specified time.		High	High	High	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Shutdown (Fault)	GPS Signal	When GPS signal is lost for a user specified time set in control panel. While system was running or waiting, all of the following must have occurred: 1. GPS is selected as a protocol. 2. GPS signal loss is set to shut down the machine. 3. The machine shut down due to GPS signal loss for a user specified time.		High	High	High	NA	NA	NA	NA	High	NA	NA	NA	NA	NA
Shutdown (Fault)	Flow	With VRI-Z on, the flow rate has fallen below the amount set in the FLOWMETER GAL/PULSE field. The machine is not able to deliver a reliable water distribution pattern.		High	High	High	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Shutdown (Fault)	High Water Pressure	When higher than the user set value set in control panel. With VRI-Zone on, the pressure went above the high pressure limit for more than three seconds.		High	High	High	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Shutdown (Fault)	Tire Pressure Low	When lower than the user set value set in control panel. Tire pressure shutdown was turned on and one or more tires had low pressure.		High	High	High	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Shutdown	Emergency	When the torrent pump shuts down due to an emergency.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Other	Telemetry Failed	When there is no communication.	No ICON	Info	Info	Info	Info	Info	Info	Info	Info	NA	NA	NA	NA	NA
Other	Field Boundary	When the device moves outside the field boundary. The machine traveled beyond the forward/ reverse angle or start/end position.	No ICON	High	High	High	High	High	High	High	High	High	NA	NA	NA	NA
Threshold*	Water Pressure Low	When lower than the user set value in BaseStation. Range 0 to 200 psi. The default value is 15 psi (103.4 kPa).		High	High	High	High	High	High	High	High	High	NA	NA	NA	NA
Threshold*	Water Pressure High	When higher than the user set value in BaseStation. Range 0 to 200 psi. The default value is 65 psi (448 kPa).		High	High	High	High	High	High	High	High	High	NA	NA	NA	NA
Threshold*	Voltage Low	When lower than the user set value in BaseStation. Range 100 to 999 volts. The default value is 440 volts.		High	High	High	High	High	High	High	High	High	NA	NA	NA	NA
Threshold*	Voltage High	When higher than the user set value in BaseStation. Range 100 to 999 volts. The default value is 510 volts.		High	High	High	High	High	High	High	High	NA	NA	NA	NA	NA
Threshold*	Water Pressure Dry/Stopped	When higher than the user set value in BaseStation, while the machine is stopped or the Water is Off.		High	High	High	High	High	High	High	High	NA	NA	NA	NA	NA
Threshold	Low Discharge Threshold	When lower than the user set value in the BaseStation. The default value is less than 20 psi from the discharge set point.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Threshold	High Discharge Threshold	When higher than the user set value in the BaseStation. The default value is more than 20 psi from the discharge set point.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
AuxLink State	Outputs (AuxLink)	The Output state is not the state that is expected (On when BaseStation expected it to be Off or Off when BaseStation expected it to be On).	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	Info	NA	NA	NA
AuxLink State	Inputs (AuxLink)	The Input state is not the state that is expected (On when BaseStation expected it to be Off or Off when BaseStation expected it to be On).	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	Info	NA	NA	NA
AuxLink Threshold*	Sensor Less Than (AuxLink)	When lower than the user set value in BaseStation.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	Info	NA	NA	NA

* Threshold alarms are BaseStation monitored levels. The user set threshold values in BaseStation do not affect the constants settings in the control panel.

Status Screen

Alarm Types, Names, Descriptions and Default Settings

Alarm Type	Alarm Name	Description	ICON	Pro2+ v9.00	Pro 2+ v9.01	Pro2 v8.40	Pro v7.x.5	Select 2+ v2.00	Select2 v1.21	Select v1.9	Standard Linear	PanelLink	AuxLink	Irrometer	Pump Station	Engine Control
AuxLink Threshold*	Sensor Greater Than (AuxLink)	When higher than the user set value in BaseStation.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	Info	NA	NA	NA
Irrometer Threshold*	Moisture (Irrometer)	The monitored moisture index value is lower or higher than the configured normal range of moisture.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA	NA
Irrometer Threshold*	Battery Low (Irrometer)	The battery voltage in a field transmitter unit is lower than the reliable voltage for the battery.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Info	NA	NA
Irrometer Threshold	Sensor Error (Irrometer)	When there is an error in the irrometer.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA	NA

Alarm Types, Names, Descriptions and Default Settings

Engine Control Alarms

Alarm Type	Alarm Name	Description	ICON	Pro2+ v9.00	Pro2 v9.01	Pro2 v8.40	Pro v7.x.5	Select 2+ v2.00	Select2 v1.21	Select v1.9	Standard Linear	PanelLink	AuxLink	Irrometer	Pump Station	Engine Control
State	Engine Start Failure	When the engine fails to start.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low
State	Connected Device Stopped	When the connected device stops.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low
State	Connected Device Not Started	When the connected device fails to start.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low
State	Engine Stop Failure	When the engine stops due to a failure.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low
State	Local Stopped	When the local device stops.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low
Shutdown (Fault)	Engine Shutdown	When the engine shuts down.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High
Other	Valley Remote Error	The Engine Interface has replied indicating that it has had an internal failure.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low
Threshold	Low Battery Voltage	When the battery voltage falls below a set point.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low

* Threshold alarms are BaseStation monitored levels. The user set threshold values in BaseStation do not affect the constants settings in the control panel.

Status Screen

Alarm Types, Names, Descriptions and Default Settings

Torrent Pump Control Alarms

Alarm Type	Alarm Name	Description	ICON	Pro2+ v9.00	Pro2 v9.01	Pro2 v8.40	Pro v7.x.5	Select 2+ v2.00	Select2 v1.21	Select v1.9	Standard Linear	PanelLink	AuxLink	Irrometer	Pump Station	Engine Control
BaseStation3	IP Connection Error	BaseStation is not able to get a connection with the communications device with this IP address.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
BaseStation3	No Response	After sending a command to the machine, there are no returned messages. The No Response alarm occurs only after the configured number of tries has been attempted.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
BaseStation3	Data Exchange Error	BaseStation is not able to process a message due to missing communications between a pump controller and the Pump Link interface.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
BaseStation3	Low Pressure Threshold	The water pressure is below the threshold configured in the control panel.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
BaseStation3	High Pressure Threshold	The water pressure is higher than the threshold allowed.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
BaseStation3	Ambient Tempera-ture Lower	The ambient temperature is lower than the user set value in the torrent pump.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	None	NA
BaseStation3	Ambient Tempera-ture Upper	The ambient temperature is higher than the user set value in the torrent pump.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	None	NA
Pump Station	Emergency Shutdown	The alarm state reported by the pump controller that it has had an Emergency Shutdown.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Pump Station	Fail to Reach Setpoint	When the torrent pump fails to reach its setpoint.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Pump Station	Pic Battery Low	When the battery is low on the torrent pump.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump Station	Pressure Transmitter Fail	When the pressure transmitter fails.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Pump Station	Suction Transmit-ter Fail	When the suction transmitter fails.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump Station	Flow Meter Fail	When the flow meter fails.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump Station	Low Pressure Fault	The machine has reported a shutdown due to water pressure that has decreased below a threshold configured in the control panel.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Pump Station	Low Pressure Alarm	An alarm showing that the machine has reported water pressure that has decreased below a threshold configured in the control panel.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump Station	Low Pressure Warning	A warning showing that the machine will shutdown due to water pressure that has decreased below a threshold configured in the control panel.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA

Status Screen

Alarm Types, Names, Descriptions and Default Settings

Torrent Pump Control Alarms

Alarm Type	Alarm Name	Description	ICON	Pro2+ v9.00	Pro 2+ v9.01	Pro2 v8.40	Pro v7.x.5	Select 2+ v2.00	Select2 v1.21	Select v1.9	Standard Linear	PanelLink	AuxLink	Irrometer	Pump Station	Engine Control
Pump Station	High Pressure Fault	The machine stopped as a result of water pressure that is higher than the threshold allowed.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump Station	High Pressure Alarm	An alarm that the water pressure is higher than the threshold allowed.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump Station	High Pressure Warning	A warning that the machine will stop as a result of water pressure that is higher than the threshold allowed.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump Station	Hi-Hi Pressure Fault	An alarm indicating that the pump has stopped as a result of Hi-Hi Discharge Pressure.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Pump Station	Hi-Hi Pressure Warning	The alarm timer for Hi-Hi Discharge Pressure has begun.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump Station	Hi-Hi Pressure Alarm	The alarm timer for Hi-Hi Discharge Pressure has expired.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	Speed Signal Fail	VFD 1 Speed Signal Failure.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	Low Water Level Fault	An alarm indicating that the pump has stopped as a result of Low Water Level.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Pump	Low Water Level Alarm	The alarm timer for Low Water Level has expired.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	Low Water Level Warning	The alarm timer for Low Water Level has begun.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	Low Suction Pressure Fault	An alarm indicating that the pump has stopped as a result of Low Suction Pressure.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Pump	Low Suction Pressure Alarm	The alarm timer for Low Suction Pressure has expired.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	Low Suction Pressure Warning	The alarm timer for Low Suction Pressure has begun.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	Seal Temperature Fault	An alarm indicating that the pump has stopped as a result of High Seal Temperature.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Pump	Seal Temperature Alarm	The alarm timer for High Seal Temperature has expired.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Pump	Seal Temperature Warning	The alarm timer for High Seal Temperature has begun.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	Motor Fail to Run	When the torrent pump fails to run due to motor failure.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Pump	Amperage Signal Fail	When the amperage signal fails.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	Modbus Comm Error	When there is an error with modbus communication.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	Motor Temperature Alarm	When the motor temperature is too high or low.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA

Status Screen

Alarm Types, Names, Descriptions and Default Settings

Yaskawa Pump Control Alarms

Alarm Type	Alarm Name	Description	ICON	Pro2+ v9.00	Pro2 v9.01	Pro2 v8.40	Pro v7.x.5	Select 2+ v2.00	Select2 v1.21	Select v1.9	Standard Linear	PanelLink	AuxLink	Irrometer	Pump Station	Engine Control
Pump	Warning Alarms	Alerts to the user that pump conditions are varying beyond the desired ranges, but not enough to cause a shutdown.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	Fault Alarms	All fault alarms are reasons for the machine to be stopped. No fault alarm is active when the machine is running: one (only one) fault alarm is active when the machine is stopped.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	High	NA
Pump	Data Exchange Error	BaseStation is not able to process a message due to missing communications between a pump controller and the Pump Link interface.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	IP Connection Error	BaseStation3 is not able to get a connection with the communications device with this IP address.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	No Response	After sending a command to the machine, there are no returned messages. The No Response alarm occurs only after the configured number of tries has been attempted.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	Low Discharge Threshold	When lower than the user set value in the BaseStation. The default value is less than 20 psi from the discharge set point.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA
Pump	High Discharge Threshold	When higher than the user set value in the BaseStation. The default value is more than 20 psi from the discharge set point.	No ICON	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Low	NA

Status Screen

BaseStation Settings

To open BaseStation Settings, click **1) Settings** and choose **2) BaseStation Settings**. See Figure 49-1.

My Profile

3) My Profile shows the roles and privileges of the logged in user. Information can be entered or changed by the logged in user. Only an administrator can change the roles and privileges of a user other than themselves.

The First Name, Last Name, E-mail Address, Password, Security Question and Answer are required. Telephone numbers for calls and text messaging are optional.

Alarm contact notifications can be sent to an E-mail address or to a telephone in the form of a call and/or text message. All three methods can be used at the same time. The default is E-mail.

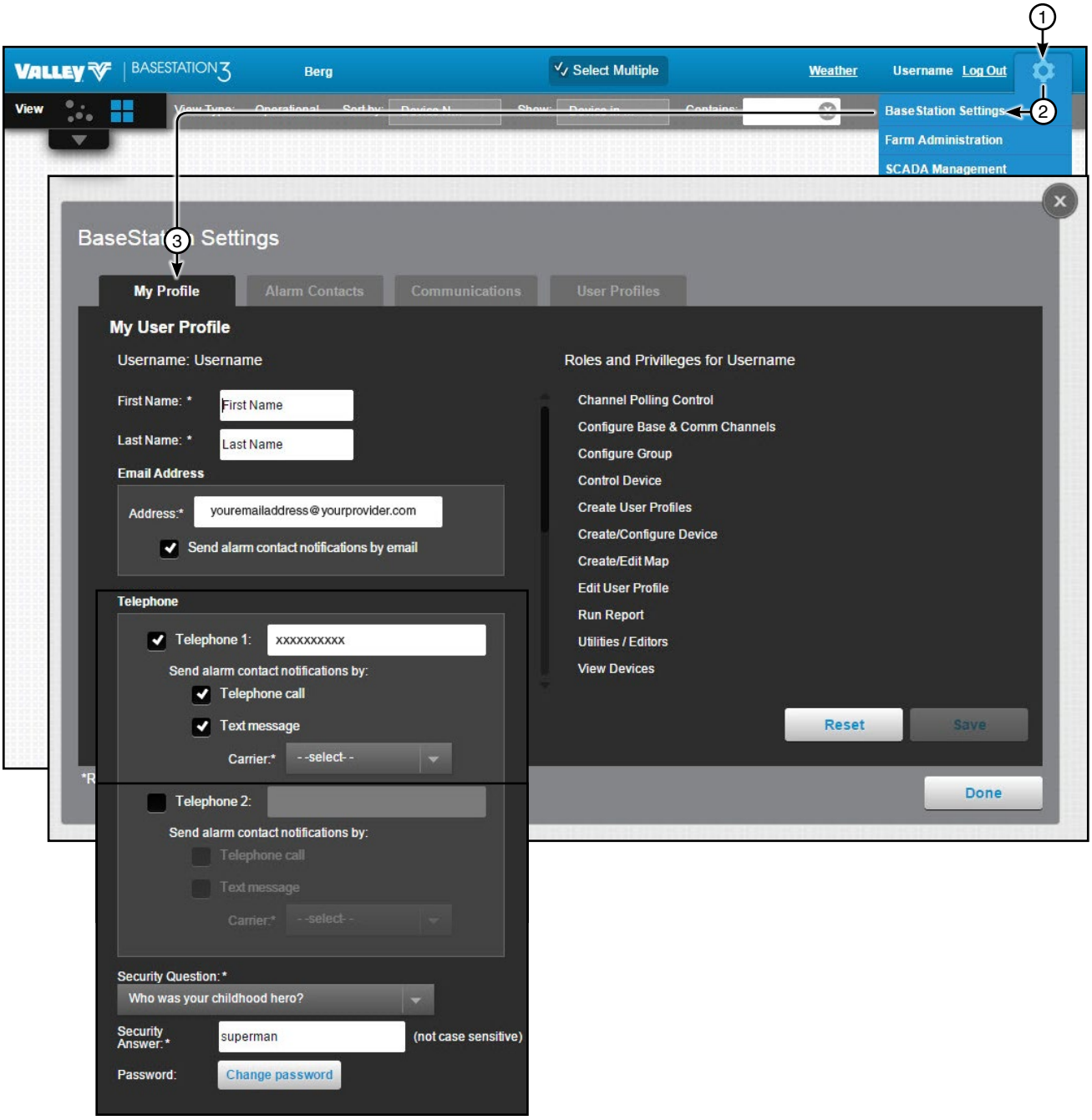


Figure 49-1
1. Click Settings
2. Select BaseStation Settings
3. Click My Profile

BaseStation Settings

My Profile

Calls and Text Messaging

To enable text messaging refer to Figure 50-1 and do the following.

1. Check the box for Telephone 1.
2. Enter the **Phone Number** that will be receiving alarm notifications.
3. Select how you want alarm notifications delivered, choose Telephone Call and/or Text Message. Both methods can be used at the same time.

NOTE: A telephone call requires an analog voice modem option installation. This provides a phone connection that can dial a phone, causing the phone to ring. Caller ID on the phone being called is required for identification of the BaseStation3 phone number as the caller. (No voice or interaction is provided.)

4. When Text Message is selected, choose the carrier from the drop down list for the telephone number that will be receiving text messages.
5. Click **Save**.

If Telephone 2 will be used, repeat the steps above for Telephone 2.

NOTE: Click **Reset** to reset all settings back to the last saved state or the default if its never been saved.

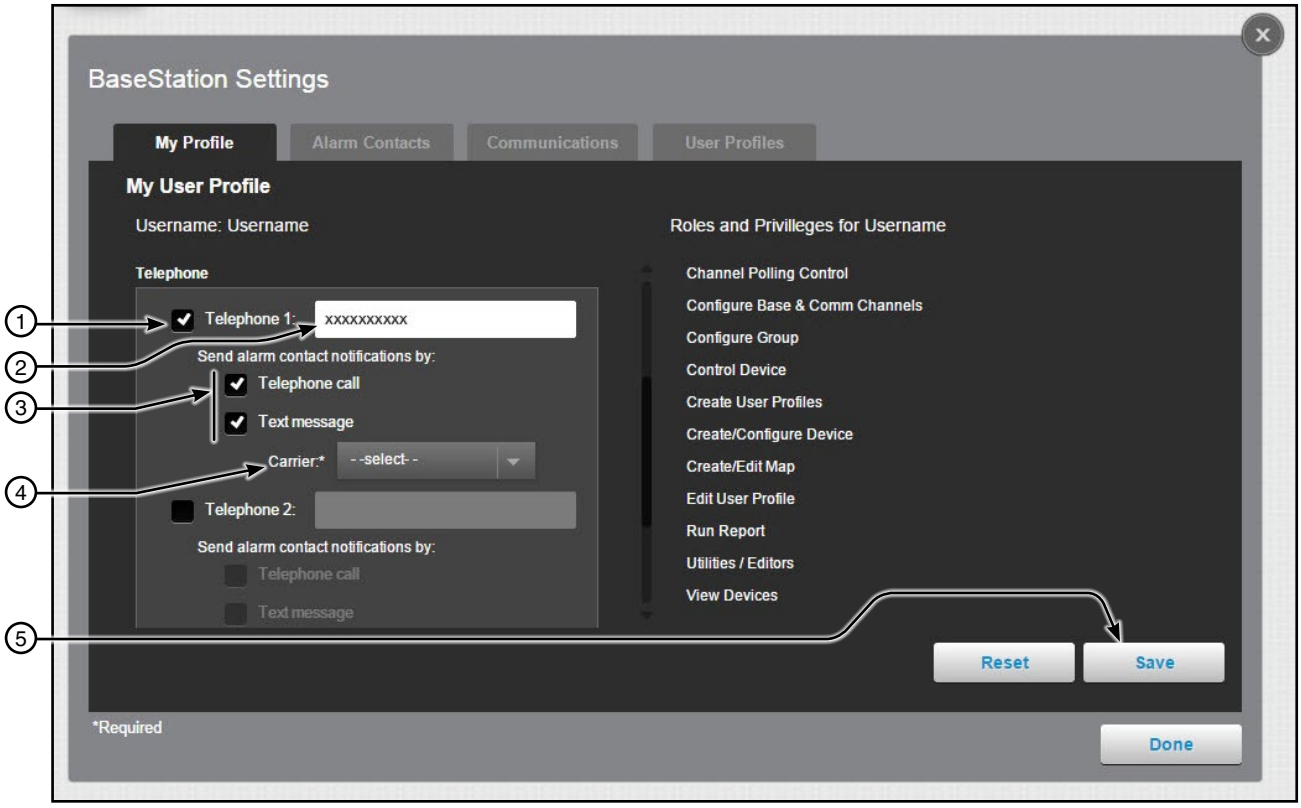


Figure 50-1
1. Check the Telephone Box
2. Enter the Phone Number
3. Select Alarm Notification Method
4. Select Carrier for Text Messages
5. Click Save

My Profile

Change Security Question

To change the security question refer to Figure 51-1 and do the following.

1. Choose a different **Security Question** from the drop-down list.
2. Enter the **Answer** to the security question in the Security Answer field.
3. Click **Save**.

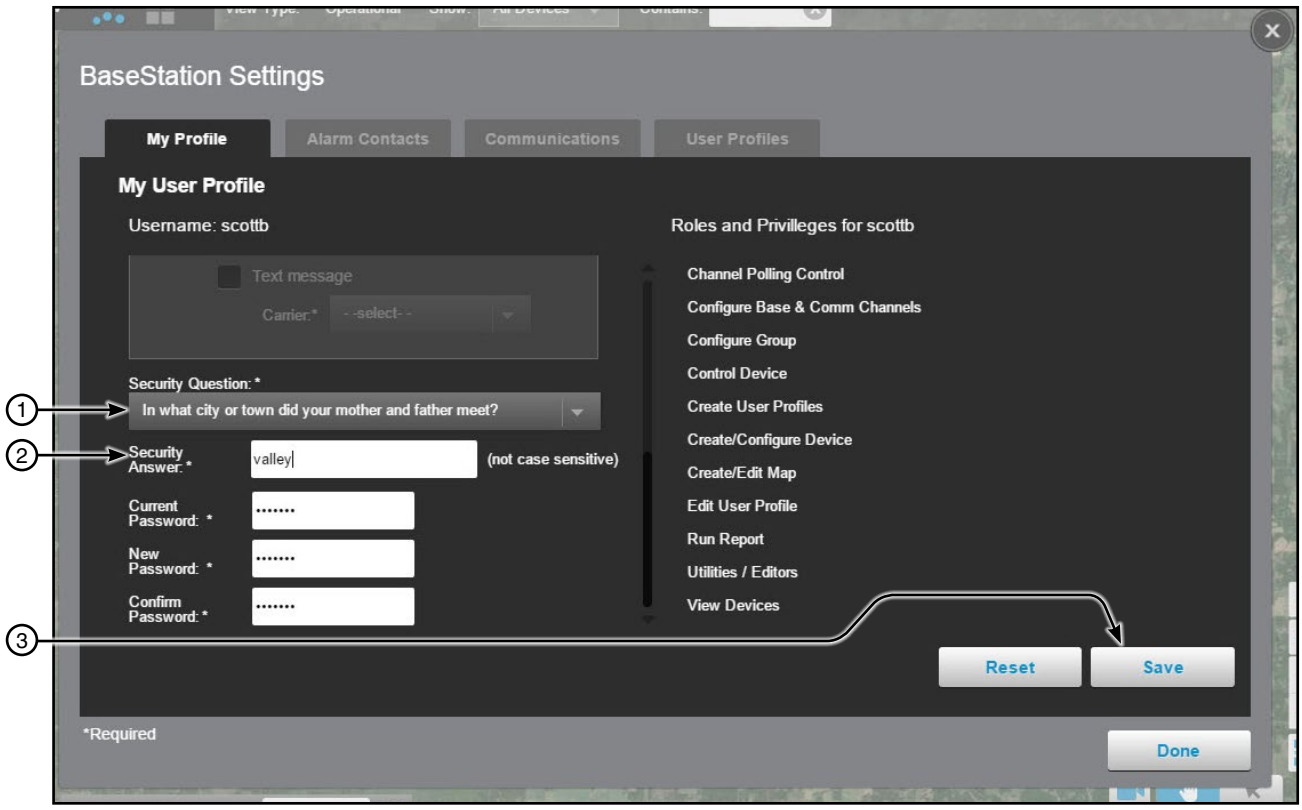


Figure 51-1 1. Choose Security Question
2. Enter Security Question Answer
3. Click Save

BaseStation Settings

My Profile

Change Password

To change your password refer to Figure 52-1 and do the following.

1. Scroll down and click **Change Password**.
2. Enter the **Current Password** in the Current Password field.
3. Enter the **New Password** in the New Password field.

   The password must be at least six characters in length and contain three of the following four categories of characters.

   - Uppercase characters (A through Z)
   - Lowercase characters (a through z)
   - Base 10 digits (0 through 9)
   - Special characters (for example, !, @, #, $, %, ^, &, *, (,), _, +)
4. Enter the **New Password** again in the Confirm Password field.
5. Click **Save**.

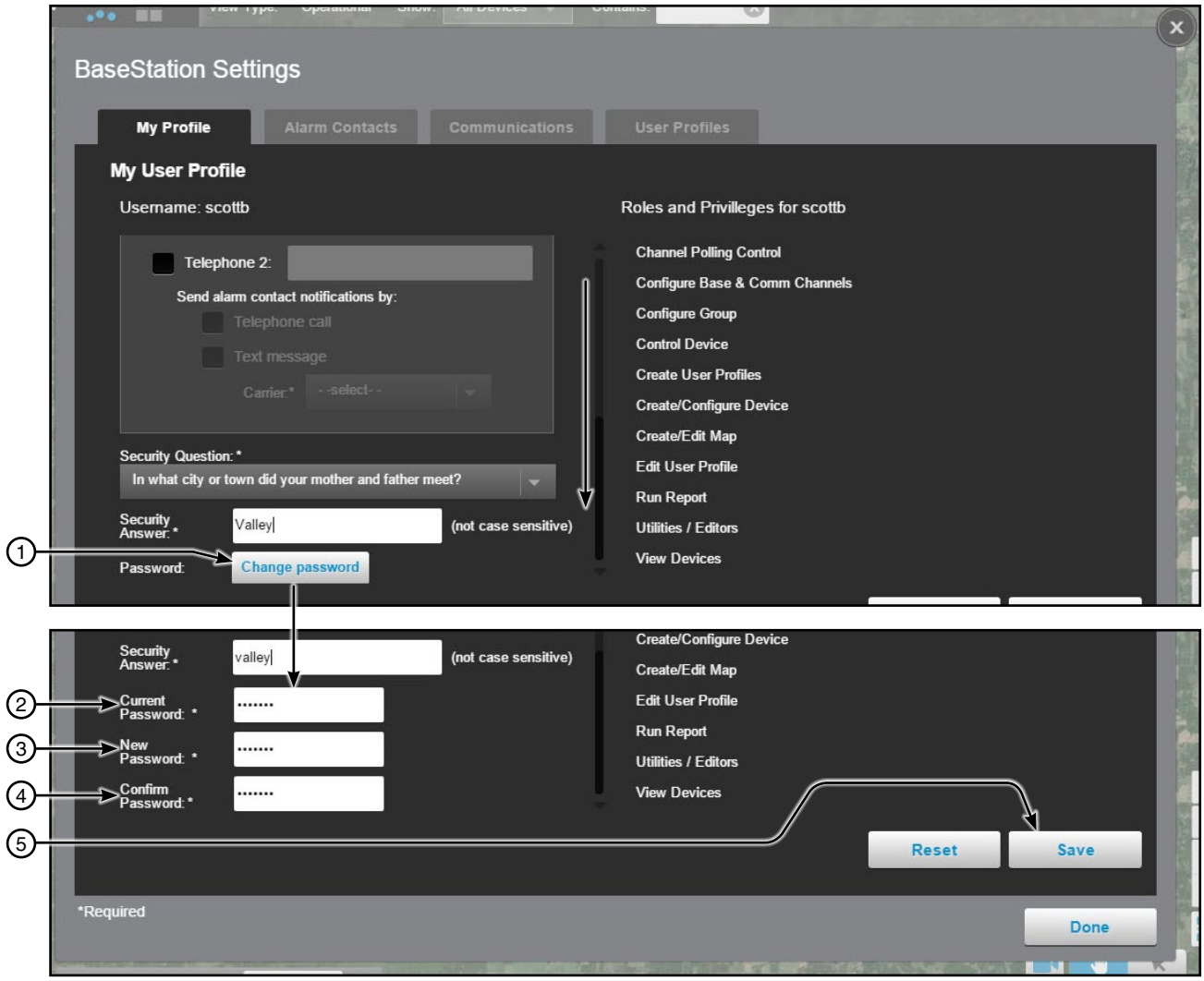


Figure 52-1
1. Scroll Down and Click Change Password
2. Enter Current Password
3. Enter New Password
4. Enter New Password Again
5. Click Save

Alarm Contacts

Alarm Contact Lists are displayed for the logged in administrator. A contact list can only be added, changed or deleted by an administrator. See Figure 53-1.

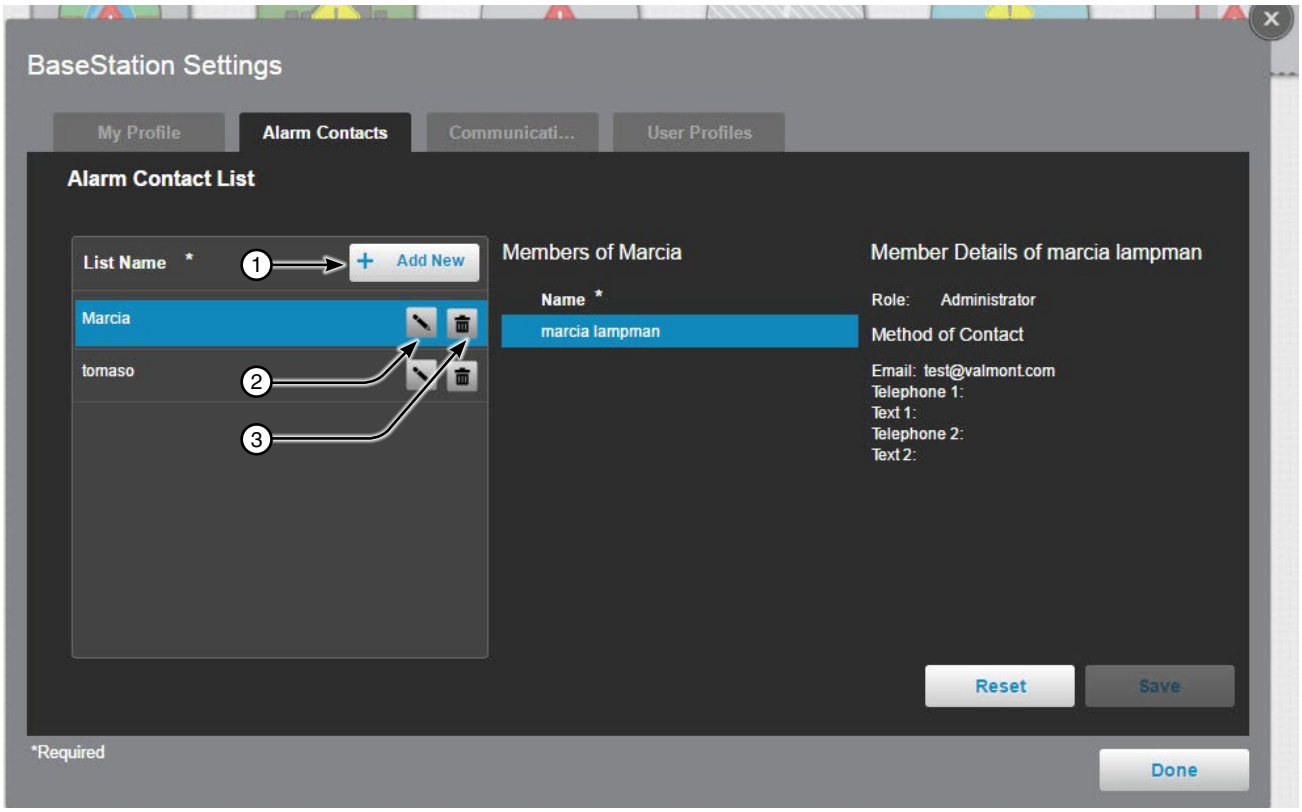


Figure 53-1
1. Add New Button
2. Change Button
3. Delete Button

BaseStation Settings

Alarm Contacts

Add Initial Contact List

To add the initial contact list refer to Figure 54-1 and do the following.

1. Enter a **List Name**.
2. Select users in the Members List by checking the **User Name** box. Selecting a User Name from the Members List will display the user's role and preferred contact method. More than one user can be added.
3. Click **Save**.

When a Contact List is associated with a device, any high alarm notification will be sent simultaneously to all the users that are included in that contact list.

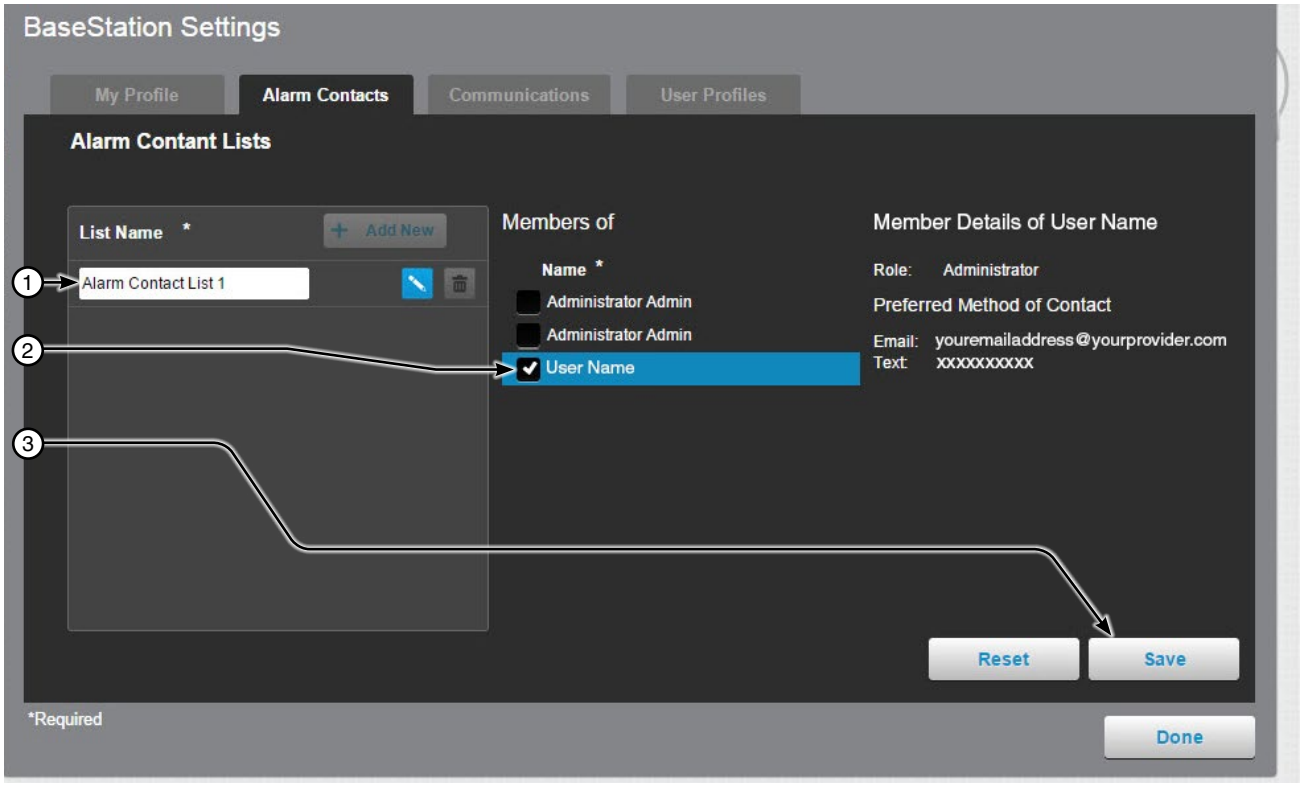


Figure 54-1
1. Enter a List Name
2. Select Users
3. Click Save

Alarm Contacts

Adding Additional Contacts

To add additional Contact Lists click **Add New**, enter a **List Name**, select **User Name(s)** and click **Save**. See Figure 55-1.

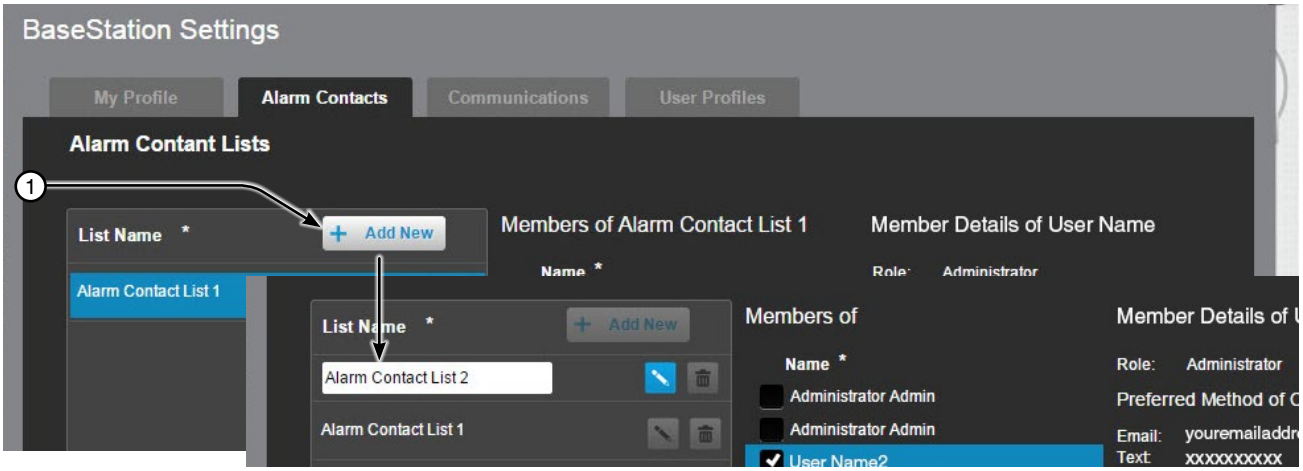


Figure 55-1 1. Add New Button

BaseStation Settings

Communications

Use the communications to setup the BaseStation Identification (Base ID) and the Channels for communication. Only an administrator can add, edit or delete a Base ID or Channels.

Base

The Base ID identifies the BaseStation and is automatically set to “999”. See Figure 56-1.

The ID can be numbers, characters, or a combination. Each control panel’s Device Management setup screen has built-in rules for accepted ID entries. It should be a unique identifier and must not match any other device or other BaseStations that communicate to the same devices. Avoid using the sequence of “000” since Valley control panels ship from with factory with the default RTU ID of “000”.

The Base ID must be three digits.

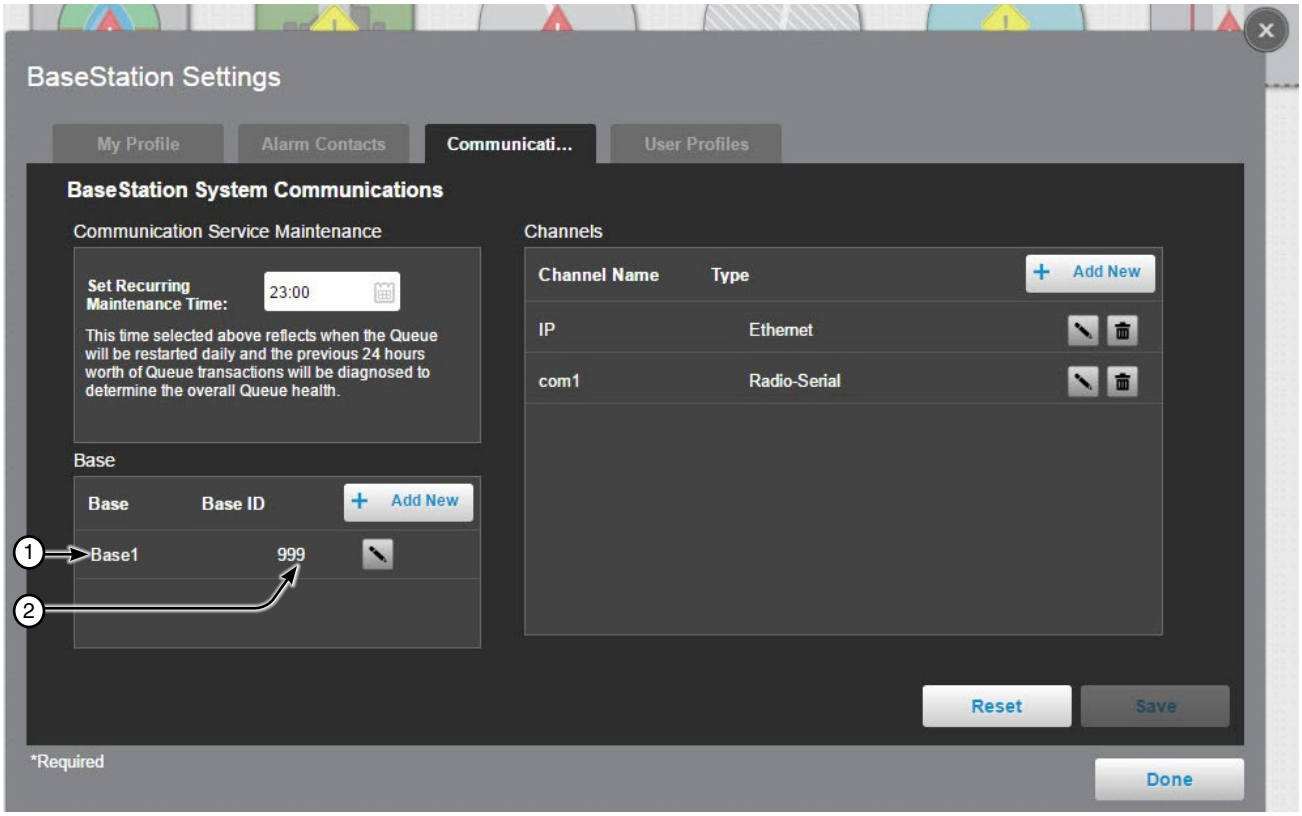


Figure 56-1
1. Base Name
2. Base ID

Communications

Adding an Additional Base

To add another base refer to Figure 57-1 and do the following,

1. Click **Add New**.
2. Enter the **Base Name** and **Base ID**.

> **NOTE**
>
> - **When there is another BaseStation on a common communication network (radio), use different Base IDs for each computer so that they do not respond to each other. The primary computer Base ID should be set to "999" and the Base IDs for any secondary computers must be set to the next lower number in numerical order (998, 997, etc.)**
> - **Adding another Base ID(s) will specify that BaseStation will monitor all transactions that it receives including those addressed to another Base ID. Any status messages received will be used to update machine status.**
> - **A Base ID is limited to the numbers 991 to 999. If other Base ID(s) are used with associated farms, where sharing radio frequencies exist, the Add New is provided so that BaseStation3 can monitor all activity on the radio channel.**

3. Click **Save**.

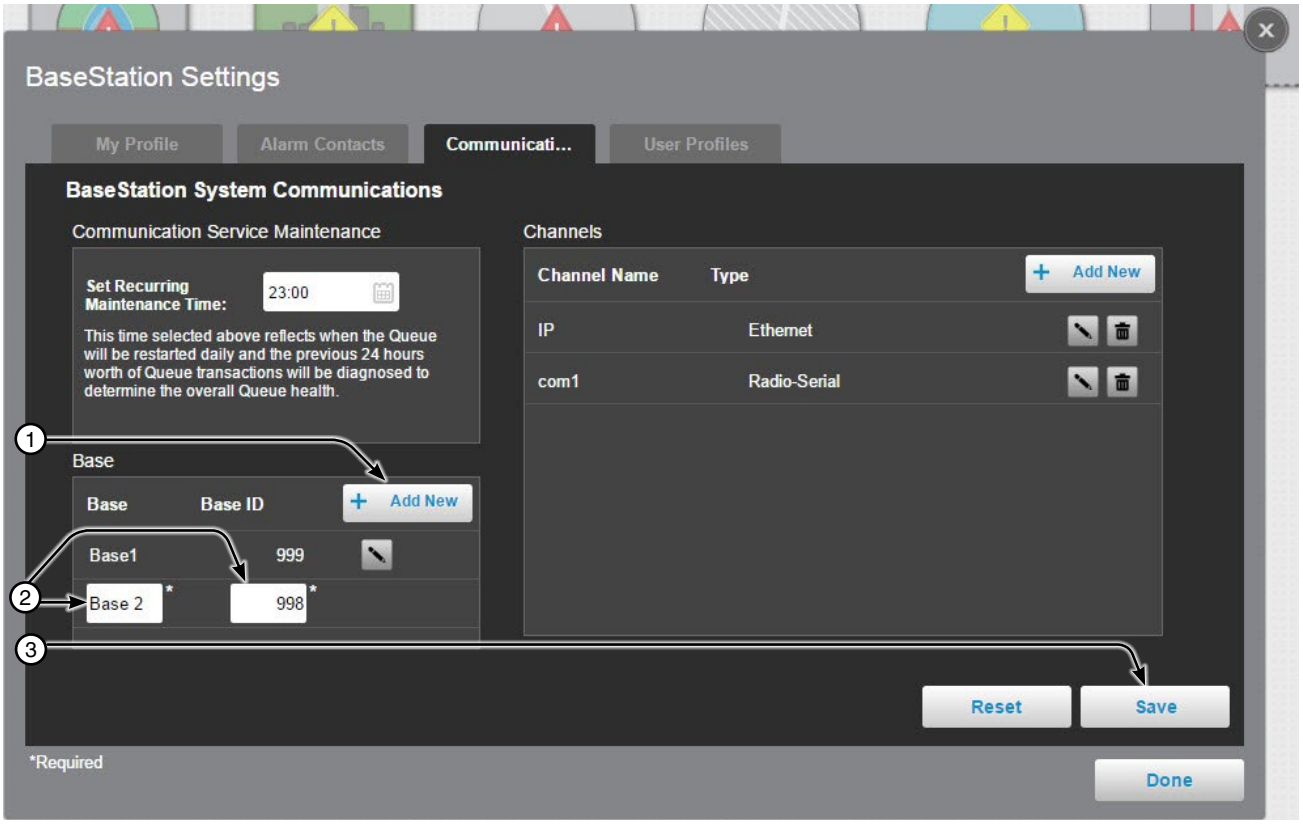


Figure 57-1
1. Click Add New
2. Enter the Base Name and Base ID
3. Click Save

BaseStation Settings

Communications

Channels

Channels identifies the hardware path that the BaseStation will use to communicate with devices. Channels can only be added, edited or deleted by an Administrator.

The available communications for BaseStation includes:

- **Radio Serial:** Radio telemetry equipment is connected to the BaseStation computer serial communication port. The Base Radio broadcasts messages for all remotes to hear. The message contains addressing, so that the addressed remote will act on the message.
- **Ethernet:** Ethernet uses IP communications by sending/receiving messages via the computer's network connection. BaseStation can communicate with any remote device that has an IP address that can have a connection with the BaseStation computer. For the Valley cellular modem option, this requires a VPN to be configured with the cellular provider's network, in the computer's network settings. Consult with your local network administrator for network communications configuration within the on-premise network.

  Network connection to an IP addressable device, either on a private network, or on an internet accessible IP address. Ethernet communication requires the device to have a static IP address. A radio can be connected to the IP addressable unit, to further extend the communications or broadcast the messages to multiple devices.

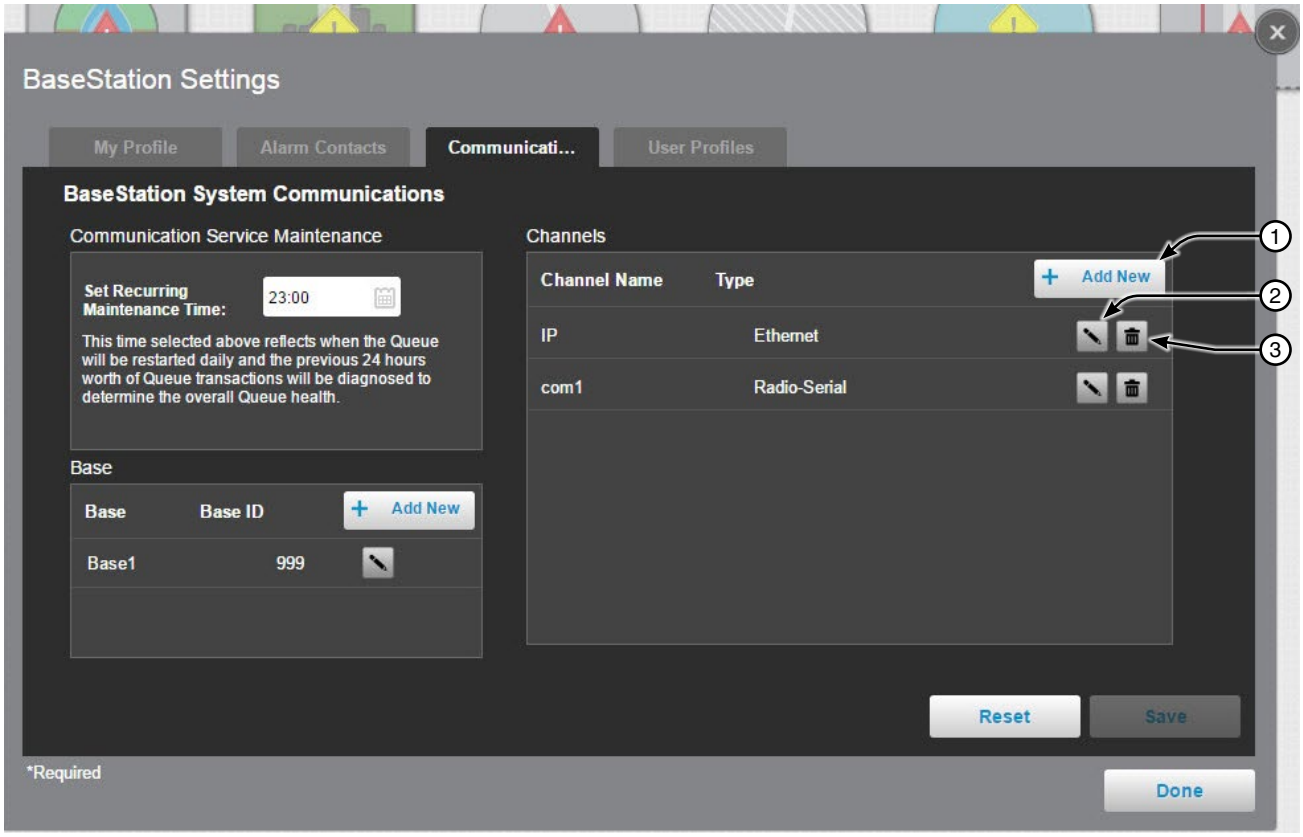


Figure 58-1
1. Add New Button
2. Change Button
3. Delete Button

Communications

Channels (continued)

Radio Serial

Radio Serial is for use with the DataRadio® or FreeWave® SSR radios provided by Valmont. Other radios capable of serial communications may be used, according to user arranged design.

To add a new Radio-Serial channel refer to Figure 59-1 and do the following.

1. Click **Add New**.
2. Enter the **Channel Name**.
3. Select **Radio-Serial** from the drop-down list. When channel type radio-serial is selected the default settings are Com Port No. - COM1, Baud - 9600, Data Bits - 8, Stop Bits - One and Parity Bits - None. The Com Port number is the most common change that may need to be made. Refer to the radio manufacturers documentation to determine if changes need to be made to any other parameter.
4. Select the correct **Com Port** number and make changes to other parameters as required. When choosing the appropriate Com Port for the radio hardware connection the communications port designator will not show a device attached. To determine which communications port the hardware is attached to go to Start/ Control Panel/Device Manager/Ports/Select a Port/Then right click for Properties.

NOTE: DCD should remain unchecked, unless using the remote control panel feature for Notice (Real-time Update for unrequested event transmissions from the machine) or another BaseStation is sharing the radios with the same frequency.

5. Click **Save**.

NOTE: To communicate with a device, installation of appropriate hardware at the device and configuration of device communication is required.

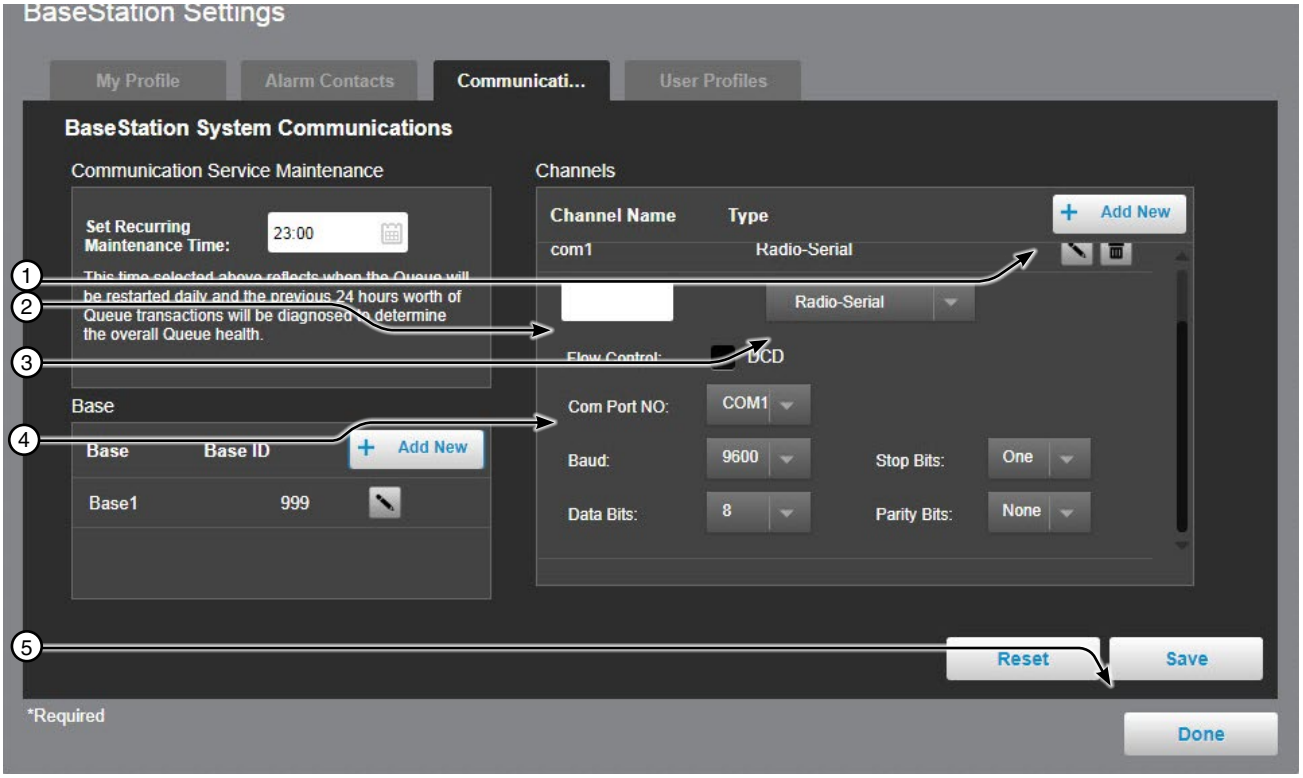


Figure 59-1
1. Click Add New
2. Select the Radio-Serial Channel Type
3. Enter the Channel Name
4. Select the correct Com Port Number and Make Changes to Other Parameters as Required
5. Click Save

DataRadio is a registered trademark of CalAmp Corp.
FreeWave is a registered trademark of FreeWave Technologies.

BaseStation Settings

Communications

Channels (continued)

Ethernet

To add a new Ethernet channel refer to Figure 60-1 and do the following.

1. Click **Add New**.
2. Choose **Ethernet** as the Channel Type. When Ethernet is selected as the channel type there are no default settings.
3. Enter the **Channel Name**.
4. Enter **192.168.88.1** (the IP address of the MikroTik™ router) in the IP Address field, if a MikroTik router is installed.

NOTE: The Ethernet Channel IP and Port entries serve as documentation, only. BaseStation3 does not functionally use them. If the MikroTik is not installed, it is suggested to enter the reserved IP address of the BaseStation3.

5. Enter **10001** in the Port No. field.
6. Click **Save**.
7. Multiple Ethernet channels are not necessary, all Ethernet channels will use the same connection with the network used by the computer. Use of multiple Communication Channels can be used to show separation of Ethernet connections in the communications monitor bar at the bottom of the browser. This can be useful when the farm is using an Ethernet to serial server with a radio connected for communication to multiple remote devices.

To communicate with a device using a cellular modem at the device, configuration of device communication is required.

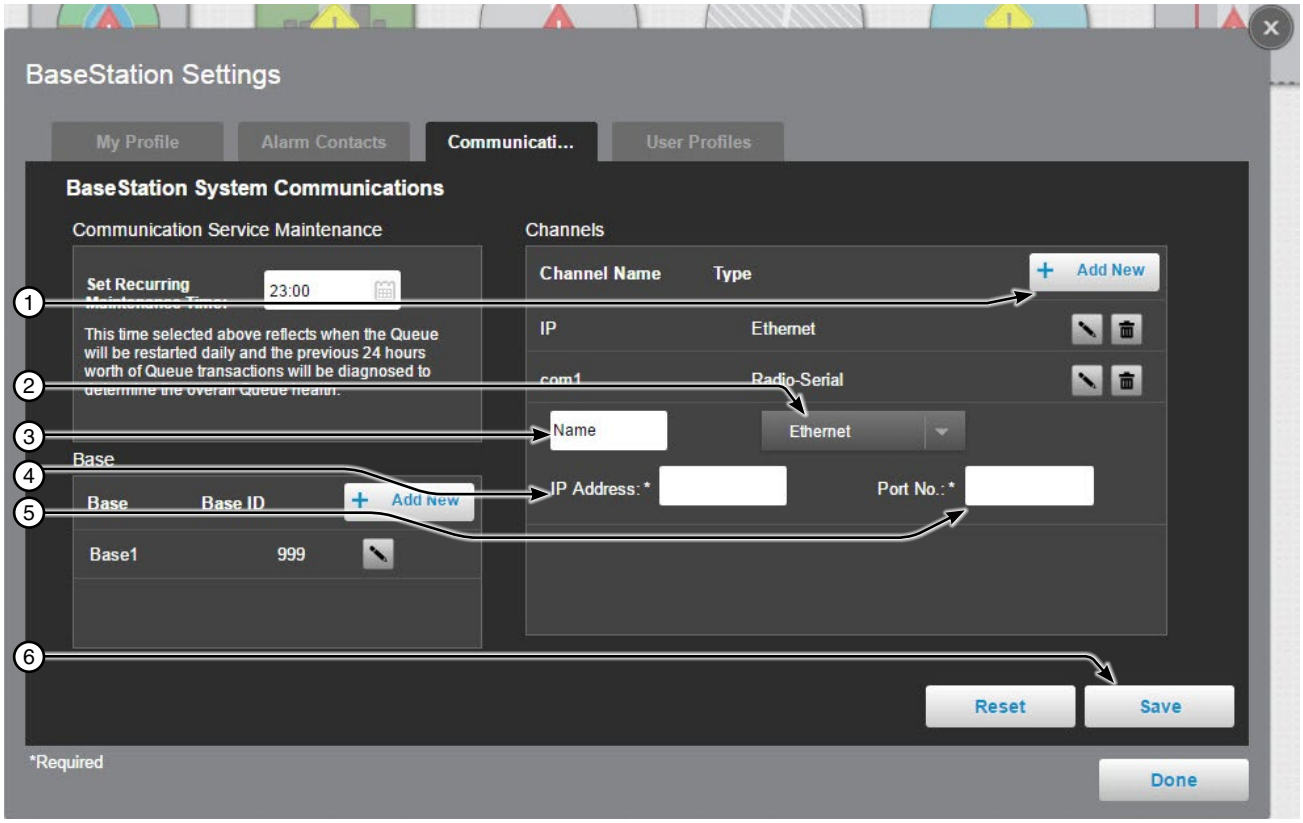


Figure 60-1
1. Click Add New
2. Choose Ethernet as the Channel Type
3. Enter the Channel Name
4. Enter the IP Address 192.168.88.1
5. Enter Port number 10001
6. Click Save

User Profile

User Profile displays all the users that an administrator can manage. The user role is displayed next to the name. Select a user to display the profile fields. Only an Administrator can add a user, change a user's role or delete a user. Each user, except a Contacts Only user, can edit the other parts of their own profile using My Profile. See Figure 61-1.

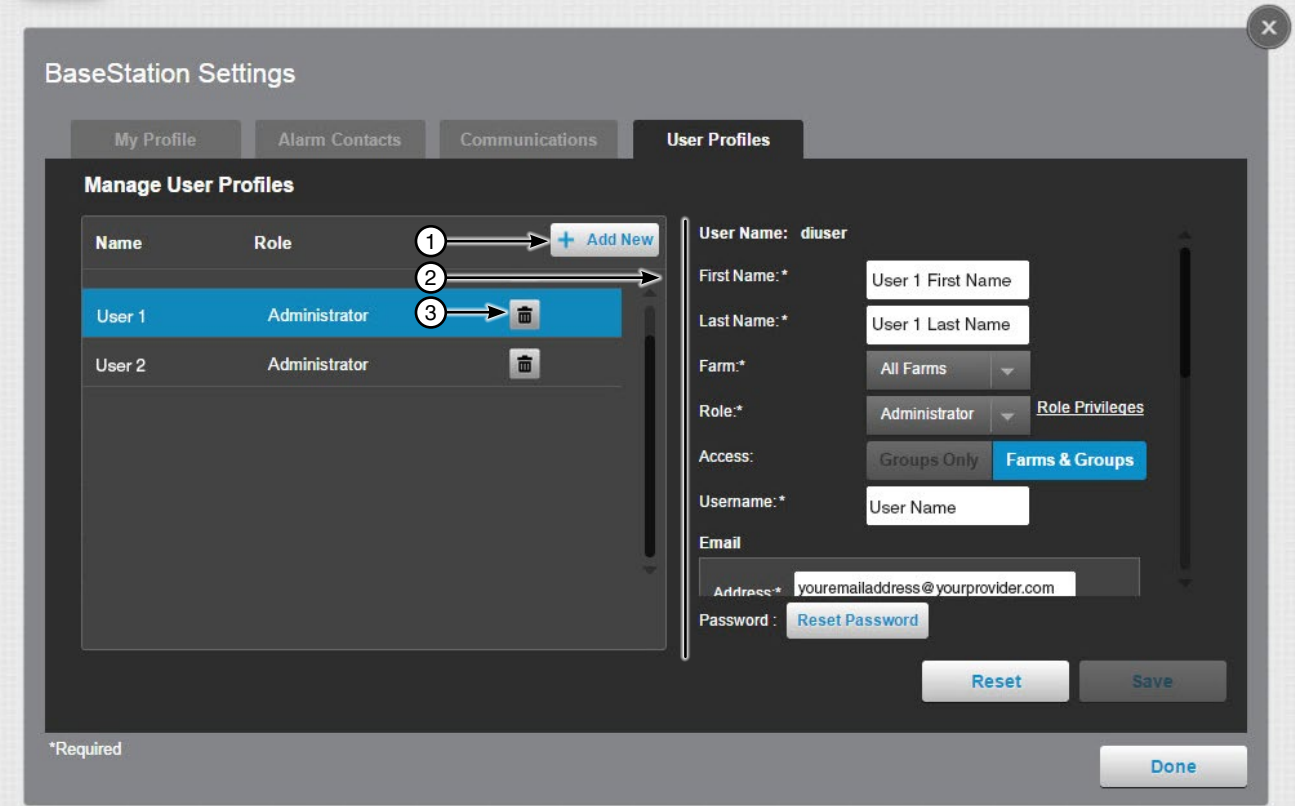


Figure 61-1
1. Add New Button
2. Profile Fields
3. Delete Button

Roles and Privileges

Roles	Privileges											
	Channel Polling Control	Configure Base & Comm Channels	Configure Group	Control Device	Create User Profiles	Create/Configure Device	Create/Edit Map	Edit My Profile	Run Reports	Utilities / Editors	View Devices	All Farms Administrator
Application Administrator All Farms	X	X	X	X	X	X	X	X	X	X	X	X
Administrator Single Farm	X	X	X	X	X	X	X	X	X	X	X	
Operator	X			X				X	X	X	X	
Monitor								X	X		X	
Contact Only (No System Access)	When user is on a contact list, the user will receive alarm notification.											

BaseStation Settings

User Profile
Creating a New User

To create a new user refer to Figure 63-1 and do the following.

1. Click **Add New**.
2. Enter the User's **First and Last Name**.
3. Select the specific **Farm**, or **All Farms**, from the drop-down list. When All Farms is selected with the Administrator Role, the User has privileges to make changes on All Farms.
4. Select the **Role** from the drop-down list. Only an Application Administrator can create another Application Administrator.
5. Select the **Access**, either Farms and Groups or Groups Only. When All Farms is selected, Groups Only is not available.
   - Farms and Groups associates the User with all the groups in the farm that the user is created in.
   - Groups Only associates the user with only the administrator specified groups in the farm that the user is created in. The administrator must assign the user to a group in the Farm Administration Groups.
6. Enter a **Username** for Log In.
7. Enter the user's **E-mail Address**. The initial Username and Password will be sent to this E-mail Address.
8. Optional: Enter Telephone number 1 and/or telephone number 2 and set the Telephone Call/Text parameters. When Telephone Call is checked, the BaseStation rings the telephone number to notify the user. This is ring only, no voice message. Requires additional modem.
9. When done click **Save**. A temporary login password will be sent to the user's E-mail address.

User Profile

Creating a New User

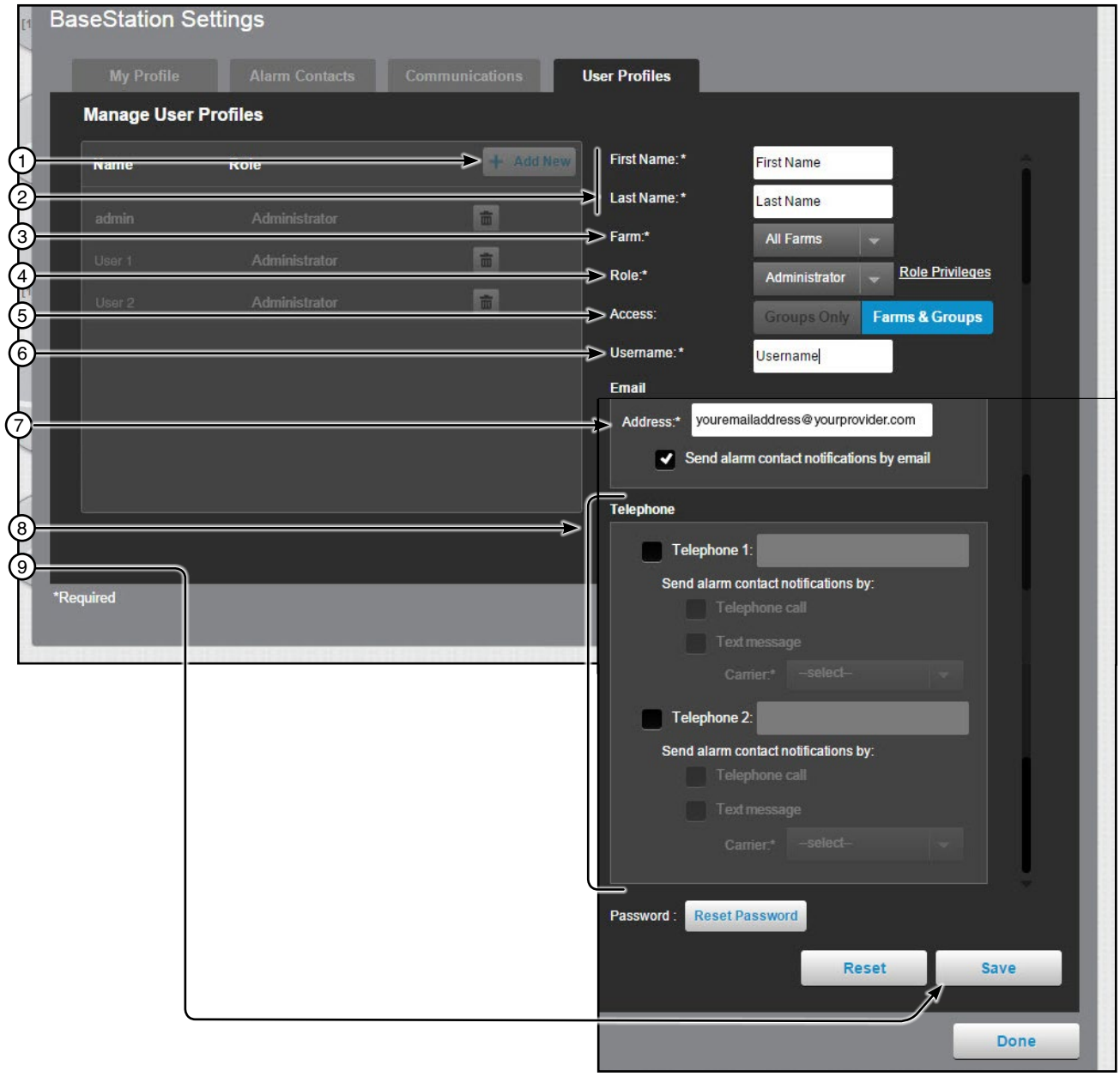


Figure 63-1

1. Click Add New
2. Enter the User's First and Last Name
3. Select the Farm
4. Select the Role
5. Choose Farms & Groups or Groups Only
6. Enter the Username for login
7. Enter the users E-mail Address
8. Optional: Enter Phone Numbers and Set Call/Text Messaging Parameters
9. Click Save

BaseStation Settings

User Profile

Reset Password

To reset a user's password refer to Figure 64-1 and do the following.

1. Select the **User Profile** to manage.
2. Click **Reset Password**.
3. Click **Reset**, and a temporary login password will be sent to the user's E-mail address. The user will be required to enter and confirm a new password when logging in.

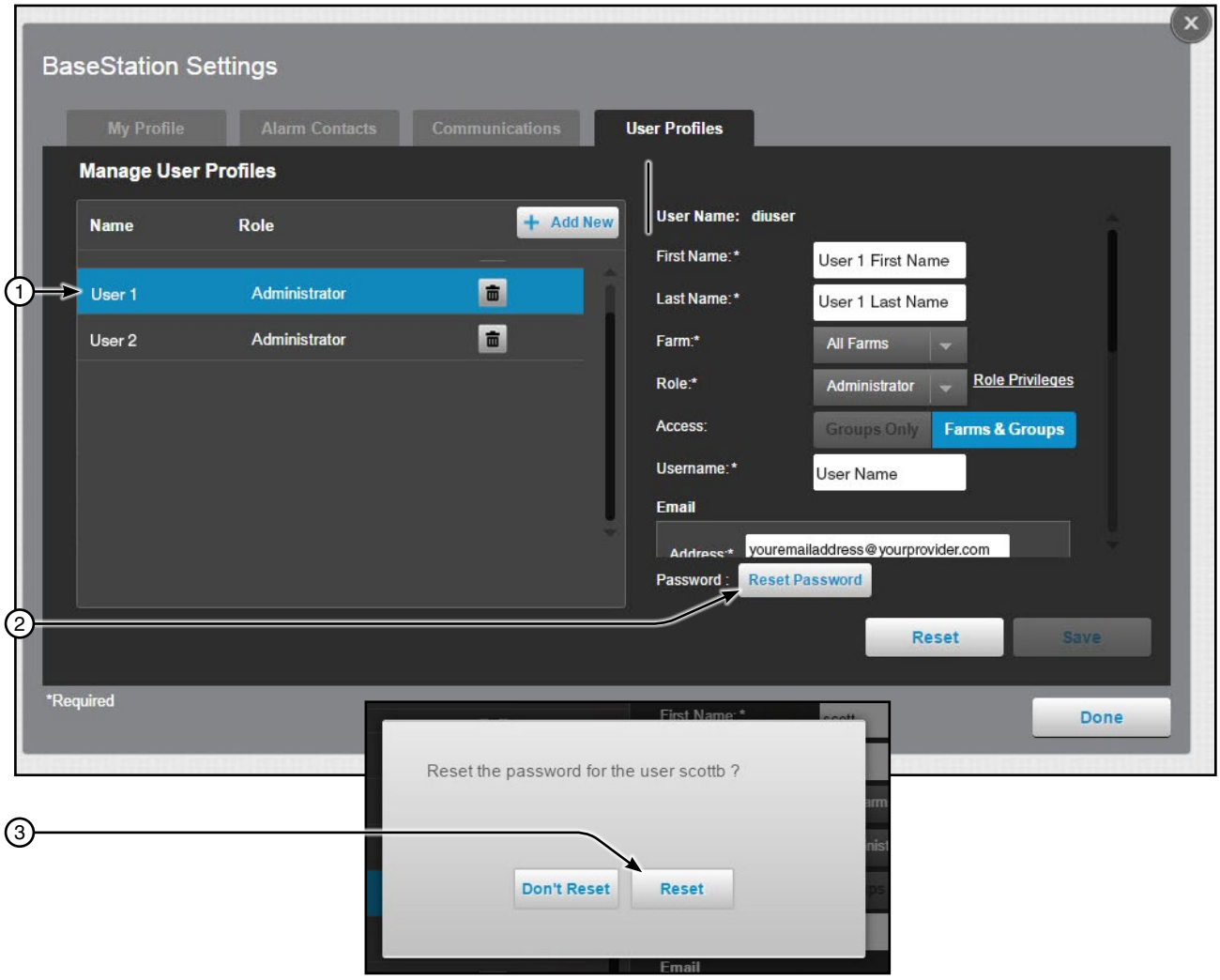


Figure 64-1
1. Select the User Profile
2. Click Reset Password
3. Click Reset

Delete a User

To delete a user refer to Figure 65-1 and do the following.

1. Select the **User Profile** to manage.
2. Click **Delete**.
3. Click **Delete** again to permanently delete the user.

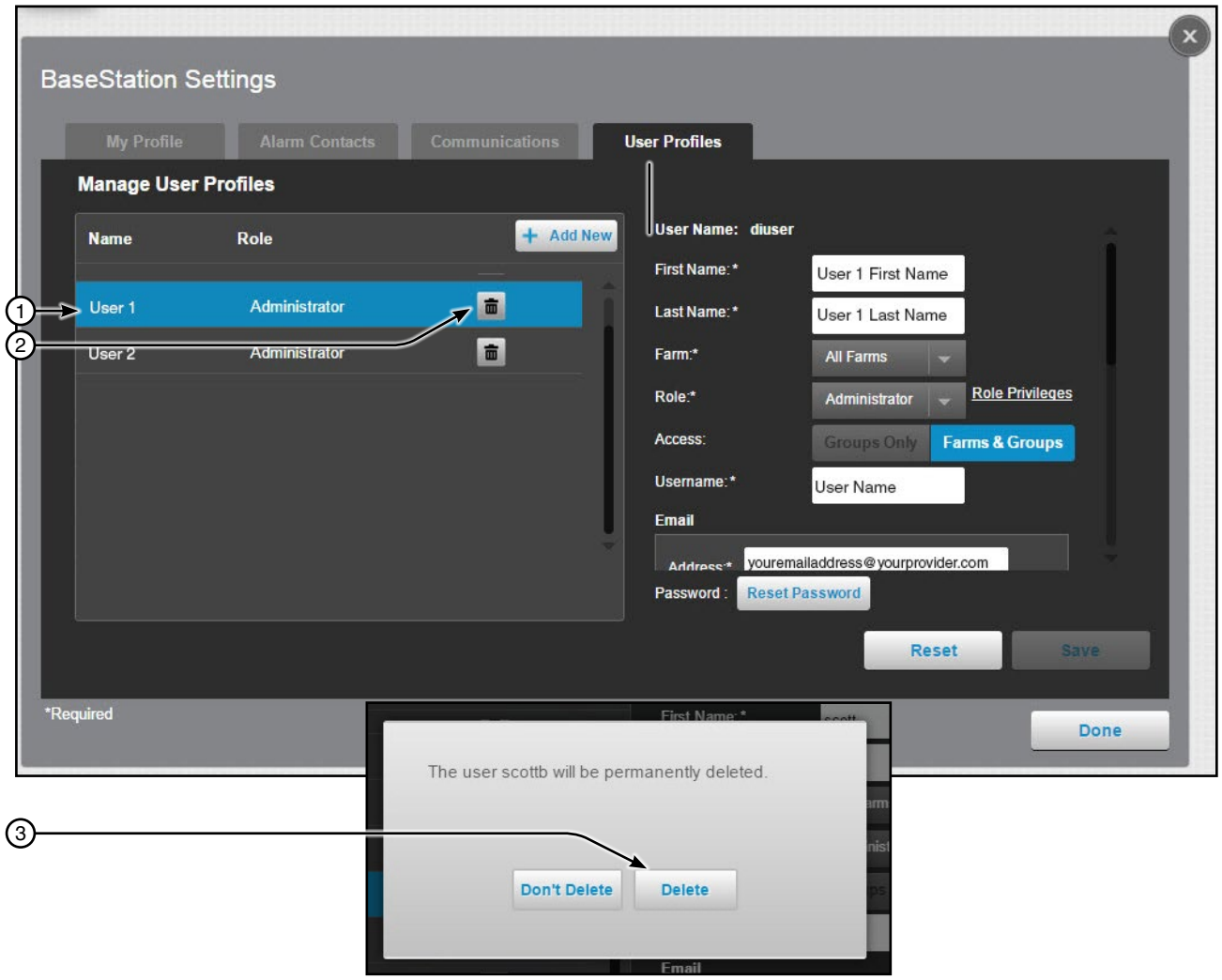


Figure 65-1
1. Select the User Profile
2. Click Delete
3. Click Delete again

BaseStation Health Monitor

BaseStation Health Monitor

To access the BaseStation Health Monitor, click **Settings** and choose **BaseStation Health Monitor**.

The application runs an automatic daily health check of BaseStation Communications. This check performs a diagnostic of the day's communication times to determine the overall health of the application. The **Restart Queue** feature allows users to restart the communications service if BaseStation Communications are not processing.

The Communication Alerts (4) shows any situations where the communication channel could not efficiently execute message transactions. Restart Queue (6) is an action that controls the communication service. The restart will close the Windows process, then restart the Windows process. This action will force the communications channel(s) to reconnect with their hardware connections.

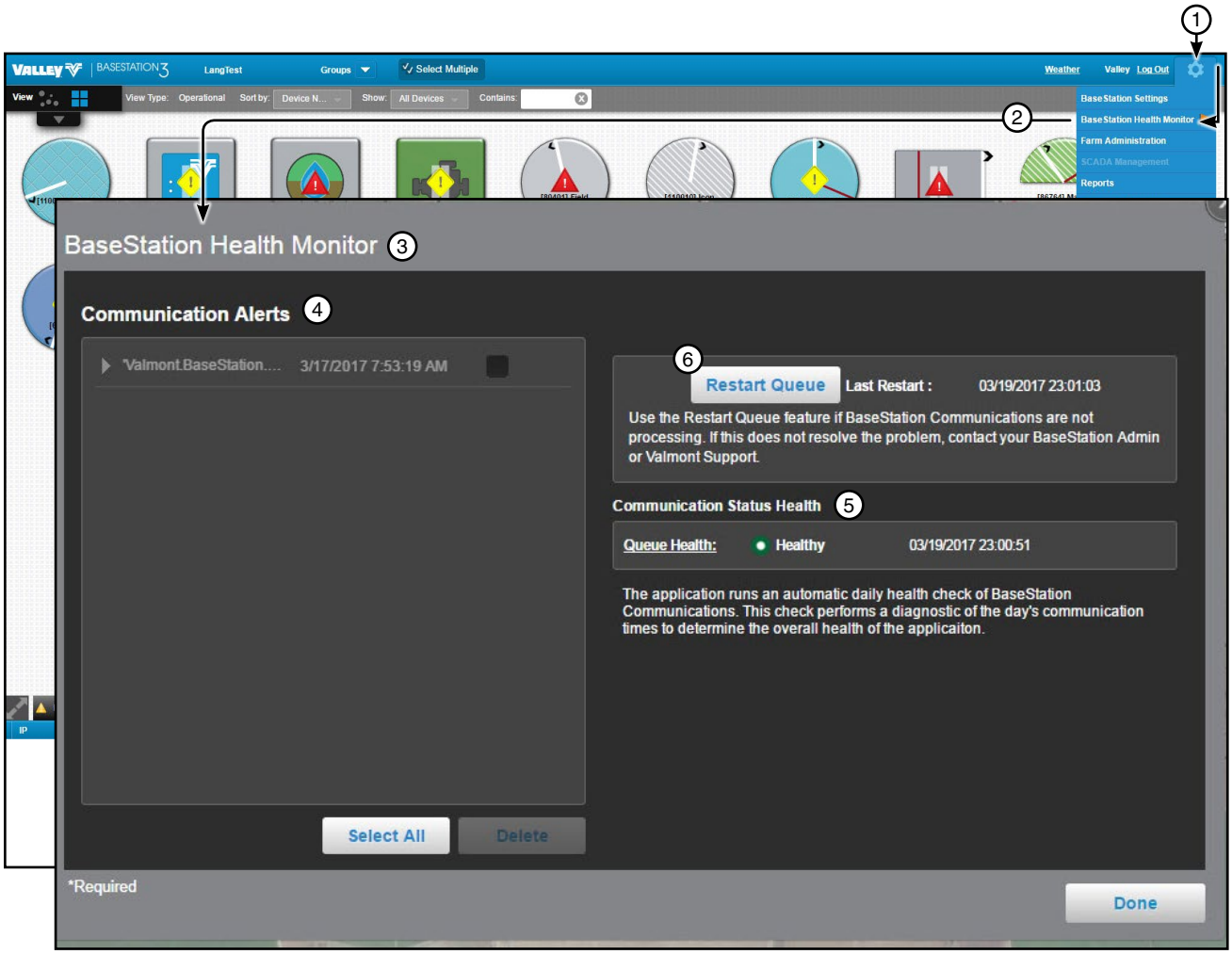


Figure 66-1

1. Click Settings
2. Choose BaseStation Health Monitor
3. BaseStation Health Monitor Screen
4. Communication Alerts
5. Communication Status Health
6. Restart Queue

Farms and Groups

Use Farm Administration to setup and maintain Farms and Groups.

To open the Farm Administration screen, click **Settings** and choose **Farm Administration**. See Figure 67-1. Only an All Farms Administrator can Add or Change a farm.

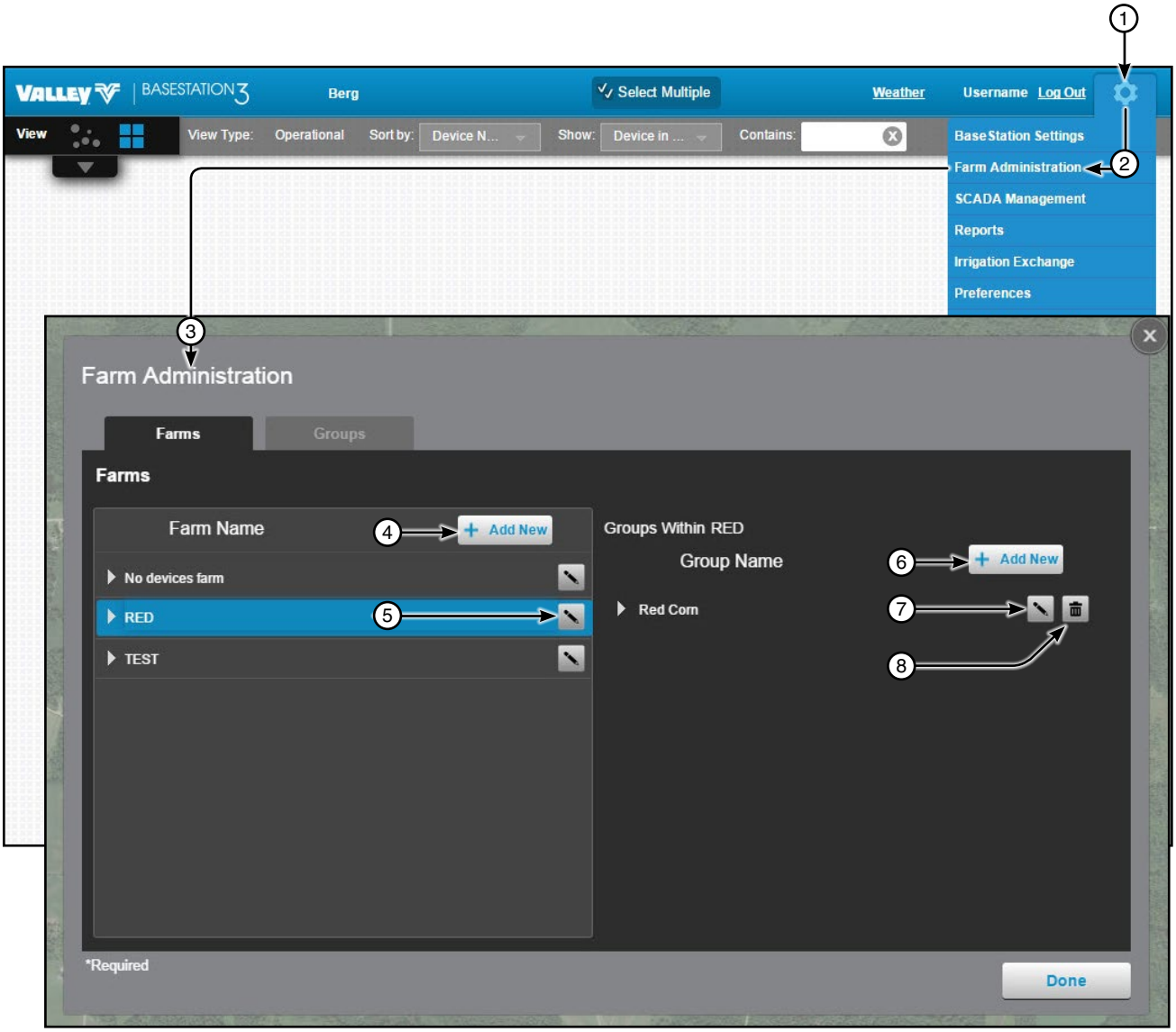


Figure 67-1
1. Settings
2. Select Farm Administration
3. Farm Administration Screen
4. Add New (Farm)
5. Change (Farm)
6. Add New (Group)
7. Change (Group)
8. Delete (Group)

Farm Administration

Farms and Groups

Create a Farm

Only an All Farms Administrator can add a farm.

To create a new farm refer to Figure 68-1 and do the following.

1. Click **Add New**.
2. Enter the **Farm Name**.
3. Enter the **Latitude** and **Longitude** of the farm. The latitude and longitude are automatically applied to all new devices that are added to the farm, unless a device is provided with its location in the device management configuration.
4. **Percent Timer Warning** monitors user entries for the irrigation equipment Percent setting. This will pop up a message to the user if a Percent setting is entered that is less than the warning level. The feature is intended to alert a user about an entry where the decimal point may be misplaced.
5. **Location Type (Label)** is a property type identification, often a legal description or land survey identifier.
6. The **Time Zone** is used as the time zone for all of the devices assigned to the farm. It is referenced to the UTC standard time zones. The Select Multiple command can be used to send the computer time to the Pro and ICON panels, useful in locations that wish to utilize Daylight Savings Time, especially in coordination with utility Load Management contracts.
7. Enter the farm **Description**.
8. Click **Save**.

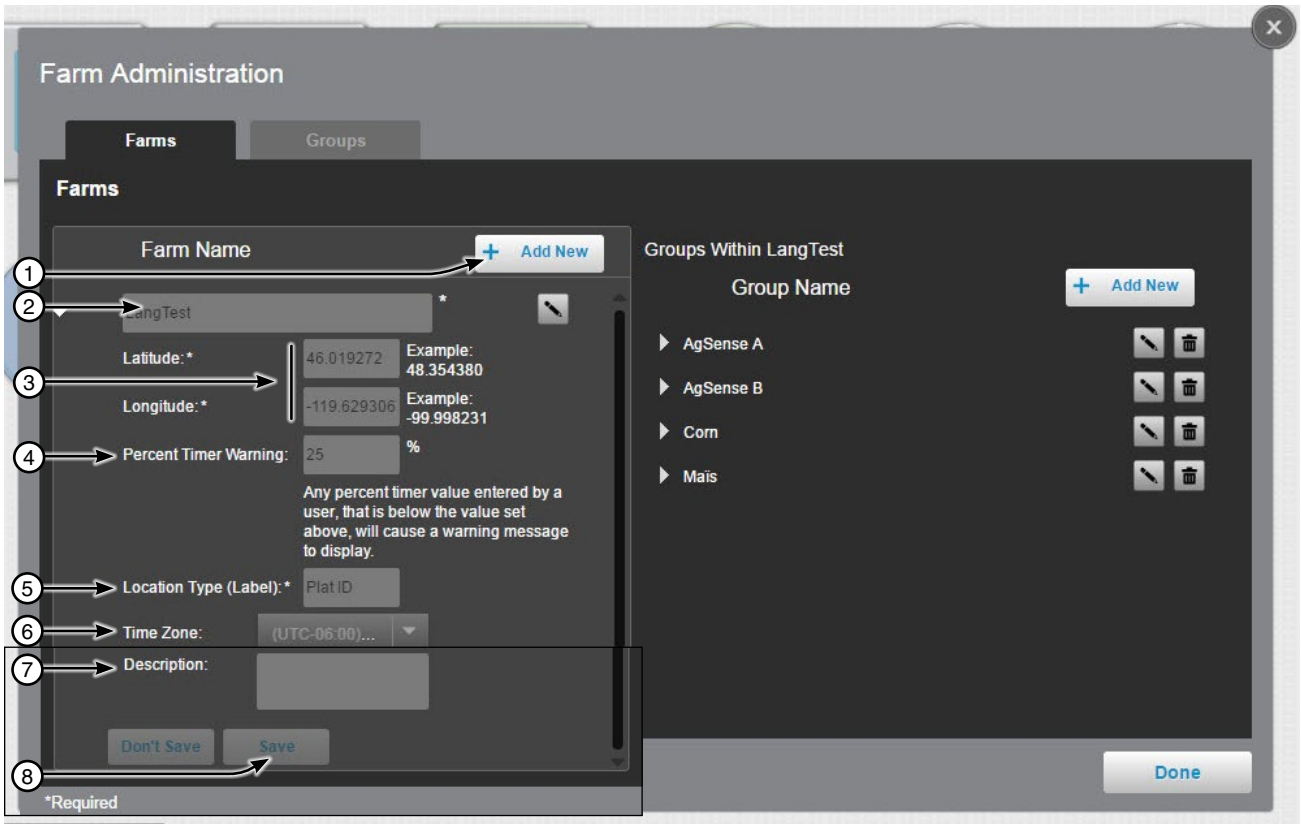


Figure 68-1
1. Click Add New
2. Enter the Farm Name
3. Enter the Latitude and Longitude
4. Enter the Percent Timer Warning
5. Enter the Location Type (Label)
6. Enter the Time Zone
7. Enter the Description
8. Click Save

Farms and Groups

Groups

Groups are a collection of devices within a single farm. Groups are also used to create an association between group only users and the devices that the administrator wants them to see when they log in to BaseStation (see BaseStation Basic Organization in the Overview section of this manual, for a diagram that outlines farms, groups and users). Any Administrator associated with the farm can maintain a group within that farm. See Figure 69-1.

Creating a Group

To create a group refer to Figure 69-1 and do the following.

1. Click **Add New**.
2. Enter the **Group Name**.
3. Enter the group **Description**.
4. Click **Save**.

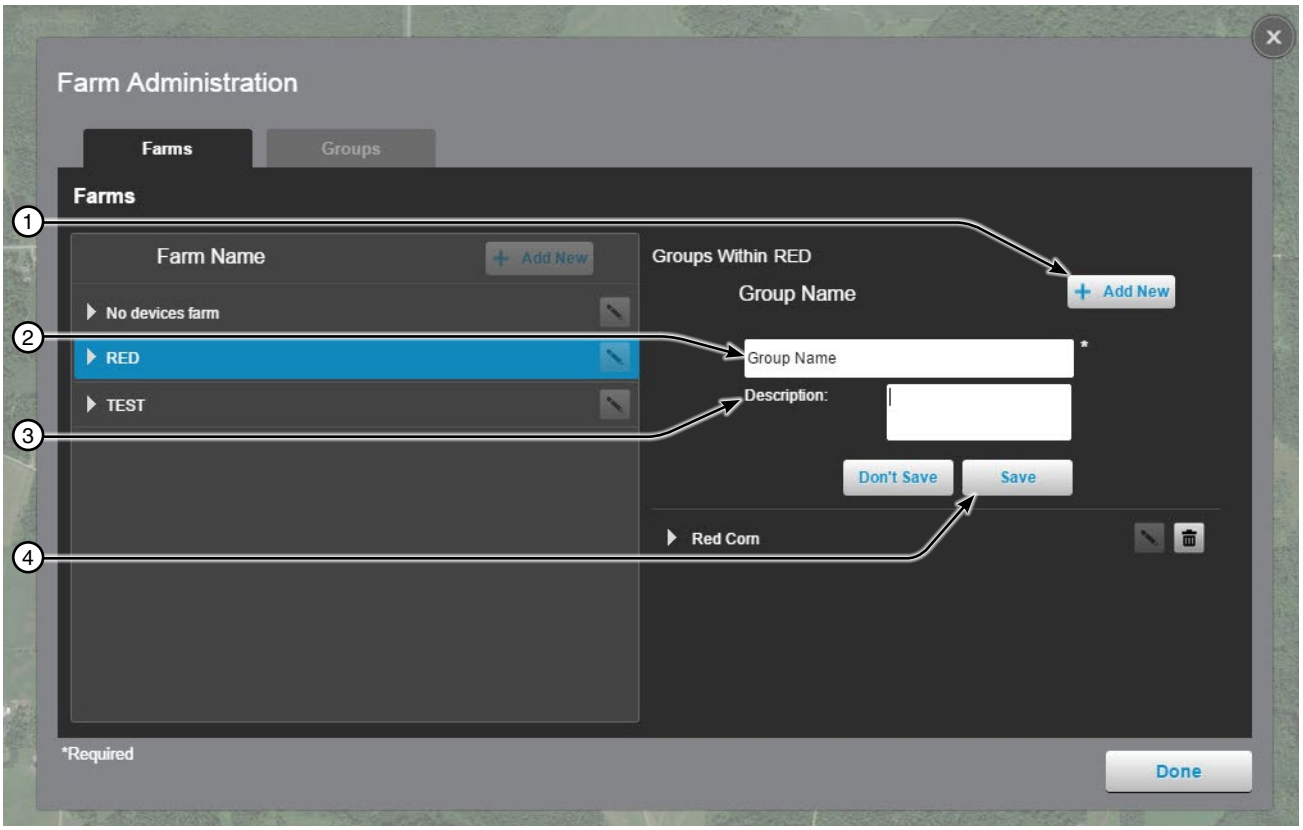


Figure 69-1 1. Click Add New
2. Enter the Group Name
3. Enter the Description
4. Click Save

Farm Administration

Farms and Groups

Viewing Group Users and Devices

To view a group, select the farm (If more than one farm is listed), then select the group to display the users and devices. See Figure 70-1.

Farms and Groups Users are automatically associated with all the devices on the farm, but initially there is no association between a group, a group only user or a device. Associations to a group are indicated by a check in the box next to a user or device.

Associate a Group with Users and Devices

To create an association between the group, a group only user or a device, refer to Figure 70-1 and do the following.

1. Select the **Farm**.
2. Choose the **Group**.
3. Select user(s), check a **User's** check box to associate the user with the group. **When a groups only user logs in they will see only the devices that are in the group(s) that they are associated with. If no association to a group is made, the groups only user will not see any devices**.
4. Select device(s), check a **Device** check box, to associate the device with the group. **These are the devices that will be displayed when this group is selected on the status screen**.
5. Click **Save**.

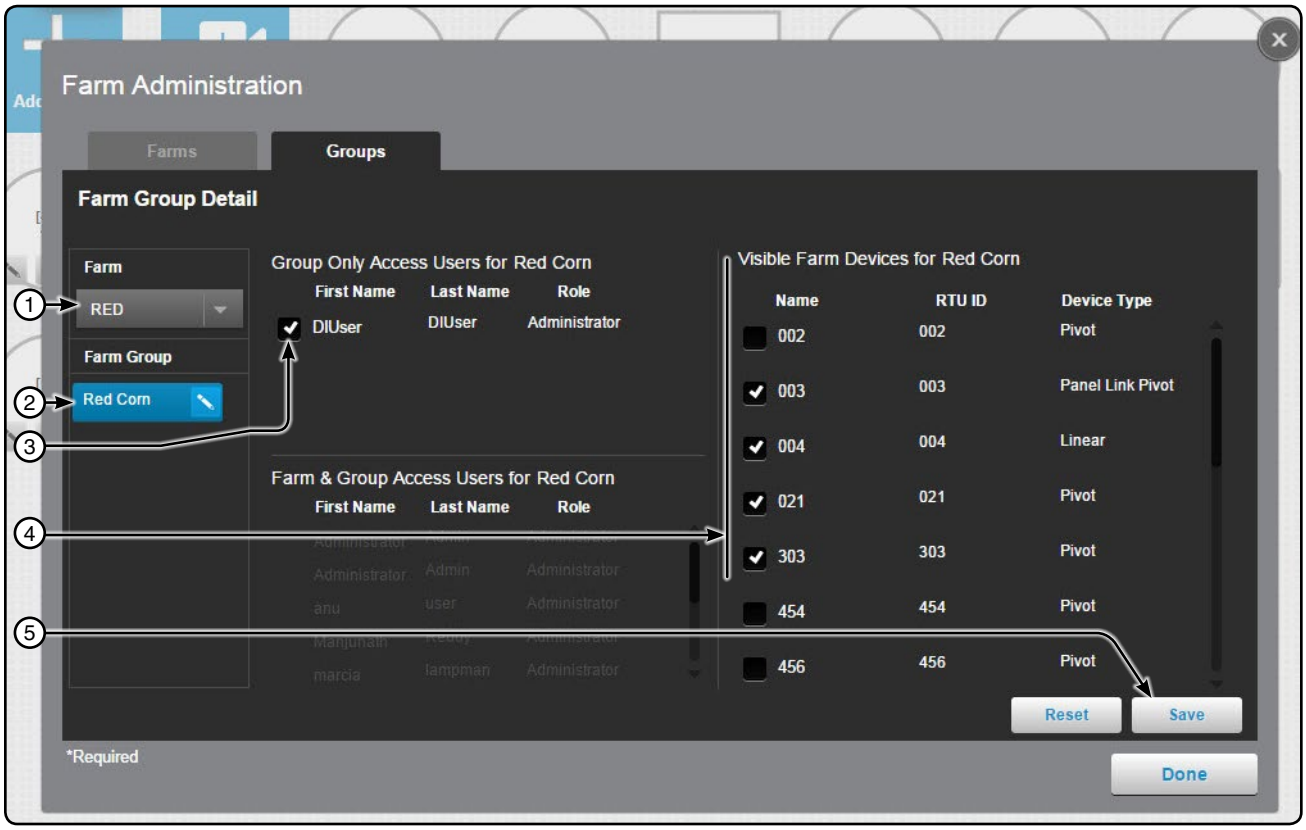


Figure 70-1 1. Select the Farm
2. Select the Group
3. Select User(s), Check a User's Check Box
4. Select Device(s), Check a Device Check Box
5. Click Save

SCADA Management

SCADA Management is an add-on software option. The primary objective is to coordinate water demand and delivery with pump control software.

The goal of a managed pumping system is to operate the pumps at their optimum efficiency, while meeting the demand for irrigation. This is accomplished by sharing BaseStation3 water discharge status with the pump system management software.

The OPC Server is service used to share status and controls with some other software program. OPC is the acronym for Object Linking and Embedding for Process Control. The OPC Server is a data sharing utility. BaseStation3 writes relevant current status information in the shared memory of the OPC Server. The pump management software is able to use the BaseStation3 status information to adjust the pumps to their most efficient usage.

BaseStation3 has two modes of operation. The basic mode, Monitor Mode, utilizes the OPC Server as a BaseStation3 monitor, only, sharing current status information. The extended mode, Control Mode, provides for feedback from the pump management software. When set to Control Mode, BaseStation3 issues a request to the OPC Server before sending commands to the irrigation devices to start or stop water. The pump management software then has the opportunity to make any pump adjustments prior to approving the start or stop of water delivery. When the pump management software issues a permission granted, or denied, BaseStation3 takes the appropriate action, either to send the water start/stop command, or to cancel the pending command.

The SCADA Management selection is disabled until the add-on software option subscription has been purchased. For information about the SCADA Management option, contact your Valley dealer, or BaseStation3 Support at 888-223-0595. See Figure 71-1.

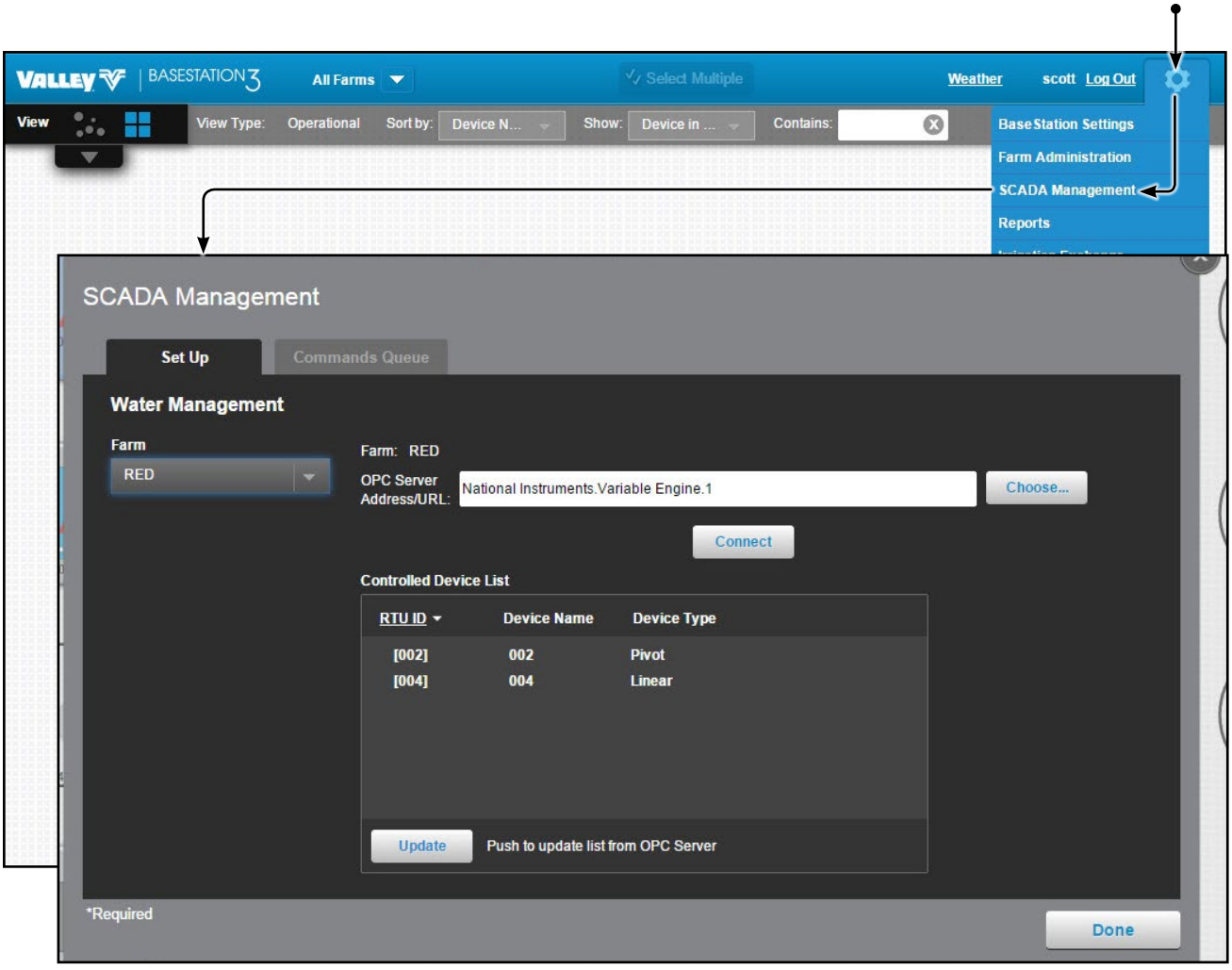


Figure 71-1

Reports

Use Reports to access status, configuration and water application information.

Available Reports

The following reports are available through BaseStation3:

One-Time Reports	Water Sentinel Reports
Multiple Device Reports	• Water Volume Report (See page 87)
• Pivot Current Status Report (See page 80)*	
• Device Configuration Report (See page 81)*	
• Pivot Alarm Configuration Report (See page 82-83)*	
• Water Volume by Device Report (See page 84)*	
• Transaction Overdue Report (See page 85)	
Individual Device Reports	
• Water Applied Depth Report (See page 86)	

* If marked, this report can also be scheduled on a recurring basis.

Device Utilities
• Status Change Report (See page 89-90)
• Event History Log (See page 91-92)

Don’t see the report you want listed? BaseStation also offers custom reports. Contact your Valley dealer today to learn more.

Accessing Reports

To access reports, click **Settings** and choose **Reports**. See Figure 73-1.

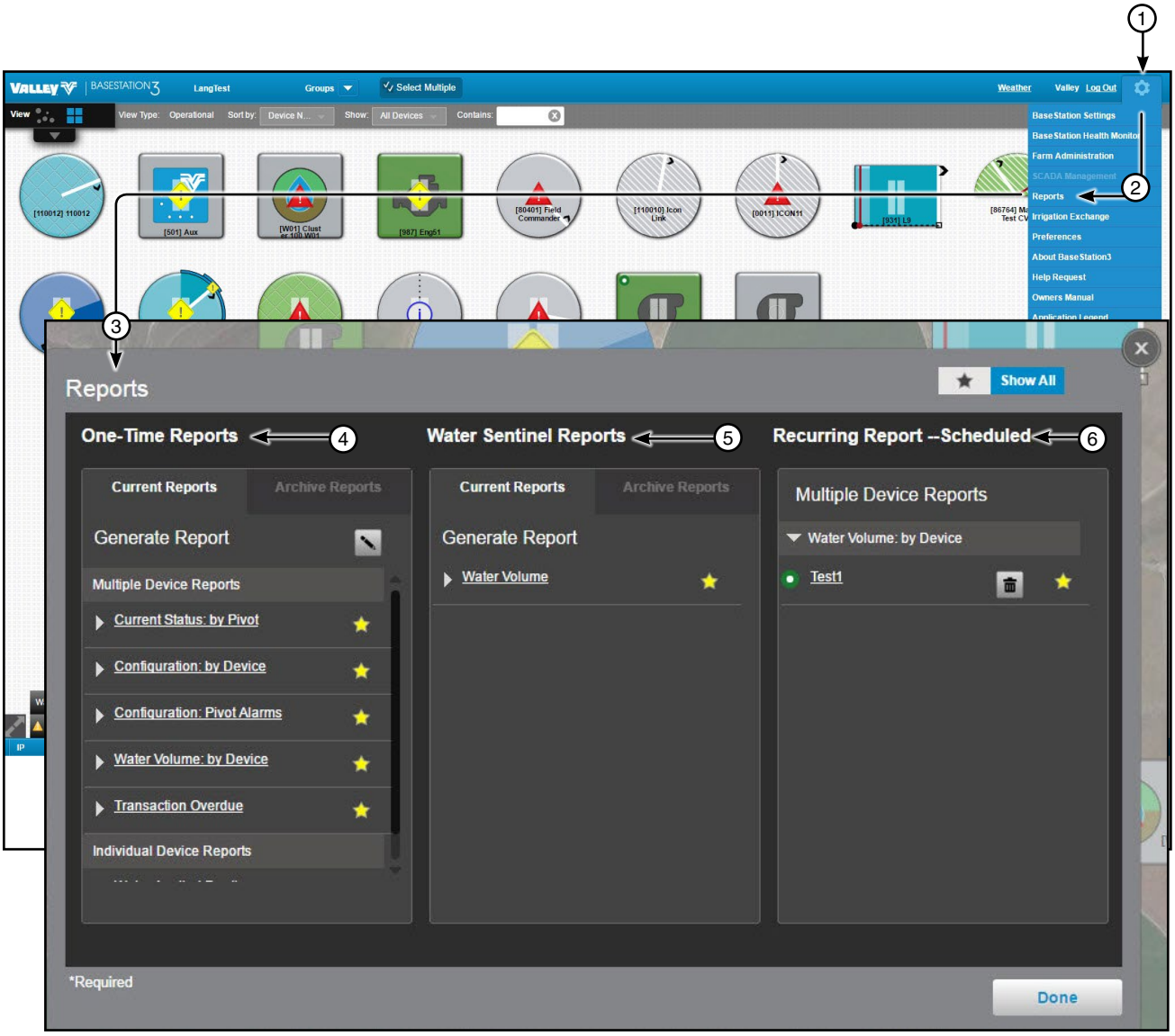


Figure 73-1
1. Settings
2. Select Reports
3. Reports Screen
4. One-Time Reports
5. Water Sentinel Reports
6. Recurring Report – Scheduled

The user can customize the reports screen view to limit which reports are displayed and or in what order they are displayed.

Reports

Hiding Report Titles in the List

To select which report titles are displayed, refer to Figure 74-1 and do the following.

1. Click the star associated with a report that you want to display to highlight the star.
2. Click the star on other reports that you want to remove the highlight from the star.
3. Click **Star** to display only the reports with the highlighted star.

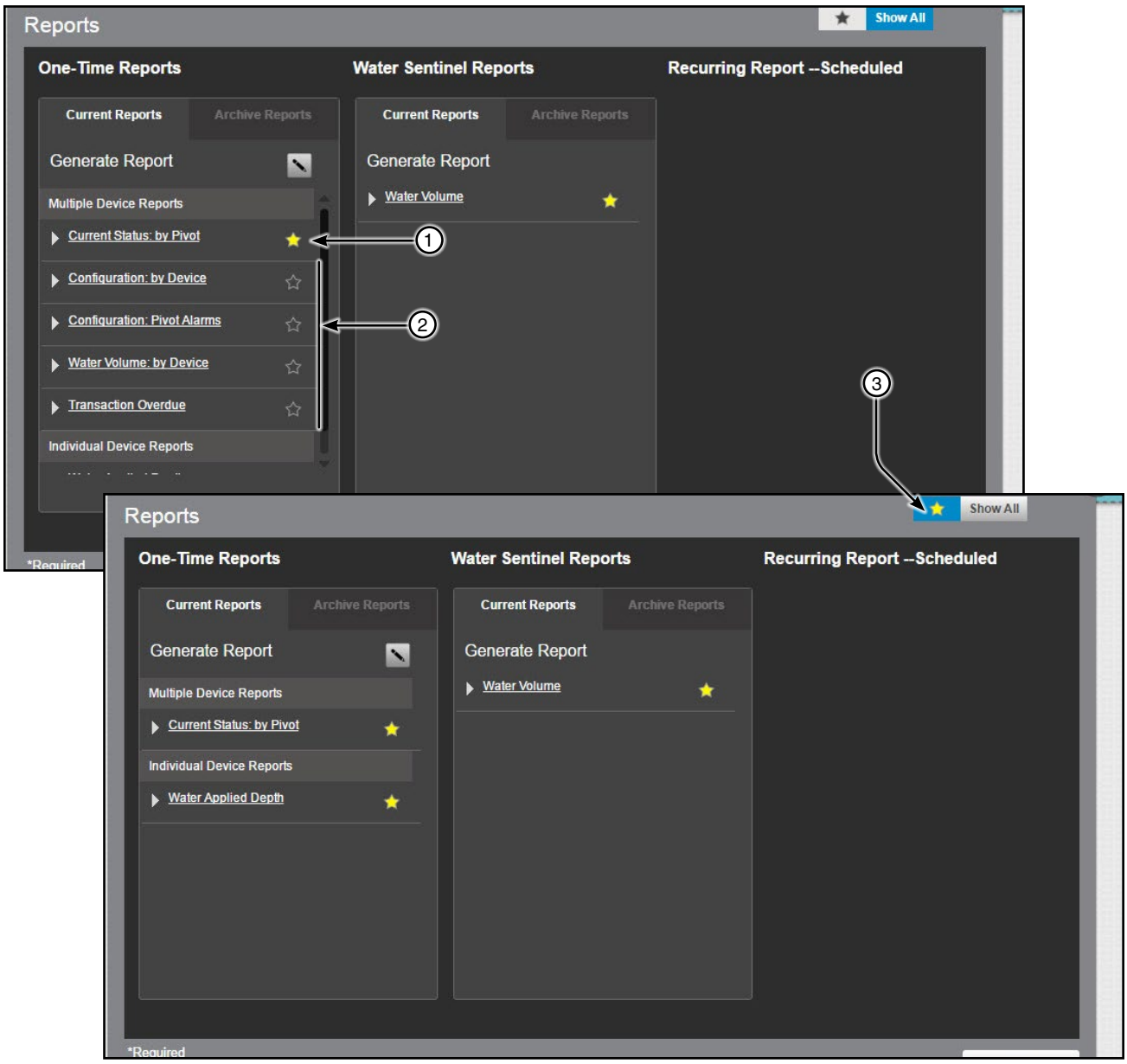


Figure 74-1
1. Highlight to Display
2. Remove Highlight to Hide
3. Click Star

Changing the Order of Report Titles in the List

To change the order of the report titles as they appear in the list, refer to Figure 75-1 and do the following.

1. Click **Change**.
2. Do one of the following.
   - Click the down arrow for a report to move it down one position.

   or
   - Click the up arrow for a report to move it up one position.
3. Click **Change** again.

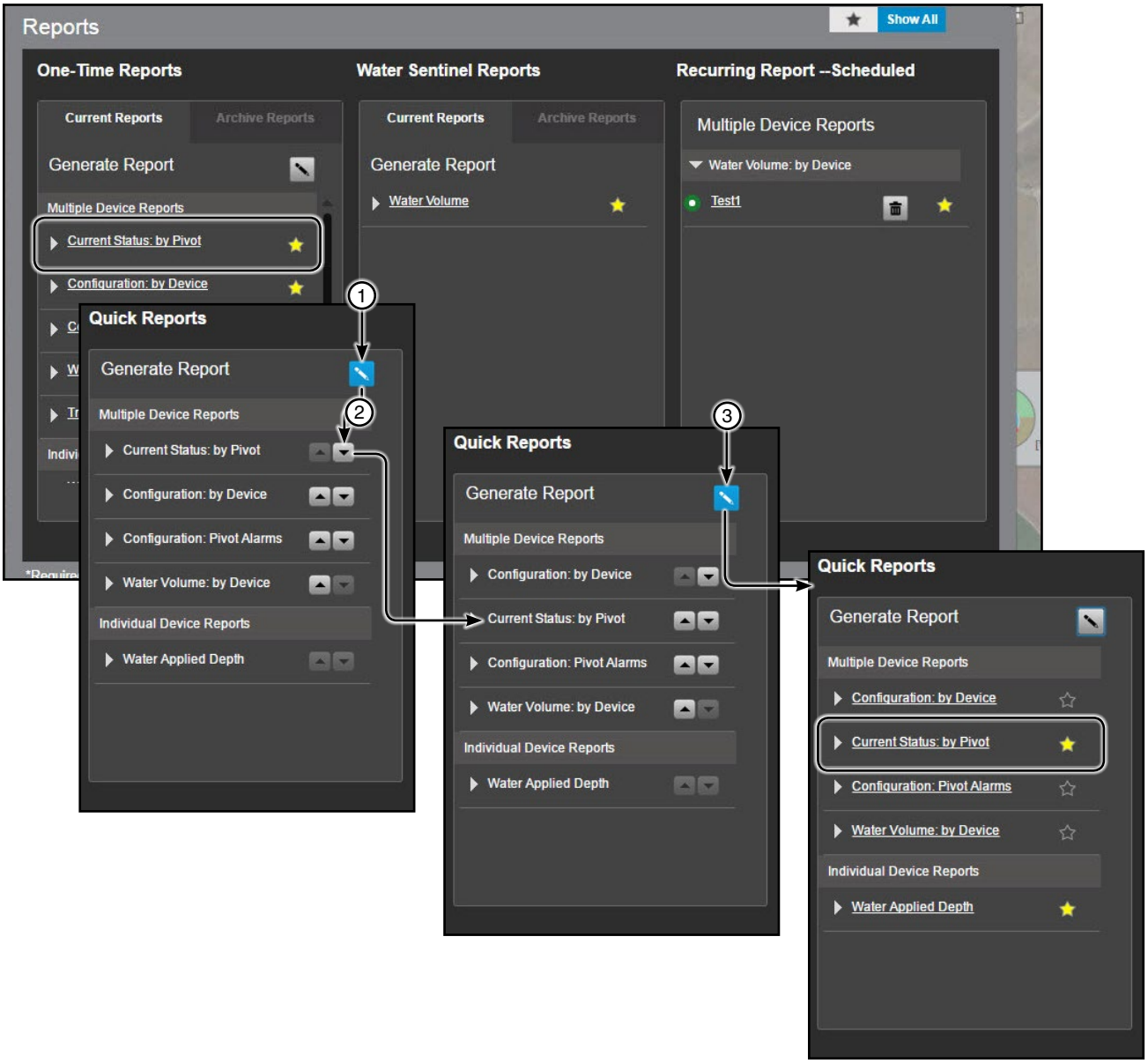


Figure 75-1 1. Click Change
2. Click Up or Down Arrow
3. Click Change Again

Reports

Report Interface

Side Bar: Toggle the side bar off and on. Refine the report by selecting different parameters and clicking View report.

Search: Click **Search**, enter a **Key Word** or phrase and click **Search**.

Page Selection tools: Choose the page by clicking either First Page, Previous Page, Next Page or Last Page.

Exporting: The report can be exported in the following formats; PDF, Word, XML and Excel. To export the report, select the export format and click **Export**.

Print: To Print the report click the **Print** button.

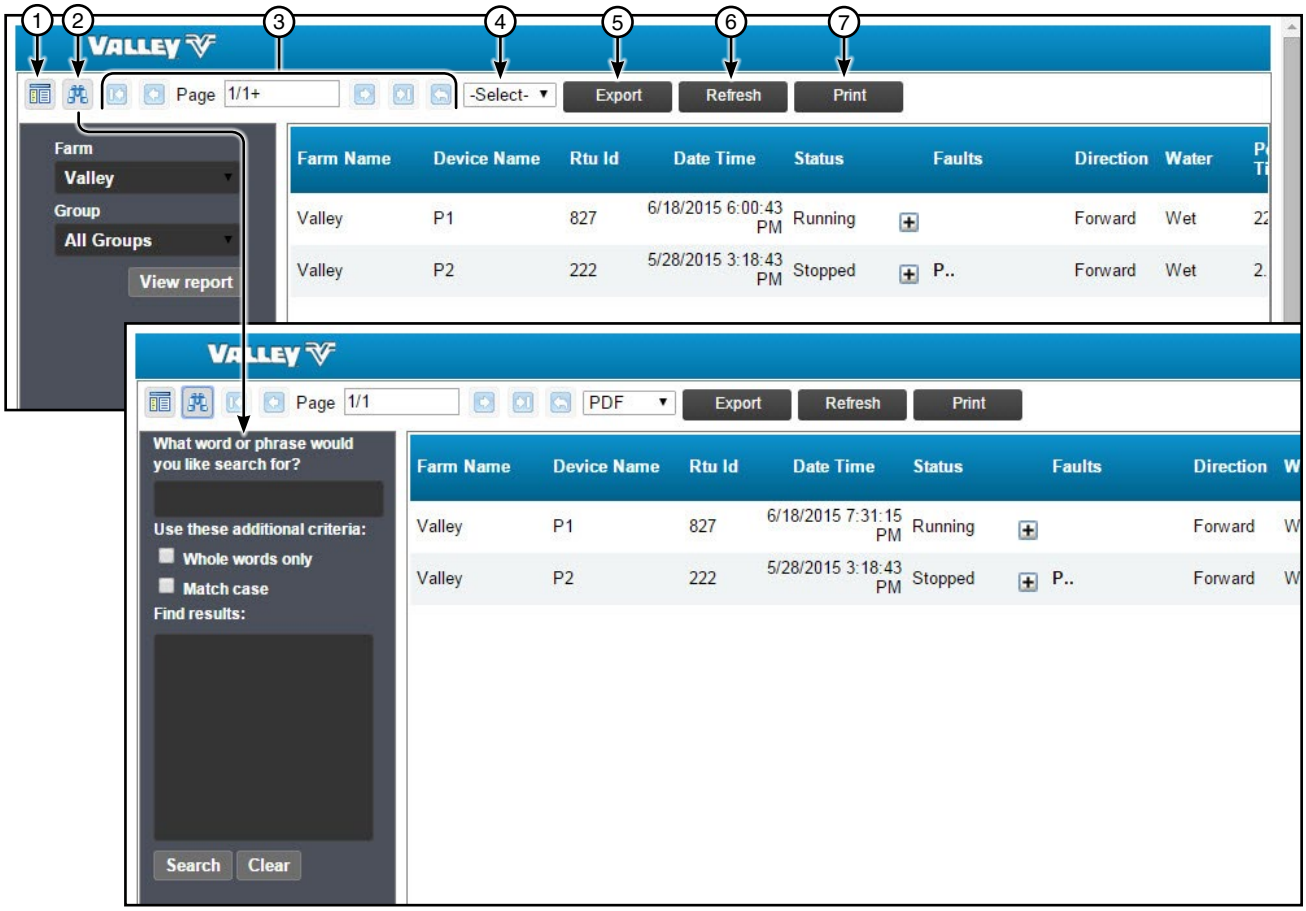


Figure 76-1

1. Toggle Side Bar
2. Search
3. Page Selection Tools
4. Export format
5. Export Format Selection Drop Down List
6. Export Button
7. Print Button

Generating Reports Now

To generate reports now, refer to Figure 78-1 and do the following:

1. The **Generate Reports Now** radio button should be selected (the bubble found by the radio button).
2. Click **Settings**.
3. Click **Reports**.
4. Click on the **Report**.
5. Set the report parameters as desired. Depending on the report, some parameters are preset and cannot be changed.
   (a) Select a **Farm**.
   (b) Choose the **Group**.
   (c) Select the **Device Type**.
   (d) Choose the **Device**.
   (e) Set the **Start Date** and **End Date**. When using a touch screen, the calendar must be touched; the mouse click is inactive. Only on Water Volume by Device and Water Applied Depth reports.
   (f) To include the device location information in the report click **Yes**.
6. Click **Generate**.

NOTE: Some of the BaseStation3 reports require configuration settings.

Reports

Generating Reports Now

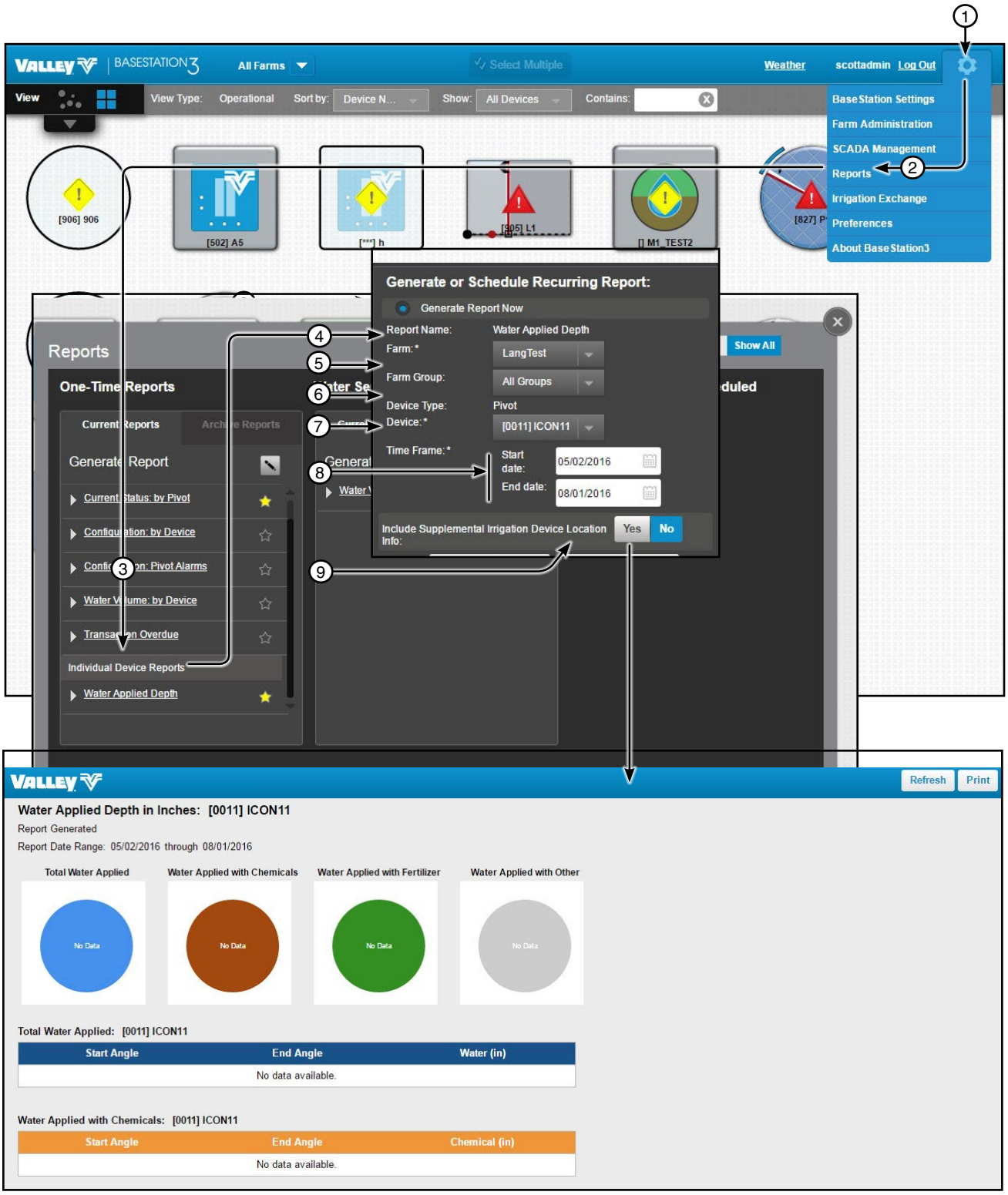


Figure 78-1

1. Click Settings
2. Click Reports
3. Click on the Report
4. Select a Farm
5. Choose the Group
6. Select the Device Type
7. Choose the Device
8. Set the Start and End Date
9. Click Generate

Scheduling Reports

To generate or schedule a recurring report, additional information will be needed than what is required for a one-time report. To do this, follow the same steps to generate a report (found on page 79) with the additional steps below, refer to Figure 77-1. The report will appear under **Recurring Report — Scheduled**.

1. Check **Schedule Recurring Report** after pulling up reports from Settings.
2. Set the parameters as desired:
   (a) Select a **Farm**.
   (b) Enter a **Scheduled Report Name**.
   (c) Select the **Schedule**, **Report Period**, **Active Reporting Months** and **File Type**.
   (d) Users have the option to include and verify the **FTP Address**, **FTP username** and **FTP password** or they can click Anonymous. There is also an option to add a **Recipient E-mail**.
   (e) Click **Save** to create the report.

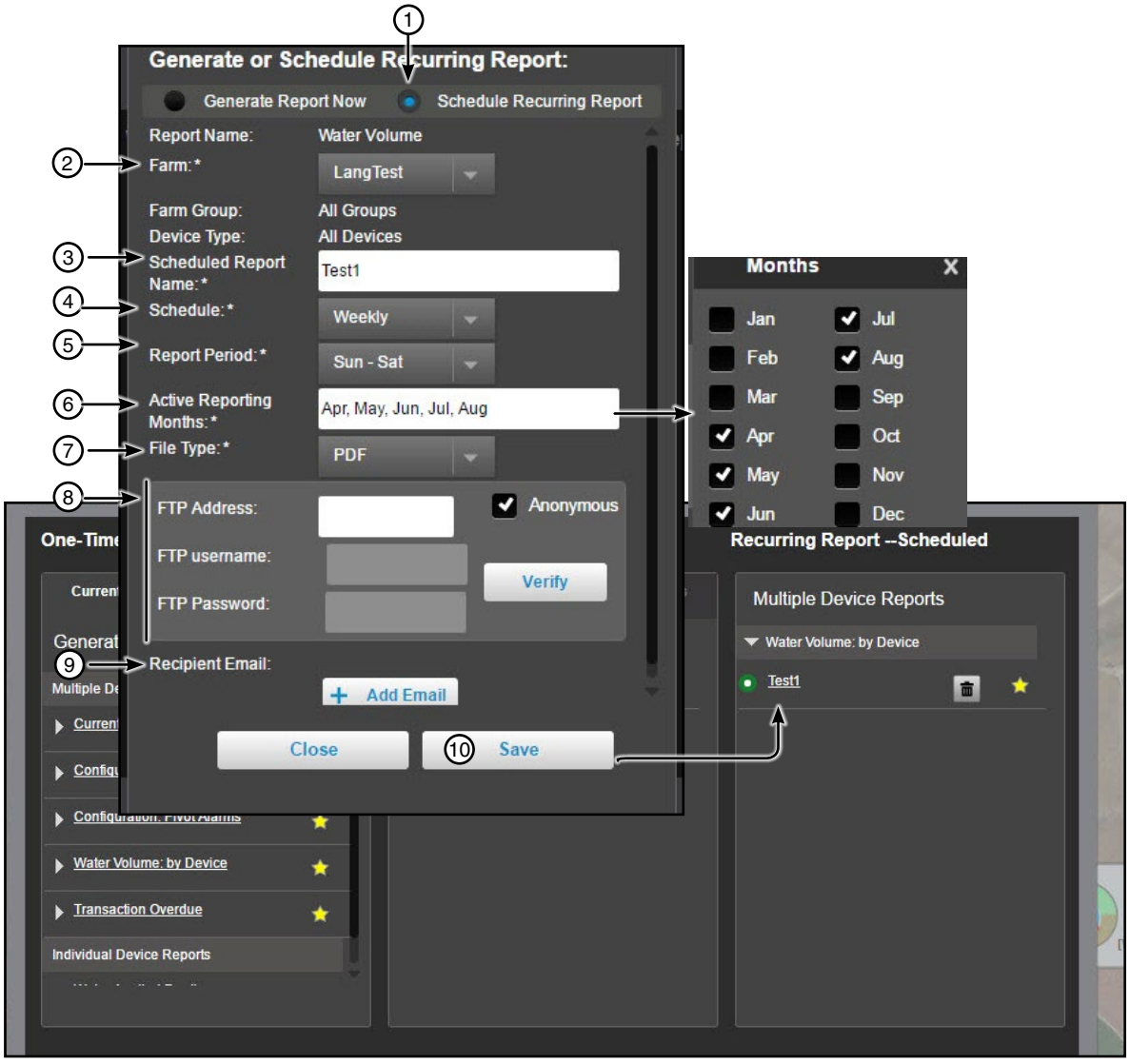


Figure 79-1
1. Click Schedule Recurring Report
2. Enter Farm Name
3. Name Scheduled Report
4. Select Schedule (Daily, Weekly, Monthly, or Yearly)
5. Select Report Period
6. Select Active Reporting Months
7. Select File Type
8. Enter FTP information or choose Anonymous
9. Add Recipient E-mail (optional)
10. Click Save

Reports

One-Time Reports — Pivot Current Status Report

Description: This report will provide a snapshot of the current status of each of the pivot devices in BaseStation3 under the selected Farm and Group. This report is available on demand as well as on a scheduled basis.

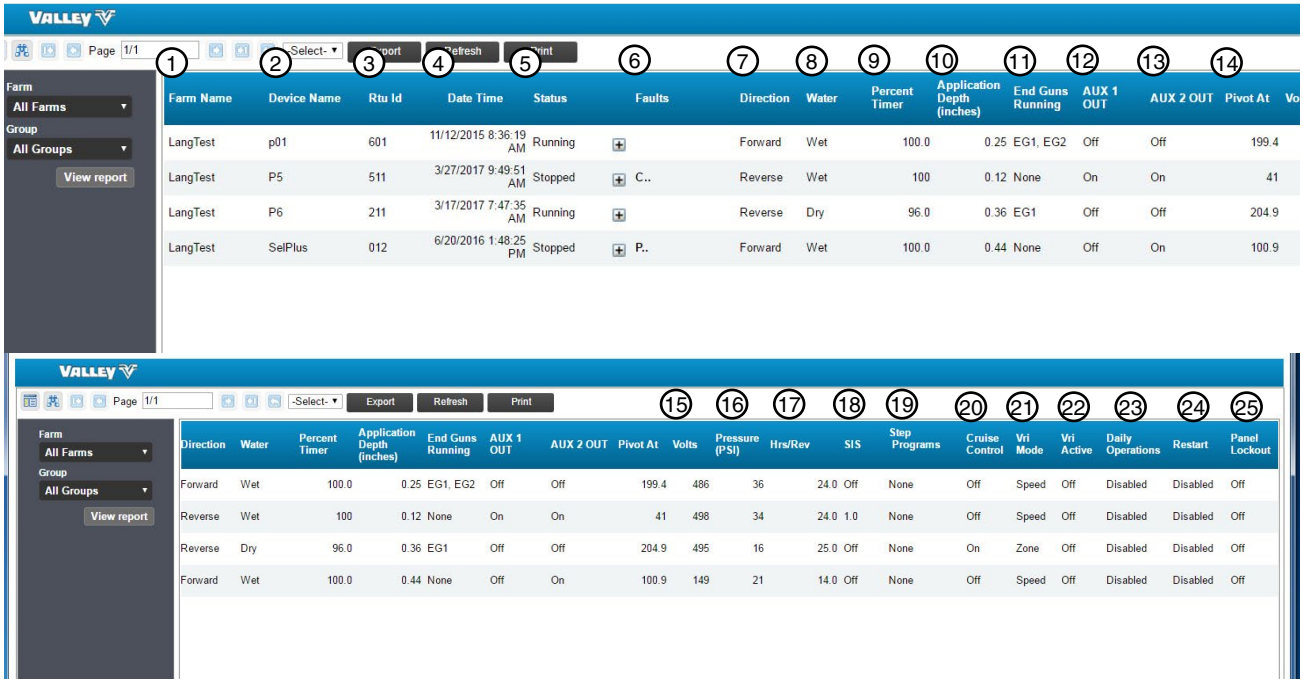


Figure 80-1

1. Farm Name
2. Device Name
3. RTU ID
4. Date Time
5. Status
6. Faults
7. Direction
8. Water
9. Percent Timer
10. Application Depth (inches)
11. End Guns Running
12. Aux 1 Out
13. Aux 2 Out
14. Pivot At
15. Volts
16. Pressure (PSI)
17. Hrs/Rev
18. SIS
19. Step Programs
20. Cruise Control
21. VRI Model
22. VRI Active
23. Daily Operations
24. Restart
25. Panel Lockout

One-Time Reports — Device Configuration Report

Description: This report is available for Aux Link and Pivot type devices and will provide a list of the current configuration settings for each device active within the BaseStation3 installation. Depending on the device type selected during report generation, different fields may appear within the report applicable to that device type (Aux Link or Pivot) and its configuration elements. Figure 78-1 shows an Aux Link Device Configuration Report and Figure 78-2 shows a Pivot Device Configuration Report.

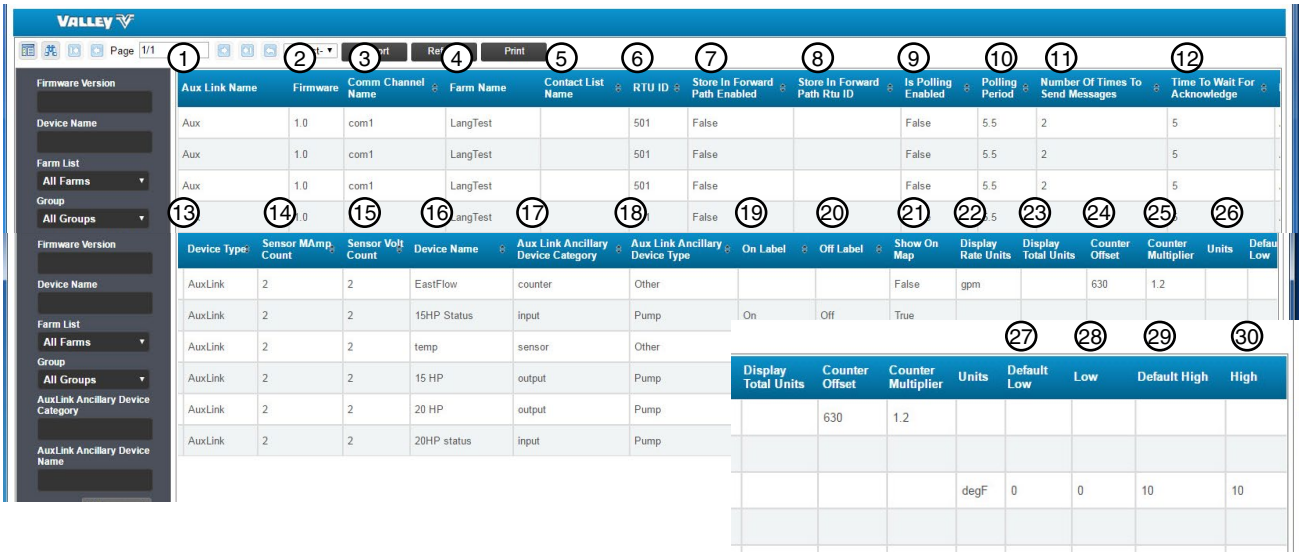


Figure 81-1

1. Aux Link
2. Firmware
3. Comm Channel Name
4. Farm Name
5. Contact List Name
6. RTU ID
7. Store In Forward Path Enabled
8. Store and Forward Path RTU ID
9. Is Polling Enabled
10. Polling Period
11. Number Of Times To Send Messages
12. Time To Wait For Acknowledge
13. Device Type
14. Sensor MAmp
15. Sensor Volt Count
16. Device Name
17. Aux Link Ancillary Device Category
18. Aux Link Ancillary Device Type
19. On Label
20. Off Label
21. Show On Map
22. Display Rate Units
23. Display Total Units
24. Counter Offset
25. Counter Multiplier
26. Units
27. Default Low
28. Low
29. Default High
30. High

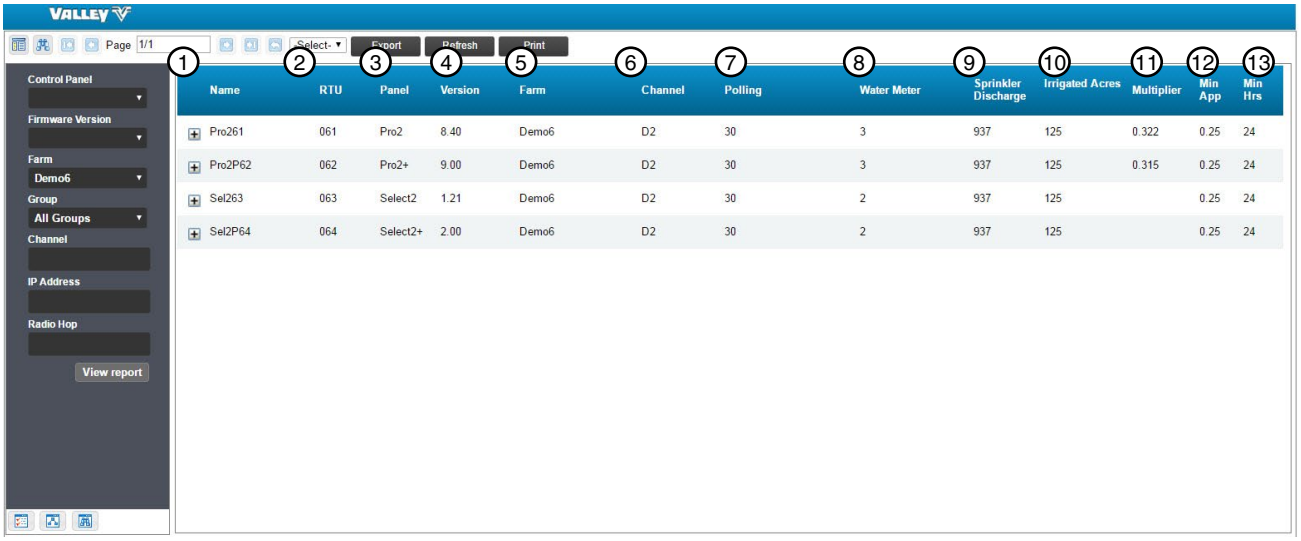


Figure 81-2

1. Name
2. RTU
3. Panel
4. Version
5. Farm
6. Channel
7. Polling
8. Water Meter
9. Sprinkler Discharge
10. Irrigated Acres
11. Multiplier
12. Min App
13. Min Hrs

Reports

One-Time Reports — Pivot Alarm Configuration Report

Description: This report will provide a list of the devices and the associated alarms that are configured with the level (None, Info, Low or High) at which they will be initiated. It is available to show pivot, linear, AgSense, auxiliary, pump, engine genset and soil moisture devices. The report can be filtered down to the farm, group, device name or alarm type (State, Fault, Thresholds, Other or Overlap Zone).

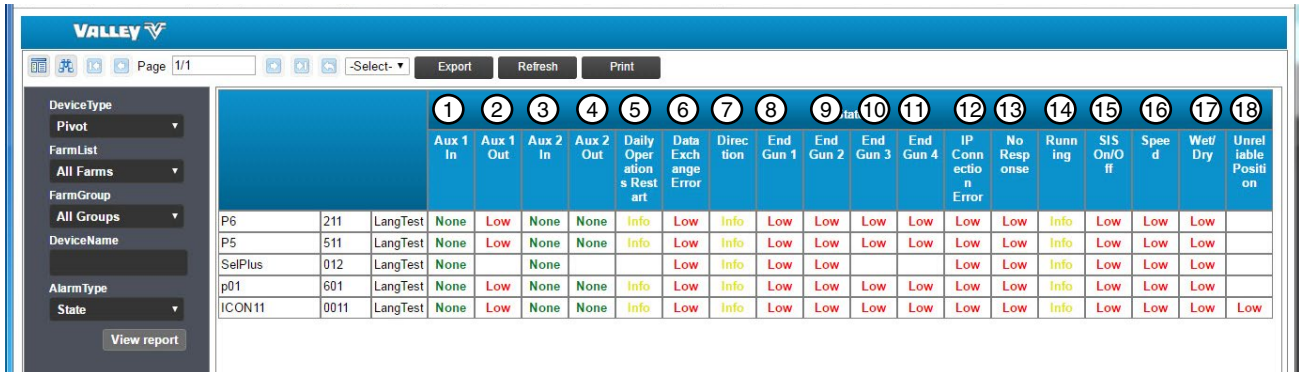


Figure 82-1

1. Aux 1 In
2. Aux 1 Out
3. Aux 2 In
4. Aux 2 Out
5. Daily Operations Restart
6. Data Exchange Error
7. Direction
8. End Gun 1
9. End Gun 2
10. End Gun 3
11. End Gun 4
12. IP Connection Error
13. No Response
14. Running
15. SIS On/Off
16. Speed
17. Wet/Dry
18. Unreliable Position

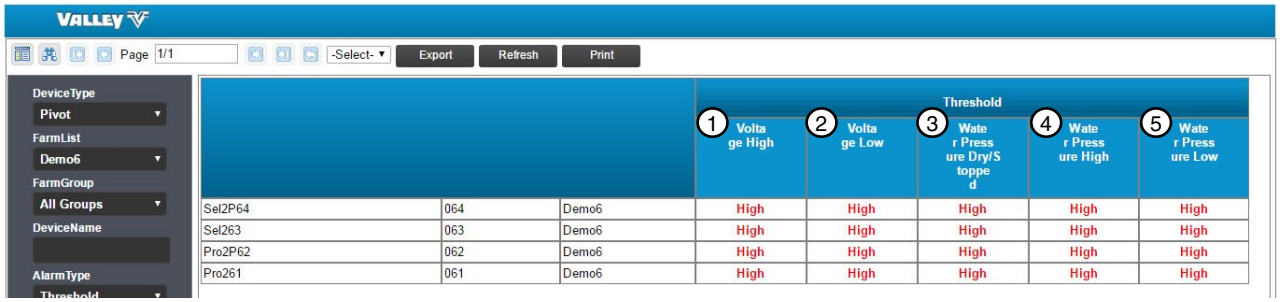


Figure 82-1

1. Voltage High
2. Voltage Low
3. Water Pressure Dry/ Stopped
4. Water Pressure High
5. Water Pressure Low

Figure 82-3

1. Overlap Zone

One-Time Reports — Pivot Alarm Configuration Report (Continued)

Description: This report will provide a list of the devices and the associated alarms that are configured with the level (None, Info, Low or High) at which they will be initiated. It is available to show pivot, linear, AgSense, auxiliary, pump, engine genset and soil moisture devices. The report can be filtered down to the farm, group, device name or alarm type (State, Fault, Thresholds, Others or Overlap Zone).

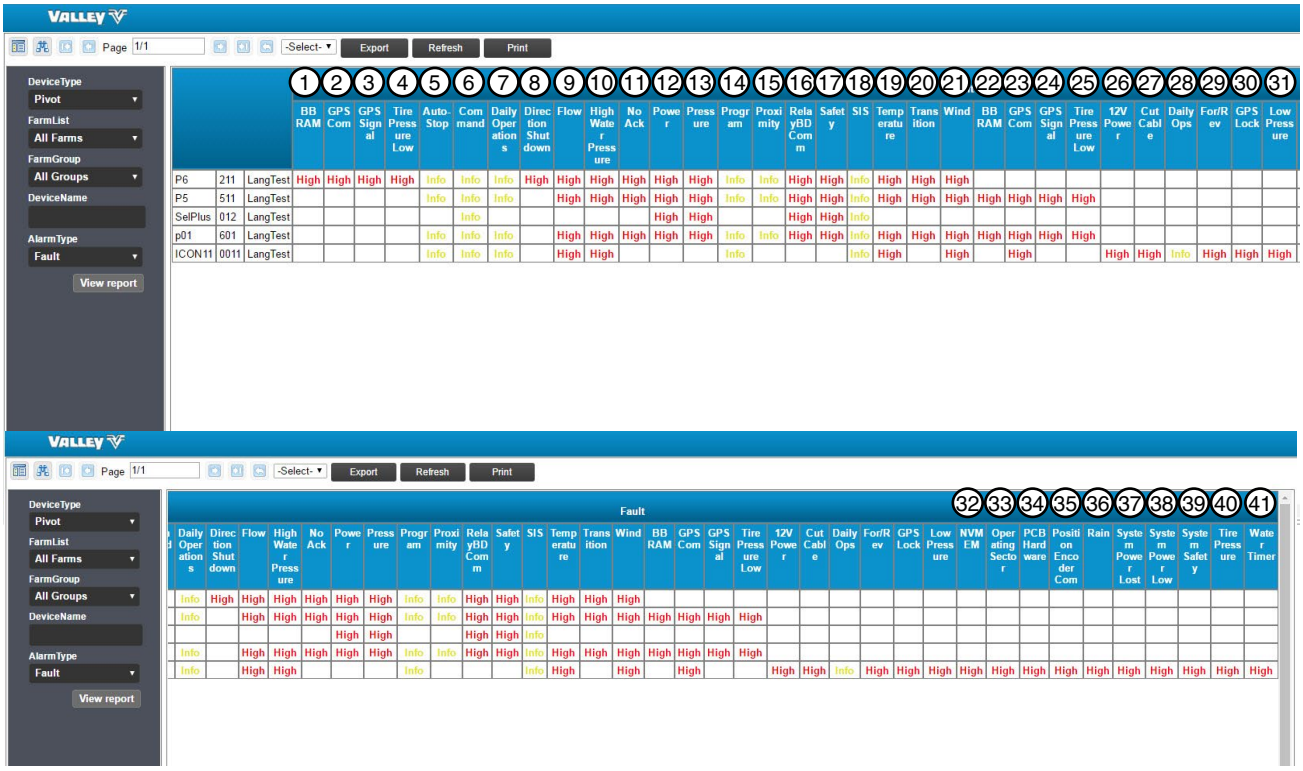


Figure 83-2

1. BB RAM
2. GPS Com
3. GPS Signal
4. Tire Pressure Low
5. Auto-Stop
6. Command
7. Daily Operations
8. Direction Shutdown
9. Flow
10. High Water Pressure
11. No Ack
12. Power
13. Pressure
14. Program
15. Proximity
16. Relay BD Comm
17. Safety
18. SIS
19. Temperature
20. Transition
21. Wind
22. BB RAM
23. GPS Com
24. GPS Signal
25. Tire Pressure Low
26. 12V Power
27. Cut Cable
28. Daily Ops
29. For/Rev
30. GPS Lock
31. Low Pressure
32. NVMEM
33. Operating Sector
34. PCB Hardware
35. Position Encoder Com
36. Rain
37. System Power Lost
38. System Power Low
39. System Safety
40. Tire Pressure
41. Water Timer

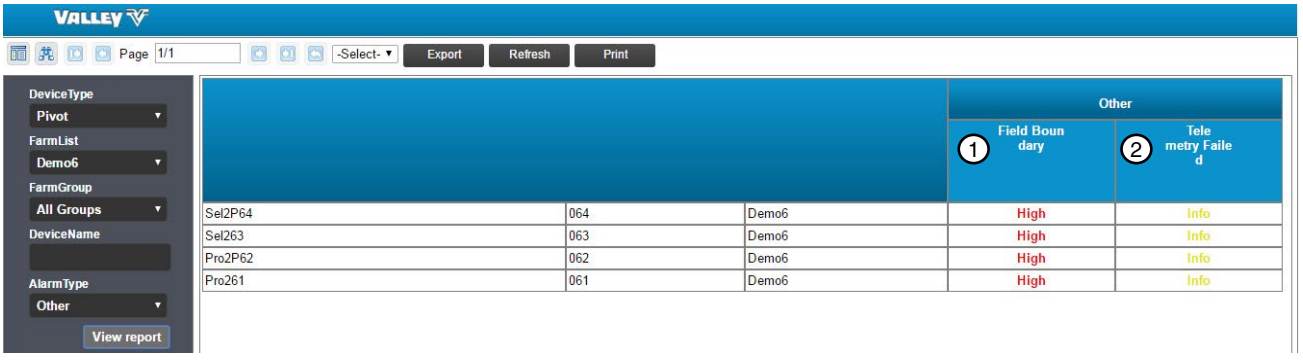


Figure 83-2

1. Field Boundary
2. Telemetery Failed

Reports

One-Time Reports — Water Volume by Device Report

Description: This report will provide a summary information of water discharged by the selected farm, group and device type, for the time period specified. The report uses the water measure that has been configured for the device in the Device Management form to calculate total water discharged. The units of measure shown in the report display according to the preferences selected by the user. The report can be saved as an exported file.

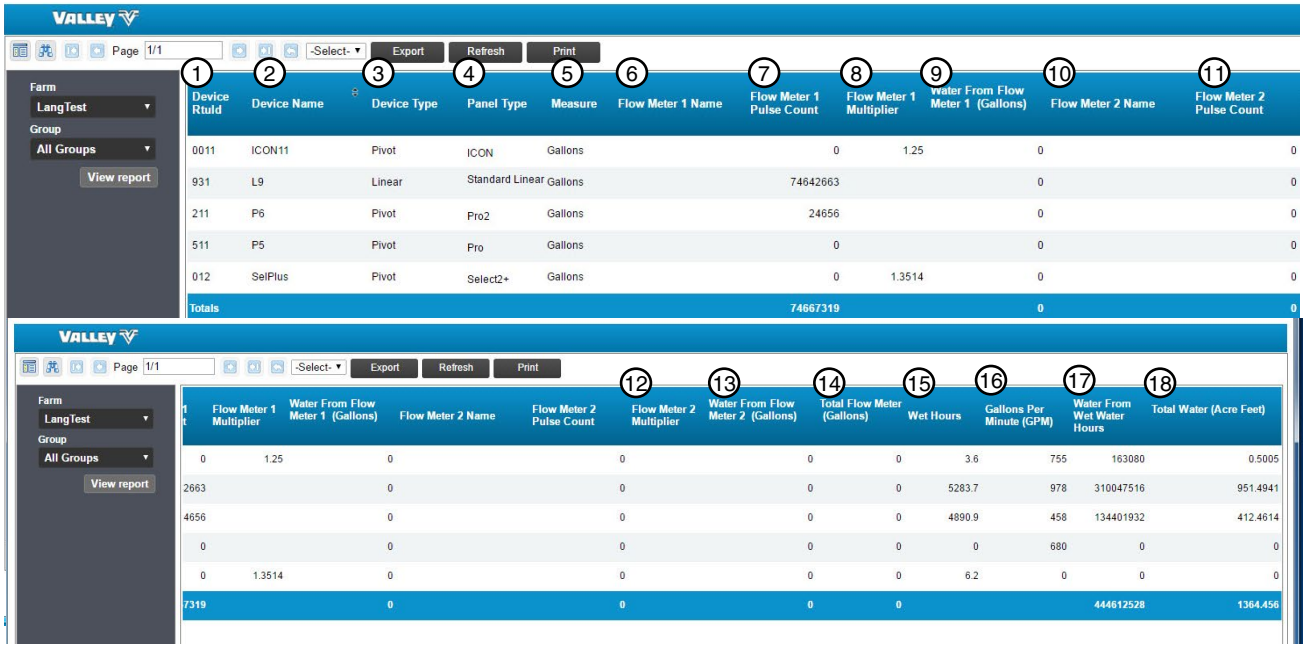


Figure 84-1
1. RTU ID
2. Device Name
3. Device Type
4. Panel Type
5. Measure
6. Flow Meter 1 Name
7. Flow Meter 1 Pulse Count
8. Flow Meter 1 Multiplier
9. Water From Flow Meter 1 (Gallons)
10. Flow Meter 2 Name
11. Flow Meter 2 Pulse Count
12. Flow Meter 2 Multiplier
13. Water From Flow Meter 2 (Gallons)
14. Total Flow Meter (Gallons)
15. Wet Hours
16. Gallons Per Minute (GPM)
17. Water From Wet Water Hours
18. Total Water (Acre Feet)

One-Time Reports — Transaction Overdue Report

Description: This report will provide a list of scheduled transactions with remote devices that did not get executed within an acceptable time limit. The transactions were delayed, so they were abandoned.

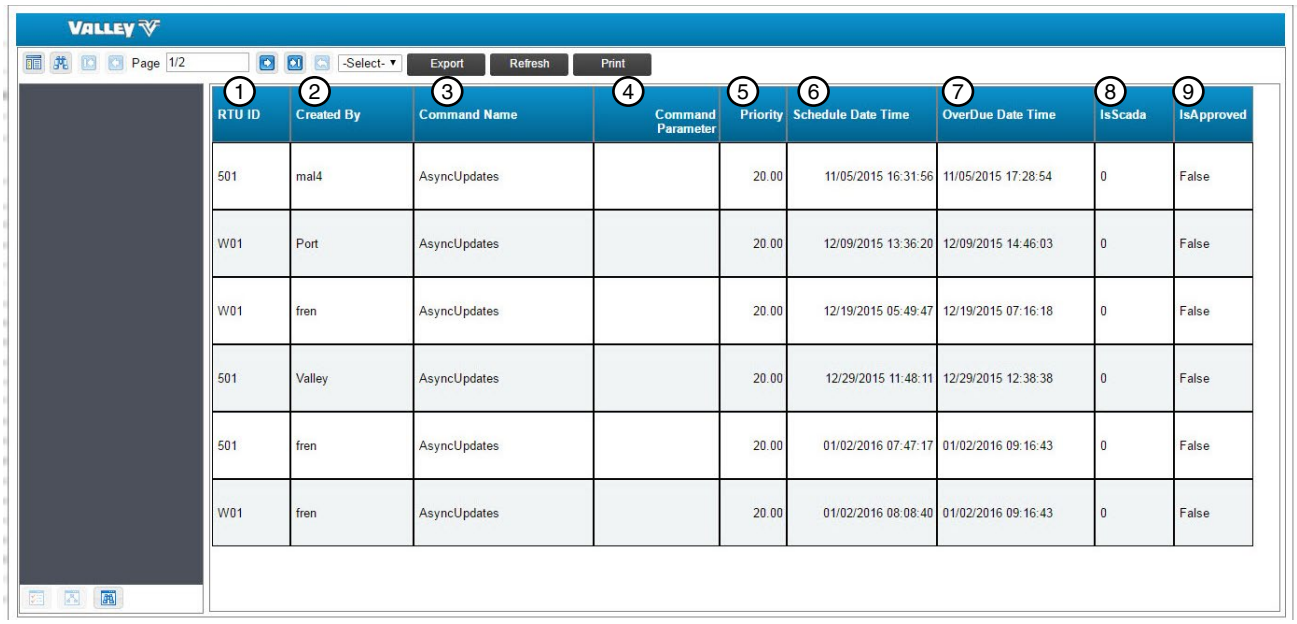


Figure 85-2
1. RTU ID
2. Created By
3. Command Name
4. Command Parameter
5. Priority
6. Schedule Date Time
7. OverDue Date Time
8. IsScada
9. IsApproved

Reports

One-Time Reports — Device Water Applied Depth Report

Description: This report will provide a detail of water applied by the pivot for the time period specified. The report uses BaseStation3 recorded history of the application depth at the pivot location to generate tabular and graphical information. The data table and the circular chart shows the summed depth of water applied, partitioned by angle sectors, of the depth variations. In addition to water applied, the report includes separate tables and graphic charts that show when fertilizer/chemical/other additives have been injected with the water, using Auxiliary Output controls. The units of measure shown in the report is according to the preferences selected by the user that runs the report. The report can be saved as an exported file.

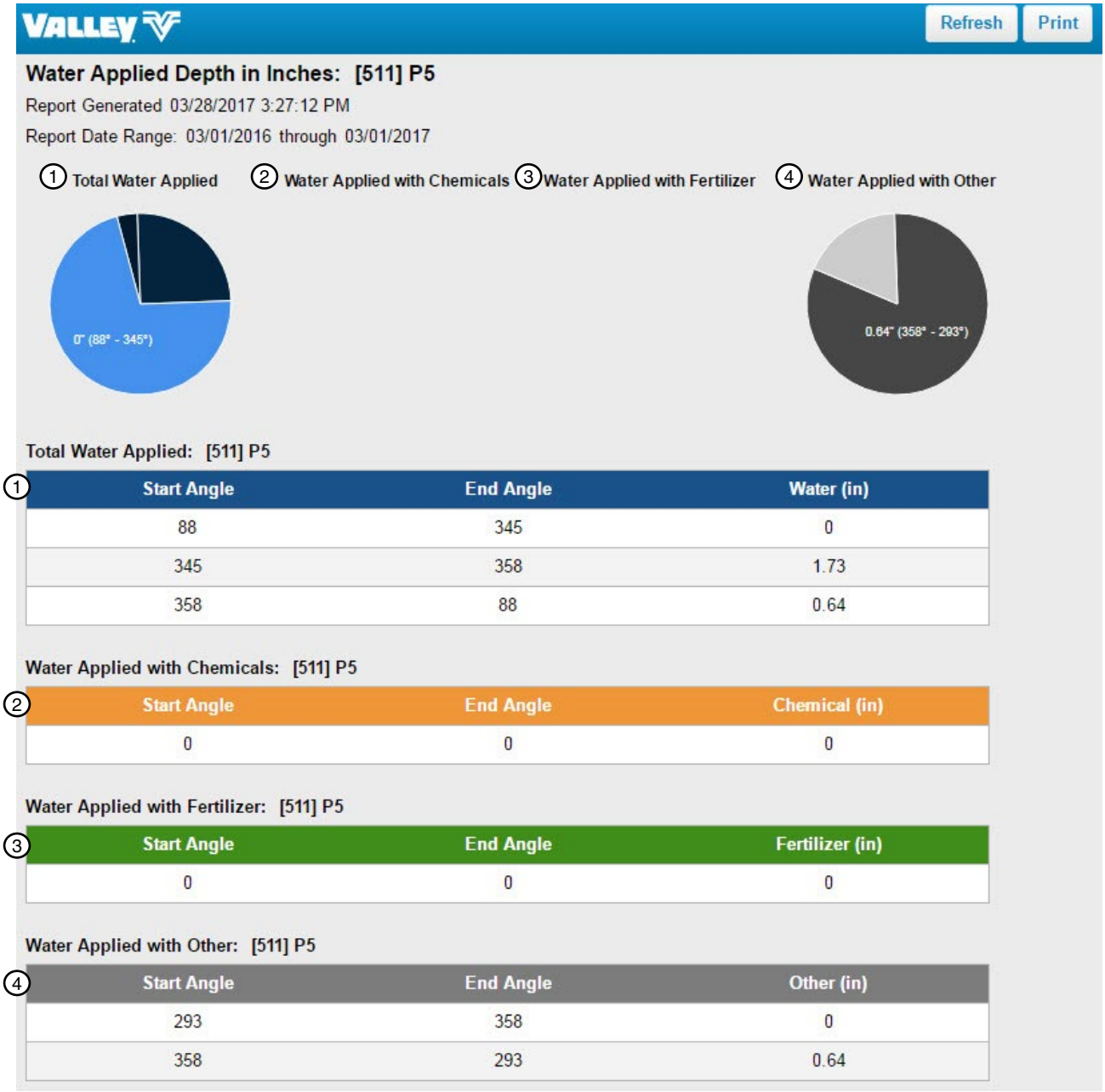


Figure 86-1 1. Total Water Applied 2. Water Applied with Chemicals 3. Water Applied with Fertilizer 4. Water Applied with Other

Water Sentinel Reports — WS Water Volume Report

Description: This report will provide a summary information of water discharged by the selected farm (all groups, all devices) for the time period specified. The report uses the water measure method that has been configured for the device in the Device Management form to calculate total water discharged. The units of measure shown in the report is according to the preferences selected by the user that runs the report. The report also includes Total Hours and averaged applied depth for the field size configured in the Device Management form. The report can be saved as an exported file.

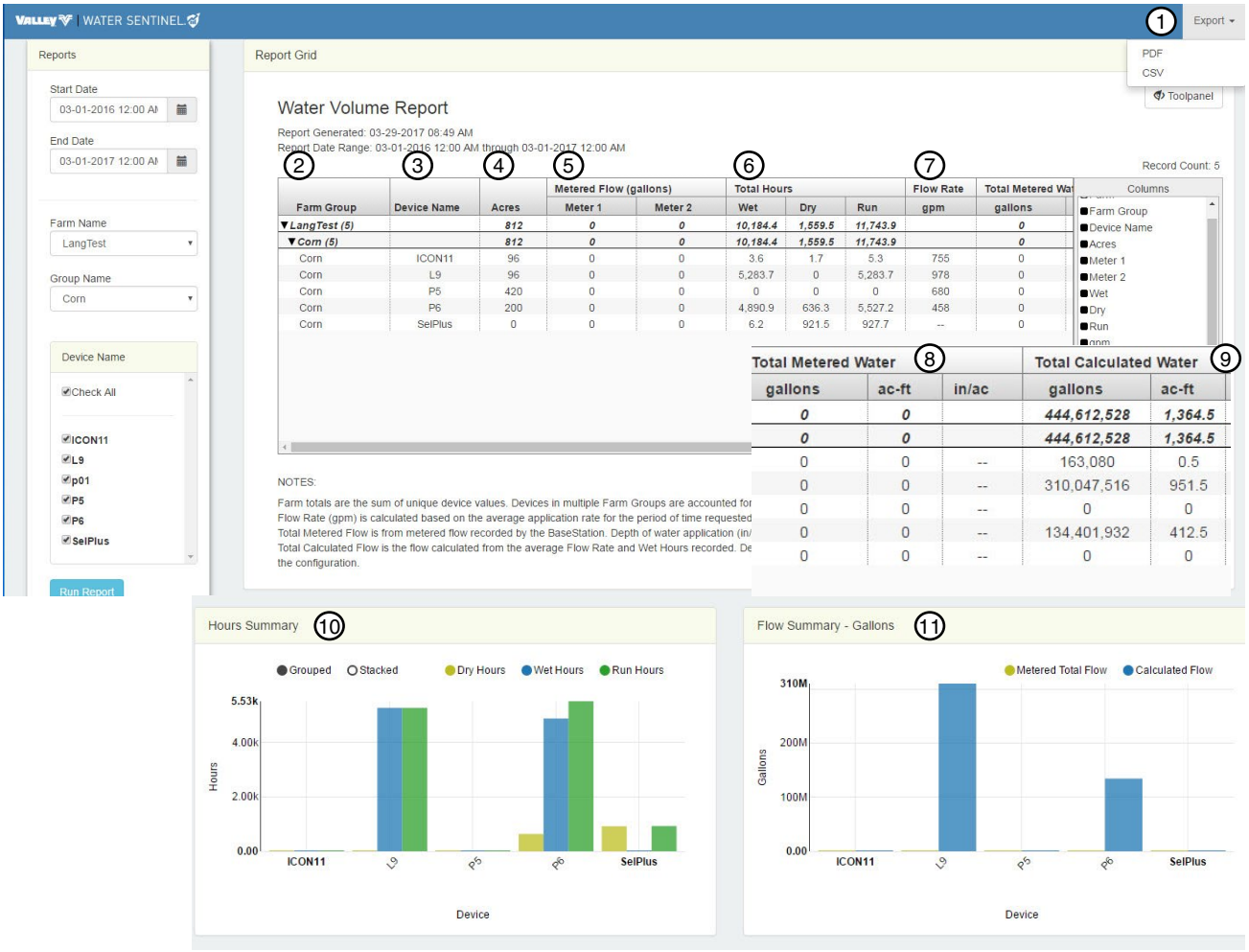


Figure 87-1
1. Export
2. Farm Group
3. Device Name
4. Acres
5. Metered Flow (gallons)
6. Total Hours
7. Flow Rate
8. Total Metered Water
9. Total Calculated Water
10. Hours Summary
11. Flow Summary - Gallons

Reports

Device Utilities Reports — Status Change Report

The Status Change Report is a chronological list view of logged data, filtered according to parameters selected in the Change Criteria list. No calculations or evaluations of the data are performed. To view a Diagnostics Status Change Report through Devices refer to Figure 88-1 and do the following:

1. Click on the device you want a report on and the device menu will pop up. From here, click on the **Utilities** tab.
2. Under the Diagnostics section, click on **Status Change Report**.
3. Select a Start Date And Time and an End Date and Time.
4. To select the criteria to include in the report, click on the Change Criteria. Once selected, the button should turn blue.
5. Click **Run Report**.

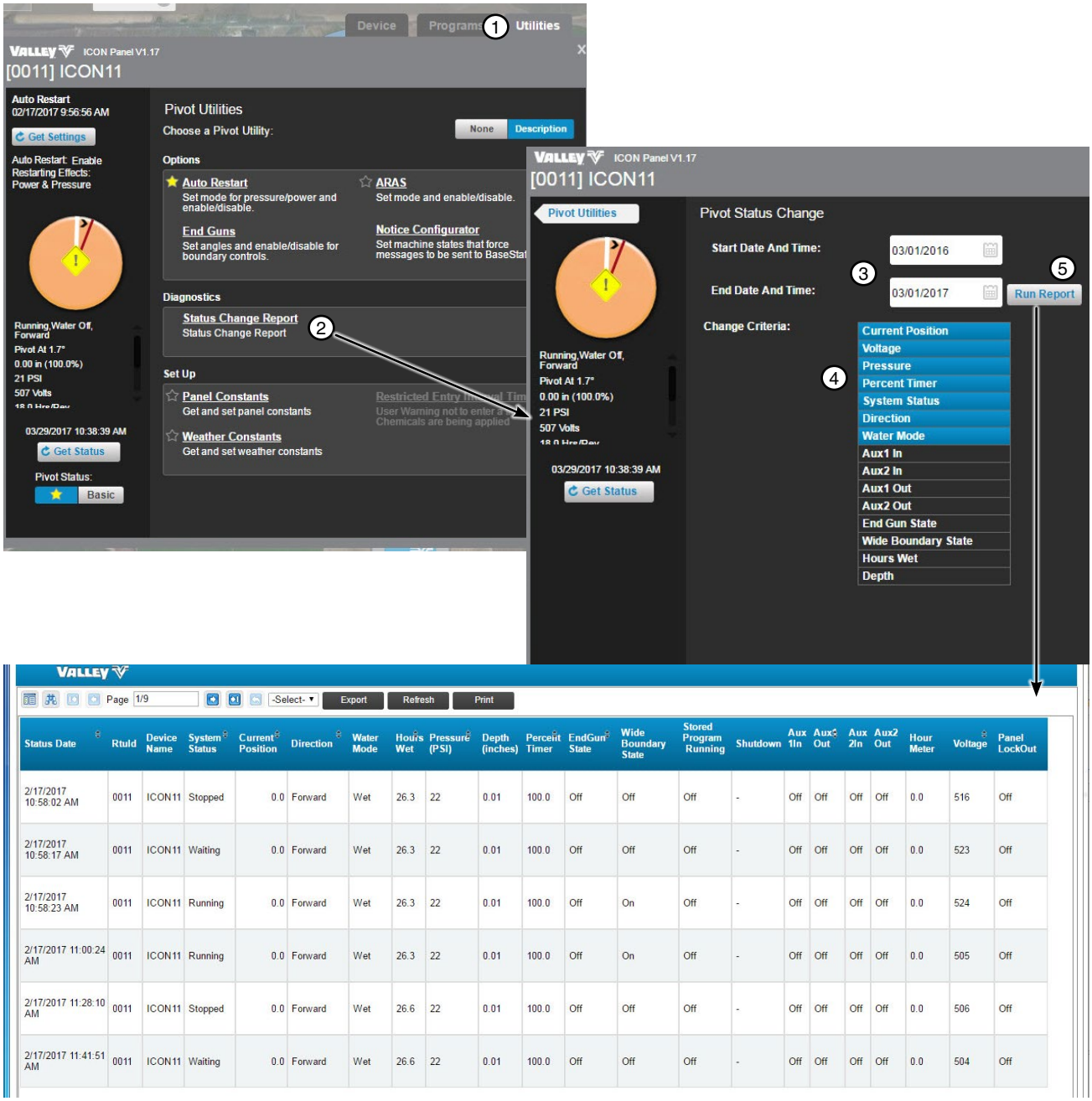


Figure 88-1
1. Click Utilities Tab
2. Click Status Change Report
3. Enter Start/End Date And Time
4. Select Change Criteria
5. Click Run Report

Device Utilities Reports — Status Change Report

Description: This report will provide the event history of the device(s), which can be viewed by a range of dates. The Status Change Report is accessed in the Utilities tab of the pivot and linear devices. The report provides a filter selection for the user to choose which change events will be included in the report.

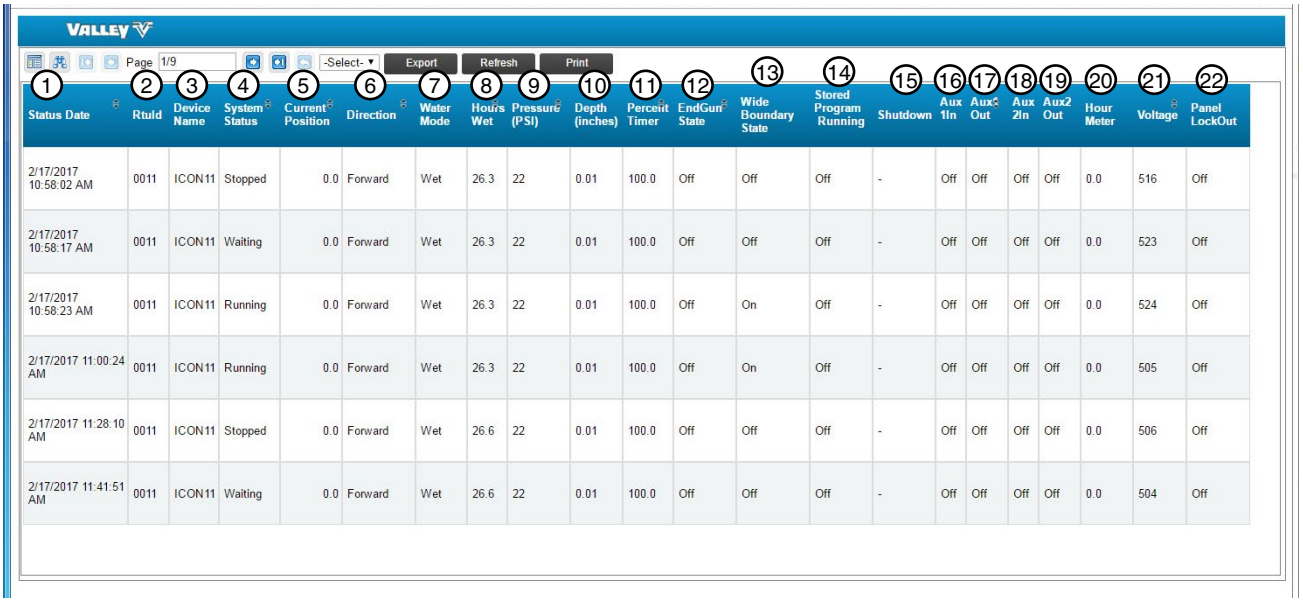


Figure 89-1

1. Status Date
2. RTU ID
3. Device Name
4. System Status
5. Current Position
6. Direction
7. Water Mode
8. Hours Wet
9. Pressure (PSI)
10. Depth (inches)
11. Percent Timer
12. End Gun State
13. Wide Boundary State
14. Stored Program Running
15. Shutdown
16. Aux 1 In
17. Aux 1 Out
18. Aux 2 In
19. Aux 2 Out
20. Hour Meter
21. Voltage
22. Panel LockOut

Reports

Device Utilities Reports — Event History Log

The Event History Log is a display of the events recorded in the PRO control panel. This only works with PRO v7.2.5 and Pro2 v8.40. BaseStation3 gets the event log entries directly from the control panel. The PRO control panel retains a limit of the last 50 machine state changes; events older than the 50 most recent events are no longer available. The most recent event is event #1. (To see event #25, you must select either the Newest 25 or the Oldest 25.) BaseStation3 will show the communications transaction as a single communications process. The collection of all events requested will be displayed as a sequential list after all of the events have been retrieved. To view an Event History Log through Devices refer to Figure 90-1 and do the following:

1. Click on the device you want a log on and the device menu will pop up. From here, click on the **Utilities** tab.
2. Under the Diagnostics section, click on **Event History Log**.
3. Select how many events to view by checking either All Available, Newest Events or Oldest Events. For Newest and Oldest Events, the number of events will need to be selected as well. This number cannot exceed the number of Total Events Logged.
4. Click **Send** to retrieve the selected events and see the log.

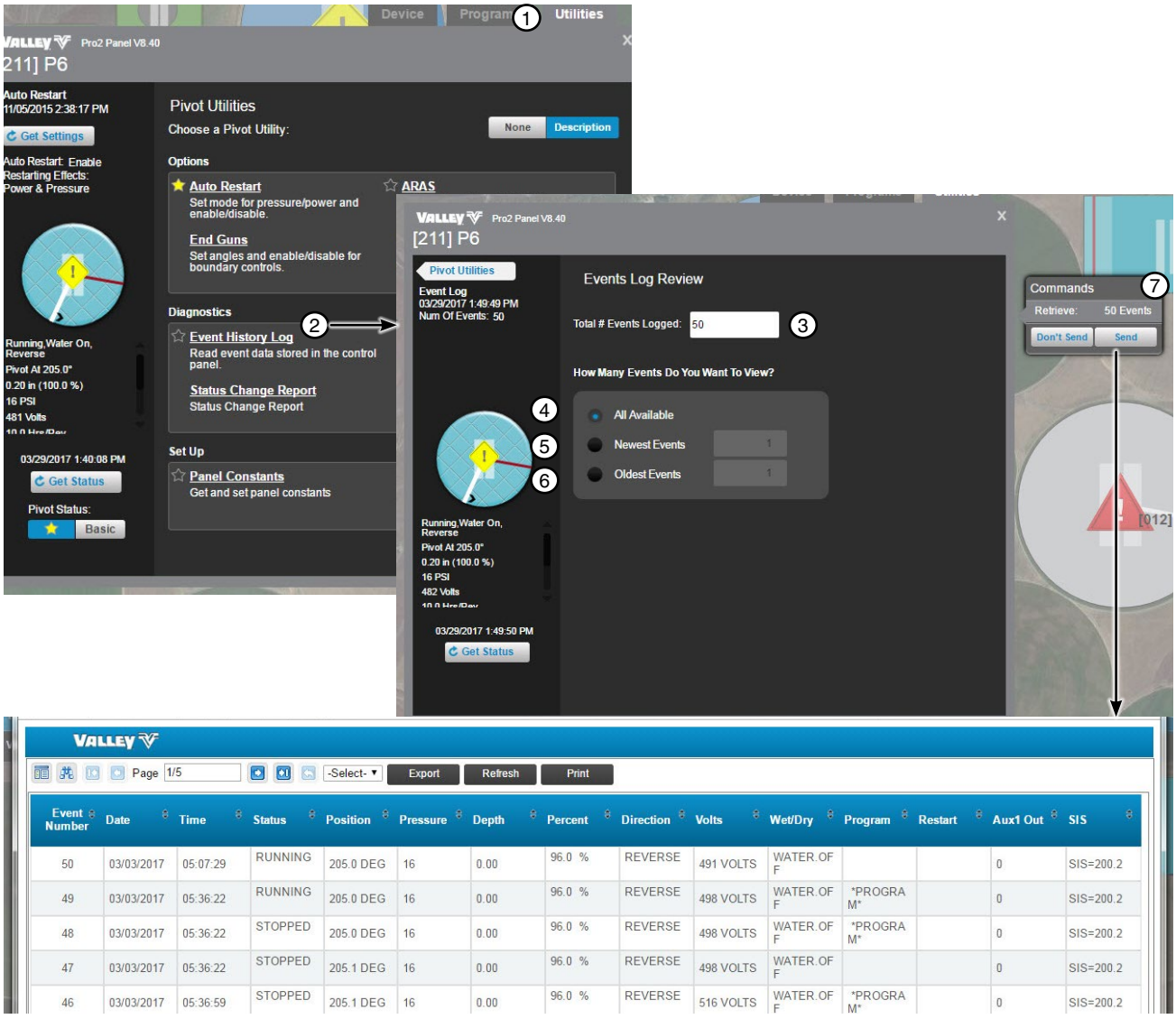
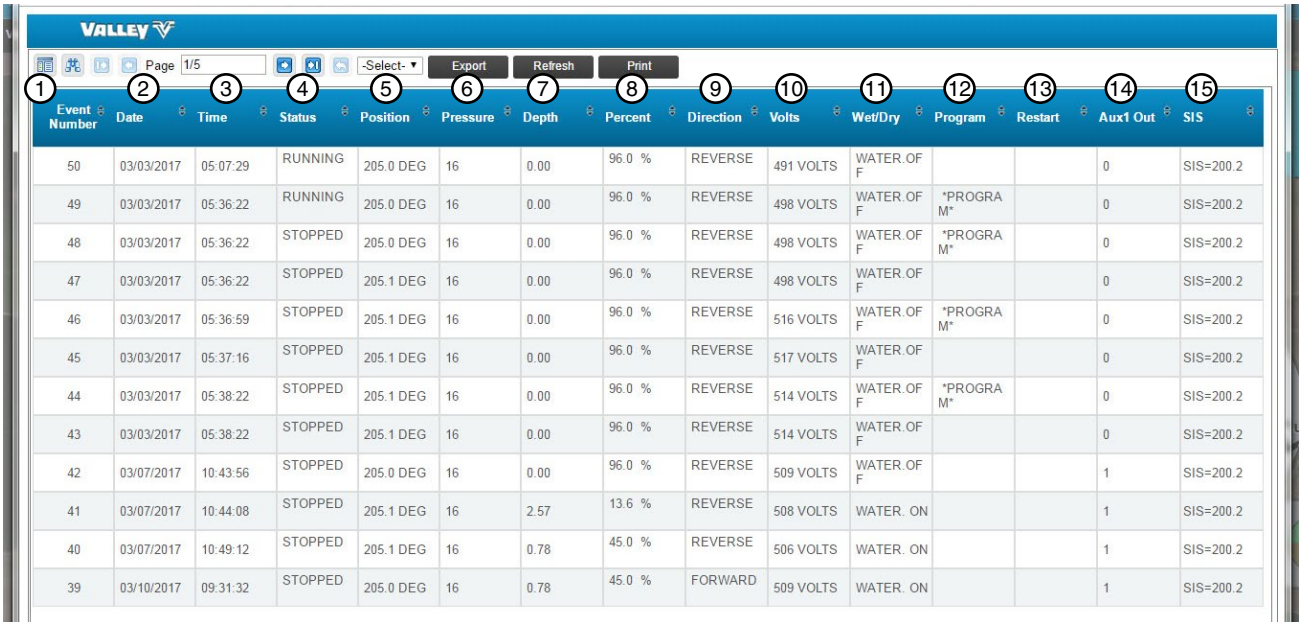


Figure 90-1
1. Click Utilities Tab
2. Click Event History Log
3. Total # Events Logged
4. Select for All Available events
5. Select for Newest Events
6. Select for Oldest Events
7. Click Send to retrieve Events Log

Device Utilities Reports — Event History Log

Description: This report will provide access to the PRO version 7 panel internal log of status changes. The PRO panel retains a log of the 50 most recent changes, which can be viewed by the user for diagnostics purposes. The log records the status of the machine, with a time stamp of the event. The number of records to retrieve from the machine is entered by the user, with BaseStation3 requesting those most recent events for display.



Event Number	Date	Time	Status	Position	Pressure	Depth	Percent	Direction	Volts	Wet/Dry	Program	Restart	Aux1 Out	SIS
50	03/03/2017	05:07:29	RUNNING	205.0 DEG	16	0.00	96.0 %	REVERSE	491 VOLTS	WATER.OF F			0	SIS=200.2
49	03/03/2017	05:36:22	RUNNING	205.0 DEG	16	0.00	96.0 %	REVERSE	498 VOLTS	WATER.OF F	*PROGRA M*		0	SIS=200.2
48	03/03/2017	05:36:22	STOPPED	205.0 DEG	16	0.00	96.0 %	REVERSE	498 VOLTS	WATER.OF F	*PROGRA M*		0	SIS=200.2
47	03/03/2017	05:36:22	STOPPED	205.1 DEG	16	0.00	96.0 %	REVERSE	498 VOLTS	WATER.OF F			0	SIS=200.2
46	03/03/2017	05:36:59	STOPPED	205.1 DEG	16	0.00	96.0 %	REVERSE	516 VOLTS	WATER.OF F	*PROGRA M*		0	SIS=200.2
45	03/03/2017	05:37:16	STOPPED	205.1 DEG	16	0.00	96.0 %	REVERSE	517 VOLTS	WATER.OF F			0	SIS=200.2
44	03/03/2017	05:38:22	STOPPED	205.1 DEG	16	0.00	96.0 %	REVERSE	514 VOLTS	WATER.OF F	*PROGRA M*		0	SIS=200.2
43	03/03/2017	05:38:22	STOPPED	205.1 DEG	16	0.00	96.0 %	REVERSE	514 VOLTS	WATER.OF F			0	SIS=200.2
42	03/07/2017	10:43:56	STOPPED	205.0 DEG	16	0.00	96.0 %	REVERSE	509 VOLTS	WATER.OF F			1	SIS=200.2
41	03/07/2017	10:44:08	STOPPED	205.1 DEG	16	2.57	13.6 %	REVERSE	508 VOLTS	WATER. ON			1	SIS=200.2
40	03/07/2017	10:49:12	STOPPED	205.1 DEG	16	0.78	45.0 %	REVERSE	506 VOLTS	WATER. ON			1	SIS=200.2
39	03/10/2017	09:31:32	STOPPED	205.0 DEG	16	0.78	45.0 %	FORWARD	509 VOLTS	WATER. ON			1	SIS=200.2

Figure 91-1
1. Event Number
2. Date
3. Time
4. Status
5. Position
6. Pressure
7. Depth
8. Percent
9. Direction
10. Volts
11. Wet/Dry
12. Program
13. Restart
14. Aux 1 Out
15. SIS

Reports

Glossary of Report Terms

The following descriptions are for the fields available and displayed on BaseStation3 reports. Please note that some fields may display a blank value on the report due to this field not being available to control or report. This is based on the panel type for the device it's associated and its available functions.

12V Power (Fault Alarm): ICON panels monitor the 12V power on the Smart Relay Board. A failure of the 12V power will cause a machine shutdown.

Acres/Hectares: The amount of area where the water volume is being measured by acres or hectares (as specified by user preferences).

Application Depth: The application depth of the water currently being applied, measured in inches or millimeters (as specified by user preferences).

Auto-Stop (Fault Alarm): The machine stopped when reaching the physical field boundary barrier, with the Auto Stop function enabled and selected to Stop.

Aux 1 In (State Alarm): The current state of Auxiliary Input #1 is not what was expected by BaseStation3, triggering an alarm, with the alarm level set to Low, Info, or High.

Aux 1 Out (State Alarm): The current state of Auxiliary Output #1 is not what was expected by BaseStation3, triggering an alarm, with the alarm level set to Low, Info, or High.

Aux 2 In (State Alarm): The current state of Auxiliary Input #2 is not what was expected by BaseStation3, triggering an alarm, with the alarm level set to Low, Info, or High.

Aux 2 Out (State Alarm): The current state of Auxiliary Output #2 is not what was expected by BaseStation3, triggering an alarm, with the alarm level set to Low, Info, or High.

Aux Link Ancillary Device Category (Aux Link only): In the Parameters Panel, the user can enter the category label (sensor, counter, output or input) as a filter parameter for the report. These device categories are used to identify the ancillary device that is wired to the Auxiliary Link.

Aux Link Ancillary Device Type (Aux Link only): This is a user description selection to help identify the equipment connected to the Auxiliary Link. It is for description only.

BB Ram (Fault Alarm): The machine stopped due to a memory error.

Channel or Comm Channel Name: The name of the communication channel being used.

Command (Fault Alarm): The machine stopped as a result of a local command, such as a STOP button press or a STOP command in a stored program, or a STOP command received from BaseStation3.

Command Name: The name of the command being used, such as Start, Stop, Forward, Reverse, Water On, Water Off, Percent, Depth, etc.

Command Parameter: The parameters of the command being used. This is additional data sent with a Command that provides specific information about the command. Example, "28.5" is a parameter that is added to the Set Percent Command.

Contact List Name: The list name of the contacts list configured to receive notifications for the device.

Counter Multiplier/Offset (Aux Link only): The Auxiliary Link Counter inputs require scaling to convert a raw pulse input count to a measurable unit. One pulse is equivalent to some unit of measure for the device that is sending pulses. The multiplier is applied to produce a units per pulse conversion. Some pulse output devices do not have a zero measurement, so there is an offset value that is applied, as a minimum reference. (An example is a wind speed anemometer, which has an offset of 1 mph.)

Created By: The login name for the user who created the command.

Cruise Control: Indicator if cruise control is currently running on this pivot.

Current Position: The current position of the pivot or linear.

Cut Cable (Fault Alarm): The machine stopped as a result of the Cut Cable function that is monitoring for lack of electrical continuity in the span wire.

Daily Operations or Daily Ops (Fault Alarm): Indicator that the machine stopped due to the Daily Ops settings that control when the machine is not allowed to be running.

Glossary of Report Terms (Continued)

Daily Operations Restart (State Alarm): The machine has been restarted by the Daily Operations control, with BaseStation3 not having commanded the machine to start.

Data Exchange Error (State Alarm): Several conditions can cause a message that is received by BaseStation3 to not be able to be processed. Some messages that cannot be processed include ones with data corruption caused by external interference or weak signals, incorrect device type or version configuration in BaseStation3 that does not match the actual panel version, and missing communications between a pump controller and the Pump Link interface.

Date/Time: The date and time that the last status information was retrieved from the control panel.

Depth: The water applied to the field for the current pass, equivalent to a rainfall measurement.

Device Name or Name: The name associated with this device.

Device RTU ID: The remote telemetry unit identifier assigned to this device.

Direction (State Alarm): A state alarm triggered when BaseStation3 detected that the machine is running in the opposite direction than expected.

Direction Shutdown (Fault Alarm): The machine stopped as a result of a mechanical problem where the control panel reported that the machine direction is both Forward and Reverse, simultaneously for a time duration longer than allowed for Auto Reverse to execute.

Display Rate Units (Aux Link only): The units of measure used for the rate calculation of an Auxiliary Link sensor.

Display Total Units (Aux Link only): The units of measure used for an accumulated total calculation of an Auxiliary Link sensor.

End Gun 1 (State Alarm): A state alarm that indicates the state of End Gun 1 is different than what BaseStation3 is expecting. (The End Gun angle settings in the control panel are different than the angles known by BaseStation3.)

End Gun 2 (State Alarm): A state alarm that indicates the state of End Gun 2 is different than what BaseStation3 is expecting. (The End Gun angle settings in the control panel are different than the angles known by BaseStation3.)

End Gun 3 (State Alarm): A state alarm that indicates the state of End Gun 3 is different than what BaseStation3 is expecting. (The End Gun angle settings in the control panel are different than the angles known by BaseStation3.)

End Gun 4 (State Alarm): A state alarm that indicates the state of End Gun 4 is different than what BaseStation3 is expecting. (The End Gun angle settings in the control panel are different than the angles known by BaseStation3.)

End Guns Running: The list of end guns currently running for this pivot.

End Gun State: Indicates whether or not the end gun(s) are running: On or Off.

Event Number: Each recorded state charge is saved in the PRO/Pro2/Pro2+/ICON panels as a history event, with an index number for sequence recording. BaseStation3 is able to retrieve the events with the Event History Log utility, available with the PRO and Pro2 Device View.

Export: Report(s) can be exported and saved in the Downloads folder of the BaseStation3 computer. Each report has a selection of file types that it can be exported to, such as PDF, CSV, Excel, etc. They are saved with the filename “Active Report (n). ext”.

Farm or Farm Name: The name label given to a partition of devices and user accounts for managing limitations granted to the users, to accommodate the separation of farm businesses.

Farm Group: The name label given to a partition of devices, within a farm partition, regulating the separation of user access to devices.

Faults: The list of current faults on this device describing the reason why the machine has stopped on this device: Command, Power, etc.

Fault Alarms: All fault alarms are reasons for the machine to be stopped. No Fault Alarm is active when the machine is running; one (only one) fault alarm is active when the machine is stopped.

Reports

Glossary of Report Terms (Continued)

Field Boundary (Other Alarm): An alarm set to trigger when the device is outside of the field boundary.

Firmware (Aux Link only): The version of firmware on this device. (All devices have a firmware version, which is the version of the internal software that runs the device.)

Flow (Fault Alarm): An alarm showing that the machine has reported a shutdown due to water flow that has decreased below a threshold configured in the control panel.

Flow Meter 1 Multiplier: The numeric value provided by the flow meter manufacturer that specifies the water volume (gallons or liters) represented by each pulse output of the meter. Example, a multiplier of 1.25 states that each electronic pulse output of Flow Meter 1 is equal to 1.25 gallons.

Flow Meter 2 Multiplier: The numeric value provided by the flow meter manufacturer that specifies the water volume (gallons or liters) represented by each pulse output of the meter. Example, a multiplier of 1.25 states that each electronic pulse output of Flow Meter 2 is equal to 1.25 gallons.

Flow Meter 1 Name: The name label assigned to Flow Meter 1, typically indicating the water source that is being measured.

Flow Meter 2 Name: The name label assigned to Flow Meter 2, typically indicating the water source that is being measured.

Flow Meter 1 Pulse Count: The totalized pulse output from Flow Meter 1, as a cumulative count total.

Flow Meter 2 Pulse Count: The totalized pulse output from Flow Meter 2, as a cumulative count total.

Flow Rate: The volume of water (or other liquid) being measured by a flow meter during a one minute interval, expressed as Gallons per Minute (or Liters per Second).

Flow Summary - Gallons: The total calculated volume of water for a specified period of time, in gallons (cubic meters).

For/Rev (Fault Alarm) - Same as Direction Shutdown (Fault Alarm): The machine stopped as a result of a mechanical problem where the control panel reported that the machine direction is both Forward and Reverse, simultaneously for a time duration longer that allowed for Auto Reverse to execute.

Gallons Per Minute (GPM): The sprinkler discharge rate, used when calculating water volume from wet hours. Also, seen as the Flow Rate when viewing current status. NOTE: When using the sprinkler chart flow rate, the discharge rate include the end gun, if included in the machine design.

GPS Com (Fault Alarm): The machine has stopped as a result of the control panel is not receiving data from the GPS receiver, causing the machine to not be able to calculate the span position.

GPS Lock (Fault Alarm): The machine has stopped as a result of the GPS receiver not being able to collect enough stable satellite signals to establish a location, causing the machine to not be able to calculate the span position.

GPS Signal (Fault Alarm): The machine has stopped as a result of the GPS receiver or lost satellite signals, causing the machine to not be able to calculate the span position.

High (Aux Link Only): High and Low are the maximum and minimum range values that are used for calculating the scale of a sensor. A sensor returns an electronic measurement which is translated into a unit value by BaseStation3. The High and Low are the scale values used to calculate the sensor measurement limits into the user defined units of measure.

High Water Pressure (Fault Alarm): The machine stopped as a result of water pressure that is higher than the threshold allowed.

Hour Meter: The clock in the panel that records the run time of the machine both when water is on and off. The Hour Meter records run time in tenths of an hour.

Hours Summary: This is the sum of the hours, for the associated group of hours recorded and being reported.

Hours Wet: The Select/Pro/ICON control panel model types have a resettable hour meter that records the amount of time that the machine is running with Water On. The Wet Hour Meter records run time in tenths of an hour.

Hrs/Rev: The amount of time for the pivot to complete one 360 degree pivot revolution, at the current Percent (for linear machines, one full pass of the field) (in hours).

Glossary of Report Terms (Continued)

IP Connection Error (State Alarm): BaseStation3 is not able to get a connection with the communications device with this IP address.

Irrigated Acres (Panel only) - Pivot and Linear fields only: The total area of the field that receives water.

Is Polling Enabled (Aux Link only): Indicator if polling is currently set for this device to poll data: True or False.

Low (Aux Link only): High and Low are the maximum and minimum range values that are used for calculating the scale of a sensor. A sensor returns an electronic measurement which is translated into a unit value by BaseStation3. The High and Low are the scale values used to calculate the sensor measurement limits into the user defined units of measure.

Low Pressure (Fault Alarm): An alarm showing that the machine has reported a shutdown due to water pressure that has decreased below a threshold configured in the control panel.

Measure: The measure being used for the water: Gallons or Liters.

Metered Flow (gallons): The measured total water volume, for the report period, as recorded by the BaseStation.

Min App (Panel only): The current configuration setting for minimum application rate on this device. This is the least applied water depth that can be applied with the current sprinkler package, while the machine is moving with the Percent Timer set at 100%.

Min Hrs (Panel only): The current configuration setting for minimum hours (per revolution) on this device. This is the shortest time in which the machine can make one full pass of the field. For a pivot, it is a full 360 degrees; for a linear, it is the length of the field. The shortest time is achieved with the Percent Timer set at 100%. See the control panel Owner's Manual for the Pro2 and ICON panels for usage of the Minimum Application when the machine is setup for a part-circle field (not a full 360 degree pass).

Multiplier (Panel only): The scale value used by a flow meter that represents the volume of water measured for each pulse output of the meter, as gallons per pulse or liters per pulse.

No Ack (Fault Alarm): An alarm showing that the machine has reported a shutdown due to not receiving an Acknowledge response from BaseStation after sending a Notice Report message.

No Response (State Alarm): Transaction failure where after sending a BaseStation command to the machine, and not getting a reply. The No Response alarm occurs only after the configured number of tries has been attempted.

Number of Times to Send Messages: BaseStation will attempt the configured number of tries to send and get a response from the machine. If the message sent receives a reply, the transaction is complete and successful, no more tries are attempted.

NVMEM (Fault Alarm): An alarm showing that the machine has reported a shutdown due to a hardware memory failure.

Off Label (Aux Link only): A user applied label to the state of an input or output that is configured in BaseStation. The user can assign a descriptive label that defines the usage of the input or output.

On Label (Aux Link only): A user applied label to the state of an input or output that is configured in BaseStation. The user can assign a descriptive label that defines the usage of the input or output.

Operating Sector (Fault Alarm): An alarm showing that the machine has reported a shutdown due to the current position being outside of the configured field boundaries.

Overdue Date Time: The date and time that the transaction with the remote device was expected to be completed.

Overlap Zone: The pair of devices are both positioned in the area designated where a machine collision is possible.

Panel (Panel only): The name of the panel type for this device.

Panel Lockout: Indicator if the panel is in lockout status: On or Off. When the panel is locked out, only status request commands are executed. Otherwise, the panel replies to any action command with the current status, indicating that the panel is locked out, for any remote command execution.

Panel Type: The specific model of the control panel being used: PRO2, Select2, Aux Link, etc.

Glossary of Report Terms (Continued)

PCB Hardware (Fault Alarm): An alarm showing that the machine has reported a shutdown due to circuit board failure.

Percent or Percent Timer: The value of percent timer set for this device: 0-100.

Pivot At: The position in degrees that the pivot is currently at (or distance from the start location of a linear machine).

Polling or Polling Period: The interval of time configured for this device to poll data.

Position: The location of the machine in the field.

Position Encoder Com (Fault Alarm): An alarm showing that the machine has reported a shutdown due to the current position not being known by the control panel, while configured to use the position encoder.

Power (Fault Alarm): An alarm showing that the machine has reported a shutdown due to a loss of power, system voltage below the Low Voltage Limit.

Pressure (Fault Alarm): An alarm showing that the machine has reported a shutdown due to a loss of pressure, system pressure below the Low Pressure Limit.

Priority: The ranking of importance that determines the order of communication transactions in the proposed queue.

Program (Fault Alarm): An alarm showing that the machine has reported a shutdown due to a commanded Stop by a running Step Program.

Proximity (Fault Alarm): An alarm showing that the machine has reported a shutdown due to a position problem while the Universal Linear machine is transitioning between a Linear/Pivot zone. (BaseStation3 does not have a Universal Linear panel type selection, so this is never used).

Rain (Fault Alarm): An alarm showing that the machine has reported a shutdown due to rainfall measured above the threshold limit.

Relay BD Comm (Fault Alarm): An alarm showing that the machine has reported a shutdown due to a communications interruption with the Relay Board. Without Relay Board communications, the control panel does not have current status information, causing a shutdown.

Restart: Indicator if auto-restart settings are enabled or disabled.

Running (State Alarm): A state where the machine is moving.

RTU (Panel only): The remote telemetry unit (RTU) identifier address assigned to this device.

Safety (Fault Alarm): An alarm showing that the machine has reported a shutdown due to an open safety circuit.

SCADA Approved (Labeled as IsApproved): SCADA Approved indicates that the transaction was approved by the SCADA program. (Data can appear as No, currently a False, or Yes, currently True.)

SCADA Managed (Labeled as IsScada): SCADA Managed indicates if an external SCADA program is associated with the device transaction. (Data can appear as No, currently a 0, or Yes, currently 1.)

Schedule Date Time: The scheduled date and time for the command.

Sensor mAmp (Aux Link only): The analog sensor that returns an electrical current between 4 and 20 mAmp.

Sensor Volt (Aux Link only): The analog sensor that returns an electrical DC voltage between 0 and 10 Volts.

Show On Map (Aux Link only): The user selection choosing whether to show this data in the pinned status.

Shutdown: The reason why the machine is stopped.

SIS (Fault Alarm): An alarm showing that the machine has reported a shutdown due to the Stop In Slot function, indicating that the machine has reached the SIS position.

SIS On/Off (State Alarm): Indicator that the SIS function enable/disable (On/Off) has changed, without the command being sent by BaseStation3.

Speed (State Alarm): An alarm indicating that the speed (percent timer setting) reported by the machine is not what BaseStation is expecting it to be.

Glossary of Report Terms (Continued)

Sprinkler Discharge (Panel only): The water flow rate currently configured for this device based on the sprinkler package in use.

Status: The current status of the device: condition of the machine, Running or Stopped, Water On or Off, Forward or Reverse, etc.

Status Date: The date/time that the status of the machine is recorded.

Step Programs: Indicator if a step program is currently running on this pivot's PRO, Pro2 or ICON control panel. Locally saved program that can be run by the control panel. Steps are executed sequentially when the condition of the active step occurs (such as Position, Direction, Time Delay, etc.). Commands are entered for each step.

Store In Forward Path Enabled: The intermediate device used for communications is being used.

Store In Forward Path RTU ID: The RTU ID of the intermediate device, specifying the communications path. BaseStation sends the command to the intermediate device with the instruction to forward the command to the destination device. (In the panel, the reverse action for the panel to originate a Notice Message, the intermediate RTU ID is called a Hop Path.)

Stored Program Running: A Step Program or Sector Program that has been saved in the control panel is actively running.

System Power Lost (Fault Alarm): An alarm showing that the machine has reported a shutdown due to loss of voltage.

System Power Low (Fault Alarm): An alarm showing that the machine has reported a shutdown due to low system voltage below the Low Voltage threshold for a period of time exceeding the tolerance that has been setup.

System Safety (Fault Alarm): An alarm showing that the machine has reported a shutdown due to an interruption in the span Safety circuit.

System Status: The state in which the machine is running: Running, Waiting or Stopped.

Telemetry Failed (Other Alarm): The current alarm level set to initiate when telemetry fails to communicate.

Temperature (Fault Alarm): An alarm showing that the machine has reported a shutdown due to the low temperature threshold has been exceeded.

Time To Wait For Acknowledgement: The defined allowable time to wait for an active transaction to finish before executing the next sequential transaction(s) or retry the current transaction if the response is not successfully received.

Tire Pressure (Fault Alarm): An alarm showing that the machine has reported a shutdown due to low tire pressure. This is monitored by the TPMS option, when the sensor hardware is installed.

Tire Pressure Low (Fault Alarm): Indicator that a tire at one of the towers has pressure that is less than the allowable tolerance.

Total Calculated Water: The Wet Hours calculated water volume. When Wet Hours is used, the GPM is used to calculate the Total Calculated Water. Gallons, acre-feet, and inches-acre are calculations showing the water applied using the various measurement units.

Total Flow Meter (Gallons): Total Flow Meter is the measured water volume resulting from the meter's pulse output for the report period, multiplied by the meter's calibrated gallons per pulse setting. Includes Flow Meter 1 and Flow Meter 2 subtotals. (Units of measure is determined by user preferences.)

Total Hours: The total hours the device ran, includes numbers for wet, dry and total hours run.

Total Metered Water: Total Metered Water is the calculated water volume resulting from the meter's pulse output for the report period, multiplied by the meter's calibrated gallons per pulse setting. Includes Flow Meter 1 and Flow Meter 2 subtotals. Gallons, acre-feet, and inches-acre are calculations showing the water applied using the various measurement units.

Total Water (Acre Feet or Hectare Meter): The water volume discharged for the report period, using each available water discharge used during the report period.

Total Water Applied: The equivalent depth of water applied to the field, as the volume of water with respect to the area of the field.

Glossary of Report Terms (Continued)

Transition (Fault Alarm): An alarm showing that the Universal Linear machine has reported a shutdown due to an error in transition between the linear and pivot modes.

Units (Aux Link only): The unit of measure used: Fahrenheit or Celsius.

Unreliable Position (State Alarm): The ICON panel position state alarm indicating that the GPS position receiver does not have sufficient satellite information to provide machine position, and that the control panel is using the fallback position estimation method of calculating current position based on the last known accurate position and machine calculated rate of movement.

Version (Panel only): The version number of the panel firmware.

Voltage: The machine power source voltage measurement from the panel.

Voltage High (Threshold Alarm): An alarm showing that the voltage measurement from the panel exceeds the threshold being monitored by BaseStation.

Voltage Low (Threshold Alarm): An alarm showing that the voltage measurement from the panel is below the threshold being monitored by BaseStation.

Volts: The machine voltage measurement from the panel.

VRI Mode: Indicator for showing the type of VRI prescription that the machine is configured to run.

VRI Active: Indicator showing that a VRI prescription is running.

Water: This column is the cumulative depth applied for the report period, summarized for each row of the report.

Water Applied with Chemicals: The total amount of water applied with chemicals during the specified report (in inches).

Water Applied with Fertilizer: The total amount of water applied with fertilizer during the specified report period (in inches).

Water Applied with Other: The total amount of water applied with other compounds during the specified report period (in inches).

Water From Flow Meter 1 (Gallons): The calculated water volume using the Flow Meter 1 Pulse Count, for the report period, times the Flow Meter 1 Multiplier.

Water From Flow Meter 2 (Gallons): The calculated water volume using the Flow Meter 2 Pulse Count, for the report period, times the Flow Meter 2 Multiplier.

Water From Wet Water Hours: The calculated water volume using the hours run, with water on, for the report period, times the Gallons per Minute (GPM) or Liters per Second (LPS).

Water Meter (Panel only): The number of meters configured on this device to measure water.

Water Mode: The machine is either applying water or not: Dry or Wet.

Water Pressure Dry/Stopped (Threshold Alarm): An alarm indicating that the water pressure reported by the machine is higher than the tolerance for pressure when the machine is stopped or when Water is Off (Dry).

Water Pressure High (Threshold Alarm): An alarm indicating that the water pressure reported by the machine is higher than the range desired.

Water Pressure Low (Threshold Alarm): An alarm indicating that the water pressure reported by the machine is lower than the range desired.

Water Timer (Fault Alarm): An alarm showing that the machine has reported a shutdown due to excessive or too little water being applied as a result of improper machine movement rate.

Wet/Dry (State Alarm): Indicates That the machine Water On/Off state is different than expected.

Wet Hours: Recorded run time when the machine is running with water on.

Wide Boundary State: The state of the end gun with the shortest water spray: On or Off.

Wind (Fault Alarm): An alarm showing that the machine has reported a shutdown due to the high wind speed limit has been exceeded.

Irrigation Exchange

Irrigation Exchange™ enables BaseStation3 to share irrigation data, and BaseStation access, with third party Agronomy partners and Original Equipment Manufacturers (OEM), that are approved and registered with Irrigation Exchange. The grower decides which partners to share with and the types of information to send through the interface.

- Irrigation Data: Shares machine information, machine status and applied water information for that machine.
- Access My BaseStation: Allows the third party to access BaseStation with full control over the pivot irrigation machines that the administrator has access to.
- Receive VRI Prescription: Allows the third party to access VRI layout for a pivot irrigation machine and send VRI prescriptions for that machine. The user can choose to require approval of requests before running or allow auto approval.
- Work Order: Use work order to start, stop or run a program on a pivot irrigation machine. The user can choose to require approval of requests before running or allow auto approval.

Irrigation Exchange Home Page

Click **Settings** and then **Irrigation Exchange**. The Irrigation Exchange home page is displayed in a new browser window. See Figure 99-1.

1. **Grant Access:** To allow or disallow a third party to access and exchange data.
2. **Approve Request:** To approve or reject a third parties pending or past requests to send a VRI prescription or a VRI prescription or a work order command. Also stores past requests that were approved or rejected.
3. **View Log:** Allows the user to view a complete log of API requests.
4. **Command History:** Allows the user to view a complete history of commands by third party clients.

NOTE: Pop ups must be allowed in order to use Irrigation Exchange.

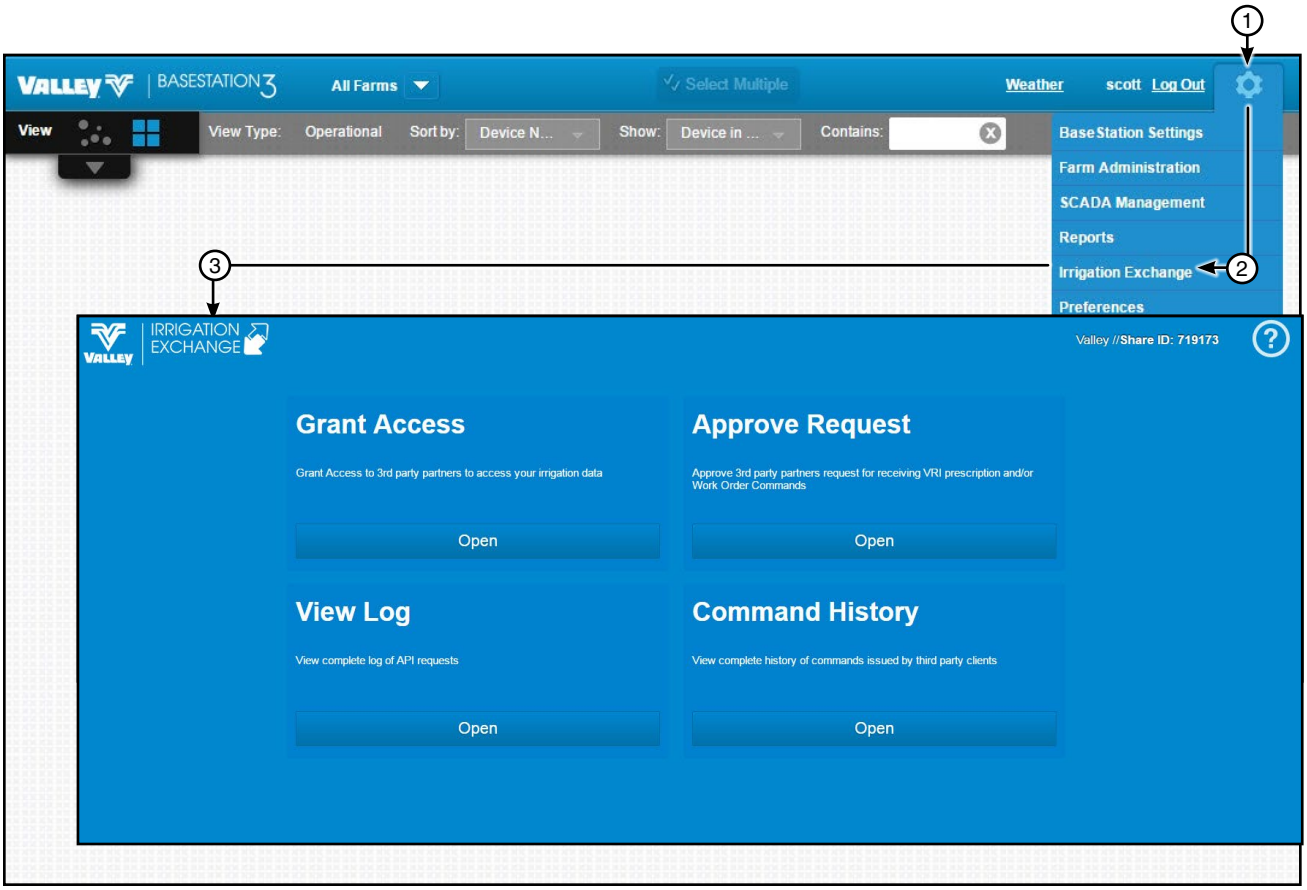


Figure 99-1 1. Click Settings 2. Select Irrigation Exchange 3. Irrigation Exchange Home Page

Preferences

Setting Preferences

To set preferences, click **Settings** and then **Preferences**. See Figure 104-1.

Select Theme: Choose either a dark or light theme.

Display Language: Select a language from the drop down list.

Units of Measure: Select US Customary or SI (Metric) as the unit of measure.

Date Format: Choose to show dates as mm/dd/yyyy or dd/mm/yyyy.

Default Screen View:

- Choose the **Farm**, from the drop down list.
- Choose the **Group**, from the drop down list.
- Select the **View,** either Map or Tile.
- Select the **View Type**, either Operational or Soil Moisture.

The Sorting Options:

- **Tile View Sort By:** Select the default **Tile View Sort** from the drop down list.

Status Pop Up Options:

- **Pop Up Location:** Select the default pop up location, either standard or upper left.

Get Status Preference:

- Select the **Status Preference** to either automatically Get Status when opening devices or not.

Map Display Options:

- **Map Type:** Choose the default map for **Map View**, either My Map or Google Map.
- **Map and Tile View Device Display Label:** Select the Device Display Label from the options of RTU ID, Device Name or Both.

Map and Tile View Alarm Pop Up:

- Check or uncheck State: No Response to display the alarm.
- Check or uncheck Threshold: Water Pressure Dry/Stopped to have the alarm pop up.

Weather Link:

- Check or uncheck Show weather link and fill in Label and URL to add a weather link.

When done, click **Save**.

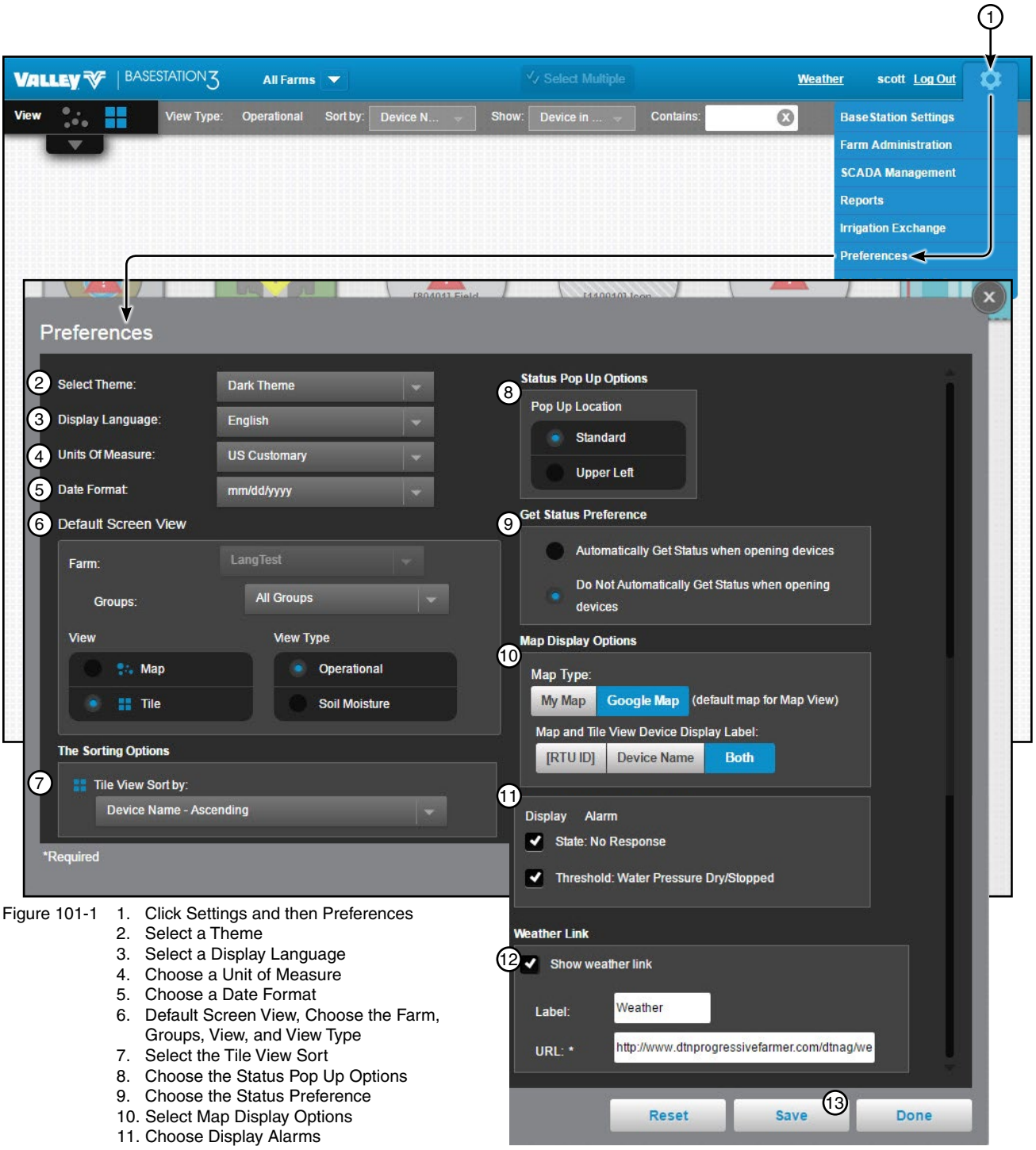


Figure 101-1

1. Click Settings and then Preferences
2. Select a Theme
3. Select a Display Language
4. Choose a Unit of Measure
5. Choose a Date Format
6. Default Screen View, Choose the Farm, Groups, View, and View Type
7. Select the Tile View Sort
8. Choose the Status Pop Up Options
9. Choose the Status Preference
10. Select Map Display Options
11. Choose Display Alarms
12. Show Weather Link
13. Click Save

Preferences

Setting Preferences

Status Pop Up Options: Allows users to pick where pop ups appear. To enable a preferred location, check Standard or Upper Left, as seen in Figure 102-1.

Get Status Preference: Provides users with an option to automatically Get Status when opening devices. Check either Automatically Get Status or Do Not Automatically Get Status to choose an option. See Figure 102-1.

Map Display Options: The Map Display Options allow users to pick a default map for Map View as well as a display label.

- **Map Type:** To select a default map for Map View, click on either My Map or Google Map. See Figure 102-1.
- **Map and Tile View Device Display Label:** Choose a display label, which can be [RTU ID], Device Name, or both. See Figure 102-1.

When done, click **Save**.

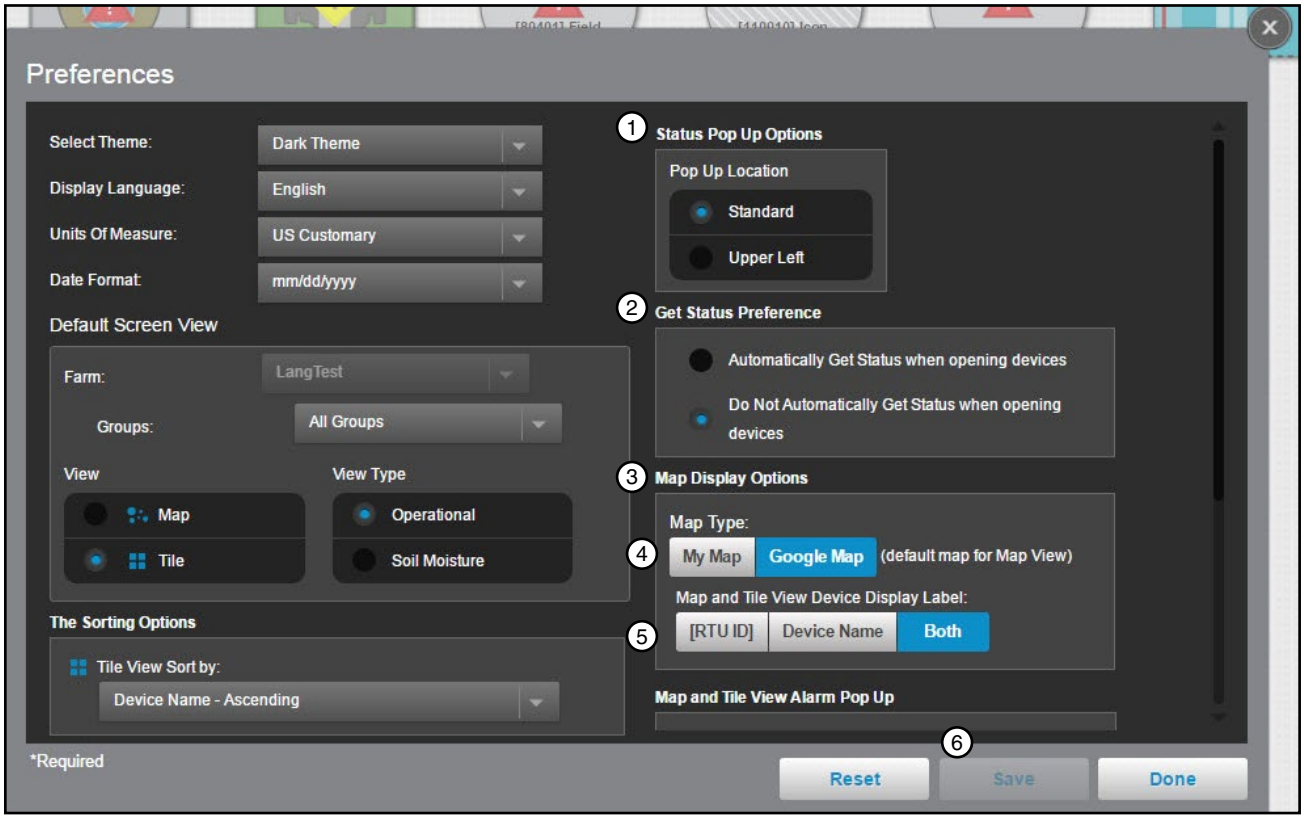


Figure 102-1 1. Status Pop Up Options
2. Get Status Preference
3. Map Display Options
4. Map Type
5. Map and Tile Device Display Label
6. Save

Setting Preferences

Map and Tile View Alarm Pop Up: Check the box associated with the alarm to enable the pop-up feature. When checked, the user must click the Highlight button to see the yellow ring around the devices that have a No Response alarm, or the blue ring around devices that have a Pressure Dry/Stopped alarm.

- **No Response Alarm:** When the alarm occurs, the alarm pop up will appear at the bottom of the screen. Click Highlight, to highlight devices that have not responded with a yellow halo. Click No Highlight to remove the yellow halo. See Figure 103-1.
- **Water Pressure Dry/Stopped:** When the threshold is reached, the alarm will appear at the bottom of the screen. The highlight for this alarm will be blue. See Figure 103-1.

  When done, click **Save**.

Figure 103-1 1. Map and Tile View Alarm Pop Up
2. Check the Alarm Boxes
3. Click Highlight
4. Yellow Halo for No Response Alarm
5. Blue Halo for Water Pressure Dry/Stopped

Preferences

Setting Preferences

Weather Link: Provides a hyperlink on the header bar to any URL. Only an Administrator can enable, disable, change label or URL for the Show Weather Link.

To enable the hyperlink on the header bar refer to Figure 104-1 and do the following.

1. Check the **Show Weather Link** check box.
2. Enter the **Label** for display on the header bar.
3. Enter the **URL** to the weather service or other website.
4. When done, click **Save**.

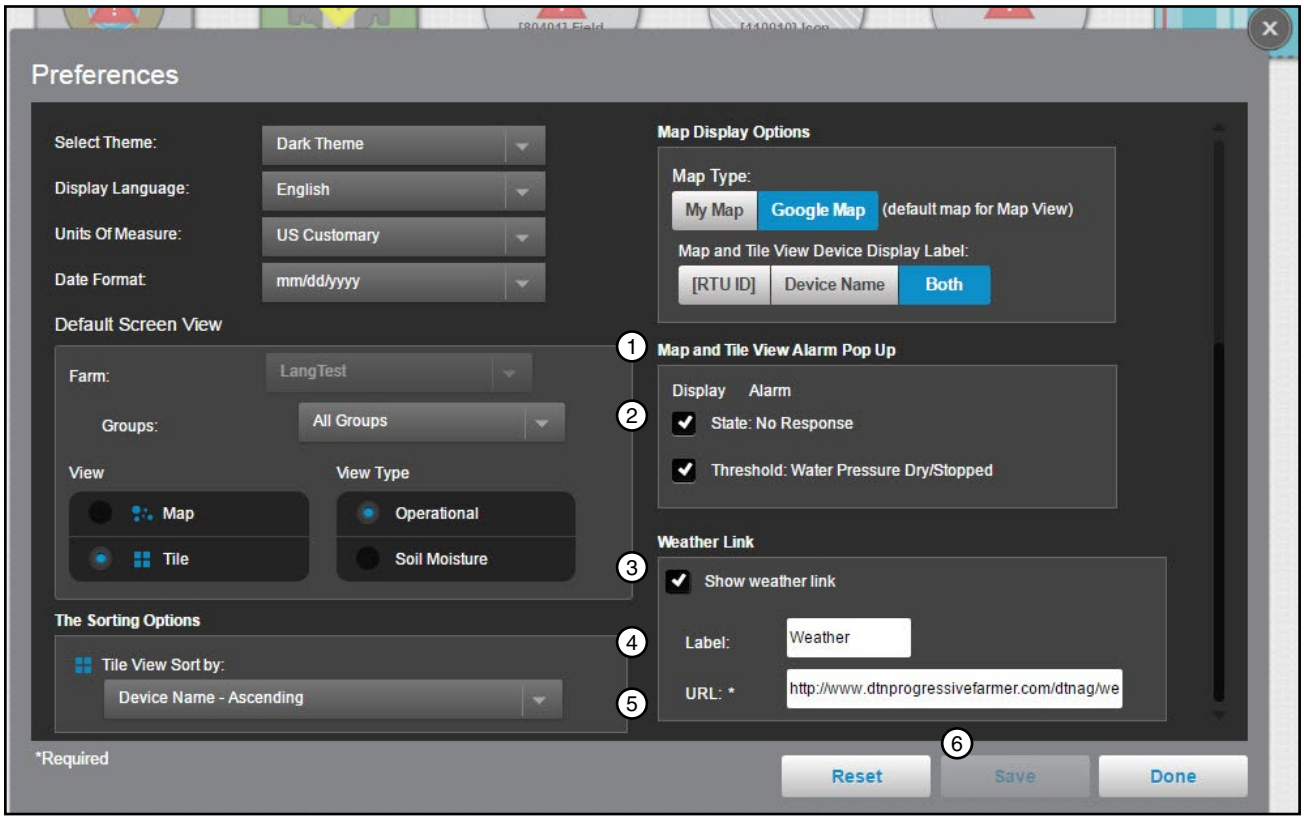


Figure 104-1 1. Map and Tile View Alarm Pop Up
2. Check the Alarm Box
3. Show Weather Link
4. Label
5. URL

About BaseStation3

To see information About BaseStation3, click **1) Settings** and choose **2) About BaseStation3**. See Figure 105-1.

The BaseStation3 information will popup and include the version information, release notes and license agreement.

Figure 105-1
1. Click Settings
2. Select About BaseStation3
3. About BaseStation3 screen popup
4. Release Notes
5. License Agreement

Help Request

Help Request

To open a Help Request, click **1) Settings** and choose **2) Help Request**. See Figure 106-1.

To log a help request, users can call the listed phone number, e-mail the provided e-mail address or fill out the message form provided.

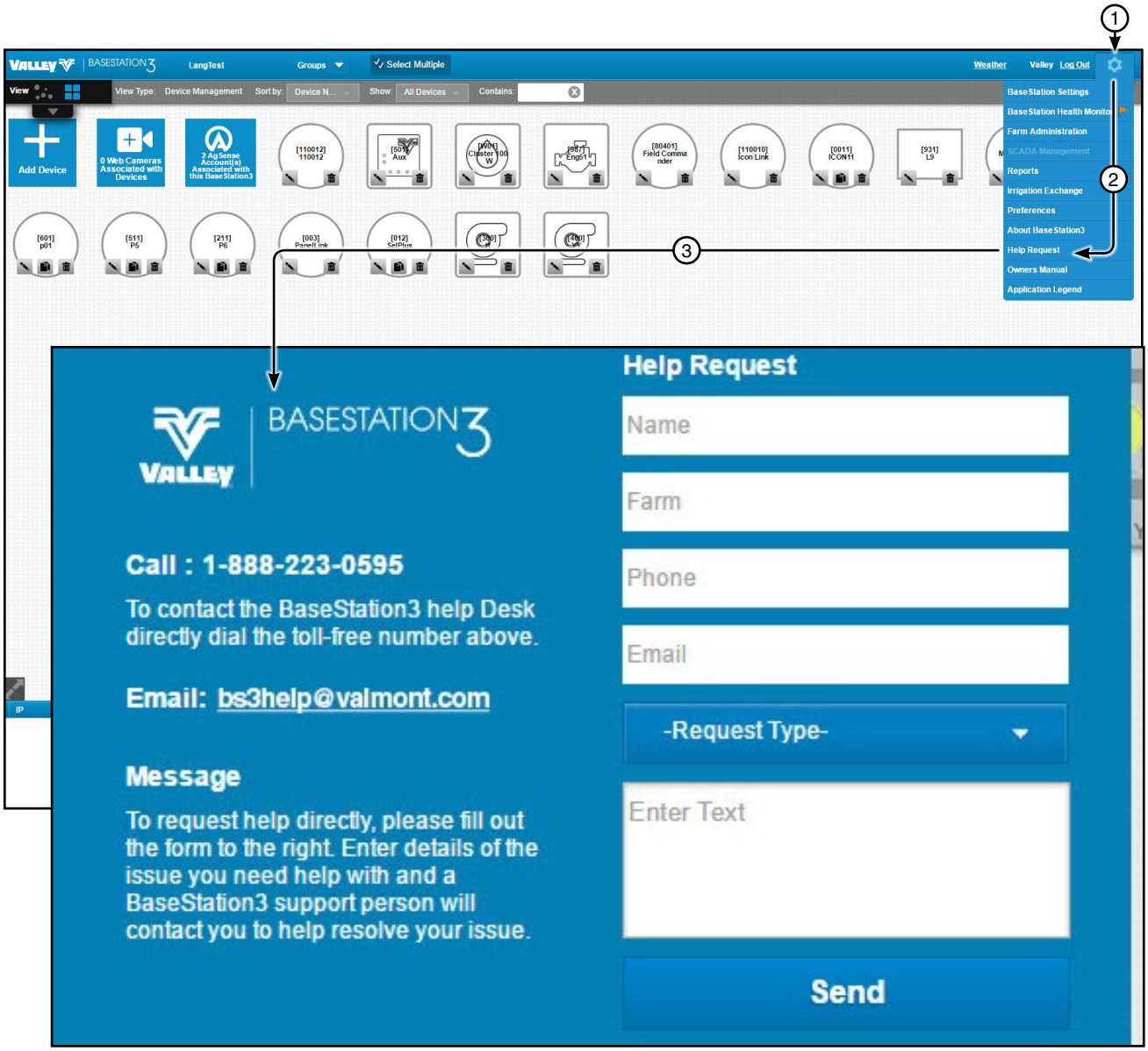


Figure 106-1 1. Click Settings
2. Select Help Request
3. Choose a Help Request contact option

Filling Out a Help Request

To fill out a Help Request, provide the following information in the message form provided and click **Send**. See Figure 107-1.

To begin filling out the form, the user must enter their name and farm, as well as entering a phone number and e-mail address where they can be reached. Next, select the request type from the drop down menu. The options include Bug Fix, Help or Feature. In the **Enter Text** box, the user may input any additional information to help solve the problem faster.

When the information has been filled in, click **Send**.

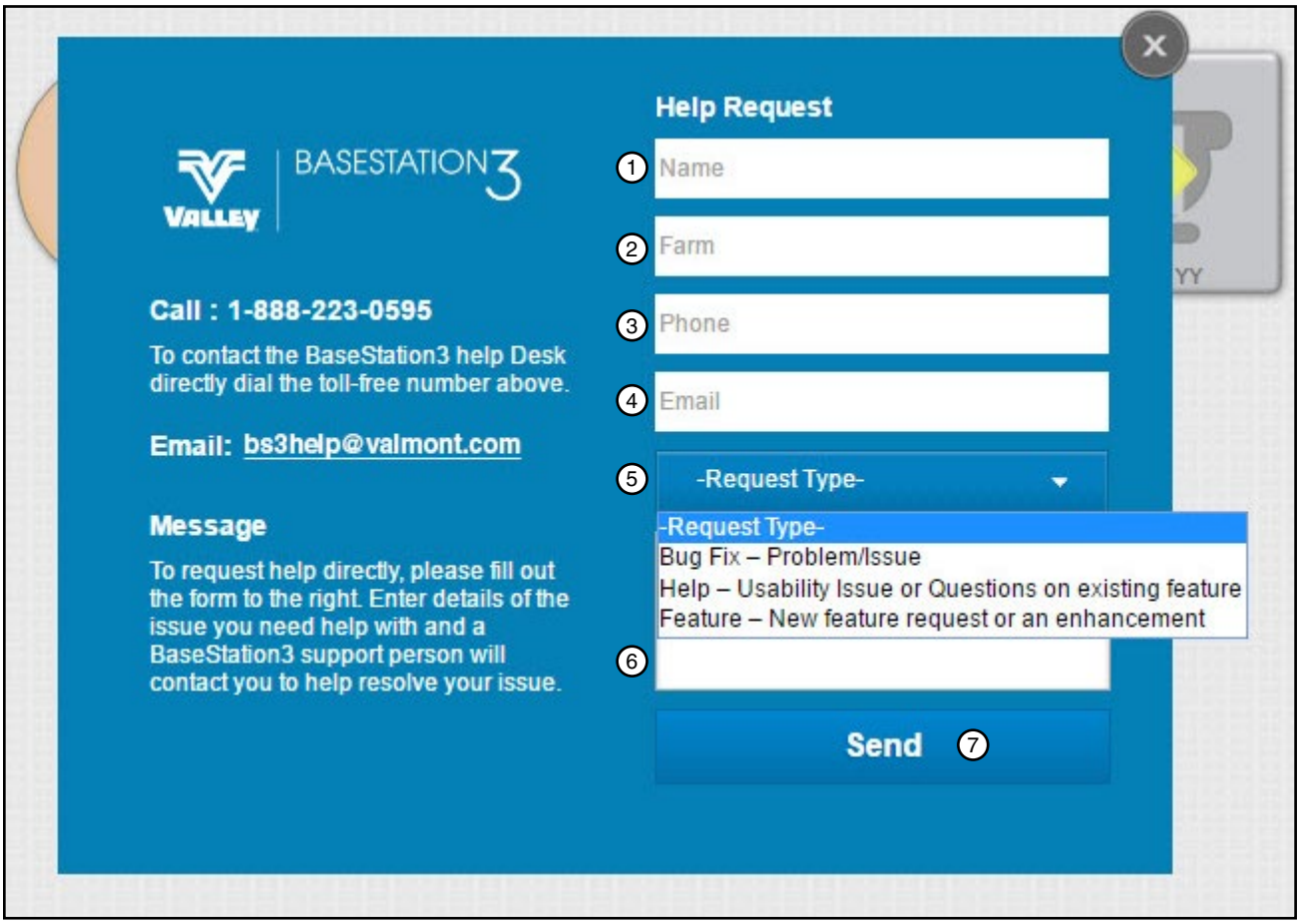


Figure 107-1
1. Enter Name
2. Fill in Farm
3. Enter Phone
4. Fill in E-mail
5. Select Request Type
6. Enter Text
7. Click Send

Owners Manual

Owners Manual

To view the latest version of the Owners Manual, click **1) Settings** and choose **2) Owners Manual**. See Figure 108-1.

BaseStation will redirect to the link below, which will list the Valley owners manual including the latest version of the BaseStation3 manual.

http://www.valleyirrigation.com/valley-irrigation/us/resources/owners-manuals

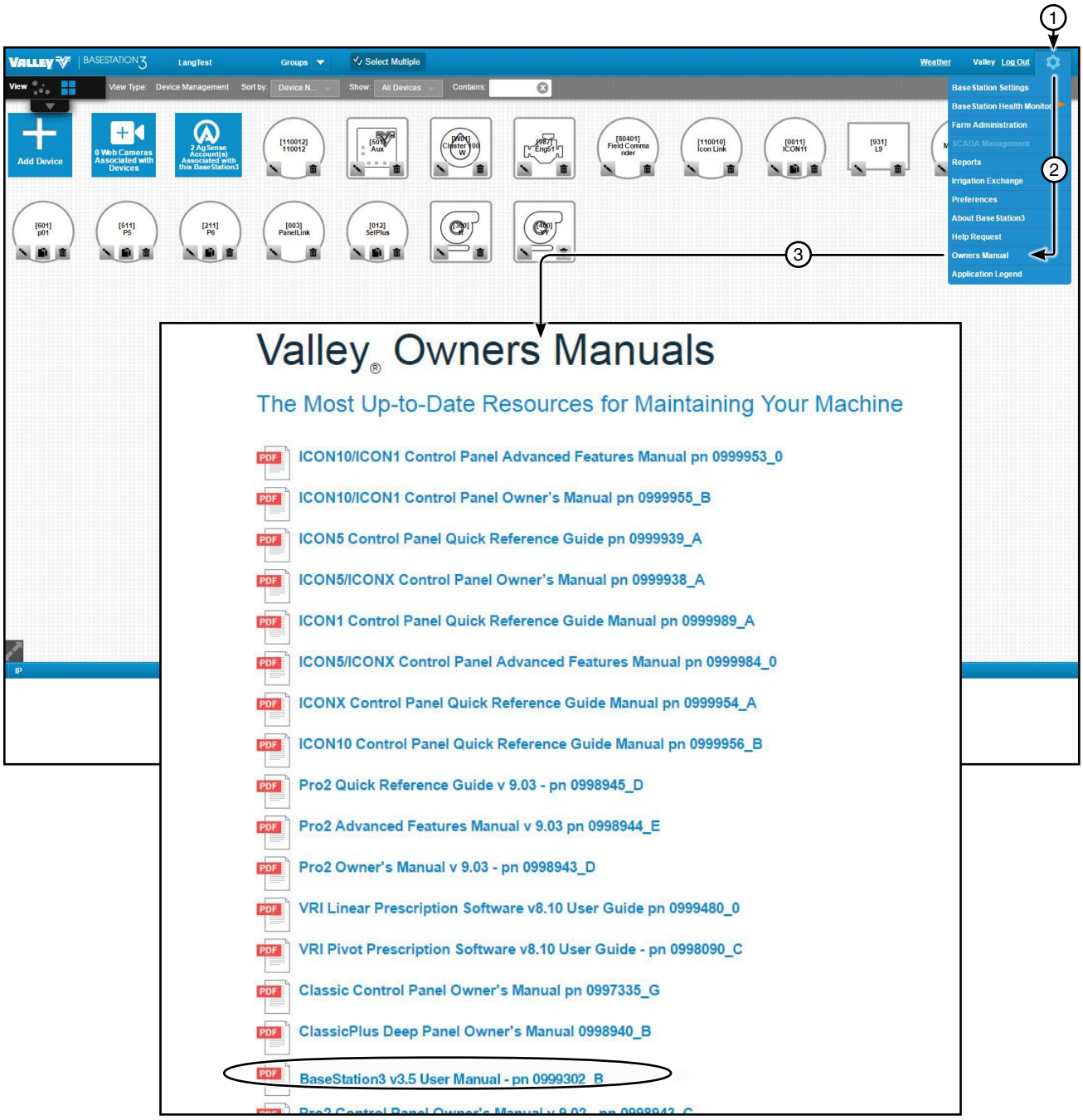


Figure 108-1 1. Click Settings
2. Select Owners Manual
3. Redirect to list of Valley Owners Manuals
4. BaseStation3 Owners Manual

Application Legend

To view the Application Legend through the BaseStation Legend, click **1) Settings** and choose **2) Application Legend**. See Figure 109-1.

The Application Legend will popup as a PDF file. See page 35 for full Application Legend.

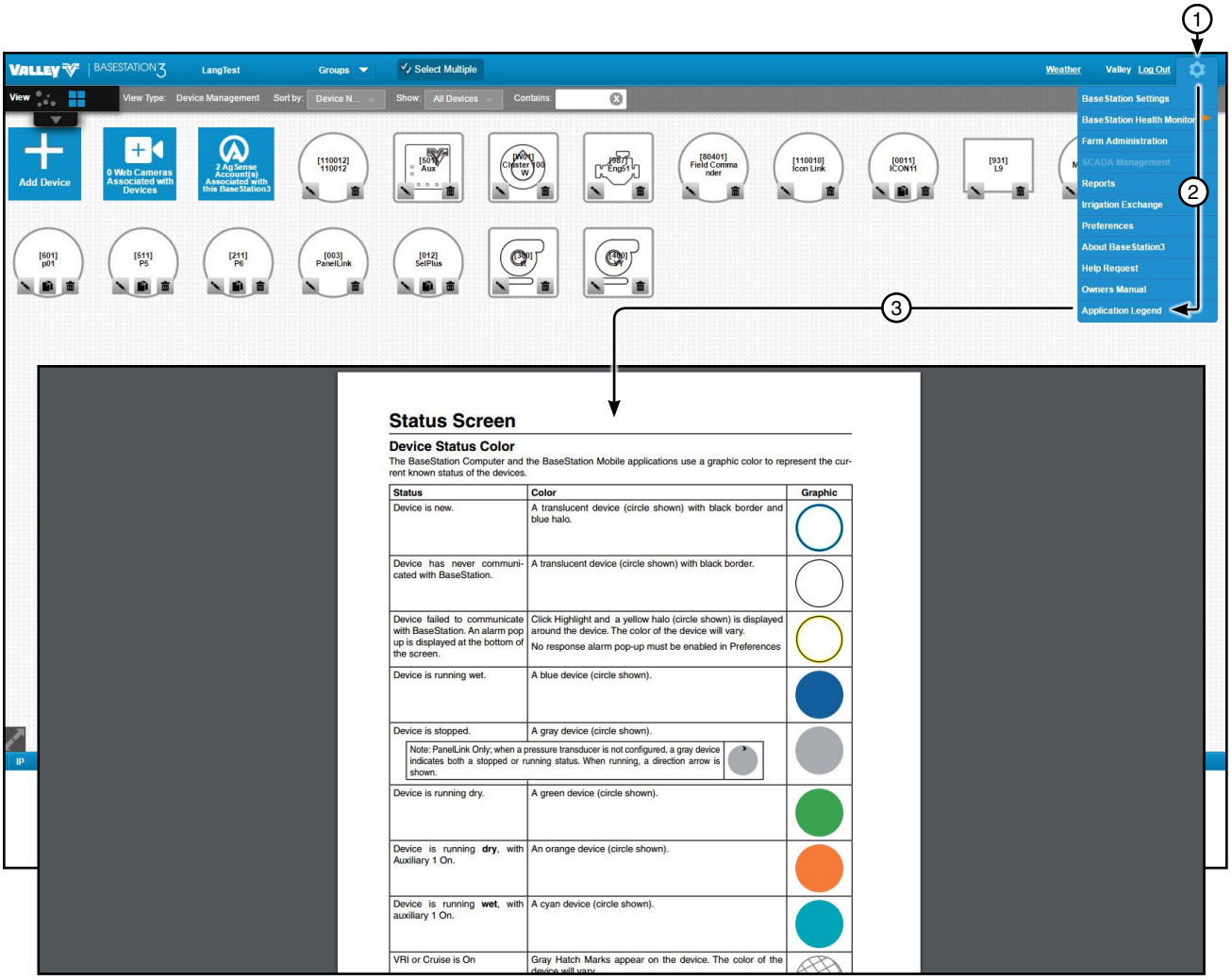


Figure 109-1 1. Click Settings
2. Select Application Legend
3. Application Legend PDF

Device Management

Add/Change/Copy/Delete Devices

Devices are added, changed, copied or deleted from the Device Management view type in either Map View or Tile View.

Open the View Controller Drawer and select Device Management. See Figures 110-1 and 110-2.

Tile View

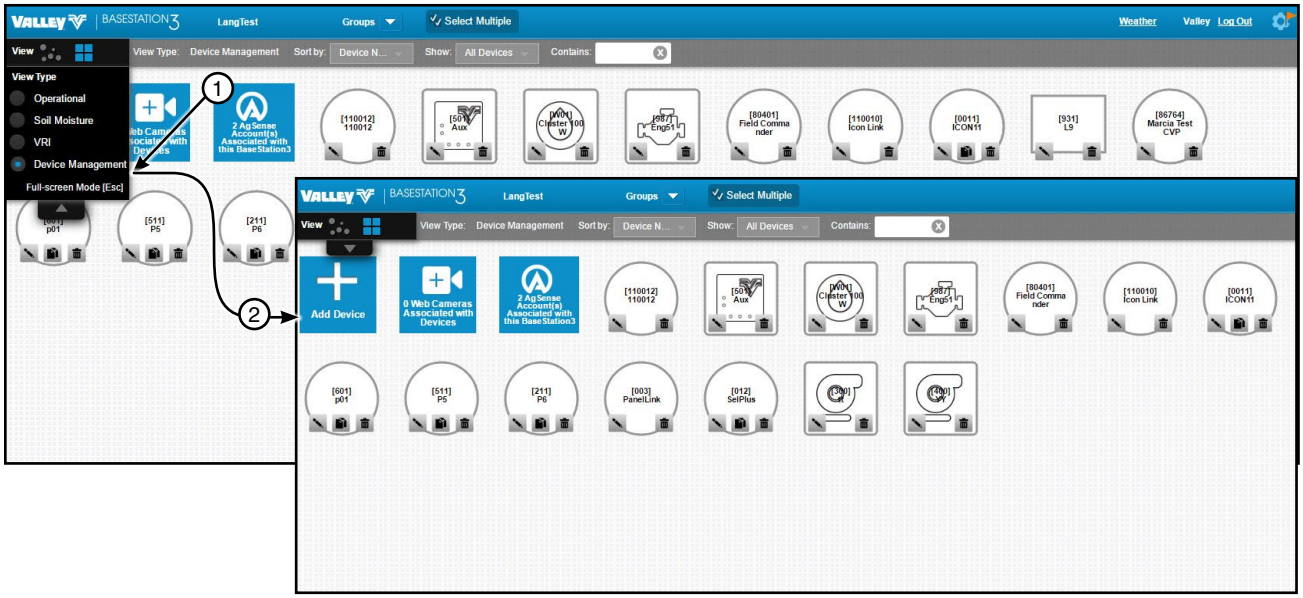


Figure 110-1 1. Device Management Selected
2. Device Management Screen

Map View

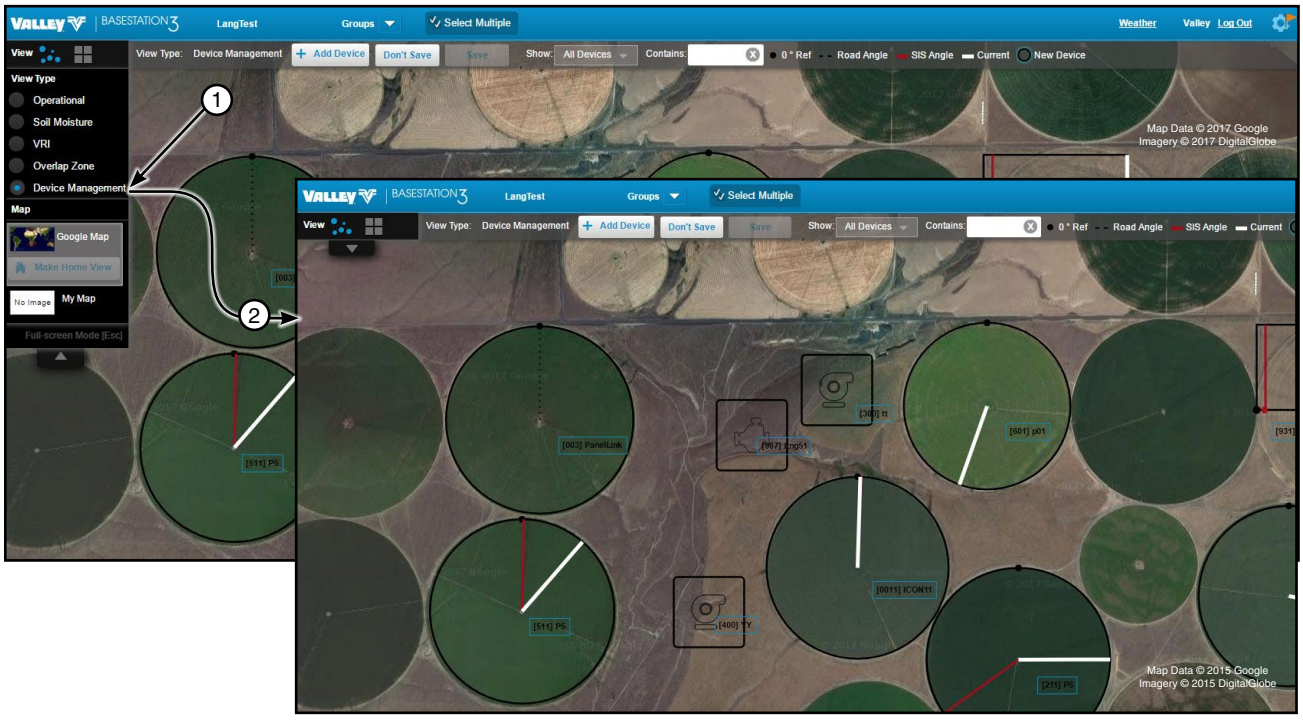


Figure 110-2 1. Device Management Selected
2. Device Management Screen

Add a Device Tile View

Tile View: To add a device while in Device Management - Tile View, refer to Figure 111-1 and do the following.

1. Click **Add Device**.
2. Select the device to be added. The configuration screen should open for the device that was selected.

   A limited number of devices can be added based on the farm. When the limit is reached a warning is displayed and the addition of new devices is prevented until the device limit is adjusted. Call BaseStation3 Support at 888-223-0595.
3. Configure the device.

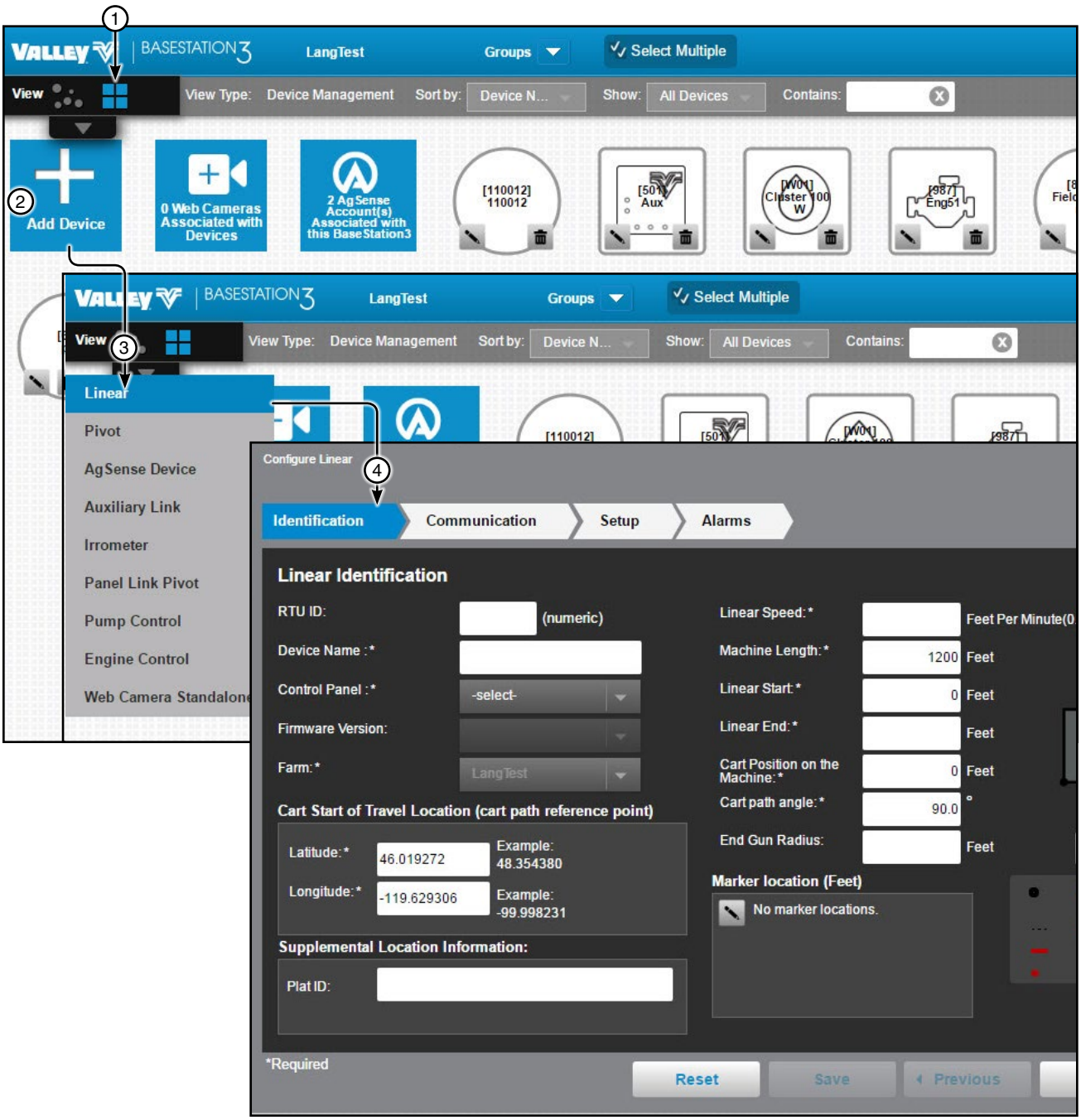


Figure 111-1 1. Tile View Device Management Screen
2. Add Device
3. Select Device
4. Device Configuration Screen

Device Management

Add a Device Map View

Map View: To add a device while in Device Management - Map View, refer to Figure 112-1 and do the following.

1. Click **Add Device**.
2. Select the device to be added. The configuration screen should open for the device that was selected.

   A limited number of devices can be added based on the farm. When the limit is reached a warning is displayed and the addition of new devices is prevented until the device limit is adjusted. Call BaseStation3 Support at 888-223-0595.
3. Configure the device.

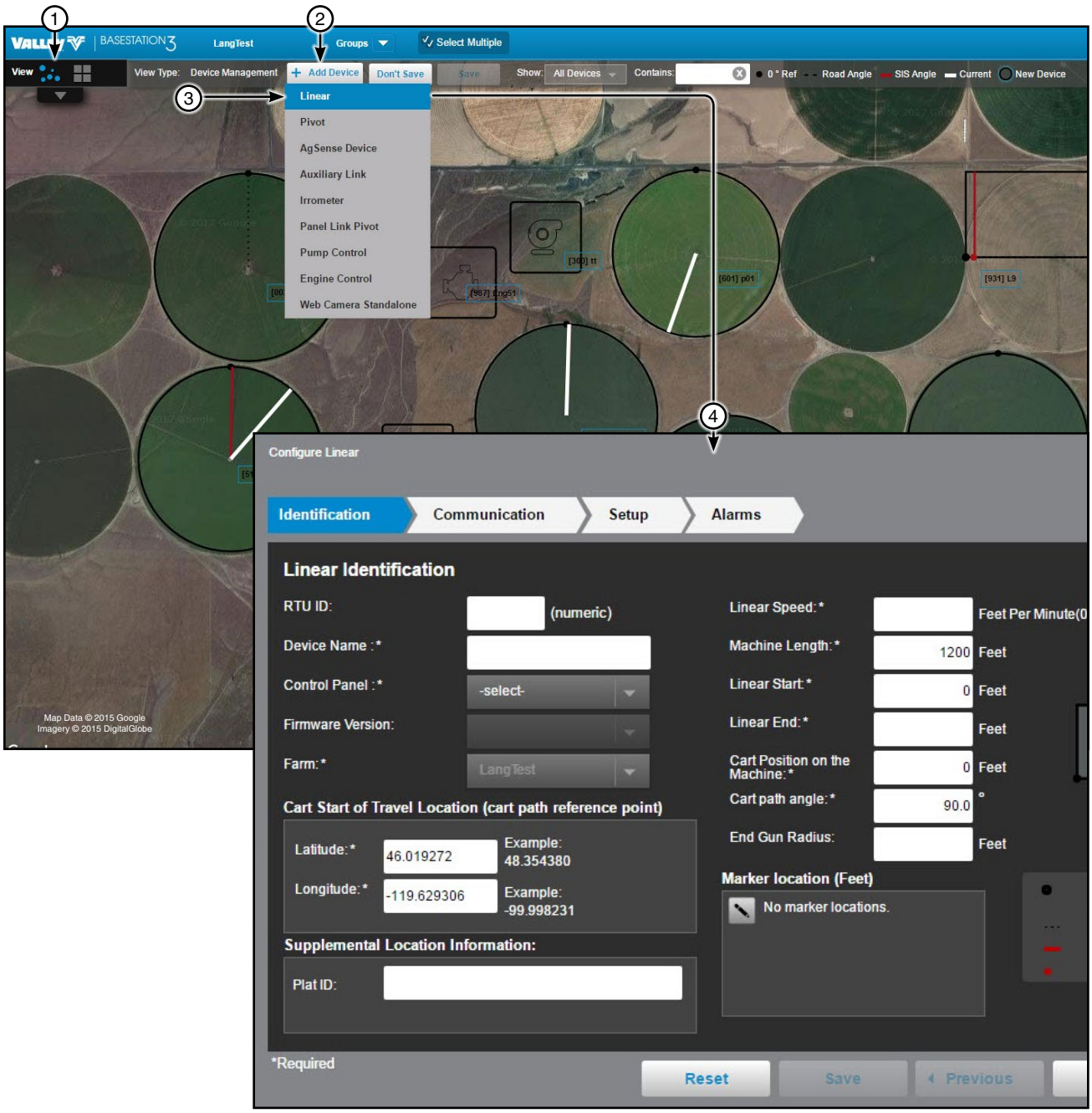


Figure 112-1 1. Tile View Device Management Screen
2. Add Device
3. Select Device
4. Device Configuration Screen

Change a Device Tile View

Tile View: To change the configuration of a device in Tile View, refer to Figure 113-1 and do the following.

1. Click **Change** on an existing device. The Configure Device screen opens.
2. Make changes as required.
3. When done click **Save**.

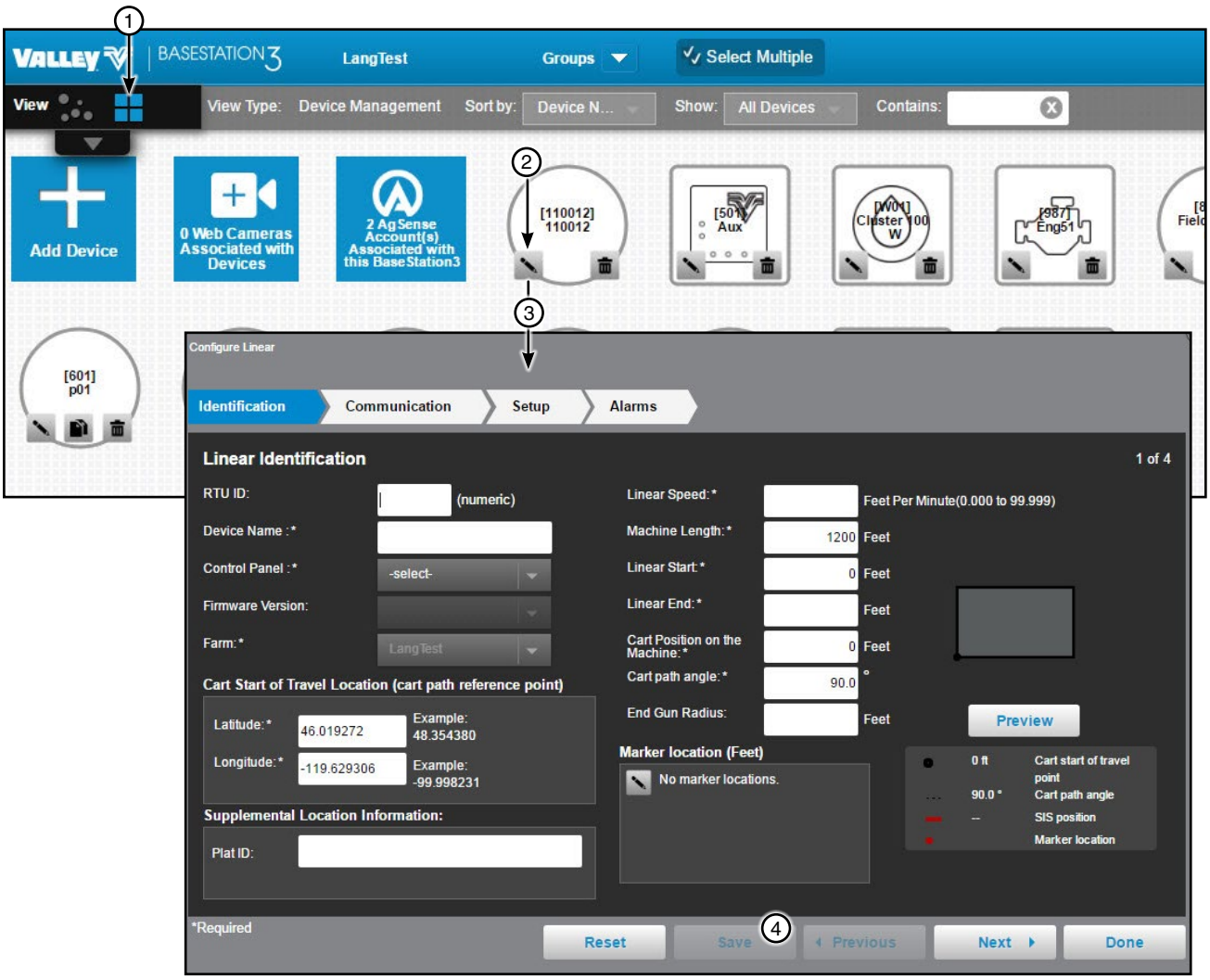


Figure 113-1 1. Tile View Device Management Screen 2. Click Change 3. Configure Device Screen 4. Save

Change a Device Map View

Map View: To change the configuration of a device in Map View, refer to Figure 114-1 and do the following.

1. Select an existing device (Map View only).
2. Click **Change**. The reduced parameters Configure Device screen opens. This screen can be repositioned so that the device being changed can be seen.
3. Make changes as required.
4. Click **Apply** to see the changes before saving.
5. When done click **Save**.
6. Optional: To access all parameters for the device Click **Full Configuration**.
   (a) Make changes as required.
   (b) When done click **Save**.

Device Management

Change a Device Map View (continued)

Map View: (continued)

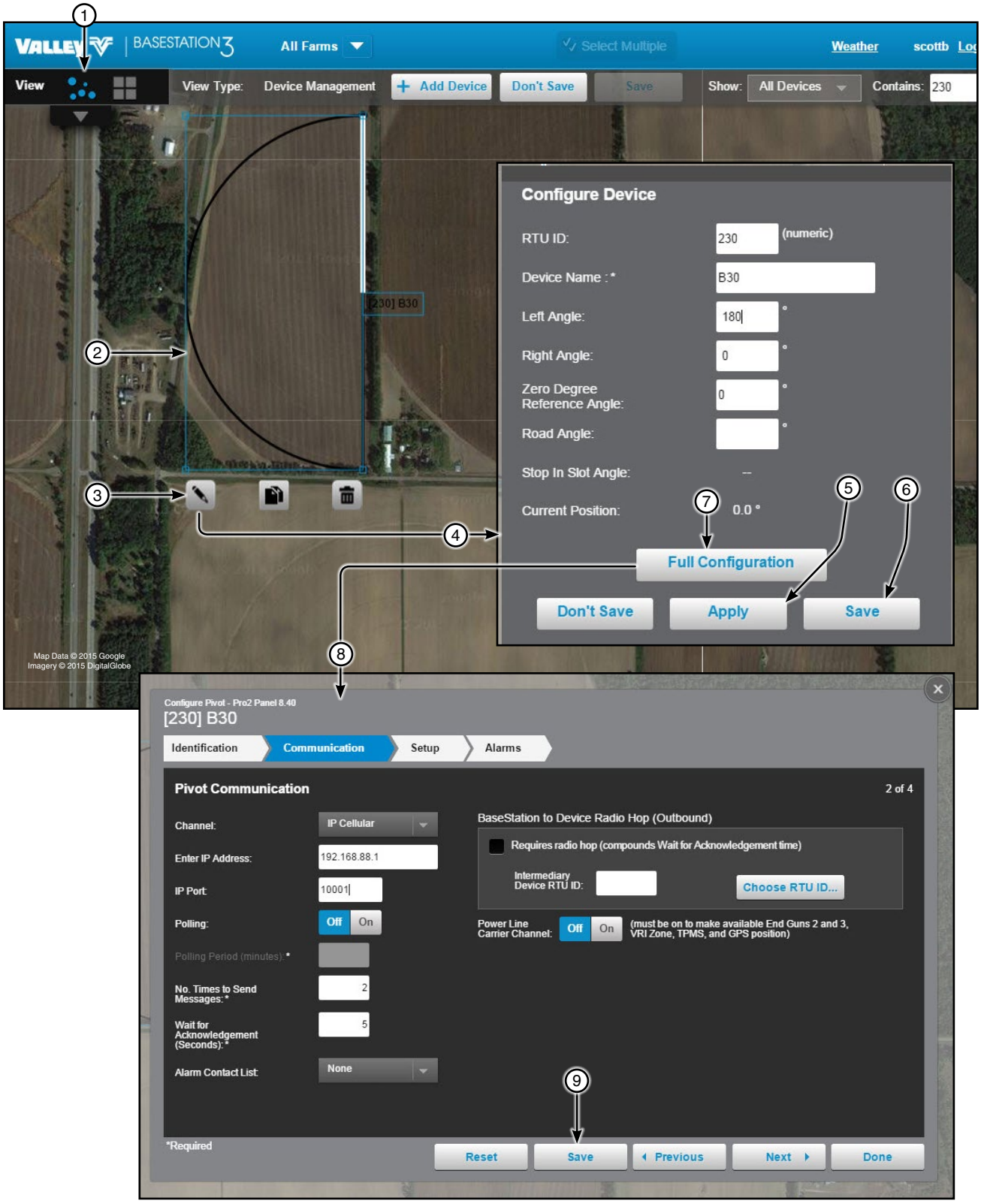


Figure 114-1 1. Map View Device Management Screen
2. Select the Device
3. Click Change
4. Configure Device Screen (reduced)
5. Apply Button (reduced)
6. Save Button (reduced)
7. Optional: Click Full Configuration
8. Configure Device Screen (full)
9. Save Button (full)

Copy a Device

The copy function creates copies of the selected device and its configuration. The Copy function is only available on devices that have communicated with BaseStation. A partial list of the original device configuration is shown on the copy device screen.

When copying a device the user can select one of three different naming conventions for the copies.

- Enter the Device Name and RTU ID Now: This naming convention creates copies were the user is required to enter the device name and RTU ID for each copy of the device. The latitude and longitude can also be changed as needed.
- Use RTU ID as Device Name: This naming convention creates copies were the RTU ID is used for both the device name and RTU ID. The initial RTU ID for copies is user entered. The copy device names and RTU IDs are created in numerical order.
- Change the Device Name Later: This naming convention creates copies were the RTU ID is used only for the RTU ID, and the device name from the copied device is used for the device name followed by Copy 1, Copy 2, etc.... The initial RTU ID for copies is user entered. The copy device names and RTU IDs are created in numerical order.

A limited number of devices can be added based on the farm. When the limit is reached a warning is displayed and the addition of new devices is prevented until the device limit is adjusted. Call BaseStation3 Support at 888-223-0595.

Device Management

Copy a Device - Enter the Device Name and RTU ID Now

Use **Enter the Device Name and RTU ID Now** to copy a device in Device Management View Type, refer to Figure 116-1 and do the following.

1. Based on the view do one of the following:
   - Tile View: Click **Copy** on an existing device. The Copy Device screen is displayed.
   - Map View: Select an existing device (Map View only) and click **Copy**. The Copy Device screen is displayed.
2. Choose **Enter the Device Name and RTU ID Now**.
3. Set the **Number of Copies** to make.
4. Click **Copy**. The Copy Device screen changes to accept RTU ID and Device Name for each copy.
5. Enter the **RTU ID** and **Device Name** for each copy.
6. Click **Copy**.

Figure 116-1 1. Tile View Device Management Screen
2. Click Copy
3. Enter the Device Name and RTU ID Now
4. Set Number of Copies
5. Click Copy
6. Enter RTU ID and Device Name
7. Click Copy

Copy a Device - Use RTU ID as Device Name

Use RTU ID as Device Name to copy a device in Device Management View Type, refer to Figure 117-1 and do the following.

1. Based on the view do one of the following.
   - Tile View: Click **Copy** on an existing device. The Copy Device screen is displayed.
   - Map View: Select an existing device (Map View only) and click **Copy**. The Copy Device screen is displayed.
2. Choose **Use RTU ID as Device Name**.
3. Enter the **Start RTU ID**.
4. Set the **Number of Copies** to make.
5. Click **Copy**.

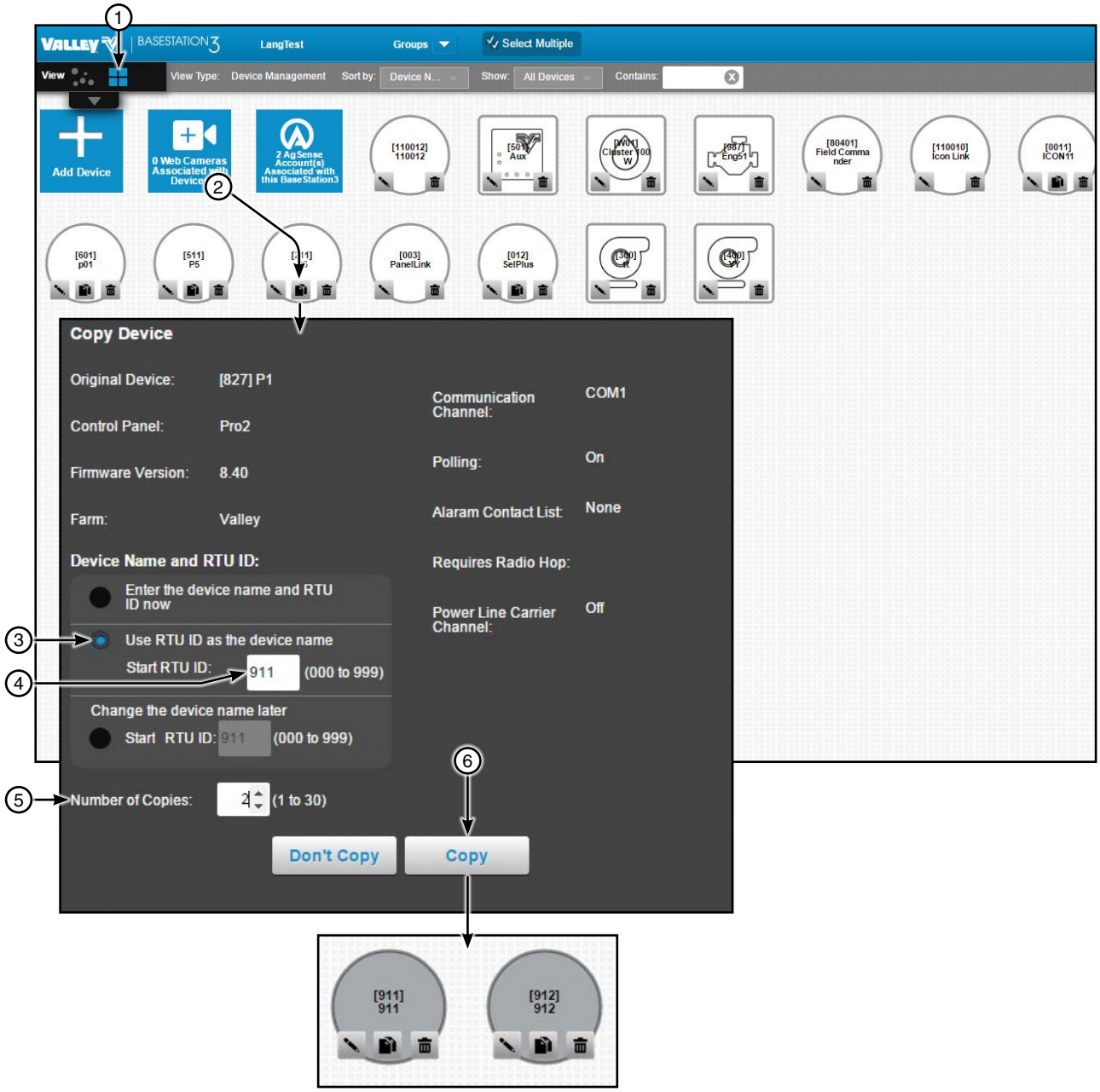


Figure 117-1 1. Tile View Device Management Screen
2. Click Copy
3. Choose Use RTU ID as Device Name
4. Set Number of Copies
5. Click Copy

Device Management

Copy a Device - Change the Device Name Later

Use **Change the Device Name Later** to copy a device in Device Management View Type, refer to Figure 118-1 and do the following.

1. Based on the view do one of the following:
   - Tile View: Click **Copy** on an existing device. The Copy Device screen is displayed.
   - Map View: Select an existing device (Map View only) and click **Copy**. The Copy Device screen is displayed.
2. Choose **Change the Device Name Later**.
3. Enter the **Start RTU ID**.
4. Set the **Number of Copies** to make.
5. Click **Copy**.

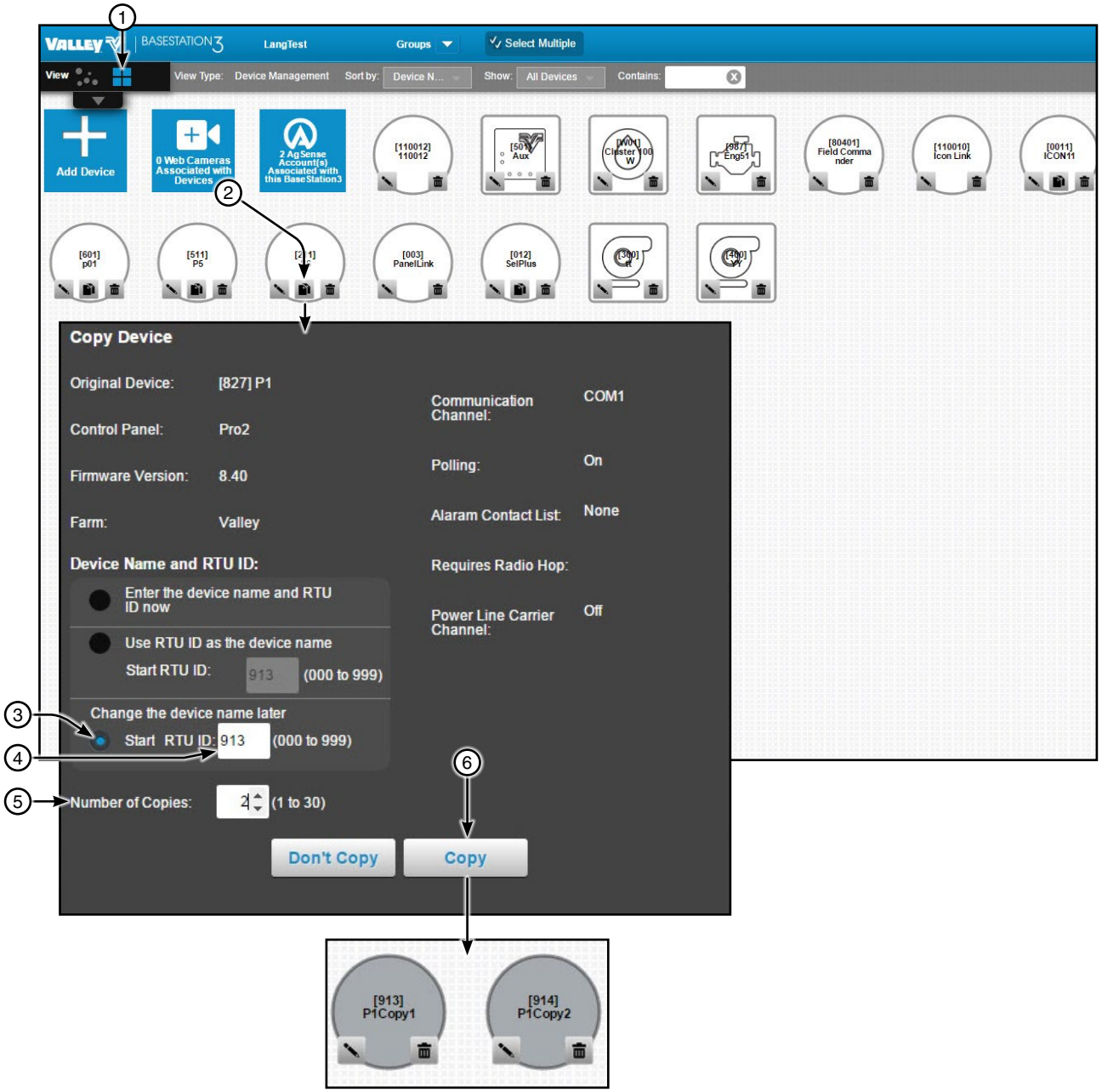


Figure 118-1 1. Tile View Device Management Screen
2. Click Copy
3. Choose Change the Device Name Later
4. Set Number of Copies
5. Click Copy

Delete a Device

To delete a device refer to Figure 119-1 and do the following.

1. Based on the view do one of the following.
   - Tile View: Click **Delete** on an existing device. The delete confirmation screen is displayed.
   - Map View: Select an existing device (Map View only) and click **Delete**. The delete confirmation screen is displayed.
2. Click **Delete** to permanently delete the device.

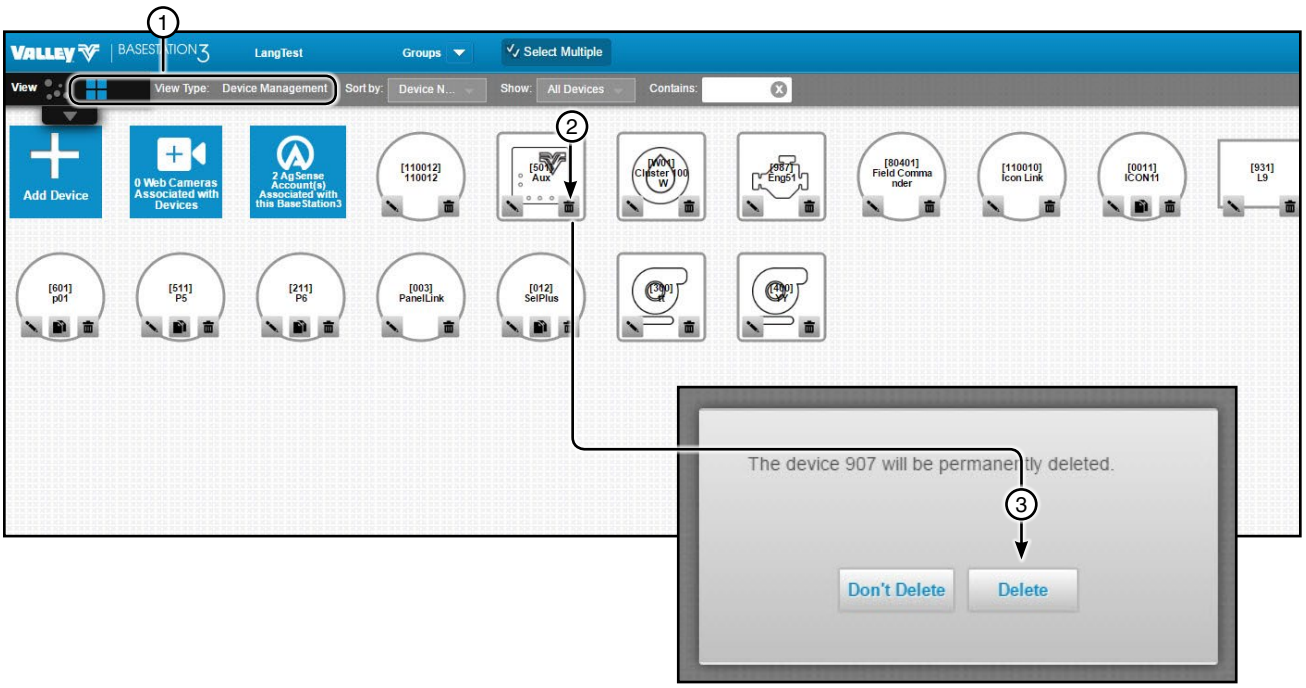


Figure 119-1 1. Tile View Device Management Screen
2. Click Delete
3. Click Delete

Device Management

Configuration Screen

While configuring a device, use the buttons at the bottom of the screen to Reset, Save, navigate and exit. See Figure 120-1.

Reset Button: Reset the configuration to the last saved state or the default configuration if the device hasn't been saved.

Save Button: Save the current configuration.

Previous and Next Buttons: Navigate through the pages of the device configuration.

Done Button: Use the Done button to exit the device configuration.

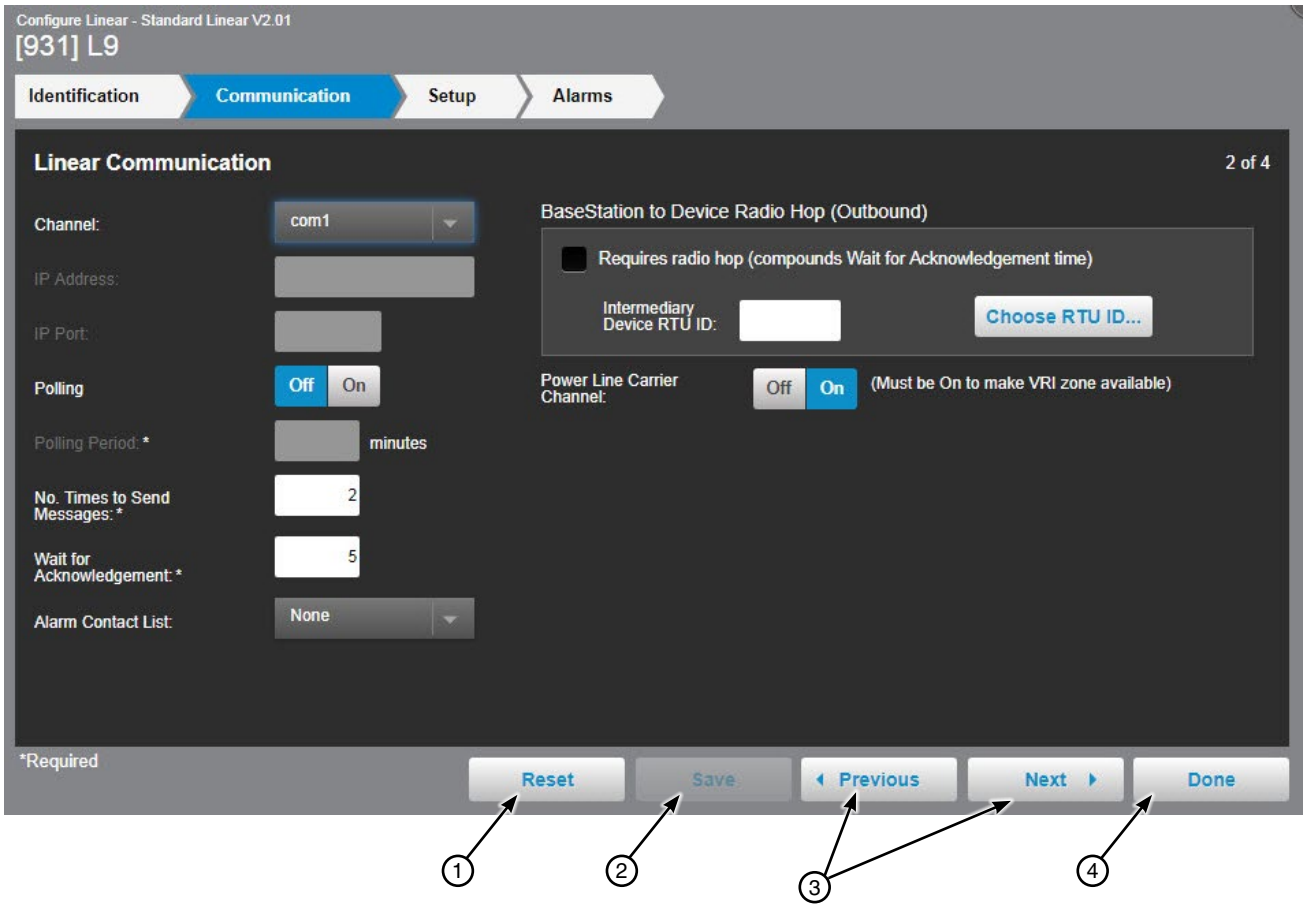


Figure 120-1 1. Reset 3. Previous and Next
2. Save 4. Done

Select Multiple - Configuring Multiple Devices

Use Select Multiple in the Device Management view type to configure multiple devices at the same time. The available configuration choices are determined by the devices that are selected and the equipment installed at the device. Only devices that have communicated with the BaseStation can be selected. Select Multiple is not available in the Soil Moisture or VRI view types.

To use Select Multiple in the Device Management view type, refer to Figure 121-1 and do the following.

1. Select a farm from the Farm List. An individual farm must be selected from the Farm List. Select Multiple is not available when All Farms is selected.
2. Click **Select Multiple**.
3. Select individual devices or click Select All. Click Select None to deselect all devices.
4. Click **Configuration**.
5. The Identification screen shows the selected devices, type of device and software version, uncheck the box associated with a device to deselect the device.
6. Navigate to the Communications, Setup and Alarms screens, check the box associated with the configuration changes that you want to save, make adjustments to the parameters of the configuration if allowed.
7. When done making changes, click **Save**.

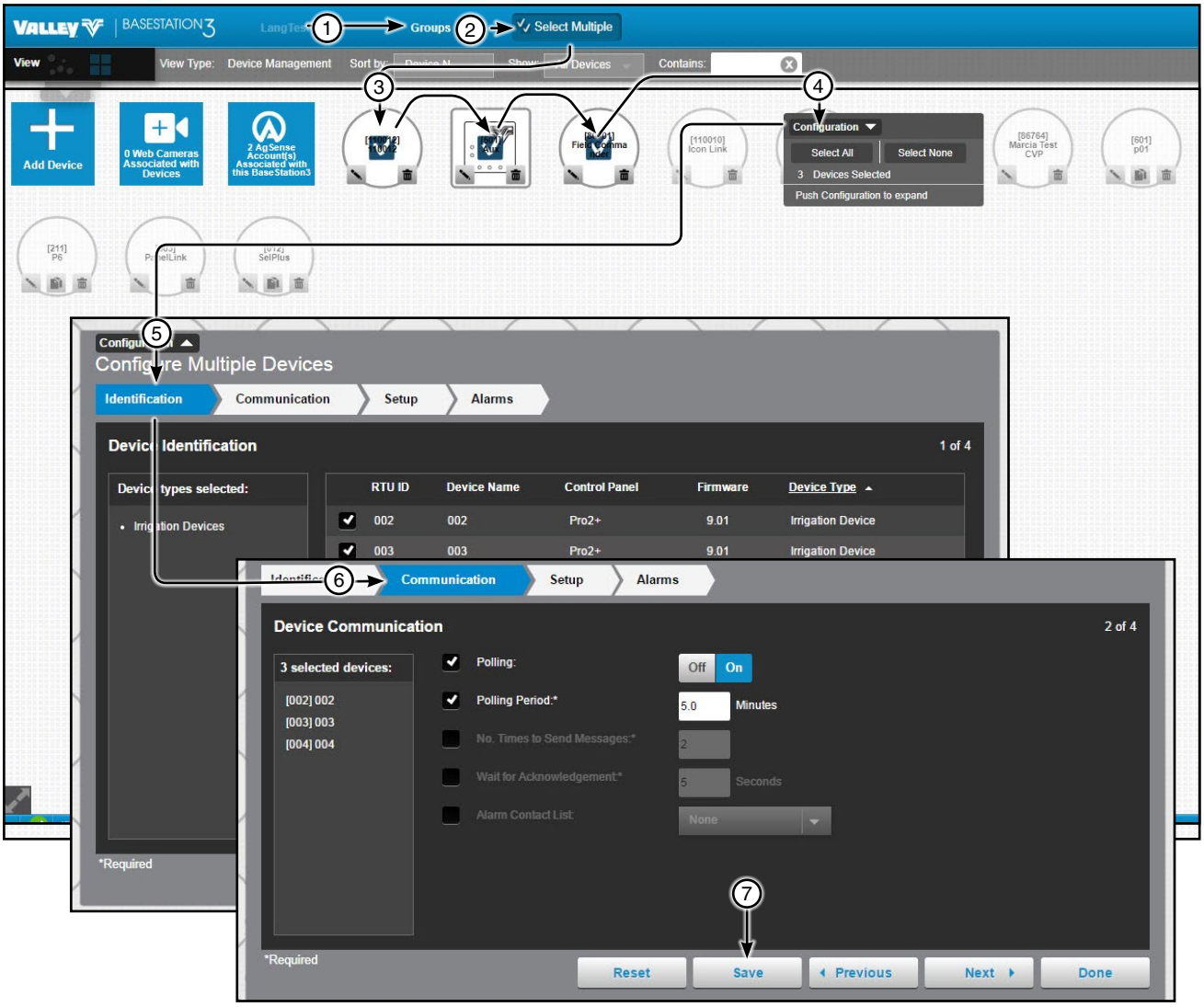
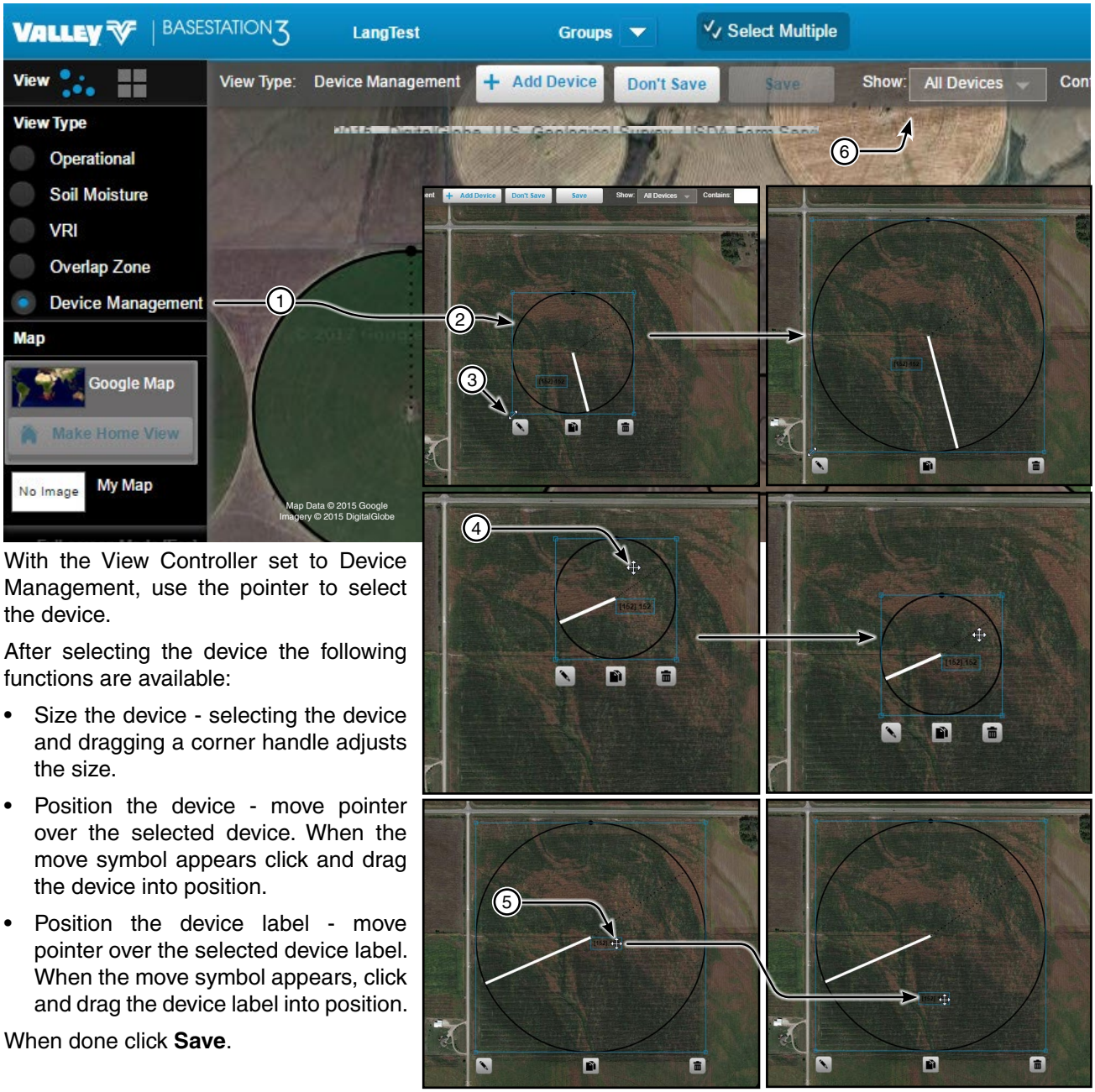


Figure 121-1 1. Select a Farm
2. Click Select Multiple
3. Select Devices
4. Click Configuration
5. Identification Details
6. Make Changes
7. Click Save

Device Management

Sizing and Positioning Devices on a Map

In Map View, when Device Management is selected as the View Type, devices can be customized to match field size and position on the map image, including re-sizing a device and changing a device position or label position.



With the View Controller set to Device Management, use the pointer to select the device.

After selecting the device the following functions are available:

- Size the device - selecting the device and dragging a corner handle adjusts the size.
- Position the device - move pointer over the selected device. When the move symbol appears click and drag the device into position.
- Position the device label - move pointer over the selected device label. When the move symbol appears, click and drag the device label into position.

When done click **Save**.

Figure 122-1 1. Select Device Management
2. Select the Device
3. Option: Size Device - Drag Handle
4. Option: Position Device - Drag Device
5. Option: Position Title - Drag Label
6. Click Save

Saving Device GPS Position in Google Map

In Google Map, when Device Management is selected as the View Type, the GPS position can be updated after a device is customized to match field size and position on the Google map.

To save the Google Map GPS Position, refer to Figure 123-1 and do the following.

1. Select the device, then move or size as needed.
2. Click **Save**.
3. Select the device again.
4. Click **Change**.
5. Click **Full Configuration** (available for Pivot, Linear or Panel Link only).
6. Click **Save as Configuration** to save the configuration.
7. Or, click **Undo** to clear the configuration.
8. Click **Done** to close configuration screen.

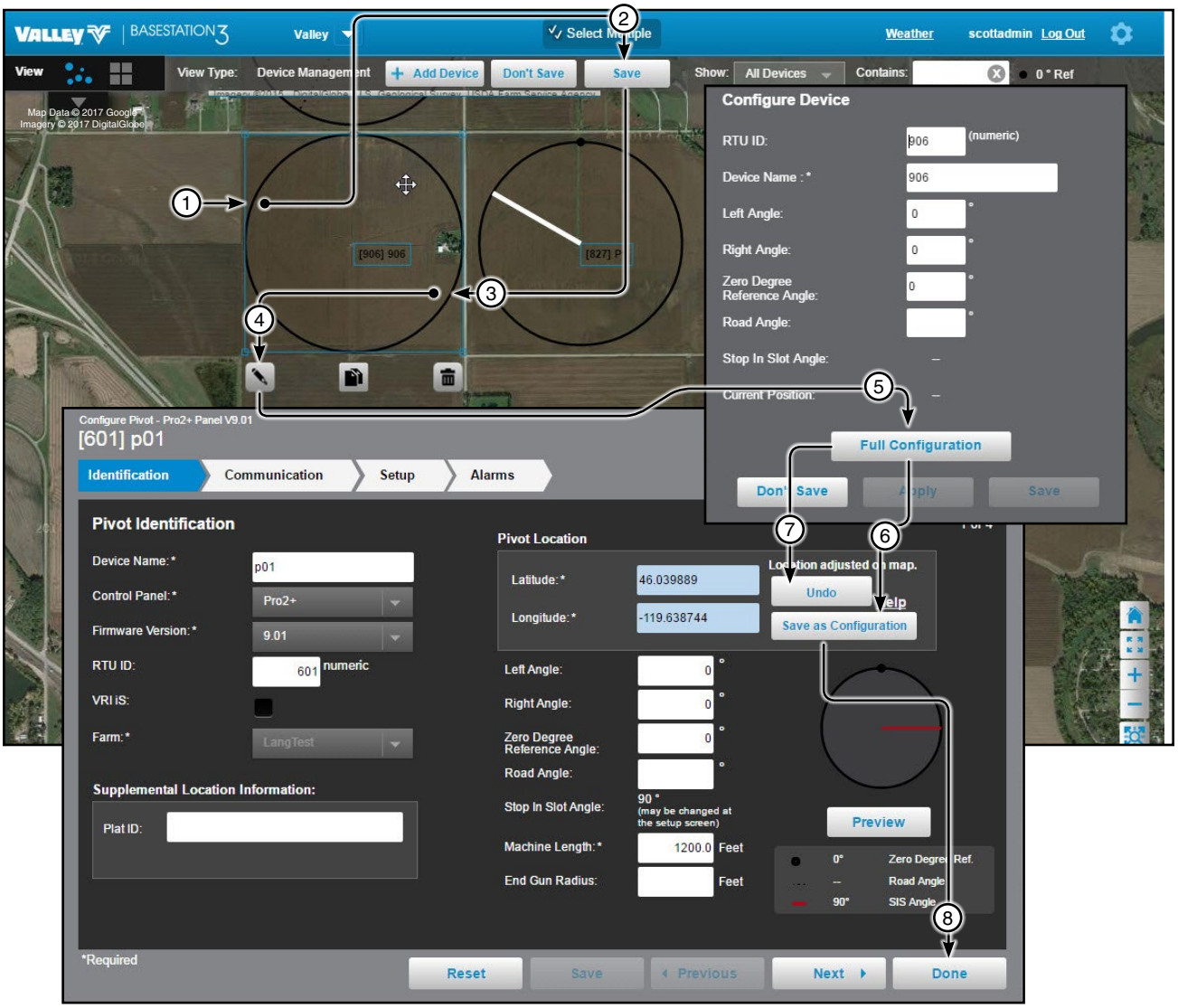


Figure 123-1 1. Select the device, then move or size as needed
2. Click Save
3. Select the Device again
4. Click Change
5. Click Full Configuration
6. Click Save as Configuration
7. Click Undo
8. Click Done

Device Management

Linear Configuration

Identification

The identification screen describes the physical attributes of the Linear Machine. The linear name and farm are required. Other required fields depend on control panel choice. See Figure 124-1.

RTU ID: Enter the control panel RTU ID. The RTU ID must be unique and cannot match any other device.

Device Name (required): Enter the device name. No special characters are allowed and field is limited to 20 characters.

Control Panel and Firmware Version (required): Select the control panel and firm ware version for this machine from the drop down lists.

Farm List (required): If more than one farm is available select the farm from the drop down list.

Latitude and Longitude (required): The GPS position of the cart start of travel location. The latitude and longitude are initially populated with the coordinates of the farm in which it is created.

In Google Map, to change the position of the linear cart on the Google Map, enter the known coordinates of the cart or go to **Device Management Map View**, select the device and move it to the desired position. Click **Save**, click **Change**, click **Full Configuration** and click **Save as Configuration** (see Saving Device GPS Position in Google Map, earlier in the Device Management section).

In My Map the latitude and longitude are information only and do not change the position of the linear cart on the map.

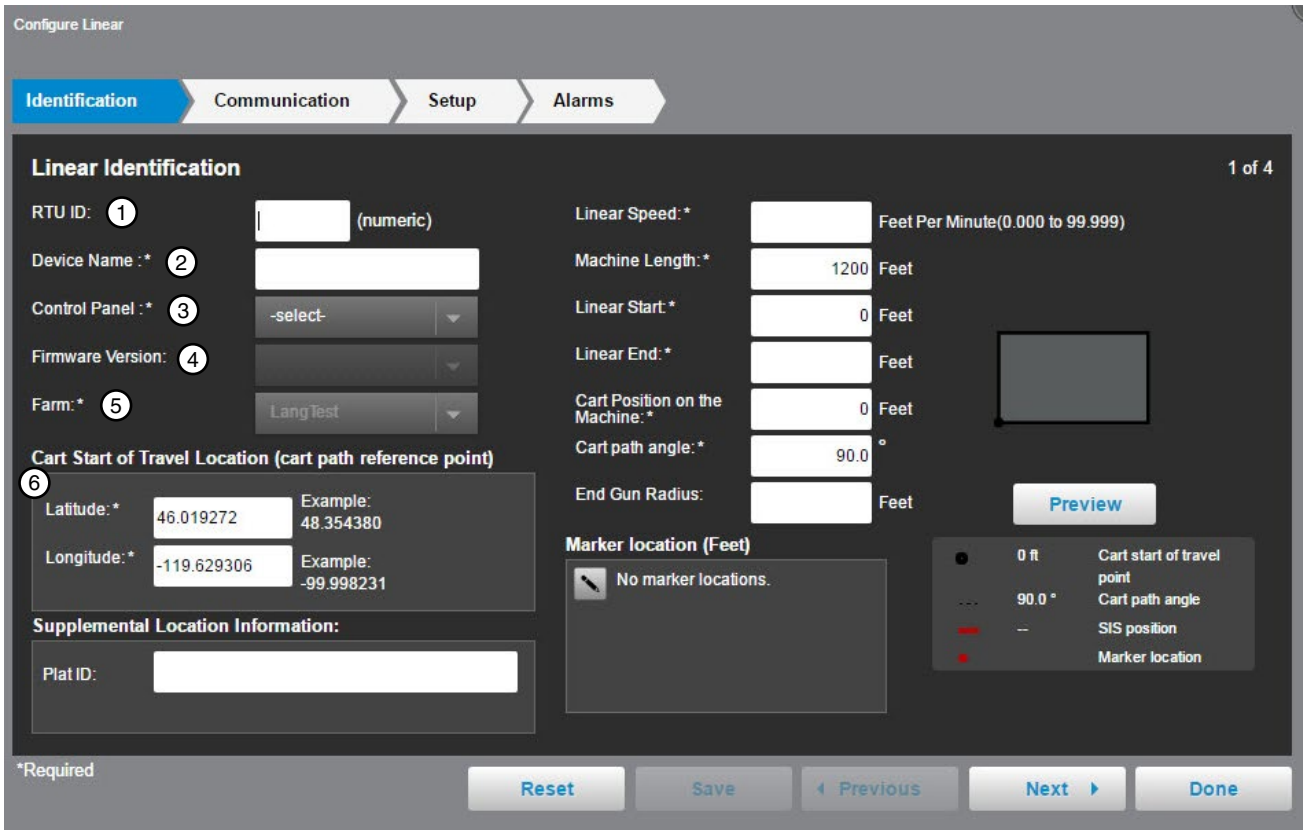


Figure 124-1 1. RTU ID
2. Device Name
3. Control Panel
4. Firmware Version
5. Farm List
6. Latitude and Longitude

Linear Configuration

Identification (continued)

Linear Speed (required): Enter the speed in feet per minute from 0.000 to 90.000. There is no default speed.

Machine Length (required): Enter the length in feet from 0 to 9999. The default is 1200 feet.

Linear Start (required): Enter the start point in feet from 0.0 to 32808. The default is 0.0 feet.

Linear End (required): Enter the end point in feet from 0.0 to 32808. There is no default end point.

Cart Position on the Machine (required): The location of the cart on the machine in feet. The default is 0.0 feet and displays the cart at the end of the machine.

Cart Path Angle (required): The angle of the cart path in the field. Changing the cart path angle effects the Latitude and Longitude, cart path location and the start and end positions of the machine travel. The default is 90 degrees, which displays a machine that travels from left (start) to right (end) on a cart path at the bottom of the field.

End Gun Radius: If an End Gun will be used, enter the End Gun radius in feet.

Marker Location: To add a marker location click **Change** and enter the marker position in feet from 0 to 32808. To add another marker, click **Add New**. When done click **Save**.

Preview: Click Preview to display a view of what the linear machine will look like.

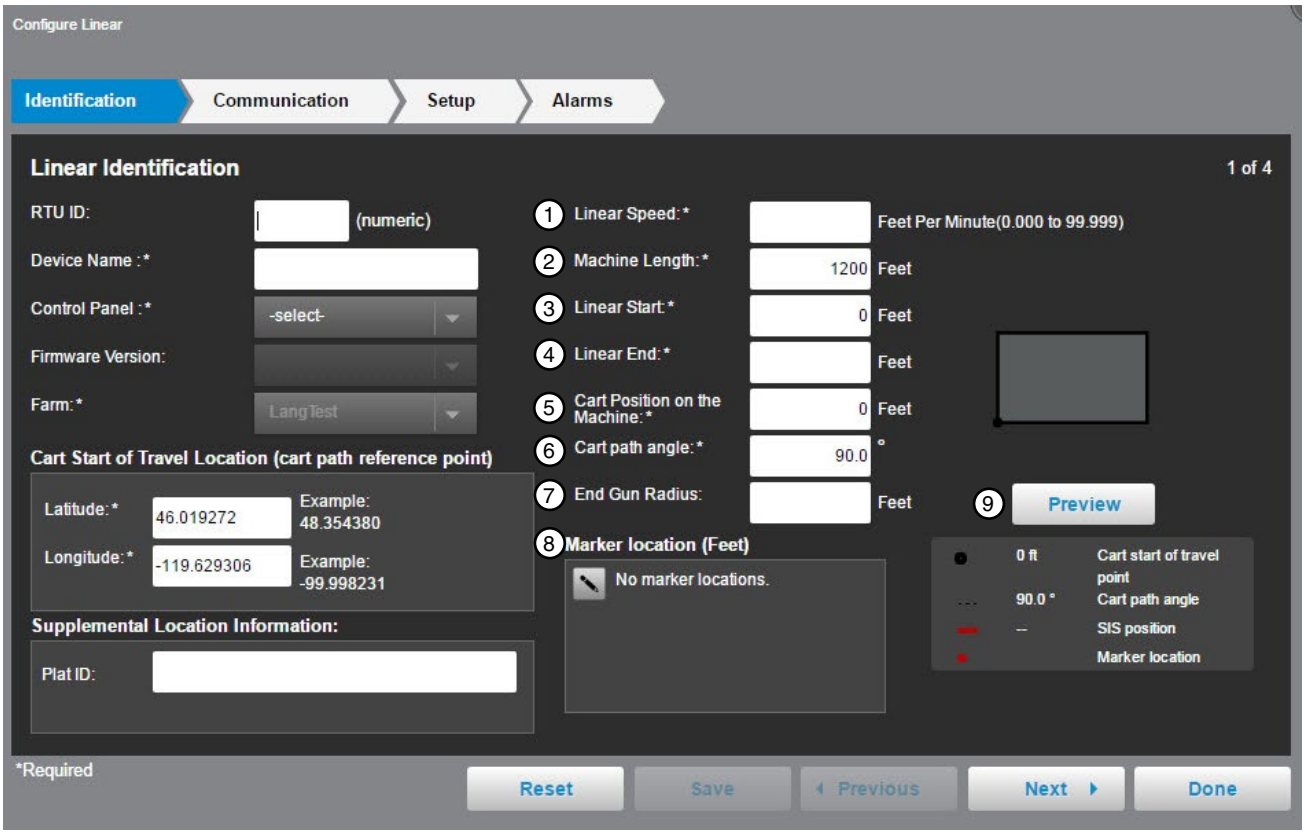


Figure 125-1 1. Linear Speed
2. Machine Length
3. Linear Start
4. Linear End
5. Cart Position on Machine
6. Cart Path Angle
7. End Gun Radius
8. Marker Location
9. Preview

Device Management

Linear Configuration

Communication

Use Communication to configure communications between BaseStation and the device. See Figure 126-1.

Channel: The BaseStation channel used to communicate with the device. Select from the available channels on the drop down menu. To create a new channel go to **Settings/BaseStation Settings/Communication/ Channels**.

Enter IP Address: The Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

IP Port: The port associated with the Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

Polling On/Off: The periodic request based on the polling period that the BaseStation makes for machine status from the device.

Polling Period: The time in minutes between polling tries for obtaining machine status. The default time is 30 minutes.

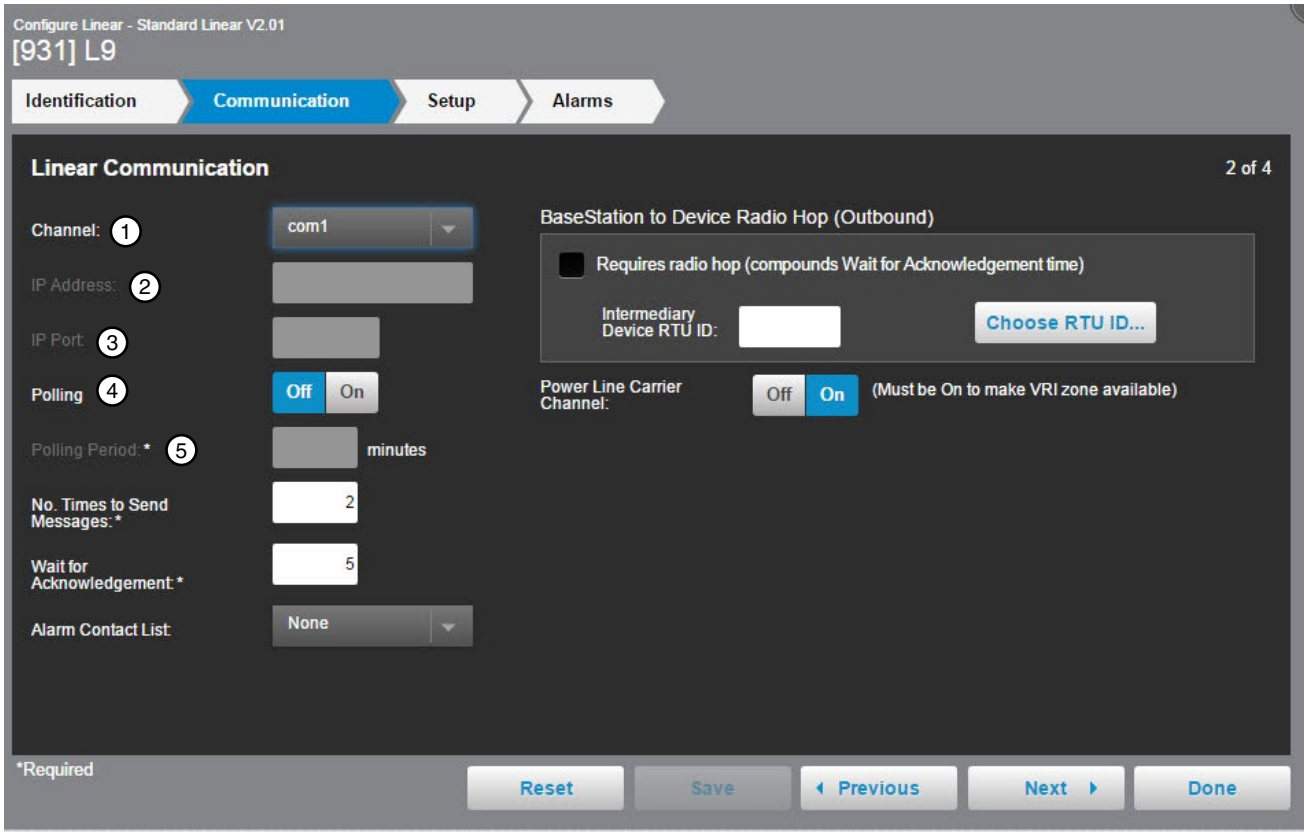


Figure 126-1 1. Channel
2. Enter IP Address.
3. IP Port
4. Polling On/Off
5. Polling Period

Linear Configuration

Communication (continued)

Number of Times to Send Messages: The maximum number of attempts that will be made to communicate with the device. The default value is 2 tries. When a communication transaction is successful on the first attempt, the BaseStation will not continue with additional tries. When using radios that may be on the fringe of reliable communications, increasing the number of attempts may be necessary. See Figure 127-1.

Time to Wait for Acknowledge: The amount of time that the BaseStation will wait for a response from the device (default value is 5 seconds). Using radios or trunking systems will delay the transmission of data. If a returned message is not received by the BaseStation within the allowed response time, the BaseStation will retry the transaction for as many attempts as specified in the Times to Send Messages limitation. See Figure 127-1.

Alarm Contact List: Associates the device with a contact list of users that will be notified when an alarm occurs. Contact lists are created in **Settings/BaseStation Settings/Alarm Contacts/Contact Lists**. See Figure 127-1.

Radio Hop (outbound): The use of an intermediate device to relay communications from the BaseStation to another device through Pro, Pro2 or AutoPilot modules without the need for additional hardware. When using this function all control panels involved must be either Pro version 7 or Pro2. Additional time will be required to relay the message. Increasing the Time to Wait for Acknowledge value will be necessary; typically double the original Time to Wait, depending on the type of communications being used.

RTU ID (Radio Hop): The RTU ID of the intermediate machine that is used as a relay point.

To use Radio Hop, check the Requires radio hop check box. Click Choose RTU ID and select an intermediate device to relay communications.

Power Line Carrier Channel: The Power Line Carrier Channel must be turned on to make VRI zone available.

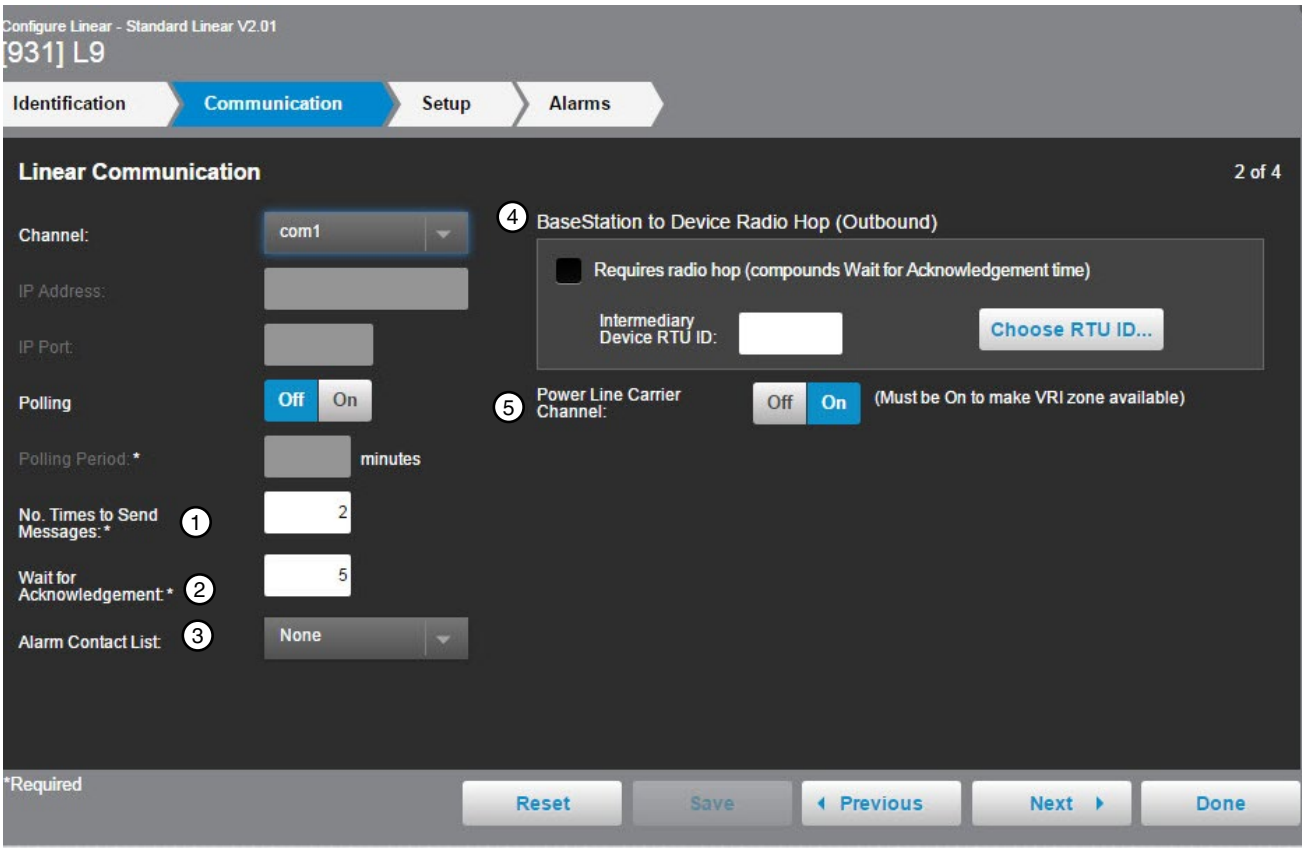


Figure 127-1 1. Number of Times to Send Messages
2. Time to Wait for Acknowledge
3. Contact List
4. Radio Hop
5. Power Line Carrier Channel

Device Management

Linear Configuration

Setup

Water Measurement

The Water Measured By selection provides four choices of water monitoring; None, Wet Hour Meter,1 Flow Meter or 2 Flow Meters. The default setting is None. The type of water measuring selected here determines the formula that is used in reports. See Figure 128-1.

None

When None is selected, water reports are based on calculated approximations of water discharge in Gallons Per Minute (GPM). See Calculation Examples on the next page. Sprinkler Package (GPM) (VChart Flow) and Irrigated Area (Acres) (VChart Field Area) values are included in the VChart document for the specific irrigation system.

To use None for water measuring, select **None** from the drop down menu, enter the **Sprinkler Package GPM**, enter the **Irrigated Area** in Acres and click **Save**. See Figure 128-1.

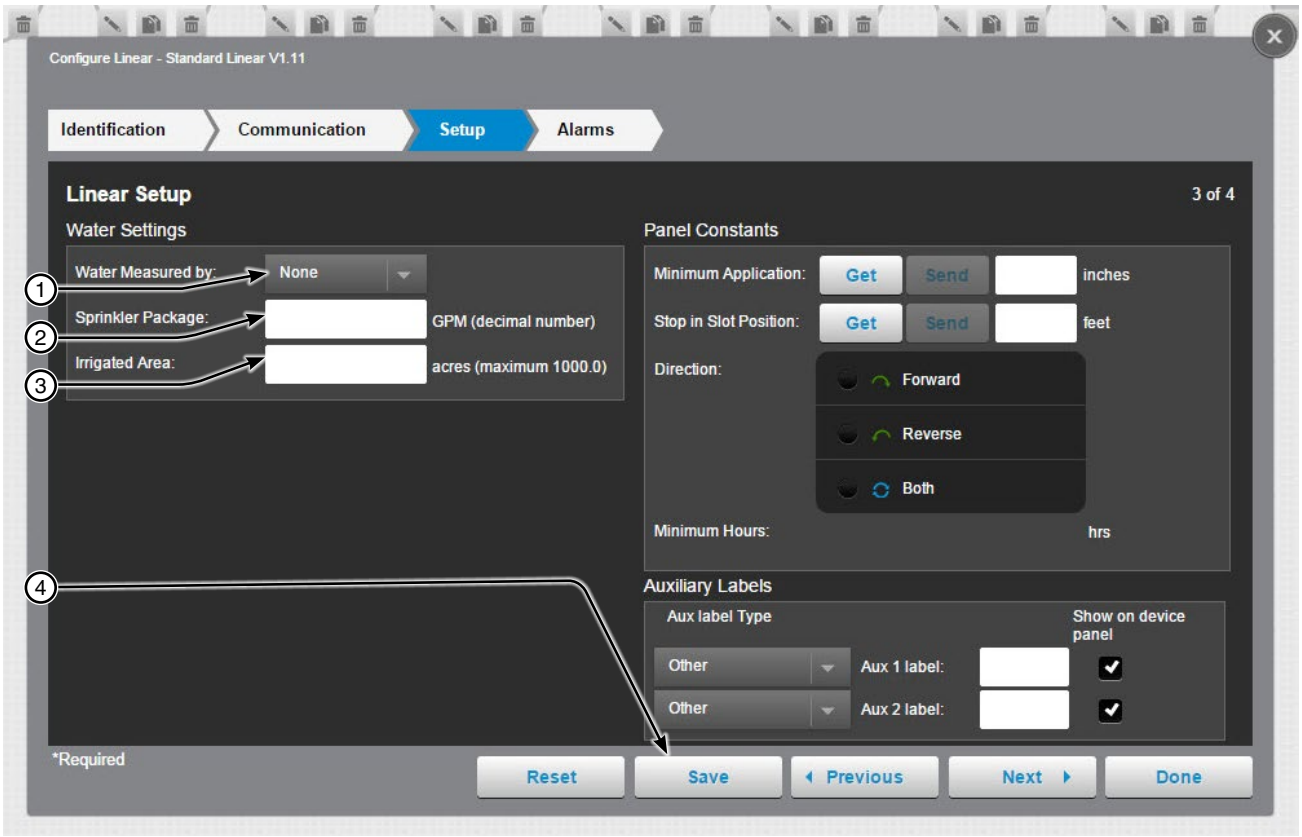


Figure 128-1 1. Select None
2. Enter Sprinkler Package GPM
3. Enter Irrigated Area in Acres
4. Click Save

Linear Configuration

Setup (continued)

Water Measurement

None - Calculation Examples

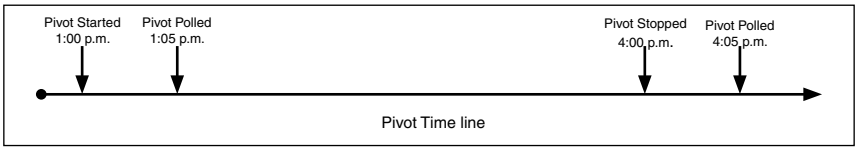
The formula for reporting is the product of the discharge value entered and the accumulated wet hours known by the BaseStation from polled interval status changes.

In this example, at a discharge rate of 170 GPM, the Totals Report will calculate the number of minutes that the machine was running wet during the report period and multiply that by 170.

The report is only as accurate as the status update records for logging start/stop times and the precision of the discharge rate.

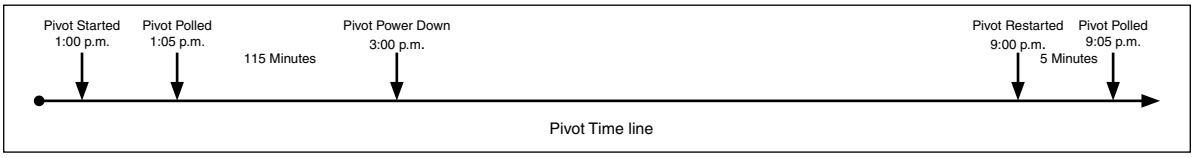
The BaseStation records actual start and stop times that are commanded through the BaseStation. Other local controls at the machine that start or stop the machine, such as Programs, SIS, and Daily Ops are logged only when updated by polling or manual requests for status updates.

Example:



5. The discharge rate is set for 170 GPM and the pivot is started at 1:00 p.m. and polled at 1:05 p.m., then the BaseStation gets data that the pivot is running wet.
6. The pivot is stopped at 4:00 p.m. and polled at 4:05 p.m., then the BaseStation gets data that the pivot has stopped.
7. The flow rate is calculated from 1:05 p.m. to 4:05 p.m. discharge rate (170 GPM × 180 minutes = 30,600 gal).
8. If you check the flow rate between 1:10 p.m. and 4:00 p.m. the flow rate would have shown 0 GPM.

If power is lost, as shown below, the calculated flow total would occur between 1:05 p.m. and 9:05 p.m. even though the pivot wasn't running wet between 3:00 p.m. and 9:05 p.m.



Example:

Calculated: 8 hours × 60 minutes/1 hour × 170 GPM = 81,600 gal

Actual: 120 minutes × 170 GPM = 20,400 gal

Error: 81,600 gal - 20,400 gallons = +61,200 gal

Device Management

Linear Configuration

Setup (continued)

Water Measurement

Wet Hour Meter

When Wet Hour Meter is selected, the formula for reporting is the product of the discharge value in Gallons Per Minute (GPM) entered and the actual accumulated wet hours as gathered from the control panel. The BaseStation requests the Wet Hours data from the device control panel. The control panel can be either a Pro2 or AutoPilot module where Wet Hours are accumulated. Sprinkler Package (GPM) (VChart Flow) and Irrigated Area (Acres) (VChart Field Area) values are included in the VChart document for the specific irrigation system.

To use the Wet Hour Meter for water measuring, select **Wet Hour Meter** from the drop down menu, enter the **Sprinkler Package GPM**, enter the **Irrigated Area** in Acres and click **Save**. See Figure 130-1.

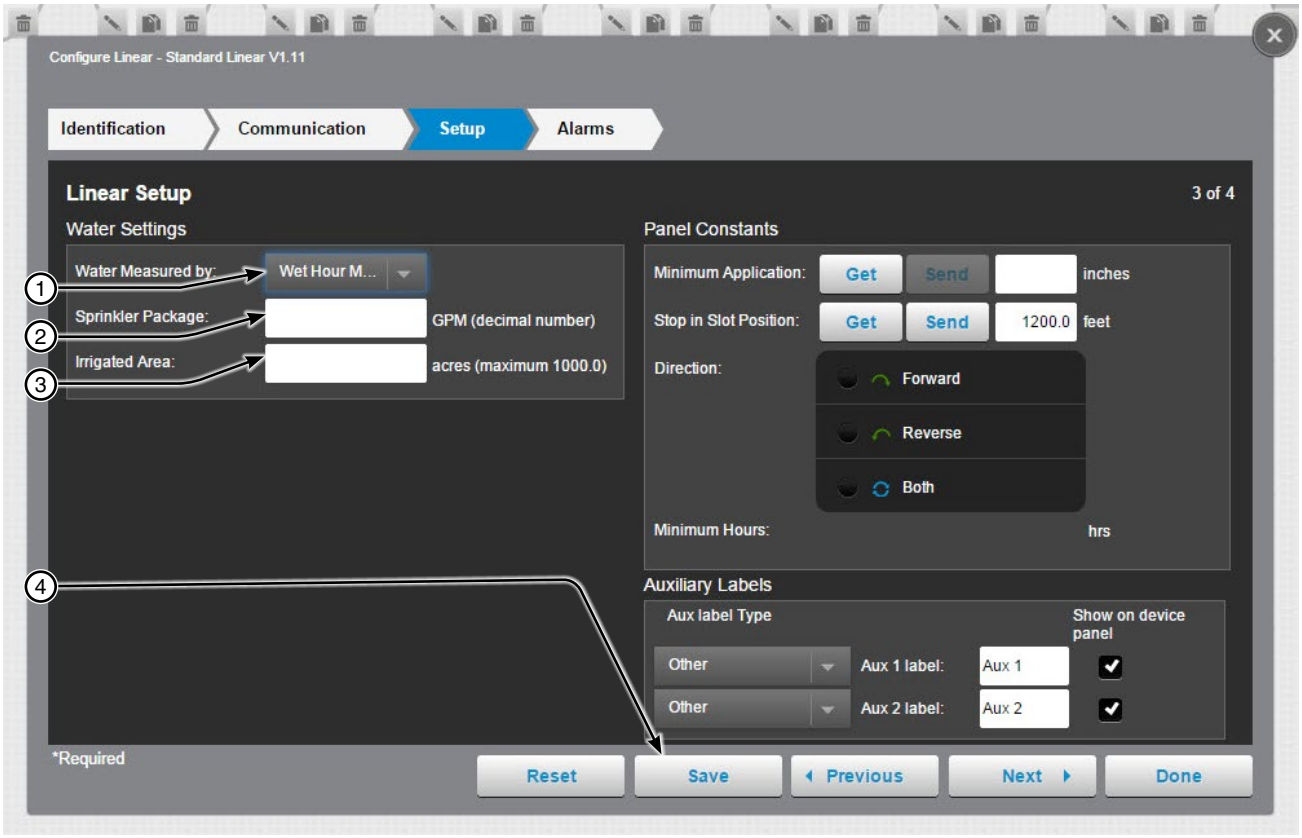


Figure 130-1 1. Select Wet Hour Meter
2. Enter Sprinkler Package GPM
3. Enter Irrigated Area in Acres
4. Click Save

Linear Configuration

Setup (continued)

Flow Meters

When One Flow Meter or Two Flow Meter is selected, the BaseStation uses the pulse count value(s) from an AutoPilot module. The formula for reporting is the product of the periodic count total and the multiplier value for the flow count device. When 2 Flow Meter is selected, up to two different flow count devices can be used and each device has it's own multiplier. See Figure 131-1.

When a Valley flow count device is selected, the multiplier field is automatically populated. When a flow count device of Other is selected, a multiplier must be entered.

Sprinkler Package (GPM) (VChart Flow) and Irrigated Area (Acres) (VChart Field Area) values are included in the VChart document for the specific irrigation system.

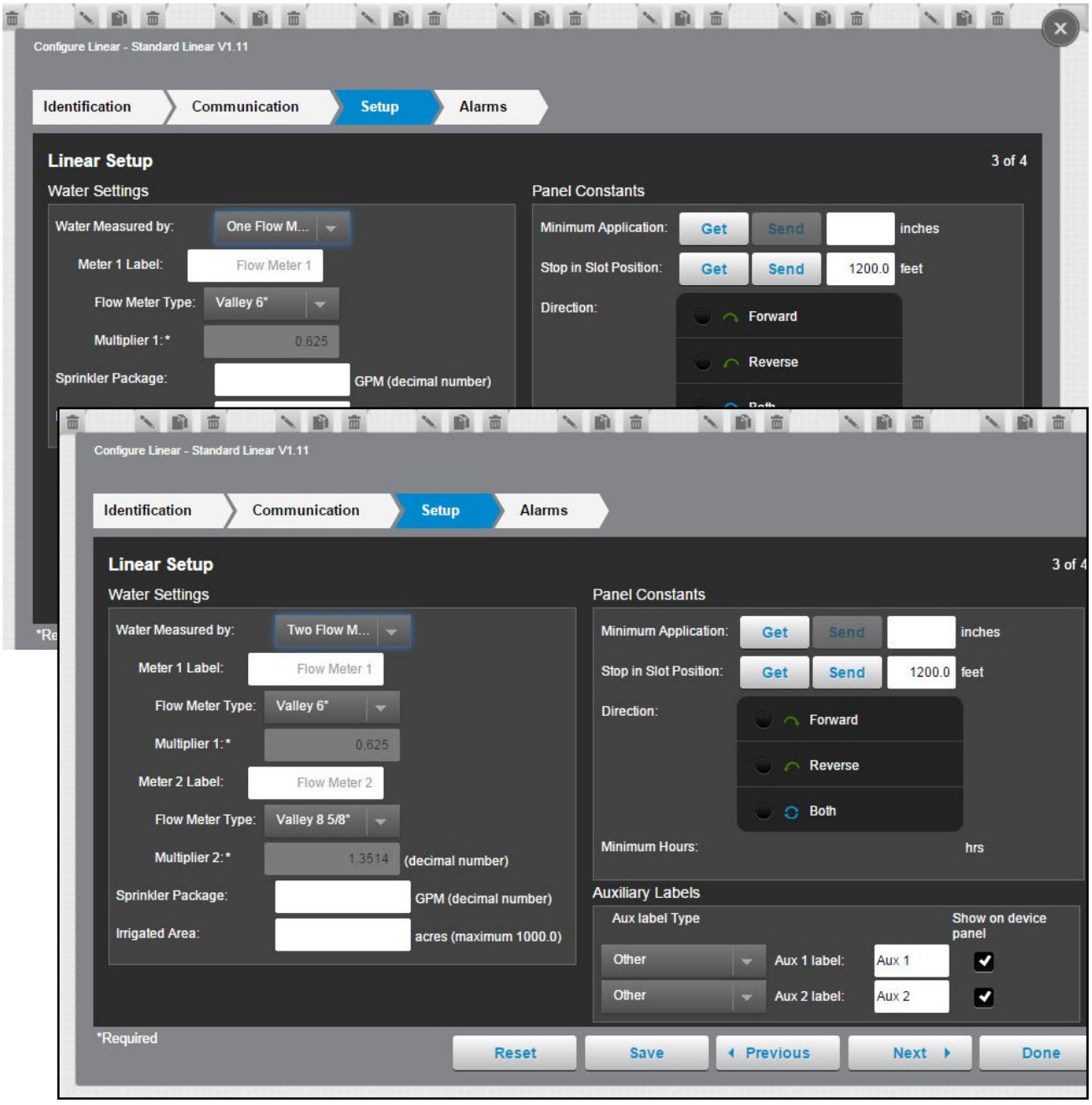


Figure 131-1

Device Management

Linear Configuration

Setup (continued)

Using 1 Flow Meter

To use 1 Flow Meter for water measuring, select **One Flow Meter** from the drop down menu, enter the flow meter label, select the **Flow Count Device** from the drop down menu, enter the **Sprinkler Package GPM**, enter the **Irrigated Area** in Acres and click **Save**. See Figure 132-1.

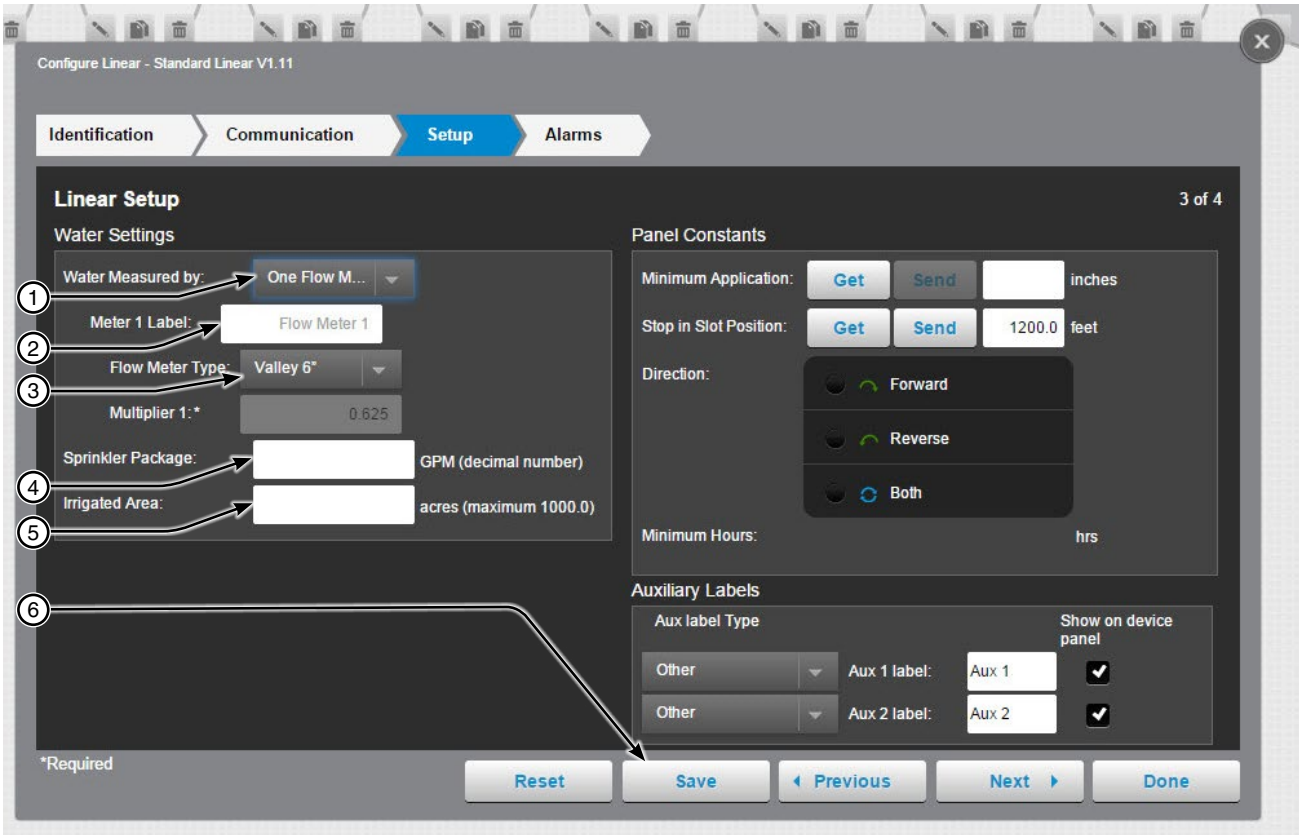


Figure 132-1 1. Select 1 Flow Meter
2. Enter Flow Meter Label
3. Select Flow Count Device
4. Enter Sprinkler Package GPM
5. Enter Irrigated Area in Acres
6. Click Save

Linear Configuration

Setup (continued)

Using 2 Flow Meter

To use 2 Flow Meter for water measuring, select **Two Flow Meter** from the drop down menu, enter the first flow meter label, select the first **Flow Count Device** from the drop down menu, enter the second flow meter label, select the second **Flow Count Device** from the drop down menu, enter the **Sprinkler Package GPM**, enter the **Irrigated Area** in Acres, and click **Save**. See Figure 133-1.

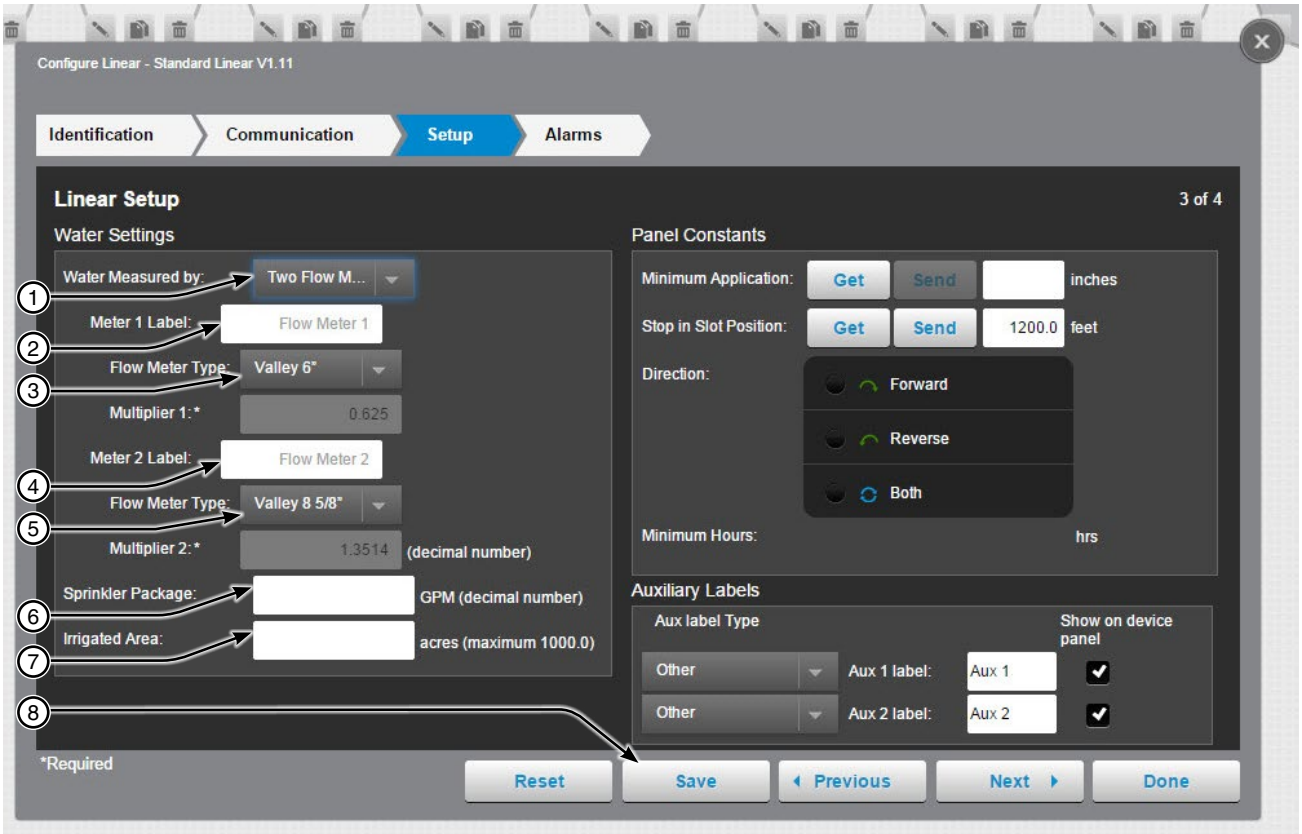


Figure 133-1
1. Select 2 Flow Meter
2. Enter First Flow Meter Label
3. Select the First Flow Count Device
4. Enter Second Flow Meter Label
5. Select the Second Flow Count Device
6. Enter Sprinkler Package GPM
7. Enter Irrigated Area in Acres
8. Click Save

Device Management

Linear Configuration

Setup (continued)

Constant Values

The constant values for Minimum Application, Stop in Slot Angle and Minimum Hours Per Revolution can be obtained from or sent to the control panel. Get and Send are disabled when there is no RTU ID. See Figure 134-1.

Minimum Application (Inches): The depth of water applied at a speed setting of 100 percent. The Minimum Application values are used calculate depth in inches (in). The Discharge rate is not used in calculations when Flow Meter measurements are utilized.

Stop In Slot Position: The position of Stop In Slot in feet.

Direction: The direction in which Stop In Slot will stop the machine. Either Forward, Reverse or Both directions.

Get: To load the constant values from an AutoPilot control panel into the BaseStation database, click the **Get** button associated with the constant. After the values are synchronized click **Save**. Communication between BaseStation and the device is required.

Send: To send the constant values to an AutoPilot control panel from the BaseStation database, enter a value in the field associated with the constant and then click the **Send** button associated with the constant. After the values are synchronized click **Save**. Communication between BaseStation and the device is required.

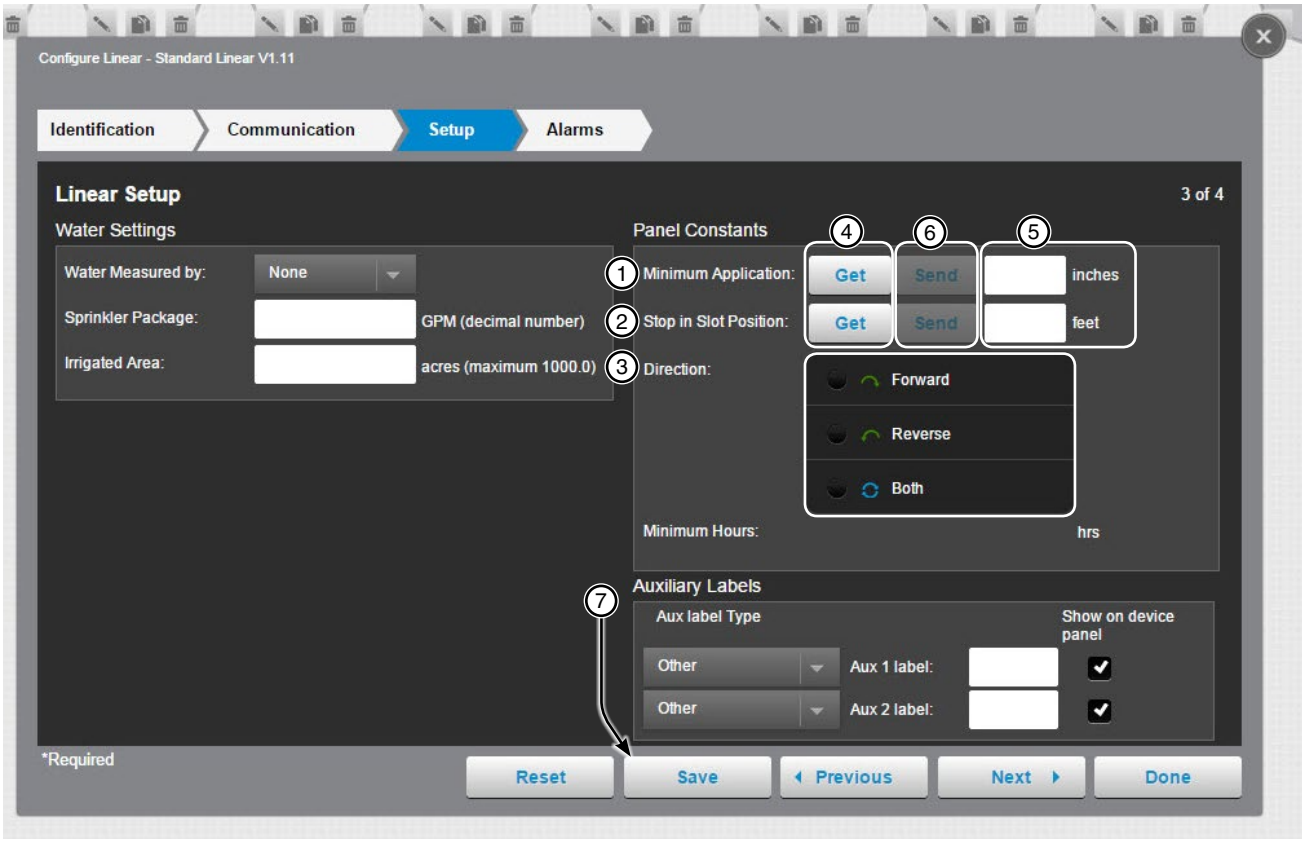


Figure 134-1 1. Minimum Application
2. Stop in Slot Angle
3. Direction
4. Get Button
5. Value Field
6. Send
7. Save

Linear Configuration

Setup (continued)

Auxiliary Labels

The Auxiliary 1 and 2 labels can be customized. See Figure 135-1.

Auxiliary Label Type: Choose either the Fertilizer or Chemigation label from the drop down menu or enter a label name in the auxiliary label field. To show the label on the device panel, check the Show on Device Panel check box.

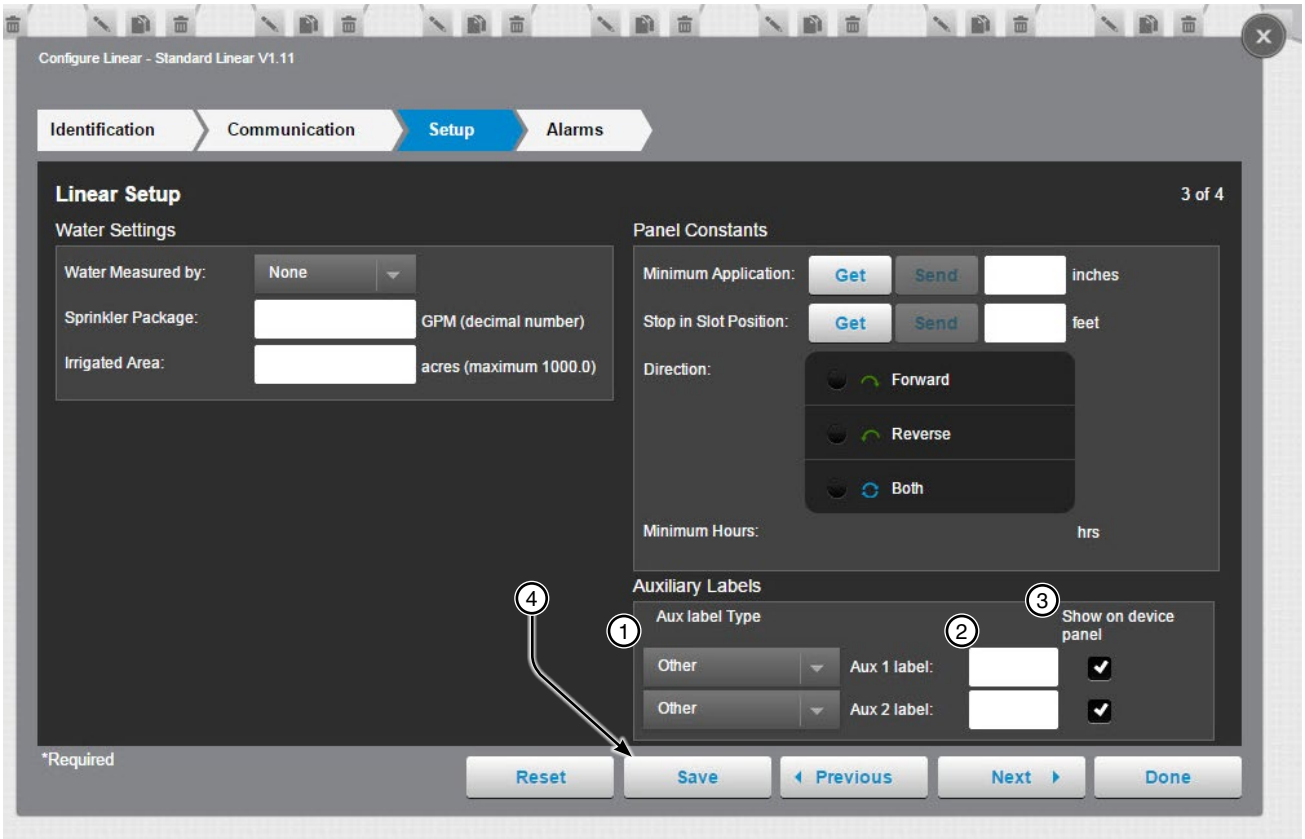


Figure 135-1 1. Label Type Drop Down Menu
2. Label Fields
3. Show on Device Panel Check Box
4. Save

Device Management

Linear Configuration

Alarms

Alarms can be set for each device to notify a contact list of users about various conditions. An alarm is activated when the current state is not the same as the expected state. To change the alarm level for an alarm, choose the desired alarm level icon. When done click **Save**.

- Current State is the last machine state reported by the device to the BaseStation.
- Expected State is the last commanded state sent to the device by the BaseStation or the acknowledged state as accepted by a user when clearing the alarm.

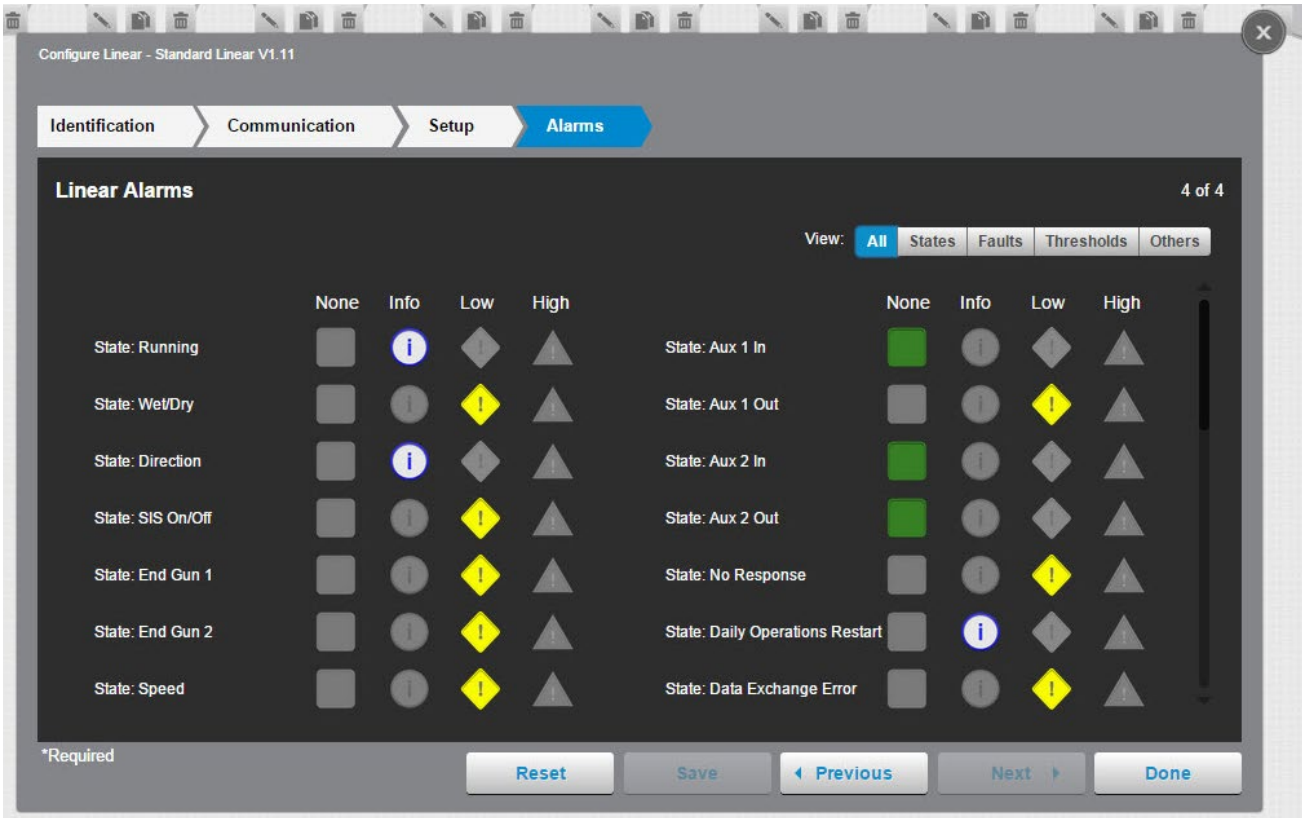


Figure 136-1

Pivot Configuration

Identification

The Identification button describes the physical attributes of the pivot. The pivot name and farm are required. Other required fields depend on control panel choice. See Figure 137-1.

RTU ID: Enter the control panel RTU ID. The RTU ID must be unique and cannot match any other device.

Device Name (required): Enter the device name. No special characters are allowed and field is limited to 20 characters.

Control Panel and Firmware Version (required): Select the control panel and firmware version for this machine from the drop down lists.

Farm (required): If more than one farm is available select the farm from the drop down list.

Latitude and Longitude: The GPS position of the pivot point. The latitude and longitude are initially populated with the coordinates of the farm in which it is created.

In Google Map, to change the position of the pivot circle on the map, enter the known coordinates of the pivot point or go to **Device Management Map View**, select the device and move it to the desired position. Click **Save**, click **Change**, click **Full Configuration** and click **Save as Configuration** (see Saving Device GPS Position in Google Map, earlier in the Device Management section).

In My Map the latitude and longitude are information only and do not change the position of the pivot circle on the map.

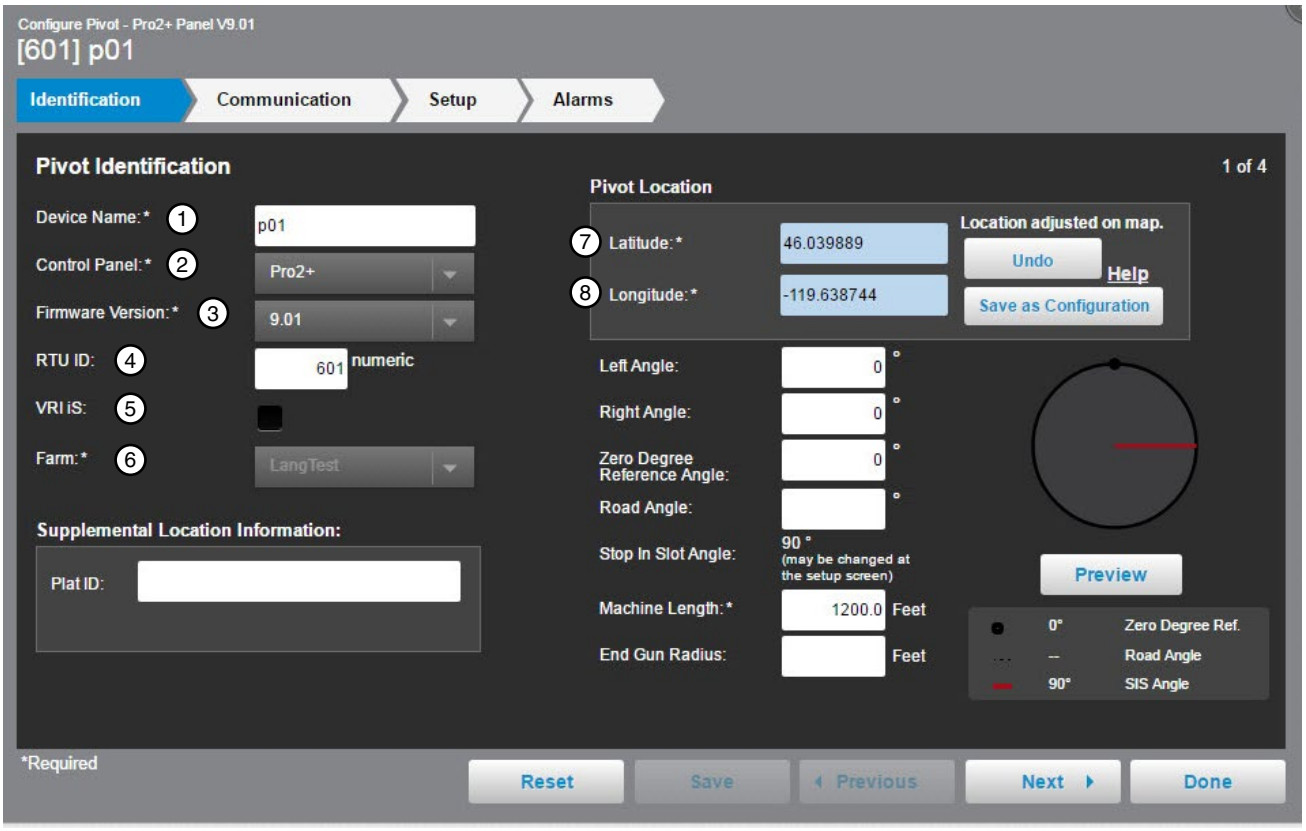


Figure 137-1

1. RTU ID
2. Device Name
3. Control Panel
4. Firmware Version
5. Farm List
6. Latitude
7. Longitude
8. Left Angle
9. Right Angle
10. Zero Degree Reference Angle
11. Road Angle
12. Pivot Point to LRDU Distance
13. Radius

Device Management

Pivot Configuration

Identification (continued)

Left Angle: The extreme counterclockwise movement boundary for a circle.

Right Angle: The extreme clockwise movement boundary for a circle.

If this is a full circle pivot, leave the Left Angle and Right Angle at 0.0. If this is a part circle pivot enter the Left Angle and/or Right Angle of the pivot to change the shape of the pivot on the map.

Zero Degree Reference Angle: The default position 0.0 degrees were the pivot span on the screen is pointing up or to the North. If desired enter a different zero degree reference angle that represents the position of the span when at 0.0 degrees.

Road Angle: The position of the road in the field. When an angle value is entered a road is displayed on the pivot.

Stop In Slot Angle: The angle of the Stop In Slot.

Machine Length: The pivot point to LRDU distance in feet. Used for run time position calculation. This does not change the size of the pivot circle on the map.

End Gun Radius: The distance that the end gun will spray in feet. This is information only and does not change the way that the pivot circle appears on the map.

Preview Button: Click Preview to display a preview of what the pivot will look like.

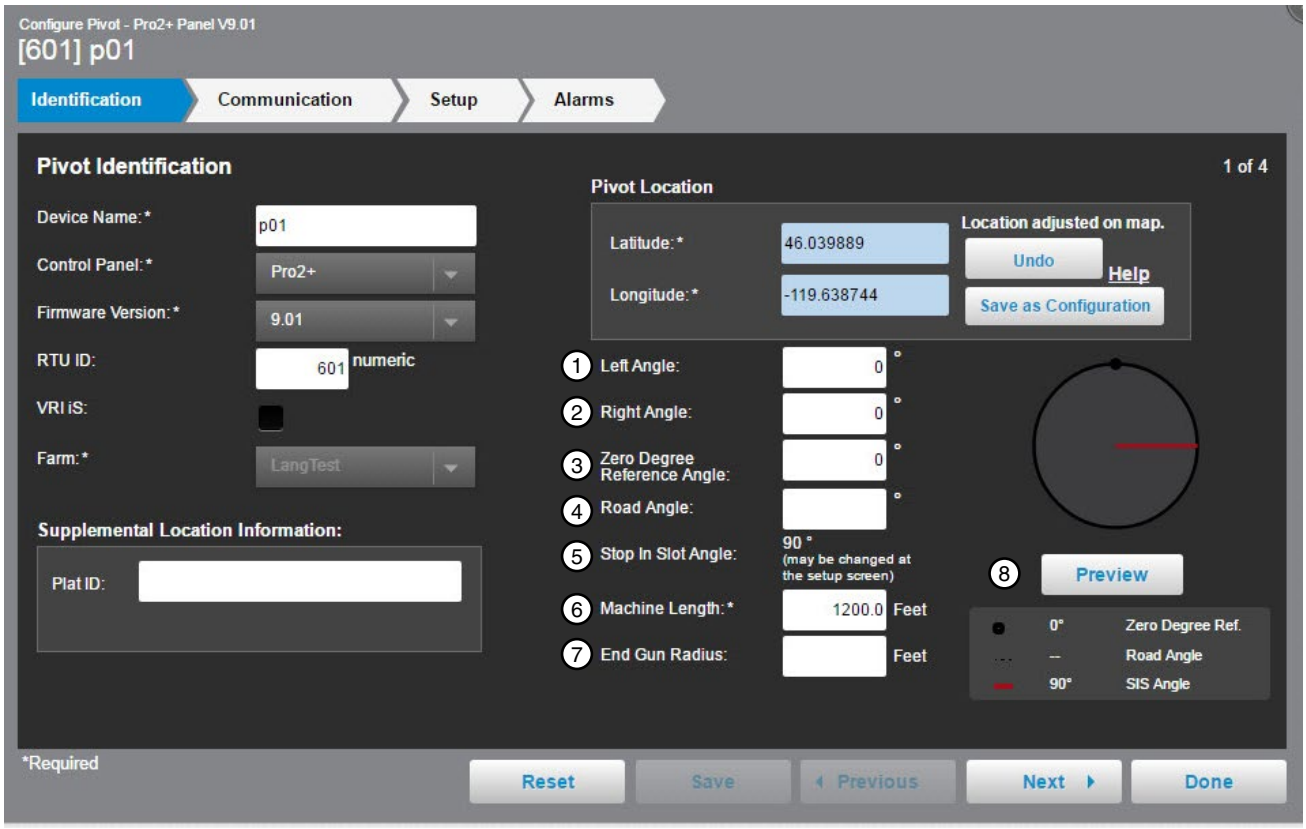


Figure 138-1
1. Left Angle
2. Right Angle
3. Zero Degree Reference Angle
4. Road Angle
5. Stop In Slot Angle
6. Machine Length
7. End Gun Radius
8. Preview Button

Pivot Configuration

Communication

Use Communication to configure communications with the device. See Figure 139-1.

Channel: The BaseStation channel used to communicate with the device. Select from the available channels on the drop down menu. To create a new channel go to **Settings/BaseStation Settings/Communication/Channels**.

Enter IP Address: The Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

IP Port: The port associated with the Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

Polling On/Off: The periodic request based on the polling period that the BaseStation makes for machine status from the device.

Polling Period: The time in minutes between polling tries for obtaining machine status. The default time is 30 minutes.

Number of Times to Send Messages: The maximum number of attempts that will be made to communicate with the device. The default value is 2 tries. When a communication transaction is successful on the first attempt, the BaseStation will not continue with additional tries. When using radios that may be on the fringe of reliable communications, increasing the number of attempts may be necessary. See Figure 139-1.

Time to Wait for Acknowledge: The amount of time that the BaseStation will wait for a response from the device (default value is 5 seconds). Using radios or trunking systems will delay the transmission of data. If a returned message is not received by the BaseStation within the allowed response time, the BaseStation will retry the transaction for as many attempts as specified in the Times to Send Messages limitation. See Figure 139-1.

Alarm Contact List: Associates the device with a contact list of users that will be notified when an alarm occurs. Contact lists are created in **Settings/ BaseStation Settings/Alarm Contacts/Contact Lists**. See Figure 139-1.

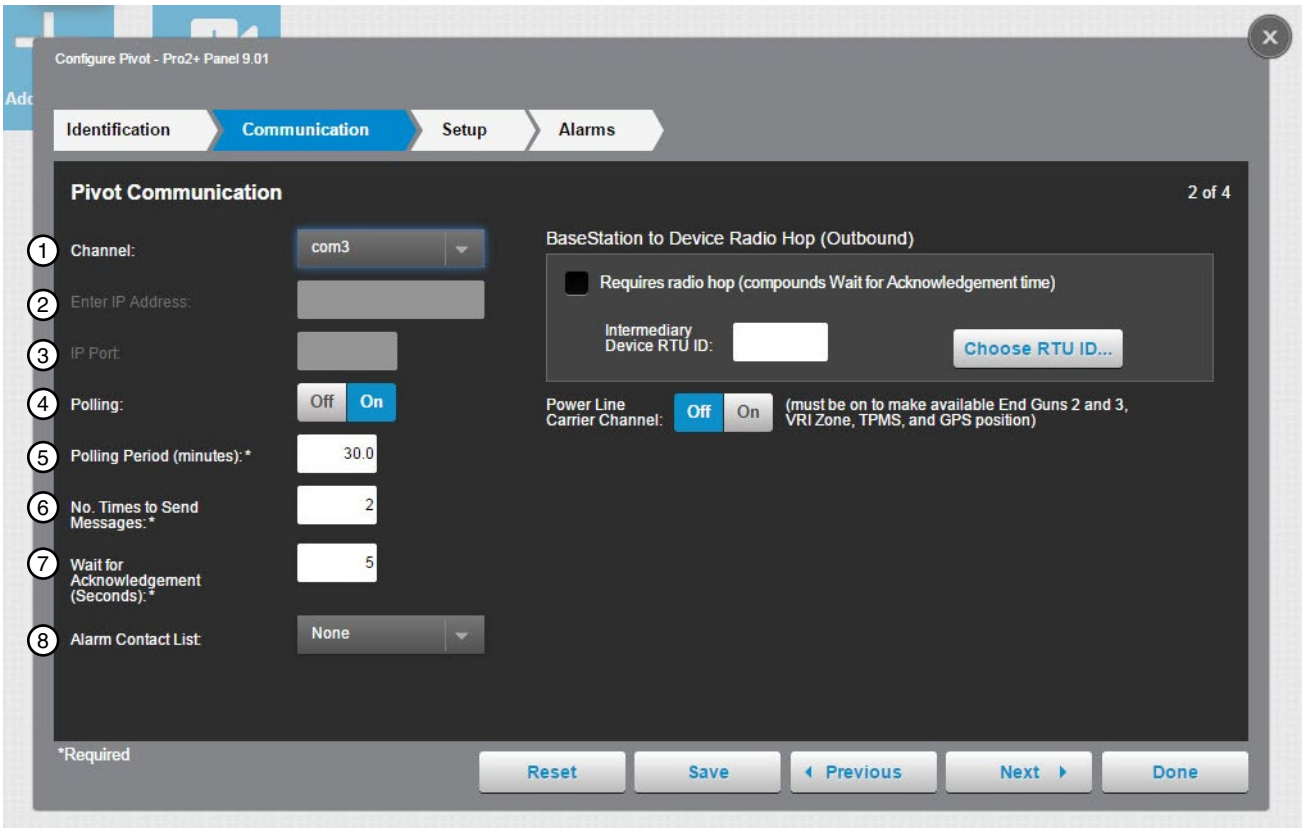


Figure 139-1
1. Channel
2. Enter IP Address
3. IP Port
4. Polling On/Off
5. Polling Period
6. Number of Times to Send Messages
7. Time to Wait for Acknowledge
8. Alarm Contact List

Device Management

Pivot Configuration

Communication (continued)

Radio Hop (outbound): The use of an intermediate device to relay communications from the BaseStation to another device through all panels except for the original Select, without the need for additional hardware. Auxiliary Links should only be used as the hop device to another Auxiliary link due to a message length limit. When using this function all control panels involved must be either Pro version 7, Pro2, Select2, AutoPilot, or Panel Link. Additional time will be required to relay the message. Increasing the Time to Wait for Acknowledge value will be necessary; typically double the original Time to Wait, depending on the type of communications being used.

RTU ID (Radio Hop): The RTU ID of the intermediate machine that is used as a relay point.

To use Radio Hop, check the Requires radio hop check box. Click Choose RTU ID and select an intermediate device to relay communications.

Power Line Carrier Channel: The pivot control panel communication setting for a power line carrier. Selecting the On choice for Power Line Carrier will make available the End Gun 2 and 3, VRI Zone, TPMS and GPS position. See Figure 140-1.

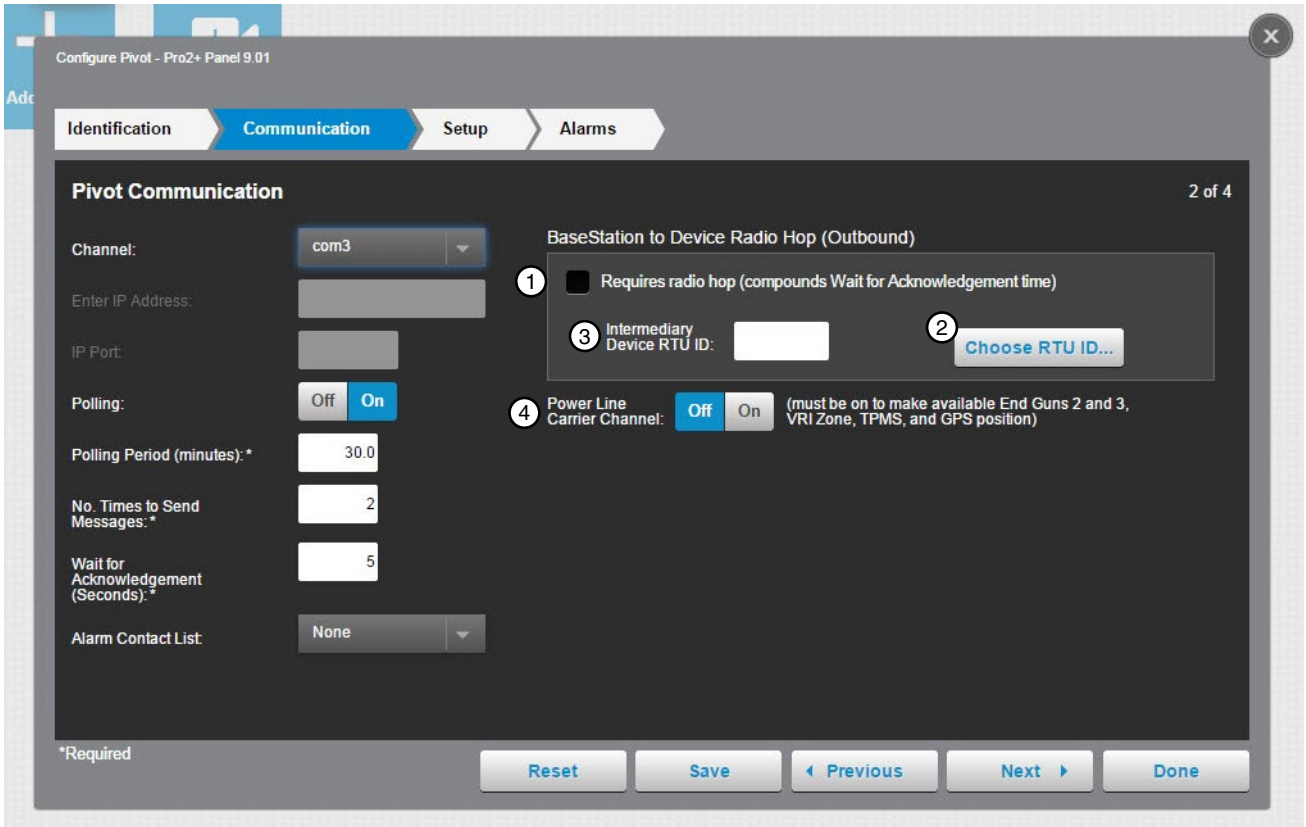


Figure 140-1
1. Radio Hop Checkbox
2. Choose RTU ID Button
3. Intermediate Device Field
4. Power Line Carrier Channel

Pivot Configuration

Setup

Water Measurement

The Water Measured By selection provides four choices of water monitoring; None, Wet Hour Meter,1 Flow Meter or 2 Flow Meters. The default setting is None. The type of water measuring selected here determines the formula that is used in reports.

None

When None is selected, water reports are based on calculated approximations of water discharge in Gallons Per Minute (GPM). See Calculation Examples on the next page. Sprinkler Package (GPM) (VChart Flow) and Irrigated Area (Acres) (VChart Field Area) values are included in the VChart document for the specific irrigation system.

To use None for water measuring, select **None** from the drop down menu, enter the **Sprinkler Package GPM**, enter the **Irrigated Area** in Acres and click **Save**. See Figure 141-1.

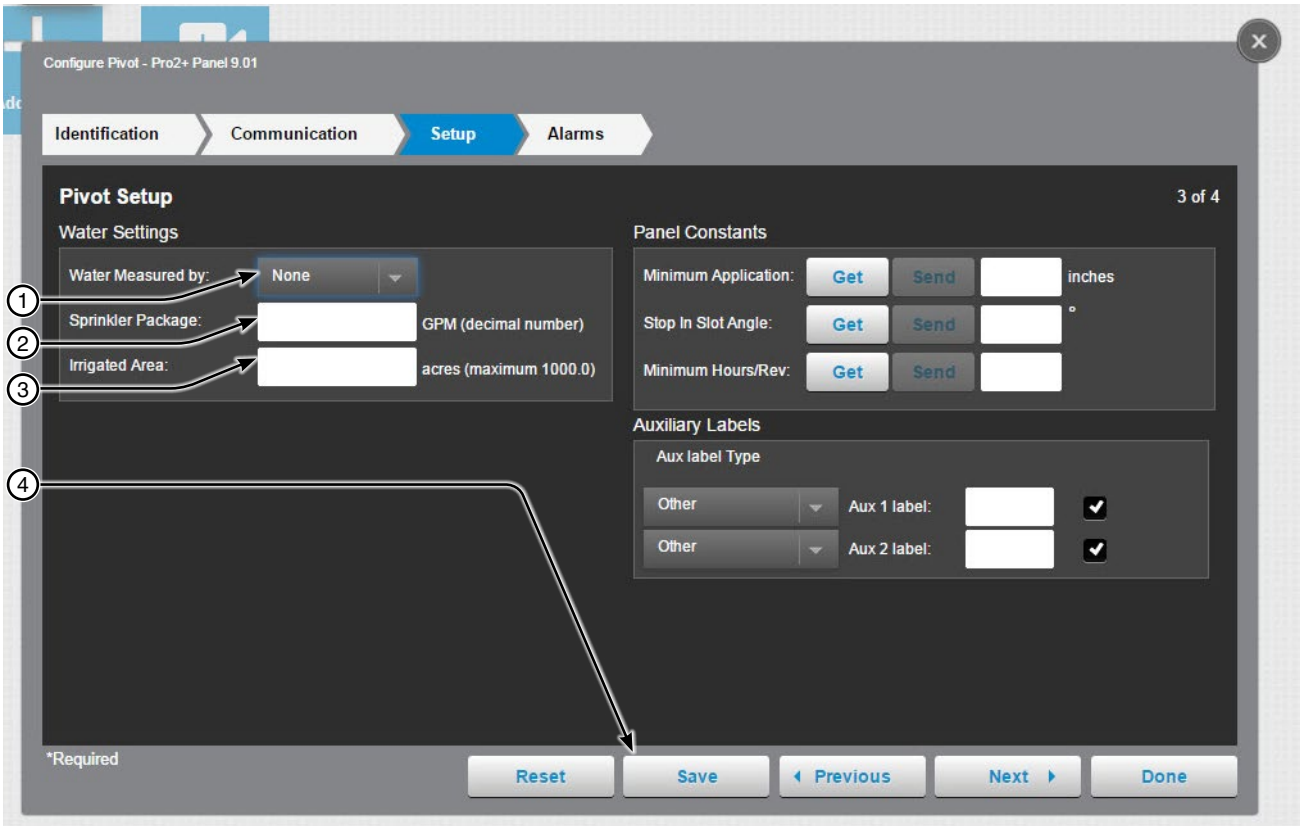


Figure 141-1
1. Select None
2. Enter Sprinkler Package GPM
3. Enter Irrigated Area in Acres
4. Click Save

Device Management

Pivot Configuration

Setup (continued)

Water Measurement

None - Calculation Examples

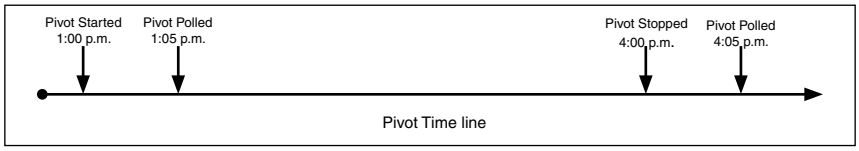
The formula for reporting is the product of the discharge value entered and the accumulated wet hours known by the BaseStation from polled interval status changes.

In this example, at a discharge rate of 170 GPM, the Totals Report will calculate the number of minutes that the machine was running wet during the report period and multiply that by 170.

The report is only as accurate as the status update records for logging start/stop times and the precision of the discharge rate.

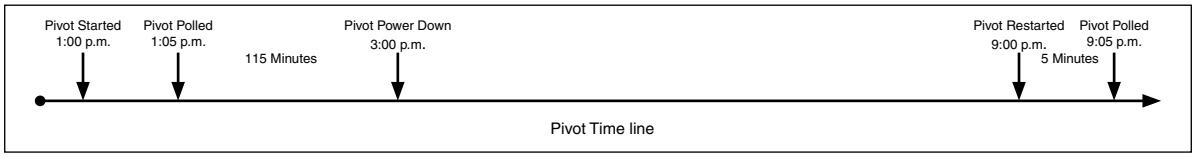
The BaseStation records actual start and stop times that are commanded through the BaseStation. Other local controls at the machine that start or stop the machine, such as Programs, SIS, and Daily Ops are logged only when updated by polling or manual requests for status updates.

Example:



1. The discharge rate is set for 170 GPM and the pivot is started at 1:00 p.m. and polled at 1:05 p.m., then the BaseStation gets data that the pivot is running wet.
2. The pivot is stopped at 4:00 p.m. and polled at 4:05 p.m., then the BaseStation gets data that the pivot has stopped.
3. The flow rate is calculated from 1:05 p.m. to 4:05 p.m. discharge rate (170 GPM × 180 minutes = 30,600 gal).
4. If you check the flow rate between 1:10 p.m. and 4:00 p.m. the flow rate would have shown 0 GPM.

If power is lost, as shown below, the calculated flow total would occur between 1:05 p.m. and 9:05 p.m. even though the pivot wasn't running wet between 3:00 p.m. and 9:05 p.m.



Example:

Calculated: 8 hours × 60 minutes/1 hour × 170 GPM = 81,600 gal

Actual: 120 minutes × 170 GPM = 20,400 gal

Error: 81,600 gal - 20,400 gal = +61,200 gal

Pivot Configuration

Setup (continued)

Water Measurement

Wet Hour Meter

When Wet Hour Meter is selected, the formula for reporting is the product of the discharge value in Gallons Per Minute (GPM) entered and the actual accumulated wet hours as gathered from the control panel. The BaseStation requests the Wet Hours data from the device control panel. The control panel can be either a Pro2 or AutoPilot module where Wet Hours are accumulated. Sprinkler Package (GPM) (VChart Flow) and Irrigated Area (Acres) (VChart Field Area) values are included in the VChart document for the specific irrigation system.

To use the Wet Hour Meter for water measuring, select **Wet Hour Meter** from the drop down menu, enter the **Sprinkler Package GPM**, enter the **Irrigated Area** in Acres and click **Save**. See Figure 143-1.

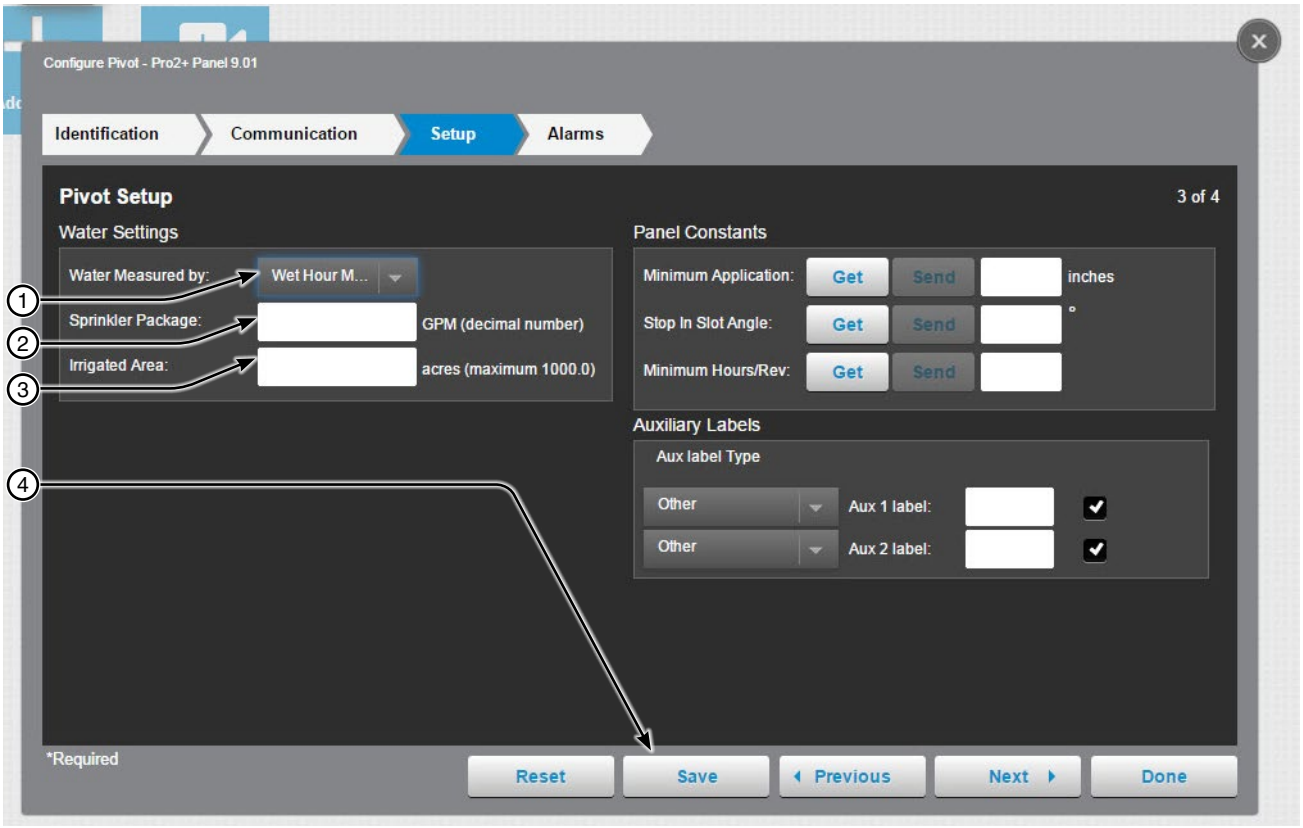


Figure 143-1
1. Select Wet Hour Meter
2. Enter Sprinkler Package GPM
3. Enter Irrigated Area in Acres
4. Click Save

Device Management

Pivot Configuration

Setup (continued)

Flow Meters

When 1 Flow Meter or 2 Flow Meter is selected, the BaseStation uses the pulse count value(s) from a Pro2 module. The formula for reporting is the product of the periodic count total and the multiplier value for the flow count device. When 2 Flow Meter is selected, up to two different flow count devices can be used and each device has it's own multiplier. See Figure 144-1.

When a Valley flow count device is selected, the multiplier field is automatically populated. When a flow count device of Other is selected, a multiplier must be entered.

Sprinkler Package (GPM) (VChart Flow) and Irrigated Area (Acres) (VChart Field Area) values are included in the VChart document for the specific irrigation system.

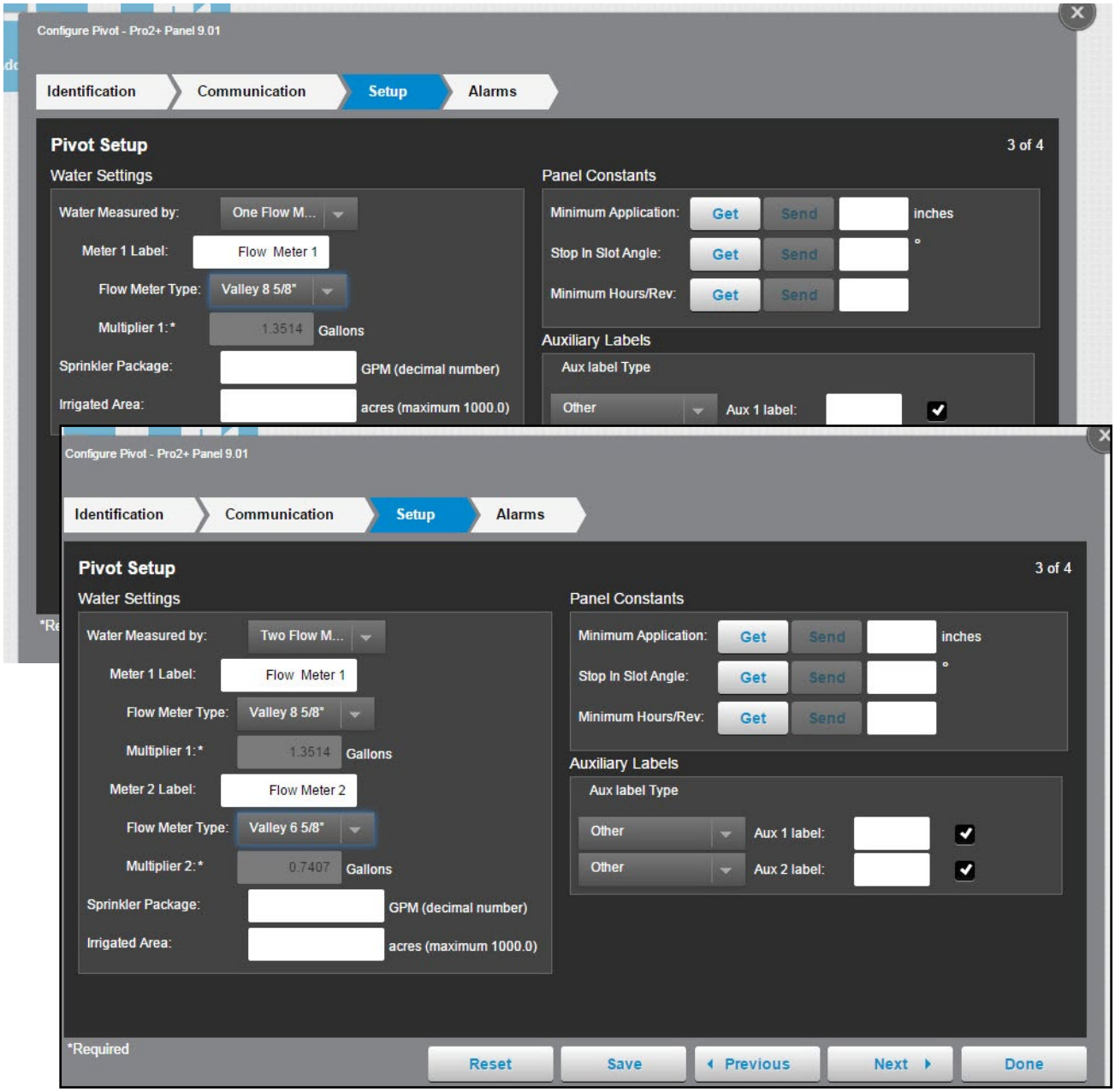


Figure 144-1

Pivot Configuration

Setup (continued)

Using 1 Flow Meter

To use 1 Flow Meter for water measuring, select **1 Flow Meter** from the drop down menu, select the **Flow Count Device** from the drop down menu, enter the **Sprinkler Package GPM**, enter the **Irrigated Area** in Acres and click **Save**. See Figure 145-1.

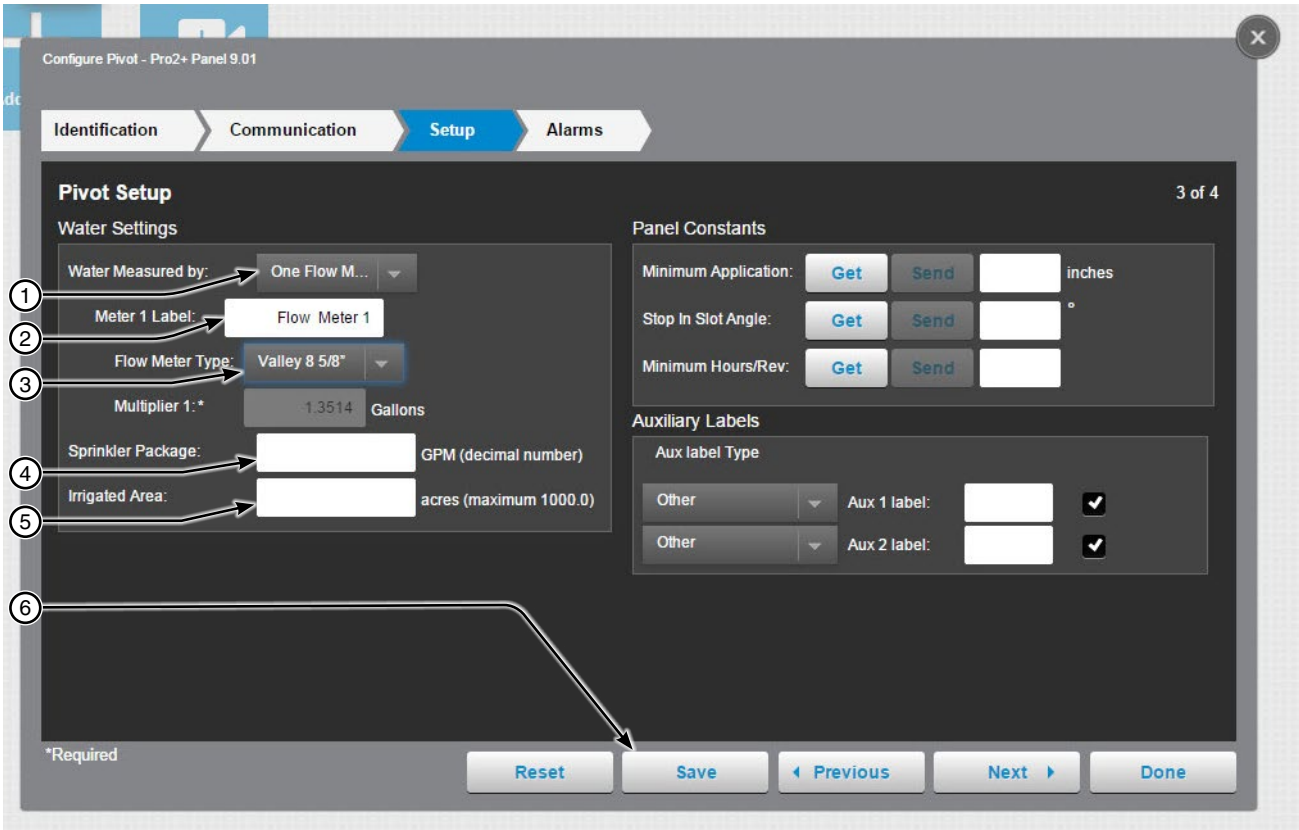


Figure 145-1
1. Select 1 Flow Meter
2. Enter Meter Label
3. Select Flow Count Device
4. Enter Sprinkler Package GPM
5. Enter Irrigated Area in Acres
6. Click Save

Device Management

Pivot Configuration

Setup (continued)

Using 2 Flow Meter

To use 2 Flow Meter for water measuring, select **2 Flow Meter** from the drop down menu, select the first **Flow Count Device** from the drop down menu, select the second **Flow Count Device** from the drop down menu, enter the **Sprinkler Package GPM**, enter the **Irrigated Area** in Acres and click **Save**. See Figure 146-1.

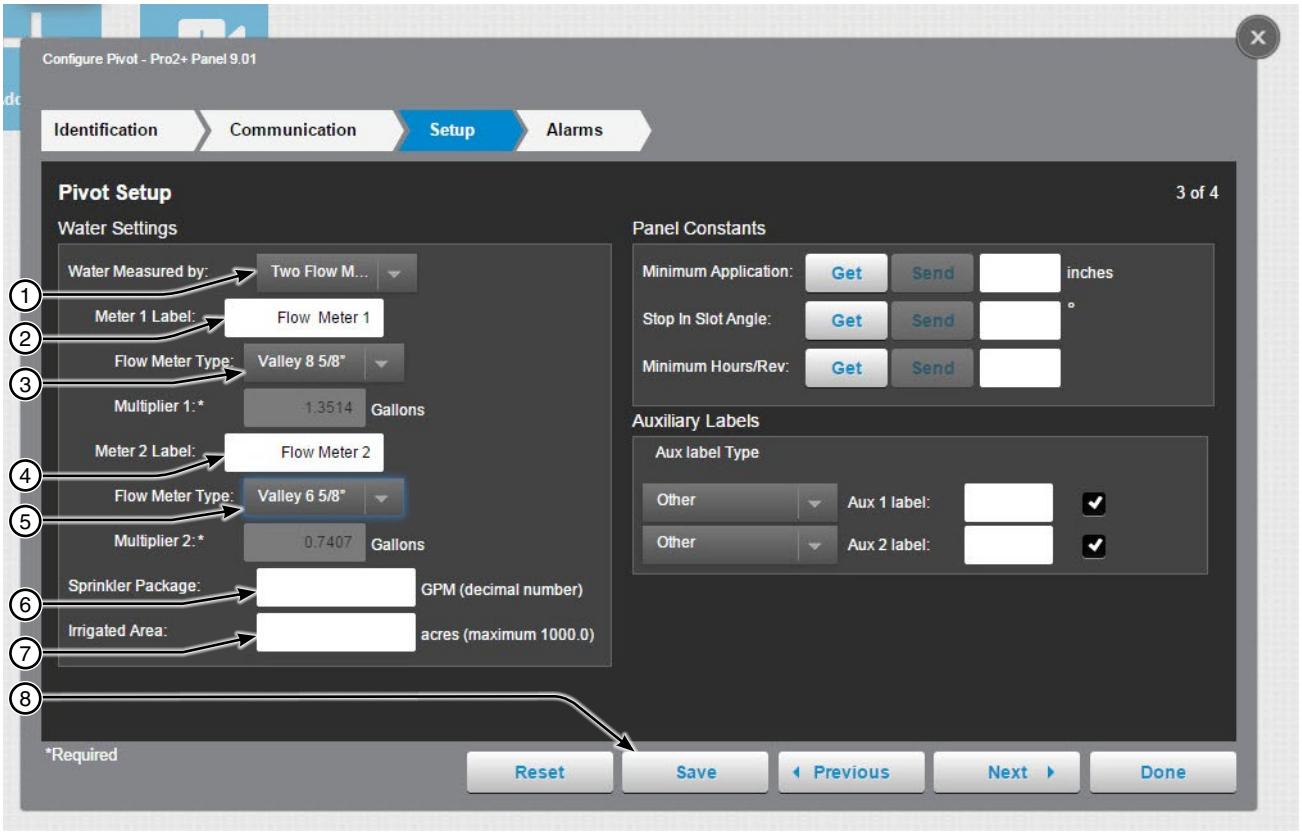


Figure 146-1
1. Select 2 Flow Meter
2. Enter Meter Label
3. Select the First Flow Count Device
4. Enter Meter Label
5. Select the Second Flow Count Device
6. Enter Sprinkler Package GPM
7. Enter Irrigated Area in Acres
8. Click Save

Pivot Configuration

Setup (continued)

Constant Values

The constant values for Minimum Application, Stop in Slot Angle and Minimum Hours Per Revolution can be obtained from or sent to the control panel. Get and Send are disabled when there is no RTU ID. See Figure 147-1.

Get: To load the constant values from a Pro2, Select2 or AutoPilot control panel into the BaseStation database, click the **Get** button associated with the constant. After the values are synchronized click **Save**. Communication between BaseStation and the device is required.

Send: To send the constant values to a Pro2, Select2 or AutoPilot control panel from the BaseStation database, enter a value in the field associated with the constant and then click the **Send** button associated with the constant. After the values are synchronized click **Save**. Communication between BaseStation and the device is required.

Minimum Application (Inches): The depth of water applied at a speed setting of 100 percent. The Minimum Application values are used calculate depth in inches (in). The Discharge rate is not used in calculations when Flow Meter measurements are utilized.

Stop In Slot Angle: The position of Stop In Slot in degrees.

Minimum Hours/Rev: The amount of time (in hours) required for a full circle machine to make one revolution at a speed setting of 100 percent. The Minimum Hrs/Rev values are used to calculate the Hours/Rev at the percentage timer setting.

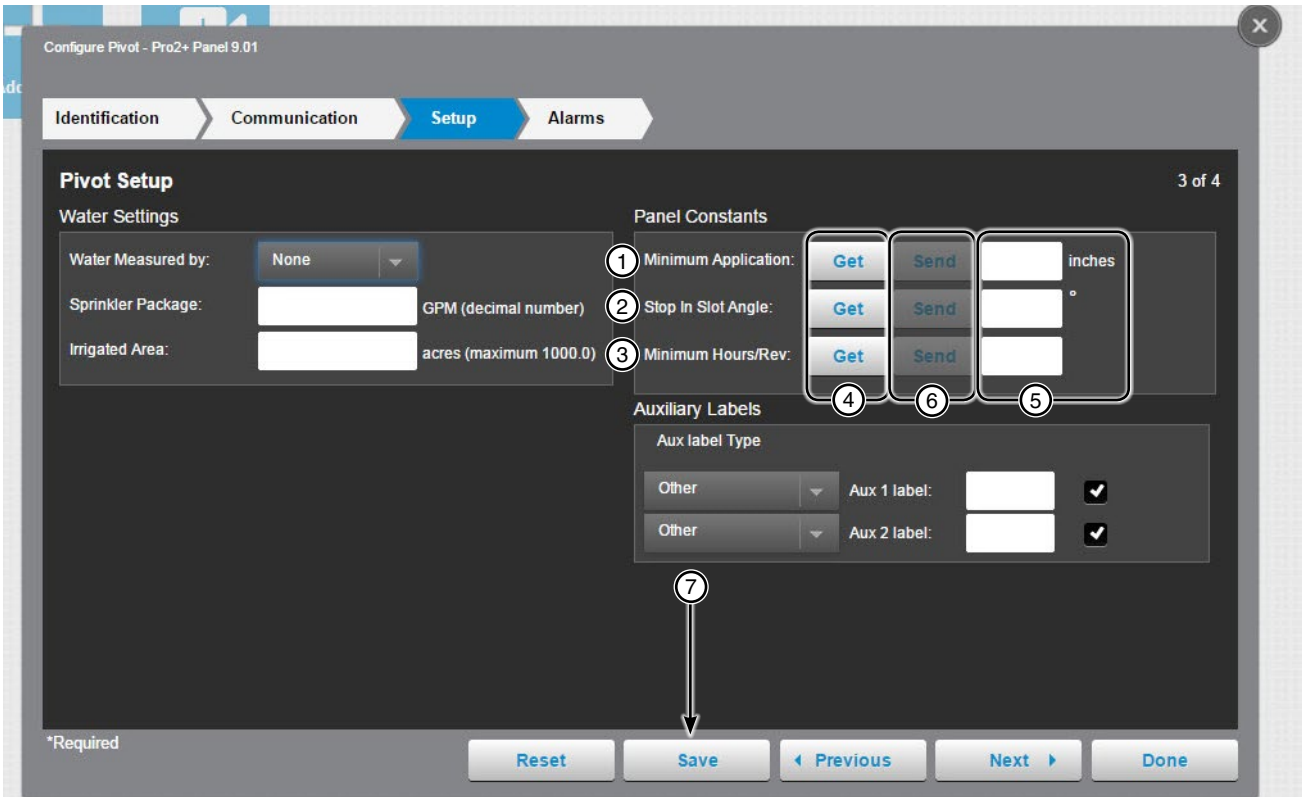


Figure 147-1
1. Minimum Application
2. Stop in Slot Angle
3. Minimum Hours Per Revolution
4. Get Button
5. Value Field
6. Send Button
7. Save Button

Device Management

Pivot Configuration

Setup (continued)

Other Values

The Other values are for radio parameters on all control panels. See Figure 148-1.

Key Wait (seconds): The amount of time that the device control panel waits after enabling the serial port Request To Send line (RTS) before sending data. Spread spectrum radios and digital data radios, often have programmable features for managing the transmission of data. They may require only a short key wait period or none at all. This allows a lower key wait time at the control panel to speed up communications.

• The value zero, 0, sets the key wait duration to 0.05 second. This provides a minimal time delay for the RTS line to change before data is sent to the radio.

• Any positive value entered, such as 0.8, sets the delay period between the time RTS is enabled until the data is sent.

Times to Send: The maximum number of attempts that will be made to communicate with the device. The default value is 2 tries. When a communication transaction is successful on the first attempt, the BaseStation will not continue with additional tries. When using radios that may be on the fringe of reliable communications, increasing the number of attempts may be necessary. See Figure 148-1.

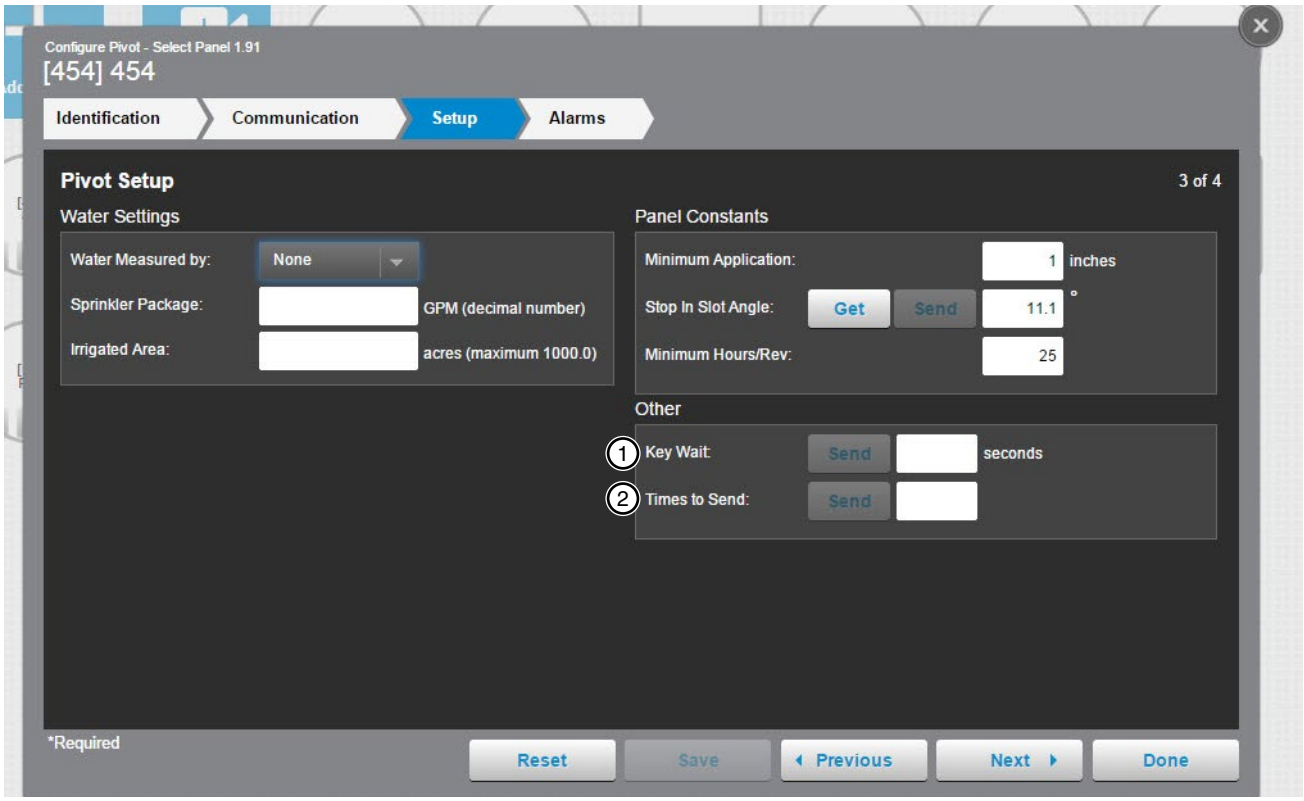


Figure 148-1 1. Key Wait
2. Times to Send

Pivot Configuration

Setup (continued)

Auxiliary Labels

The Auxiliary Label values in device management/pivot/setup appear on the operational device panel view and are used in report headings. See Figure 149-1.

Aux Label Type: The type of label associated with each auxiliary. Choose between Other, Chemicals or Fertilizer.

Aux 1 and 2 Label: A label can be entered in the Aux 1 and/or 2 label fields. Checking the box associated with the label allows the label to be displayed on the operational device panel view.

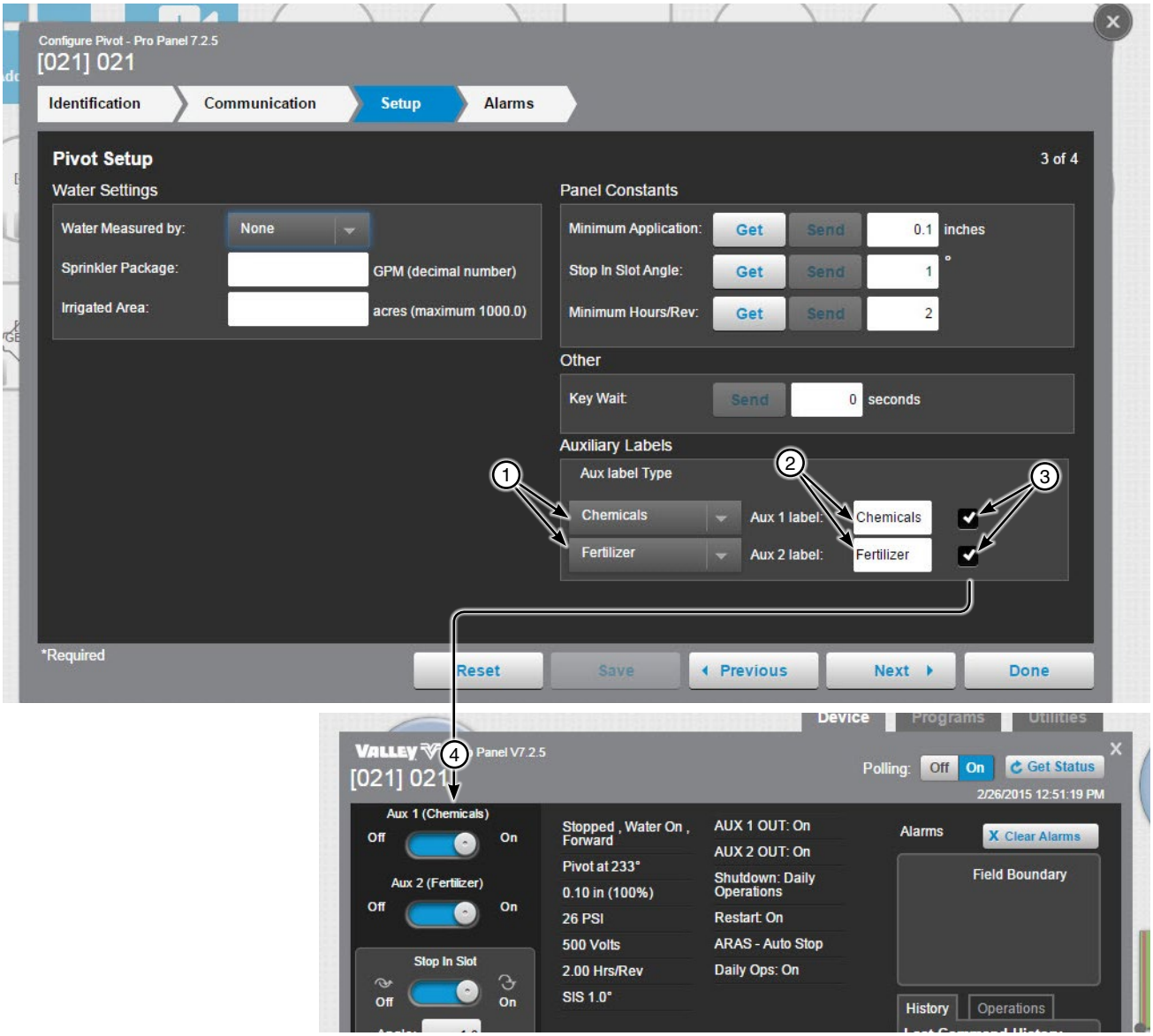


Figure 149-1
1. Aux Label Type
2. Aux 1 and/or 2 Label
3. Aux 1 and 2 Checkboxes
4. Auxiliary Labels

Device Management

Pivot Configuration

Alarms

Alarms can be set for each device to notify a contact list of users about various conditions. An alarm is activated when the current state is not the same as the expected state. To change the alarm level for an alarm, choose the desired alarm level icon. When done click **Save**.

- Current State is the last machine state reported by the device to the BaseStation.
- Expected State is the last commanded state sent to the device by the BaseStation or the acknowledged state as accepted by a user when clearing the alarm.

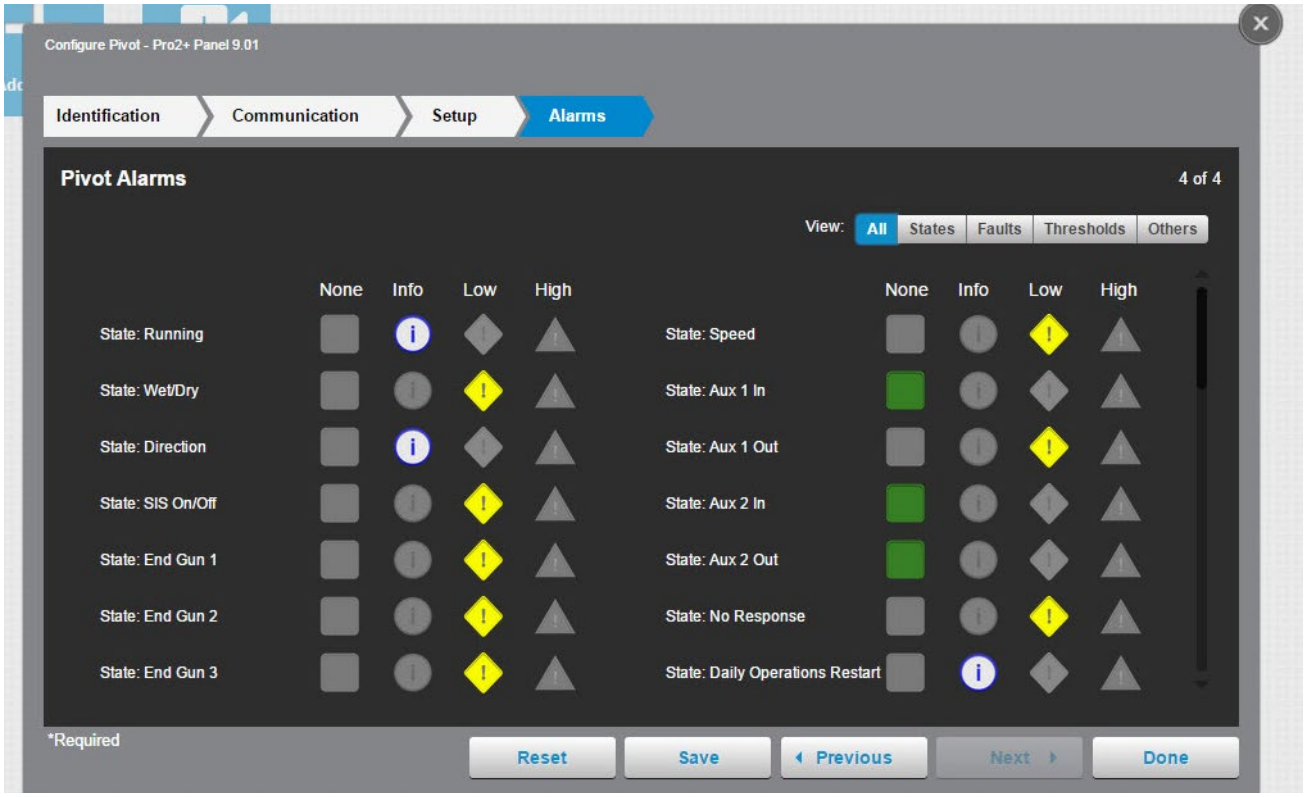


Figure 150-1

AgSense

AgSense Devices

To use the Display AgSense Devices, the user has to log into their AgSense Account. To do this, enter the username and password for the AgSense Account and click **Enter**. To remove an account, click **Remove**. See Figure 151-1.

Serial Number: The serial number for the device.

Device Name: Enter the device name. No special characters are allowed and field is limited to 20 characters.

FC-Type/Panel Type: The specific model of the control panel being used: Pro2, Select2, etc.

Pivot Type: The type of pivot AgSense is connected to.

Firmware: The version of firmware on this device. (All devices have a firmware version, which is the version of the internal software that runs the device.)

Farm: If more than one farm is available select the farm from the drop down list.

No Response: Alarm to monitor when the device does not respond to communication. The alarm level is user set. Default setting is low.

Data Exchange Error: A message received by BaseStation3 is not be able to be processed.

Alarm Contact List: Associates the device with a contact list of users that will be notified when an alarm occurs. Contact lists are created in **Settings/BaseStation Settings/Alarm Contacts/Contact Lists**.

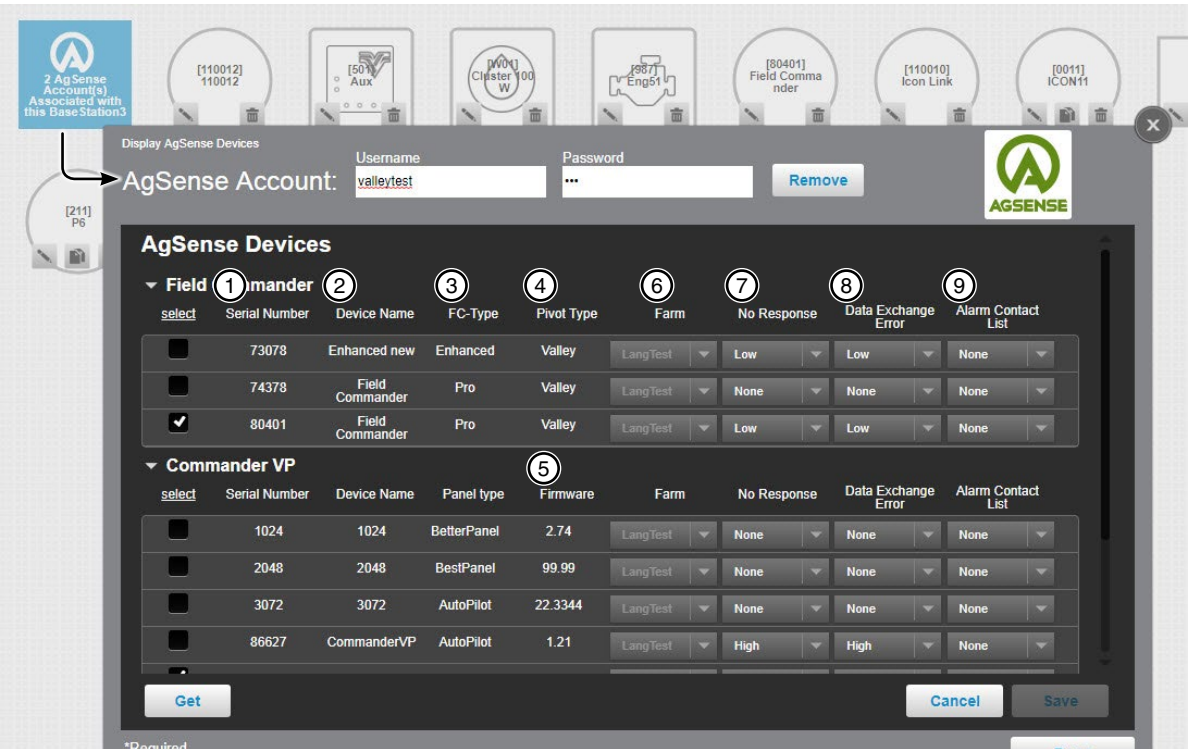


Figure 151-1
1. Serial Number
2. Device Name
3. FC-Type/Panel Type
4. Pivot Type
5. Firmware
6. Farm
7. No Response
8. Data Exchange Error
9. Alarm Contact List

Device Management

Auxiliary Link Configuration

Identification & Configuration

Identification & Configuration describes the physical attributes of the Auxiliary Link. The Aux Link RTU ID, name, Farm, Channel and Location are required. Other fields may be required as choices are made. See Figure 152-1.

RTU ID (Auxiliary Link): RTU ID of the Auxiliary Link is programmed to *** when shipped from the factory.

Device Name (required): Enter the device name. No special characters are allowed and field is limited to 20 characters.

Firmware Version: Displays the Auxiliary Link software version.

Farm (required): If more than one farm is available select the farm from the drop down list.

Channel (required): The BaseStation channel used to communicate with the device. Select from the available channels on drop down menu. To create a new channel go to Settings\BaseStation Settings\Communication\ Channels.

Latitude and Longitude: The GPS position of the device. The latitude and longitude are initially populated with the coordinates of the farm in which it is created.

In Google Map, to change the position of the device on the map, enter the known coordinates of the device or go to **Device Management Map View**, select the device and move it to the desired position. Click **Save**,select the device again click **Change**, and click **Save as Configuration** (see Saving Device GPS Position in Google Map, earlier in the Device Management section).

In My Map the latitude and longitude are information only and do not change the position of the device on the map.

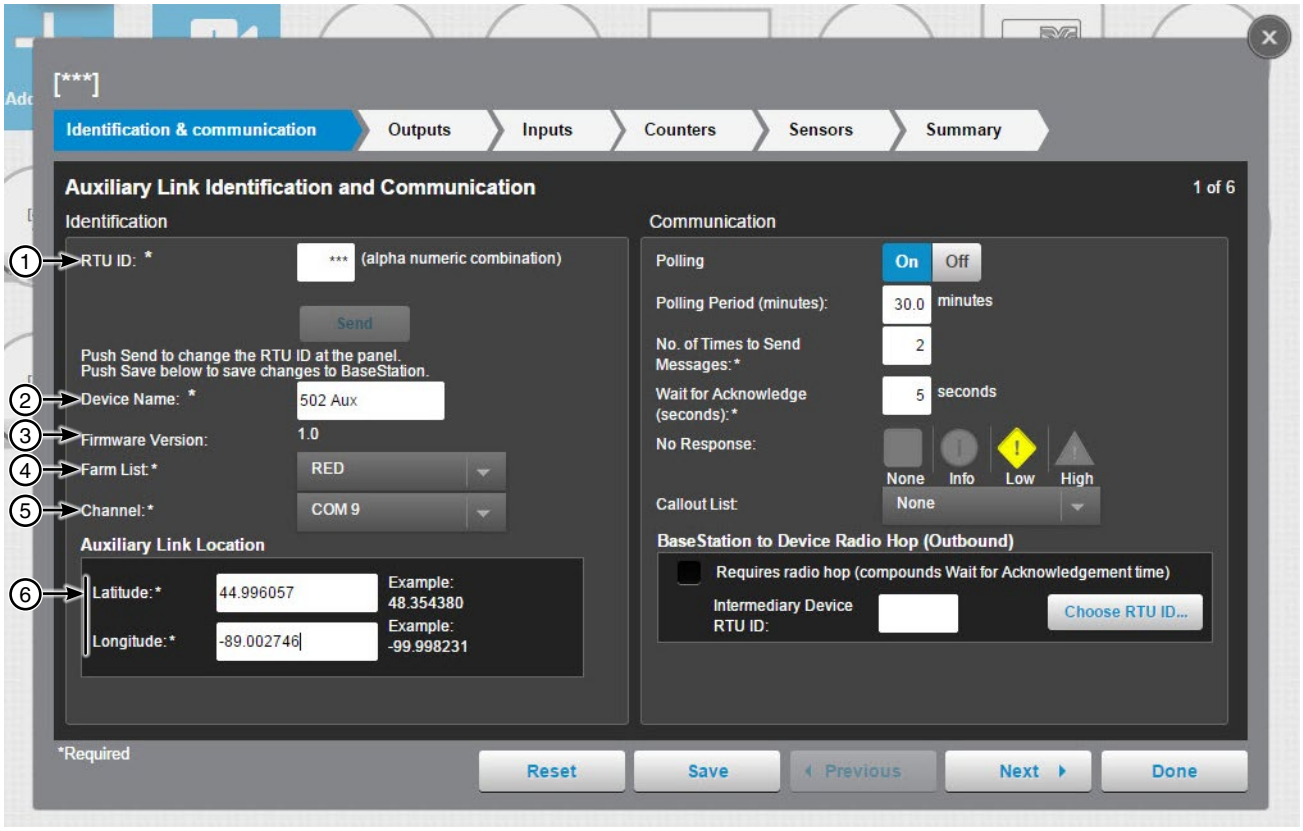


Figure 152-1 1. RTU ID
2. Device Name
3. Firmware Version
4. Farm
5. Channel
6. Latitude and Longitude

Auxiliary Link Configuration

Identification & Configuration (continued)

Setting the RTU ID (Auxiliary Link): RTU ID of the Auxiliary Link is programmed to *** when shipped from the factory. When a new Auxiliary Link panel is added to the map, the default ID is also ***. A new RTU ID needs to be saved in the BaseStation and sent to the Auxiliary Link panel. See Figure 153-1.

Enter the **Device Name**, Select the **Farm** and **Channel**, click **Save**. This enables the RTU ID field. Make sure all other devices with the default RTU ID of *** are powered off or disconnected before continuing. Enter the desired **three-character RTU ID**, a combination of numbers and/or alphabetic characters. The RTU ID must be unique and cannot match any other device. Click **Send**. When the acknowledge response is received from the Auxiliary Link panel that the new ID was accepted, the new ID will be saved in the BaseStation database.

NOTE

- **All Valley computer control panels have a default RTU ID of 000 or 0000 for ICON panels.**
- **Unprogrammed Auxiliary Link panels have a default RTU ID of ***. Often they are setup here.**
- **If using radio communications, make sure any other device(s) with the default RTU ID of *** are powered off or disconnected while attempting to communicate with the Auxiliary Link.**
- **If multiple new Auxiliary Link panels are being installed, the panels must be powered up one at a time.**
- **Only one Auxiliary Link panel with the default RTU ID of *** is allowed to be active when setting the ID.**
- **An Auxiliary Link cannot be left at ***. It will not successful poll or get the status until it is changed from ***.**

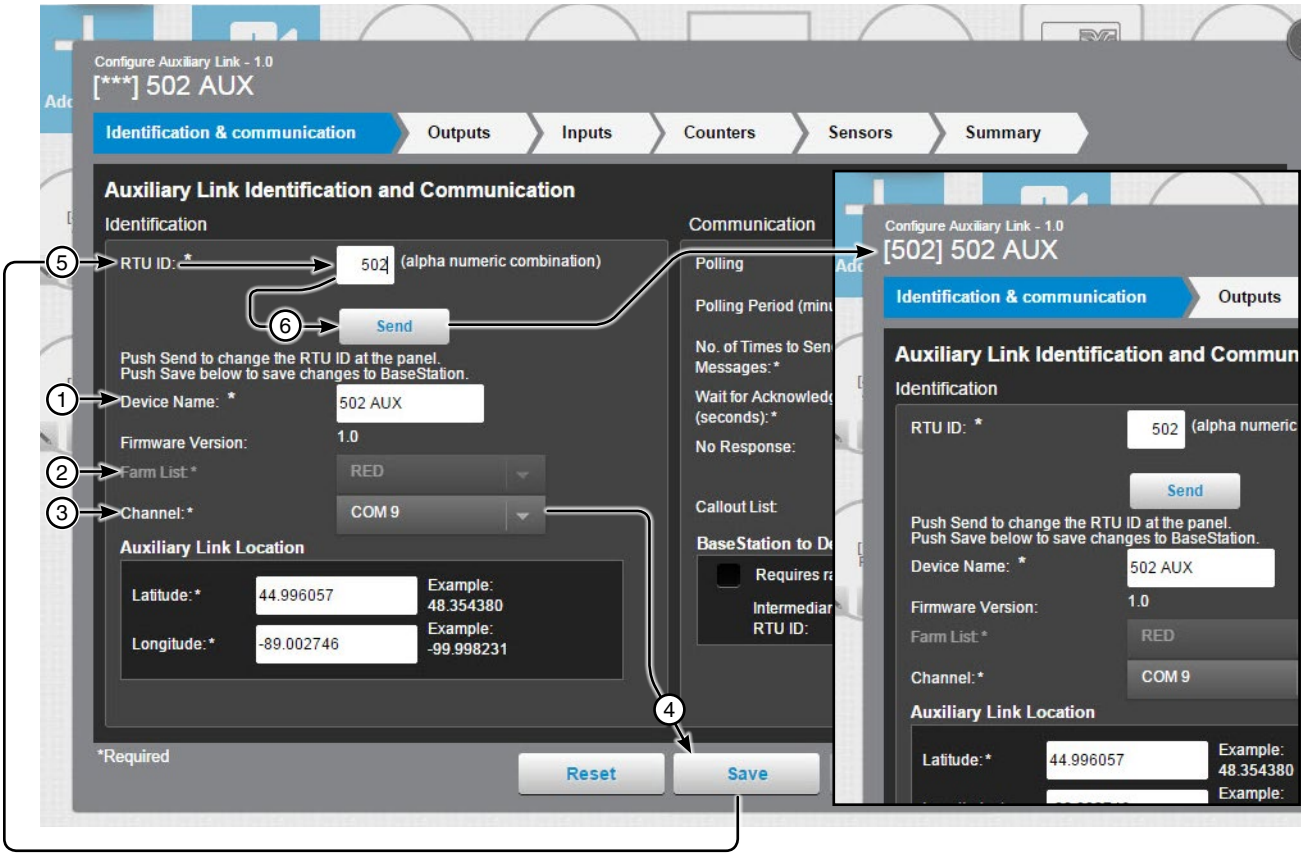


Figure 153-1 1. Enter Device Name
2. Select Farm
3. Select Channel
4. Click Save
5. Enter RTU ID
6. Click Send

Device Management

Auxiliary Link Configuration

Identification & Configuration (continued)

Polling On/Off: The periodic request based on the polling period that the BaseStation makes for machine status from the device. See Figure 154-1.

Polling Period: The time in minutes between polling tries for obtaining machine status. The default time is 30 minutes. See Figure 154-1.

Number of Times to Send Messages: The maximum number of attempts that will be made to communicate with the device. The default value is 2 tries. When a communication transaction is successful on the first attempt, the BaseStation will not continue with additional tries. When using radios that may be on the fringe of reliable communications, increasing the number of attempts may be necessary. See Figure 154-1.

Time to Wait for Acknowledge: The amount of time that the BaseStation will wait for a response from the device (default value is 5 seconds). Using radio repeaters will delay the transmission. The type of communications determines the Wait for Response time. If a returned message is not received by the BaseStation within the allowed response time, the BaseStation will retry the transaction for as many attempts as specified in the Number of Times to Send Messages. See Figure 154-1.

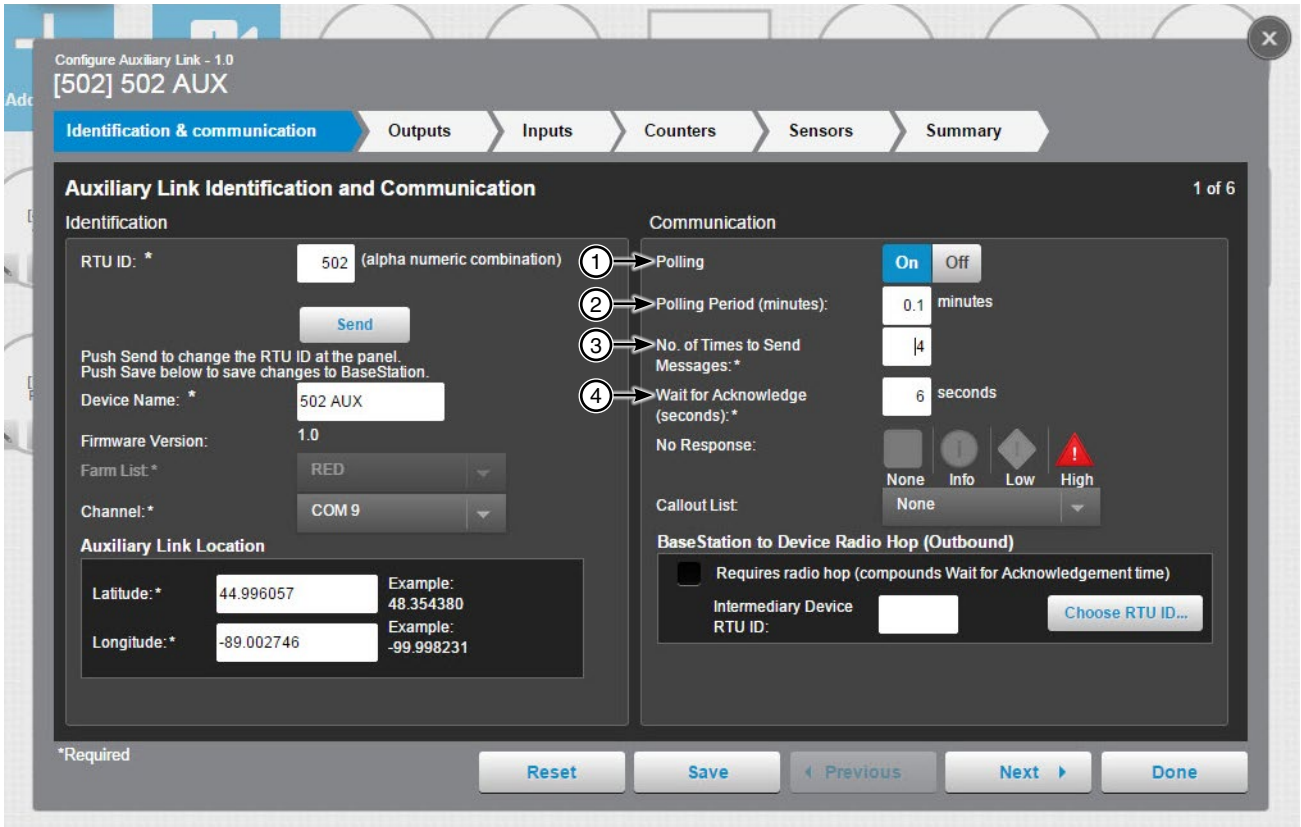


Figure 154-1 1. Poling On/Off 3. Number of Time to Send Message
2. Polling Period 4. Time to Wait for Acknowledge

Auxiliary Link Configuration

Identification & Configuration (continued)

No Response (Alarm Level): Alarm to monitor when the device does not respond to communication. The alarm level is user set. Default setting is low. See Figure 155-1.

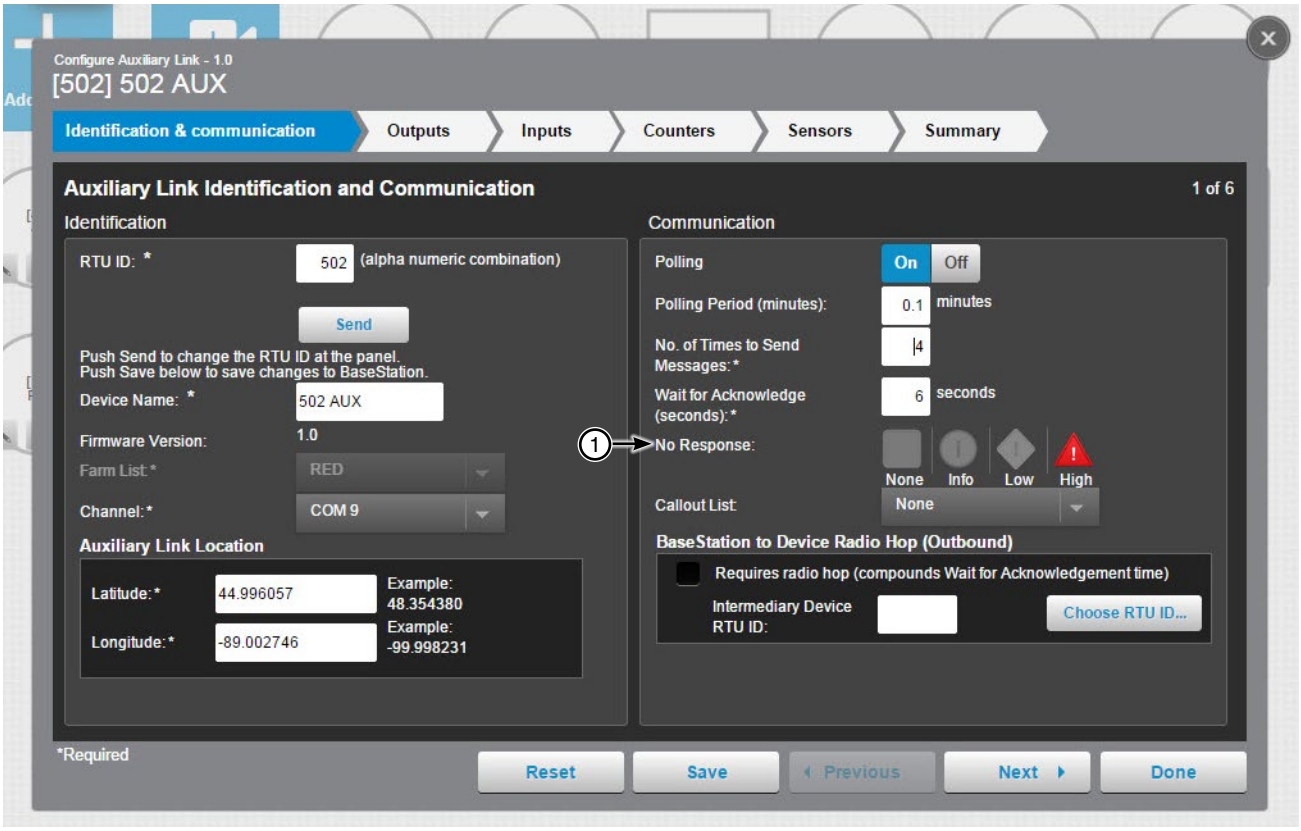


Figure 155-1 1. No Response Alarm

Device Management

Auxiliary Link Configuration

Identification & Configuration (continued)

Callout List (Alarm Contact List): Associates the device with a contact list of users that will be notified when an alarm occurs. Contact lists are created in **Settings/ BaseStation Settings/Alarm Contacts/Alarm Contact Lists**. See Figure 156-1.

Radio Hop (outbound): The use of an intermediate device to relay communications from the BaseStation to another device through all panels except for the original Select, without the need for additional hardware. Auxiliary Links should only be used as the hop device to another Auxiliary link due to a message length limit. When using this function all control panels involved must be either Pro, Pro2 , AutoPilot or Panel Link. Additional time will be required to relay the message. Increasing the Time to Wait for Acknowledge value will be necessary; typically double the original Time to Wait, depending on the type of communications being used.

RTU ID (Radio Hop): The RTU ID of the intermediate machine that is used as a relay point.

To use Radio Hop, check the Requires radio hop check box. Click Choose RTU ID and select an intermediate device to relay communications.

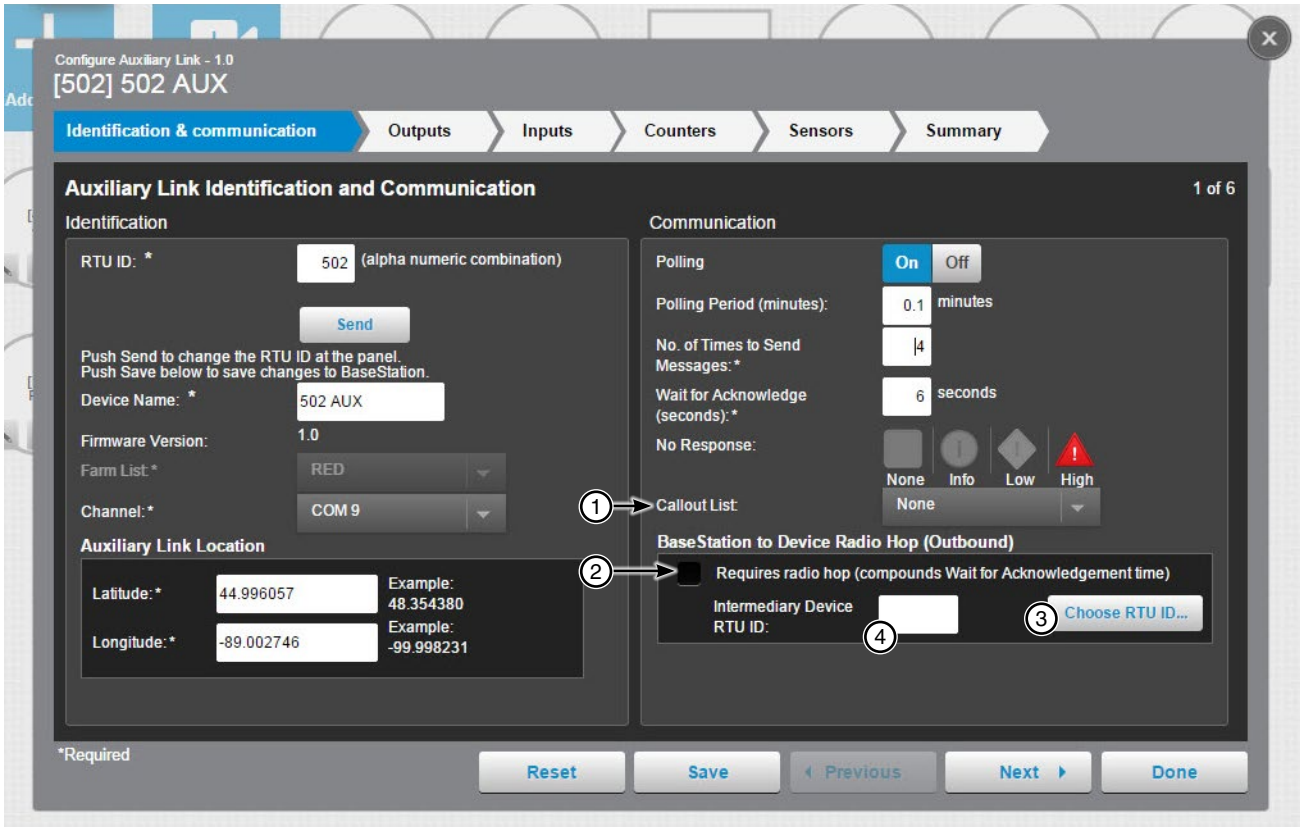


Figure 156-1 1. Callout List
2. Radio Hop Checkbox
3. Choose RTU ID Button
4. Intermediate Device Field

Auxiliary Link Configuration

Outputs

The Outputs button displays all the output devices setup on the auxiliary link. See Figure 157-1.

Device Name (required): The name that will appear on the Digital Relay Output list.
Device Type: The name that will appear on the Digital Relay Output list.
On Label (required): The On function reference label that appears in the panel view, pop-up status display, and reports.
Off Label (required): The Off function reference label that appears in the panel view, pop-up status display, and reports.
Alarm Level: The alarm level setting controls what action is taken by the BaseStation when an alarm is activated. When the current state is not the same as the expected state, BaseStation displays an alarm icon on the effected device.
Show on Pin Status: Show digital relay output status on a movable screen that can be user positioned to any location on the Map View. Check the box to enable or un-check the box to disable. Pin Status is only available for use in My Map.

To add an Output: Click **Add New**; enter a **Device Name**, select a **Device Type** from the drop-down list, enter an **On Label** and enter an **Off Label**. If desired, check the **Show on Pin Status View** box and/or change the **Alarm Settings**. Click **Save**.

To change a setting: Click the output name, make the desired changes and click **Save**.

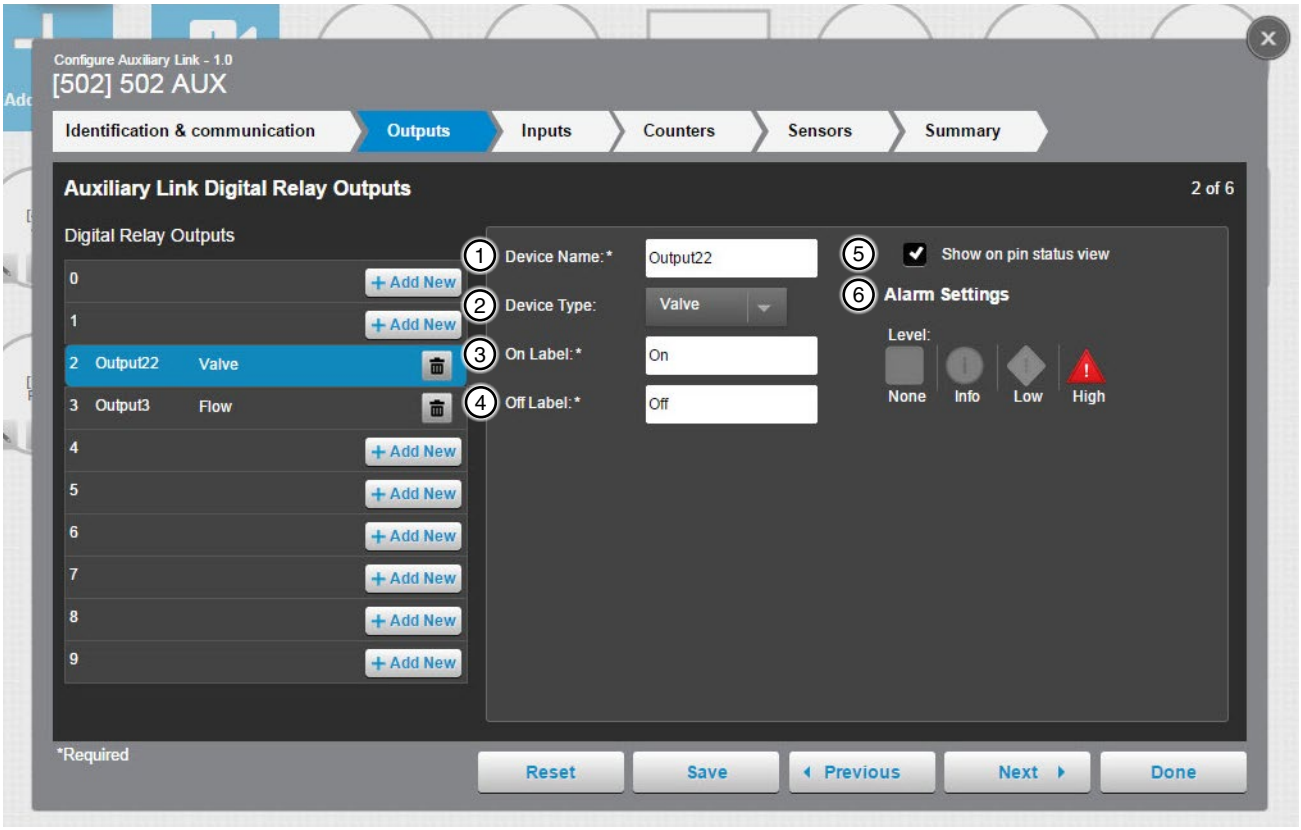


Figure 157-1 1. Device Name 4. Off Label
2. Device Type 5. Alarm Level
3. On Label 6. Show on Pin Status

Device Management

Auxiliary Link Configuration

Inputs

Inputs displays all the input devices setup on the auxiliary link. See Figure 158-1.

Device Name (required): The name that will appear on the Digital Relay Inputs list.

Device Type: The name that will appear on the Digital Relay Inputs list.

On Label: The On function reference label that appears in the panel view, pop-up status display, and reports.

Off Label: The Off function reference label that appears in the panel view, pop-up status display, and reports.

Show on Pin Status: Show digital relay input status on a movable screen that can be user positioned to any location on the Map View. Check the box to enable or un-check the box to disable. Pin Status is only available for use in My Map.

To add an Input: Click **Add New**; enter a **Device Name**, select a **Device Type** from the drop-down list, enter an **On Label** and enter an **Off Label**. If desired, check the **Show on Pin Status View** box and/or change the **Alarm Settings**. Click **Save**.

To change a setting: Click the input name, make the desired changes and click **Save**.

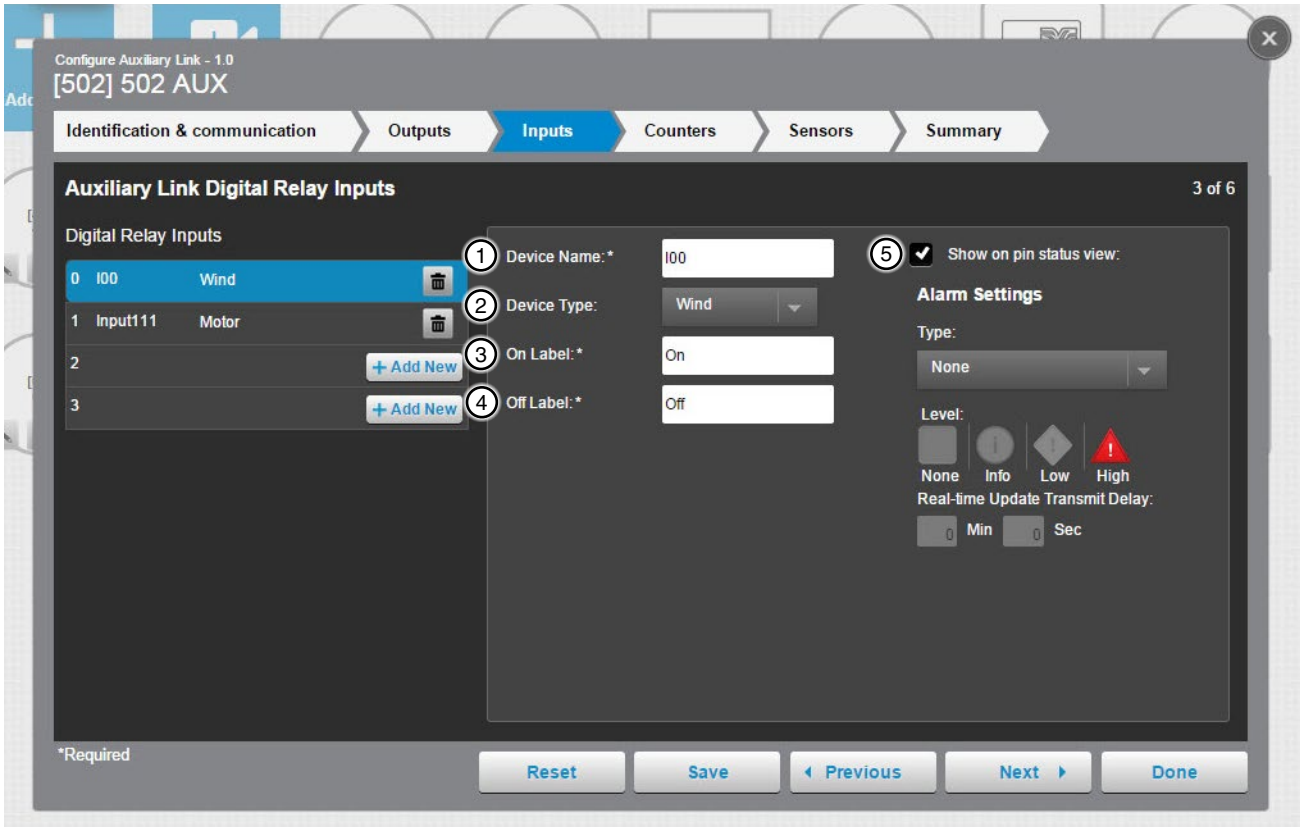


Figure 158-1 1. Device Name
2. Device Type
3. On Label
4. Off Label
5. Show on Pin Status

Auxiliary Link Configuration

Inputs (continued)

Alarm Settings: The alarm setting controls what action is taken by the BaseStation when an alarm is activated. When the current state is not the same as the expected state, BaseStation displays an alarm icon on the effected device.

- **Type:** Select None, Change Condition, Input or Output.
  - » When none is selected, changes are shown as their current state without regard to the previous expected state; no alarm is triggered.
  - » When Change Condition is selected an alarm will occur when ever the status changes.
  - » When Input is selected an alarm will occur when ever the selected state is not the current state.
  - » When Output is selected, an alarm will occur when the Input state does not change to match the change of the Output, within the delay time.
- **Level:** Choose the level of alarm; None, Info, Low or High.
- **Real-time Update Transmit Delay:** A delay in minutes and seconds to allow the output function to complete before a status update is requested from the device to confirm the expected input state. The delay time is adjustable from 0 to 59 minutes and 59 seconds. Only available when the Type is set to Output.

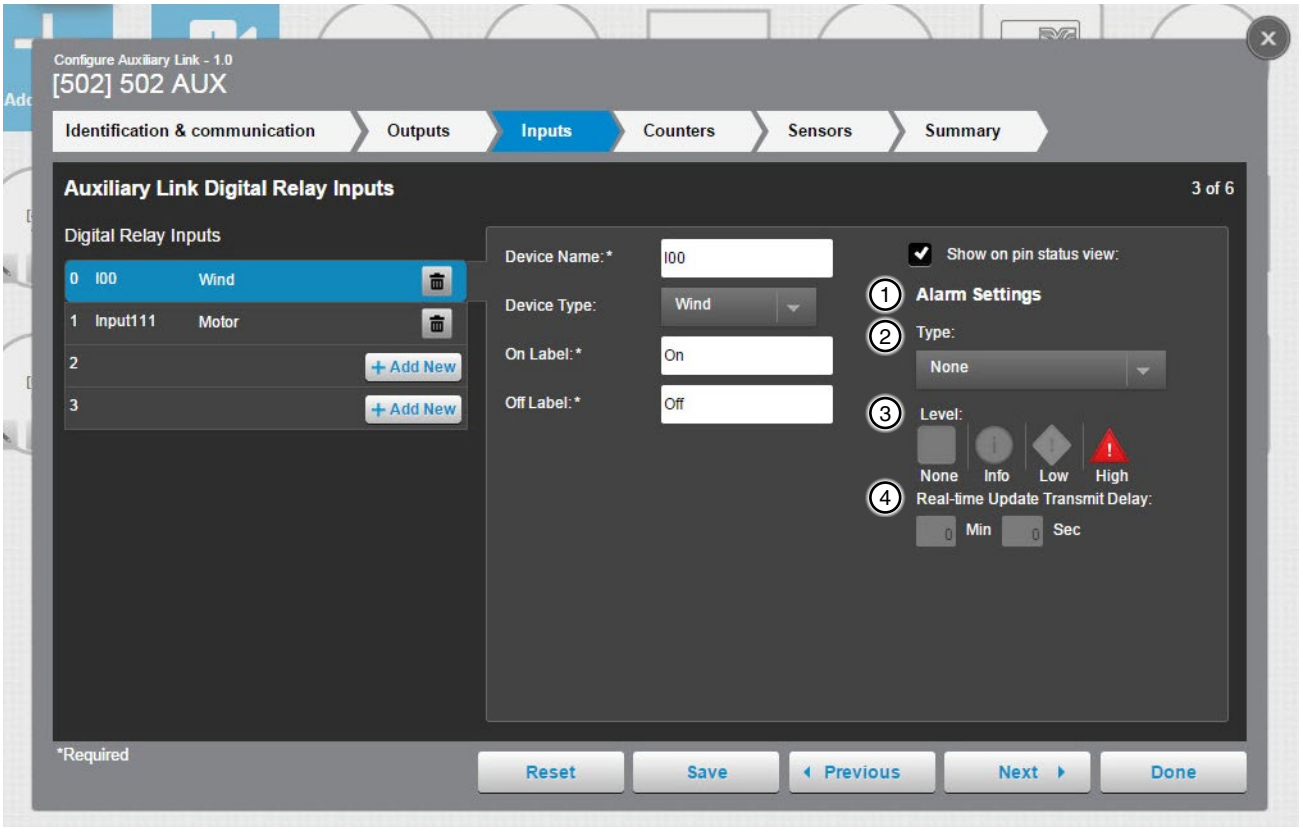


Figure 159-1 1. Alarm Settings 4. Real Time Update Transmittal Delay
2. Type
3. Level

Device Management

Auxiliary Link Configuration

Counters

The Counters button displays all the counter devices setup on the auxiliary link. See Figure 160-1.

Device Name (required): The name that will appear on the Counters list.
Device Type: The name that will appear on the Counters list.
Show on Pin Status: Show counters status on a movable screen that can be user positioned to any location on the Map View. Check the box to enable or un-check the box to disable. Pin Status is only available for use in My Map.

NOTE

- **Use a short label, in consideration of the pop-up status limited display width.**
- **The Auxiliary Link returns both the counter value and the difference from the previous minute with the status update message.**

To add a Counter: Click **Add New**; enter a **Device Name**, select a **Device Type** from the drop-down list. Check the **Rate** and/or **Total** boxes and enter the appropriate **Units** and select the **Precision**. If desired, check the **Show on Pin Status View**. Click **Save**. Refer to the following pages for information on Display As and Set Pulse Count Value.

To change a setting: Click the counter name, make the desired changes and click **Save**.

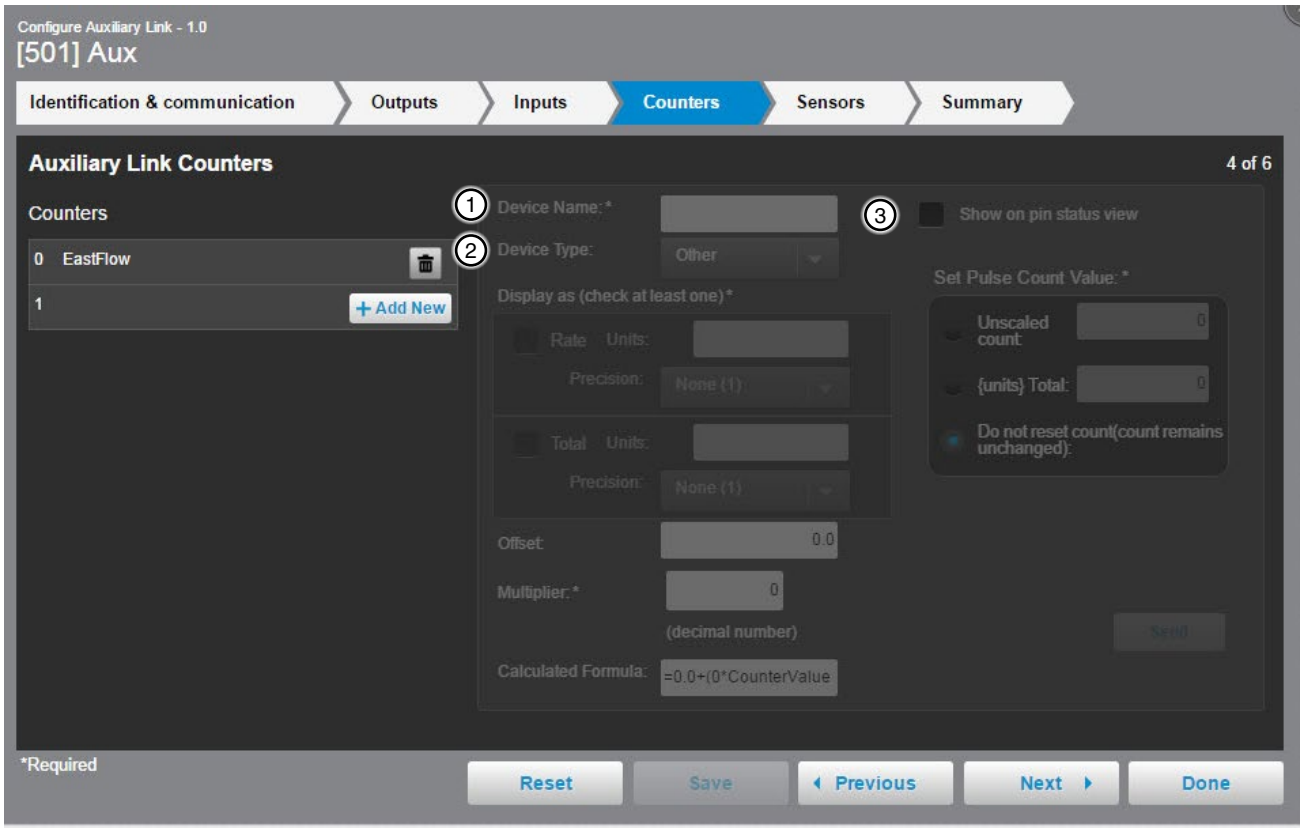


Figure 160-1
1. Device Name
2. Device Type
3. Show on Pin Status

Auxiliary Link Configuration

Counters (continued)

The rate and/or total value from the counter input of the Auxiliary Link panel can be displayed. Some sensors may not have a total value that has any meaning, such as wind speed. In these situations, only a rate is practical. In other situations, such as monitoring a water flow meter, both the rate and total are significant. See Figure 161-1.

Display As

- **Rate:** The label for the calculated rate. The rate is the change in the Auxiliary Link computer counter value over the past minute. The rate value is sent to the BaseStation by the Auxiliary Link. When selected the counter rate is shown on the panel view. Enter the Units and select the Precision for the Rate.
- **Display Total:** When selected the scaled total is shown on the panel view. Enter the Units and select the Precision for the Total.
- **Units:** The measurement label to be used for the sensor.
- **Precision:** The number of digits to be shown to the right of the decimal point.

Check the **Display Rate** box and/or the **Display Total** box, enter the **Units** to display for the sensor value(s) and select the **Precision** for the Display. Click **Save**.

NOTE

•Use a short label, in consideration of the pop-up status limited display width.

•The Auxiliary Link returns both the counter value and the difference from the previous minute with the status update message.

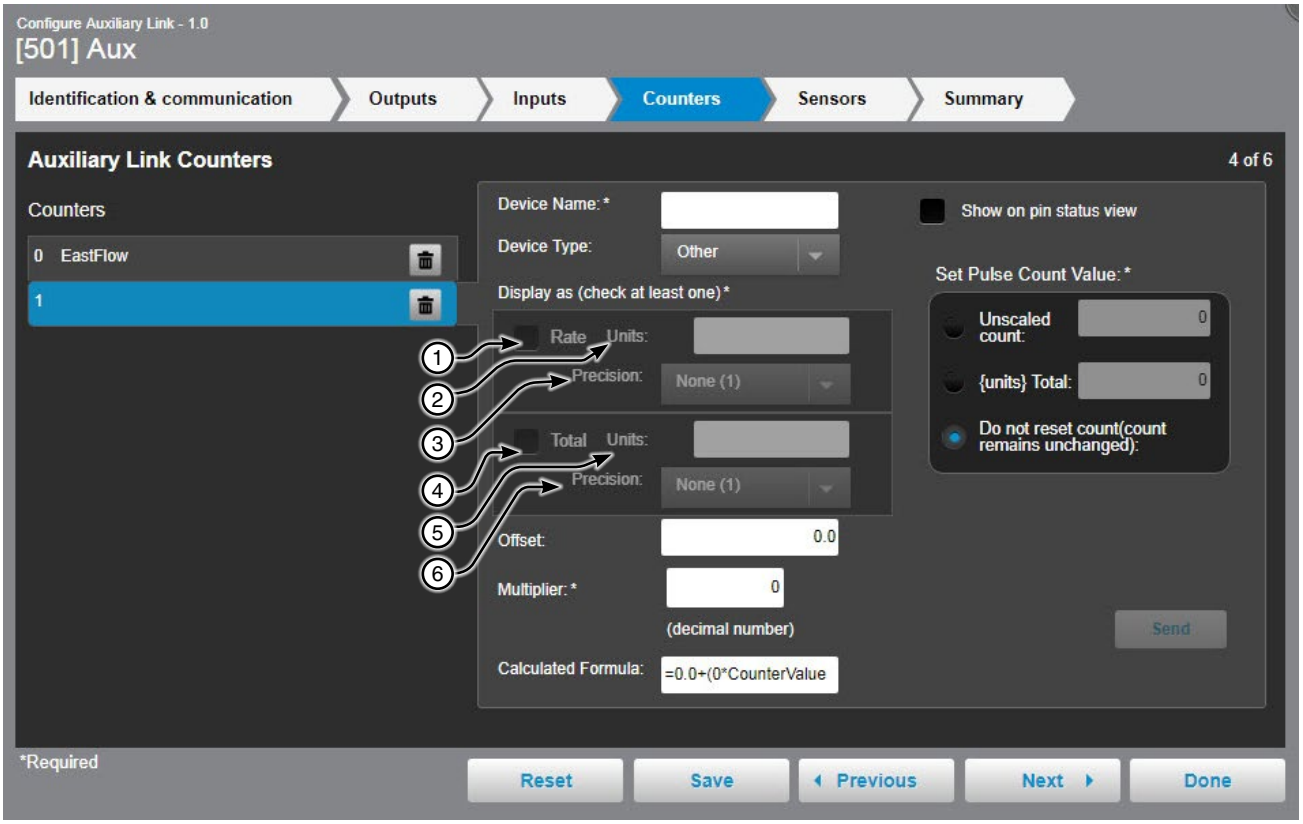


Figure 161-1 1. Display Rate Box
2. Display Rate Units
3. Display Rate Precision
4. Display Total
5. Display Total Units
6. Display Total Precision

Device Management

Auxiliary Link Configuration

Counters (continued)

Offset: The offset is the initial starting reference value. The Offset is part of the conversion formula that is provided by the manufacturer of a pulse sensing device. The formula is used to convert a pulse count into a measurable unit.

Multiplier (required): The multiplier is a factor that is applied to make the output signal follow the physical change. The Multiplier is part of the conversion formula that is provided by the manufacturer of a pulse sensing device. The formula is used to convert a pulse count into a measurable unit.

Conversion Formula Preview: Shows the formula that will be used to convert a pulse count into a measurable unit.

Presetting the counter: The counter in the Auxiliary Link can be preset to a value. This can be done to initialize the Auxiliary Link count to match a meter reading that has been used prior to connecting it to the Auxiliary Link. Use Set Unscaled Count or Set Total to initialize the count.

Set Unscaled Count: Used to preset the counter in Auxiliary Link to a user entered actual pulse count. Enter an actual pulse count and click Send.

Set Total: Used to preset the counter in Auxiliary Link to a user entered scaled total, that uses the Offset/ Multiplier conversion formula, to calculate an equivalent pulse count. Enter a scaled total and click Send.

Do Not Reset Count: Used to keep the original count unchanged.

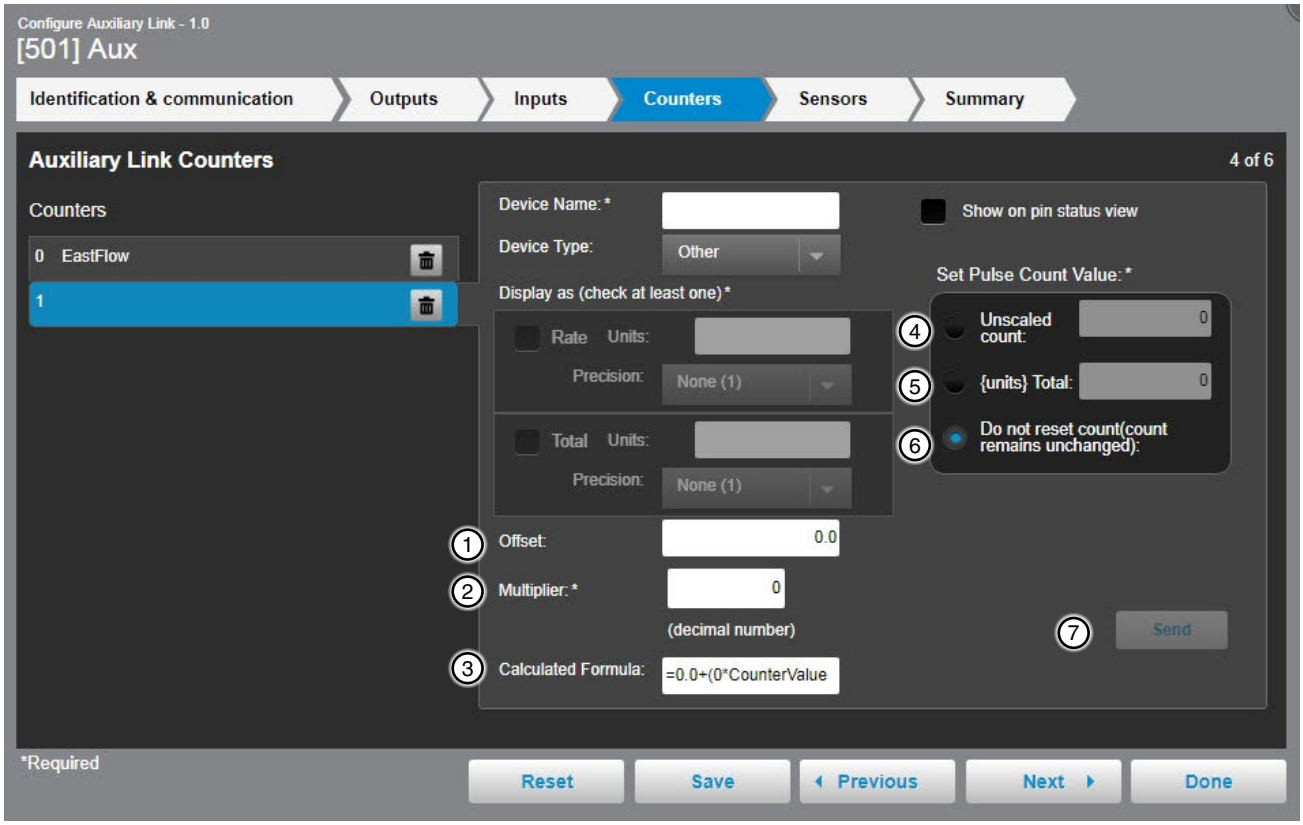


Figure 162-1 1. Offset
2. Multiplier
3. Conversion Formula Preview
4. Set Unscaled Count
5. Set Total
6. Do Not Reset Count
7. Save Button

Auxiliary Link Configuration

Sensors

Sensors are analog devices that are either voltage or current output. The Auxiliary Link hardware has a factory installed analog input module. (See the Auxiliary Link Technical Reference Manual for information about the hardware configuration.) The Auxiliary Link device in BaseStation must be configured to match the hardware in the physical panel, particularly with the setting for the Sensor type, Volts or mAmp. See Figure 163-1.

Device Name (required): The name that will appear on the sensors list.

Device Type: The name that will appear on the sensors list.

Units (required): The measurement label to be used for the sensor.

Precision: The number of digits to be shown to the right of the decimal point.

Show on Pin Status: Show sensor status on a movable screen that can be user positioned to any location on the Map View. Check the box to enable or un-check the box to disable. Pin Status is only available for use in My Map.

To add a Sensor: Click **Add New**; enter a **Device Name**, select a **Device Type** from the drop-down list, enter the **Units** label and choose the **Precision**. If desired, check the **Show on Pin Status View** box and/or change the **Alarm Settings**. Click **Save**. See the following pages for Use High and Low or Use Offset and Multiplier.

To change a setting: Click the sensor name, make the desired changes and click **Save**.

NOTE: Sensors 4-7 are a field install only. An additional analog module is required.

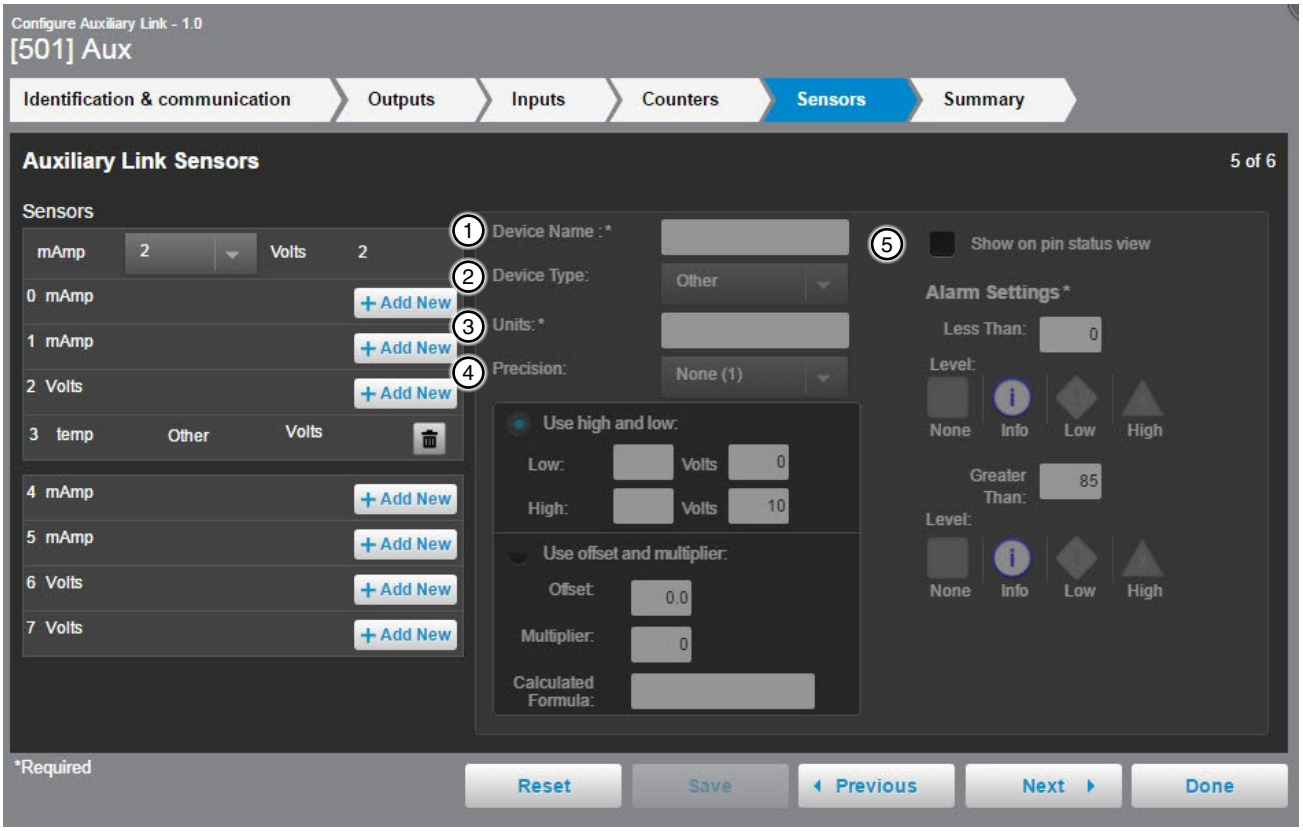


Figure 163-1 1. Device Name
2. Units
3. Device Type
4. Precision
5. Show on Pin Status Checkbox

Device Management

Auxiliary Link Configuration

Sensors (continued)

Use High and Low: When the sensor has a working range that is based on a high limit and a low limit. The output signal of the sensor has a constant rate of change (volts or mAmp) that corresponds with the physical change (Units) being monitored. The BaseStation will calculate the scaled value according to the high and low units of measurement entered.

Choose **Use High and Low**. Enter the **Low** limit of physical change (Units). Enter the corresponding **Low** limit of the output signal (volts/mAmp). Enter the **High** limit of physical change (Units). Enter the corresponding **High** limit of the output signal (volts/mAmp). To keep the settings, click **Save**.

Example: This sensor setup is for the Valley pressure transducer. The working range of the transducer is 0 to 200 PSI where 0 PSI is at 1.000 volt DC and 200 PSI is at 4.000 volts DC. The BaseStation will calculate the equivalent PSI according to the voltage signal output of the transducer. See Figure 164-1.

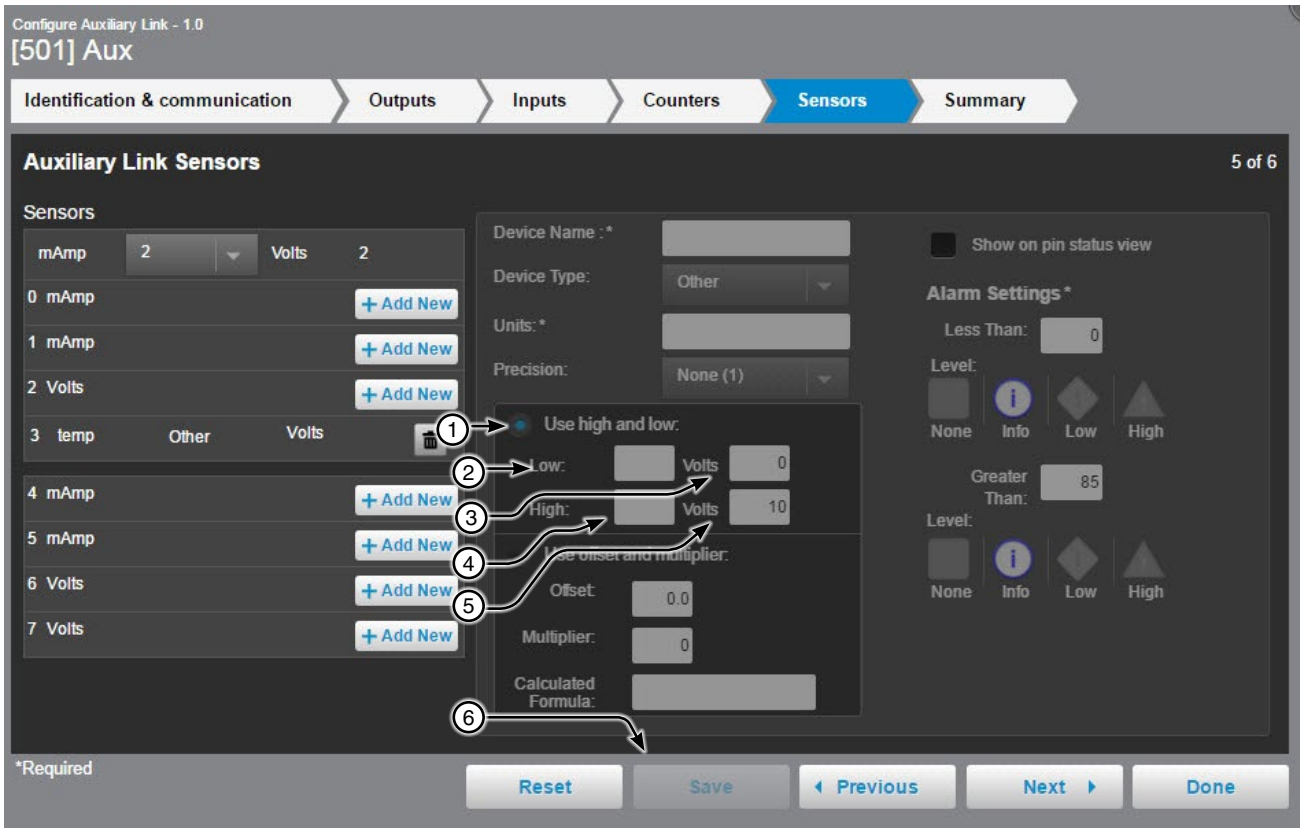


Figure 164-1
1. Use High and Low Radio Button
2. Enter the Low Value
3. Enter the Low Volts or Milliamp Value
4. Enter the High Value
5. Enter the Low Volts or Milliamp Value
6. Save Button

Auxiliary Link Configuration

Sensors (continued)

Use Offset and Multiplier: When the sensor has a working range that is based on a starting reference value, and the output signal changes according to a calibrated rate of change of the physical sensor. The offset is the initial starting reference value. The multiplier is a factor that is applied to make the output signal follow the physical change. The BaseStation applies the offset and multiplier specified in the manufacturers information sheet to calculate the appropriate units of measurement.

Choose **Use Offset and Multiplier**. Enter the **Offset** value. Enter the **Multiplier** value. The calculation preview is shown in the field below the Multiplier. To keep the settings, click **Save**. See Figure 165-1.

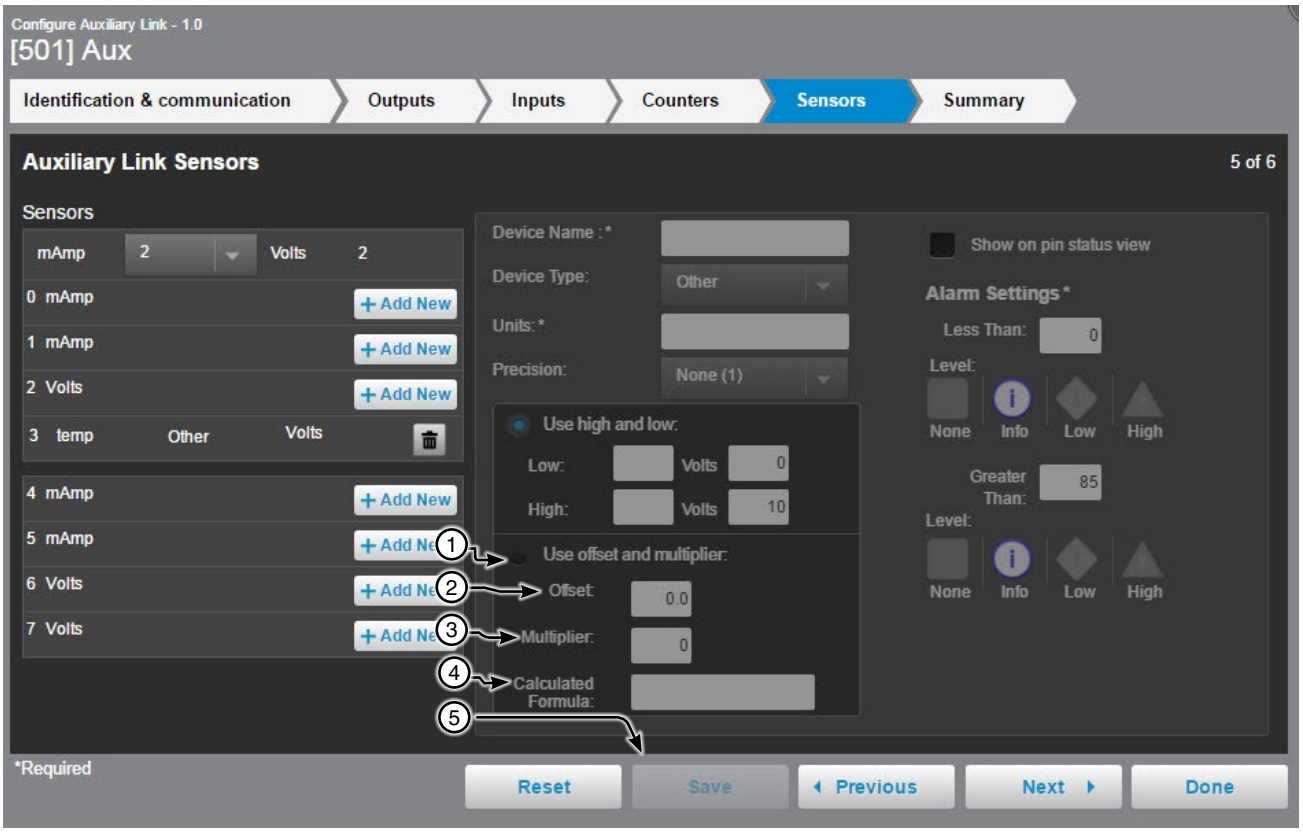


Figure 165-1 1. Use Offset and Multiplier Radio Button
2. Enter the Offset Value
3. Enter the Multiplier Value
4. Calculation Preview
5. Save Button

Device Management

Auxiliary Link Configuration

Sensors (continued)

Alarm Settings: Monitors the sensor values (Units) and issues an alarm when the values are less than or greater than the user set values (units).

- **Less Than:** When the value is less than the set value, an alarm will occur.
- **Greater Than:** When the value is greater than the set value, an alarm will occur.
- **Level:** Choose the level of alarm; None, Info, Low or High.

Enter the **Less Than/Greater Than** values. Choose the level for each alarm. Click **Save**. See Figure 166-1.

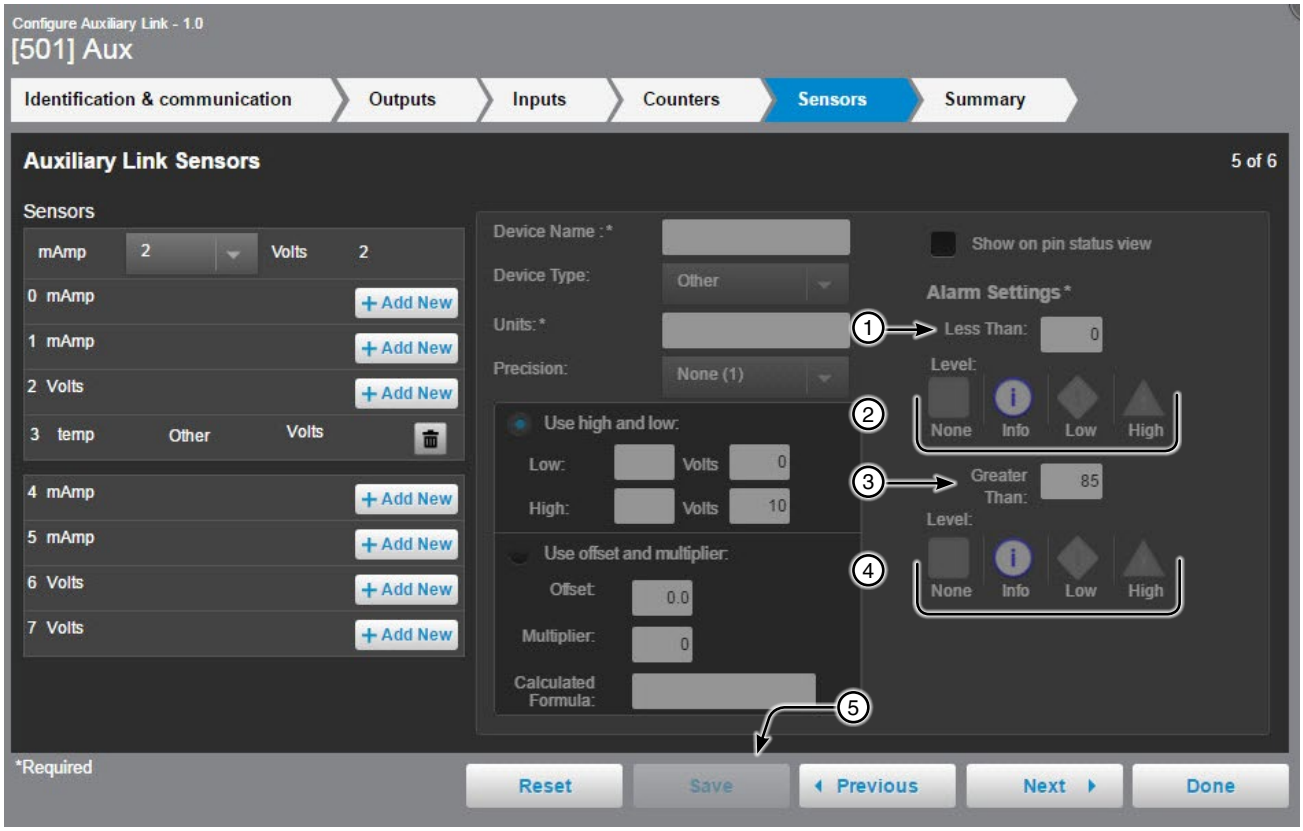


Figure 166-1 1. Enter the Less Than Value
2. Choose the Alarm Level
3. Enter the Greater Than Value
4. Choose the Alarm Level
5. Click Save

Auxiliary Link Configuration

Summary

Summary displays all the devices (relays, counters and sensors) that have been set up on the auxiliary link. Clicking on a device title, opens the device for editing. See Figure 167-1.

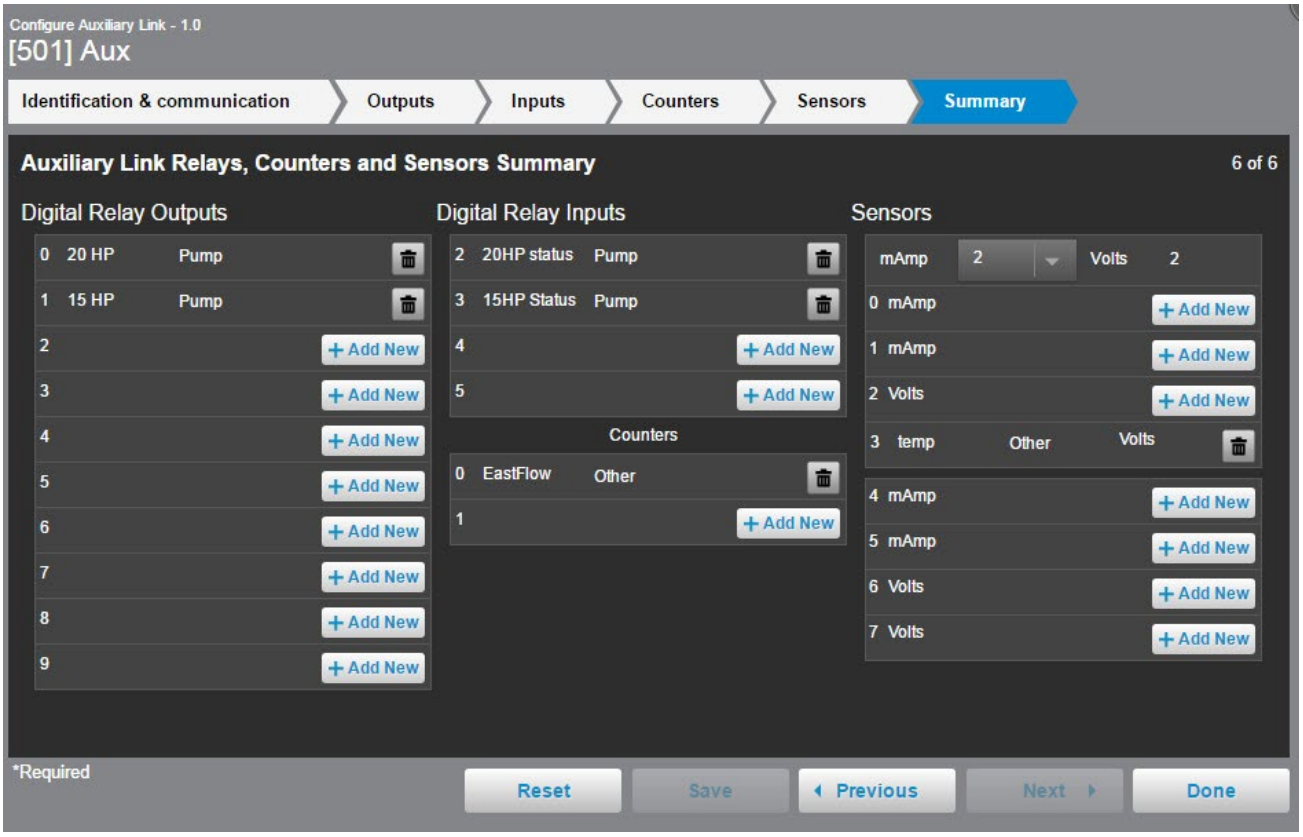


Figure 167-1

Device Management

Irrometer Configuration

Identification

The identification describes the physical attributes of the Irrometer. The Irrometer Service, Data Logger and Farm are required. The field name or first characters in field names are obligatory. Other fields may be required as choices are made. See Figure 168-1 for Cellular example.

Model (required): Select the model version from the drop down list.

Firmware (required): Displays the Irrometer software version.

Irrometer Service (required): An Irrometer Cellular Service subscription is required.

Irrometer Account Login ID (required): Enter the user's Irrometer Cellular User ID.

Get Setup Button: Click **Get Setup** to connect to your Irrometer account. This will populate the Data Logger drop down menu with device names, transmitter names and settings.

Data Logger (required): Data Logger information loaded from Irrometer setup file or website. Select the Data Logger from the drop down list.

Farm (required): If more than one farm is available select the farm from the drop down list.

Latitude and Longitude (required): The GPS position of the device. The latitude and longitude are initially populated with the coordinates of the farm in which it is created.

In Google Map, to change the position of the device on the map, enter the known coordinates of the device or go to **Device Management Map View**, select the device and move it to the desired position. Click **Save**, select the device again, click **Change**, and click **Save as Configuration** (see Saving Device GPS Position in Google Map, earlier in the Device Management section).

In My Map the latitude and longitude are information only and do not change the position of the device on the map.

Data Logger Rain Measurement On/Off: To collect rain data a rain collection sensor must be installed and the rain measurement feature must be turned On.

Transmitters: The transmitter names are loaded from the Irrometer website and displayed automatically under the Device Name. Based on Data Logger selected, 1 to 16 transmitters can be displayed. Check the box of transmitters that you wish to display under the Transmitter button.

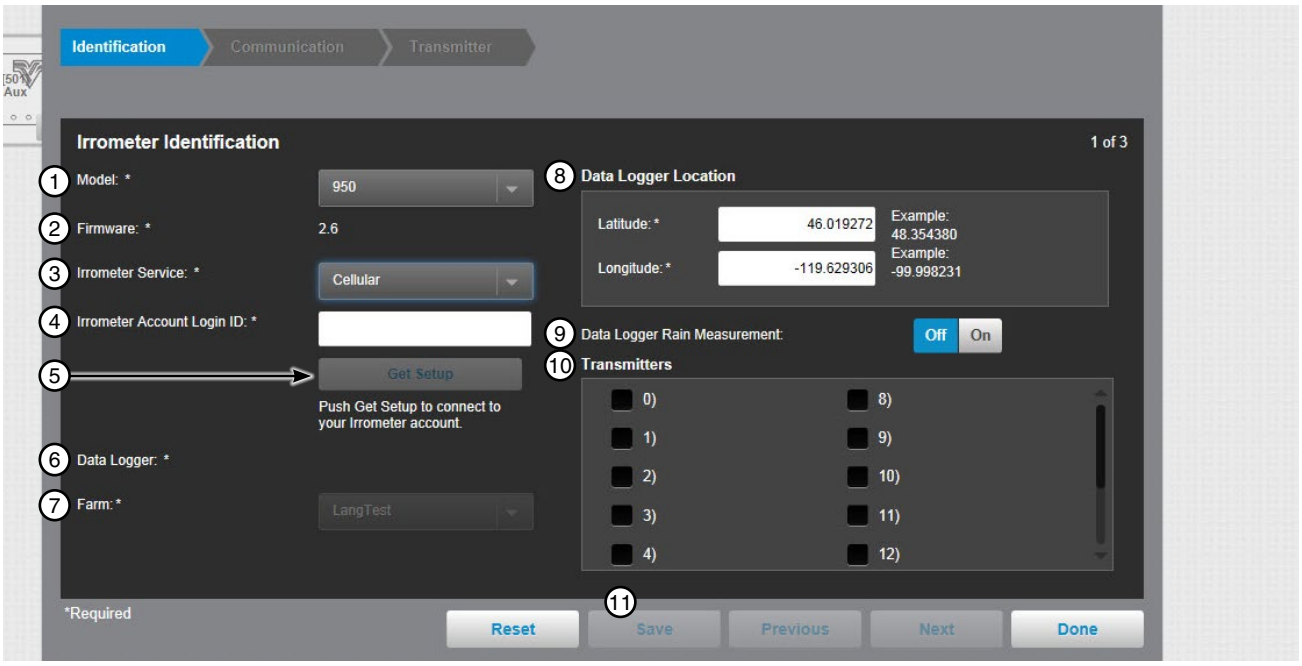


Figure 168-1
1. Model
2. Firmware
3. Irrometer Service
4. Irrometer Account Login ID
5. Get Setup
6. Data Logger
7. Farm
8. Latitude and Longitude
9. Data Logger Rain Measurement
10. Transmitters
11. Save Button

Irrometer Configuration

Identification (continued)

Radio requires different fields, which include:

RTU ID (required): Enter the control panel RTU ID. The RTU ID must be unique and cannot match any other device.

Update Setup Button: Click **Update Setup** to connect to your Irrometer account. This will populate the Data Logger drop down menu with device names, transmitter names and settings.

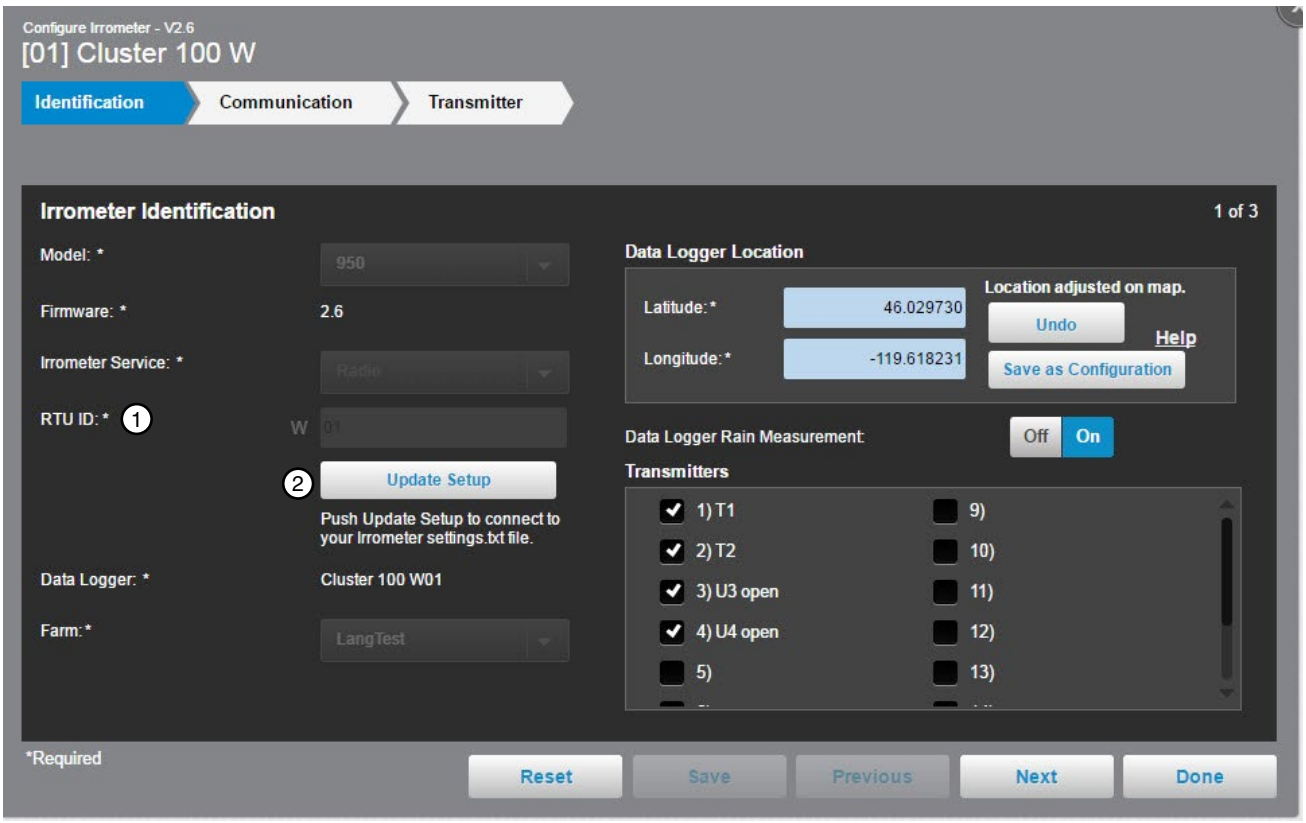


Figure 169-1 1. RTU ID
2. Update Setup

Device Management

Irrometer Configuration

Data Logger Communication

Channel: The BaseStation channel used to communicate with the device. Select from the available channels on the drop down menu. To create a new channel go to **Settings/BaseStation Settings/Communication/ Channels**. See Figure 170-1.

Enter IP Address: The Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

IP Port: The port associated with the Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

Polling On/Off: The periodic request based on the polling period that the BaseStation makes for status information from the web account.

Polling Period: The time in hours (Cellular) between polling tries for obtaining status information. Poll frequently enough to capture changes in soil moisture. Since changes in soil moisture usually occur slowly, polling 2 times a day is a recommended initial setting. Enter the polling period wait time. The default time is 4 hours (Cellular).

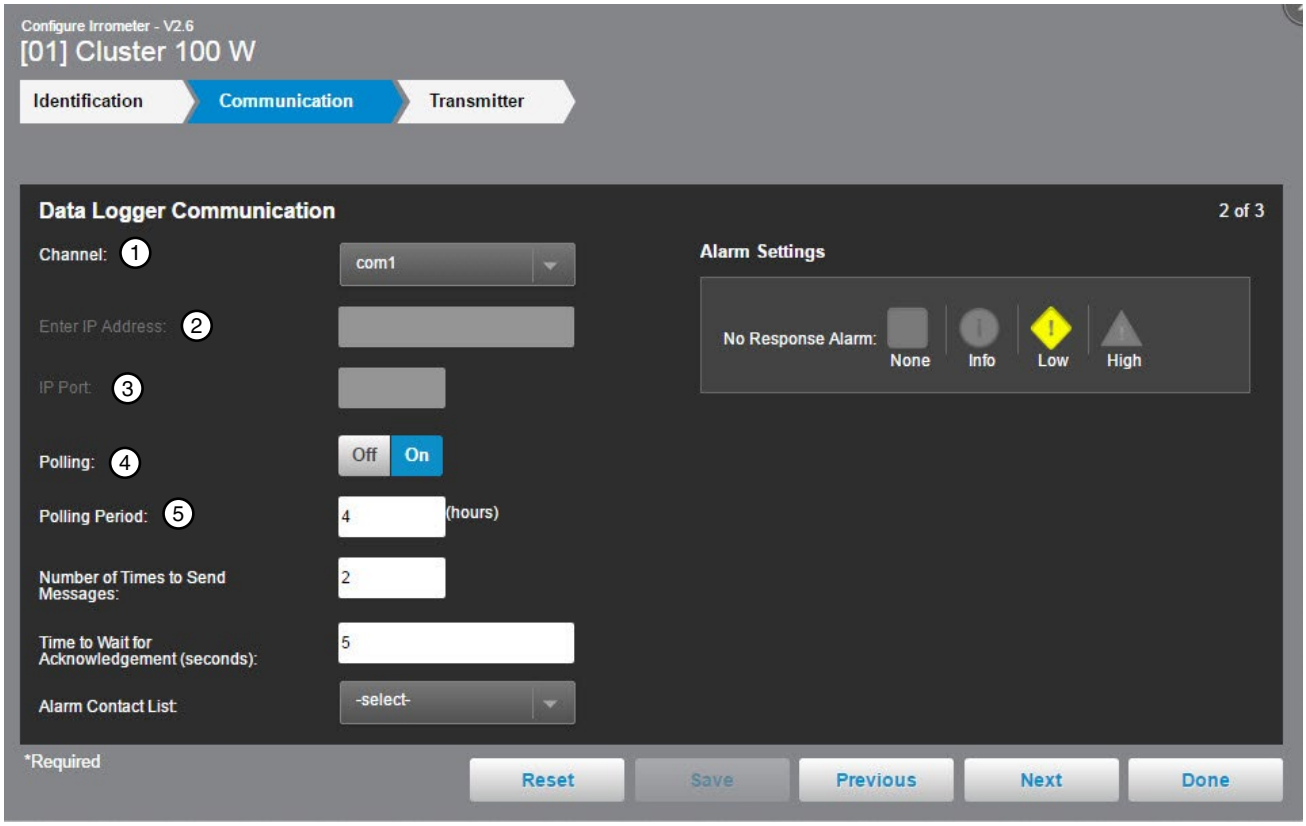


Figure 170-1 1. Channel 2. Enter IP Address 3. IP Port 4. Polling 5. Polling Period

Irrometer Configuration

Data Logger Communication (continued)

Number of Times to Send Messages: The maximum number of attempts that will be made to communicate with the device. The default value is 2 tries. When a communication transaction is successful on the first attempt, the BaseStation will not continue with additional tries. When using radios that may be on the fringe of reliable communications, increasing the number of attempts may be necessary.

Time to Wait for Acknowledgement: The amount of time that the BaseStation will wait for a response from the device (default value is 5 seconds). Using radios or trunking systems will delay the transmission of data. If a returned message is not received by the BaseStation within the allowed response time, the BaseStation will retry the transaction for as many attempts as specified in the Times to Send Messages limitation.

Alarm Contact List: Associates the device with a contact list of users that will be notified when an alarm occurs. Contact lists are created in **Settings/BaseStation Settings/Alarm Contacts/Alarm Contact Lists**.

No Response (Alarm Level): Alarm to monitor when the device does not respond to communication. The alarm level is user set. Default setting is high. See Figure 171-1.

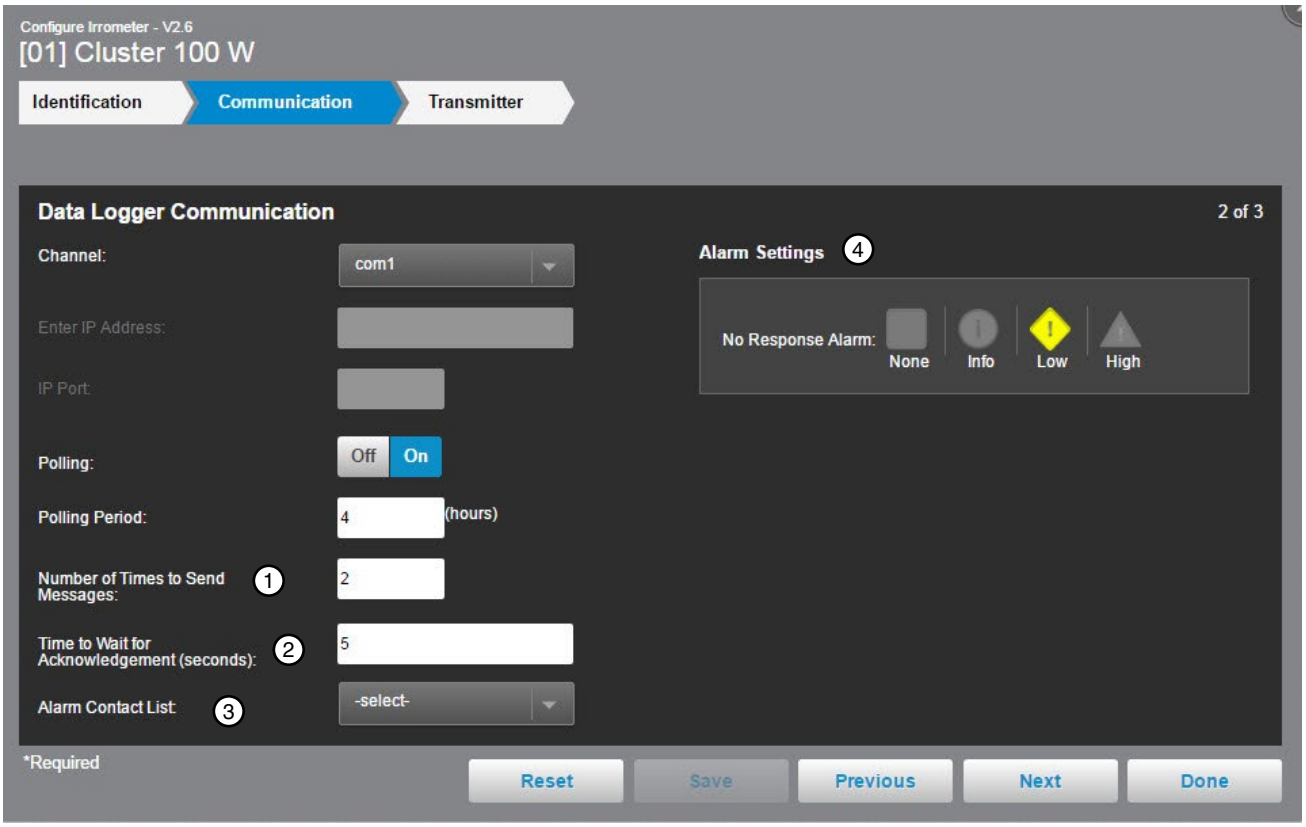


Figure 171-1 1. Number of Times to Send Messages
2. Time to Wait for Acknowledgement
3. Alarm Contact List
4. No Response Alarm

Device Management

Irrometer Configuration

Transmitter

Latitude and Longitude: The GPS position of the Transmitter. This information is saved to the BaseStation database and does not change the position of the Irrometer on the map. Enter the Latitude and Longitude in decimal degrees.

Field: The field (Device) associated with this Transmitter. If more than one field is available, select the field from the drop down list.

- **Angle Left/Right (Pivot Devices):** The Left and Right Angles are used to indicate on the field where the transmitter sensors are located. The wedge between the left and right angle in the field where the transmitter sensors are located.
- **Position Start/End (Linear Devices):** The Start and End Positions are used to indicate on the field where the transmitter sensors are located. The area between the start and end position in the field where the transmitter sensors are located.

Use Sensor Name: The check box enables the BaseStation to display of the sensor name. It selects which sensors are attached to the transmitter. Check the box in front of the sensor to display on the Irrometer device screen.

Moisture Zone: The Lower and Upper settings determine the normal range shown for each sensor. The Lower and Upper thresholds are set individually for each sensor and are displayed in green on the Irrometer device screen.

To set the normal range for a sensor, enter the number associated with the beginning of the range in the left text field. Enter the number associated with the end of the range in the right text field.

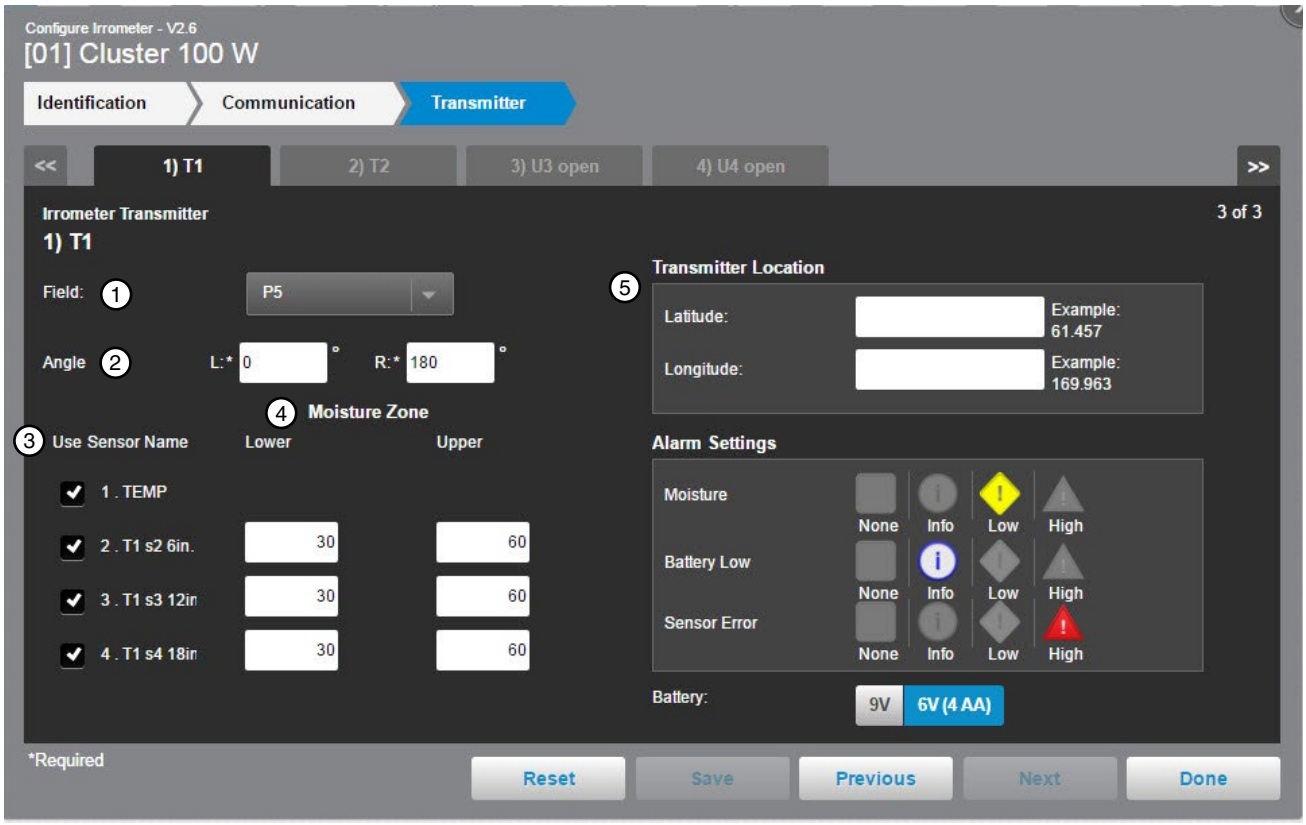


Figure 172-1 1. Field
2. Angle Left and Right
3. Use Sensor Name
4. Moisture Zone
5. Transmitter Location Latitude and Longitude

Irrometer Configuration

Transmitter (continued)

Alarm Settings:

- **Moisture Alarm:** Monitors the moisture level for change.
- **Battery Low Alarm:** Monitors the transmitter battery voltage. Alarm trigger is based on battery type selected.
- **Sensor Error:** Monitors the sensor for errors.
- **Battery:** The battery voltage of the transmitter. Choose the battery voltage for the transmitter being monitored. Battery levels for alarm, 9 volt Battery - 8.2 volts and lower will trigger the alarm.
  6 volt (4 AA Batteries) - 5.3 volts and lower will trigger the alarm.

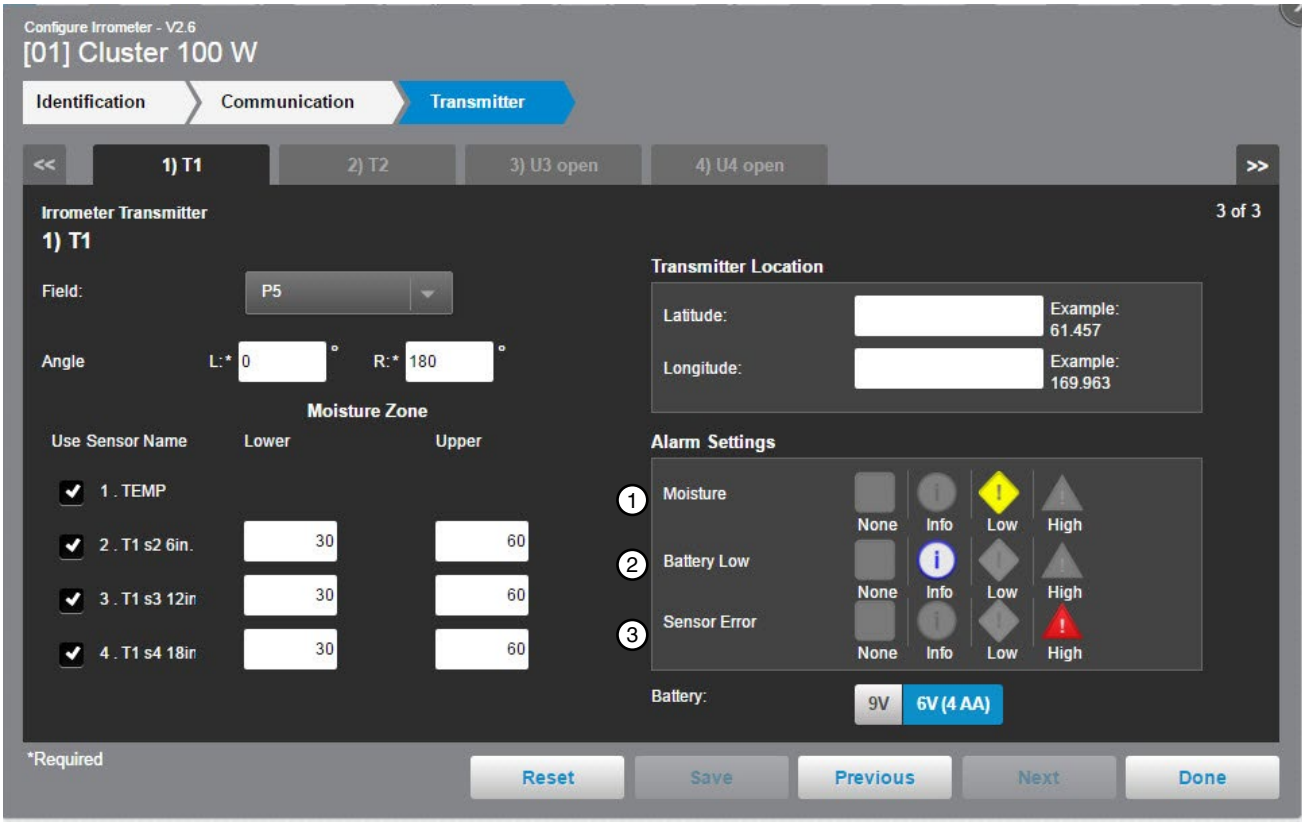


Figure 173-1 1. Moisture Alarm 3. Sensor Error
2. Battery Low Alarm 4. Battery

Device Management

PanelLink Configuration

Add Device

To configure a PanelLink with software version 9.0 or later for a pivot device do the following.

With the View Type set to Device Management, click **Add Device** and select **Panel Link Pivot**. Initially, none of the configuration screens are visible until the Send button is pressed and the BaseStation has established communication with the Panel Link.

First-time Setup

RTU ID: Leave the preset *** RTU ID for a new PanelLink or enter an RTU ID of the existing PanelLink.

The RTU ID of each Panel Link is preset to *** when shipped from the factory. As with other panel types, all other remote(s) with the same RTU ID of *** (if using radio communications) MUST be powered off, or disconnected, while attempting to communicate with this PanelLink. **Make sure the PanelLink being setup is the ONLY new device that is On.**

Enter the **Device Name,** select the **Farm** and choose the **Channel** for communication.

Click **Send** and the BaseStation will establish communication with the PanelLink, save information and display the Identification screen. See Figure 174-1.

If the PanelLink is configured for a linear or custom application, configuration of the device is interrupted until the user either stops the setup or chooses to change the configuration of the PanelLink to pivot.

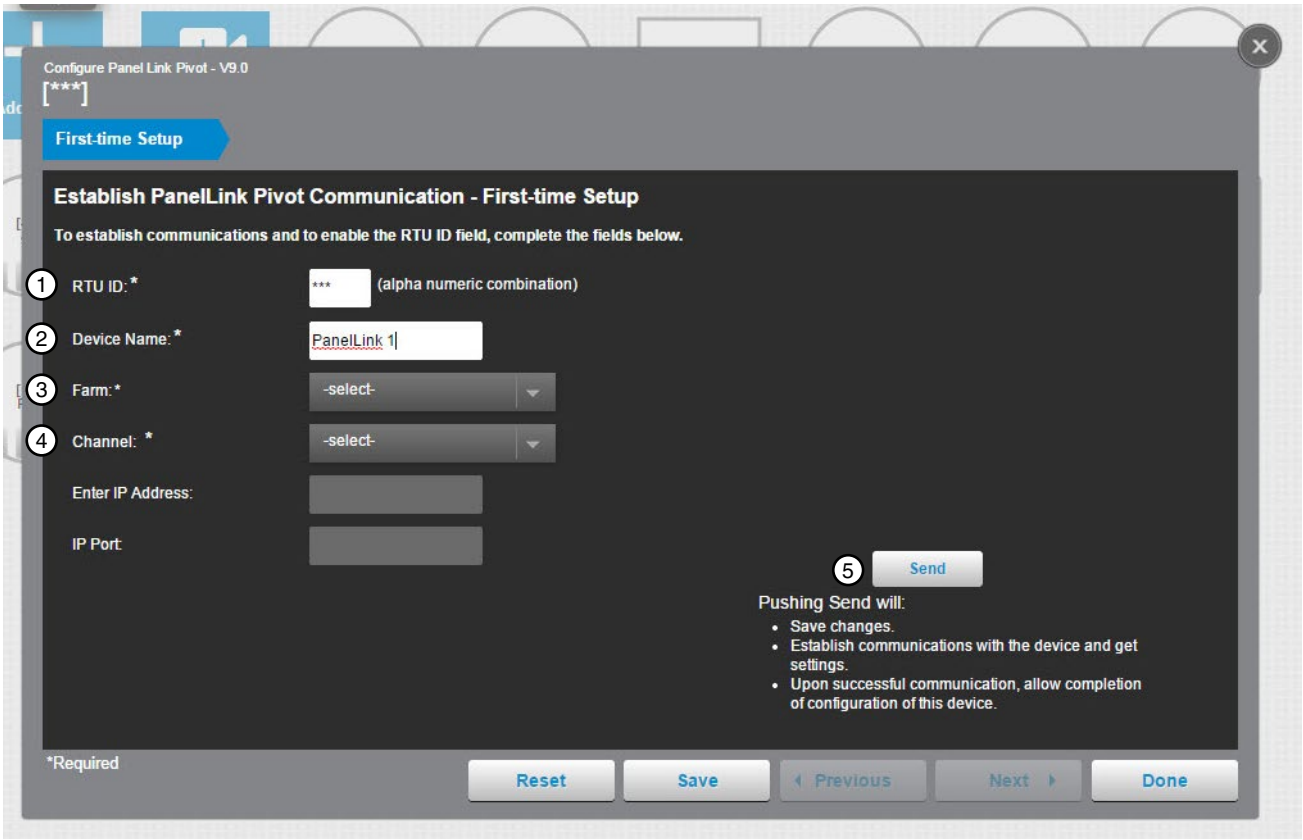


Figure 174-1
1. RTU ID
2. Device Name
3. Farm
4. Channel
5. Send Button

PanelLink Configuration

Identification

The identification screen is populated with the information that was entered on the First-time Setup screen.

Latitude and Longitude: The GPS position of the device. The latitude and longitude are initially populated with the coordinates of the farm in which it is created.

In Google Map, to change the position of the device on the map, enter the known coordinates of the device or go to **Device Management Map View**, select the device and move it to the desired position. Click **Save**, click **Change**, and click **Save as Configuration** (see Saving Device GPS Position in Google Map, earlier in the Device Management section).

In My Map the latitude and longitude are information only and do not change the position of the device on the map.

To complete Identification of the device do the following. See Figure 175-1.

RTU ID: Enter the RTU ID unique 3 digit number containing numbers and/or capitol letters that do not match any other device. Click **Send** to change the RTU ID at the panel.

Full circle or part circle pivot. If this is a full circle pivot, leave the Left Angle and Right Angle at 0.0 degrees. If this is a part circle pivot enter the Left Angle degrees and/or Right Angle degrees to change the shape of the pivot on the map. The Zero Degree Reference Angle will effect orientation of the pivot shape on the map.

Zero Degree Reference Angle: The Zero Degree Reference Angle can be changed if you do not want the actual physical position of the span pointing to the North when at 0.0 degrees.

Road Angle: The Road Angle can be entered. When an angle value is entered a road is displayed on the pivot.

Machine Length: Enter the length from pivot point to LRDU in feet. The default length is 1200 feet. When Google Map is used the size of the pivot circle on the map changes automatically based on the machine length. When My Map is used the size of the pivot circle on the map does not change.

Preview Button: To see what the pivot will look like after changes are made, click **Preview**.

Click **Next** to retain the changes.

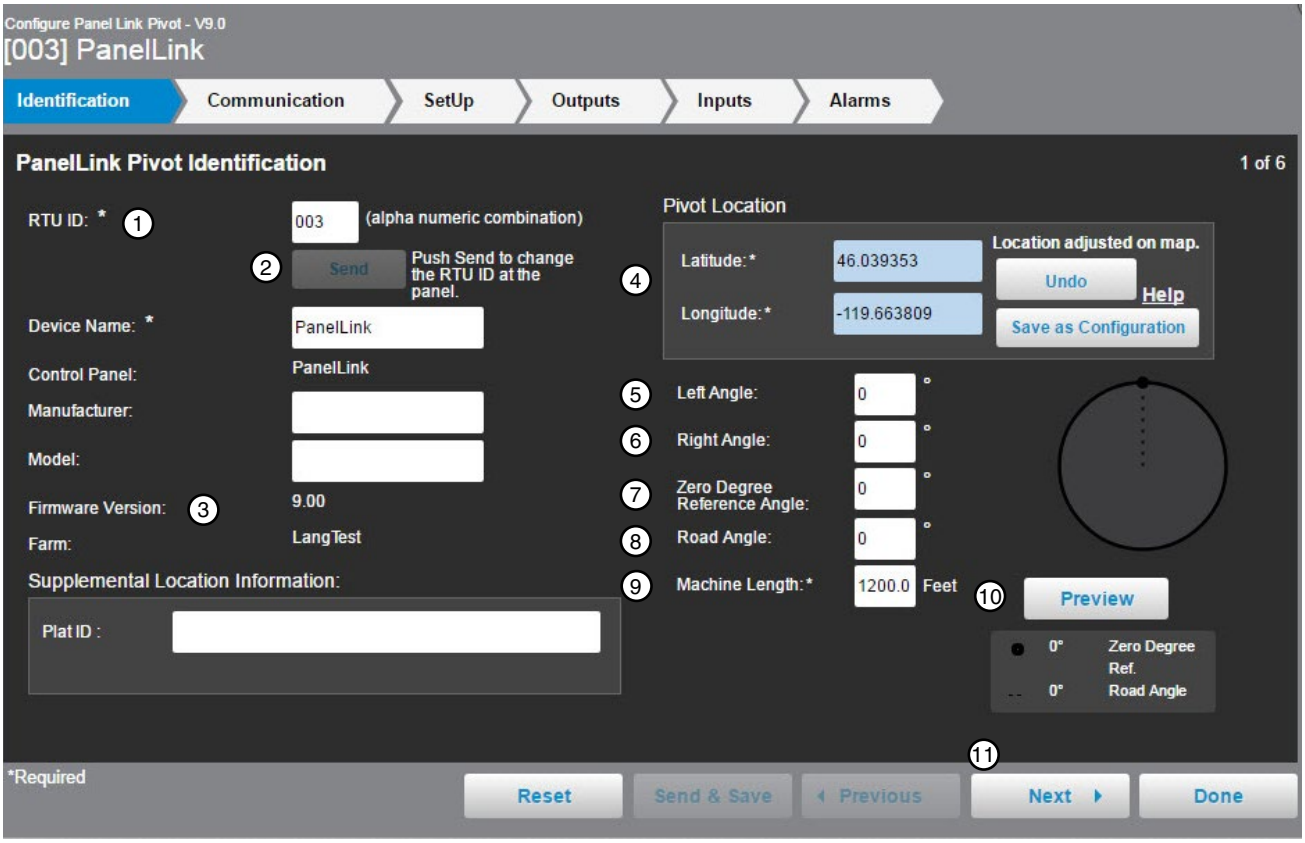


Figure 175-1
1. RTU ID
2. Send Button
3. Firmware Version
4. Latitude and Longitude
5. Left Angle
6. Right Angle
7. Zero Degree Reference Angle
8. Road Angle
9. Machine Length
10. Preview Button
11. Next Button

Device Management

PanelLink Configuration

Communication

The Communication screen is populated with Channel or IP Address and Port information from the First-time Setup screen.

To customize the communications with the device do any of the following. See Figure 176-1.

- Change the Channel, IP Address and/or Port.
- Polling can be turned Off, the default is On.
- The Polling Period can be changed by entering a new value. The default time is 30 minutes.
- The Number of Times to Send Messages can be changed by entering a new value. The default number of times is 2.
- The Wait for Acknowledgment can be changed by entering a new value. The default wait time is 7 seconds.
- An existing Alarm Contact List can be chosen from the drop down menu.

Click **Next** to retain the changes.

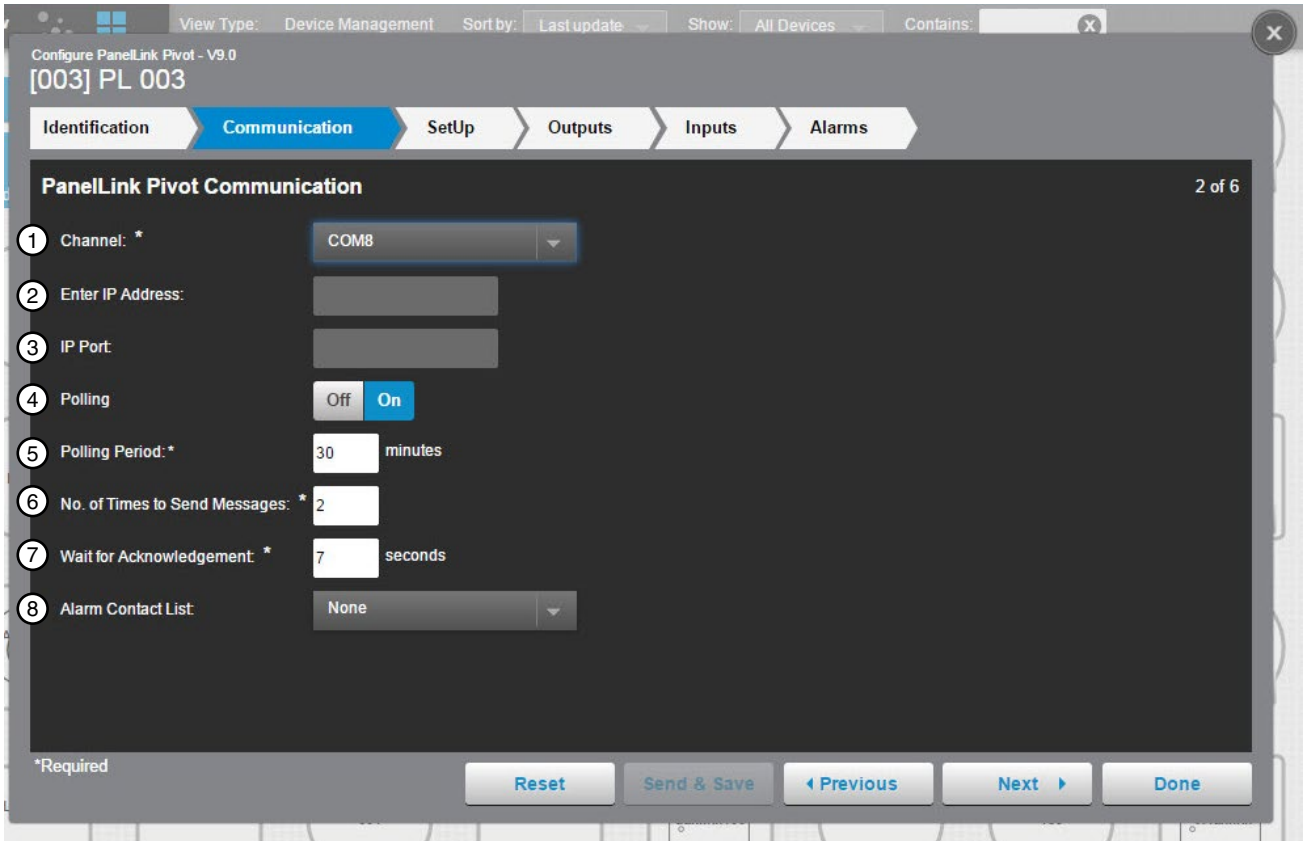


Figure 176-1
1. Channel
2. IP Address
3. IP Port
4. Polling On/Off
5. Polling Period
6. Number of Times to Send Messages
7. Wait for Acknowledgement
8. Alarm Contact List

PanelLink Configuration

Setup

To customize setup of the device do the following. See Figure 177-1.

Water Settings: If water usage reports will be used, enter values for Sprinkler Package and Irrigated Area. Water is measured by Run-time Calculation. See Figure 177-1.

Auxiliary Labels: When the auxiliary is used for chemigation, check the Auxiliary used for irrigation box. The default setting is unchecked. See Figure 177-1. The Aux 1 Label, Aux 1 On Label and Aux 1 Off Label fields contain a default description. You can rename these labels for the application. If you don't want the auxiliary controls to be displayed on the device when viewed in the operational view type, un-check the Show on device panel box. The default setting is checked.

Pivot Length and Speed: End Tower Speed (feet/min) must be entered. Verify the Machine Length (feet) that was populated from the identification screen during the initial communication. See Figure 177-1.

Pivot Position: To show the pivot position on the device panel, check the **Show Pivot Position on device panel** box. Pivot Position is a calculation based on run time. See Figure 177-1.

The Current Calculated Position is shown. To reset the position, enter the angle (degrees) of the new position in the **Reset Position to**: field and click **Send**. PanelLink will set its internal position to the angle specified.

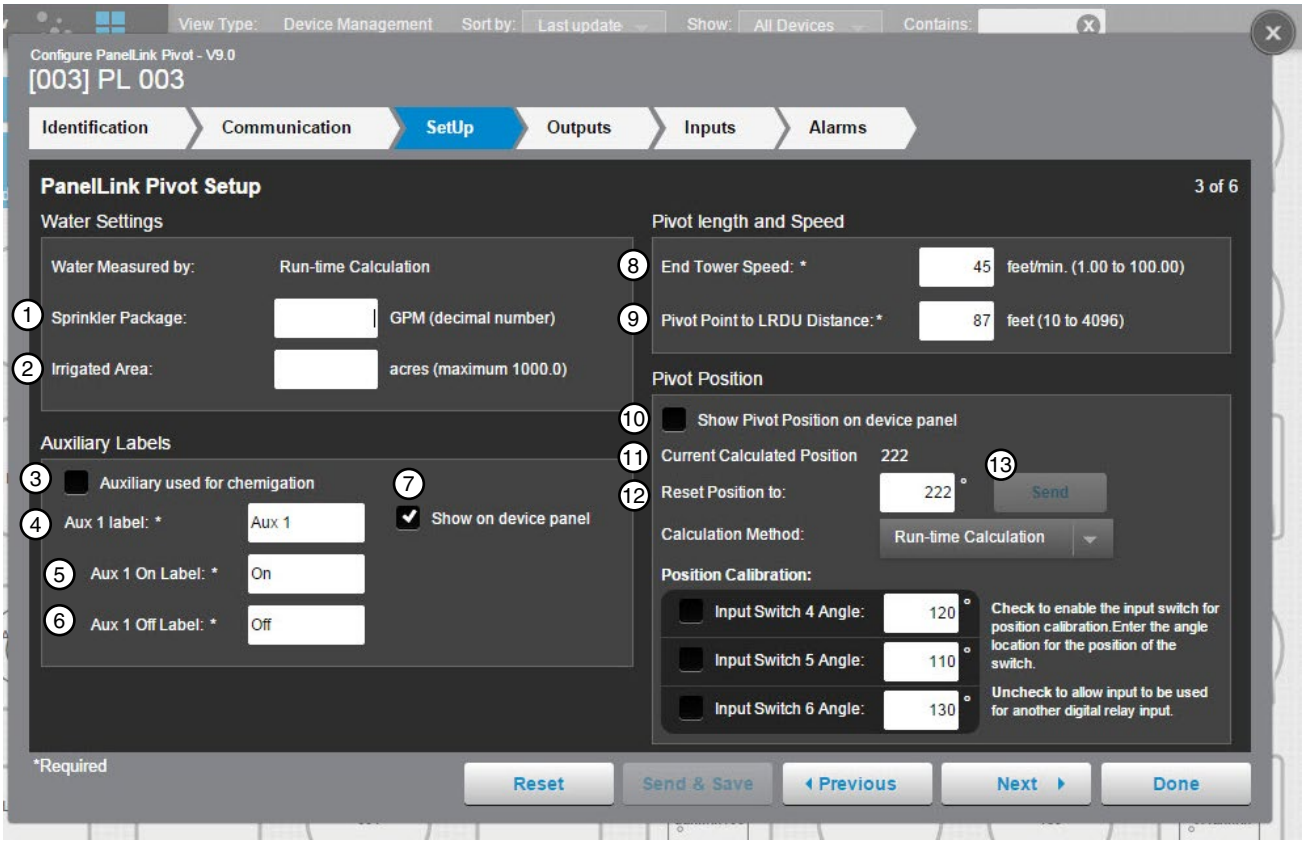


Figure 177-1

1. Sprinkler Package
2. Irrigated Area
3. Auxiliary used for irrigation check box
4. Aux 1 Label
5. Aux 1 On Label
6. Aux 1 Off Label
7. Show on device panel checkbox
8. End Tower Speed
9. Machine Length
10. Show Pivot Position on device panel checkbox
11. Current Calculated Position
12. Reset Position to
13. Send Button

Device Management

PanelLink Configuration

Setup (continued)

Calculation Method: During the First-time Setup initial communication with the PanelLink, BaseStation determines and selects the calculation method based on which calculation methods are available at the pivot. Either Run-time Calculation or None (Position Calibration). See Figure 178-1.

- **Run-time Calculation:** The PanelLink calculates an approximate field location using the End Tower Speed and Machine Length. When run-time calculation is enabled, the Panel Link will calculate the estimated position and return that value to the BaseStation. BaseStation will then show the direction arrow at the position returned by the Panel Link. The progress shading will be shown according to the position change.
- **None:** When None is the calculation method, the position calibration input switches are used for calibrating the pivot position at specified locations around the field.

Position Calibration: To enable an input switch for position calculation, check the input switch box. Enter the angle (degree) location of the switch in relationship to the Zero Degree Reference Angle. When the pivot triggers the input switch, the PanelLink sets its internal position calculation to the angle specified for the corresponding switch. Default position calibration is applied by the Reset to Defaults button located on the Inputs screen. Position Calibration requires additional hardware.

Click **Next** to retain any changes.

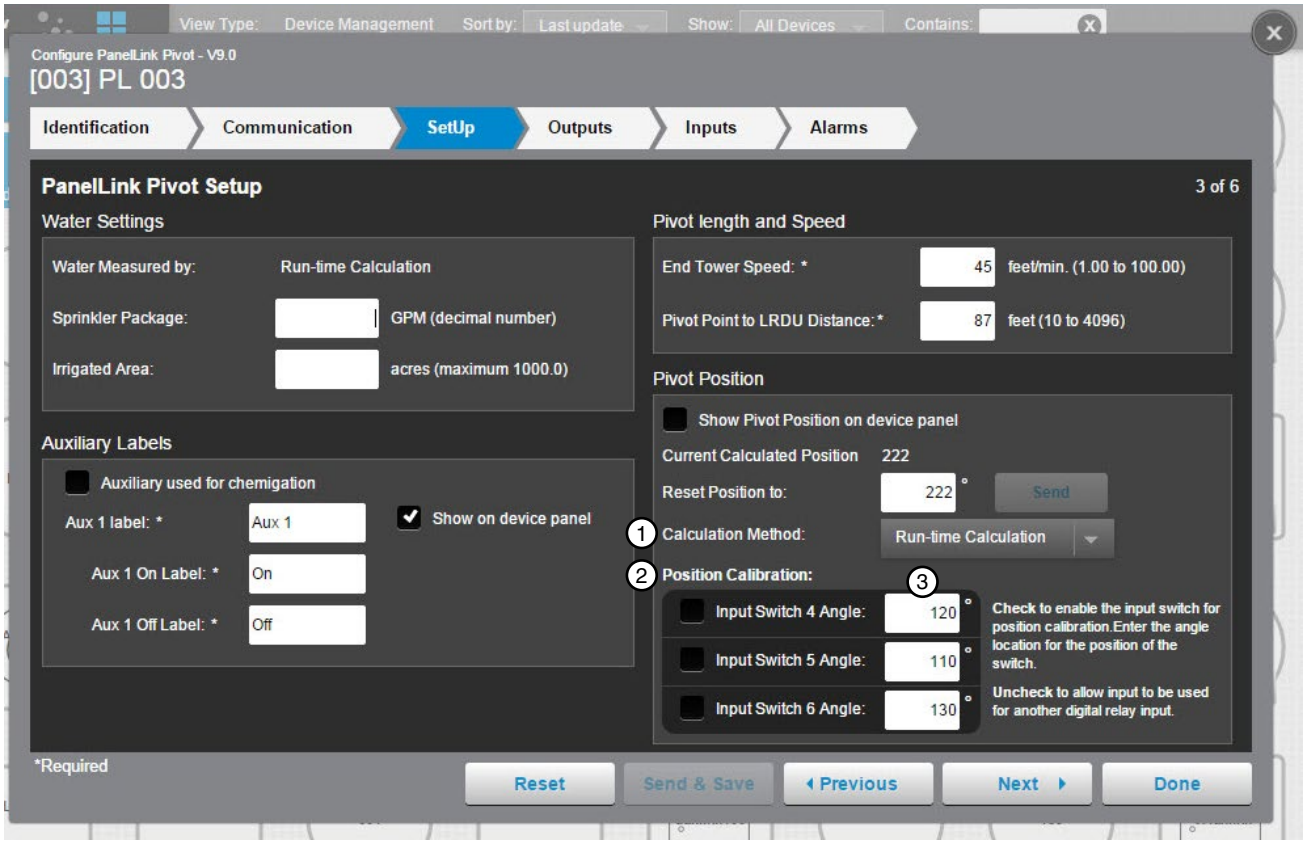


Figure 178-1
1. Calculation Method
2. Position Calculation
3. Input Switch Angles

PanelLink Configuration

Outputs

This screen is used to configure the relay momentary on times and one additional user-defined auxiliary relay.

The Momentary Time (relay momentary on time) can be increased or decreased by entering a different time in the applicable Momentary Time Field.

Momentary Time is enabled for all digital outputs except the Aux 1 output. Listed below are the momentary time defaults and range.

- Start, Forward and Reverse - Default 3 Seconds; Range 1-5 Seconds.
- Stop (Safety) and Stop (Stop In Slot) - Default 10 Seconds; Range 1-59 Seconds.
- Percent Timer Bypass - 00:00 Seconds (not adjustable).
- Pressure Bypass - Default 10 Seconds; Range 0 to 19 minutes 59 seconds.
- Aux 1 - Default Unchecked and 5 Seconds; Range 0 to 99 minutes 59 seconds.

To reset the outputs to default values, click **Reset to Defaults**. To view default output values, follow the View BaseStation3 Default Output Settings hyperlink.

The Aux 1 Momentary Time can be enabled by checking the Aux 1 box. Un-check the box to disable.

Click **Next** to retain any changes.

NOTE

•During power off conditions and after a power on reset, all outputs are set to their "normal" or non-energized position.

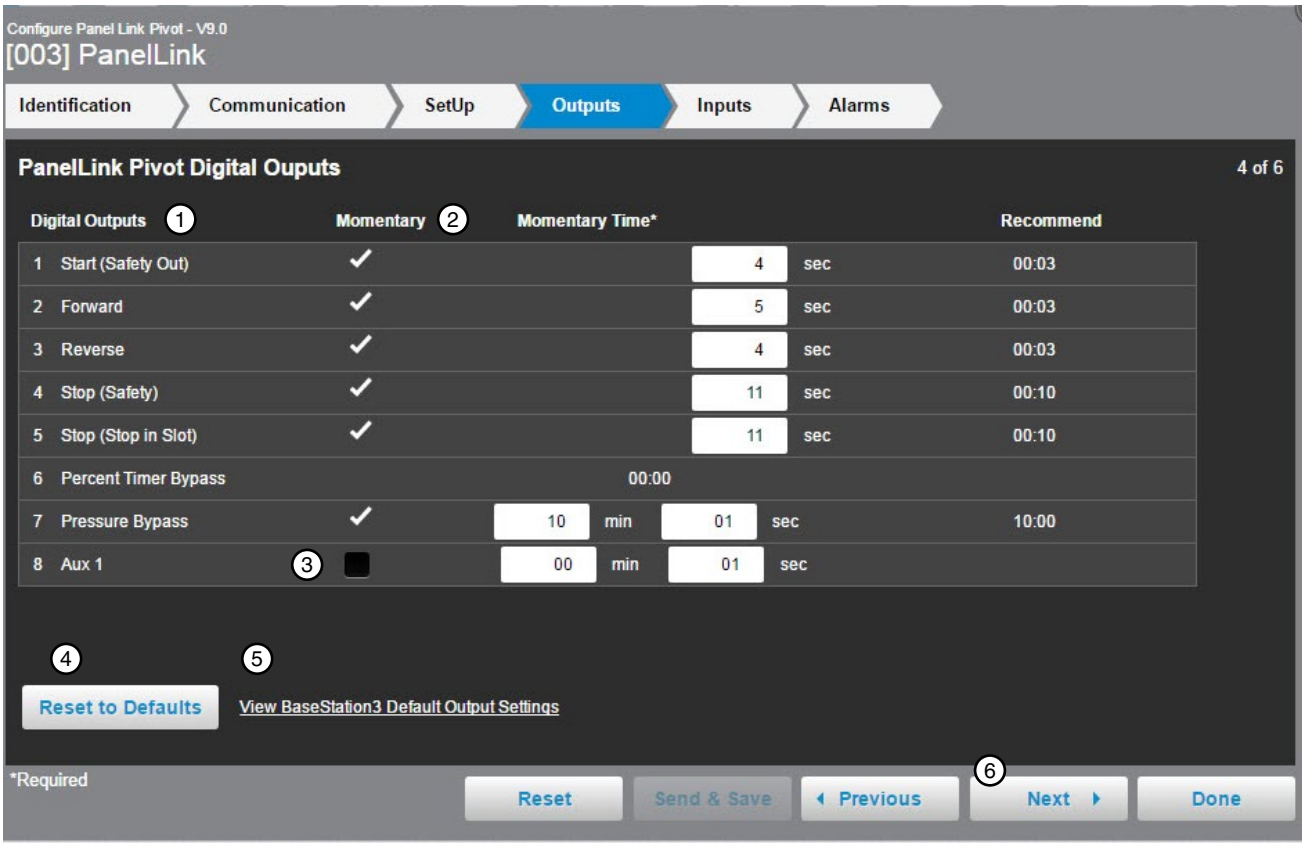


Figure 179-1
1. Digital Outputs
2. Momentary Time Fields
3. Aux 1 Checkbox
4. Reset to Defaults Button
5. View BaseStation3 Default Output Settings Hyperlink
6. Next Button

Device Management

PanelLink Configuration

Inputs

Configure the input relays, enable display on the supplemental status, enable real time updates, and set the notice transmit delay. Digital inputs 1-7 are 120 VAC inputs. Inputs 1, 2, 3 and 7 are dedicated to the pivot operations for Forward Run, Reverse Run and Percent Timer. Inputs 4, 5 and 6 are reserved for position sense switches. Any data placed in these digital inputs will be overridden by the switches. See Figure 180-1.

Listed below are the input delay time defaults and range.

- Forward Run - Default 30 Seconds; Range 0 to 1 Minute 59 Seconds.
- Reverse Run - Default 30 Seconds; Range 0 to 1 Minute 59 Seconds.
- Percent Timer - Default 0 Second (not adjustable).
- Input 4, 5, 6 and 7 - Default 30 Seconds; Range 0 to 1 Minute 59 Seconds.
- Input 7 can be used for an input other than pressure by unchecking the Input Name checkbox. When input 7 is configured for a different input (Input Name checkbox is unchecked) the pivot appearance will be grey and no colors will be displayed for wet or dry.
- Pressure Sensor - 30 Seconds, Low 16, High 65; Range 0 to 5 minutes 59 seconds, Low 2 to 79, High 3 to 80.
- Voltage Sensor - 15 Seconds, Low 440, High 510 ; Range 0 to 5 minutes 59 seconds, Low 3 to 509, High 4 to 510.

To reset the inputs to default values, click **Reset to Defaults**. To view default input values, follow the View BaseStation3 Default Input Settings hyperlink.

Click **Next** to retain any changes.

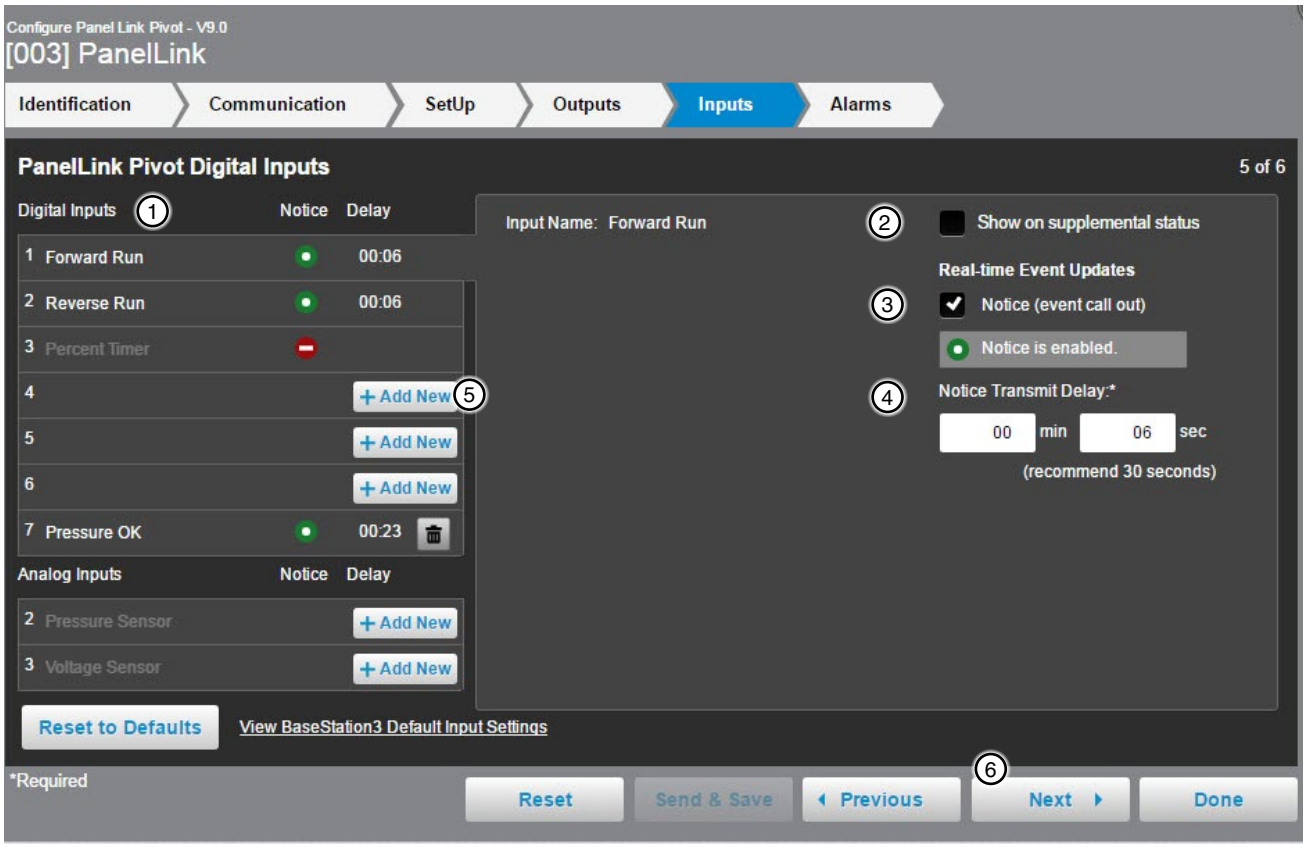


Figure 180-1
1. Digital Input Relays
2. Show on Supplemental Status Checkbox
3. Notice Checkbox
4. Notice Transmit Delay
5. Add New Button
6. Next Button

PanelLink Configuration

Inputs

To add an input click **Add New**. Enter the **Input Name**. Customize the input for supplemental status and Real-time Event Updates, including notice transmit delay.

Show on supplemental status: To allow the input status to appear on the supplemental status, check the **Show on supplemental status**.

Real-time Event Updates: The Notice enabled or disabled icon is displayed with the delay time on the specific input. Check the **Notice** box to have input relay status information sent to the BaseStation. Set the **Notice Transmit Delay Time**. The default time is 30 seconds after the event and the range is 1 second up to 1 minute and 59 seconds after the event.

Select an existing input to make changes. The Forward Run, Reverse Run and Percent Timer input names cannot be changed. The Percent Timer input cannot be changed.

To delete an input, click **Delete**. The Forward Run, Reverse Run and Percent Timer input names cannot be deleted.

Click **Next** to retain any changes.

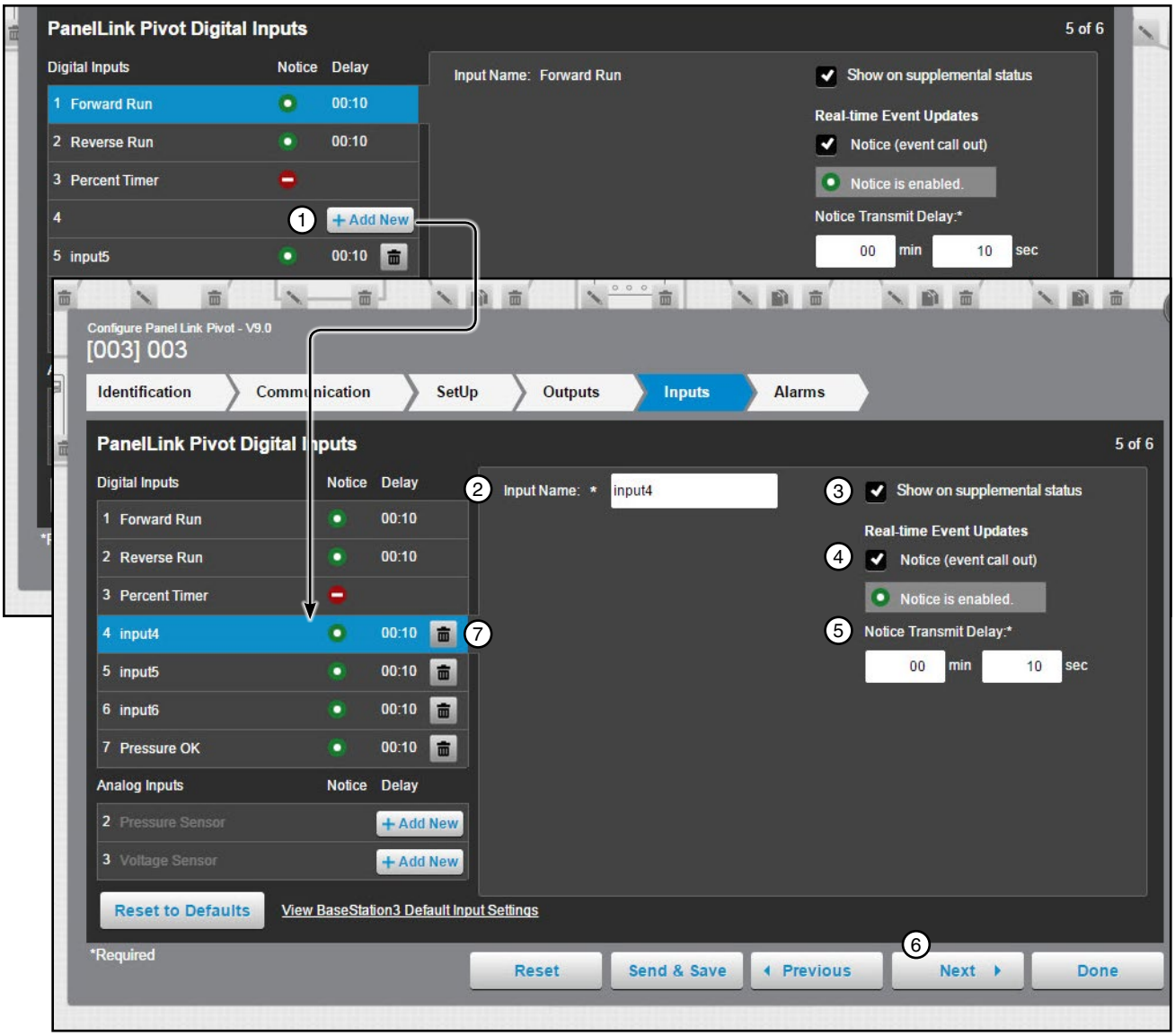


Figure 181-1
1. Add New Button
2. Show on Supplemental Status Checkbox
3. Input Name
4. Notice Checkbox
5. Notice Transmit Delay
6. Next Button
7. Delete Button

Device Management

PanelLink Configuration

Analog Inputs

Configure the analog input devices number 2 and 3 for the optional pressure and/or voltage sensors.

- Pressure Sensor - The low and high settings are the operational pressure settings.
  - » If the pressure transducer option is not installed and configured, while the machine is running (wet or dry), the direction arrow is displayed on a gray color, at the last known span position.
  - » If the pressure transducer option is installed and configured, the circle will show as green or blue when running. BaseStation will show running status as green when pressure less than the threshold setting, or blue when the pressure is equal to or greater than the threshold setting.
- Voltage Sensor - The low and high settings are the operational voltage settings.

To add an analog input click **Add New**. Enter the **low** and **high** operational values. Customize the input for supplemental status and Real-time Event Updates, including notice transmit delay time.

Show on supplemental status: To allow the input status to appear on the supplemental status, check the **Show on supplemental status** box.

Real-time Event Updates: Check the **Notice** box to have input relay status information sent to the BaseStation. Set the Notice Transmit Delay Time. The default time is 30 seconds and the range is 1 second to 1 minute and 59 seconds.

- Delay Time is the time (in minutes and seconds) after the machine's operational pressure has exceeded its limits and an update is sent to the BaseStation.

Select an existing input to make changes.

To delete an input, click **Delete**.

Click **Next** to retain any changes.

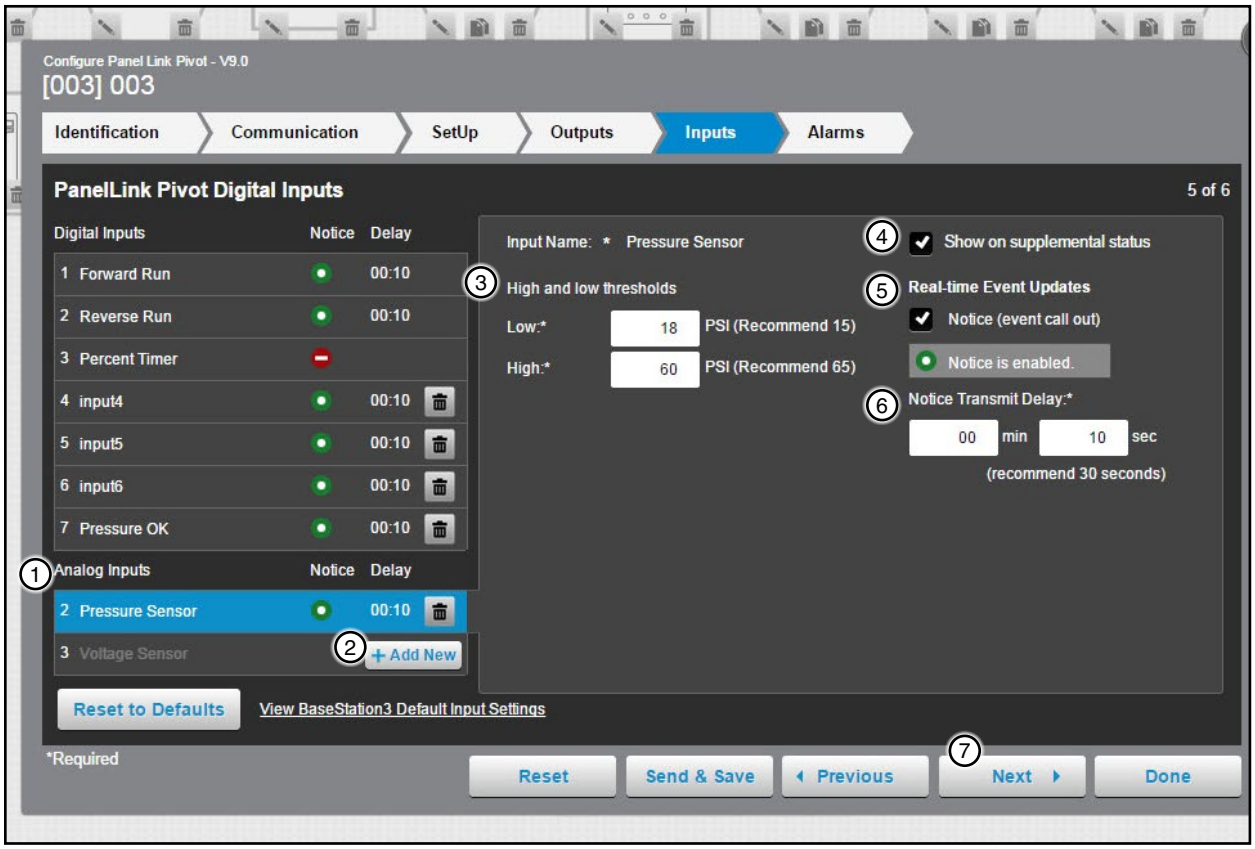


Figure 182-1
1. Analog Inputs
2. Add New Button
3. Low and High Values
4. Show on Supplemental Status Checkbox
5. Notice Checkbox
6. Notice Transmit Delay
7. Next Button

PanelLink Configuration

Alarms

Alarms can be set to notify a contact list of users about various conditions. An alarm is activated when the current state is not the same as the expected state.

- Current State is the last machine state reported by the device to the BaseStation.
- Expected State is the last commanded state sent to the device by the BaseStation or the acknowledged state as accepted by a user when clearing the alarm.

To change the alarm level for an alarm, choose the desired alarm level icon. When done click **Send & Save**.

To change a threshold low or high value of an alarm, enter a value in the applicable threshold alarm field. When done click **Send & Save**.

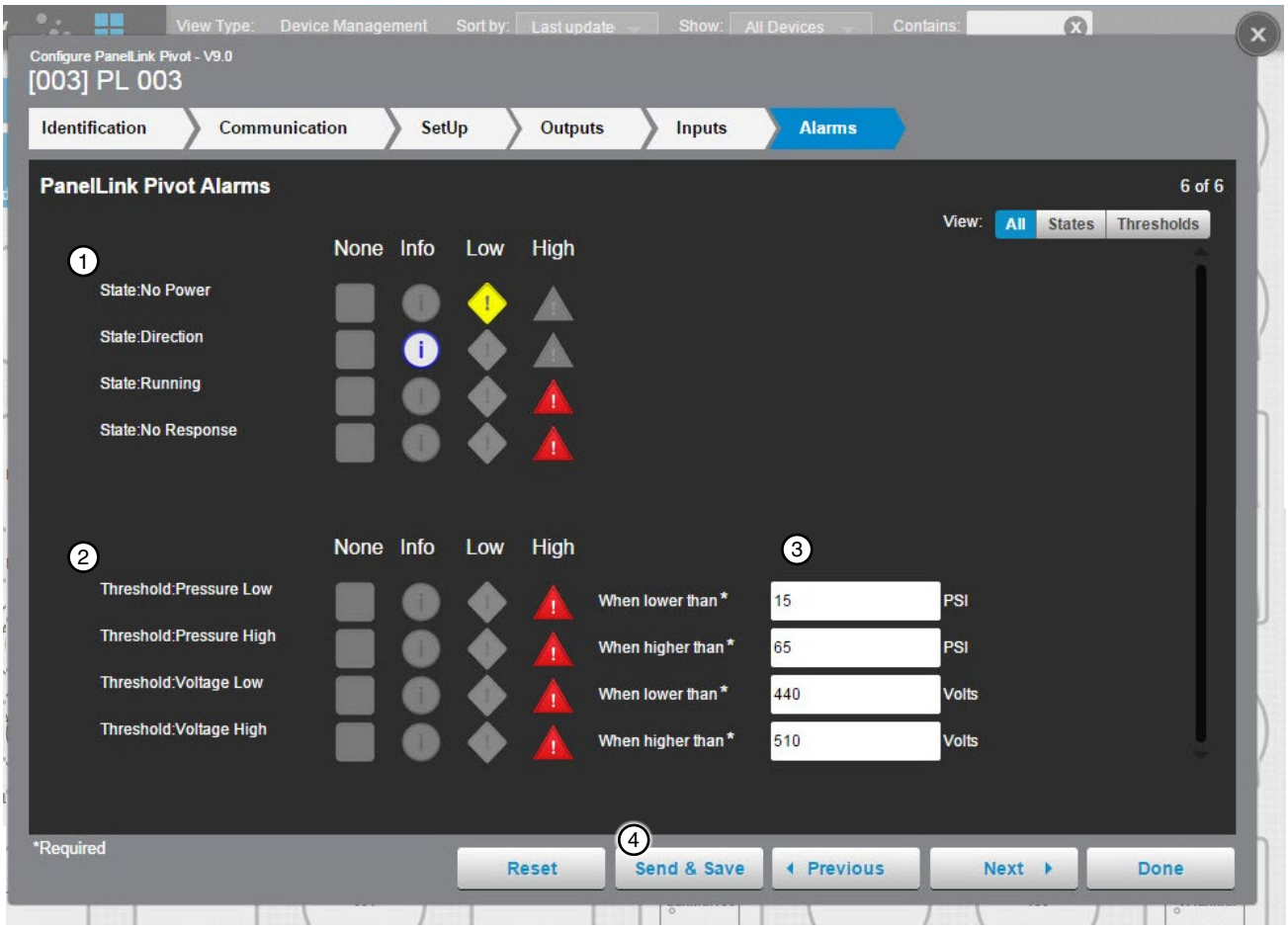


Figure 183-1
1. State Alarms
2. Threshold Alarms
3. Threshold Alarm Fields
4. Send and Save Button

Device Management

Pump Control Configuration

Yaskawa Pump

First-Time Setup

To configure a Yaskawa Pump Control do the following. See Figure 184-1.

With the View Type set to Device Management, click **Add Device** and select **Pump Control**. Select **Yaskawa iQpump 1000** from the drop-down menu under **Pump Control Mode**. Enter the **PLC Address**, **RTU ID**, and **Device Name** and select the **Farm** and **Channel**. If needed, add in the **IP Address** and **IP Port** as well. When done click **Save**. See Figure 184-1.

The **Connect** button will send and receive information from the device and complete configuration.

Pump Control Model (required): Select **Yaskawa iQpump 1000** from the drop down menu.

PLC Address (required): The Programmable Logic Controller (PLC) is referred to as a “drive”, or VFD. It has an address that is used for communications with the Pump Link (often referred to as the “black box”), the BaseSation interface. Enter the address (4) that is used by the Yaskawa unit.

RTU ID (required): Enter the control panel RTU ID. The RTU ID must be unique and cannot match any other device.

Device Name (required): Enter the device name. No special characters are allowed and field is limited to 20 characters.

Farm (required: If more than one farm is available select the farm from the drop down list.

Channel (required): The BaseStation channel used to communicate with the device. Select from the available channels on the drop down menu. To create a new channel go to **Settings/BaseStation Settings/Communication/Channels**.

Enter IP Address: Enter the Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

IP Port: The port associated with the Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

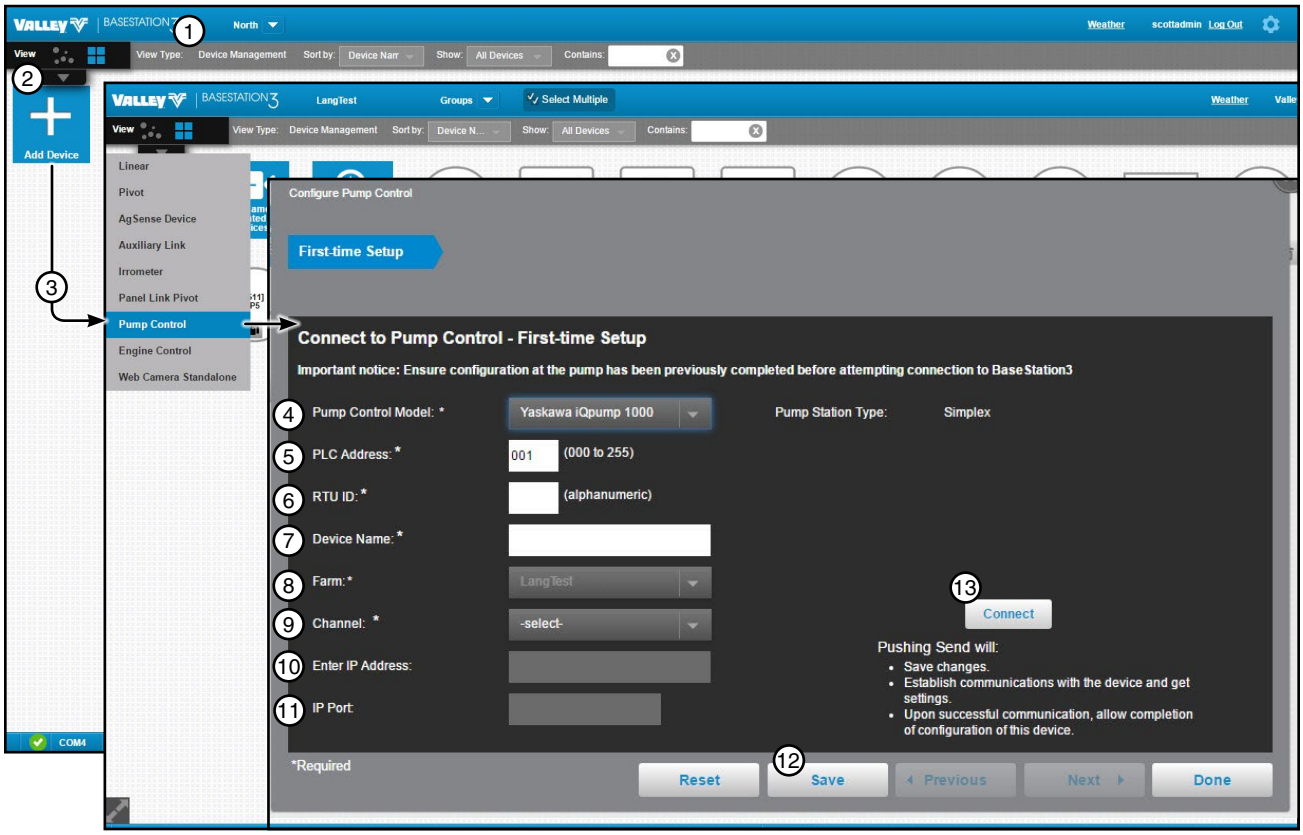


Figure 184-1
1. Device Management View Type
2. Add Device
3. Pump Control
4. Pump Control Model
5. PLC Address
6. RTU ID
7. Device Name
8. Farm
9. Channel
10. Enter IP Address
11. IP Port
12. Save Button
13. Connect Button

Pump Control Configuration

To change the configuration of a pump control do the following. With the View Type set to **Device Management**, click **Change** to open the configuration screen. All of the values on the configuration screen can be changed. When finished click **Done**. See Figure 185-1.

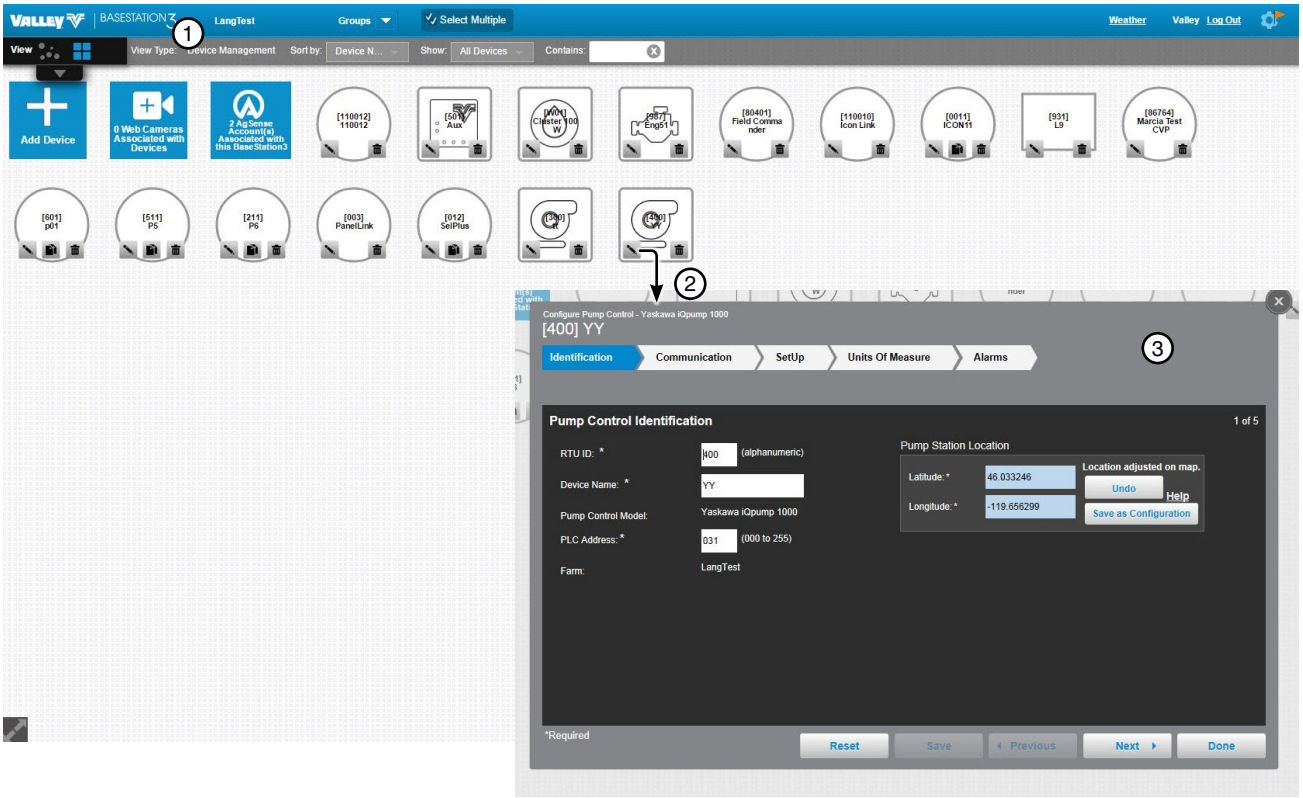


Figure 185-1 1. Device Management View Type 3. Configuration Screen
2. Change Button

Device Management

Pump Control Configuration

Identification

The identification screen describes the physical attributes of the Yaskawa pump control. The RTU ID, Device Name, PLC Address, and Latitude and Longitude are required. See Figure 186-1.

RTU ID (required): Enter the control panel RTU ID. The RTU ID must be unique and cannot match any other device.

Device Name (required): Enter the device name. No special characters are allowed and field is limited to 20 characters.

Pump Control Model: Yaskawa iQpump 1000 should be pre-populated based on initial setup.

PLC Address (required): The Programmable Logic Controller (PLC) is referred to as a “drive”, or VFD. It has an address that is used for communications with the Pump Link (often referred to as the “black box”), the BaseSation interface. Enter the address (4) that is used by the Yaskawa unit.

Farm: The Farm name should be pre-populated based on initial setup.

Latitude and Longitude (required): The GPS location of the cart start of the travel location. The latitude and longitude are initially populated with the coordinates of the farm in which it is created.

In Google Map, to change the position of the linear cart on the Google Map, enter the known coordinates of the cart or go to **Device Management Map View**, select the device and move it to the desired position. Click **Save**, click **Change**, click **Full Configuration** and click **Save as Configuration** (see Saving Device GPS Position in Google Map, earlier in the Device Management section).

In My Map the latitude and longitude are information only and do not change the position of the linear cart on the map.

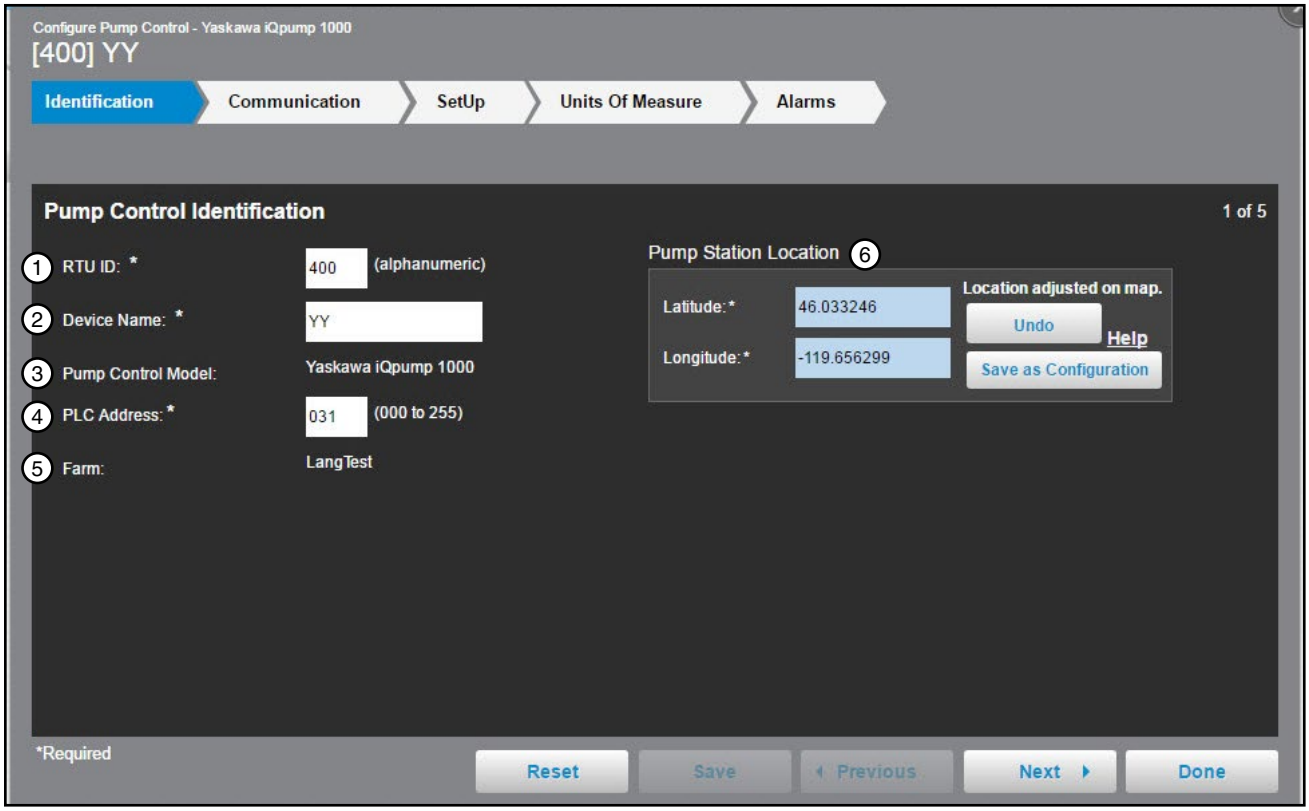


Figure 186-1
1. RTU ID
2. Device Name
3. Pump Control Model
4. PLC Address
5. Farm
6. Pump Station Location (Latitude and Longitude)

Pump Control Configuration

Communication

Use Communication to configure communications between BaseStation and the device. See Figure 187-1.

Channel: The BaseStation channel used to communicate with the device. Select from the available channels on the drop down menu. To create a new channel got to **Settings/BaseStation Settings/Communication/ Channels**.

IP Address: The Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

IP Port: The port associated with the Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

Polling On/Off: The periodic request based on the polling period that BaseStation makes for machine status from the device.

Polling Period: The time in minutes between polling tries for obtaining machine status. The default time is 30 minutes.

Number of Times to Send Messages: The maximum number of attempts that will be made to communicate with the device. The default value is 2 tries. When a communication transaction is successful on the first attempt, the BaseStation will not continue with additional tries. When using radios that may be on the fringe of reliable communications, increasing the number of attempts may be necessary.

Time to Wait for Acknowledgement: The amount of time that the BaseStation will wait for a response from the device (default value is 5 seconds). Using radios or trunking systems will delay the transmission of data. If a returned message is not received by BaseStation within the allowed response time, the BaseStation will retry the transaction for as many attempts as specified in the Times to Send Message limitation.

Alarm Contact List: Associates the device with a contact list of users that will be notified when an alarm occurs. Contact lists are created in **Settings/BaseStation Settings/Alarm Contacts/Contact Lists**.

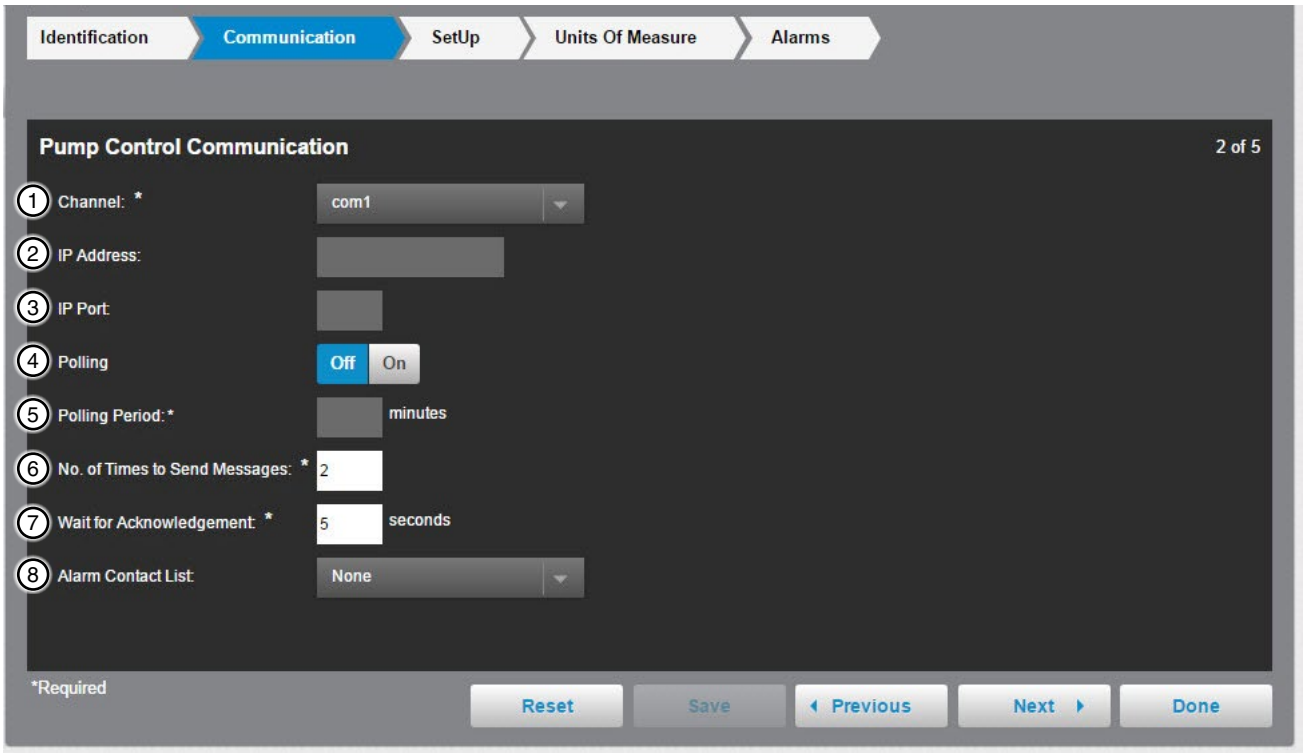


Figure 187-1

1. Channel
2. Enter IP Address
3. IP Port
4. Polling On/Off
5. Polling Period
6. Number of Times to Send Messages
7. Time to Wait for Acknowledgement
8. Alarm Contact List

Device Management

Pump Control Configuration

SetUp

Configured Pump List

The Pump Control Setup shows the settings and setup for the Yaskawa pump control. The Configured Pump List displays the Pump Label and allows the user to check if they want it to show on panel. See Figure 188-1.

Pump Station Settings

The Pump Station Settings displays the settings for the Yaskawa pump control. The Low Pressure Threshold, High Pressure Threshold and Counter Label are required. See Figure 188-1.

Pressure Set Point: The pressure required by the irrigation machine. The pump controller is requested to deliver this pressure to the irrigation machine.

Low Pressure Threshold: The threshold for a shutdown if the water pressure falls below the number. The threshold number is set by subtracting from the Pressure Set Point.

High Pressure Threshold: The threshold for a shutdown if the water pressure goes above the number. The threshold number is set by adding to the Pressure Set Point.

Resettable Volume Counter: The pump controller is recording the accumulated water volume that has been pumped. The Resettable Counter can be used as a periodic total, that can be reset (9) for the next record-able period.

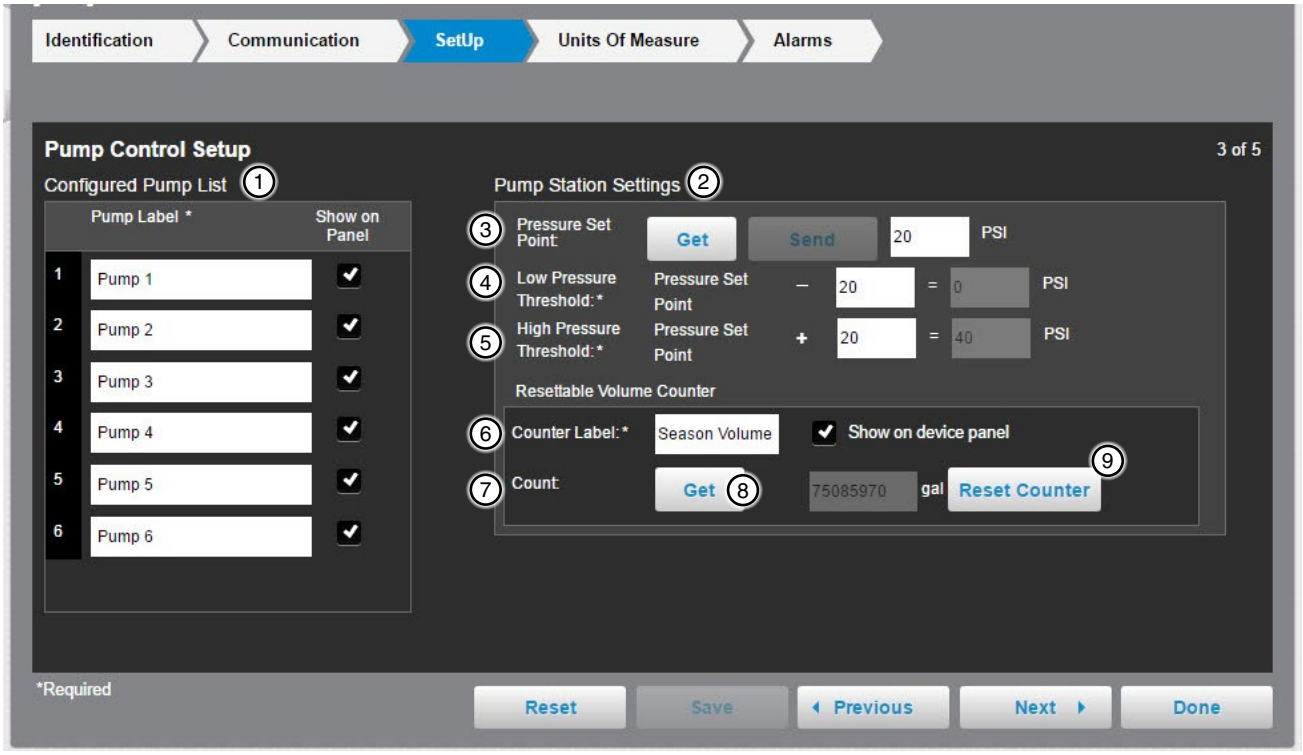


Figure 188-1
1. Configured Pump List
2. Pump Station Settings
3. Pressure Set Point
4. Low Pressure Threshold
5. High Pressure Threshold
6. Counter Label
7. Count
8. Get Button
9. Reset Counter

Pump Control Configuration

Units of Measure

The Units of Measurement Settings can be set for the Flow Rate Units, Total Volume Units, Pressure and Frequency-Drive Speed.

Flow: Flow is monitored by a meter or sensor. Flow includes the flow rate in Gallons per Minute (GPM) and the Total Volume of flow measured.

Pressure: Water Pressure is measured by the control panel with a sensor. The sensor can be installed at any significant location in the pipe that is delivering water to the field. Typically, the machine pressure sensor is located midway in the riser pipe of the pivot or linear machine. Pressure is shown as units according to the user preference, PSI or kPa.

Frequency - Drive Speed: Frequency - Drive Speed is the frequency of the AC voltage applied to the pump, by the controller. This controls the speed of the pump motor.

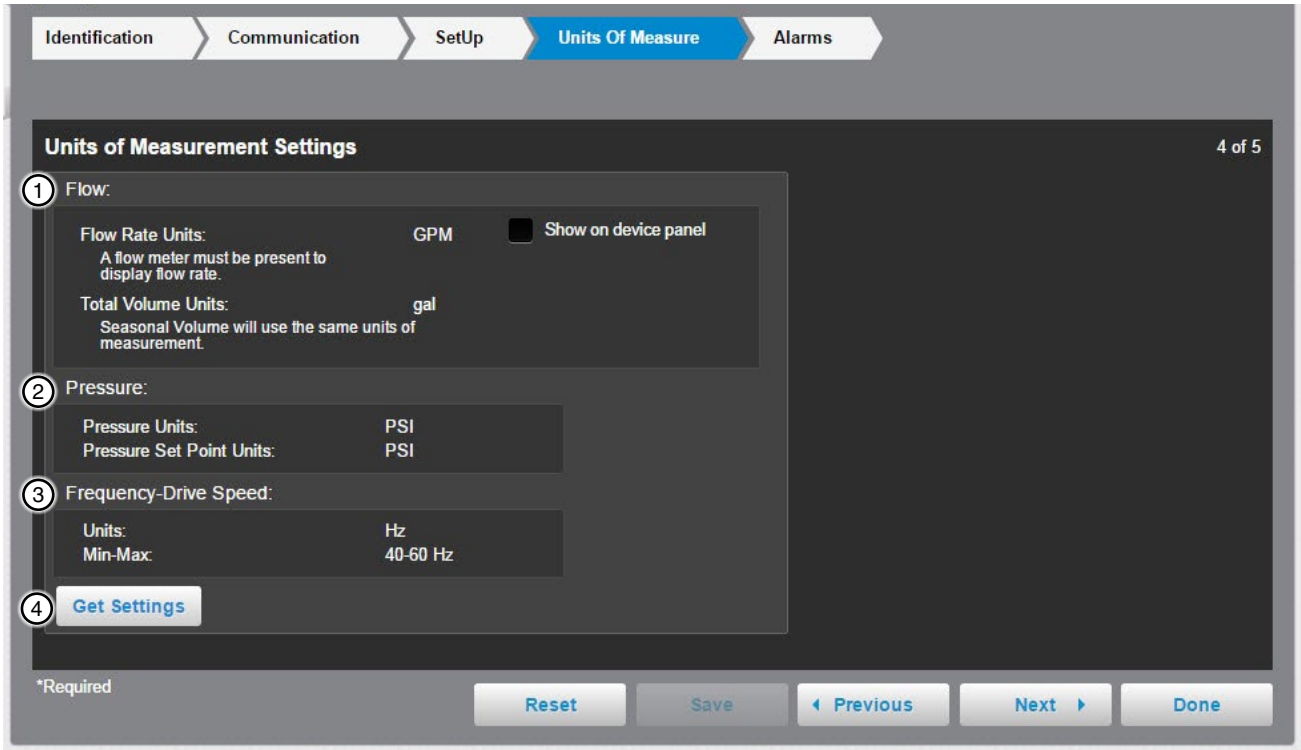


Figure 189-1
1. Flow
2. Pressure
3. Frequency-Drive Speed
4. Get Settings Button

Device Management

Pump Control Configuration

Alarms

Alarms can be set for each device to notify a contact list of users about various conditions. An alarm is activated when the current state is not the same as the expected state. To change the alarm level for an alarm, choose the desired alarm level icon. When complete click **Done**.

- Current State is the last machine state reported by the device to the BaseStation.
- Expected State is the last commanded state sent to the device by the BaseStation or the acknowledged state as accepted by a user when clearing the alarm.

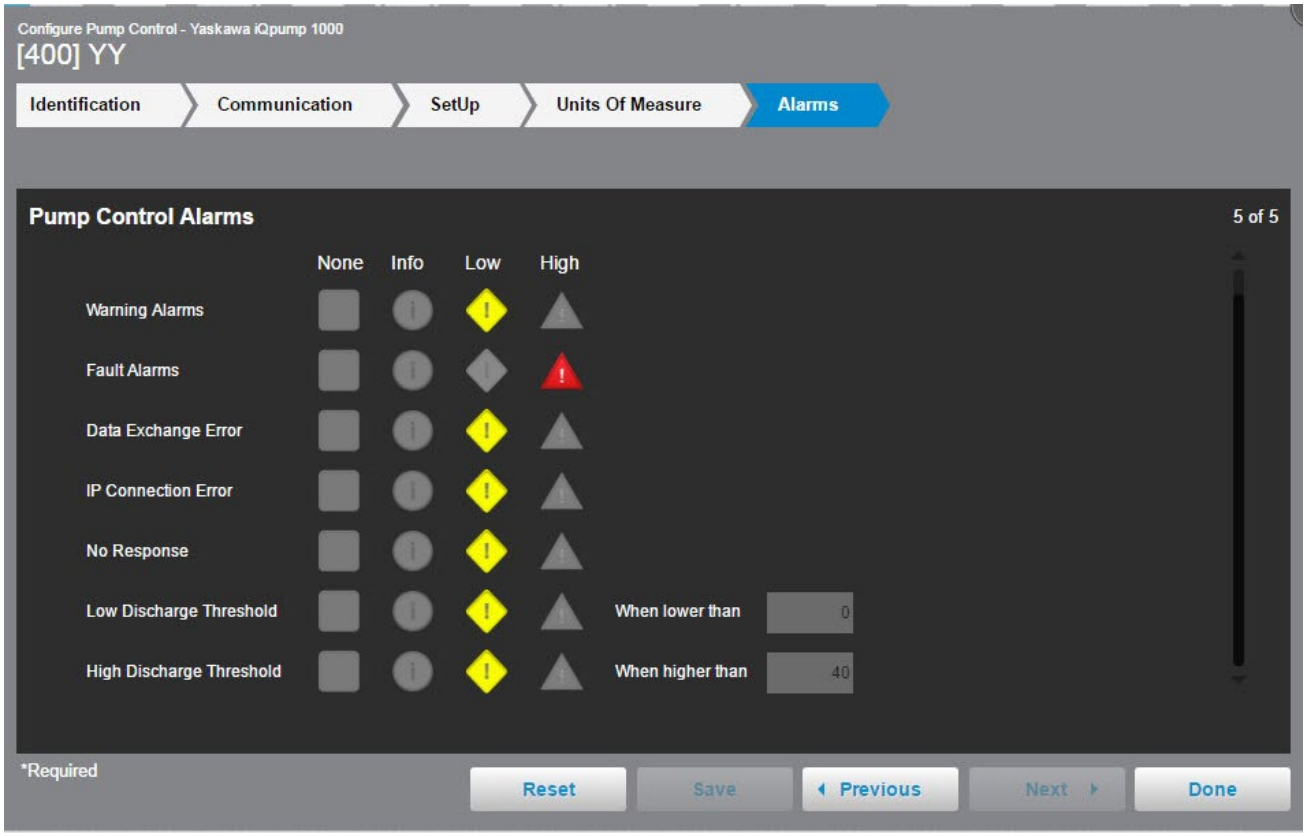


Figure 190-1

Pump Control Configuration

Torrent Pump

First-Time Setup

To configure a Torrent Pump Control do the following. See Figure 191-1.

With the View Type set to Device Management, click **Add Device** and select **Pump Control**. Select **Torrent** from the drop-down menu under **Pump Control Mode**. Enter the **PLC Address**, **RTU ID**, and **Device Name** and select the **Farm** and **Channel.** If needed, add in the **IP Address** and **IP Port** as well. When done click **Save**. See Figure 191-1.

The **Connect** button will send and receive information from the device and complete configuration.

Pump Control Model (required): Select **Torrent** from the drop down menu.

PLC Address (required): The Programmable Logic Controller (PLC) is referred to as a "drive", or VFD. It has an address that is used for communications with the Pump Link (often referred to as the "black box"), the BaseSation interface. Enter the address (4) that is used by the Torrent unit.

RTU ID (required): Enter the control panel RTU ID. The RTU ID must be unique and cannot match any other device.

Device Name (required): Enter the device name. No special characters are allowed and field is limited to 20 characters.

Farm (required: If more than one farm is available select the farm from the drop down list.

Channel (required): The BaseStation channel used to communicate with the device. Select from the available channels on the drop down menu. To create a new channel go to **Settings/BaseStation Settings/Communication/Channels**.

Enter IP Address: Enter the Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

IP Port: The port associated with the Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

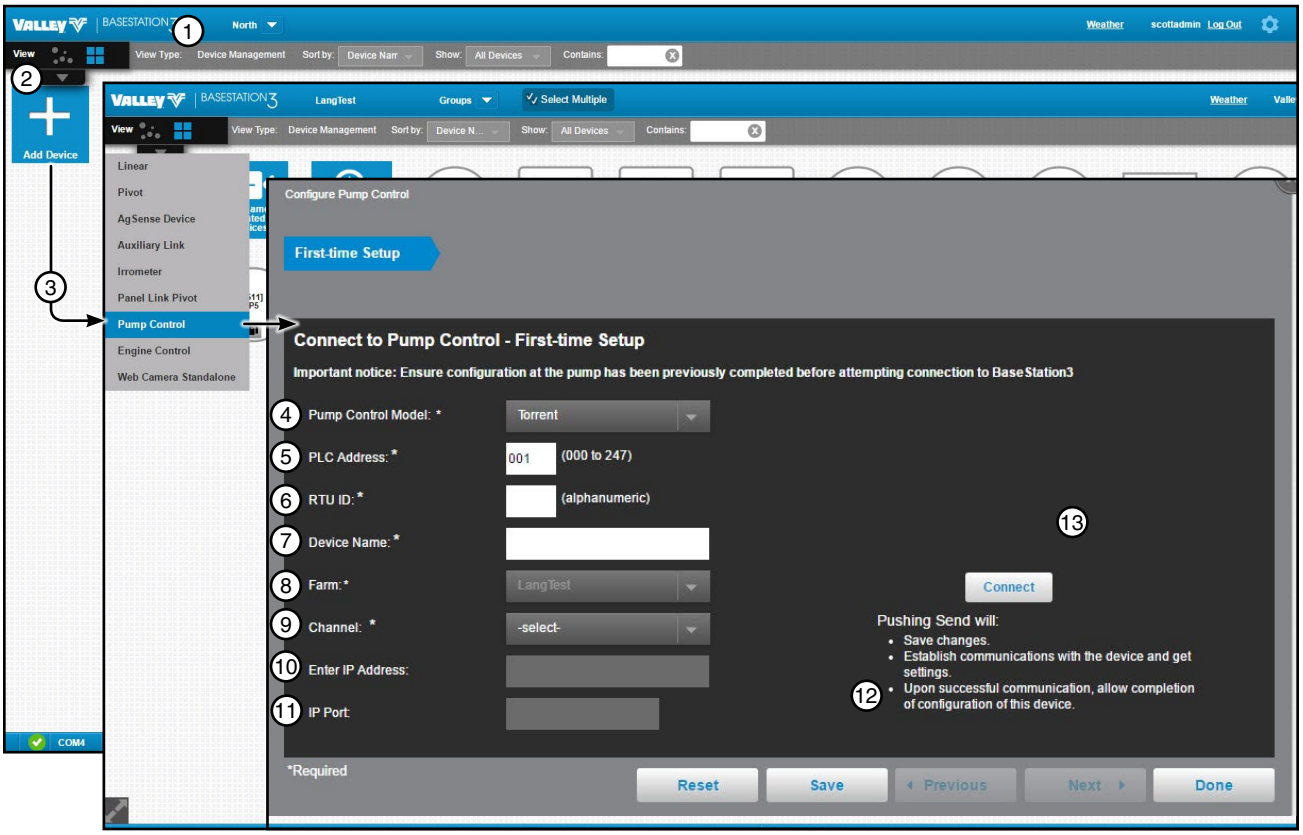


Figure 191-1
1. Device Management View Type
2. Add Device
3. Pump Control
4. Pump Control Model
5. PLC Address
6. RTU ID
7. Device Name
8. Farm
9. Channel
10. Enter IP Address
11. IP Port
12. Save Button
13. Connect Button

Device Management

Pump Control Configuration

To change the configuration of a pump control do the following. With the View Type set to **Device Management**, click **Change** to open the configuration screen. All of the values on the configuration screen can be changed. When finished, click **Done**. See Figure 192-1.

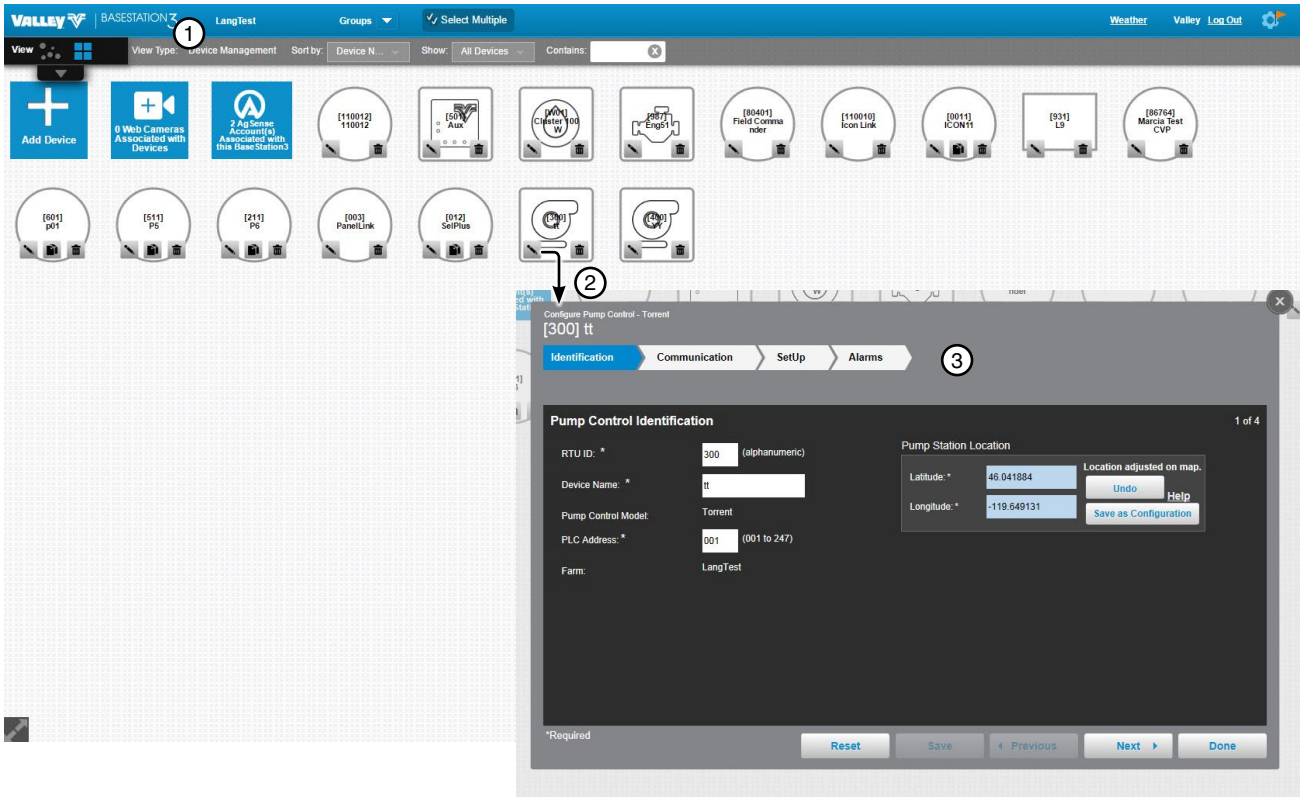


Figure 192-1 1. Device Management View Type 3. Configuration Screen
2. Change Button

Pump Control Configuration

Torrent Pump

Identification

The identification screen describes the physical attributes of the Torrent pump control. The RTU ID, Device Name, PLC Address, and Latitude and Longitude are required. See Figure 193-1.

RTU ID (required): Enter the control panel RTU ID. The RTU ID must be unique and cannot match any other device.

Device Name (required): Enter the device name. No special characters are allowed and field is limited to 20 characters.

Pump Control Model: Torrent should be pre-populated based on initial setup.

PLC Address (required): The Programmable Logic Controller (PLC) is referred to as a “drive”, or VFD. It has an address that is used for communications with the Pump Link (often referred to as the “black box”), the BaseSation interface. Enter the address (4) that is used by the Torrent unit.

Farm: The Farm name should be pre-populated based on initial setup.

Latitude and Longitude (required): The GPS location of the cart start of the travel location. The latitude and longitude are initially populated with the coordinates of the farm in which it is created.

In Google Map, to change the position of the linear cart on the Google Map, enter the known coordinates of the cart or go to **Device Management Map View**, select the device and move it to the desired position. Click **Save**, click **Change**, click **Full Configuration** and click **Save as Configuration** (see Saving Device GPS Position in Google Map, earlier in the Device Management section).

In My Map the latitude and longitude are information only and do not change the position of the linear cart on the map.

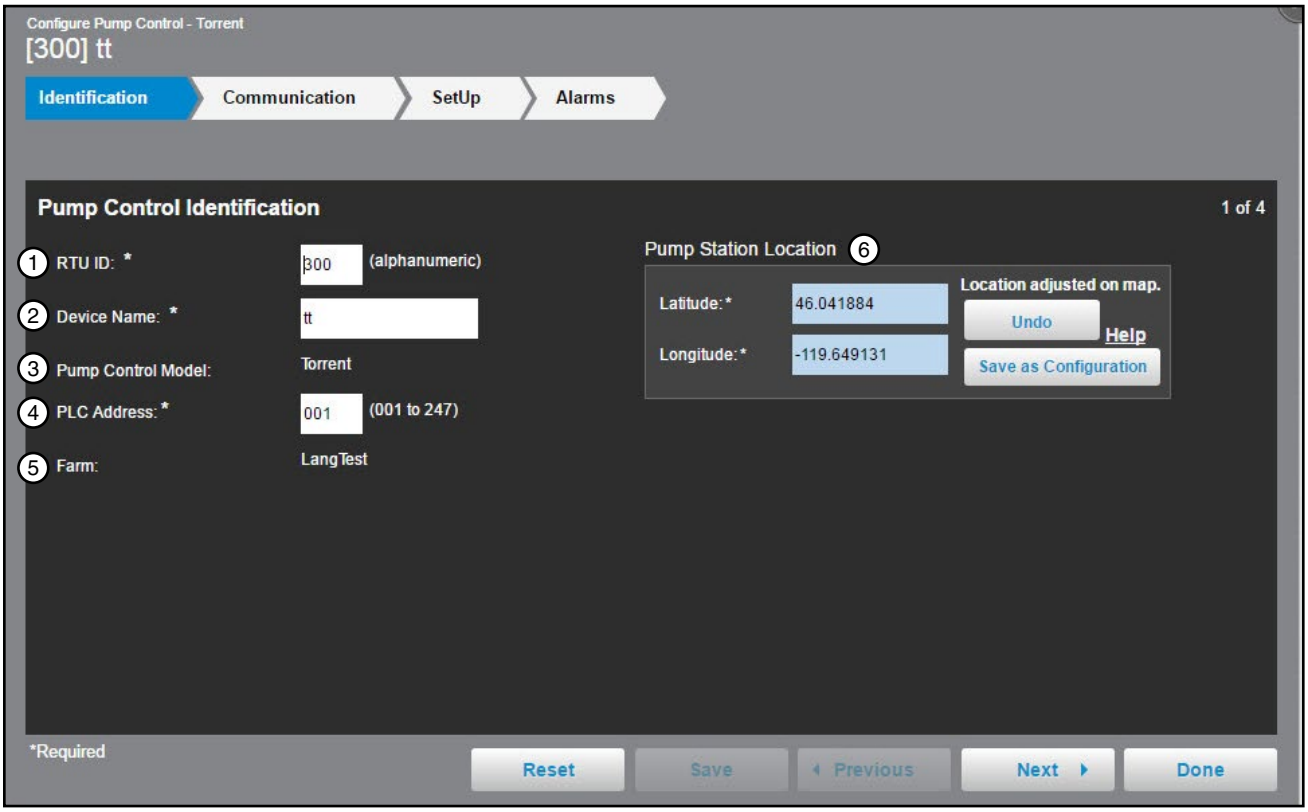


Figure 193-1
1. RTU ID
2. Device Name
3. Pump Control Model
4. PLC Address
5. Farm
6. Pump Station Location (Latitude and Longitude)

Device Management

Pump Control Configuration

Communication

Use Communication to configure communications between BaseStation and the device. See Figure 194-1.

Channel: The BaseStation channel used to communicate with the device. Select from the available channels on the drop down menu. To create a new channel got to **Settings/BaseStation Settings/Communication/ Channels**.

IP Address: The Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

IP Port: The port associated with the Internet Protocol address. Only available when an Ethernet channel is selected from the Channel drop down menu.

Polling On/Off: The periodic request based on the polling period that BaseStation makes for machine status from the device.

Polling Period: The time in minutes between polling tries for obtaining machine status. The default time is 30 minutes.

Number of Times to Send Messages: The maximum number of attempts that will be made to communicate with the device. The default value is 2 tries. When a communication transaction is successful on the first attempt, the BaseStation will not continue with additional tries. When using radios that may be on the fringe of reliable communications, increasing the number of attempts may be necessary.

Time to Wait for Acknowledgement: The amount of time that the BaseStation will wait for a response from the device (default value is 5 seconds). Using radios or trunking systems will delay the transmission of data. If a returned message is not received by BaseStation within the allowed response time, the BaseStation will retry the transaction for as many attempts as specified in the Times to Send Message limitation.

Alarm Contact List: Associates the device with a contact list of users that will be notified when an alarm occurs. Contact lists are created in **Settings/BaseStation Settings/Alarm Contacts/Contact Lists**.

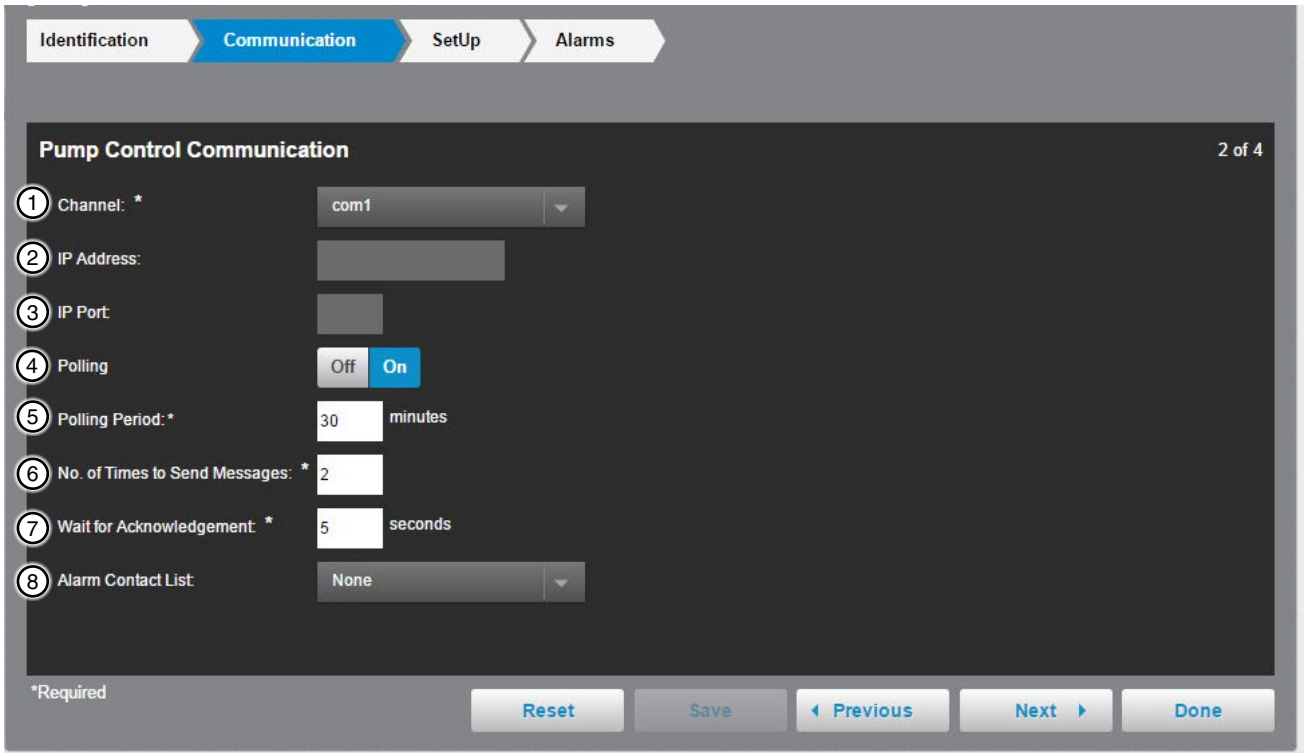


Figure 194-1
1. Channel
2. Enter IP Address
3. IP Port
4. Polling On/Off
5. Polling Period
6. Number of Times to Send Messages
7. Time to Wait for Acknowledgement
8. Alarm Contact List

Pump Control Configuration

SetUp

Configured Pump List

The Pump Control Setup shows the settings and setup for the Torrent pump control. The Configured Pump List displays the Pump Label and allows the user to check if they want it to show on panel. See Figure 195-1.

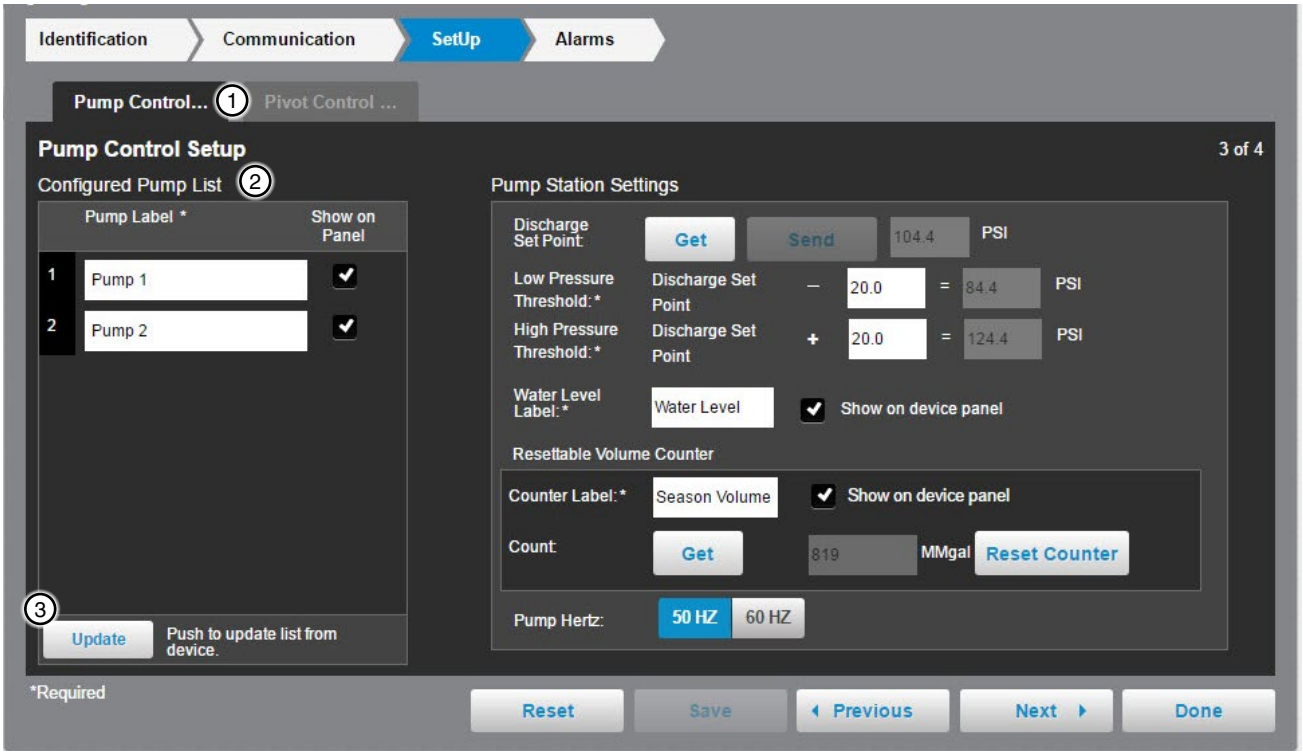


Figure 195-1
1. Pump Control Setup
2. Configured Pump List
3. Update

Device Management

Pump Control Configuration

SetUp

Pump Station Settings

The Pump Station Settings displays the settings for the Torrent pump control. The Low Pressure Threshold, High Pressure Threshold, Water Level Label and Counter Label are required. See Figure 196-1.

Discharge Set Point: The desired pressure (3) to be maintained by the pump controller.

Low Pressure Threshold: The threshold for a shutdown if the water pressure falls below the number. The threshold number is set by subtracting from the Discharge Set Point.

High Pressure Threshold: The threshold for a shutdown if the water pressure goes above the number. The threshold number is set by adding to the Discharge Set Point.

Water Level Label: A descriptive label (6) for the pump's water source.

Resettable Volume Counter: The pump controller is recording the accumulated water volume that has been pumped. The Resettable Counter can be used as a periodic total, that can be reset (10) for the next record-able period.

Counter Label: A descriptive label (8) for the Resettable Volume Counter.

Count: The actual volume count (9) accumulated in the controller.

Pump Hertz: The pump manufacturer's model specification (12) for the operating frequency.

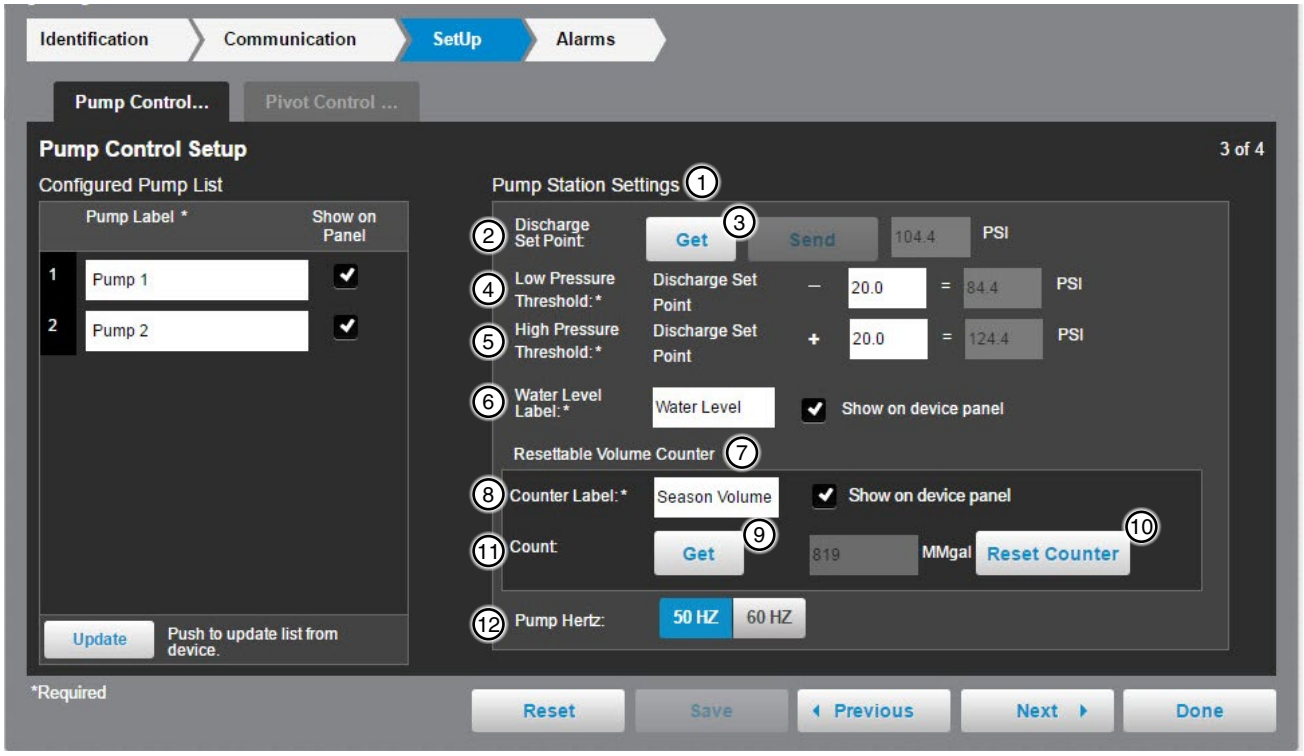


Figure 196-1

1. Pump Control Settings
2. Discharge Set Point
3. Get Button
4. Low Pressure Threshold
5. High Pressure Threshold
6. Water Level Label
7. Resettable Volume Counter
8. Counter Label
9. Get
10. Reset Counter
11. Count
12. Pump Hertz

Pump Control Configuration

SetUp

Pivot Control Table

The Pivot Control Table displays the Position, RTU ID, Device Name, PSI Set Point and RTU ID Status. It can be synced. See Figure 197-1.

Position: The location of the machine in the field. Position is shown as a measure of degrees on a compass for pivot machines, as a measure of distance from the field start position (typically zero) for linear machines, as feet or meters.

RTU ID: The address of the Remote Terminal Unit that BaseStation can communicate with. It is a three character string that complies with the protocol requirement for the associated panel type.

Device Name: The name associated with the device.

PSI Set Point: The pressure required by the irrigation machine. The pump controller is requested to deliver this pressure to the irrigation machine. Same as Pressure Set Point.

RTU ID Status: Indicator that the irrigation machine is being monitored by BaseStation3, or not available for the pump controller to get pressure status.

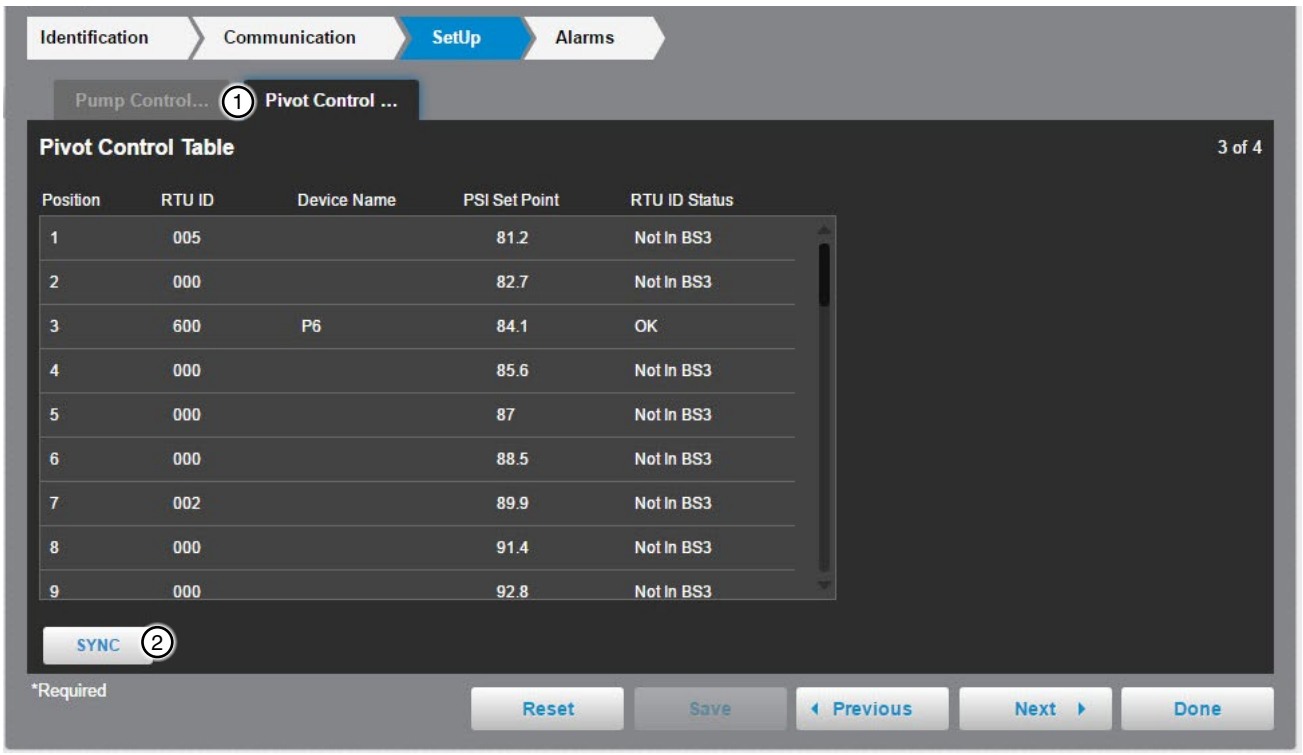


Figure 197-1 1. Pivot Control Table 2. Sync

Device Management

Pump Control Configuration

Alarms

Alarms can be set for each device to notify a contact list of users about various conditions. An alarm is activated when the current state is not the same as the expected state. To change the alarm level for an alarm, choose the desired alarm level icon. When complete, click **Done**.

- Current State is the last machine state reported by the device to the BaseStation.
- Expected State is the last commanded state sent to the device by the BaseStation or the acknowledged state as accepted by a user when clearing the alarm.

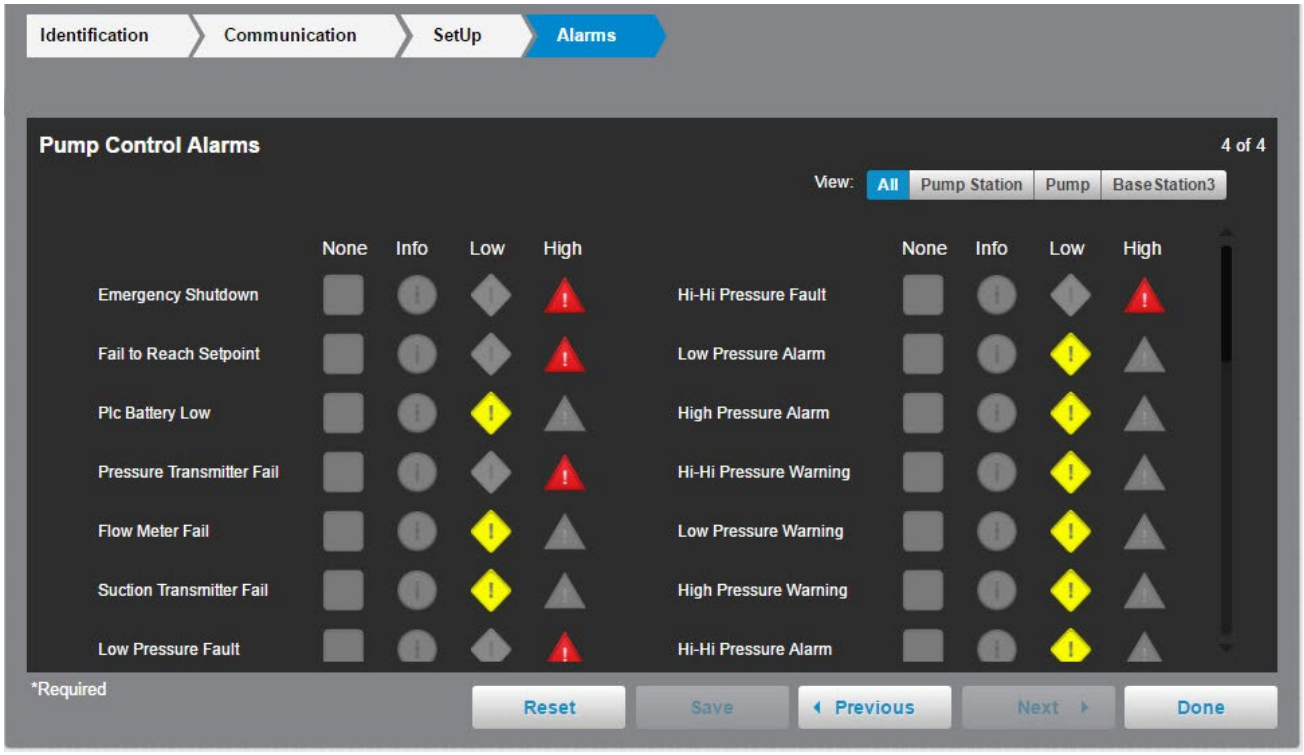


Figure 198-1

Engine Control Configuration

The engine control device is for use with a Murphy Genset Controller Unit Model EMS-GC10. The use of other engine controls is not supported.

Add Device

To configure an Engine Control do the following. See Figure 199-1.

With the View Type set to Device Management, click **Add Device** and select **Engine Control**. To connect to Engine Control, the user will enter the **RTU ID** and **Device Name**, then select the **Farm** (if more than one is available) and **Channel**.

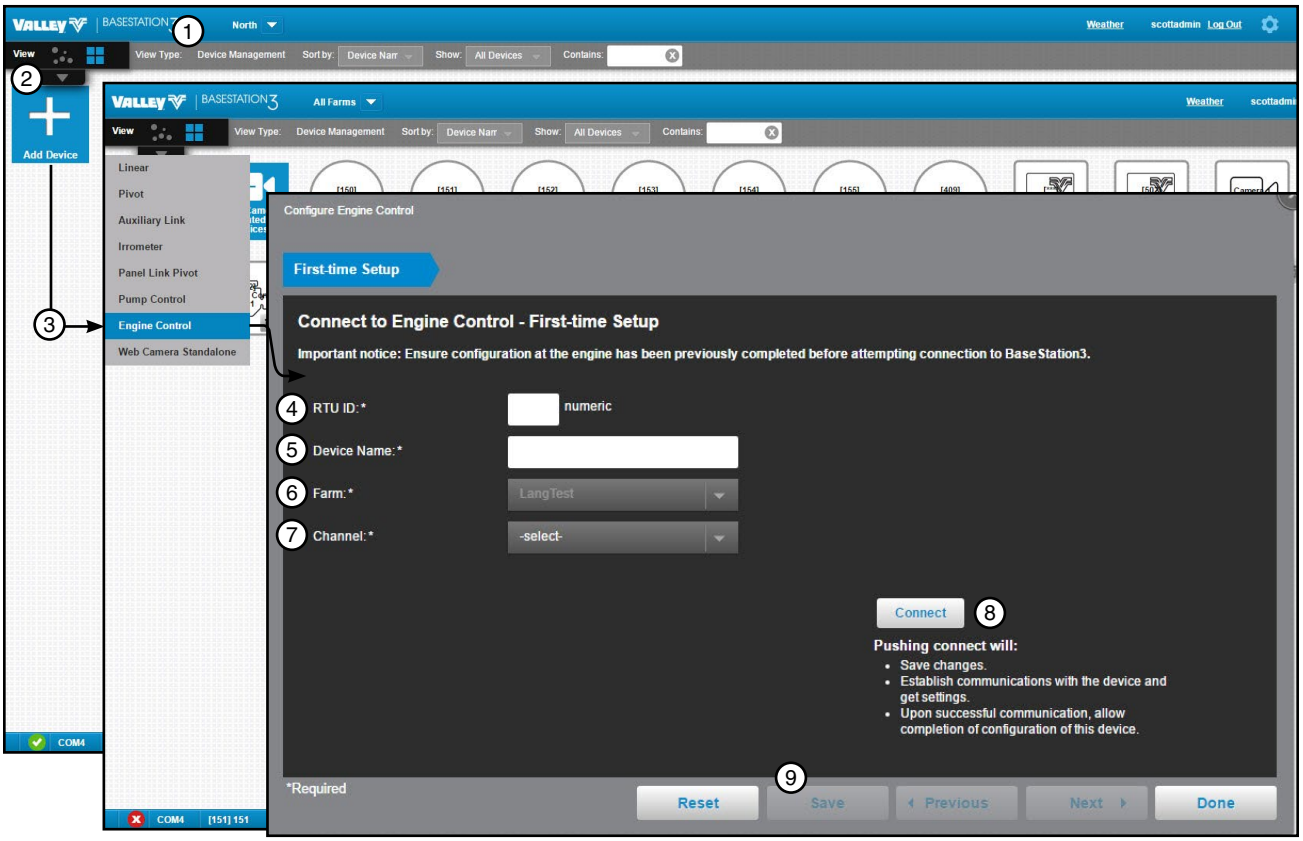


Figure 199-1
1. View Type - Device Management
2. Add Device
3. Engine Control
4. RTU ID
5. Device Name
6. Farm
7. Channel
8. Connect Button
9. Save Button

Device Management

Engine Control Configuration

Identification

Enter the **RTU ID** and **Device Name**. Select the **Engine Type** and choose the **Farm**. See Figure 200-1.

Latitude and Longitude: The GPS position of the device. The latitude and longitude are initially populated with the coordinates of the farm in which it is created.

In Google Map, to change the position of the device on the map, enter the known coordinates of the device or go to **Device Management Map View**, select the device and move it to the desired position. Click **Save**, click **Change**, and click **Save as Configuration** (see Saving Device GPS Position in Google Map, earlier in the Device Management section).

In My Map the latitude and longitude are information only and do not change the position of the device on the map.

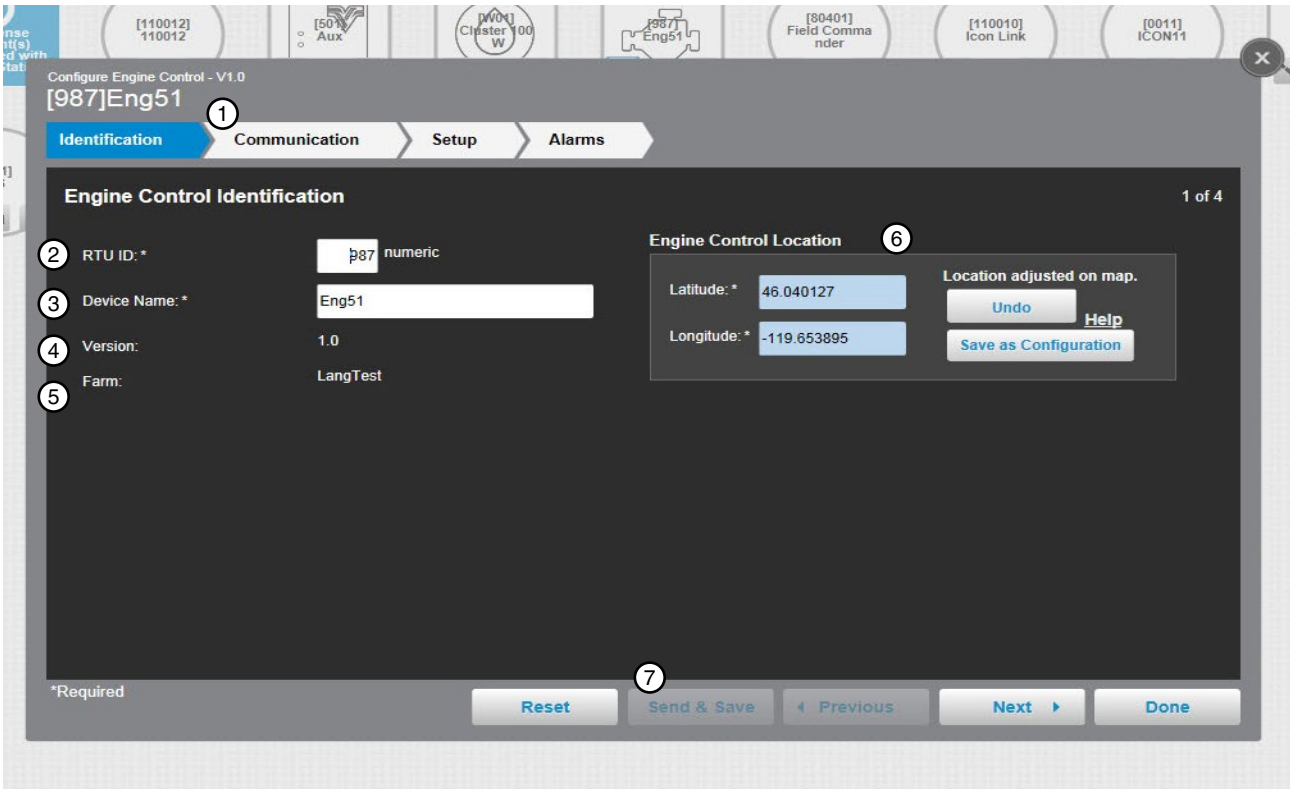


Figure 200-1 1. Identification Screen
2. RTU ID
3. Device Name
4. Version
5. Farm
6. Engine Control Location
7. Send & Save

Engine Control Configuration

Communication

Configure the communications. See Figure 201-1.

Select the **Channel** for communications. Turn on **Polling** and enter the **Polling Period** in seconds, the **No. of times to Send Messages** and the **Wait for Acknowledgement** time. Select the **Alarm Contact List**. When done click **Save**.

Channel: The BaseStation channel used to communicate with the device. Select from the available channels on the drop down menu. To create a new channel go to **Settings/BaseStation Settings/Communication/ Channels**.

Polling On/Off: The periodic request based on the polling percent that the BaseStation makes for machine status from the device.

Polling Period: The time in minutes between polling tries for obtaining machine status. The default time is 30 minutes.

Number of Times to Send Messages: The maximum number of attempts that will be made to communicate with the device. The default value is 2 tries. When a communication transaction is successful on he first attempt, the BaseStation will not continue with additional tries. When using radios that may be on the fringe of reliable communications, increasing the number of attempts may be necessary.

Wait for Acknowledgement: The amount of time that the BaseStation will wait for a response from the device (default is 5 seconds). Using radios or trunking systems will delay the transmission of data. If a returned message is not received by the BaseStation within the allowed response time, the BaseStation will retry the transaction for as many attempts as specified in the Times to Send Messages limitation.

Alarm Contact List: Associates the device with a contact list of users that will be notified when an alarm occurs. Contact lists are created in **Settings/BaseStation Settings/Alarm Contacts/Contact Lists**.

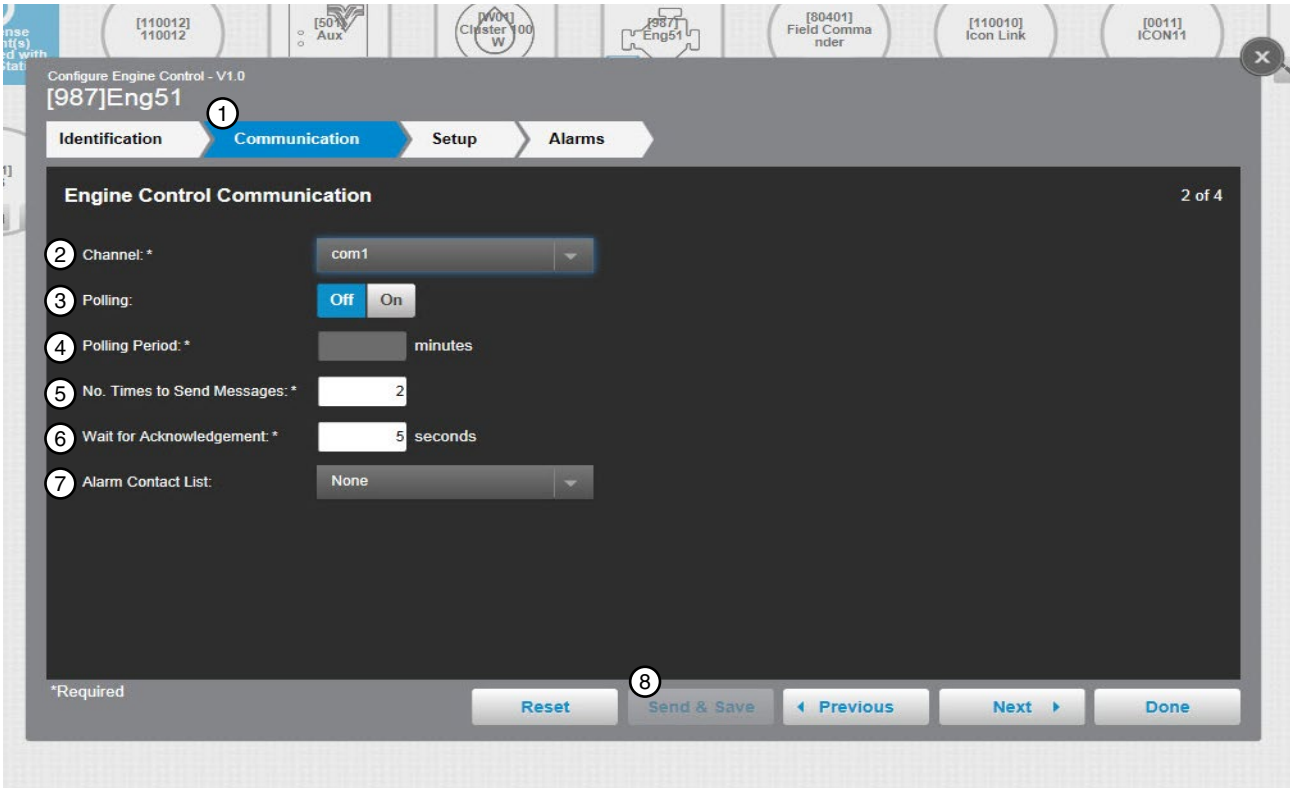


Figure 201-1 1. Communication Screen
2. Channel
3. Polling On/Off
4. Polling Period
5. No Times to Send Messages
6. Wait for Acknowledgement
7. Alarm Contact List
8. Save

Device Management

Engine Control Configuration

Setup

Set up the Engine Control. See Figure 202-1.

Switch Type: The Run control type is determined by the local engine controller model. The controller may require just a pulse signal to toggle the Run/Stop command; or the controller may require a maintained input to sustain the Run/Stop state.

Run Command Pulse Length: When the Switch Type is set to Momentary, the Run Command Pulse Length sets the time duration that the Run signal is present.

Stop Command Pulse Length: When the Switch Type is set to Momentary, the Stop Command Pulse Length sets the time duration that the Stop signal is present.

Engine Start Up Shutdown Delay: This delay has two functions. For the Start Up function. This amount of time is allowed to manually start an engine, with the start up state enabled. For the Shutdown function, following a Stop command, the engine is allowed to run for this duration of time.

Connected Devices: This is a text entry for describing a device that is being powered by the engine. The entry is for user visibility only.

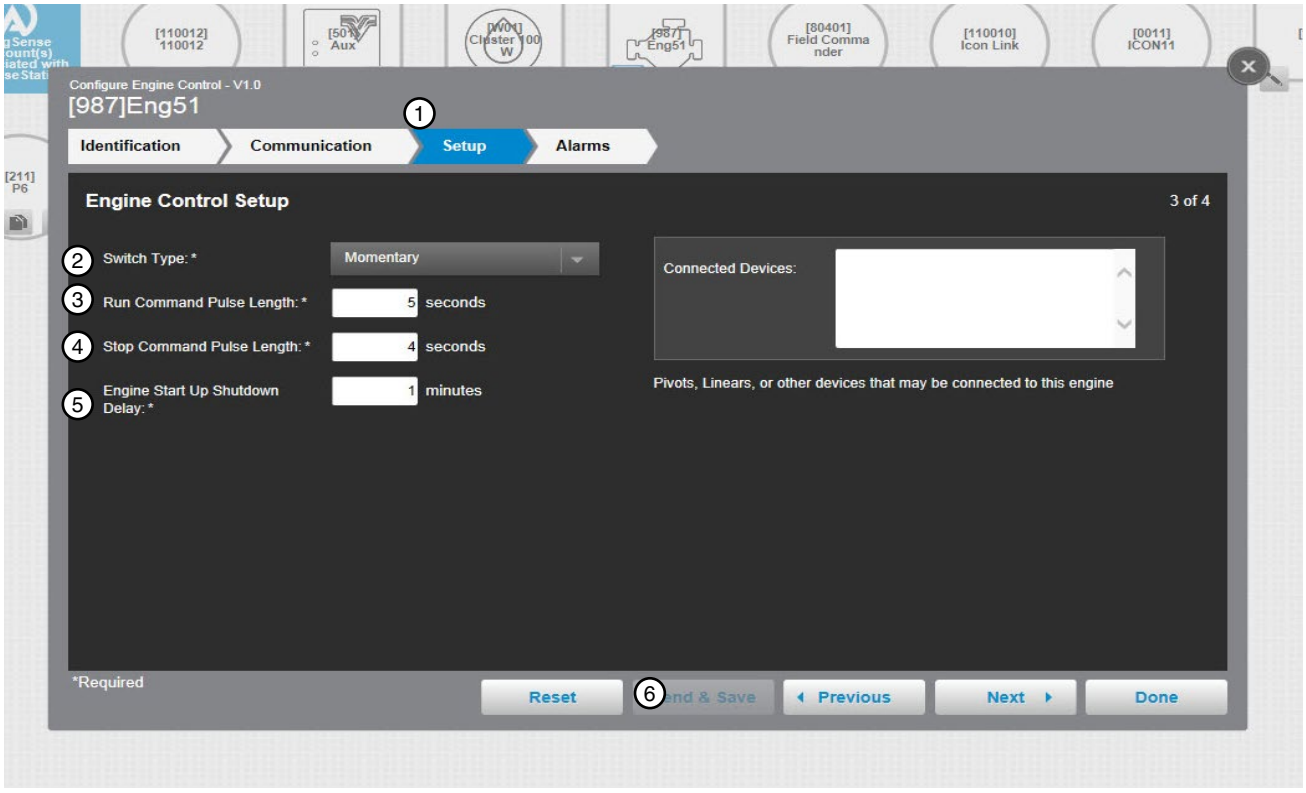


Figure 202-1
1. Select Switch Type
2. Run Command Pulse Length
3. Stop Command Pulse Length
4. Engine Start Up Shutdown Delay
5. Connect Devices

Engine Control Configuration

Alarms

Configure the alarms. See Figure 203-1.

Enter descriptions in the label fields for the **User Defined LEDs** that appear on the Murphy Genset Controller Unit. Choose **Alarm Settings** to determine how BaseStation displays an alarm for No Response, Fault Alarms and Warning Alarms. When done click **Save**.

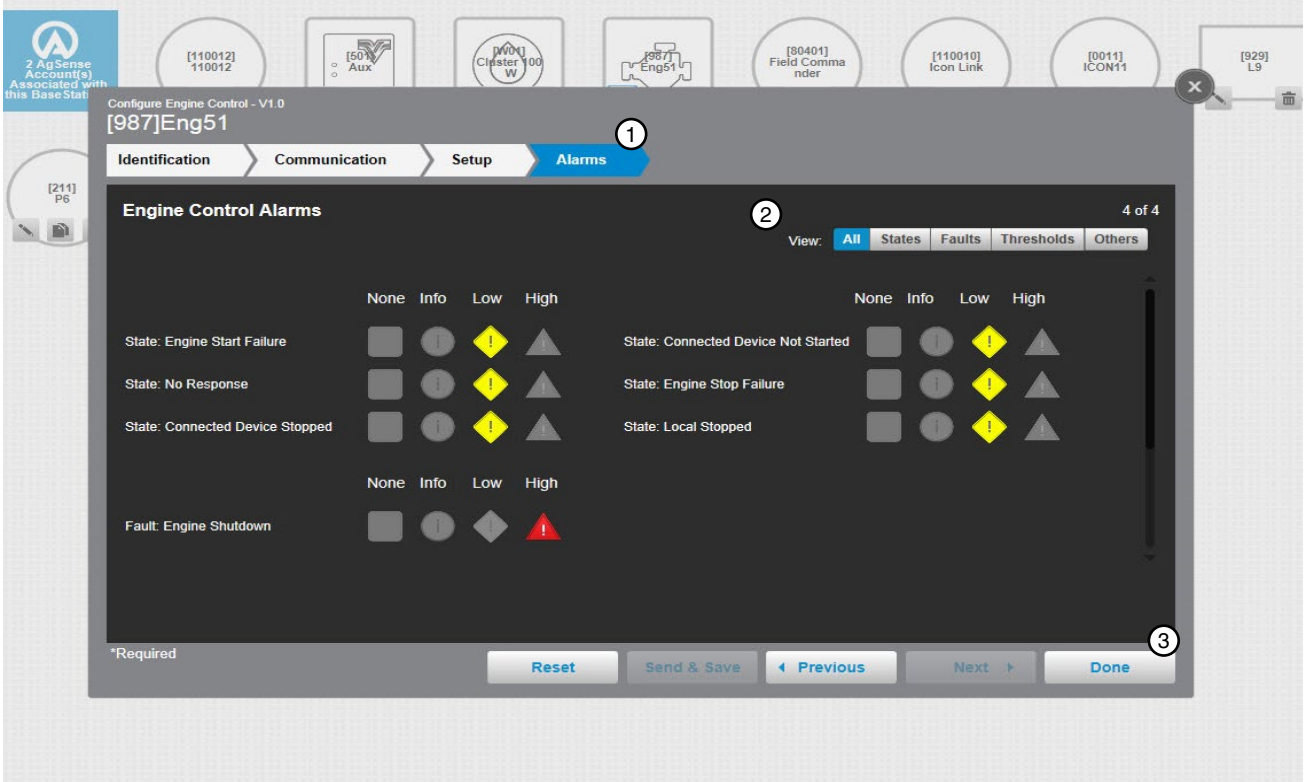


Figure 203-1
1. Alarms
2. User Defined LED Fields

Additional alarm indication LEDs:

- Flashing: active, non-acknowledged alarm(s) where output A or B is configured to LED 1, 2, 3 or 4.
- Steady: active, acknowledged alarm(s) where output A or B is configured to LED 1, 2, 3 or 4.

Device Management

Web Camera Configuration

To use a web camera as a standalone device on a farm or to associate the web camera with a device on a farm, The web camera must be set up with a modem and web address (Uniform Resource Locator (URL)) that is on the same network as the BaseStation. IP communications must be set up in BaseStation Settings.

Add a Standalone Web Camera Device

To configure a Standalone Web Camera do the following. See Figure 204-1.

With the View Type set to Device Management, click **Add Device** and select **Web Camera Standalone**. Enter the **Web Camera Name** and select the **Farm**. Enter optional details about the camera in the description field, Enter the web camera location **Latitude** and **Longitude**, Enter the **Web Camera URL** and click **Test** to check the web address and camera operation. When done click **Save**. See Figure 204-1.

Web Camera Name (required): Enter the device name. No special characters are allowed and field is limited to 20 characters.

Farm (required): If more than one farm is available select the farm from the drop down list.

Description: Add details about the camera.

Latitude and Longitude: The GPS position of the device. The latitude and longitude are initially populated with the coordinates of the farm in which it is created.

In Google Map, to change the position of the device on the map, enter the known coordinates of the device or go to **Device Management Map View**, select the device and move it to the desired position. Click **Save**, click **Change**, and click **Save as Configuration** (see Saving Device GPS Position in Google Map, earlier in the Device Management section).

In My Map the latitude and longitude are information only and do not change the position of the device on the map.

Web Camera URL (required): Enter a web address for the web camera that begins with http:// or https://. The web address must be on the same network as the BaseStation.

Test Button: Click Test to test the web address and camera operation. The test button opens a browser window displaying a view from the web camera.

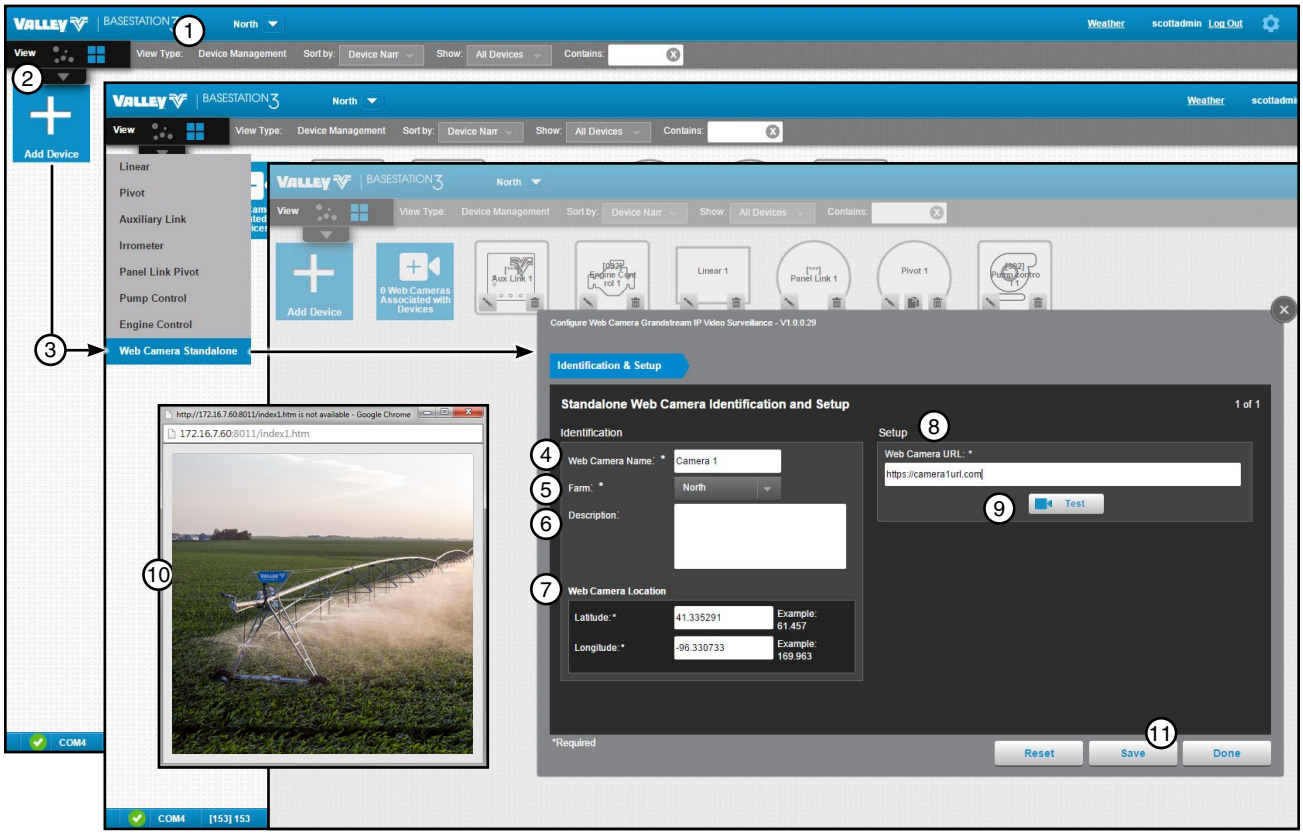


Figure 204-1
1. Device Management View Type
2. Add Device
3. Web Camera Standalone
4. Web Camera Name
5. Farm
6. Description
7. Latitude and Longitude
8. Web Camera URL
9. Test Button
10. Browser Window
11. Save Button

Web Camera Configuration

Change or Delete a Standalone Web Camera Device

To change the configuration of a web camera do the following. With the View Type set to **Device Management**, click **Change** to open the configuration screen. All of the values on the configuration screen can be changed. When done click **Save**. See Figure 205-1.

To Delete the web camera device from the farm do the following. With the View Type set to **Device Management**, click **Delete**, then click **Delete** again to permanently delete the camera device from the farm. See Figure 205-1.

This only deletes the stand alone web camera device from the farm, it does not delete an association between a web camera and a device.

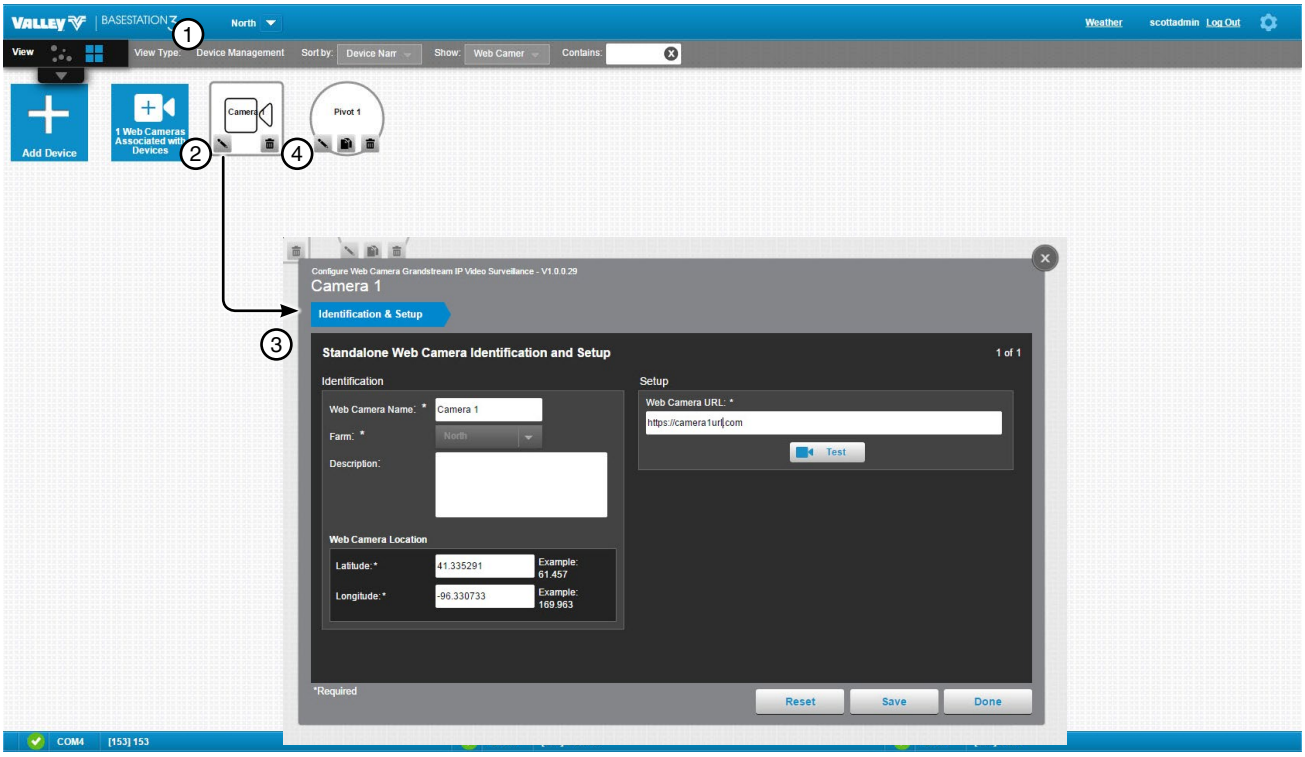


Figure 205-1
1. Device Management View Type
2. Change Button
3. Configuration Screen
4. Delete Button

Device Management

Web Camera Configuration

Associate Web Camera with a Device

A web camera can be associated with a device on a farm. The web camera does not need to be set up as a standalone camera. Only an all farms administrator can associate a web camera with a device on any farm.

To associate a web camera with a device do the following. See Figure 206-1.

In **Tile View**, with the View Type set to **Device Management** or **Map View** in any View Type, click **Web Cameras Associated with Devices**. On the configuration screen, click **Add New**, then click **Choose** and select the farm where the device is located. Select the device from the device list or use the **Contains** field to search for the device by RTU ID or device name, then select the device. Enter a description in the **Description** field if desired. Enter the **Web Camera URL** web address, beginning with http:// or https://. Click **Test** to check the web address and camera operation. When done click **Save**.

After an association is configured between a web camera and a device, the device will be shown (in no particular order) with the web cameras, when Show: Web Cameras is selected.

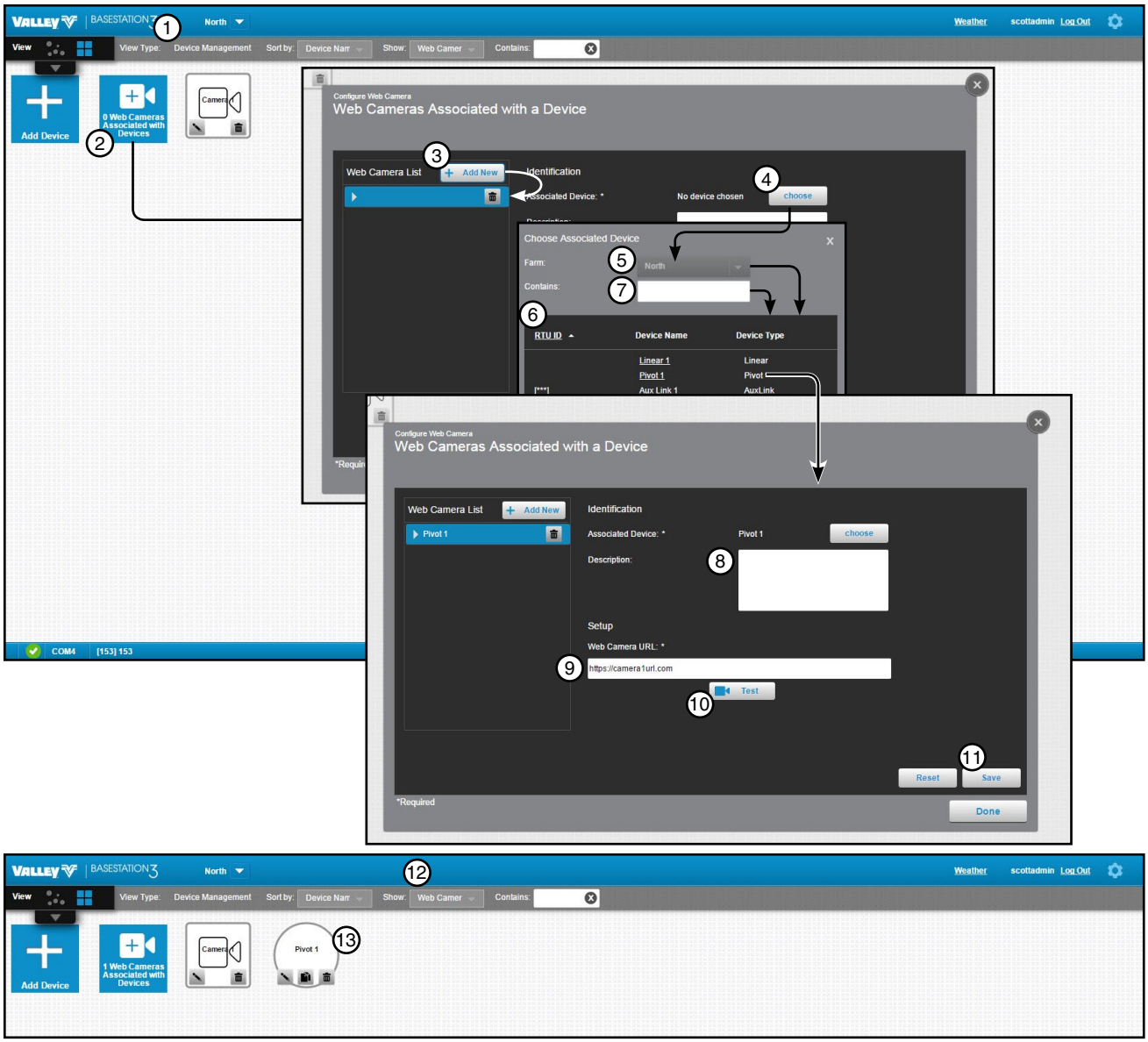


Figure 206-1 Tile View Shown

1. Device Management View Type
2. Web Cameras Associated with Devices Button
3. Add New Button
4. Choose Button
5. Farm List
6. Device List
7. Contains Field (Search Device List)
8. Description
9. Web Camera URL
10. Test Button
11. Save Button
12. Show: Web Cameras
13. Associated Device

Web Camera Configuration

Change the Association of a Web Camera with a Device

To change the association of a web camera with a device do the following. In **Tile View**, with the View Type set to **Device Management** or **Map View** in any View Type, click **Web Cameras Associated with Devices** to open the configuration screen. Select the web camera to device association. All of the values on the configuration screen can be changed. When done click **Save**. See Figure 207-1.

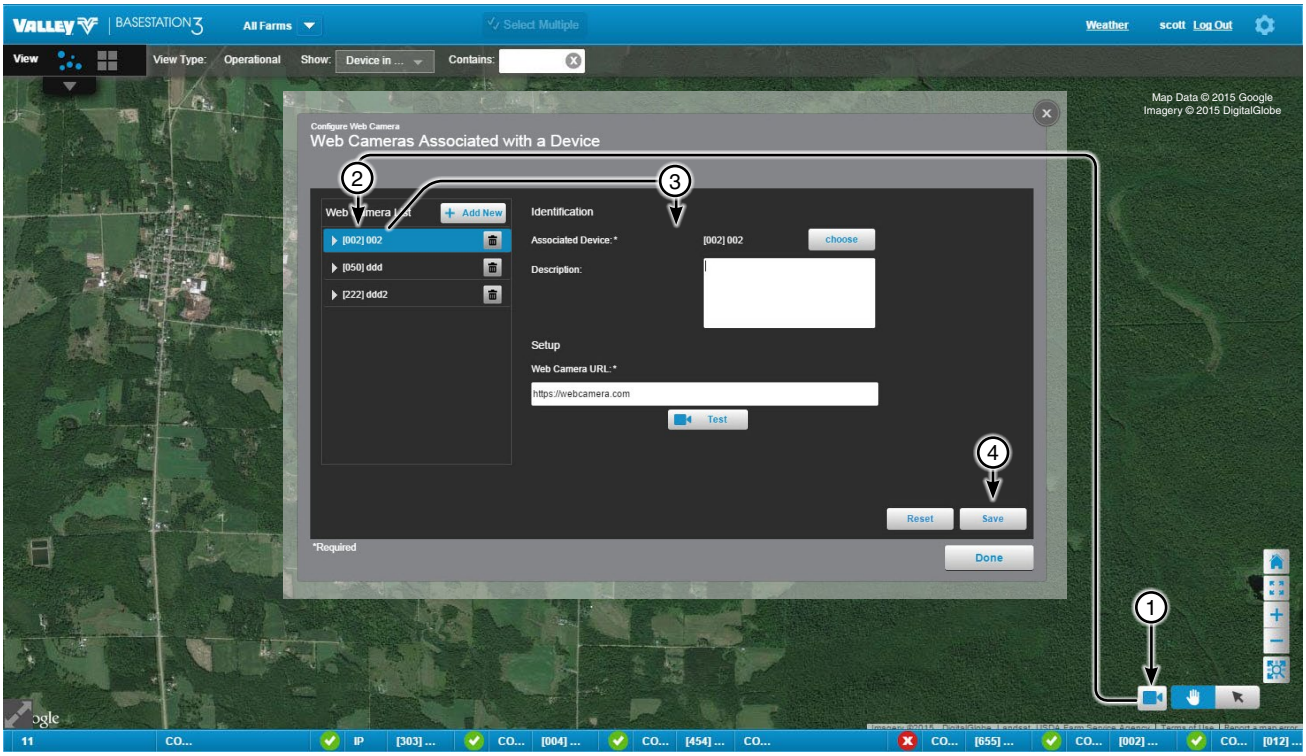


Figure 207-1 Map View Shown

1. Click Web Cameras Associated with Devices
2. Select the Web Camera to Device Association
3. Make Changes as Required
4. Click Save

Device Management

Web Camera Configuration

Delete the Association of a Web Camera with a Device

To Delete the web camera do the following. In **Tile View**, with the View Type set to **Device Management** or **Map View** in any View Type, click **Web Cameras Associated with Devices** to open the configuration screen. Click **Delete** on the web camera and device association, then click **Delete** again to permanently delete the association between the web camera and the device. See Figure 208-1.

This only deletes the association between the web camera and a device, it does not delete a stand alone web camera device or the associated device from the farm.

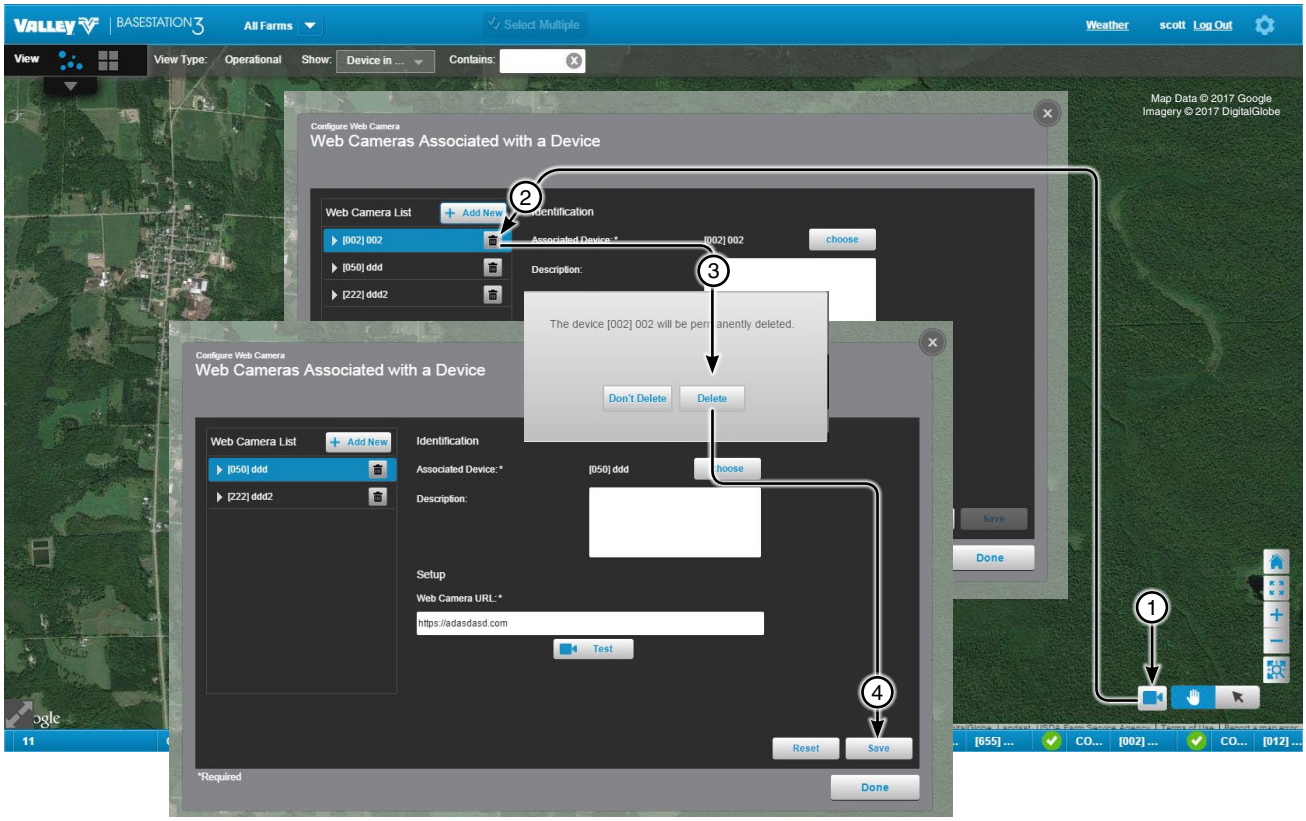


Figure 208-1 Map View Shown

1. Click Web Cameras Associated with Devices
2. Click Delete
3. Click Delete Again
4. Click Save

Common Functions

Common functions are used across all device panel views and between the different tabs.

RTU ID and Device Name: The RTU ID and Device Name are shown on the header.

Polling On/Off Button: When polling is On, the On button text is highlighted in blue. When polling is Off, the Off button text is highlighted in blue. Opening a device panel view automatically suspends polling, providing exclusive use of the BaseStation communications to the selected device.

Get Status Button (Appears on all tabs): Click **Get Status** to send a request for an update on the current status of the device.

Time and Date (Appears on all tabs): The BaseStation computer date and time of the most recent status update is show below the Get Status button. Periodically verify the device Date and Time to coordinate the BaseStation time with the device. This is important when writing Stored programs based on Date/Time and for reviewing the device history screens. When the Get Status button is clicked, the BaseStation sends the computer's date and time to the device. The BaseStation computer time and date is NOT sent to the module during the Polling activity.

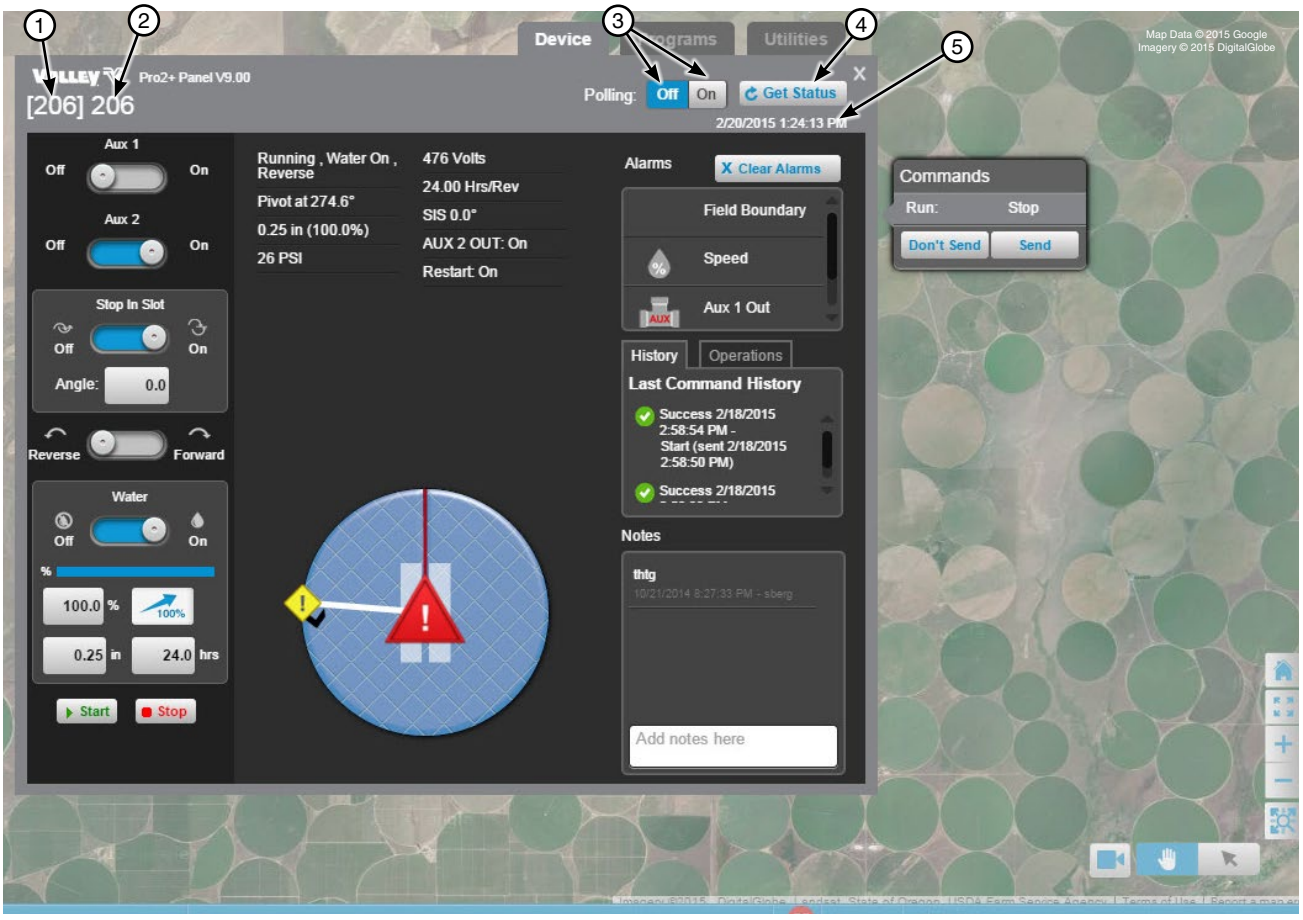


Figure 209-1
1. RTU ID
2. Device Name
3. Polling On/Off
4. Get Status Button
5. Time and Date

Monitor and Control

Common Functions (continued)

Device Status (Appears on all screens): A graphic of the device illustrating the status along with the written last reported status of the device. The BaseStation date and time of the last status update is shown on the header.

Commands List Dialog (Appears on all tabs): Any changes made to the operation of the device from the device panel view will show on the Commands List Dialog until the change is sent or canceled.

Device Controls: Slide switches On or Off, click buttons or enter values in text field to change the operation of the device. The Commands List Dialog is automatically populated with the change. When done making changes click **Send**. The command(s) are sent to the device. Refer to the appropriate Owners Manual for a complete description of the module features. There are different pivot monitor and control screens based on available features of the control panel.

Clear Alarms Button: Sets the expected status to be the same as the current status and clears the alarm graphics from the affected device.

Alarms: Displays the current alarm conditions with graphic and text. To clear the alarms click **Clear Alarms**.

History: Displays command history from the last two communications with the device.

Operations: Displays the Run-time feature information (Destination ETA and Irrigation Cycle information).

Notes: An area to enter and view all notes for this device. When the maximum number of 10 notes exist in the notes display, any new note is added to the top of the list and the oldest note is discarded. Notes cannot be edited.

Control Panel ID: The control panel type and software version.

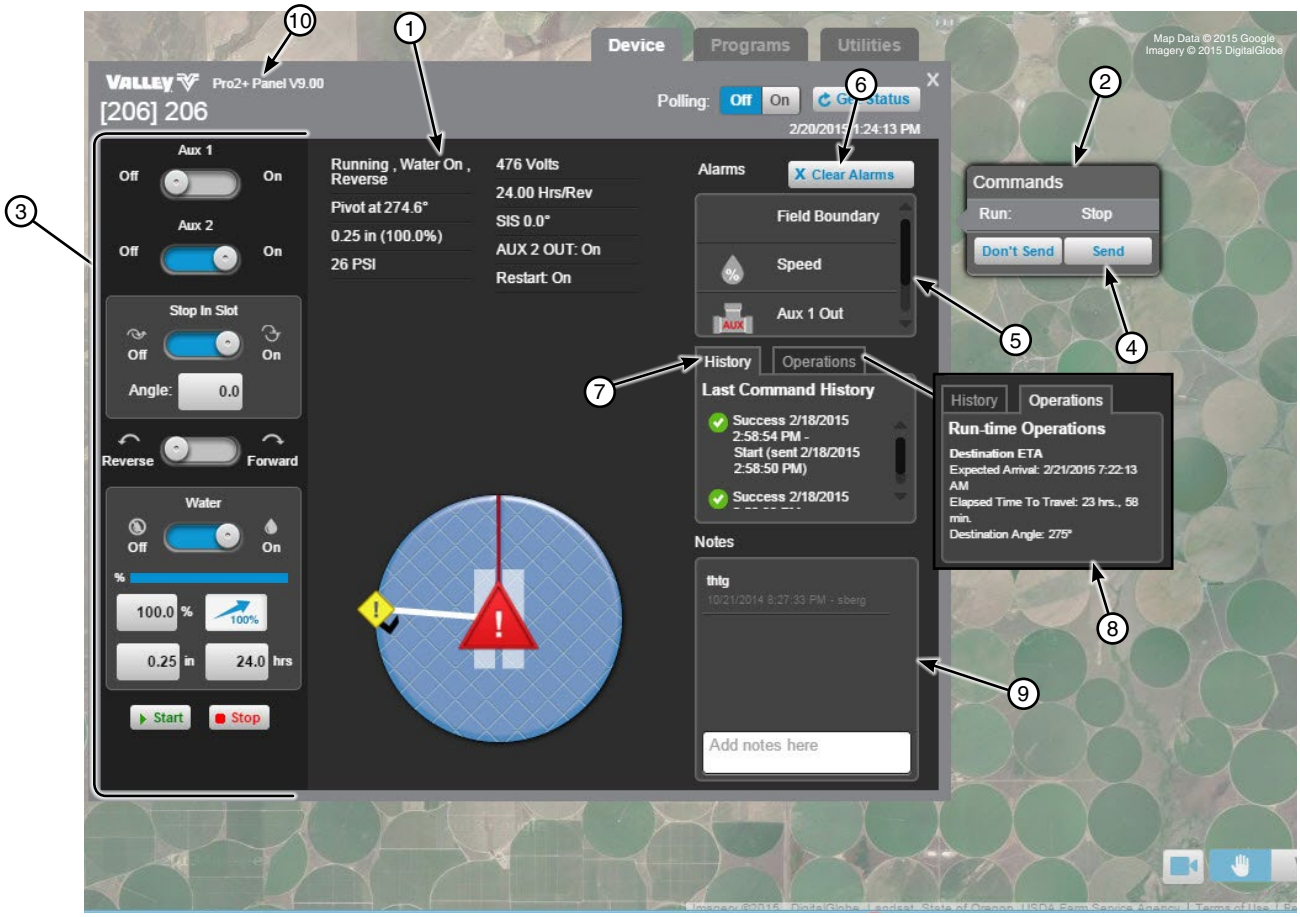


Figure 210-1
1. Device Status
2. Commands List Dialog
3. Device Controls
4. Send Button
5. Alarms
6. Clear Alarms Button
7. History
8. Run Time Operations
9. Notes
10. Control Panel ID

Common Functions (continued)

Programs and Utilities Screens

The Programs and Utilities screens display device status and all the programs and utilities in the BaseStation and in the control panel that can be enabled or disabled for the device from the BaseStation.

Basic Status: To display only the last reported basic machine status, click **Basic**. Basic status is displayed in the lower half of the status area.

Program Status: To display the last reported basic and program specific status click **Star**, then click the **star** next to the program label. Program specific status is displayed near the top of the status area.

None/Description: Use to toggle the descriptions On or Off.

Figure 211-1 Pivot Screen shown

1. Programs
2. Pivot Status Basic
3. Basic Status
4. Status Program Specific
5. Program Selected
6. Program Status
7. None
8. No Description
9. Description
10. Program Description

Monitor and Control

Commanding Devices

Devices are commanded from the Operational view type in either Map View or Tile View.

Device Panel View

Select a device, to open it's Device Panel View. See Figure 212-1.

The control and monitor functions available vary depending on the type of control panel at the device. There are some functions that are disabled or not available based on hardware configurations that must be mechanically changed at the device control panel, features that have not been added or are restricted because of safety considerations.

After a device panel view is opened it will remain open until the user closes it.

Any changes made to the operation of the device will show on the Commands List Dialog until the change is Sent or canceled by clicking Don't Send.

Alarm conditions for the selected device are shown in the Alarm Information box. The various alarms indicate status conditions that are different from what the BaseStation has commanded or is expecting.

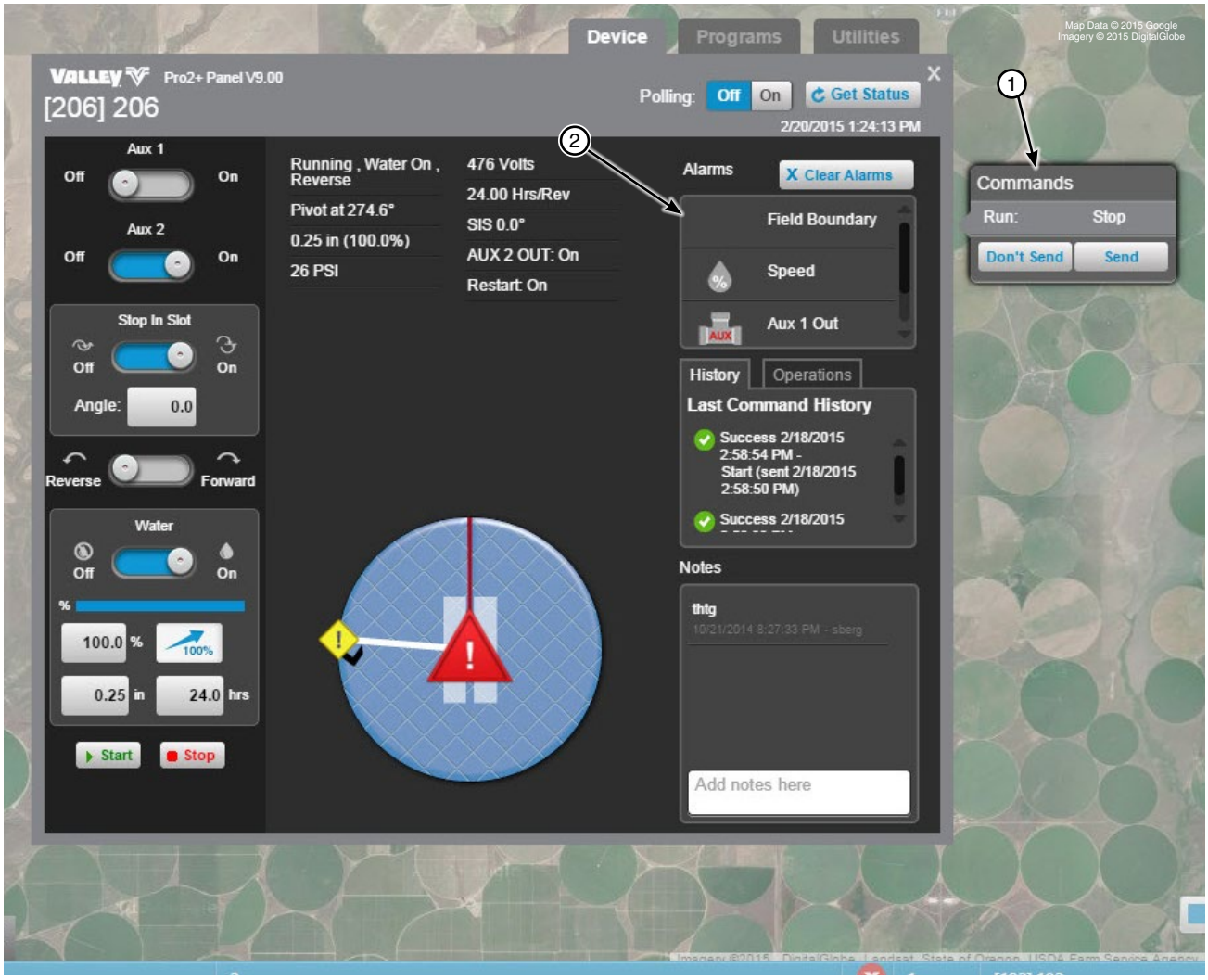


Figure 212-1 Device Panel View (Pivot Device Shown)

1. Commands List Dialog
2. Alarm Information

Commanding Devices

Select Multiple - Commanding Multiple Devices

Use Select Multiple while in the Operational view type to command multiple devices at the same time. The available commands are determined by the devices that are selected and the equipment installed at the device. Only devices that have communicated with the BaseStation can be selected. Select Multiple is not available in the Soil Moisture or VRI view types.

To use Select Multiple while in the Operational view type, refer to Figure 213-1 and do the following.

1. Select a farm from the Farm List. An individual farm must be selected from the Farm List. Select Multiple is not available when All Farms is selected.
2. Click **Select Multiple**.
3. Select individual devices or click Select All. Click Select None to deselect all devices.
4. Click **Commands**.
5. Check the box associated with the command that you want to send, make adjustments to the parameters of the command if allowed. In some cases a command or configuration will be sent to a device where that command or configuration does not exist. When this happens, the command or configuration is ignored.
6. Select **Send Server Date & Time** to set the panel date/time to match the server date and time.
7. When done click **Send**.

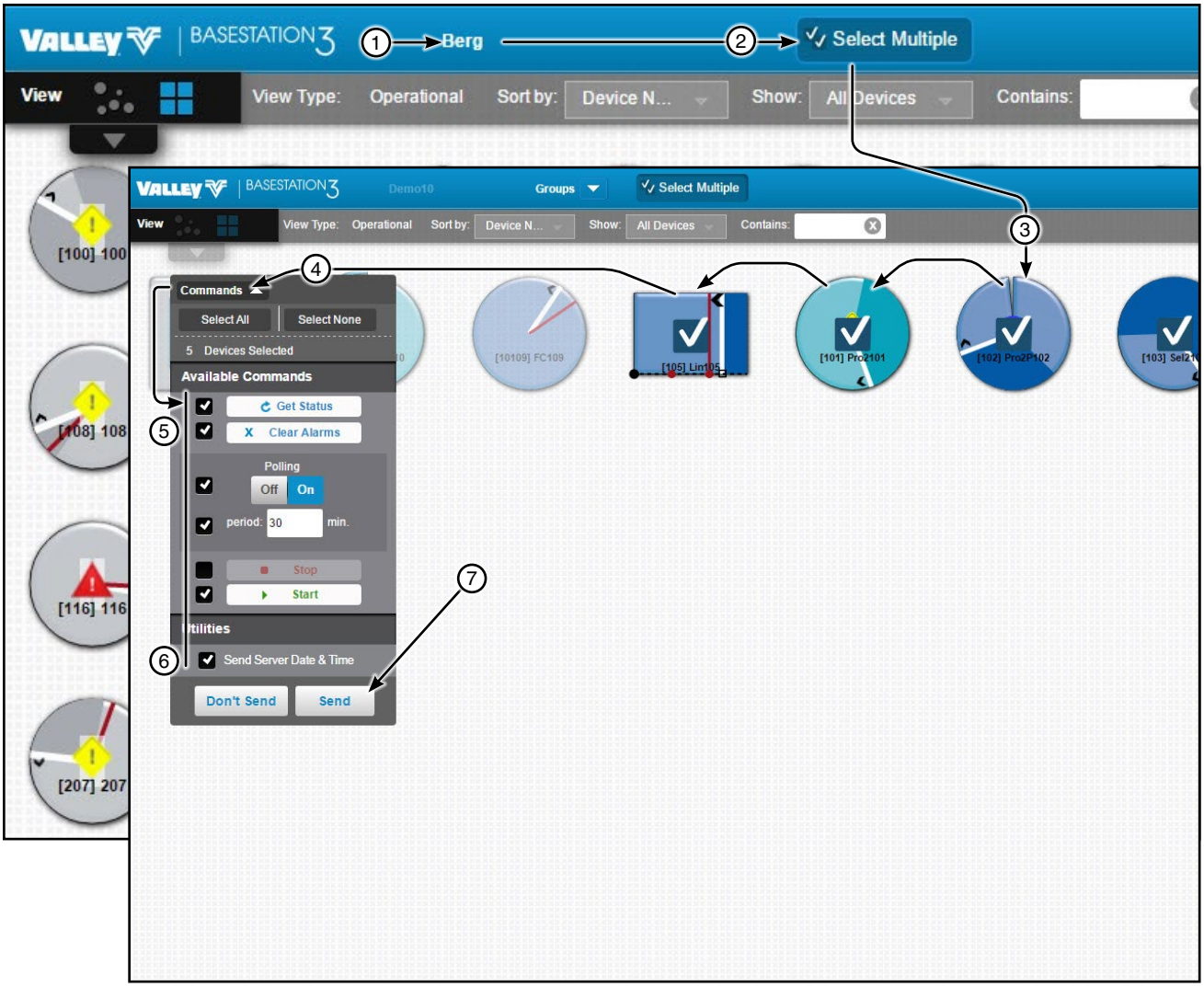


Figure 213-1
1. Select a Farm
2. Click Select Multiple
3. Select Devices
4. Click Commands
5. Select Commands
6. Select Send Server Data & Time
7. Click Send

Monitor and Control

Linear

Device Screen Controls

Refer to the appropriate Owners Manual for a complete description of the module features. There are different monitor and control screens based on available features of the control panel. The AutoPilot control panel view is shown throughout this section. The following controls are available on the Device. After making a change click **Send** to send the command or click **Don't Send** to cancel.

Aux 1 and Aux 2 (Hardware required): Select On or Off to populate the Commands List Dialog.

Stop In Slot: Turn control On or Off to populate the Commands List Dialog. Enter a direction and position for Stop In Slot, then click **Save** to populate the Commands List Dialog with the new direction and position.

Direction Reverse/Forward: Selecting a direction populates the Commands List Dialog.

Water Dry/Wet: Click **Dry** (Water Off) or **Wet** (Water On) to populate the Commands List Dialog.

Percent Timer:

- Select the percent field, enter a new value, then click **Save** to populate the Commands List Dialog.
- Click **100 Percent** to change the value to 100% and populate the Commands List Dialog.

Depth:

- Select the depth field, enter a new value, then click **Save** to populate the Commands List Dialog.
- Select the hours field, enter a new value, click **Save** to populate the Commands List Dialog.

Start/Stop: Click **Start** or **Stop** to populate the Commands List Dialog.

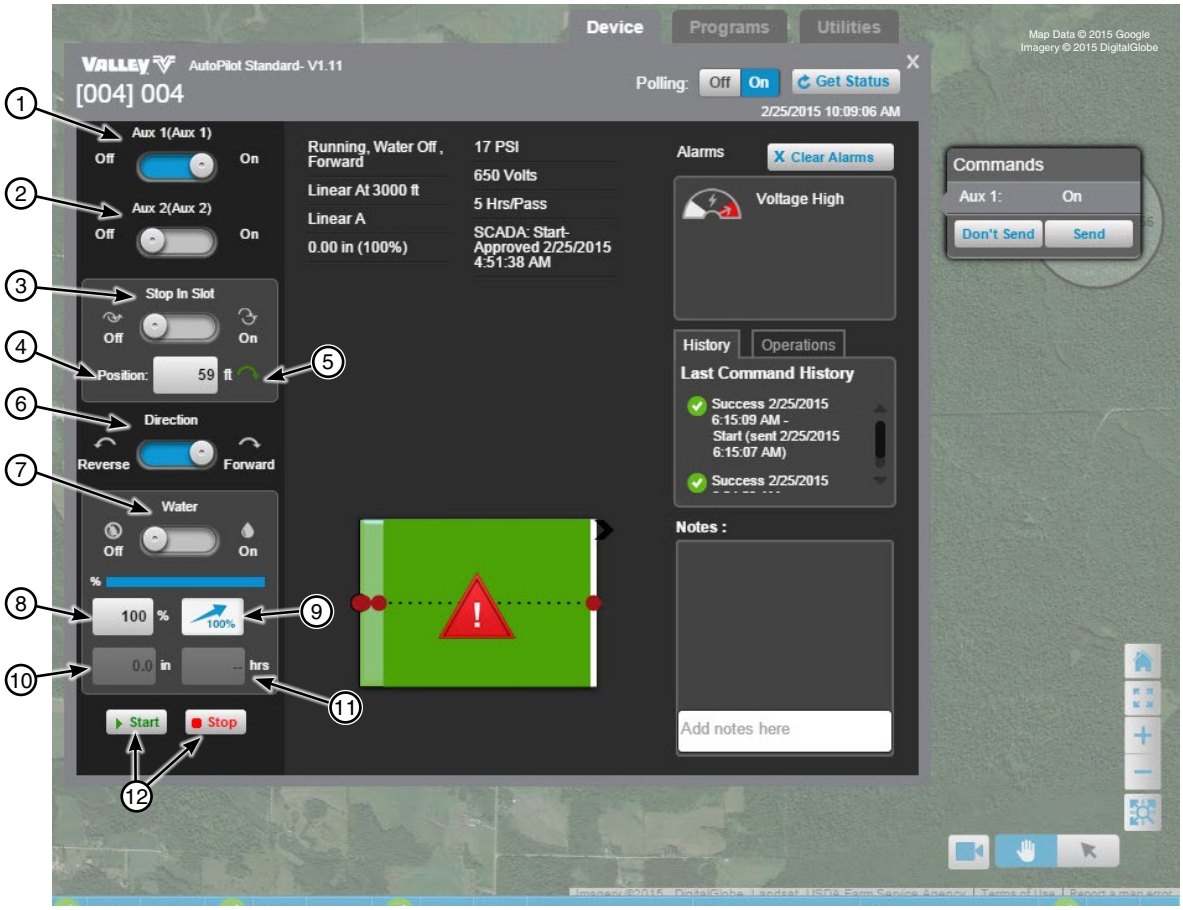


Figure 214-1

1. Aux 1
2. Aux 2
3. Stop In Slot
4. Position Field
5. Stop In Slot Direction
6. Direction
7. Water
8. Percent Field
9. 100% Button
10. Depth Field
11. Hours Field
12. Start and Stop Buttons

Linear
Programs Screen
Destination ETA

Destination ETA is the running duration calculation of the current run to a marked destination.

To use, click **Destination ETA**, click the **Calculate ETA** switch to **Enable**. Choose the destination and click **Save**. The Current Calculated ETA will be displayed here in Current Calculated ETA and also on the Device screen in Run Time Operations.

Destination ETA cannot be Enabled when VRI is running, when the Percent Timer is set to zero (0) or when the machine is stopped. If VRI is switched On, Destination ETA is automatically disabled.

To disable click **Destination ETA**, click the **Calculate ETA** switch to **Disable** and then click **Save**.

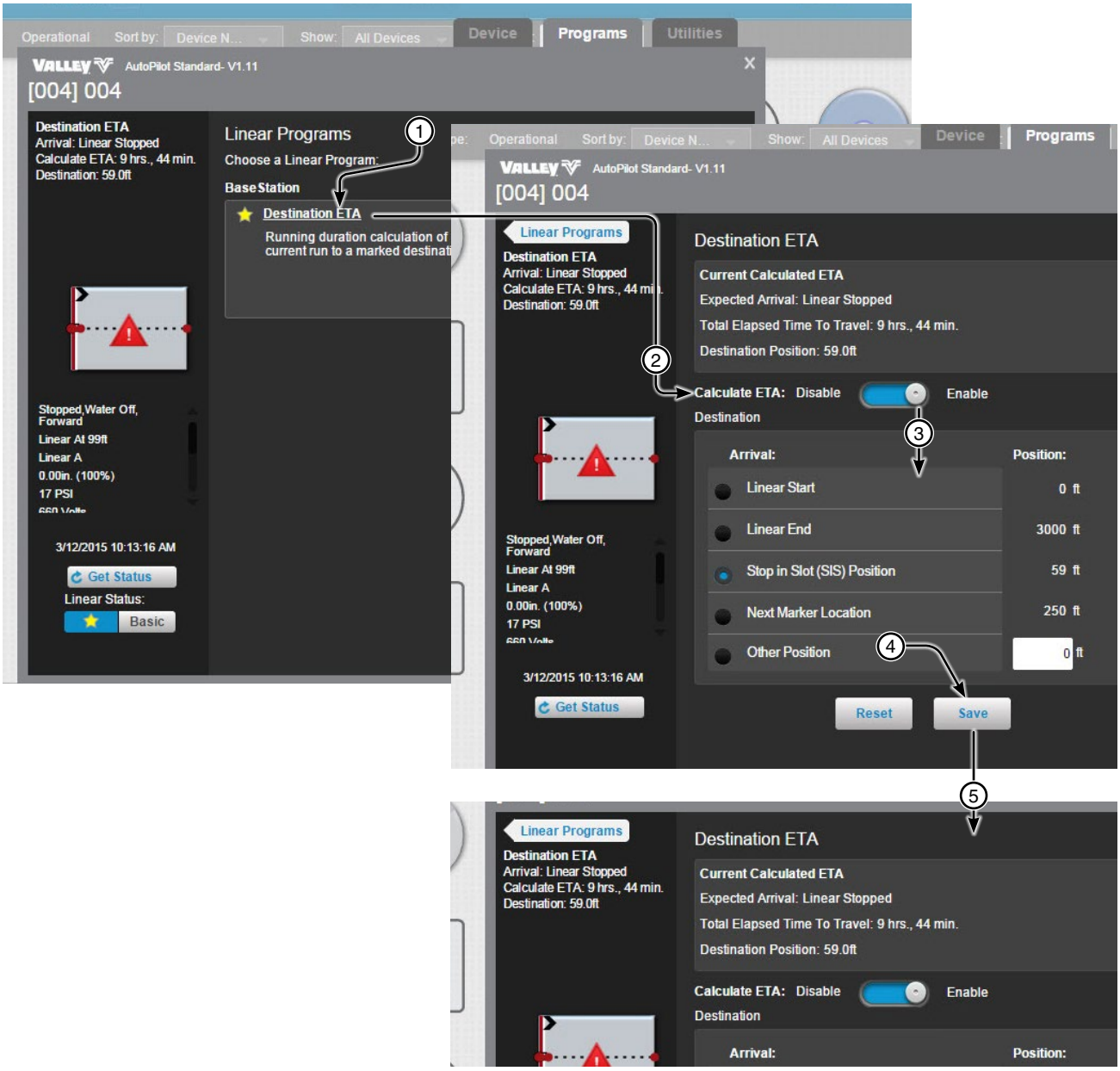


Figure 215-1
1. Click Destination ETA
2. Click Switch to Enable
3. Choose the Destination Position
4. Click Save
5. Current Calculated ETA Displayed

Monitor and Control

Linear

Programs Screen

VRI Prescriptions

VRI Prescriptions are tools that tell center pivots when and where to adjust the application depth for specific sections or management zones in fields.

To use, click **VRI Prescriptions**, enter the Zone Prescription by selecting the prescription file using the **Browse** button. Click the **VRI** switch to **On**. Add any notes or change the name of the Zone Prescription if necessary. Click **Get VRI** to get the VRI Prescription report. To send the report, click the **Send** button.

To configure zones, click **Configure Zones** to link to Irrigation Exchange.

To disable click **VRI Prescriptions**, click the **VRI** switch to **Off**.

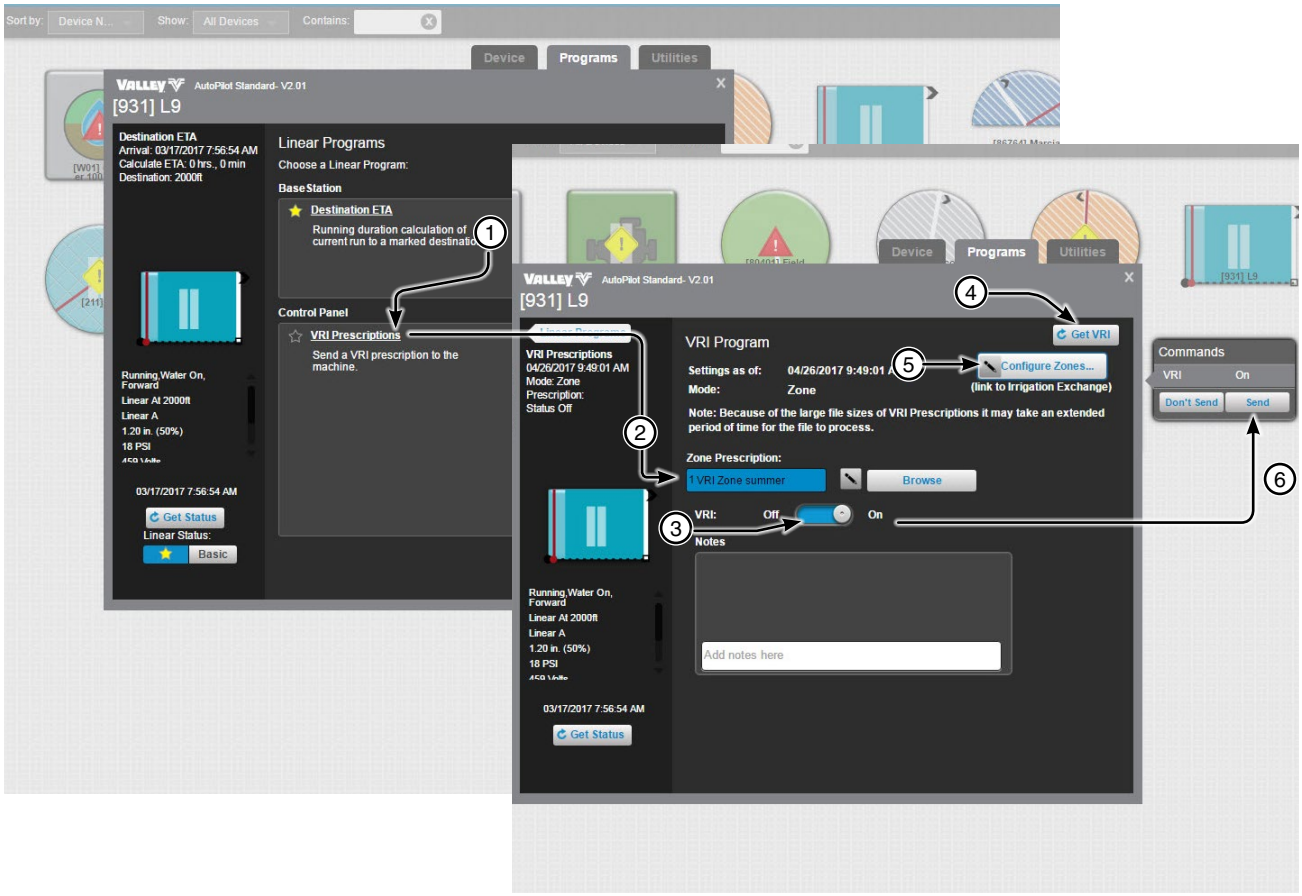


Figure 216-1
1. Click VRI Prescriptions
2. Click Browse to select prescription file
3. Turn VRI on
4. Click Get VRI
5. Click Configure Zones to link to Irrigation Exchange
6. Send Button

Linear

Utilities Screen

Auto Restart

Use Auto Restart to Enable/Disable the option at the device.

Click **Get Settings** to synchronize the BaseStation with the device settings.

To enable Auto Restart click **Auto Restart**. Click **Auto Restart** switch to enable. On the Commands List Dialog click **Send**. Click **Get Status** to update the Device Status.

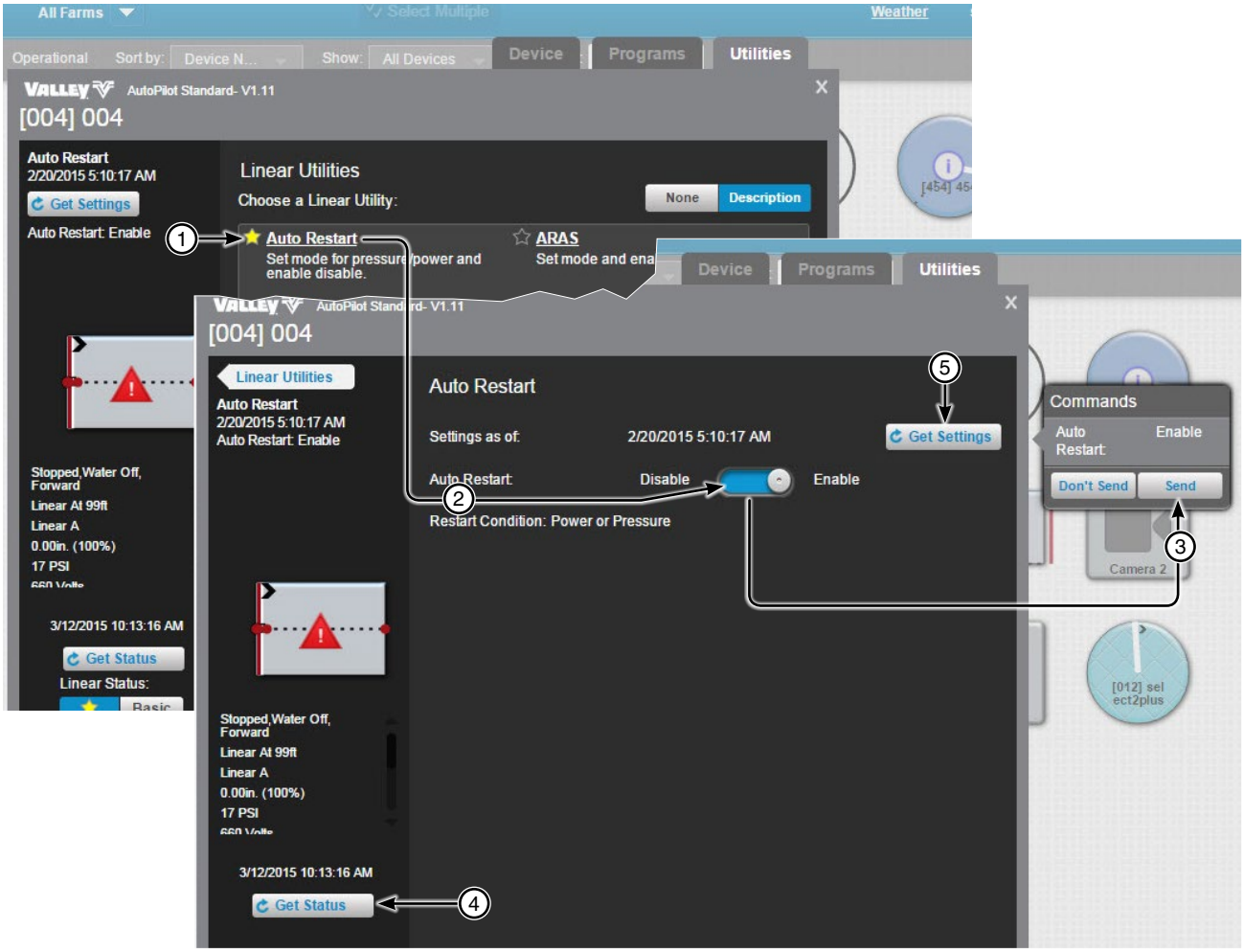


Figure 217-1
1. Click Auto Restart
2. Drag or Click Switch to Enable
3. Click Send
4. Click Get Status
5. Get Settings Button

Monitor and Control

Linear

Utilities Screen

ARAS (Auto Reverse Auto Stop)

Use ARAS to set the Mode, Polling Status and Enable/Disable the option at the device.

Click **Get Settings** to synchronize the BaseStation with the device settings.

To enable and setup ARAS click **ARAS**. Click **ARAS** switch to enable. Select the Mode and set the Polling Status. On the Commands List Dialog click **Send** button. Click **Get Status** to update the Device Status.

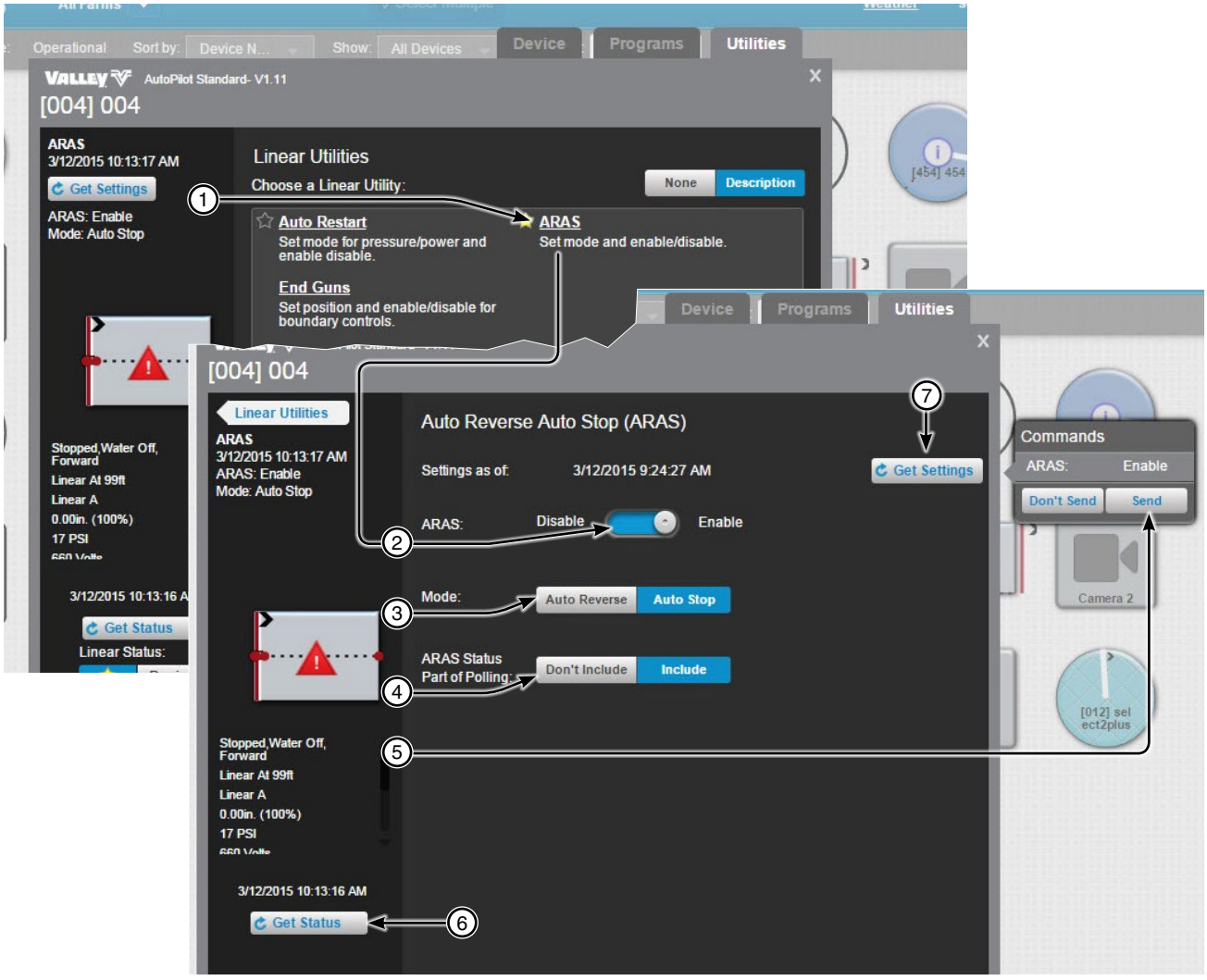


Figure 218-1
1. Click ARAS
2. Drag or Click Switch to Enable
3. Select the Mode
4. Set the Polling Status
5. Click Send
6. Click Get Status
7. Get Settings Button

Linear

Utilities Screen

End Guns

Set end gun positions in BaseStation, save them and send them to the device or update BaseStation with positions from the device.

End guns must be enabled in the control panel. However, end guns can be turned Off from BaseStation by setting all end gun positions to (0) and sending them to the device. Since the end gun positions are (0), the end gun will not turn On.

Get Positions: Click Get Positions to update the BaseStation with end gun positions from the device.

End Guns: Select the End Gun to change.

Display: Choose the end of the machine where the end guns will be displayed. Either Left end or Right end.

End Gun Start and End Position Fields: The fields where the start and end positions are entered.

Preview: Click to preview the end gun On sequences for the selected end gun. The end gun On sequences are highlighted in blue.

Reset: Click Reset to reset all settings back to the last saved state or the default if its never been saved.

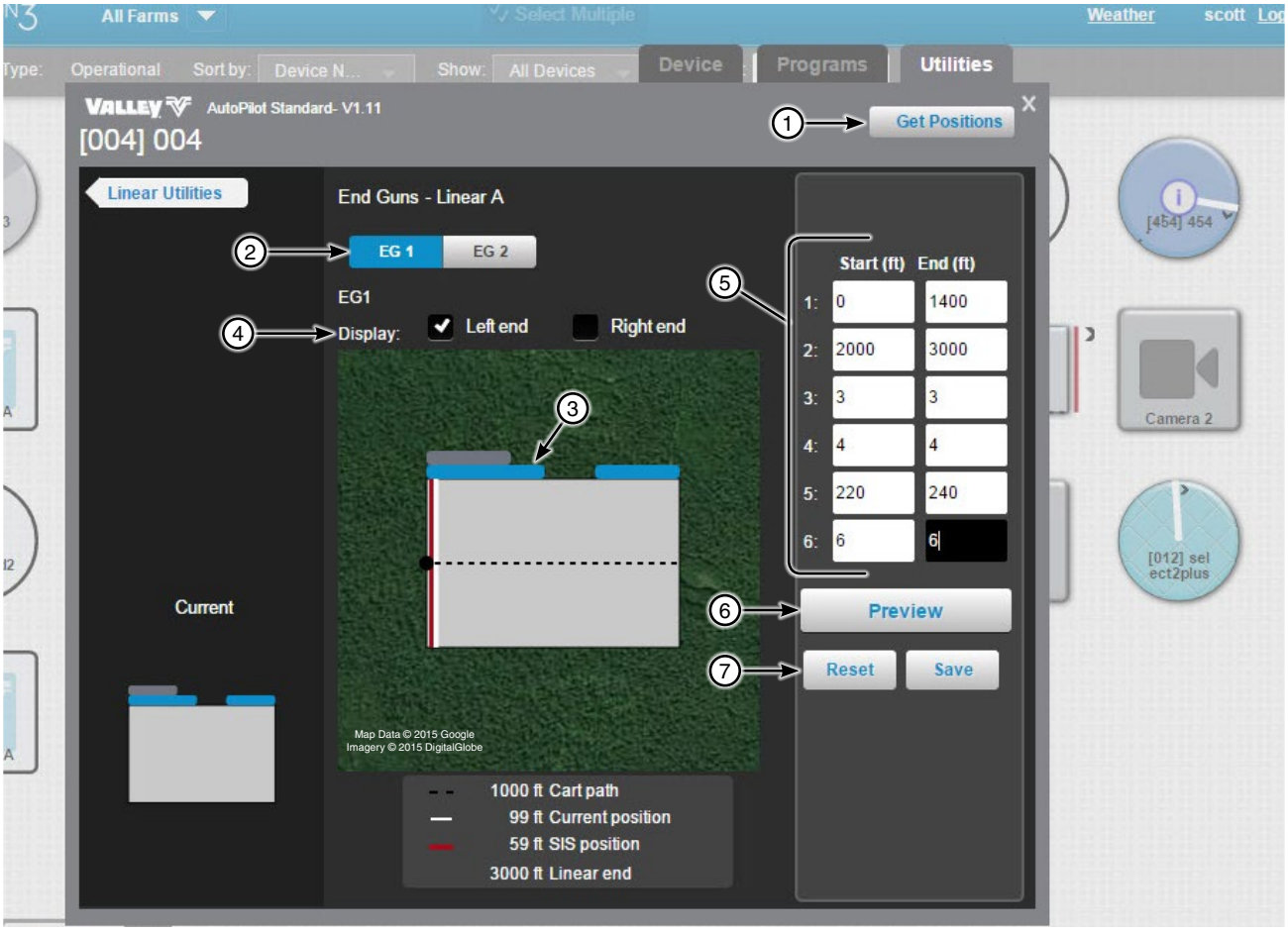


Figure 219-1
1. Get Positions
2. End Gun Selection
3. End Gun On Position
4. Display
5. End Gun Start and End Position Fields
6. Preview
7. Reset Button

Monitor and Control

Linear

Utilities Screen

End Guns

Set End Gun Positions

To set end gun positions click **End Guns**. Select the End Gun to change. Choose the end of the machine where the end guns will be displayed. Determine which sequence number 1 through 6 to change and enter the **Start** position in feet. Enter the **End** position in feet. Enter start and end positions in other sequences as required. Click **Preview** to update the linear graphic with end gun sequences. The end gun On sequences are highlighted in blue for the selected end gun. When done click **Save**. On the Commands List Dialog click **Send**.

Figure 220-1

1. Click End Gun
2. Select the End Gun
3. Choose the End of
4. Determine Which Sequence Number to Change
5. Enter the Start Position
6. Enter the End Position
7. Enter Positions in Other Sequences as Required
8. Click Preview
9. Click Save
10. Click Send

Linear

Utilities Screen

Status Change Report

The Status Change Report displays the event history of the linear and can be viewed by a range of dates/times.

To Run Status Change Report: To run the Status Change Report from the control panel, refer to Figure 221-1 and do the following.

1. Click **Status Change Report**.
2. Select the **Start Date and Time** and the **End Date and Time**.
3. Select the **Change Criteria**.
4. Click **Run Report** to receive the Status Change Report.

Figure 221-1
1. Click Status Change Report
2. Select Date Range
3. Select Change Criteria
4. Click Run Report

Monitor and Control

Linear

Utilities Screen

Setup

Panel Constants

Use Panel Constants to Get or Set the minimum application, stop in slot position, pressure delay, low pressure limit, low voltage limit, system voltage, set position, and wind speed shutdown control panel constants. The Minimum Hours setting at the control panel is also displayed. See Figure 222-1.

Get Constants: To Get constants from the control panel, refer to Figure 222-1 and do the following.

1. Click **Panel Constants**.
2. Click the **Get** button associated with the available constants, and the command list dialog is populated with the command “Get”.
3. Click **Send** on the commands list dialog to obtain the setting from the control panel.

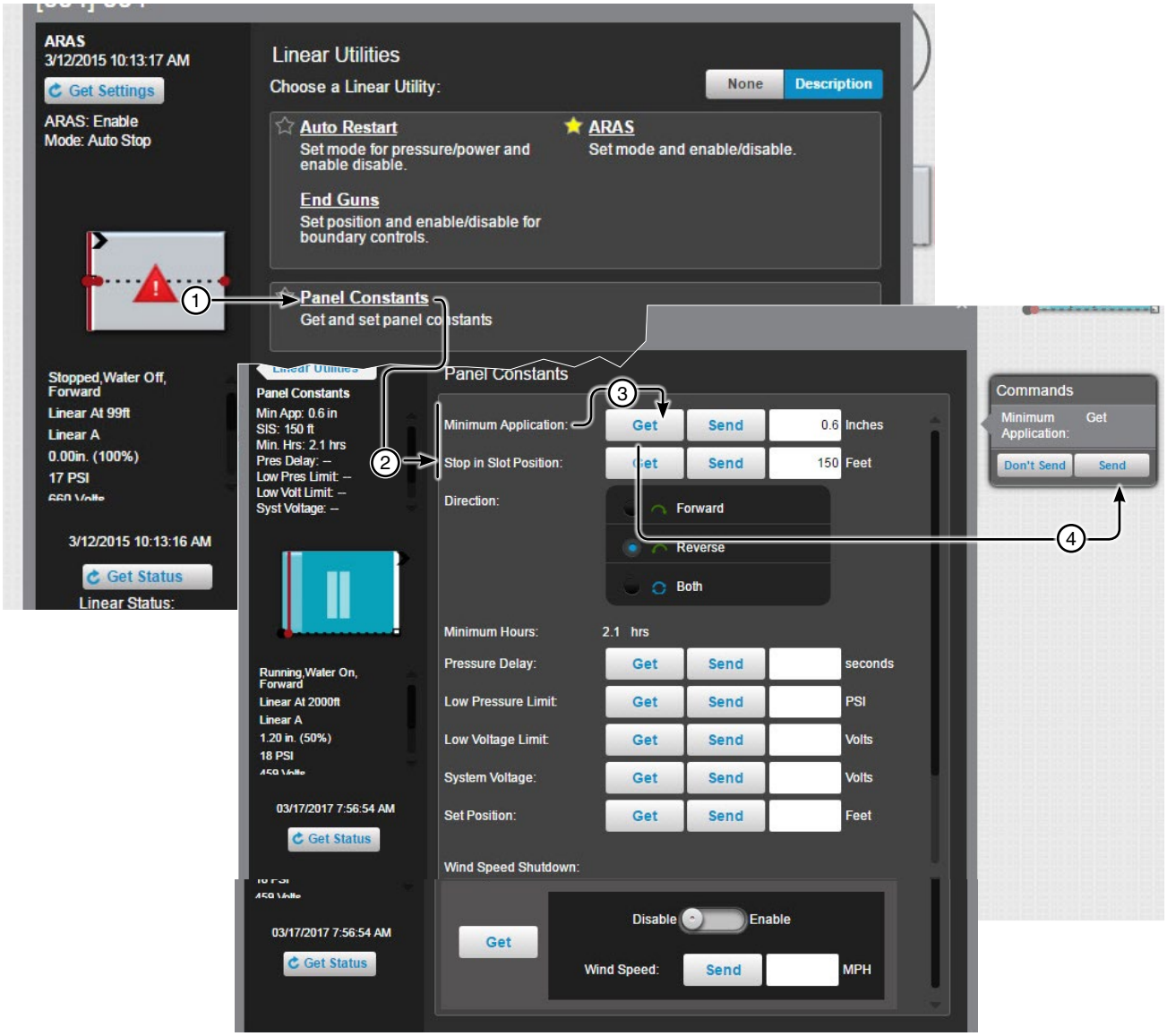


Figure 222-1
1. Click Panel Constants
2. Available Constants
3. Click Get
4. Click Send

Linear
Utilities Screen
Setup
Panel Constants (continued)

Send Constants: To Send constants to the control panel, refer to Figure 223-1 and do one or more of the following.

Minimum Application:

1. Click **Panel Constants**.
2. Enter a value in the minimum application field. The value must be entered in inches.
3. Click **Send**, and the command list dialog is populated with the value.
4. Click **Send** on the commands list dialog to send the setting to the control panel.

Stop in Slot:

1. Click **Panel Constants**.
2. Enter a position value in the stop in slot field. The value must be entered in feet.
3. Choose the direction in which stop in slot will operate. Either Forward, Reverse or Both directions.
4. Click **Send**, and the command list dialog is populated with the value and direction.
5. Click **Send** on the commands list dialog to send the setting to the control panel.

Figure 223-1

Minimum Application
1. Click Panel Constants
2a. Enter a value
3a. Click Send
4a. Click Send

Stop in Slot
1. Click Panel Constants
2b. Enter a value
3b. Choose Direction
4b. Click Send
5b. Click Send

Monitor and Control

Linear

Utilities Screen

Setup

Restricted Entry Interval Timer

The Restricted Entry Timer that warns not to enter a field while chemicals are being applied. To learn more about the Restricted Entry Timer and what it does, please contact BaseStation support.

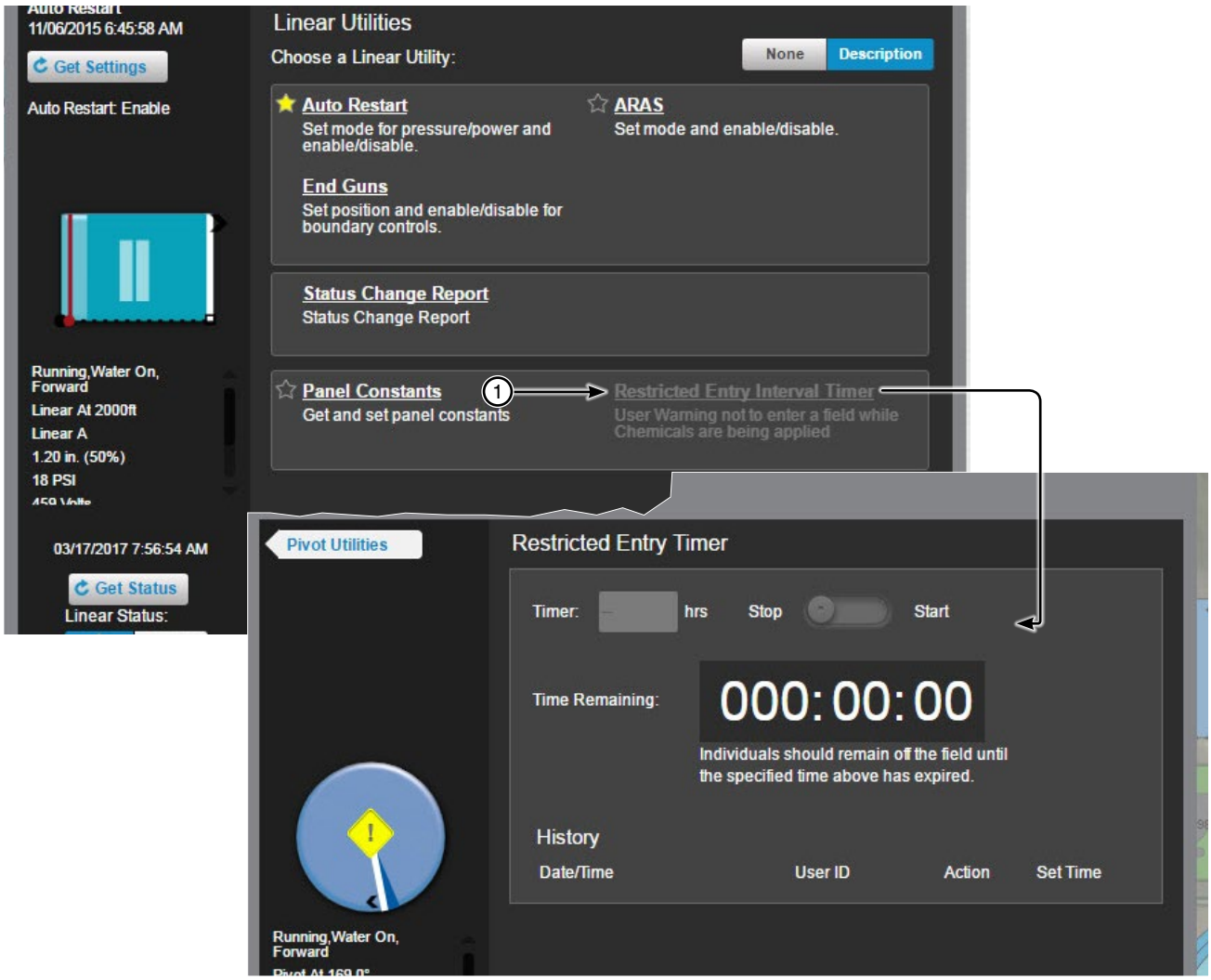


Figure 224-1 1. Restricted Entry Interval Timer

Pivot

Device Screen Controls

There are different pivot monitor and control screens based on available features of the control panel. The Pro2 v8.40 control panel view is shown throughout this section. The following controls are available on the Device. After making a change click **Send** to send the command or click **Don't Send** to cancel.

Aux 1 and Aux 2 (Hardware required): Select On or Off to populate the Commands List Dialog with the command.

Stop In Slot: Turn control On or Off to populate the Commands List Dialog with the command.

Stop In Slot Angle: Click the Angle field, use the keypad to enter a new value for the Stop In Slot location, then click **Save** to populate the Commands List Dialog with the new angle.

Direction Reverse/Forward: Selecting a direction populates the Commands List Dialog with the command.

Water Off/On: Click **Dry** (Water Off) or **Wet** (Water On) to populate the Commands List Dialog.

Irrigation Percent: Click the % field, use the keypad to enter a new percent timer value, then click **Save**. The application depth and hours fields are automatically adjusted and the Commands List Dialog is populated with the change.

Irrigation Depth: Click the "in" field, use the keypad to enter a new application depth value, then click **Save**. The percent timer and hours fields are automatically adjusted and the Commands List Dialog is populated with the change. Minimum application constant must be entered in the pivot setup before this option is available. See Pivot Configuration/Setup/ Constant Values/Minimum Application in the Device Management section of this manual.

Irrigation Hours: Click the "hrs" field, use the keypad to enter a new hours value, then click **Save**. The percent timer and application depth fields are automatically adjusted and the Commands List Dialog is populated with the change. Hours per revolution must be entered in the pivot setup before this option is available. See Pivot Configuration/Setup/Constant Values /Minimum Hours/Rev in the Device Management section of this manual.

100%: Click **100%**. The percent timer, application depth and hours fields are automatically adjusted and the Commands List Dialog is populated with the change.

Start/Stop (machine): Click **Start** or **Stop** to populate the Commands List Dialog with the command.

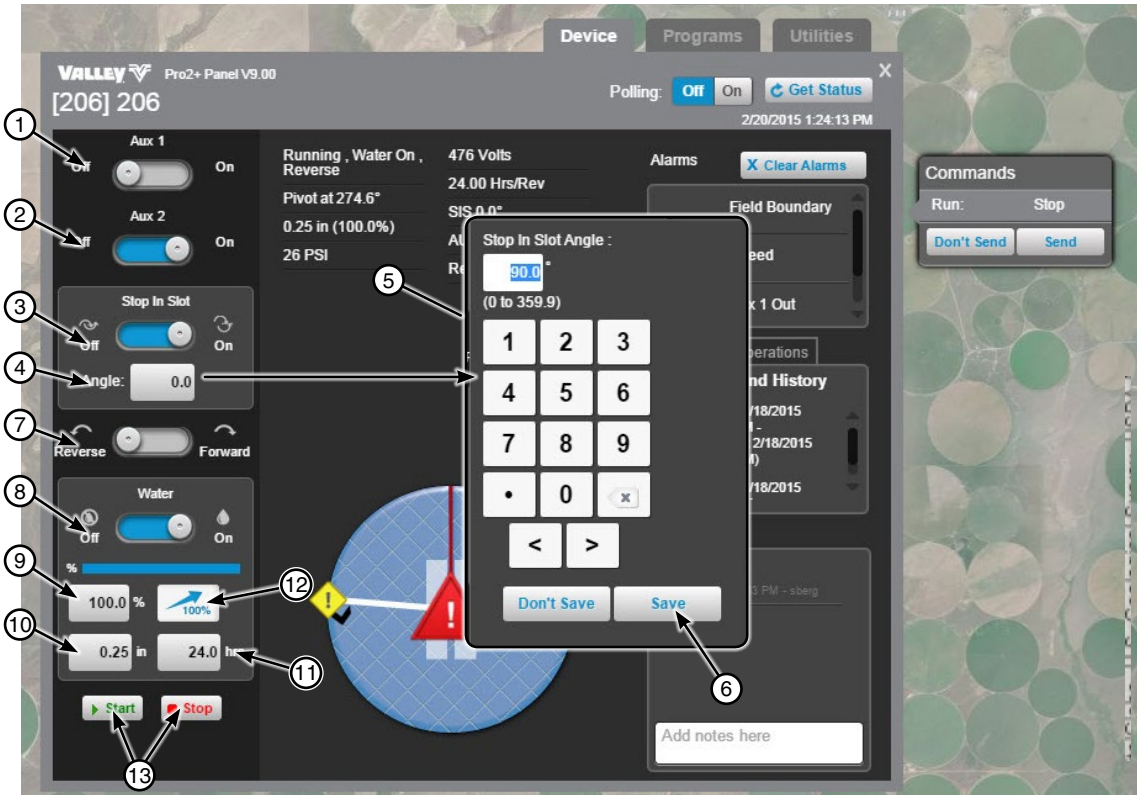


Figure 225-1
1. Aux 1
2. Aux 2
3. Stop In Slot
4. Angle Field
5. Keypad (Stop in Slot)
6. Save Button
7. Direction
8. Water
9. Percent Field
10. Depth Field
11. Hours Field
12. Percent Button
13. Start and Stop Buttons

Monitor and Control

Pivot

Programs Screen

Destination ETA

Destination ETA is the running duration calculation of the current run to a marked destination.

To use, click **Destination ETA**, click the **Destination ETA** switch to Enable. Choose the destination and click **Save**. The Current Calculated ETA will be displayed here in Current Calculated ETA and also on the Device screen in Run Time Operations.

Destination ETA cannot be Enabled when VRI or Cruise is running, when the Percent Timer is set to zero (0) or when the machine is stopped. If VRI or Cruise is enabled, Destination ETA is automatically disabled.

To disable follow **Destination ETA**, click the **Destination ETA** switch to Disable and then click **Save**.

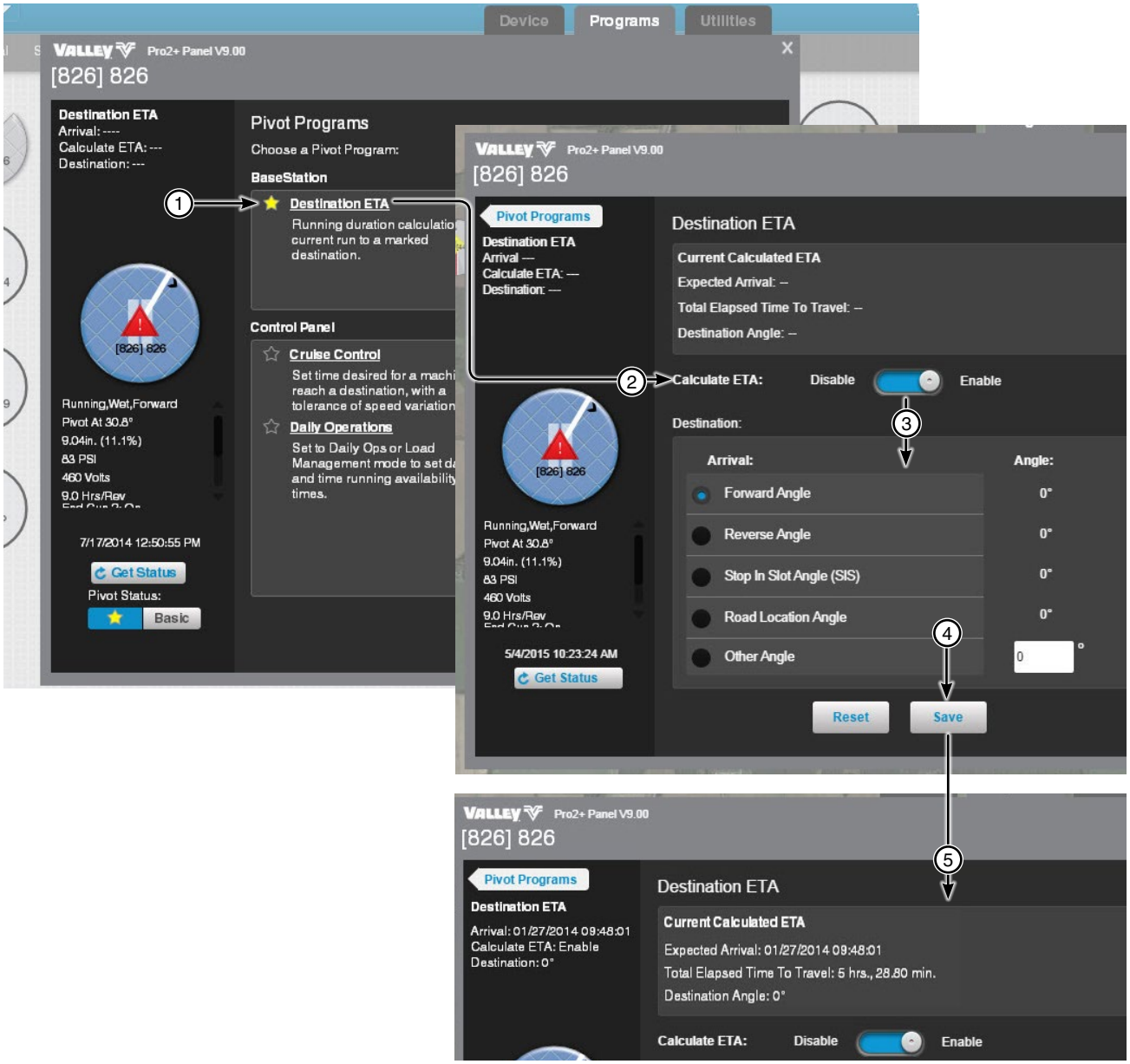


Figure 226-1
1. Click Destination ETA
2. Click the switch to enable
3. Choose the destination position
4. Click Save
5. Current Calculated ETA displayed

Pivot

Programs Screen

Pass Counter

Pass Counter allows the user to set the mark angle and enable or disable pass counters to increment when passing the mark angle.

Click **Pass Counter** to open the screen. The Pass Counters work for both the forward and reverse counter, which can be enabled or disabled.

Information for both counters include:

Disable/Enable: Disables or enables the Forward or Reverse Counter.

Mark: The degree mark in which the counter will record a pass each time the pivot hits while either in forward or reverse, depending on which counter it is set for.

Count: Records the number of times the mark is hit, can be reset by pressing the reset button.

Count Start (Date & Time): The date and time when the count started.

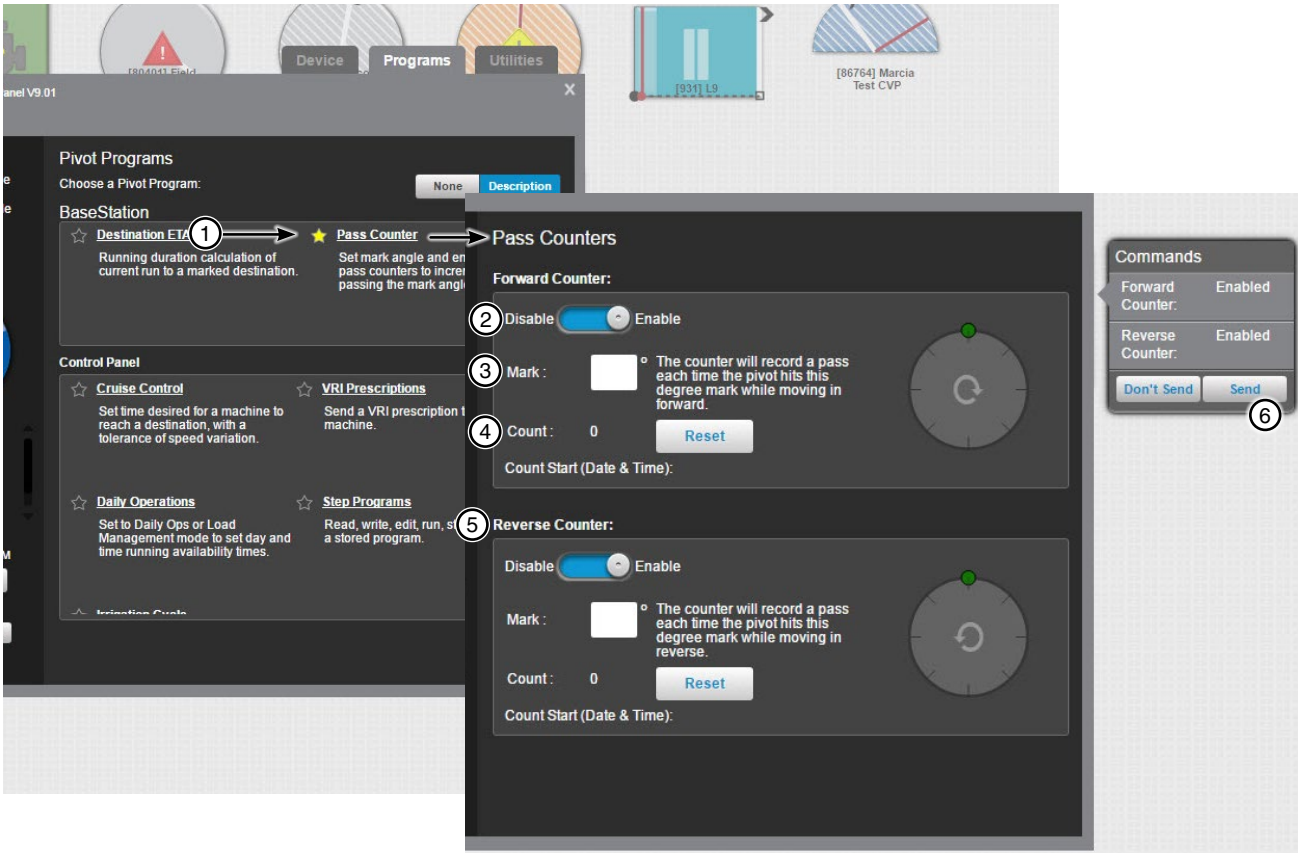


Figure 227-1
1. Click Pass Counter
2. Click the switch to enable
3. Enter the Mark
4. Count
5. Count Start (Date & Time)
6. Click Send

Monitor and Control

Pivot

Programs Screen

Cruise Control

Cruise Control is only available when its supported by the device and VRI is Off.

Use Cruise Control to enable or disable cruise control and send the Cruise Hours Per Pass to the device.

Click **Cruise Control** to open the screen. BaseStation automatically retrieves the current setting and Cruise Hours Per Pass from the control panel. Clicking the **Get Cruise Info** button also retrieves the current settings from the control panel.

Available Cruise Control information:

Remaining Hours to Complete: The number of hours remaining to complete the pivot running.

Cruise Start: The date and time that Cruise Control was enabled.

Est End: The estimated end date and time.

Adj. Pct. Timer: The adjusted percent timer percent.

Start Angle: The angle where the Cruise program starts.

End Angle: The angle where the Cruise program ends.

App. Depth: The application depth (in inches) that the pivot is set at.

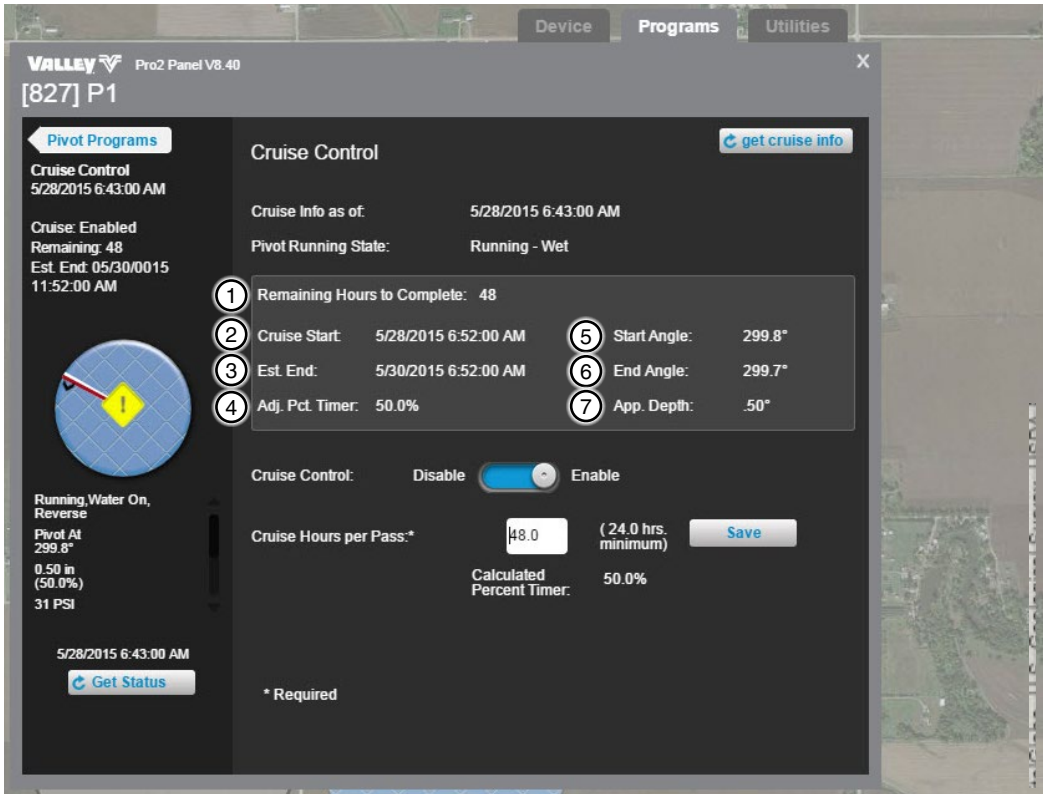


Figure 228-1
1. Remaining Hours to Complete
2. Cruise Start
3. Est End (Estimated End)
4. Adj. Pct. Timer (Adjusted Percent Timer)
5. Start Angle
6. End Angle
7. App. Depth (Application Depth)

Pivot
Programs Screen
Cruise Control (continued)

To enable cruise control refer to Figure 229-1 and do the following.

1. Click **Cruise Control** and then click **Enable** or **Disable** to populate the Commands List Dialog with the command.
2. Optional: Enter a new value in the **Cruise Hours Per Pass** field and click **Save** to populate the Commands List Dialog with the change.
3. When done click **Send**.

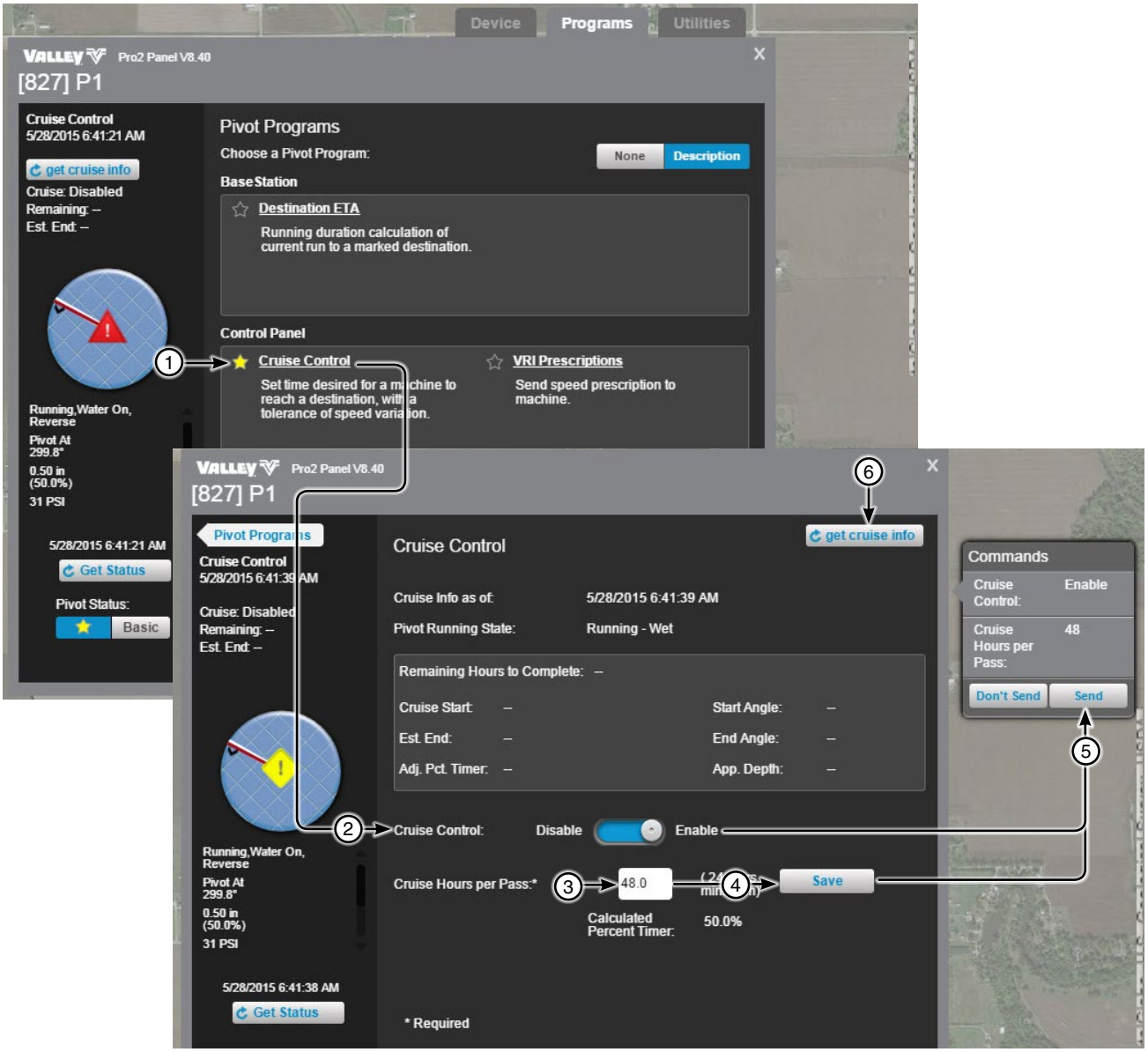


Figure 229-1
1. Click Cruise
2. Click Enable
3. Enter Value
4. Click Save
5. Click Send
6. Get Cruise Info

Monitor and Control

Pivot

Programs Screen

VRI Prescriptions

VRI Prescriptions is only available when Cruise Control is disabled and the device supports VRI (Variable Rate Irrigation) Speed and/or Zone. Use VRI Prescriptions to send speed or zone prescriptions to the device and turn VRI On or Off.

Click **VRI Prescriptions** to open the screen. BaseStation automatically retrieves the current mode setting from the control panel. Clicking the **Get VRI** button also retrieves the current mode setting from the control panel.

Mode: The Mode either speed or zone is set at the control panel and cannot be changed thorough BaseStation. When the mode is Speed, 5 prescription locations are shown. When the mode is Zone, only 1 prescription location is shown.

Configure Zones: Use to customize zone information in Irrigation Exchange for this machine. The custom information is used for VRI prescriptions that will be generated from Irrigation Exchange. Set the number of zones and customize the start, end and cycle time for each zone.

Notes: To add a note, click the note field, enter the message and click **Add**.

Figure 230-1
1. Click VRI Prescriptions to open the screen
2. Current Mode Setting at the Control Panel
3. Get VRI Button
4. Configure Zones
5. Prescription Locations, 5 for Speed or 1 for Zone
6. Notes
7. Note Field
8. Add

Pivot

Programs Screen

VRI Prescriptions

Upload VRI Prescriptions

To upload a prescription to the control panel, go to the **VRI Prescriptions** screen. Click the **Browse** button for the prescription location. Select the prescription file for the current mode (Speed or Zone) and click **Open**. On the Commands List Dialog, click **Send** to upload the file (use a .speed or .zone file, not .VRI) to the control panel in the same location. The file name is shown in the prescription location as a reference to the file that was uploaded. To edit the reference file name click **Change**, to exit the change mode click **Change** again.

NOTE

- **The procedure only is true if the VRI switch is off; users cannot browse if it is on.**
- **The VRI prescription is not stored in the BaseStation data base.**
- **BaseStation does not verify that the VRI Prescription in the control panel matches the referenced file name in the BaseStation. Therefore, if a different VRI Prescription is uploaded to the control panel locally, BaseStation only knows that there is a prescription, it does not verify the file name.**

Figure 231-1
1. Click Browse
2. Select the Prescription File
3. Click Open
4. Click Send
5. File Name Reference
6. Change Button

Monitor and Control

Pivot

Programs Screen

VRI Prescriptions

Run VRI Prescriptions

To run a VRI Prescription, go to the **VRI Prescriptions** screen. Select the prescription and click **On**. From the Commands List Dialog click **Send**. Status: on will display on the status screen here and on the device screen.

If VRI is switched On, Destination ETA is automatically disabled.

Figure 232-1
1. Select the Prescription
2. Click On
3. Click Send
4. Status

Pivot

Programs Screen

Daily Operations

Use Daily Operations to program remote start and stop tasks to occur at predetermined times during a 24 hour period. Custom settings are available for one day or every day at the same time.

Click **Daily Operations** to open the screen. BaseStation automatically retrieves and displays the settings currently stored on the control panel. Clicking the **Get Status** button also retrieves the settings stored on the control panel.

Disable/Enable: Disable or Enable daily operations by clicking the switch.

Mode: Choose the mode, either Load Management or Daily Ops by clicking the switch.

Currently in: The type of period based on the mode. Restricted period and available period for load management or Locked period or unlocked period for daily ops.

Pivot Running State: The current running status of the machine.

Restart: Either active or inactive.

Activate Restart: In Load Management click Activate Restart to activate restart after pivot was stopped outside of Daily Operations.

Set Times of Operation During the Week: A graphic schedule displaying the restricted, available, locked or unlocked periods by day and hour.

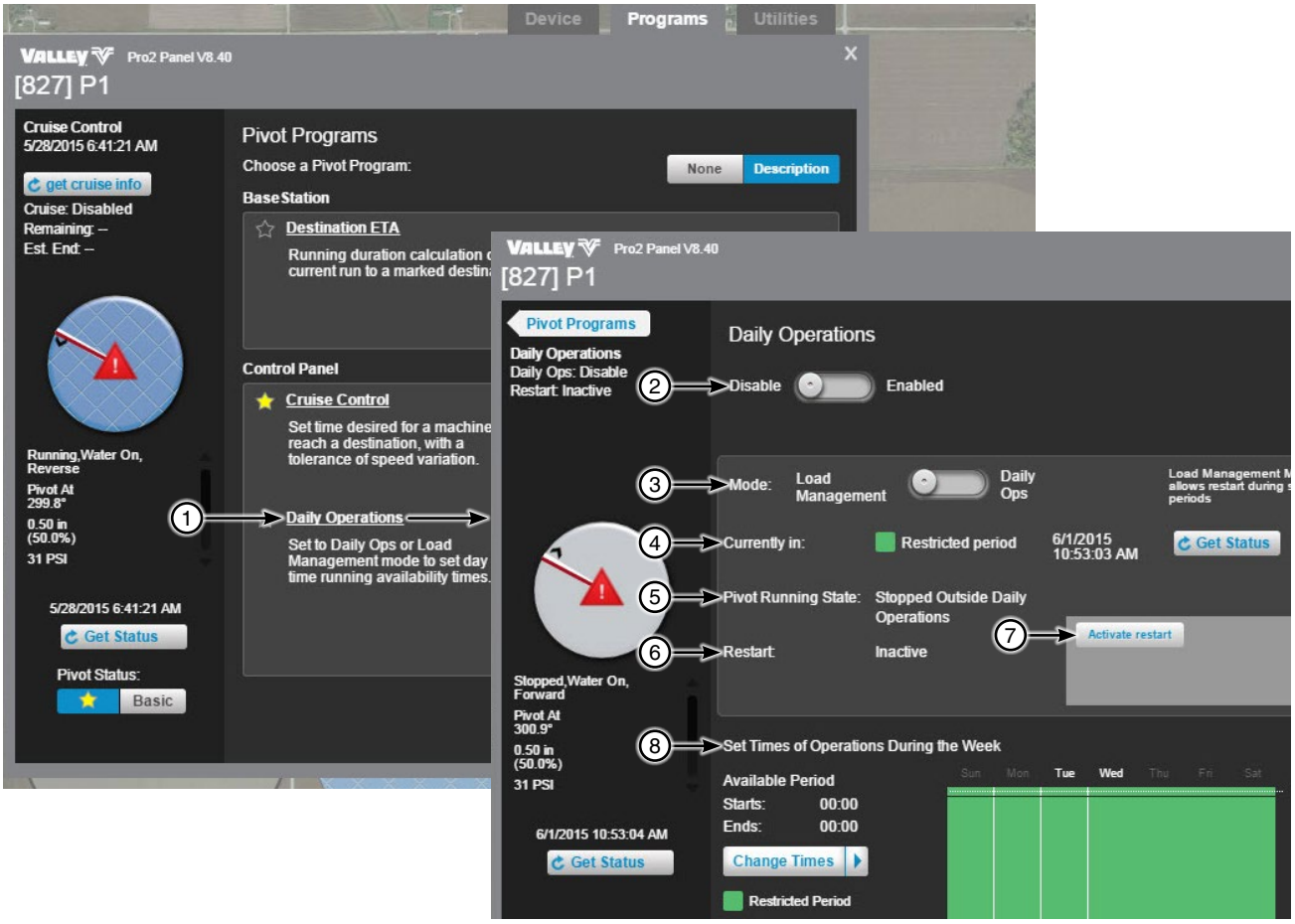


Figure 233-1
1. Click Daily Operations to open the screen
2. Disable/Enable
3. Mode
4. Currently In
5. Pivot Running State
6. Restart
7. Activate Restart
8. Set Times of Operation During the Week

Monitor and Control

Pivot

Programs Screen

Daily Operations

Disable/Enable

To disable, enable and/or set the mode of operation, refer to Figure 234-1 and do the following.

1. Click the **Disable/Enable** switch to toggle between Disable and Enable.
2. Click **Load management or Daily Ops** switch to toggle between Load Management and Daily Ops.
3. When done making changes, click **Send**.

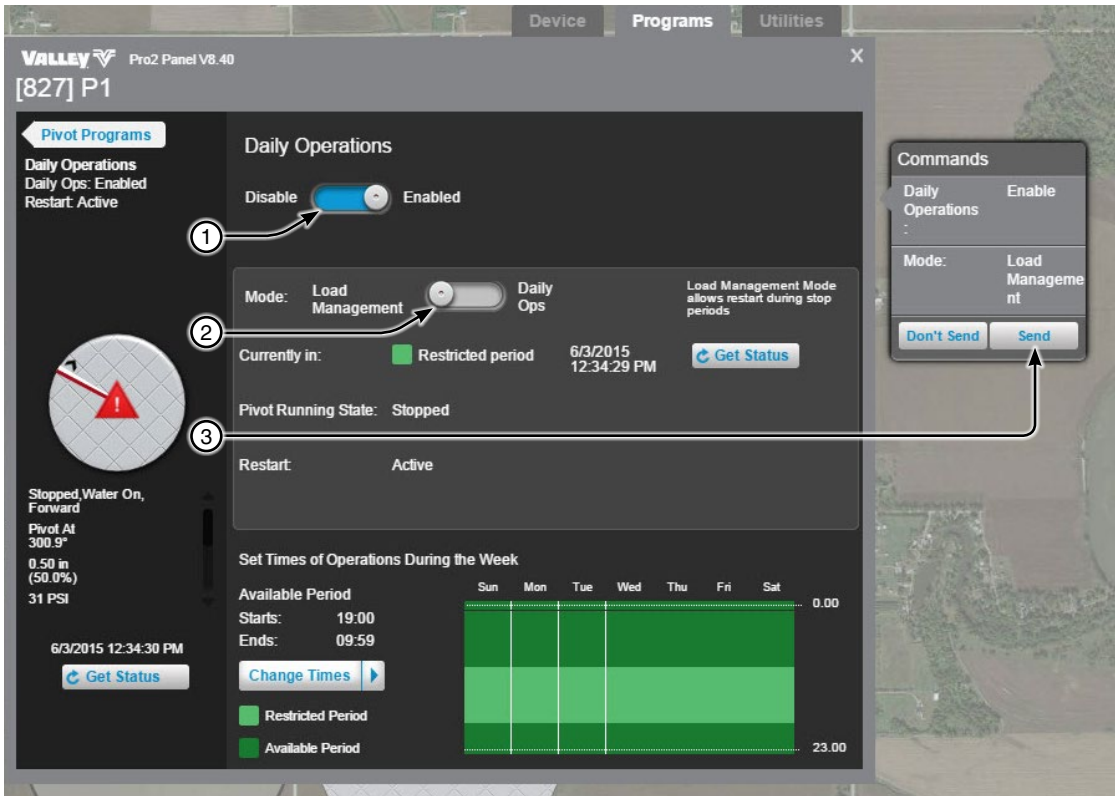


Figure 234-1
1. Click Disable/Enable
2. Click Load Management/Daily Ops
3. Click Send

Pivot
Programs Screen
Daily Operations
Setting Time of Operation

To set the time of operation, refer to Figure 235-1 and do the following.

1. Click **Change Times**.
2. Choose the days of the week for daily operations to run.
3. Click the **Unlocked Period Starts** calendar. Set the start hour and minute, then click **Set Time**.
   NOTE: Checking 24HR Period, adjusts the end time to be 23:59 from the start time.
4. Click the **Unlocked Period Ends** calendar. Set the end hour and minute, then click **Set Time**.
5. Click **Apply** and the schedule is updated with the new settings.
6. Click **Done** or click Reset to change settings back to the last saved.
7. Click Send.

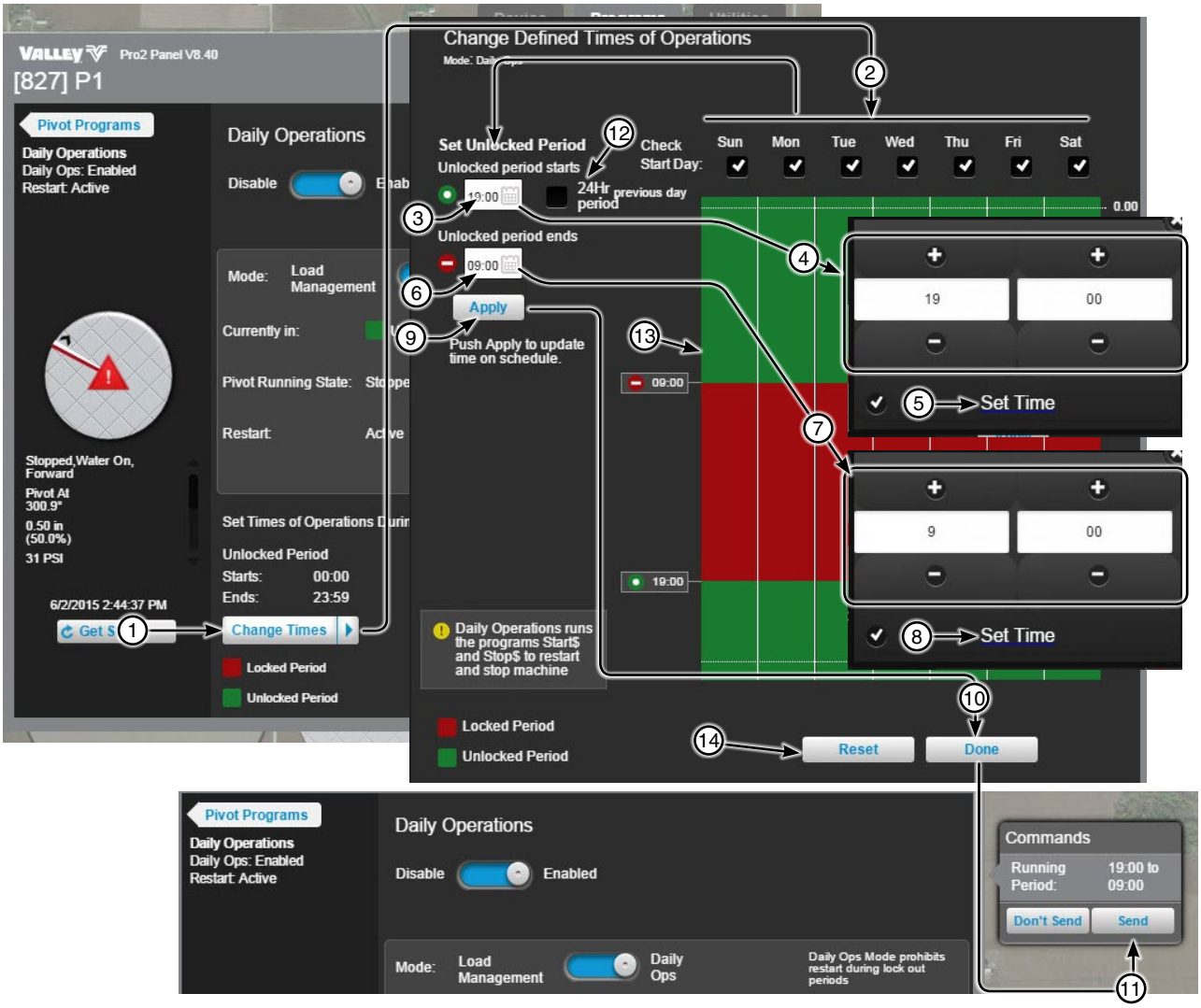


Figure 235-1
1. Click Change Times
2. Choose the Day(s) to Run
3. Click the Unlocked Period Starts calendar
4. Set the Start Time
5. Click Set Time
6. Click the Unlocked Period Ends calendar
7. Set the End Time
8. Click Set Time
9. Click Apply
10. Click Done
11. Click Send
12. 24HR Period
13. Schedule
14. Reset button

Monitor and Control

Pivot

Programs Screen

Step Programs

Read/write/edit/run/stop/erase stored step programs.

Click **Step Programs** to open the screen. BaseStation automatically retrieves and displays all programs currently stored on the control panel. Clicking the **Get Programs** button also retrieves all programs stored on the control panel.

Run a Program: To run a program click **Run**. Then from the Commands List Dialog click **Send** or **Send, Run And Erase**. When a program is running a green circle appears in front of the program number.

Stop a Program: To stop a program click **Stop**. Then from the Commands List Dialog click **Send**.

To expand or collapse the steps displayed within the a program click **Step Expansion**. To expand or collapse the steps in all programs at once use the **All Programs Expand** button.

Figure 236-1
1. Click Step Programs
2. Click Run, or Stop
3. Click Send
4. Green Circle When Running
5. Step Expansion Button
6. All Programs Expand Button

Pivot

Programs Screen

Step Programs

All of the programs can be displayed by clicking the **On Panel** button or only the programs that are running can be displayed by clicking the **Running Only** button, which then shows only the programs that are currently running in the panel.

Edit a Program: To edit a program click **Change**.

Copy a Program: To copy a program click **Copy**. Select the program position number to copy or overwrite and click **Done**. The program is copied to the selected number and the program list is refreshed.

The program copy function is useful for re-using an existing program as a template to create a new program. After copying a program and saving it to another program number, it can be edited as desired. This leaves the original program undisturbed, while providing another program with the same design.

Delete a Program: To delete a program click **Delete**.

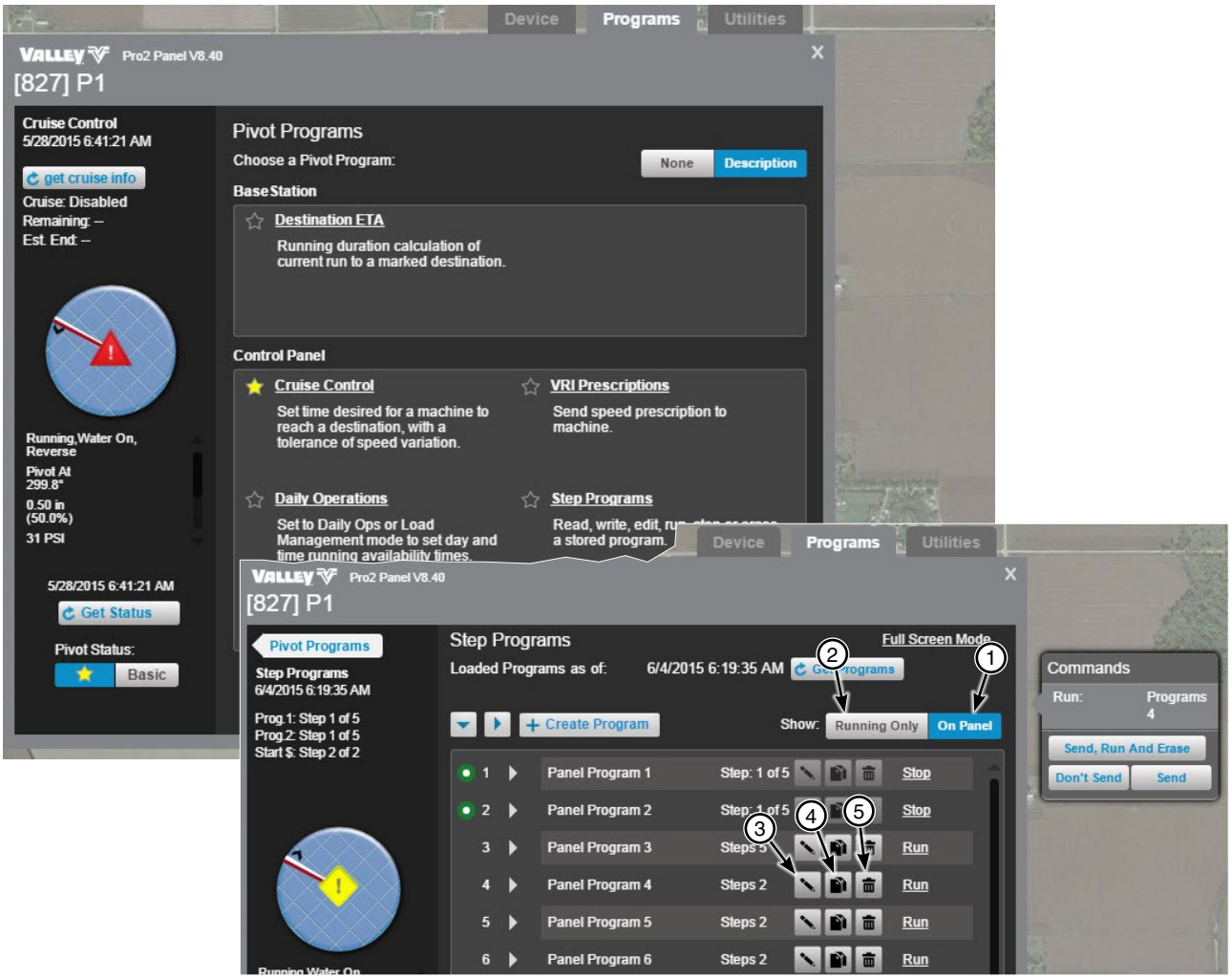


Figure 237-1
1. On Panel Button
2. Running Only Button
3. Change Button
4. Copy Button
5. Delete Button

Monitor and Control

Pivot

Programs Screen

Step Programs

Creating Programs

Conditions

To create a new program, refer to Figures 238-1 and 239-1, and do the following.

1. Click **Create Program**.
2. Click **Condition** in Step 1.
3. Select a condition for this step. Then enter or select the parameters for the condition.
4. Click **Done**. Continue with step 5 on page 240.

NOTE: The last four conditions listed in Figure 238-1 (Pulse Rate, Count-Higher, Analog and Module) are available for use only in the physical panel. BaseStation3 will display these conditions when viewing stored programs.

Figure 238-1
1. Click Create Program
2. Click Conditions
3. Select a Condition and Enter Parameters
4. Click Done

Pivot
Programs Screen
Step Programs
Creating Programs (continued)
Condition List

Condition	Parameters
Position	Enter pivot position in degrees
Direction	Select the direction
Delay	Enter a delay time in minutes or seconds. Range is 1 to 60000.
Day-Time	Toggle days On or Off, enter time of day and click Set Time.
Date-Time	Enter date, enter time of day and click Set Time.

Figure 239-1

Monitor and Control

Pivot
Programs Screen
Step Programs
Creating Programs (continued)
Commands

To select commands for a new program, refer to Figures 240-1 and 241-1, and do the following.

5. Click **Commands** in step 1.
6. Select the first command for this step. Depending on the command, additional fields may appear that need to be filled with information about the command selected. Up to 8 different commands can be selected, one on each command line.
7. Do one of the following.
   (a) If there are more commands for this step click **Add**.
   (b) If there are no more commands for this step click **Done**. Continue with step 8 on page 242.

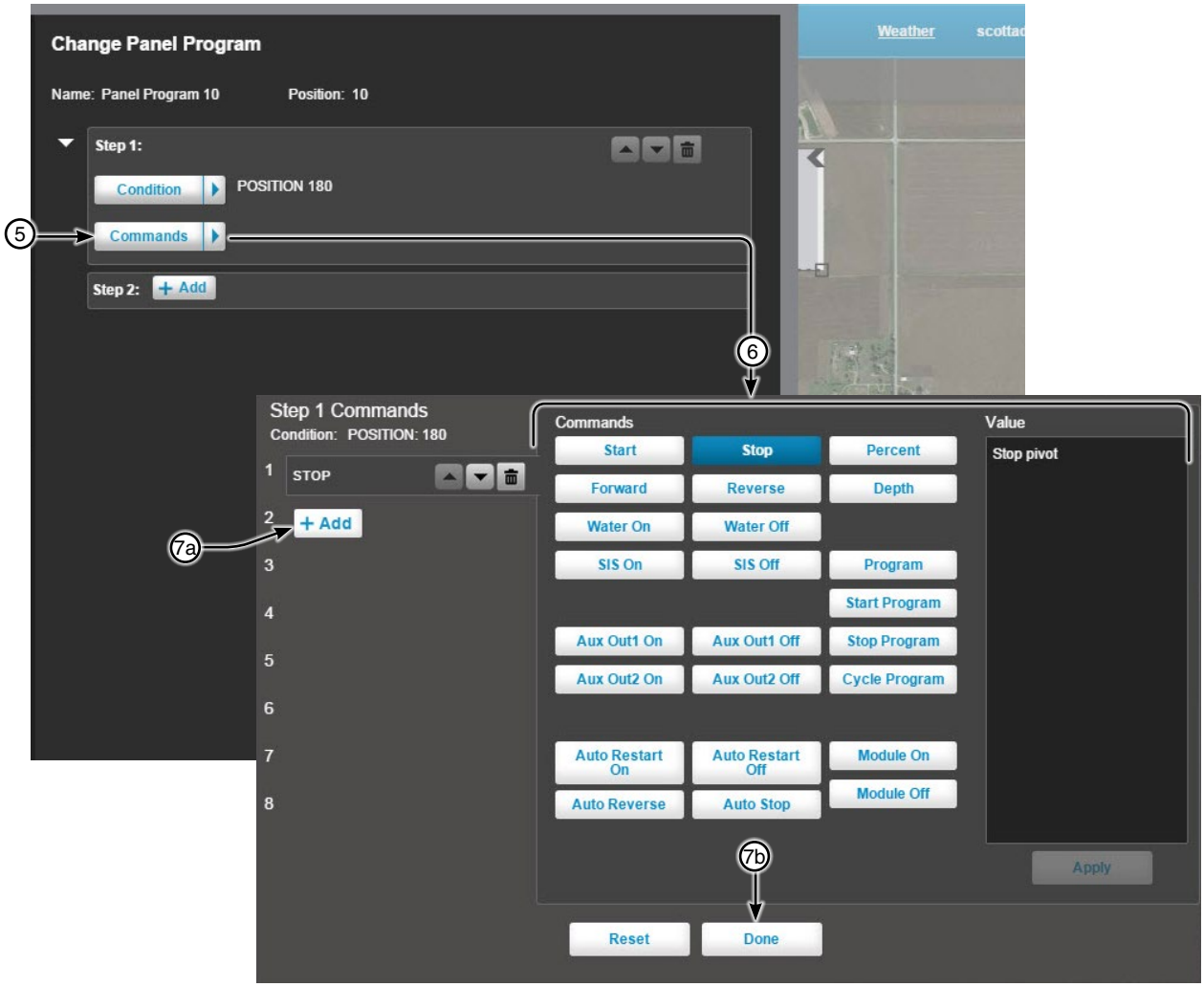


Figure 240-1 5. Click Commands
6. Select a Command
7a. Optional: Click Add Button to add another command to this step
7b. Click Done

Pivot
Programs Screen
Step Programs
Creating Programs (continued)
Command List

Command	Action/Parameter
Start	Start pivot
Stop	Stop pivot
Percent	Set percent timer, enter percent and click apply
Forward	Set direction forward
Reverse	Set direction reverse
Depth	Set application depth, enter depth and click apply
Water On	Turn water on
Water Off	Turn water off
SIS On	Stop in slot on
SIS Off	Stop in slot off
Aux Out1 On	Turn auxiliary output 1 on
Aux Out1 Off	Turn auxiliary output 1 off
Aux Out2 On	Turn auxiliary output 2 on
Aux Out 2 Off	Turn auxiliary output 2 off
Auto Restart On	Turn auto restart on
Auto Restart Off	Turn auto restart off
Auto Reverse	Set ARAS to Auto Reverse mode
Auto Stop	Set ARAS to Auto Stop mode
Program	Run program, select program and click apply
Start Program	Run START$ program
Stop Program	Run STOP$ program
Cycle Program	Run CYCLE$ program

Figure 241-1

Monitor and Control

Pivot

Programs Screen

Step Programs

Creating Programs (continued)

Add a Step

Optional: To add another step to the program, refer to Figure 242-1 and do the following.

8. Click **Add**. Select a Condition and choose Commands. When done adding steps, continue with Storing the Program.

Storing the Program

To finish and store the program in the control panel, refer to step 9 and Figure 242-1.

9. Do one of the following storage options.
   - Click **Don't Store** to leave the screen without storing the program. All changes will be lost.

     or
   - Click **Store, Run and Erase** to store program on the control panel, run the program, then erase the program when the run is complete.
   - Click **Store and Run** to store program on the control panel and then run the program.
   - Click **Store** to store the program on the control panel.
10. Click **Send**.

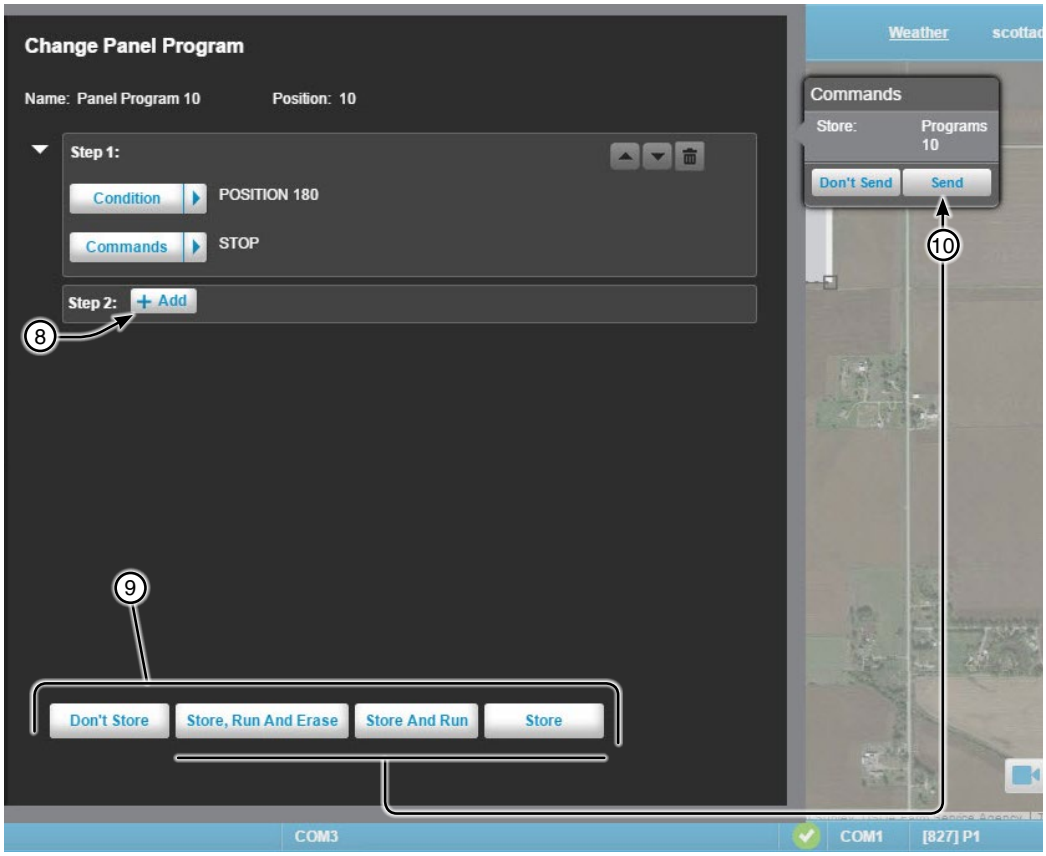


Figure 242-1 8. Optional: Click Add
9. Choose a Storage Option
10. Click Send

Pivot
Programs Screen
Irrigation Cycle

The Irrigation Cycle is used to run the system to the SIS location and bypass it a defined number of times.

Irrigation Cycle Stop Angle (SIS): The angle at which the irrigation cycle stops.

Number of Cycles: The number of times to bypass the SIS location.

Irrigation Cycle: Switch from Stop or Run.

Status Information: Includes Cycle Count, Irrigation Cycle ETA and Start (Date & Time).

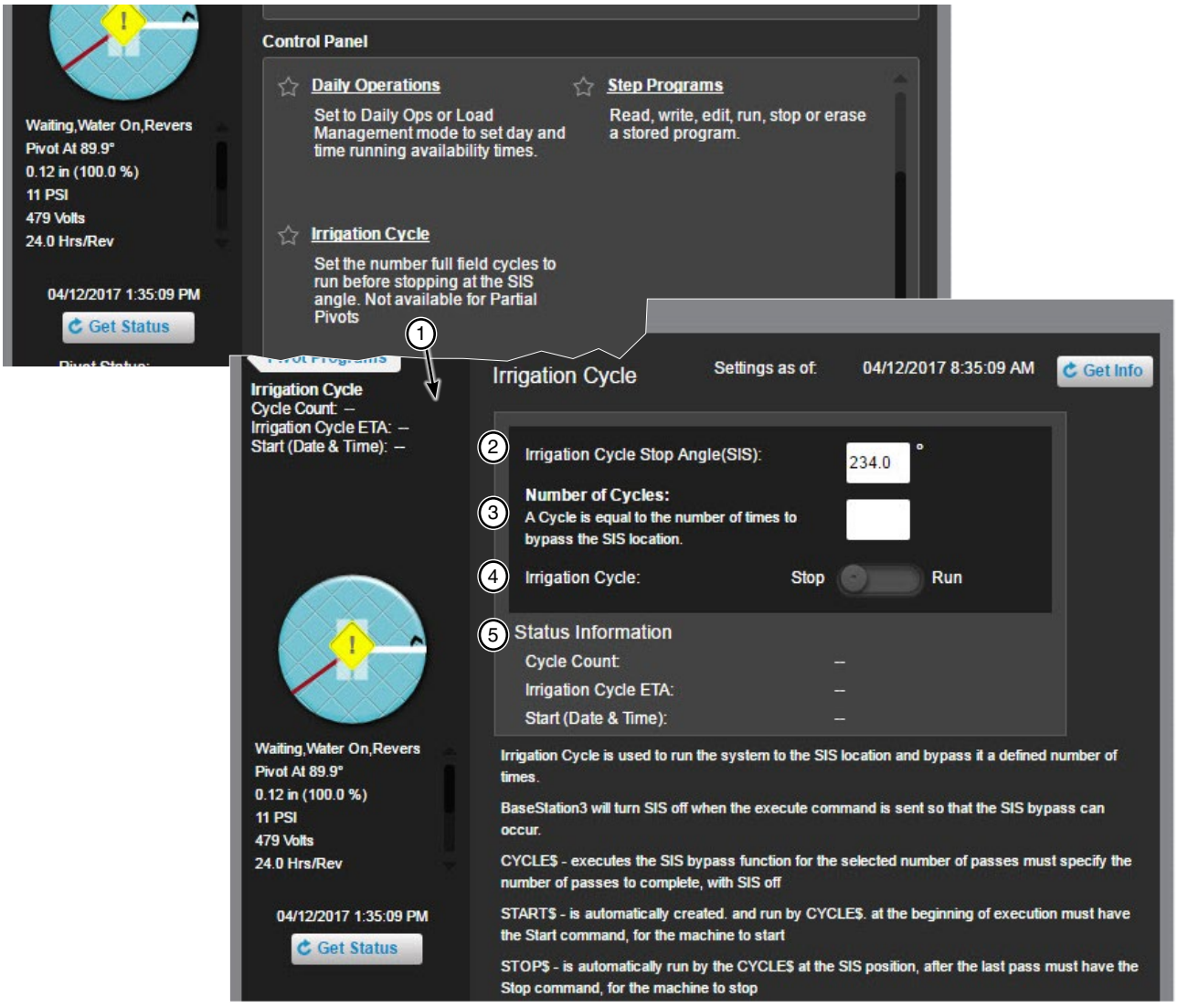


Figure 243-1
1. Select Irrigation Cycle under Programs
2. Irrigation Cycle Stop Angle (SIS)
3. Number of Cycles
4. Irrigation Cycle
5. Status Information

Monitor and Control

Pivot

Utilities Screen

Options

Auto Restart

Use Auto Restart to set mode for Pressure/Power/Both, and Enable/Disable.

To enable and setup Auto Restart click **Auto Restart**. Click the **Auto Restart** switch to enable. Select the Restarting Effects. On the Commands List Dialog click **Send**. Click **Get Status** to update the Device Status.

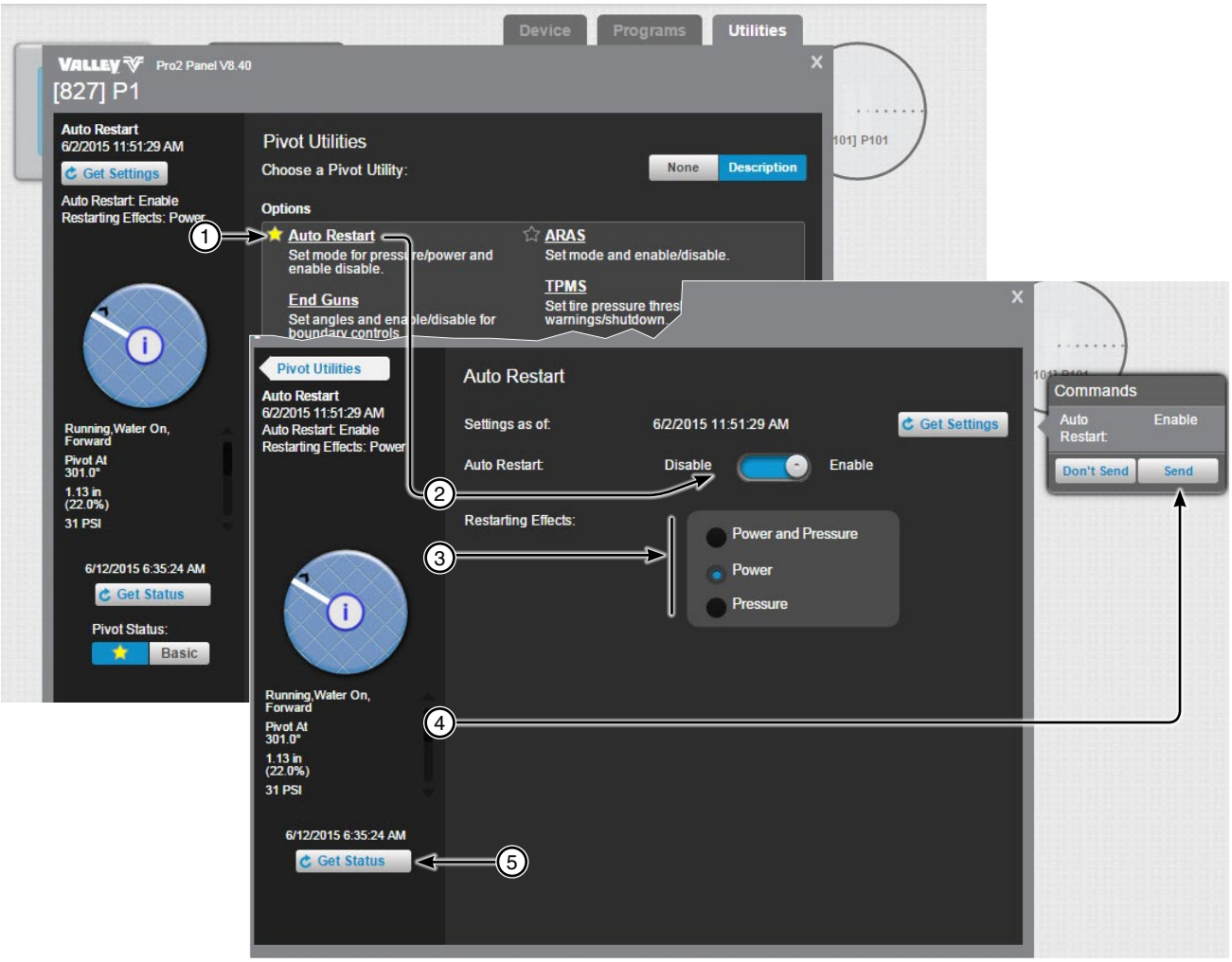


Figure 244-1
1. Click Auto Restart
2. Drag or Click Switch to Enable
3. Select Restarting Effects
4. Click Send
5. Click Get Status

Pivot
Utilities Screen
Options
ARAS (Auto Reverse and Auto Stop)

Set Mode and Enable/Disable ARAS.

To enable and setup ARAS click **ARAS**. Click the **ARAS** switch to enable. Select the Mode and enter the Engagement Delay Time. The delay time sets the panel's time duration that it waits before executing the machine shutdown or the direction change movement, after the end of field position is sensed. Select the ARAS Status, either Include the ARAS status in polling or Don't Include. On the Commands List Dialog click **Send**. Click **Get Status** to update the Device Status.

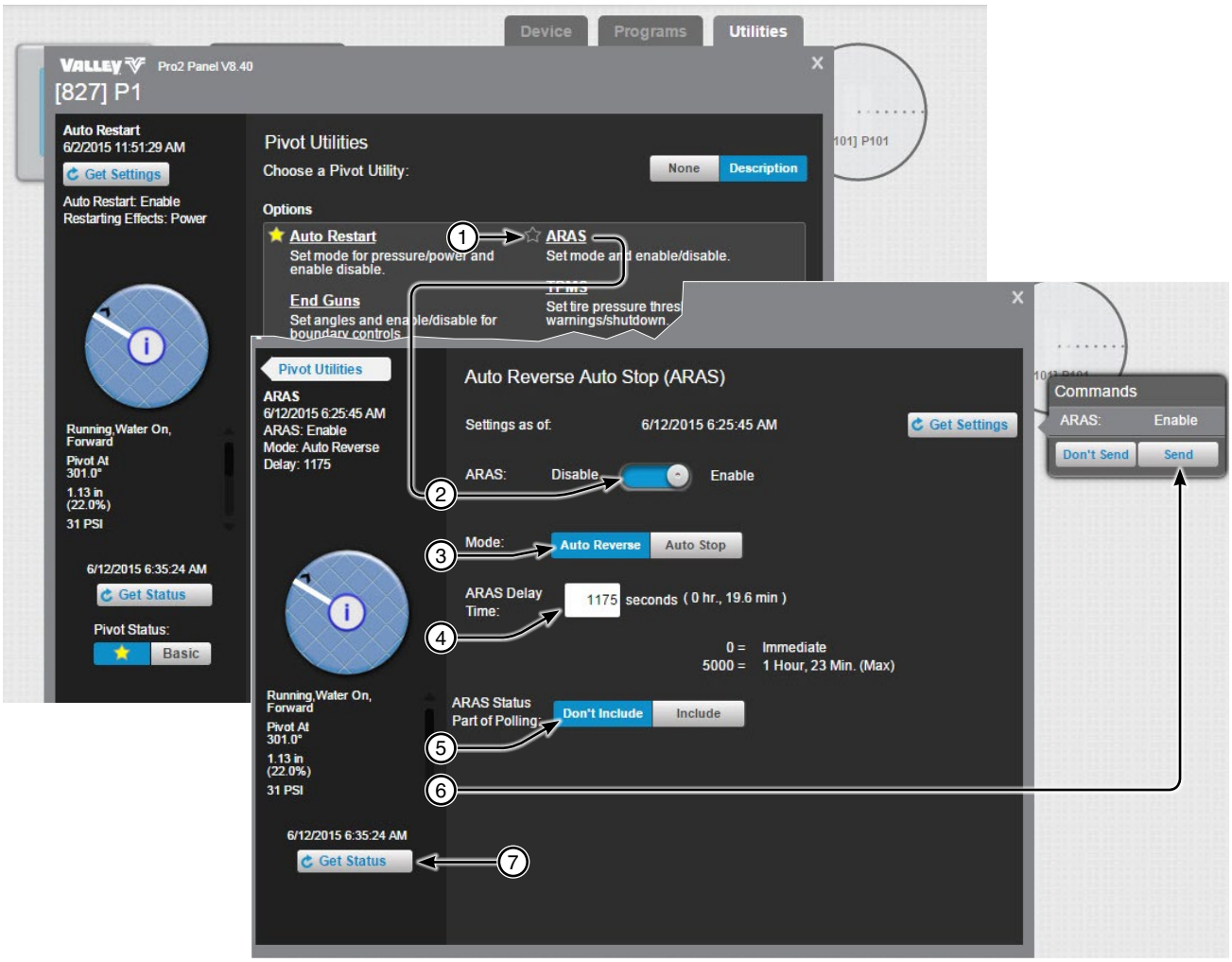


Figure 245-1
1. Click ARAS
2. Drag or Click Switch to Enable
3. Select the Mode
4. Enter the Engagement Delay Time
5. Select the ARAS Polling Status
6. Click Send
7. Click Get Status

Monitor and Control

Pivot

Utilities Screen

Options

End Guns

Set angles and enable/disable for end gun controls. End Guns 3 and 4 must be enabled at the control panel. End Guns 3 and 4 are available only on Pro2 control panels when the PLC hardware option is installed on the machine. The PLC option is configured in the Device Configuration of the machine. To turn the PLC option On, open the view controller drawer and select **Device Management**. Select the device and click **Change/ Communications/Power Line Carrier Channel/On/Save/Done**.

Get Angles Button: Click **Get Angles** to update the BaseStation with end gun settings from the control panel.

End Gun Controls: Click a switch to turn the related end gun On or Off. The Commands List Dialog is automatically populated with the change. When done making changes click **Send** in the Commands List Dialog to send the command(s) to the device.

Selection Buttons: Select the End Gun to change. The graphic arcs are highlighted in blue, to match the selection.

Reset Button: Click **Reset** to reset all setting back to the last saved state or the default if its never been saved.

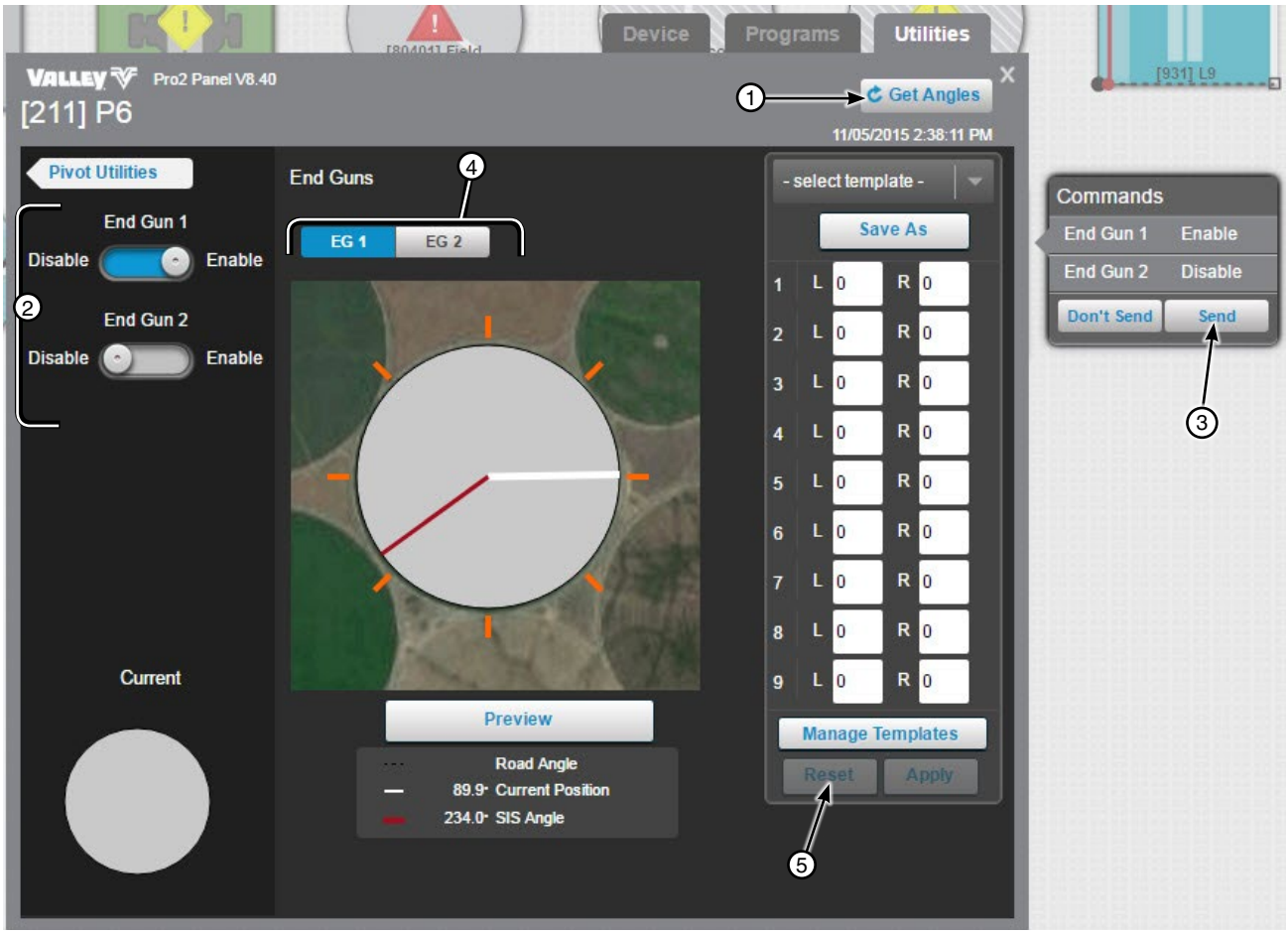


Figure 246-1
1. Get Angles button
2. End Gun Wide Boundary Controls
3. Send
4. Selection Buttons
5. Reset Button

Pivot
Utilities Screen
Options
End Guns
Set End Gun

To set End Gun angles click **End Guns**. Select the End Gun to change. The graphic arcs are highlighted in blue, to match the selection of End Gun. Determine which sequence number 1 through 9 to change and enter the left angle. The angle can be input in tenths. Enter the right angle. The angle can be input in tenths. Enter angles in other sequences as required. Click **Preview** to update the pivot graphic. When done click **Apply**. On the Commands List Dialog click **Send**.

Figure 247-1
1. Click End Gun
2. Select the End Gun to Change
3. Determine Which Sequence Number to Change
4. Enter the Left Angle
5. Enter the Right Angle
6. Enter Angles in Other Sequences as Required
7. Click Preview
8. Click Apply
9. Click Send

Monitor and Control

Pivot

Utilities Screen

Options

End Guns

Save End Gun Templates

To Save the angle settings as a template click **Save As** then either enter the Template Name and Description or select an existing Template Name to save over. Click **Save** and the template appears in the list. To exit the screen click **Done**.

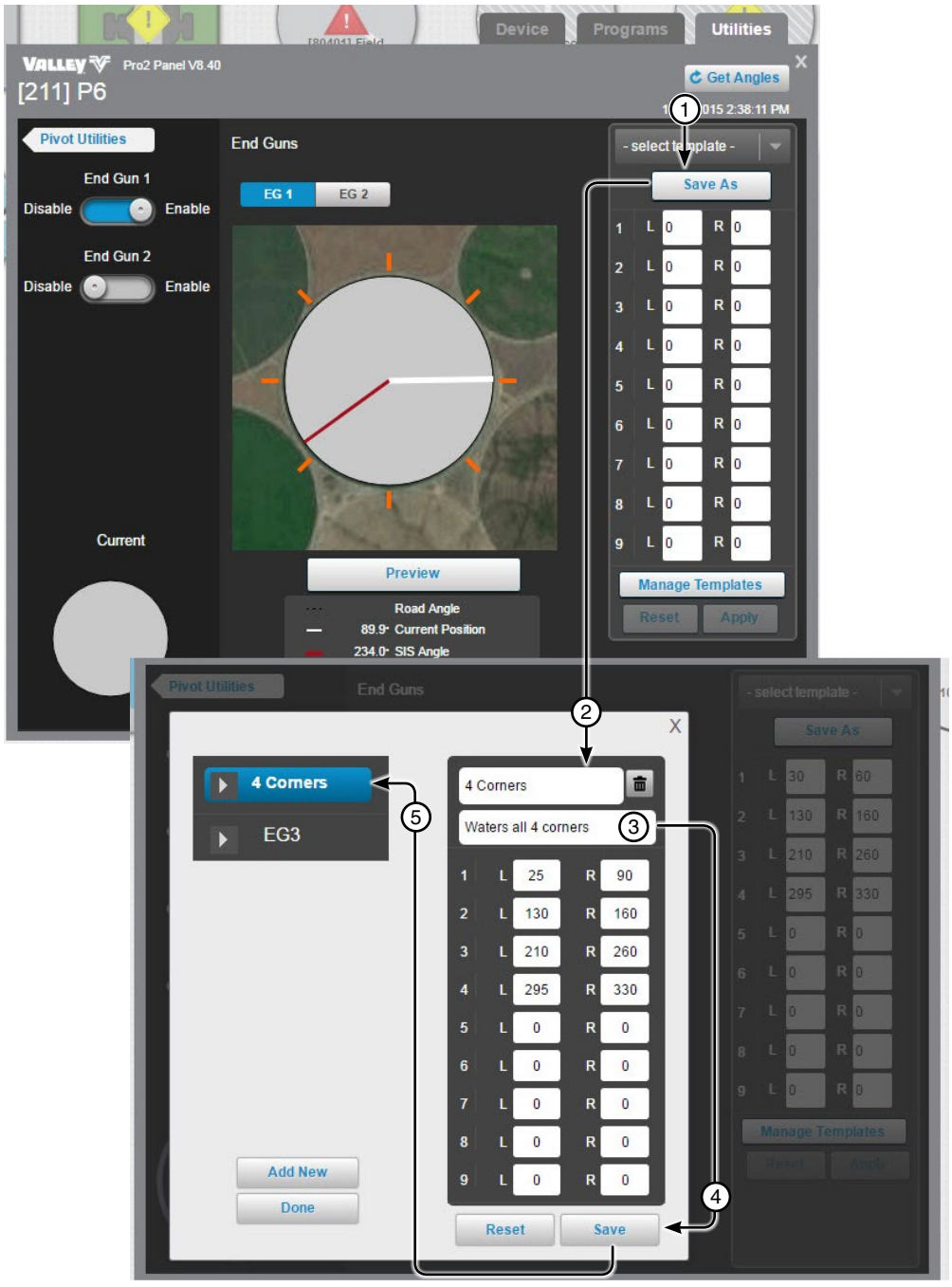


Figure 248-1
1. Click Save As
2. Enter the Template Name or Select an Existing Template
3. Enter the Template Description (Optional)
4. Click Save
5. The Template Appears in the List

Pivot
Utilities Screen
Options
End Guns
Select End Gun Templates

To Select an existing Template click **Select Template**. Choose from the existing templates that are displayed. Click **Preview** to update the pivot graphic. When done click **Apply**. On the Commands List Dialog click **Send**.

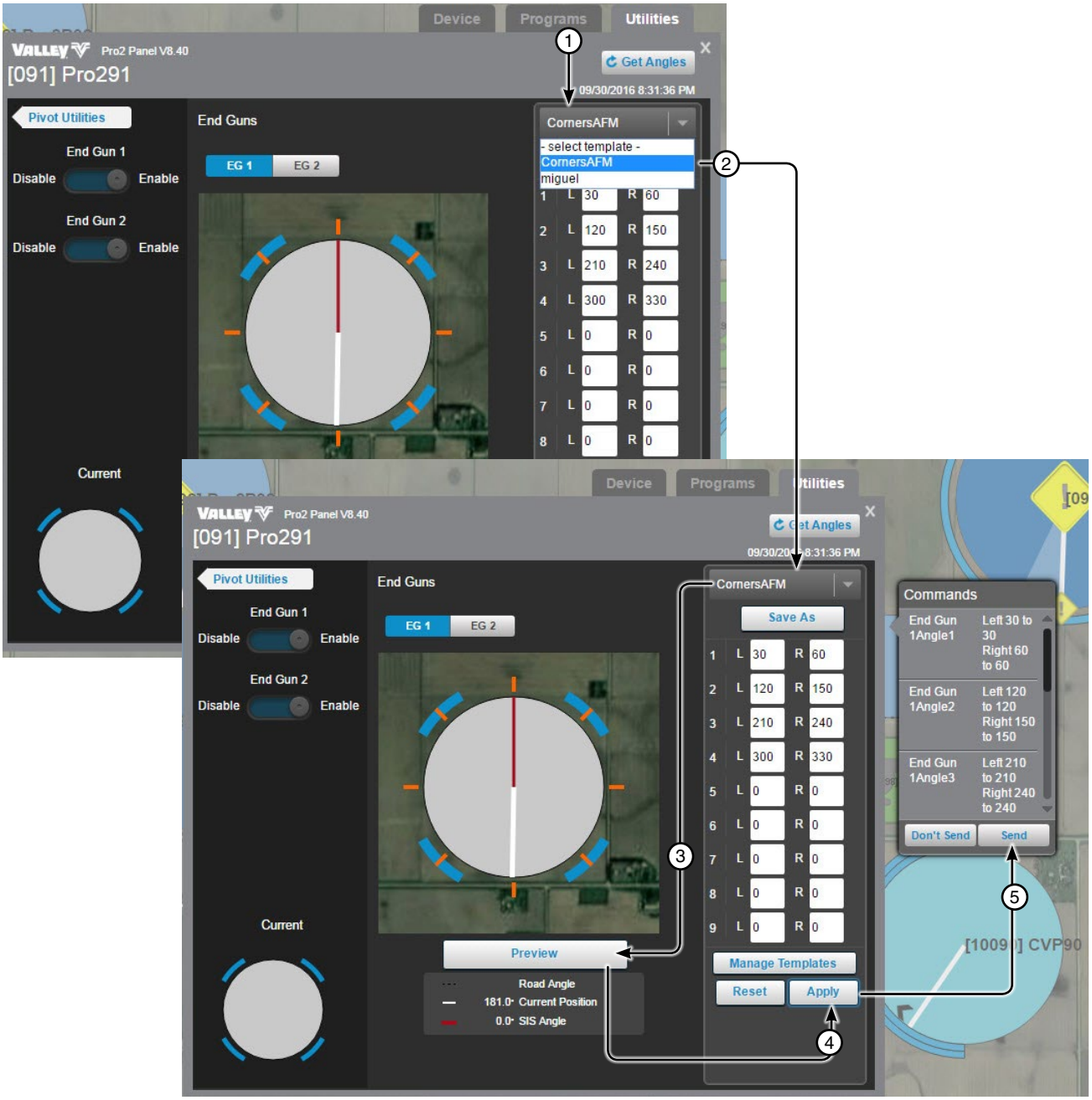


Figure 249-1
1. Click Select Template
2. Choose from Existing templates
3. Click Preview
4. Click Apply
5. Click Send

Monitor and Control

Pivot

Utilities Screen

Options

End Guns

Delete End Gun and Wide Boundary Templates

To delete a template, click **Manage Templates**, Select the template, click **Delete**, On the Commands List Dialog click **Delete**. To exit the screen click **Done**.

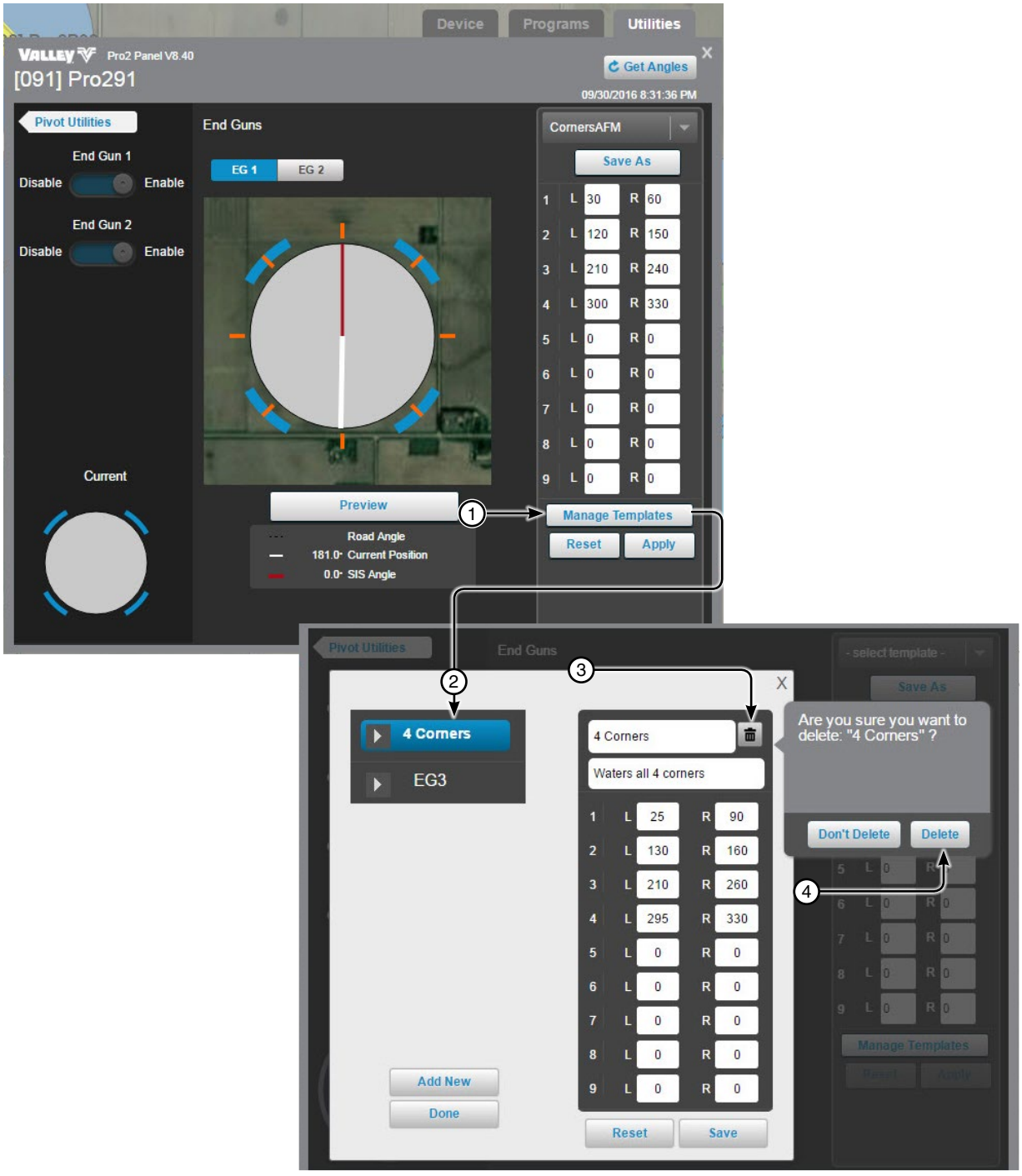


Figure 250-1
1. Click Manage Templates
2. Select the Template
3. Click Delete
4. Click Delete

Pivot

Utilities Screen

Options

Tire Pressure Management System (TPMS)

Set tire pressure thresholds for warning and or shutdown. TPMS must be enabled at the control panel and is available only on Pro2 control panels when the PLC hardware option is installed on the machine. The PLC option is configured in the Device Configuration of the machine. To turn the PLC option On, open the view controller drawer and select **Device Management**. Select the device and click **Change/Communications/ Power Line Carrier Channel/On/Save/Done**.

Get Settings: Click **Get Settings** to update the BaseStation with TPMS settings from the control panel.

TPMS Schedule: Click the switch to turn polling of tire pressures On or Off.

Daily Scheduled Polling Time: Select the Daily Scheduled Polling Time field, set the polling time and click Set Time to populate the commands dialog. Click Send.

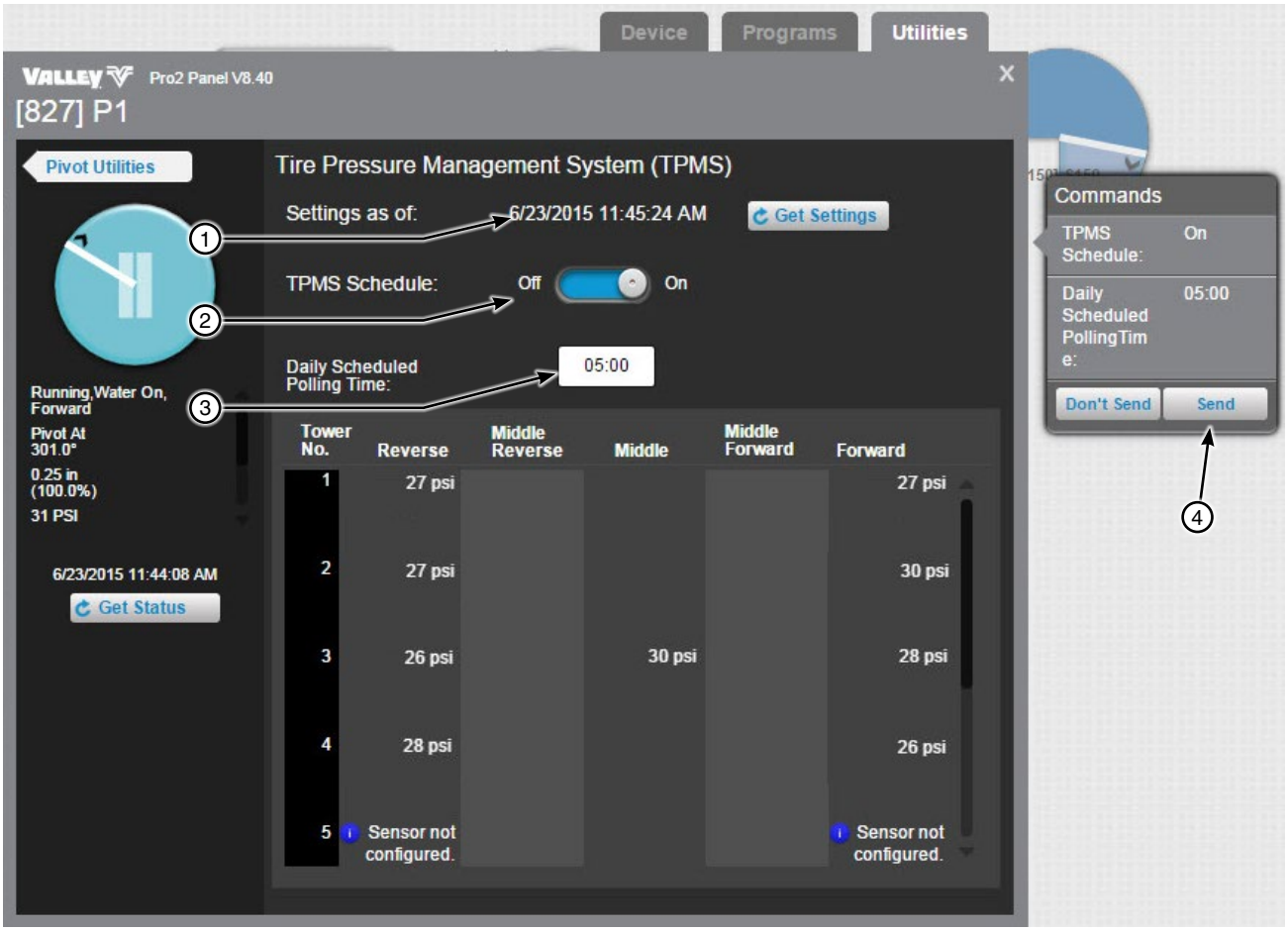


Figure 251-1
1. Get Settings
2. TPMS Schedule
3. Daily Scheduled Polling Time
4. Send

Monitor and Control

Pivot

Utilities Screen

Options

Notice Configurator

Select machine states that force messages to be sent to BaseStation when the state changes.

Get Settings: Click **Get Settings** to update the BaseStation with notice settings from the control panel.

Pivot Base ID: Displays the BaseStation ID. To use a different BaseStation, click in the Pivot Base ID field and enter a new base ID, then click Send.

No. Times to Send Messages: The number of times to send the messages. To change click in the No. Times to Send Messages field and enter a new number, then click Send.

Radio Hop to BaseStation (inbound): Displays the choices for **inbound** radio hop to the BaseStation.

- **Not Configured:** Displayed when outbound radio hop is not configured in device management. Alternately, the outbound **Intermediary Device RTU ID** is displayed when radio hop is configured in device management. Choose this option to use the same intermediary device for inbound radio hop to the BaseStation.
- **Configure radio hop:** Use to choose an intermediary device RTU ID and enable inbound radio hop to the BaseStation. To configure inbound radio hop, select Configure radio hop, click **Choose RTU ID**, Select **Device RTU ID**, click **Save** and then click **Send**.
- **Do not use radio hop:** Use when radio hop is not required for inbound communication with the BaseStation.

Machine States: Check the box of a machine state, to send a notification to the BaseStation when the machine state changes.

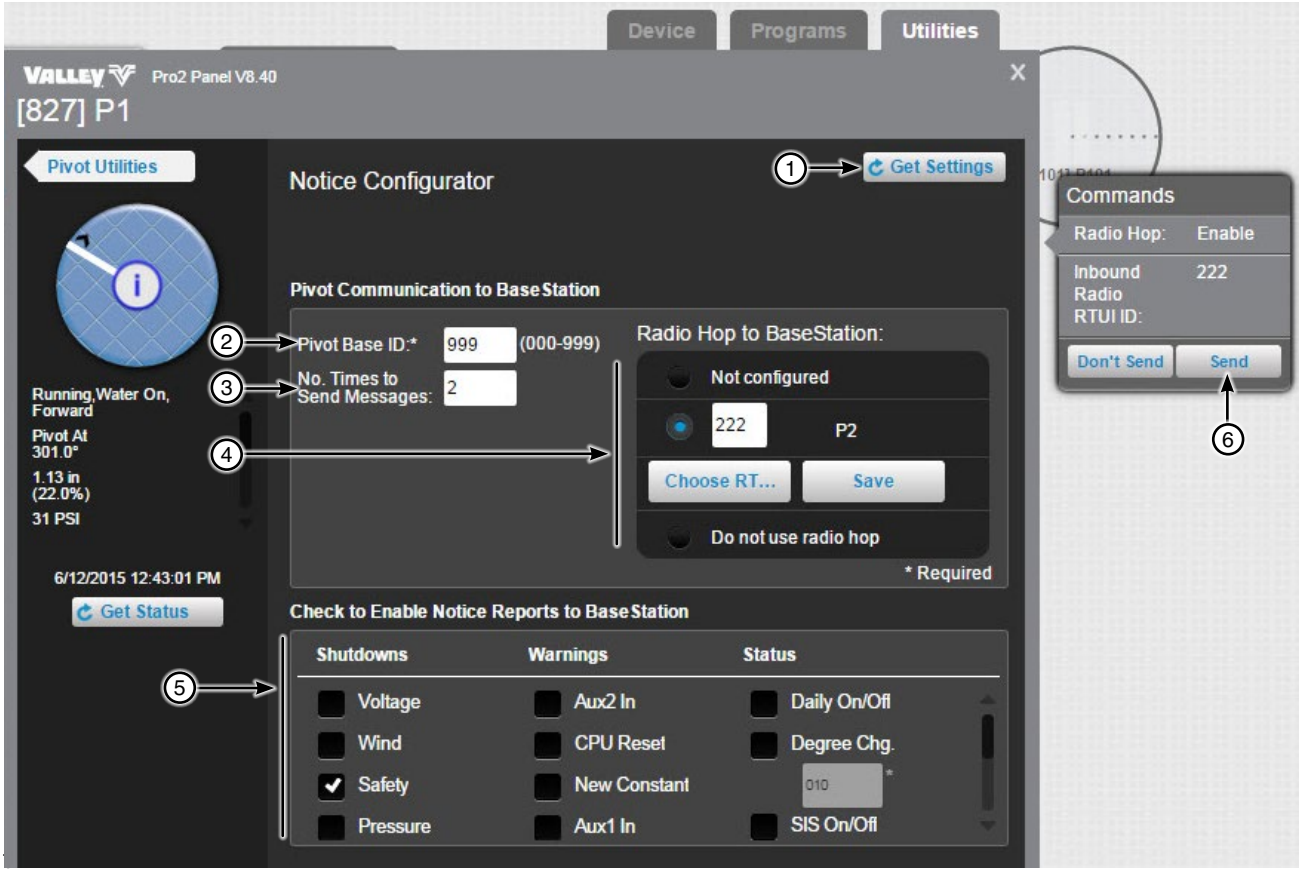


Figure 252-1
1. Get Settings
2. Pivot Base ID
3. No. Times to Send Messages
4. Radio Hop Settings
5. Machine States
6. Send

Pivot
Utilities Screen
Diagnostics
Event History Log

Read event data stored in an individual Pro2 v8.40 and higher control panel. Click **Event History Log** to view.

Control panel history contains machine status changes, logged with the date and time of the event.

When the Event History Log is displayed, the Total # Events Logged is set to the number of events (maximum 50) that exist in the control panel module at that time.

When the maximum number of 50 events exist in the control panel module, any new event is added as event number 1 and the oldest event is discarded.

Figure 253-1
1. Click Event History Log
2. Wait for Total Number to Update
3. Select Number of Events
4. Click Send

Monitor and Control

Pivot

Utilities Screen

Diagnostics

Event History Log Report

Toggle the side bar off and on.

Search: Click **Search**, enter a **Key Word** or phrase and click **Search**.

Page Selection tools: Choose the page by clicking either First Page, Previous Page, Next Page or Last Page.

The history log can be exported in the following formats; PDF, Word, XML and Excel. To export the report, select the export format and click **Export**.

To Print the history log click the **Print** button.

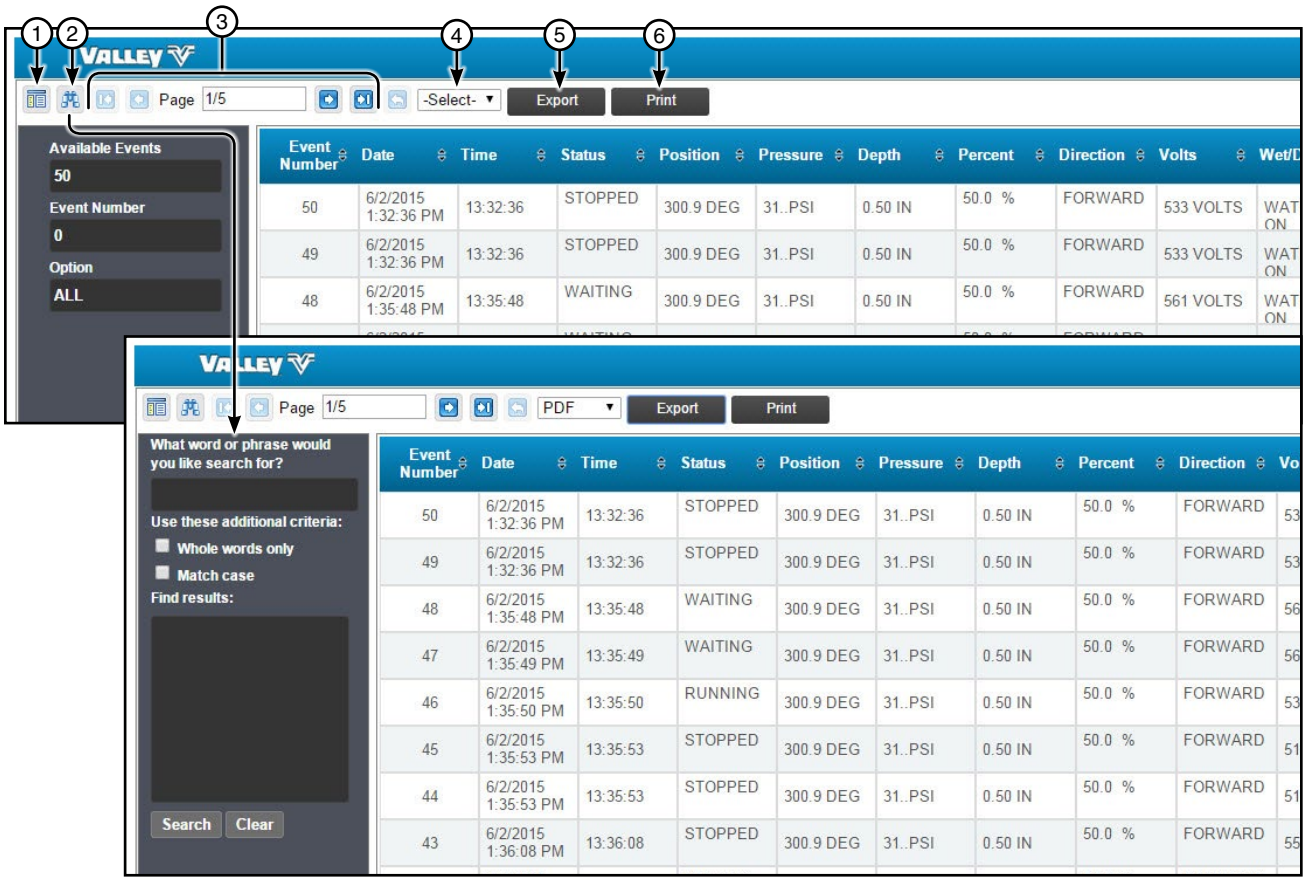


Figure 254-1
1. Toggle Side Bar
2. Search
3. Page Selection Tools
4. Export Format Selection Drop Down List
5. Export Button
6. Print Button

Pivot
Utilities Screen
Diagnostics
Status Change

Status change report. Click **Status Change Report** to select categories and view report.

The status changes logged by the BaseStation from polling, manual updates, and Real-Time updates for the selected device(s), for the date range and time period specified. The status changes are shown in a table containing information including the Name (of machine(s) selected), Date, Time, Status (Stopped or Running), End Gun (On or Off), Position (in degrees), Direction (Forward or Reverse), Water (Wet or Dry), Speed (expressed as a percentage of full speed 0-100), Pressure (PSI), Depth (in inches), Aux 1 Out, Aux 1 In, Aux 2 Out, Aux2 In, Analog Value, Counter 1, and Hours Wet.

Figure 255-1
1. Click Status Change Report
2. Select Start and End Dates, Change Criteria
3. Click Run Report Button

Monitor and Control

Pivot

Utilities Screen

Diagnostics

Status Change Report

Search: Click **Search**, enter a **Key Word** or phrase and click **Search**.

Page Selection Tools: Choose the page by clicking either First Page, Previous Page, Next Page or Last Page.

The report can be exported in the following formats; PDF, Word, XML and Excel. To export the report, select the export format and click **Export**.

To Print the report click the **Print** button.

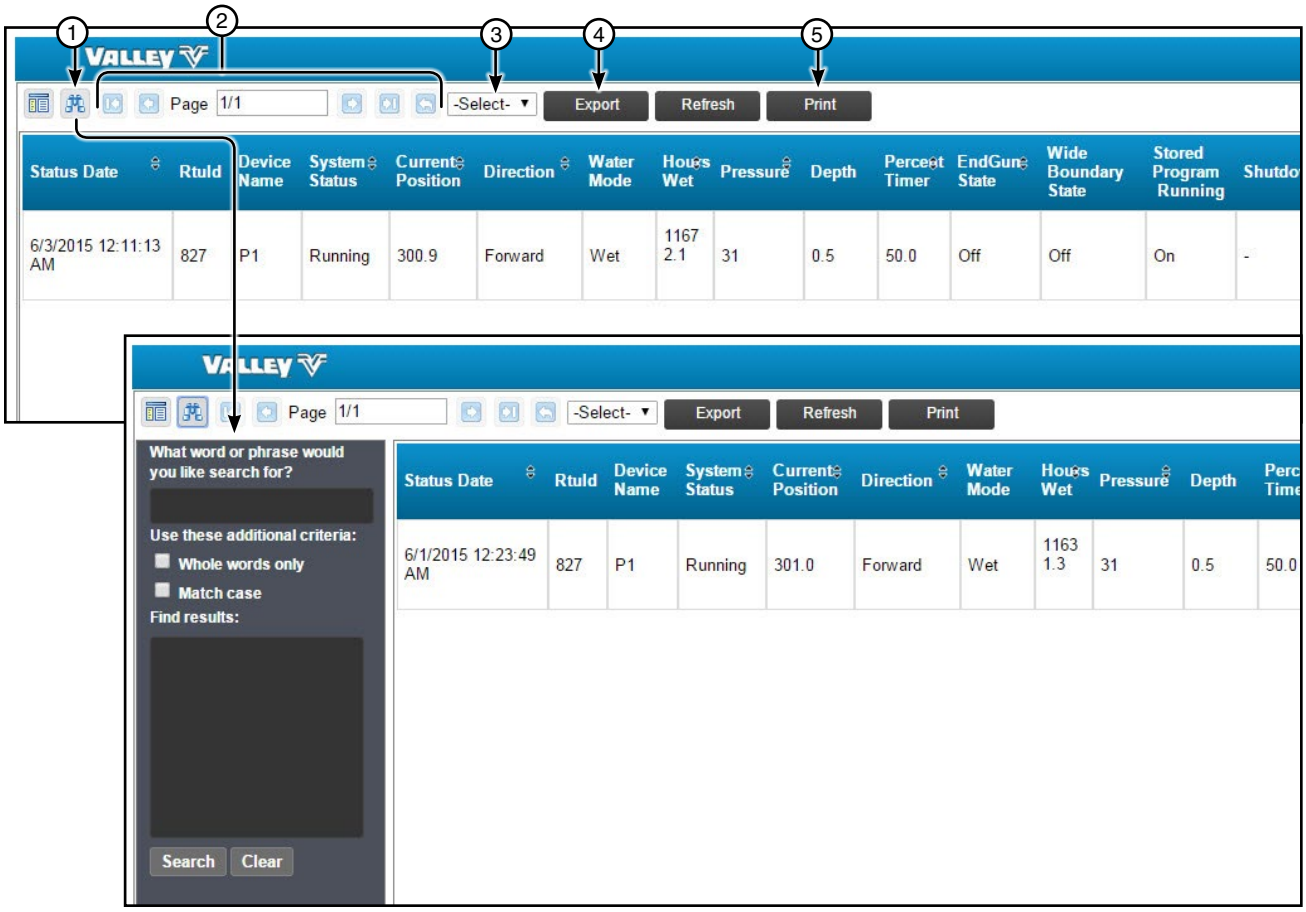


Figure 256-1
1. Search
2. Page Selection Tools
3. Export Format Selection Drop Down List
4. Export Button
5. Print Button

Pivot
Utilities Screen
Set Up
Panel Constants

The constant values for Minimum Application, Stop in Slot Angle and Minimum Hours Per Revolution can be obtained from or sent to the control panel. Get and Send are disabled when there is no RTU ID. See Figure 258-1.

Get: To load the constant values from a Pro2, Select2 or AutoPilot control panel into the BaseStation database, click the **Get** button associated with the constant, then click **Send**. Communication between BaseStation and the device is required.

Send: To send the constant values to a Pro2, Select2 or AutoPilot control panel from the BaseStation database, enter a value in the field associated with the constant, click the **Send** button associated with the constant, then click **Send** on the command dialog. Communication between BaseStation and the device is required.

Minimum Application (Inches): The depth of water applied at a speed setting of 100 percent. The Minimum Application values are used calculate depth in inches (in). The Discharge rate is not used in calculations when Flow Meter measurements are utilized.

Stop In Slot Angle: The position of Stop In Slot in degrees.

Minimum Hours/Rev: The amount of time (in hours) required for a full circle machine to make one revolution at a speed setting of 100 percent. The Minimum Hrs/Rev values are used to calculate the Hours/Rev at the percentage timer setting.

Pressure Delay: The panel constant for Pressure Delay is the time allowed for pressure to reach the Low Pressure Limit, when the machine is switched to Water On and Running. The default delay time is 600 seconds. The delay timer continues to run for the full timer duration, allowing pressure to fluctuate as pressure stabilizes. The machine may shutdown, after the Pressure Delay timer expires, if the pressure remains below the Low Pressure Limit threshold.

Low Pressure Limit: The Low Pressure Limit is the threshold used by the control panel. The default is 15 PSI. Working with the Pressure Delay (and the panel's internal operational pressure delay timer of 30 seconds), operational pressure less than the setting for the Low Pressure Limit will cause a Pressure Fault shutdown.

Low Voltage Limit: The Low voltage Limit is the threshold used by the control panel. The default is 440 Volts. Working with the panel's 15 second internal Low Voltage Delay, operational voltage less than the setting for the Low Voltage Limit will cause a Power Fault shutdown.

System Voltage: The current voltage measured by the control panel.

Set Position: The current position of the machine, as reported when receiving the Get Status message.

Wet Hour Meter: Recorded run time when the machine is running with water on.

Hour Meter: The clock in the panel that records the run time of the machine both when water is on and off. The Hour Meter records run time in tenths of an hour.

Wind Speed Shutdown: The shutdown due to Indicator the high wind speed limit has been exceeded.

Monitor and Control

Pivot
Utilities Screen
Set Up
Panel Constants (continued)

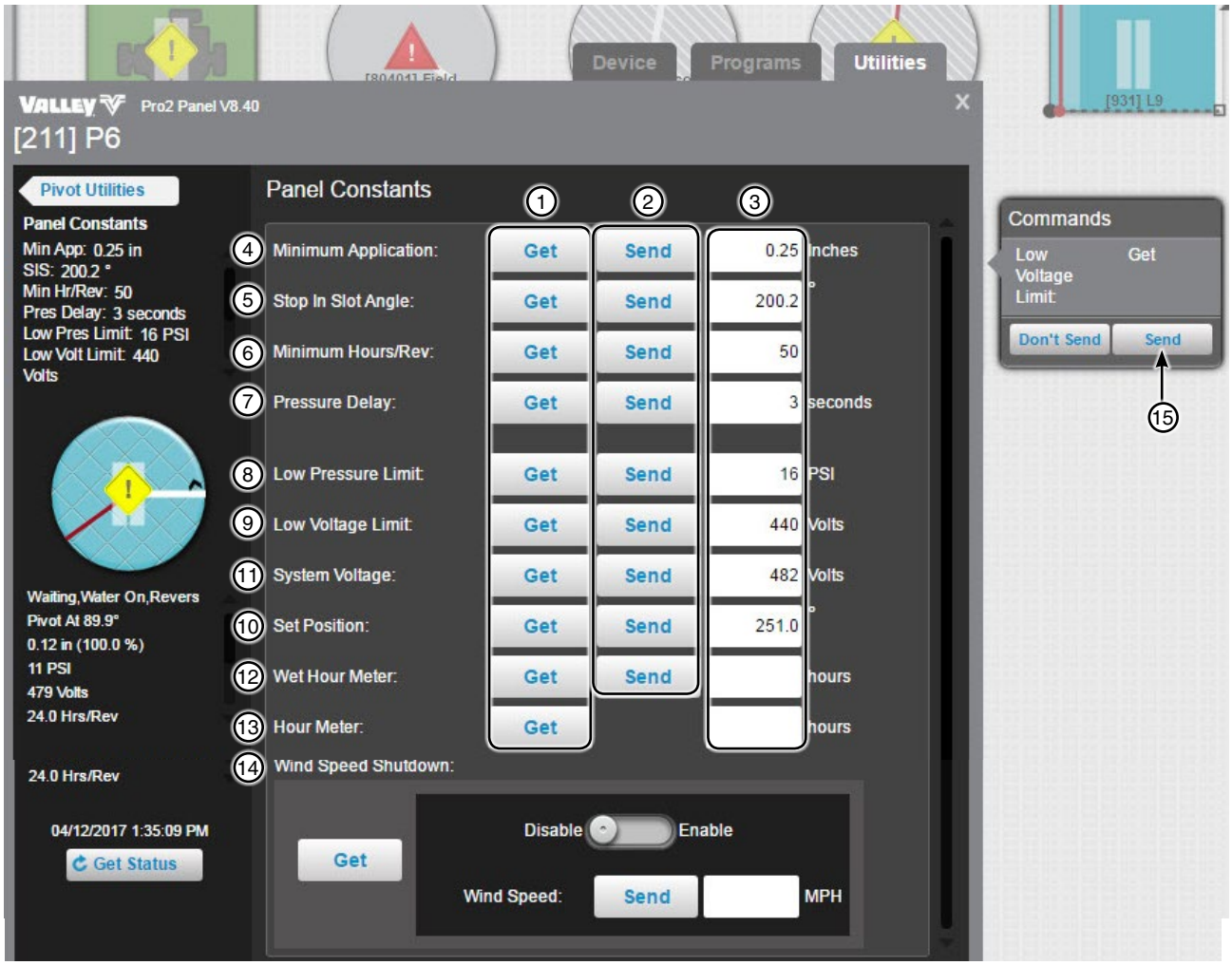


Figure 258-1
1. Get Button
2. Send Button (constant)
3. Value Field
4. Minimum Application
5. Stop in Slot Angle
6. Minimum Hours/Rev
7. Pressure Delay
8. Low Pressure Limit
9. Low Voltage Limit
10. System Voltage
11. Set Position
12. Wet Hour Meter
13. Hour Meter
14. Wind Speed Shutdown
15. Send (command dialog)

Pivot
Utilities Screen
Set Up
Restricted Entry Interval Timer

The Restricted Entry Timer that warns not to enter a field while chemicals are being applied. To learn more about the Restricted Entry Timer and what it does, please contact BaseStation support.

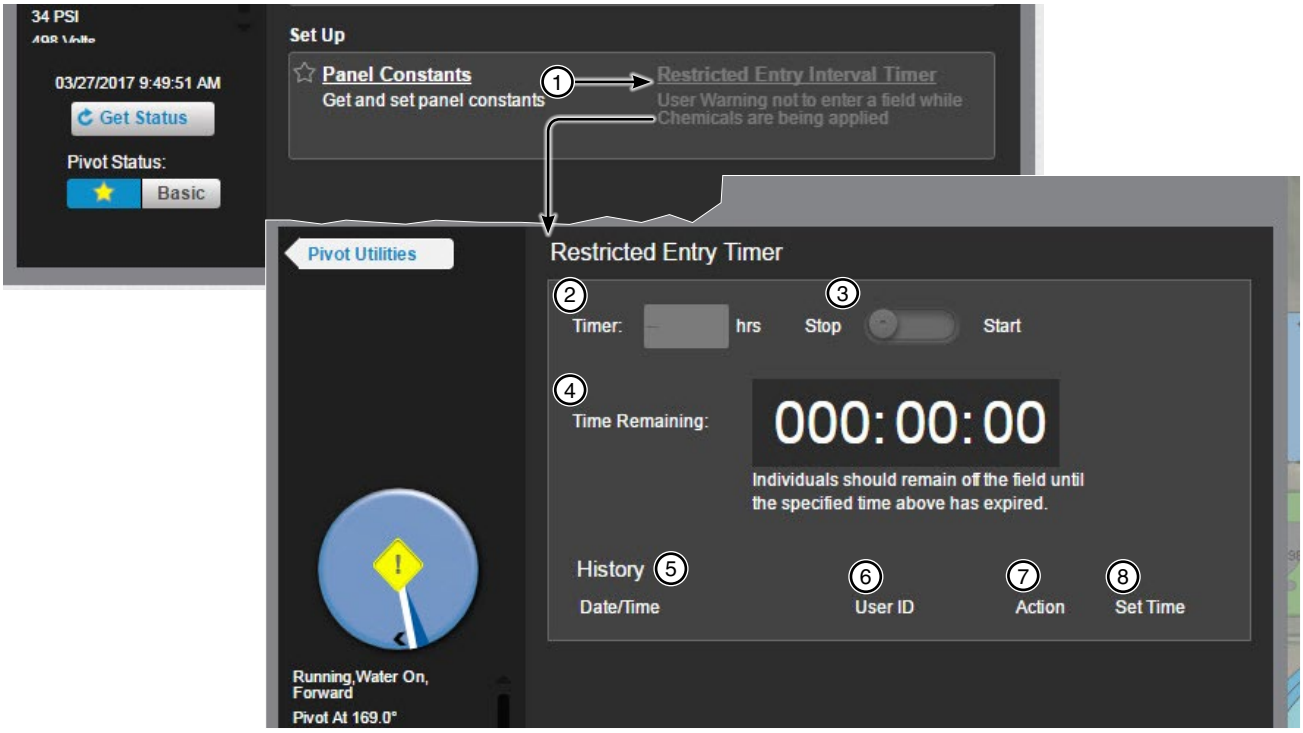


Figure 259-1
1. Click Restricted Entry Interval Timer
2. Timer
3. Stop/Start switch
4. Time Remaining
5. Date/Time
6. User ID
7. Action
8. Set Time

Monitor and Control

AgSense

Device Screen

There are different monitor and control screens based on available features of the control panel. The Commander VP is what is shown throughout this section, but ICON Link and Field Commander options are also available. The following controls and status displays are available on the device. After making a change, click the **Send** button to send the command or to cancel click the **Don't Send** button.

Aux 1 and Aux 2: Select On or Off to populate the Commands List Dialog.

Stop In Slot: Turn control On or Off to populate the Commands List Dialog. Enter an angle for Stop In Slot, then click **Save** to populate the Commands List Dialog with the new angle.

Direction Reverse/Forward: Selecting a direction populates the Commands List Dialog.

Water Dry/Wet: Click **Dry** (Water Off) or **Wet** (Water On) to populate the Commands List Dialog.

Percent Timer:

- Select the percent field, enter a new value, then click **Save** to populate the Commands List Dialog.
- Click **100 Percent** to change the value to 100% and populate the Commands List Dialog.

Depth:

- Select the depth field, enter a new value, then click **Save** to populate the Commands List Dialog.
- Select the hours field, enter a new value, click **Save** to populate the Commands List Dialog.

Start/Stop: Click **Start** or **Stop** to populate the Commands List Dialog.

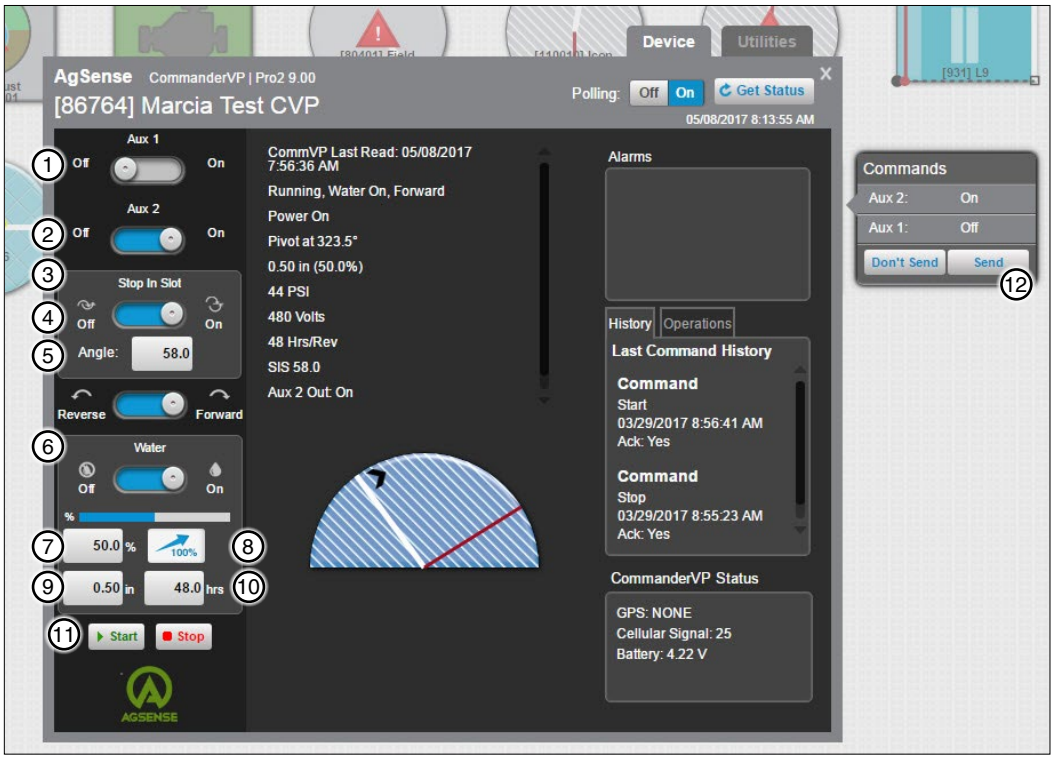


Figure 260-1

1. Aux 1
2. Aux 2
3. Stop in Slot
4. Angle
5. Direction
6. Water
7. Percent Field
8. 100% Button
9. Depth Field
10. Hours Field
11. Start and Stop Buttons
12. Commands List Dialog Send Button
13. Device Tab

AgSense
Utilities Screen
Auto Restart

Use Auto Restart to Enable/Disable the option at the device.

Click **Get Settings** to synchronize the BaseStation with the device settings.

To enable Auto Restart click Auto Restart. Click Auto Restart switch to enable. On the Commands List Dialog click Send. Click Get Status to update the Device Status.

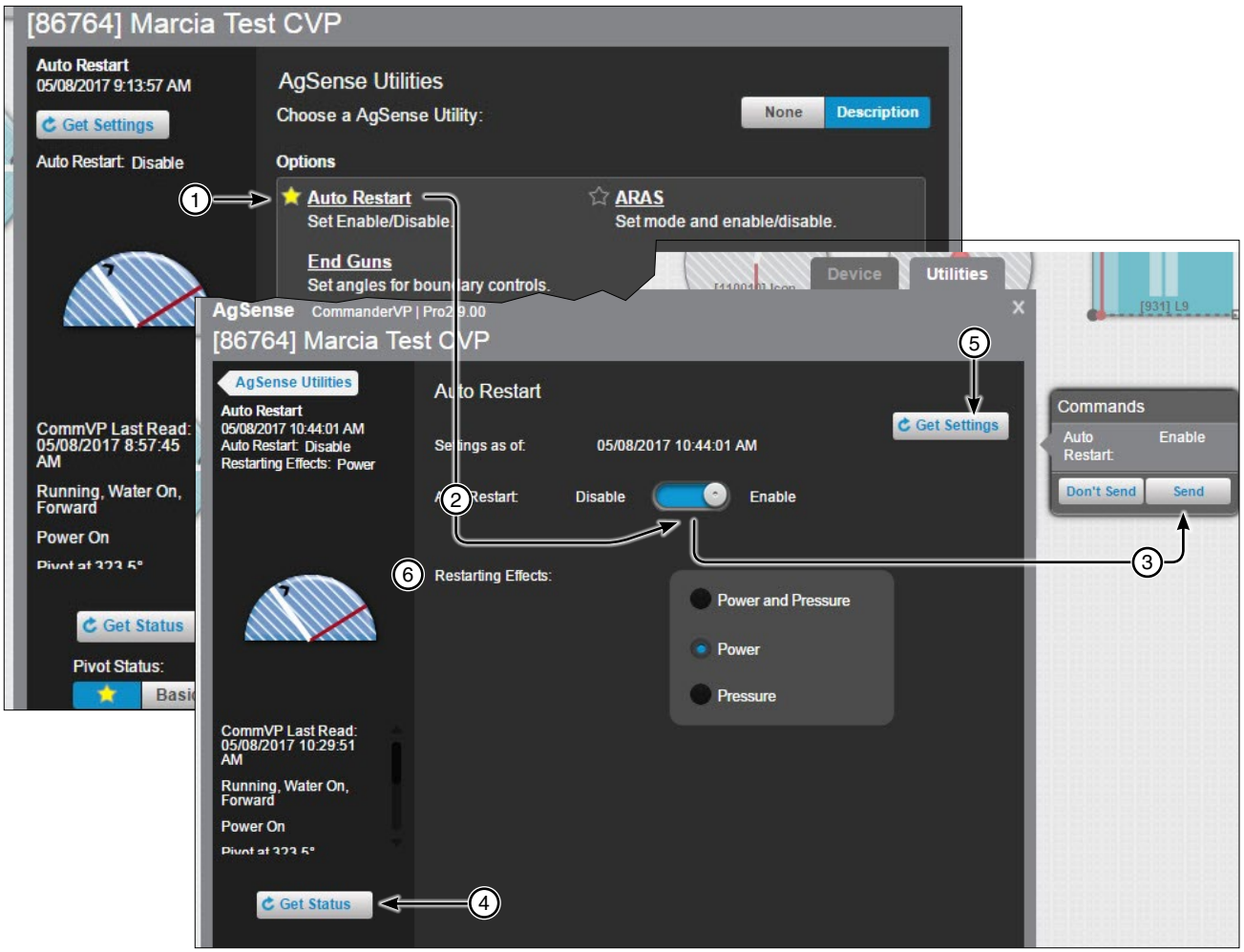


Figure 261-1
1. Click Auto Restart
2. Drag or Click Switch to Enable
3. Click Send
4. Click Get Status
5. Get Settings Button
6. Choose Restarting Effects

Monitor and Control

AgSense

Utilities Screen

ARAS (Auto Reverse Auto Stop)

Use ARAS to set the Mode. Polling Status and Enable/Disable the option at the device.

Click **Get Settings** to synchronize the BaseStation with the device settings.

To enable and setup ARAS click **ARAS**. Click **ARAS** switch to enable. Select the Mode and set the Polling Status. On the Commands List Dialog click **Send** button. Click **Get Status** to update the Device Status.

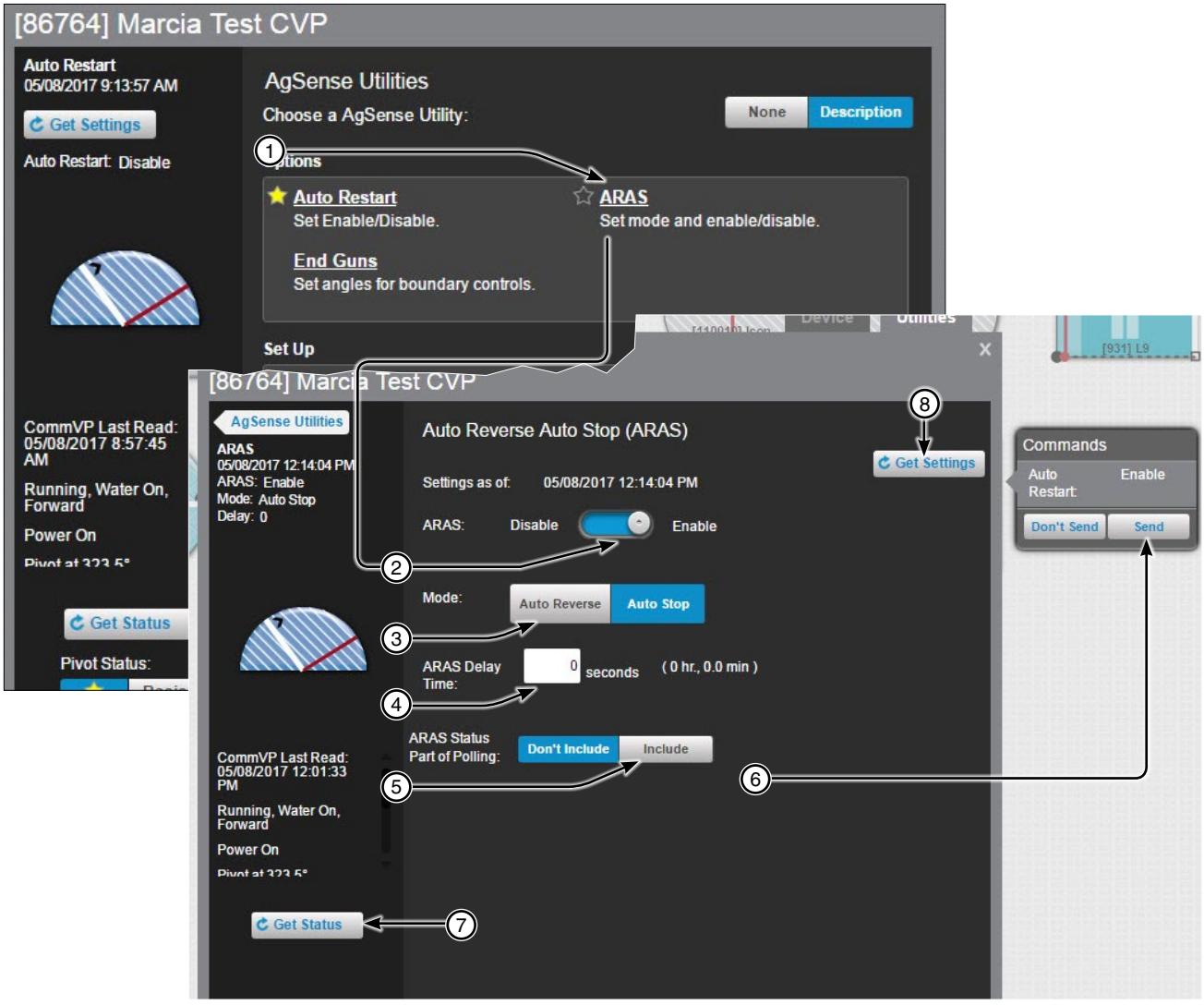


Figure 262-1

1. Click ARAS
2. Drag or Click Switch to Enable
3. Select the Mode
4. Set the ARAS Delay Time
5. Select the Polling Status
6. Click Send
7. Click Get Status
8. Get Settings Button

AgSense
Utilities Screen
End Guns

Send end gun positions in BaseStation, save them and send them to the device or update BaseStation with positions from the device.

End guns must be enabled in the control panel. However, end guns can be turned Off from BaseStation by setting all end gun positions to (0) and sending them to the device. Since the end gun positions are (0), the end gun will not turn On.

Get Angles: Click Get Angles to update the BaseStation with end gun positions from the device.

End Guns: Select the End Gun to change.

End Gun Start and End Position Fields: The fields where the start and end positions are entered.

Preview: Click to preview the end gun On sequence for the selected end gun. The end gun On sequences are highlighted in blue.

Reset: Click Reset to reset all settings back to the last saved state or the default if its never been saved.

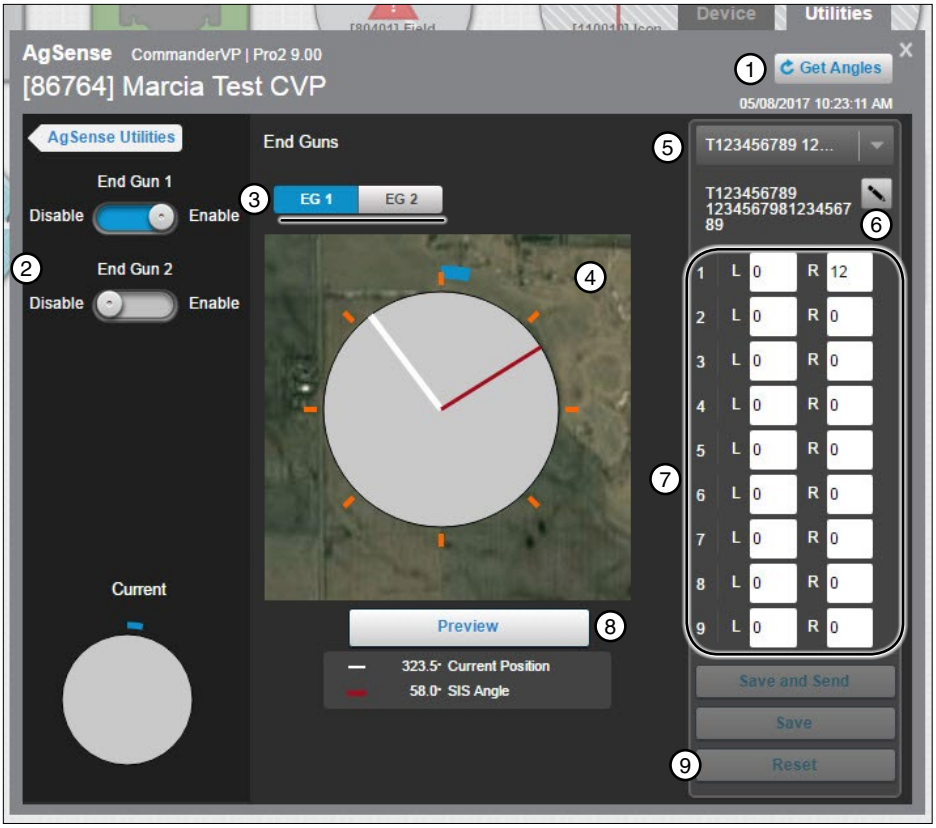


Figure 263-1

1. Get Angles
2. Disable/Enable Switch
3. End Gun Selection
4. Display
5. Table List
6. Edit Name
7. End Gun Start and End Position Fields
8. Preview
9. Reset Button

Monitor and Control

AgSense

Utilities Screen

End Guns

Set End Gun Positions

To set end gun positions click **End Guns**. Select the End Gun to change. Choose the table template to be used. Determine which sequence number 1 through 6 to change and enter the **Start** position in feet. Enter the **End** position in feet. Enter start and end positions in other sequences as required. Click **Preview** to update the linear graphic with end gun sequences. The end gun On sequences are highlighted in blue for the selected end gun. When done, click **Save**. On the Commands List Dialog click **Send**.

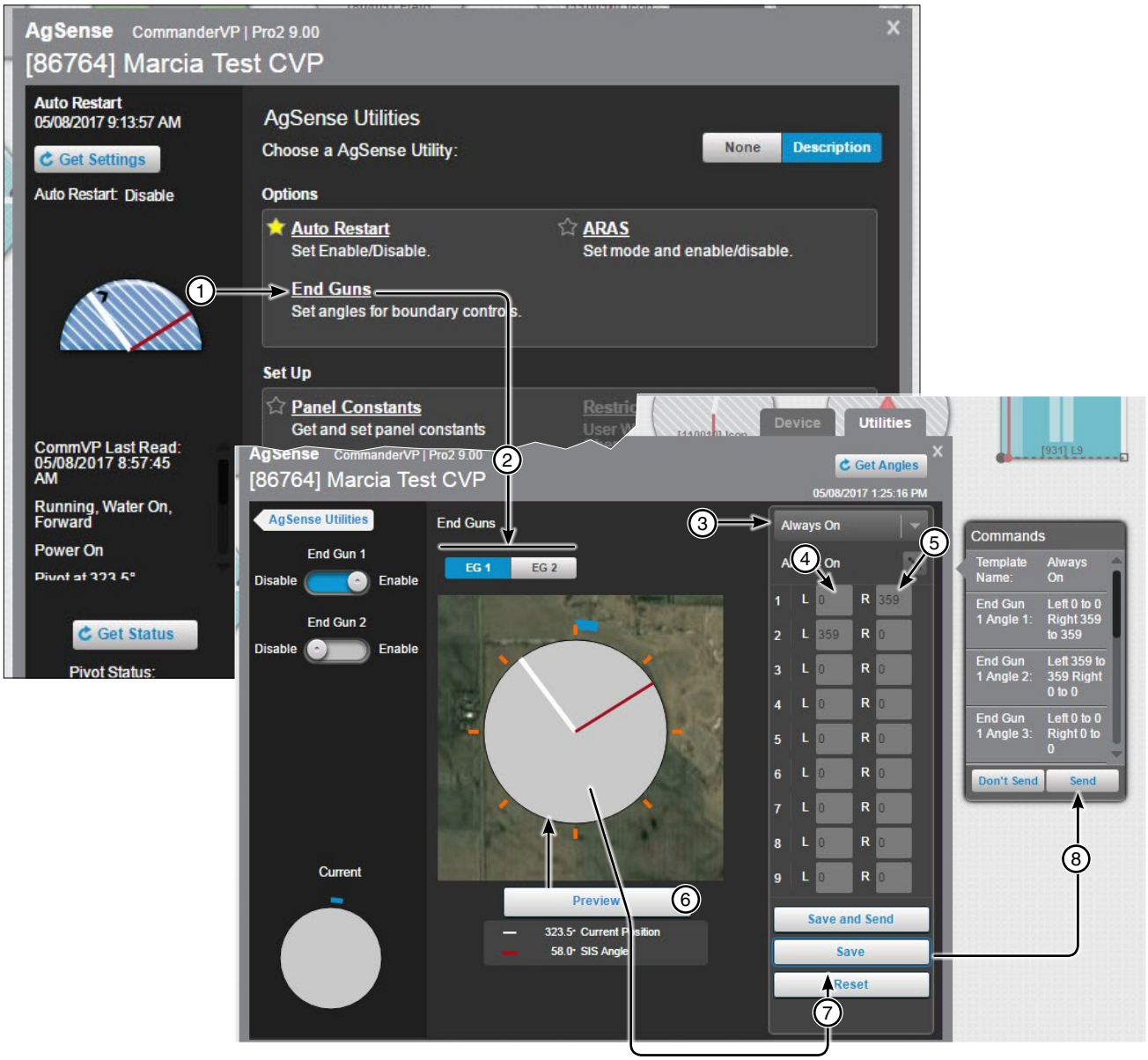


Figure 264-1

1. Click End Guns
2. Select the End Gun
3. Select the List
4. Enter the Start Position
5. Enter the End Position
6. Click Preview
7. Click Save
8. Click Send

AgSense
Utilities Screen
Panel Constants

Panel Constants displays the minimum application and minimum hours/rev panel constants.

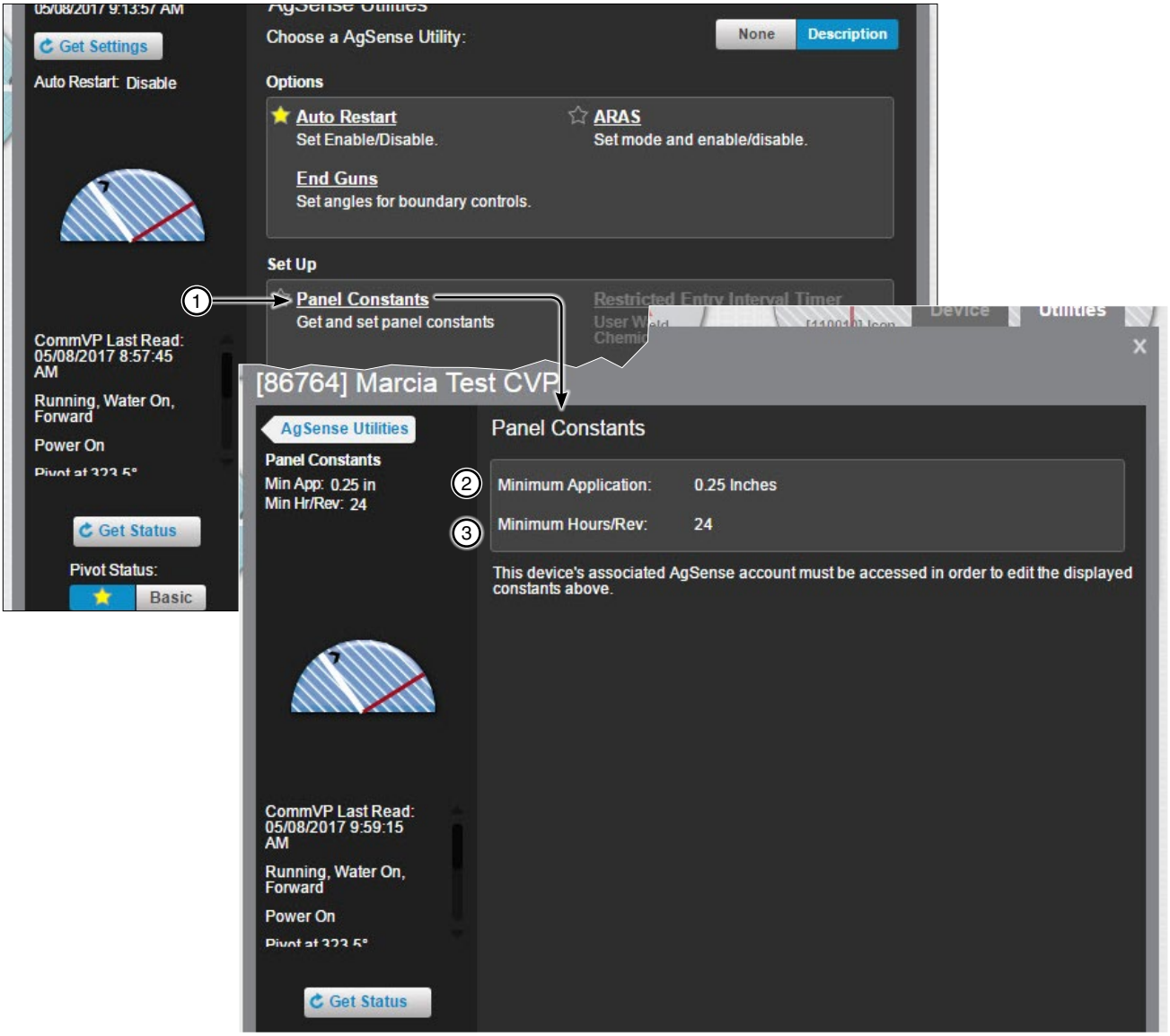


Figure 265-1
1. Click Panel Constants
2. Minimum Application
3. Minimum Hours/Rev

Monitor and Control

AgSense

Utilities Screen

Restricted Entry Interval Timer

The Restricted Entry Timer warns not to enter a field while chemicals are being applied. To learn more about the Restricted Entry Timer and what it does, please contact BaseStation support.

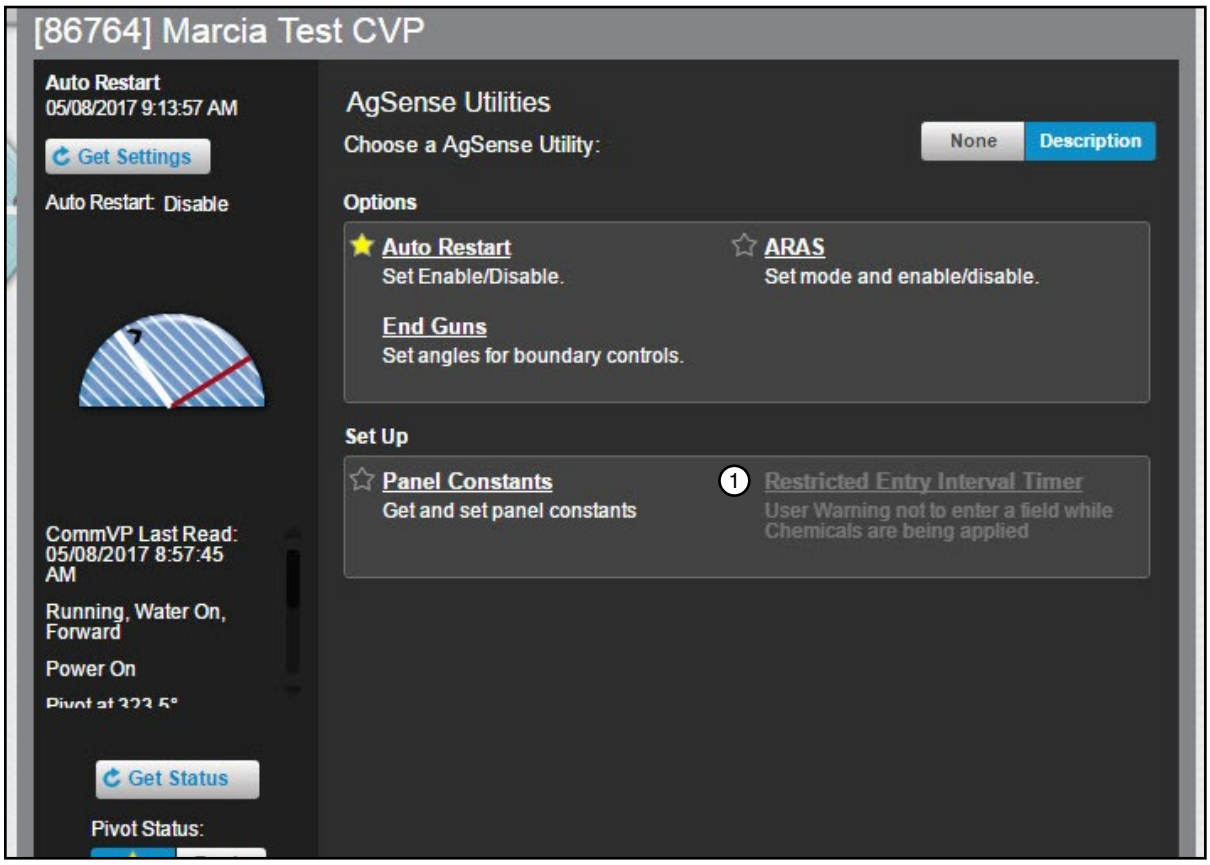


Figure 266-1 1. Restricted Entry Timer

Auxiliary Link

Controls and Status Displays

The following controls and status displays are available on the device. After making a change, click the **Send** button to send the command or to cancel click the **Don't Send** button.

Outputs: Slide switches to enable or disable the output. The Commands List Dialog is automatically populated with the change. When done making changes click the Send button in the Commands List Dialog to send the command(s) to the device.

View More/View Less: When more outputs or information exists than can be displayed in the original window, click **View More** to see the additional outputs or information. To return the window to the original size click **View Less**.

Inputs, Sensors and **Counters** display status information about the respective devices.

Remote Lock: Indicates the position of the Local-Off-Remote Switch at the auxiliary Link control panel. When the switch is in the Remote position, operation of the Auxiliary Link by the BaseStation is allowed. When the switch is in the Local position, the lock icon appears remote operation of the Auxiliary Link by the BaseStation is NOT allowed.

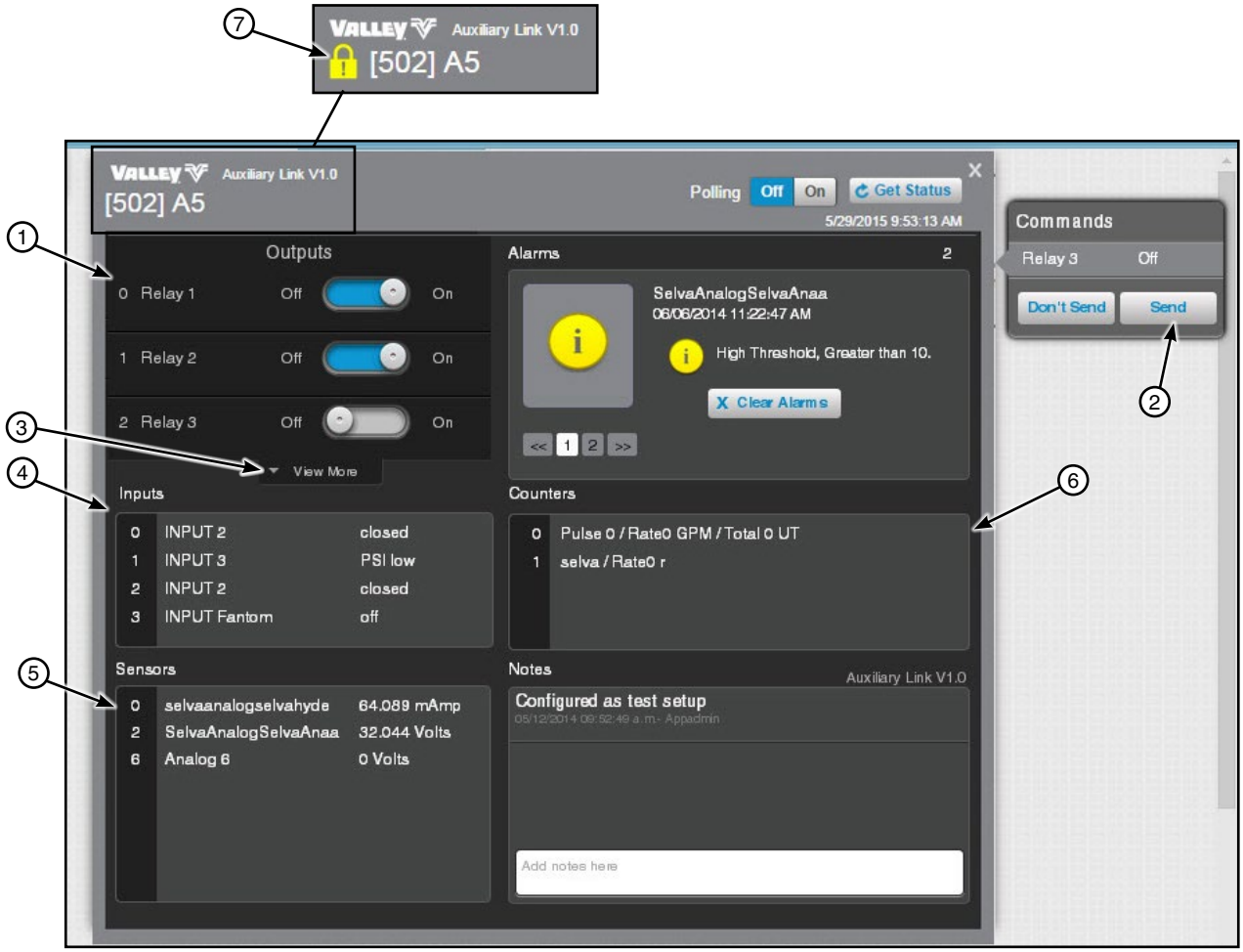


Figure 267-1
1. Outputs
2. Commands List Dialog Send Button
3. View More/View Less
4. Inputs
5. Sensors
6. Counters
7. Remote Lock

Monitor and Control

Irrometer Soil Moisture Monitor

Monitor Display

Rain Measurement: Displays the amount of rain received with date and time.

Transmitter Name: Displayed on the tab. Up to 16 transmitters can be displayed.

Last Update: The last date and time that the Irrometer website received an update from this transmitter.

Field: Shows the name of the field from the Irrometer website.

Angles: Displays the angular location of the transmitter and sensors.

Battery Level: Shows the battery voltage reported to the Irrometer website during the last update.

Sensor Name: Shows the name of each sensor. Up to four sensors can be displayed on each transmitter. The position of the sensor name on the screen depends on the physical connection of the sensor to the transmitter in the field.

Moisture Zone: The user set range associated with the normal level of moisture. Every reading greater than this range is dry. Every reading less than this range is wet. The Normal Threshold values are set in BaseStation.

Last Read: Shows the previous reading from the Irrometer website.

Current Read: Shows the current reading from the last update of the Irrometer website.

Chg Dir: Displays the change in direction of the moisture or temperature reading between the last reading and the current reading.

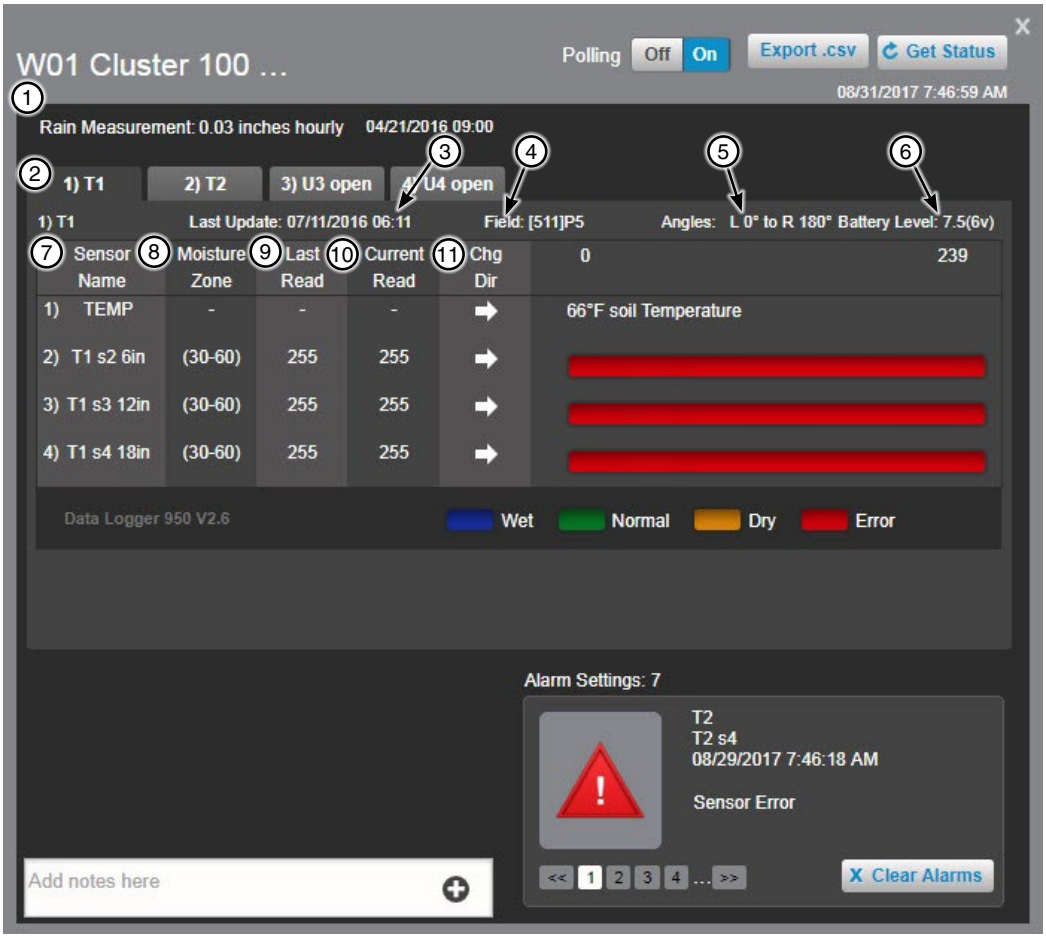


Figure 268-1
1. Rain Measurement
2. Transmitter Name
3. Last Update
4. Field
5. Angles
6. Battery Level
7. Sensor Name
8. Moisture Zone
9. Last Read
10. Current Read
11. Chg Dir

Irrometer Soil Moisture Monitor

Monitor Display (continued)

Graphic Reading: A graphic display of the last reading and the current reading. Temperature values are displayed in Fahrenheit only. The black line indicates the last reading and the white line indicates the current reading.

Data Logger Version: Displays the data logger software version.

Color Key: The colors associated with the Wet, Normal, Dry and Error values in the Graphic.

Notes: An area to enter notes for this device.

Alarms: Displays the current alarm conditions with graphic and text. The number of current alarms is displayed above the right corner of the Alarms area. When more than one alarm condition exists, click the arrows or a number to display a different alarm. To clear the alarm that is being displayed, click **Clear Alarms**.

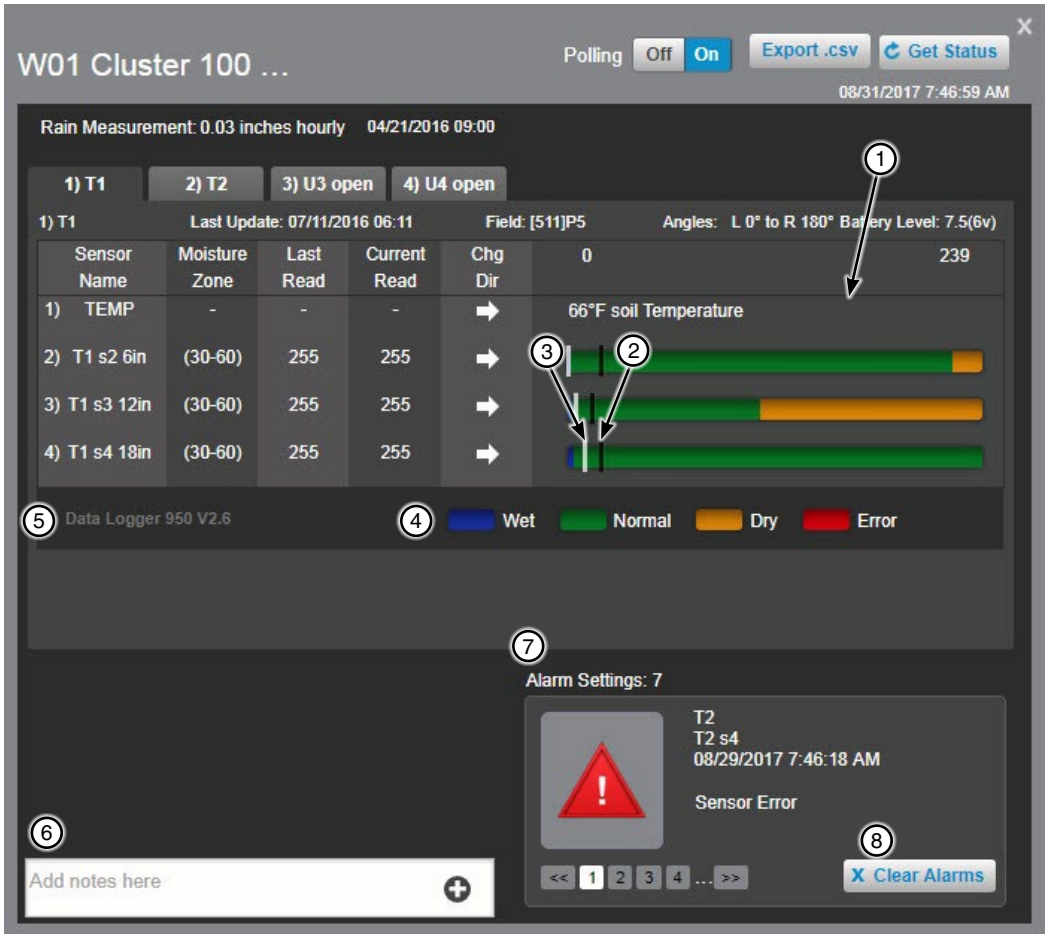


Figure 269-1
1. Graphic Reading
2. Black Line Last Reading
3. White Line Current Reading
4. Color Key
5. Data Logger Version
6. Notes
7. Alarms
8. Clear Alarms Button

Monitor and Control

PanelLink Pivot

Controls

The following controls are available on the Device. After making a change click the **Send** button to send the command or to cancel click the **Don't Send** button.

Aux 1 (Hardware required): Select On or Off to populate the Commands List Dialog.

Set Current Position: The current position can be changed. Click the **Angle** field, enter a value and click **Save** to populate the Commands List Dialog with the new angle.

Percent Bypass: When On, it bypasses the pivot control panel percent timer and runs the machine at 100%. This does not change the percent timer setting at the pivot control panel. When Off, the pivot control panel's percent timer is the active timer. Select On or Off to populate the Commands List Dialog.

Start Reverse/Start Forward/Stop: Selecting a start direction or stop populates the Commands List Dialog.

Figure 270-1

1. Aux 1
2. Set Current Position To
3. Angle Field
4. Start Reverse
5. Start Forward
6. Stop

Pump Control

Torrent Pump Control

The following controls are available for the Torrent Pump Control. Click **Get Status** to send commands to the device.

Operation State: The current pressure, as monitored with a pressure sensor on the pump output.

Discharge Set Point: The pressure set point that the pump is intended to maintain as its output pressure.

Ambient Temperature: The temperature of the air surrounding the pump controller, typically inside the pumping facility.

Flow Rate: The volume of water (or other liquid) being measured by a flow meter during a 1 minute interval, expressed as Gallons per Minute (or Liters per Second).

Water Level: A monitored water level, typically from the reservoir that is being pumped from.

Total Volume: A permanent total volume of water that has been pumped by the controller.

Season Volume: A resettable volume monitor.

Pumps: A list of pump(s) that are enabled for monitoring.

Alarms: Displays the current alarm conditions with graphic and text. To clear the alarms click **Clear Alarms**.

Notes: An area to enter and view all notes for this device. When the maximum number of 10 notes exist in the notes display, any new note is added to the top of the list and the oldest note is discarded. Notes cannot be edited.

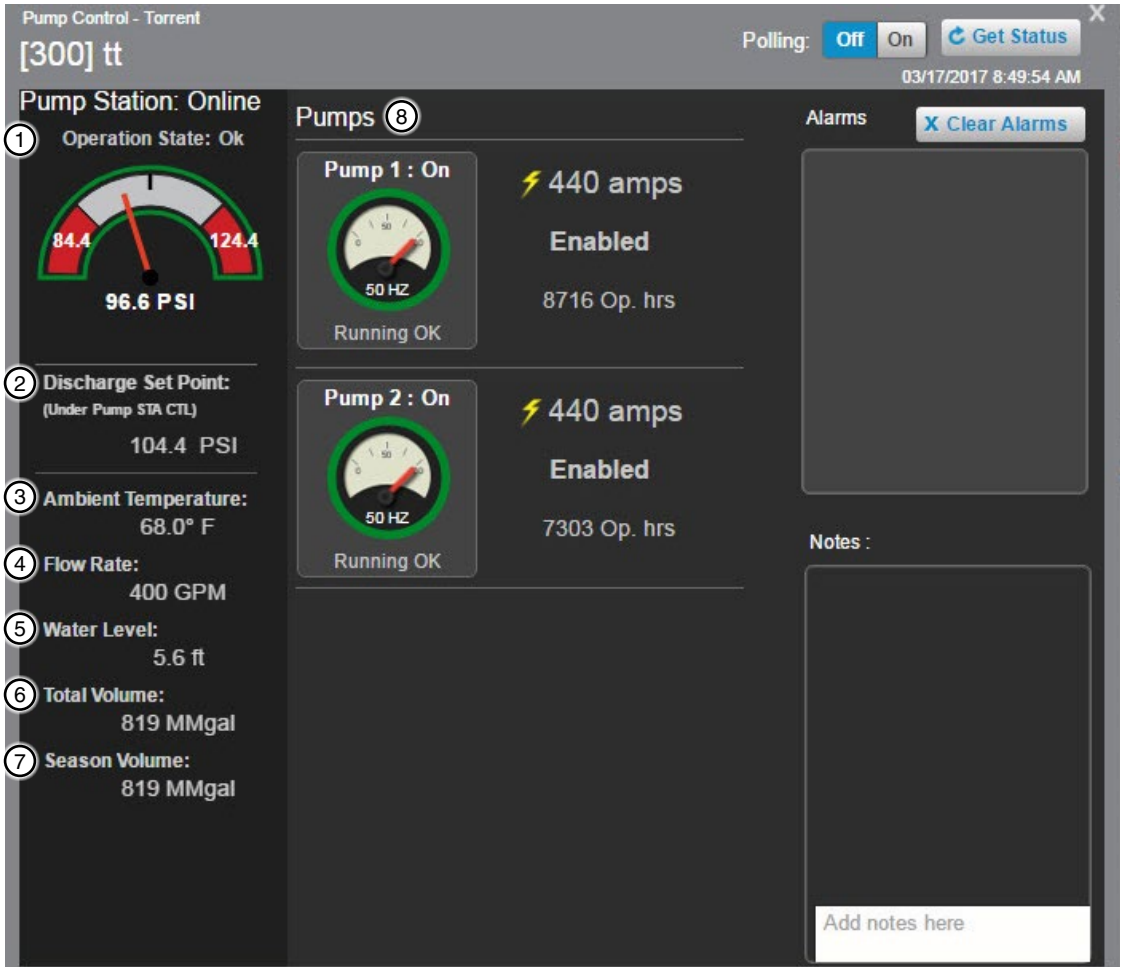


Figure 271-1
1. Operation State
2. Discharge Set Point
3. Ambient Temperature
4. Flow Rate
5. Water Level
6. Total Volume
7. Season Volume
8. Pumps

Monitor and Control

Pump Control

Yaskawa Pump Control

The following controls are available for the Yaskawa iQpump 1000 Pump Control. Click **Get Status** to send commands to the device.

Pump Station Mode: The switch position, Local or Remote.

Mode: The panel operation mode, Hand, Off, or Auto. This determines the control operation function.

Operation State: The current pressure, as monitored with a pressure sensor on the pump output.

Pressure Set Point: The pressure set point that the pump is intended to maintain as its output pressure.

Total Volume: A permanent total volume of water that has been pumped by the controller.

Season Volume: A resettable volume monitor.

Pumps: A list of pump(s) that are enabled for monitoring.

Alarms: Displays the current alarm conditions with graphic and text. To clear the alarms click **Clear Alarms**.

Notes: An area to enter and view all notes for this device. When the maximum number of 10 notes exist in the notes display, any new note is added to the top of the list and the oldest note is discarded. Notes cannot be edited.

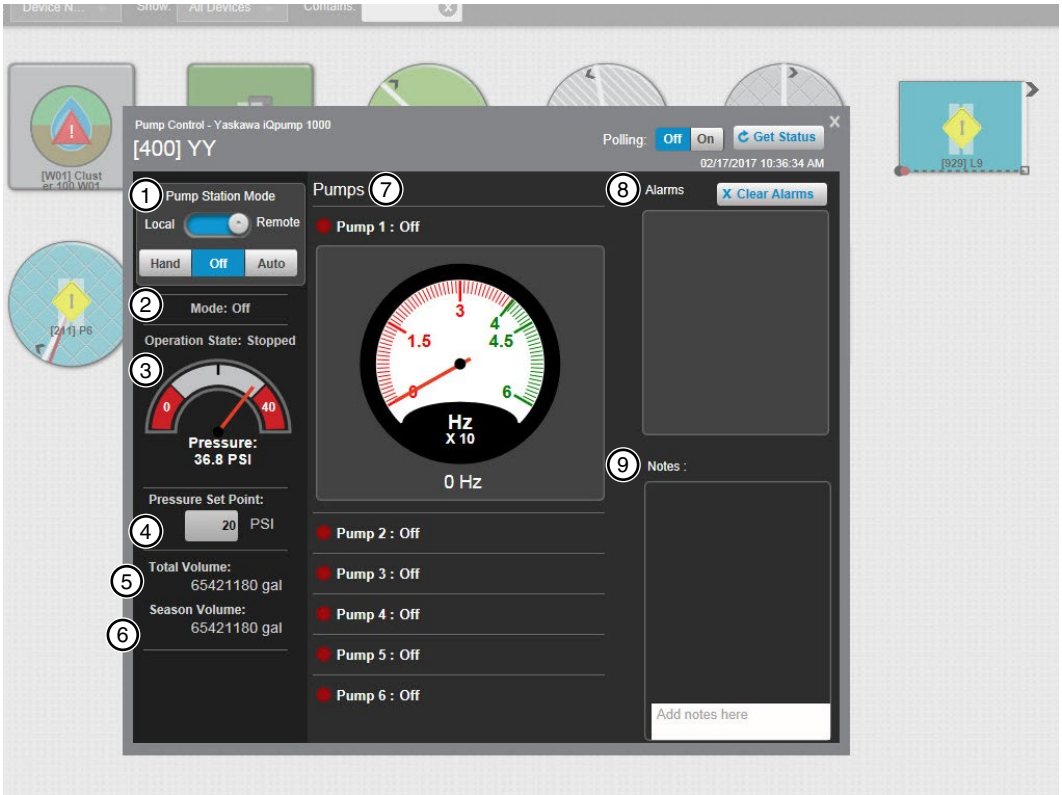


Figure 272-1
1. Pump Station Mode
2. Mode
3. Operation State
4. Pressure Set Point
5. Total Volume
6. Season Volume
7. Pumps
8. Alarms
9. Notes

Engine Control

Controls and Status Displays

The following controls and status displays are available on the Device. After making a change, click the **Send** button to send the command or to cancel click the **Don't Send** button.

Connected Device Run Delay: The Engine Control device will not automatically shutdown the engine while the Connected Device Run Delay timer is running, even if the state of Connected Device Status is not running. If the Connected Device Status is not running, and the Connected Device Run Delay period has expired, the Engine control device will switch the command to Stop. The Run Delay can be set according to field installation, with the Run Delay time adjustable as necessary. This can also be used when an engine is needed to run for an extended period of time, even if there is no connected device. The default settings for the Engine Control device is for the traditional pivot or linear machine as the Connected Device. This is to allow time for the pivot/linear machine to be started, following a short duration that is allowing the engine to stabilize at normal RPM, or to allow for communications with the pivot/linear machine after it has had a shutdown, before killing the engine power.

Start/Stop Button: Click **Start** or **Stop** to populate the Commands List Dialog.

Alarms: Displays the current alarm conditions with graphic and text.

History: Displays command history from the last two communications with the device.

Connected Devices: A connected device can be any equipment that the engine is installed to support. The default settings for the Engine Control device is for the traditional pivot or linear machine as the Connected Device.

Notes: An area to enter and view all notes for this device. When the maximum number of 10 notes exist in the notes display, any new note is added to the top of the list and the oldest note is discarded. Notes cannot be edited.

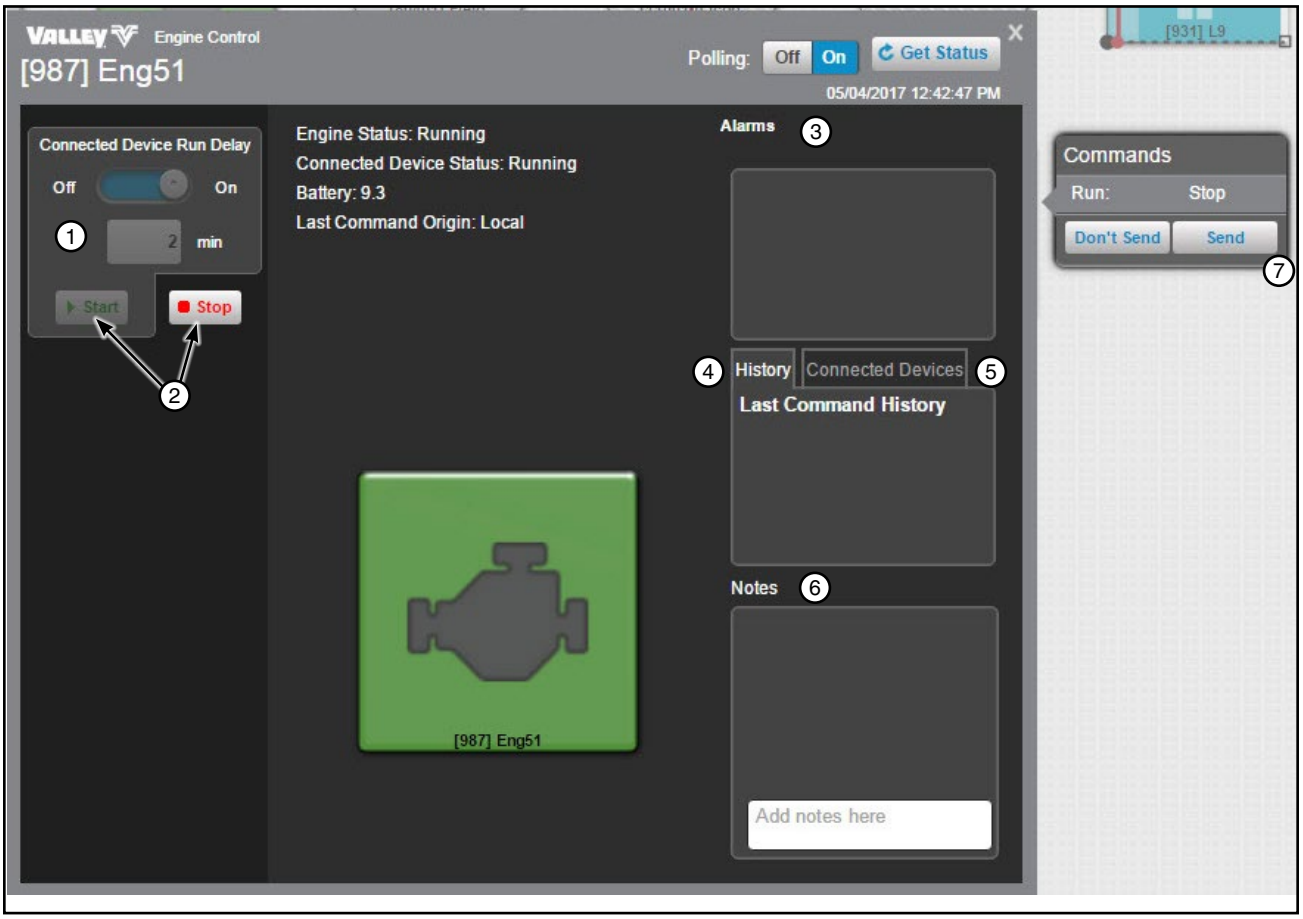


Figure 273-1
1. Connected Devices Run Delay Switch
2. Start/Stop Buttons
3. Alarms
4. History
5. Connected Devices
6. Notes
7. Send Button

Monitor and Control

Standalone Web Camera Device

To view live streaming video from a web camera device do the following.

In **Tile View** or **Map View** in the **Operational View Type**, select a web camera device to open the viewing window. The viewing window will display live streaming video, and can be maximized, restored down or minimized. The window will remain open until user closes it.

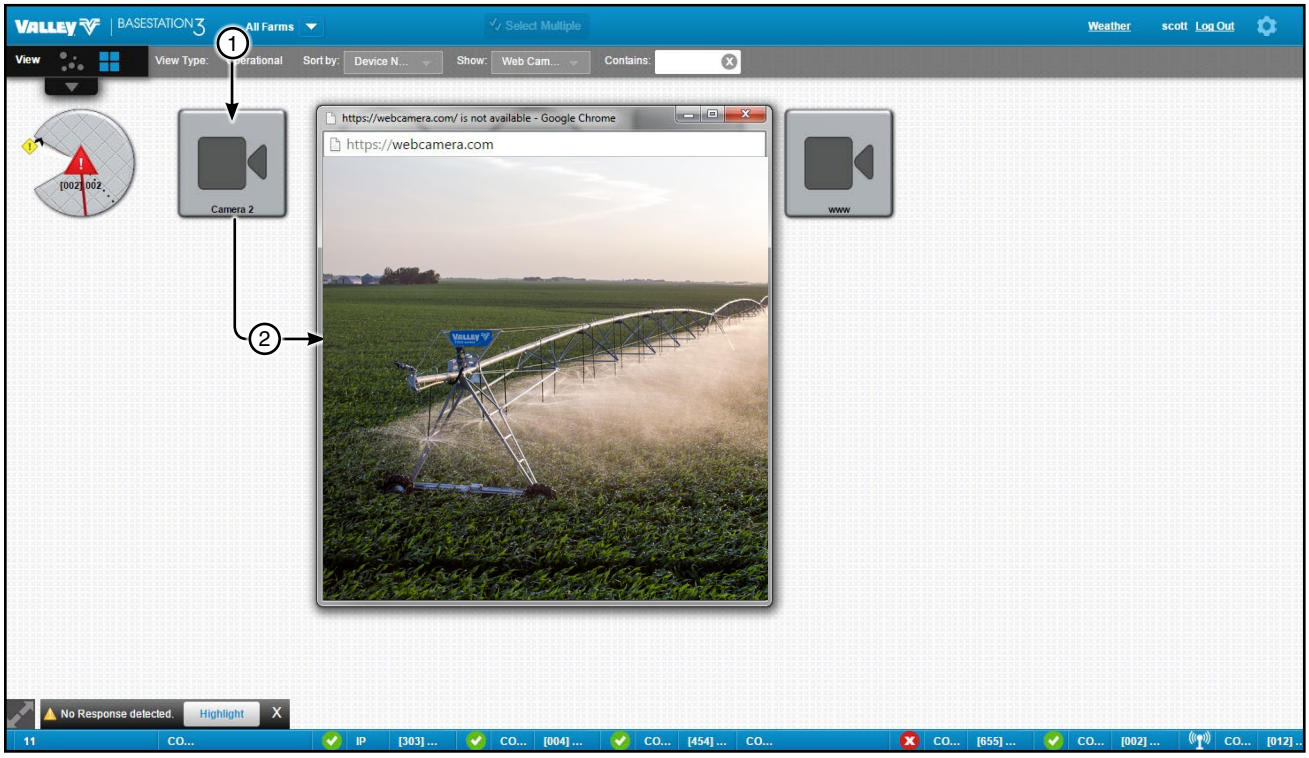


Figure 274-1 Tile View/Operational View Type Shown

1. Select Web Camera Device
2. View Window

Web Camera Associated with a Device

To view live streaming video from a web camera that is associated with a device do the following.

In **Tile View** or **Map View** in the **Operational View Type**, select a device that is associated with a web camera to open the device view. On the device view, click **Camera** to open the **View Window**. The viewing window will display live streaming video, and can be maximized, restored down or minimized. The window will remain open until user closes it.

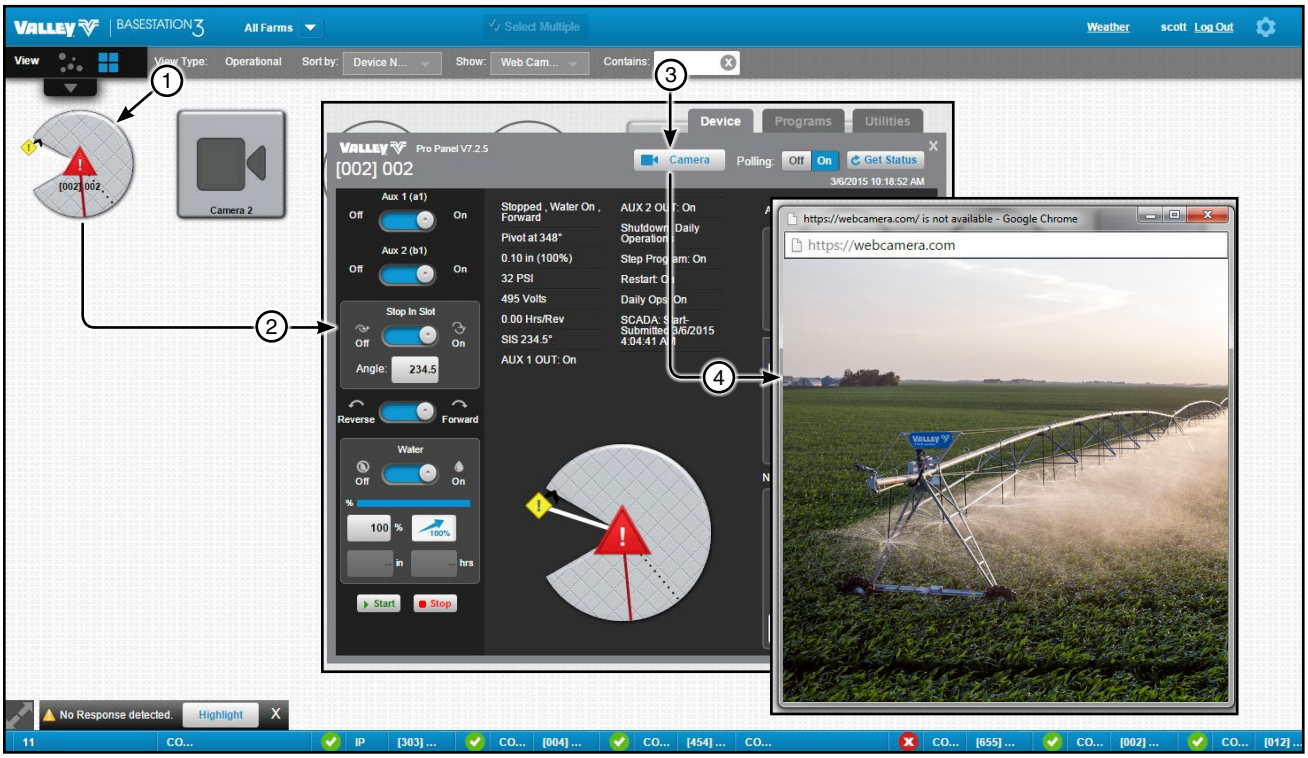


Figure 275-1 Tile View/Operational View Type Shown

1. Select Device Associated with Web Camera
2. Device View
3. Click Camera
4. View Window

PROBLEM	POSSIBLE CAUSE / CORRECTIVE ACTION
In Base Setup, Time to Wait for Acknowledge set too low.	Increase the Time to Wait for Acknowledge in 2 second increments until commands are executed correctly.
	Contact your local Valley dealer.
BaseStation is not communicating with a specific device.	Verify that power is ON at the device.
	The control panel setup RTU ID does not match the actual device/control panel RTU ID.
	Verify the correct RTU ID.
	Verify proper operation of communication hardware at device.
	Contact your local Valley dealer.
BaseStation can communicate with a specific device, but will not Poll the device.	Polling is turned off. Turn Polling on.
	Contact your local Valley dealer.
BaseStation is communicating with device but update information received from device is corrupt.	In Base Setup, Time to Wait for Acknowledge is set too high. Decrease Time to Wait for Acknowledge in 2 second increments until uncorrupted update information is received correctly.
	Contact your local Valley dealer.
BaseStation will not communicate with any device.	Power to BaseStation communication hardware is off. Turn power on to communication hardware.
	Serial or USB cable from BaseStation computer to communication hardware is not connected. Verify correct connection of cable.
	Faulty antenna connection or radio. Verify antenna connection and radio operation.
	Contact your local Valley dealer.

PROBLEM	POSSIBLE CAUSE / CORRECTIVE ACTION
Minimum Application (Application Rate) in BaseStation does not match the Application Rate at device control panel. Minimum application constant must be entered in the pivot setup before this option is available. See Pivot Configuration/Setup / Constant Values / Minimum Application in the Device Management section of this manual.	To synchronize the Minimum Application click **Settings** and **Add/Remove Device**s, click the device **Change** button, click the **Setup** button, enter the correct Minimum Application and click the **Send** button or click the **Get** button to get the correct Minimum Application from the device/control panel.
Minimum Hours/Rev in BaseStation does not match the Hours/Rev at device/control panel. Hours per revolution must be entered in the pivot setup before this option is available. See Pivot Configuration/Setup / Constant Values / Minimum Hours/Rev in the Device Management section of this manual.	To synchronize the Minimum Hours/Rev click **Settings** and **Add/Remove Device**s, click the device **Change** button, click the **Setup** button, enter the correct Minimum Hours/Rev and click the **Send** button or click the **Get** button to get the correct Minimum Hours/Rev from the device/control panel.
Stop In Slot Angle in BaseStation does not match the Stop In Slot Angle at the device control panel.	To synchronize the angle click **Settings** and **Add/Remove Device**s, click the device **Change** button, click the **Setup** button, enter the correct Stop In Slot Angle and click the **Send** button or click the **Get** button to get the correct Stop In Slot Angle from the device/control panel.
Google Map won't display the map. Error message:	Call your Internet provider.
	Use Tile View or My Map when Internet service is unavailable.