



siteVIEW 2.1

Distributed Monitoring Software

User Manual

**for siteVIEW Enterprise 2.1
and siteVIEW Enterprise 2.0**

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PREFACE

This document describes the installation and operation of TASC Systems' siteVIEW Enterprise 2.1, siteVIEW v2.0 and siteVIEW scope 2.0 distributed monitoring software applications.

Hardware and software described in this document is subject to ongoing development and improvement. Consequently there may be minor discrepancies between the information in this document and the performance and design of the hardware and software.

The siteVIEW 2.1 system is designed for flexibility of use and installation and is therefore highly configurable and should only be installed by an appropriately trained technician.

The user should ascertain that this product is suitable for the intended application. TASC Systems Inc. accepts no responsibility, liability, for misuse, or damage resulting from the inappropriate use of the product described herein.



Before connecting any equipment to siteVIEW 2.1, it is advised to read this manual in its entirety.

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RELATED DOCUMENTS

- [siteCOMMANDER User Manual \(050-015-0002\)](#)
- [sitePORTAL Lite User Manual \(050-015-0012\)](#)
- [siteRSM User Manual \(050-015-0052\)](#)
- [siteVIEW 2.0 Quick Start Guide \(050-015-0063\)](#)

REVISION HISTORY

Revision	Date	Changes
050-015-0050R00	April 2009	<ul style="list-style-type: none"> Assign new document number (previously 0039) R03 reset to R00 for first public release
050-015-0050R01	April 2009	<ul style="list-style-type: none"> Update Figure 60 and 61
050-015-0050R02	December 2009	<ul style="list-style-type: none"> Added Figures 37 and 38 Added Appendix, C Section 10 Rename Manual Made manual generic to apply to both siteVIEW Enterprise 2.0 and siteVIEW scope 2.0, with product comparison sheet
050-015-0050R03	March 2010	<ul style="list-style-type: none"> Added analog formula to section 6.3.2 Added Figures 36, 37, 38 and 39 Added a note to section 6.4.4 regarding analog formulas
050-015-0050R04	March 2011	<ul style="list-style-type: none"> Added Log All Feature
050-015-0050R05	May 2013	<ul style="list-style-type: none"> siteVIEW deployment and administrative Communication Service log file system SNMP global settings and notifications Contextual options for Alarm panel siteVIEW software components diagram and related connection management
050-015-0050R06	September 2013	<ul style="list-style-type: none"> Alarm conditions and alarm management information Panel design information
050-015-0050R07	August 2014	<ul style="list-style-type: none"> Includes updates for siteVIEW 2.1 Appendix E: Ping Devices Appendix F: siteVIEW to Device Communication

1. PRODUCT DESCRIPTION

1.1. GENERAL DESCRIPTION

TASC siteVIEW 2.1 is a distributed monitoring software package designed to work in conjunction with TASC hardware monitoring products. Currently siteVIEW supports the siteCOMMANDER, sitePORTAL lite, siteRSM and the ability to ping third party IP based network devices.

siteVIEW is built with an easy to use graphical user interface (GUI) that provides visibility into a network of devices. This simplifies the task of site monitoring by centralizing all site information and communication into a single software package.

siteVIEW allows for multiple simultaneous client connections to the siteVIEW data warehouse. With this ability, it is possible to setup a group of operators or dispatchers, in one or multiple locations, to supervise and control devices in the network.

siteVIEW 2.1 Components:

- Data Handler
 - Data Warehouse
 - Logging Interface
- Communication Service
- Alarm Notification Handler
- User Interface
 - Client GUI
 - Log Viewer

1.2. Installation Requirements

1.2.1. Data Handler Requirements

- Microsoft Windows 2000/XP/Vista/7/Server
- Microsoft .NET Framework 3.5 or later

1.2.2. Communication Service Requirements

- Microsoft Windows 2000/XP/ Vista/7/Server
- Microsoft .NET Framework 3.5 or later

1.2.3. Alarm Notification Handler Requirements

- Microsoft Windows 2000/XP/ Vista/7/Server
- Microsoft .NET Framework 3.5 or later

1.2.4. User Interface Requirements

- Microsoft Windows 95/98/2000/XP/ Vista/7/Server
- Microsoft .NET Framework 3.5 or later
- Microsoft DirectX 9.0 or later

1.3. **siteVIEW Key Features**

N-Tier Software Architecture
Device Configuration and Monitoring
Various Alarm Reporting Options
Multi – Protocol Communication Routing
Scheduled Polling and Log Retrieval
Site-to-Site Output Mapping
Custom Panel Backgrounds
Drag and Drop Site Panel Controls
Site Grouping
Kenwood FleetSync™ Protocol Integration
Simple Licensing Scheme

2. INTRODUCTION

2.1. N-Tier Software Architecture

siteVIEW is based on an N-Tier software model with several components that are responsible for different components of the system. There is a central *Data Handler* service that manages access to the data that is stored in the Data Warehouse and several services that connect to each other.

The logging interface is installed with the *Data Handler* and provides access to the siteVIEW logs. The log viewer is installed with the siteVIEW *User Interface* and it connects to the logging interface.

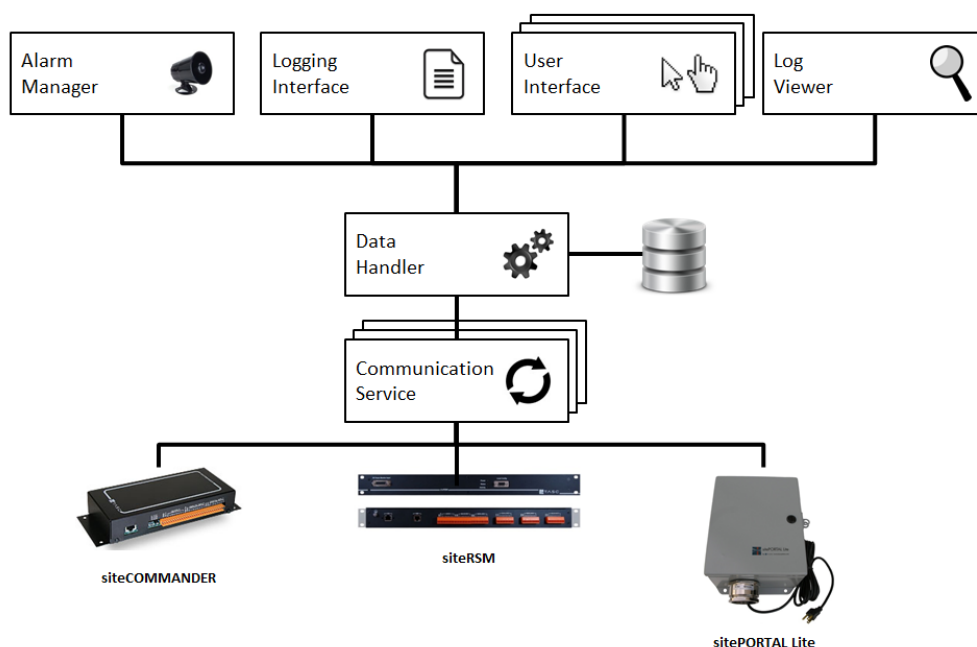


Figure 1 – siteVIEW Software Component Architecture

The *Alarm Notification Handler* provides services for notifying recipients of alarms via email or pager notifications.

One or more *Communication Service(s)* clients handle communication with one or more sites through communication ports on the PC. A *Communication Service* communicates with devices and then forwards the received data on to the *Data Handler* where the data is then interpreted and stored in the *Data Warehouse*. Multiple *Communication Services* can be connected to the same *Data Handler* at the same time.

The siteVIEW *User Interface* connects to the *Data Handler* and requests the stored information and displays it in an organized manner. Multiple user interfaces can be connected to the *Data Handler* at the same time and can view information for any *Communication Services* connected to the *Data Handler*.

Each application is installed using its own installation program. All four applications can be installed on the same computer or on separate computers. There can be only one *Data Handler* and *Alarm Notification Handler* active for each system, but there can be several *Communication Services* and user interfaces installed on several computers.

2.2. siteVIEW 2.1 Licensing

2.2.1. The Security Key

The TASC siteVIEW security key is a USB device, which contains:

- One Server License
- User Licenses
- Feature Add-Ons/Options

The *Data Handler* computer must have a security key in order for site monitoring to occur. The *Data Handler* service reads the security key and retrieves the number of user licenses available and determines which feature add-ons are allowed.

The number of user licenses, determines the number of operators that can sign into siteVIEW User Interface at any one time.

Any Feature Add-on licenses present determine whether or not certain features in siteVIEW are enabled. The available Feature Add-ons are viewed in the *About* form, which can be viewed by selecting “Help->About” from the main menu.



Note: If the security key is removed from the computer, or if the Data Handler Service is stopped for any reason, site monitoring stops and any user licenses or Feature Add-on's associated with the security key are disabled until the Data Handler Service restarts or the key is re-inserted.



Note: siteVIEW scope 2.1 is configured to accommodate 1 user license. siteVIEW Enterprise 2.1 can be purchased with various user license quantities.

2.2.2. Feature Add-Ons/Options

Some features in siteVIEW must be enabled via the security key before they will be available. siteVIEW add-ons include: paging, email, the Kenwood FleetSync™ protocol, the redundant Data Handler and the various individual devices.

The security key's licenses and various Feature Add-ons are factory configured by TASC Systems Inc.



Note: System add-ons are limited when using siteVIEW scope 2.1.



Note: The software screen shots in this manual may appear differently depending on the version of the software, the feature Add-ons that are enabled and the operating system that the software is running on.

2.2.3. Comparison of TASC siteVIEW 2.1 Products

TASC siteVIEW scope 2.1 is designed to manage and monitor smaller device networks, while TASC siteVIEW Enterprise 2.1 is designed for medium and large networks. The following table is a product comparison between the two products.

	siteVIEW scope 2.1	siteVIEW Enterprise 2.1
Site Monitoring	Yes	Yes
Panel Configuration	Yes	Yes
Device Configuration	Yes	Yes
Alarm Notification	Yes	Yes
Automated Polling	Yes	Yes
Site-to-Site Output Mapping	Yes	Yes
Log Viewer	Yes	Yes
Site Grouping	Yes	Yes
Password Encryption	Yes	Yes
Kenwood FleetSync™	Yes	Yes
Email	Yes	Yes
Number of Concurrent Users (Licenses)	1	Security Key Configured
Max Number of Devices	3	Unlimited
System add-ons	No	Yes
siteRSM	Yes	Yes
siteCOMMANDER	Yes	Yes
sitePORTAL Lite	Yes	Yes
Pingable 3 rd Party Device	No	Security Key Configured

Table 1 – Product Comparison

3. SOFTWARE CONFIGURATION

3.1. Installing the System

The entire siteVIEW system can be installed on a single computer, or each component can reside on different computers connected via TCP/IP network.

1. Start by installing the *Data Handler* and configure the *Data Handler*. See Configuring the Data Handler, section 3.1.1, on page 19 of this manual.
2. Install the siteVIEW 2.1 client application and configure it to connect to the *Data Handler*. See Starting the User Interface, section 0, on page 23 of this manual. Several client applications may be installed on different computers and used simultaneously to connect to the *Data Handler*.
3. Install a *Communication Service* and configure it so that it can connect to the *Data Handler*. See Configuring the Communication Service, section 3.3, on page 22 of this manual. Several *Communication Services* running on different computers can be configured within the system.
4. Install an *Alarm Notification Handler* and configure it so that it can connect to the *Data Handler*. See Configuring the Alarm Notification Handler, section 3.4, on page 23 of this manual. Only one *Alarm Notification Handler* is needed in the system.
5. Using the siteVIEW 2.1 client application, configure communication ports, devices, alarm conditions & notification, users, site mapping, automated polling, panels and more.

3.1.1. Distributed Installations of siteVIEW Components

If siteVIEW software components are to be installed as a distributed system over multiple platforms and networks to balance load and/or manage system architecture, the following considerations are recommended:

- The firewall mechanism for each platform, either Windows or other third-party, must allow the siteVIEW specific ports. For example, if you are using port 11003 to connect the siteVIEW client from one platform to a Data Handler on another platform, both platforms should permit port 11003 usage.
- If the platforms are distributed over different networks and/or accessible via public IP address, it may be necessary to configure your system's router to port-forward to the internal platform's connection.

3.2. Configuring the Data Handler

By default the *Data Handler* is configured to monitor incoming client connections on port 11003. The *Logging Interface* installs with the *Data Handler* and it is configured to monitor incoming *Log Viewer* connections on port 11006. The default ports can be changed using the *Data Handler Utility* (DataHandlerConfigTool.exe), which can be accessed from the windows start menu at:

Start->Programs->TASC->Data Handler Utility

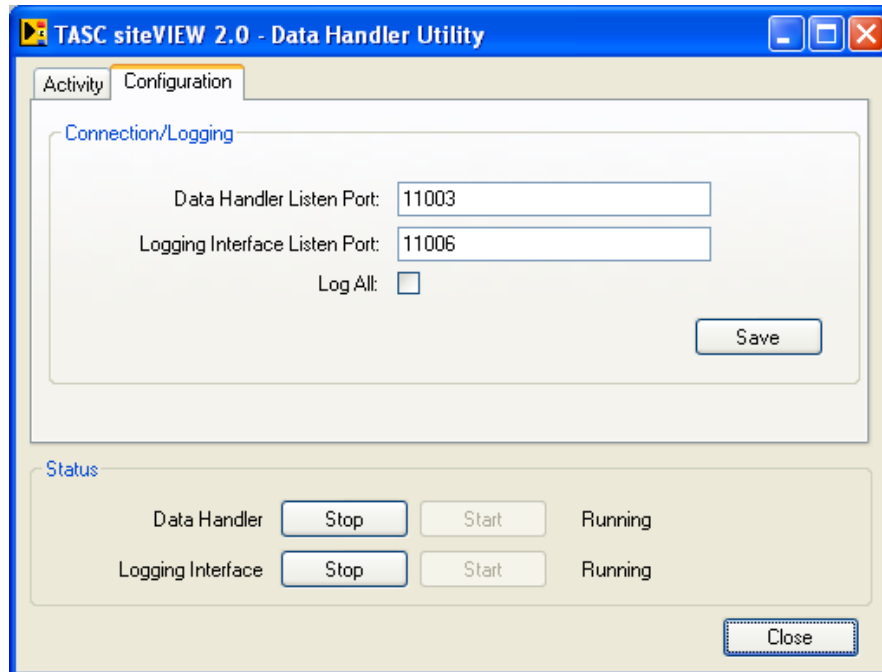


Figure 2 – Data Handler Utility – Configuration Tab

Using the *Data Handler Utility* you can change the port numbers that the *Data Handler* and *Logging Interface* will monitor. Press the save button to save any changes you make and then stop and start the services to get the *Data Handler* and *Logging Interface* to run with the changed settings.

Valid port numbers range from 0 to 65535, but ports numbers 0 to 1024 are reserved for privileged services and designated as well-known ports and should be avoided.

Log All is a feature that when enabled, will log all I/O levels when polling and not just the changes in I/O levels.

Once the changes have been saved and the *Data Handler* or *Logging Interface* services have been restarted, press exit to minimize the *Data Handler Utility* to the system tray. If you wish to close the *Data Handler Utility* completely, right click on the system tray icon and select exit.

From the activity tab of the *Data Handler Utility*, the system can be monitored for progress while it is loading, or an administrator can check that no updates are waiting to be saved to the database before shutting the *Data Handler* down or restarting the computer.

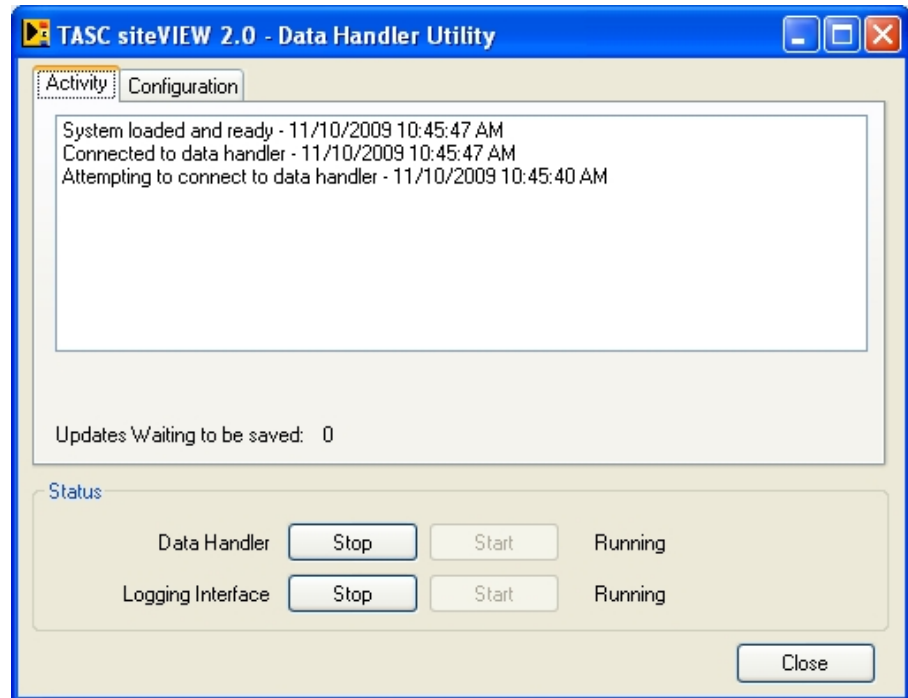


Figure 3 – Data Handler Utility – Activity Tab

When the *Data Handler* runs, it waits for connections from *Communication Services* and *User Interfaces*. When the *Logging Interface* runs, it waits for connections from client *Log Viewers*. By default, the *Data Handler* and *Logging Interface* services start automatically after the installation and every time the computer is restarted. These services continue to run as a background service even if no user is logged into the computer.

The *Data Handler Utility* is configured from the installation program to start automatically on login to the windows operating system.

3.3. Configuring the Communication Service

Each *Communication Service* must be configured to connect to the *Data Handler* using the *Communication Service Configuration Tool* (CommServiceConfigTool.exe), which can be accessed from the windows start menu at:

Start->Programs->TASC->Communication Service Configuration Tool

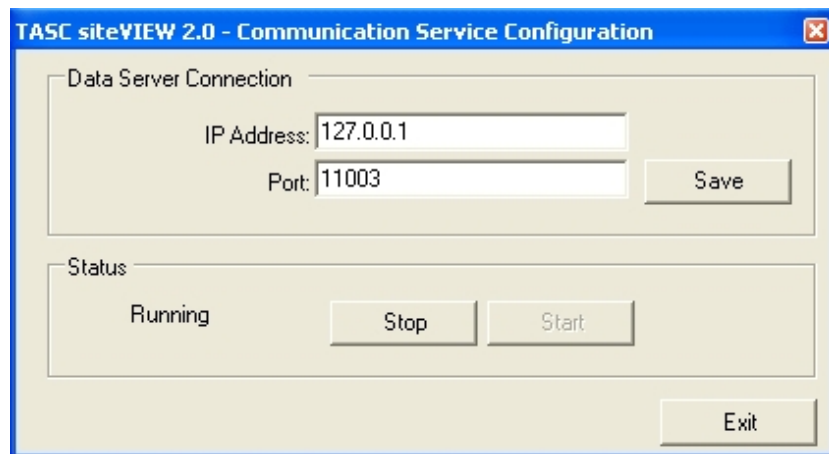


Figure 4 – Communication Service Configuration Tool

Using the configuration tool you can type the IP Address or DNS Name of the computer where the *Data Handler* is installed. Press the save button to save any changes you make and then stop and start the service to get the *Communication Service* to run with the changes.

Once the changes have been saved and the *Communication Service* has been restarted, press exit to close the *Communication Service Configuration Tool*.

The *Communication Service* will automatically connect to the *Data Handler* and monitor ports it has been configured to monitor. By default, the *Communication Service* starts automatically after the installation and every time the computer is restarted. The *Communication Service* continues to run as a background service even if no user is logged into the computer.

You will know if the *Communication Service* has connected successfully by running the siteVIEW Client application and viewing connected *Communication Services*.



If the *Communication Service* is running on the same machine as the *Data Handler*, the recommended IP Address is localhost (127.0.0.1).

3.4. Configuring the Alarm Notification Handler

The *Alarm Notification Handler* must be configured to connect to the *Data Handler* using the *Alarm Notification Handler Configuration Tool* (AlarmHandlerConfigTool.exe), which can be accessed from the windows start menu at:

Start->Programs->TASC->Alarm Notification Handler Configuration Tool

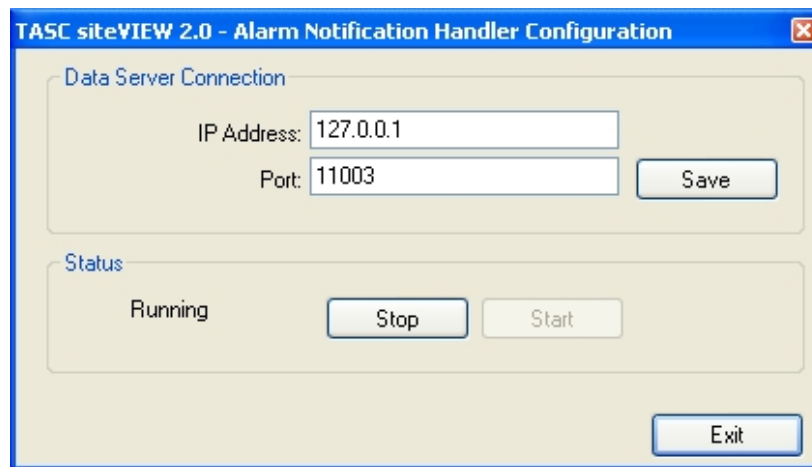


Figure 5 – Alarm Notification Handler Configuration Tool

Using the configuration tool you can type the IP Address or DNS Name of the computer where the *Data Handler* is installed. Press the save button to save any changes you make and then stop and start the service to get the *Alarm Notification Handler* to run with the changes.

Once the changes have been saved and the *Alarm Notification Handler* has been restarted, press exit to close the *Alarm Notification Handler Configuration Tool*.

The *Alarm Notification Handler* will automatically connect to the *Data Handler* and monitor ports it has been configured to monitor. By default, the *Alarm Notification Handler* starts automatically after the installation and every time the computer is restarted. The *Alarm Notification Handler* continues to run as a background service even if no user is logged into the computer.



If the *Alarm Notification Handler* is running on the same machine as the *Data Handler*, the recommended IP Address is localhost (127.0.0.1).

3.5. Starting the User Interface

3.5.1. Logging In to siteVIEW

To launch the siteVIEW user interface, double click on the “siteVIEW Enterprise 2.1” icon or the “siteVIEW scope 2.1” icon that the installation placed on the computer desktop.

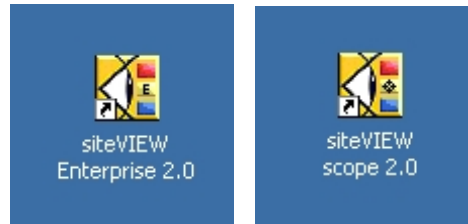


Figure 6 – siteVIEW 2.1 User Interface Desktop Shortcut Icon

This can also be accomplished from the Windows start menu, select “Programs->TASC->siteVIEW Enterprise 2.1” or “Programs->TASC->siteVIEW scope 2.1”

After launching siteVIEW, one of two things should occur:

- If the siteVIEW User Interface is able to connect to a siteVIEW Data Handler, a *Sign In* form will appear. This is a typical scenario if the Data Handler is installed on the same computer as the user interface, or if the Data Handler Service connection was established previously.



Figure 7 - User Interface - Sign In

- If the host computer exists, but the siteVIEW User Interface is not able to connect to the siteVIEW Data Handler Service, the siteVIEW user interface will launch and at the bottom left corner of the application, the words “Attempting Connection With Server: <servername>” appear, where <servername> is the name of server specified. Then when the connection fails, the words “No Connection” appear. siteVIEW will then continue attempting the connection.

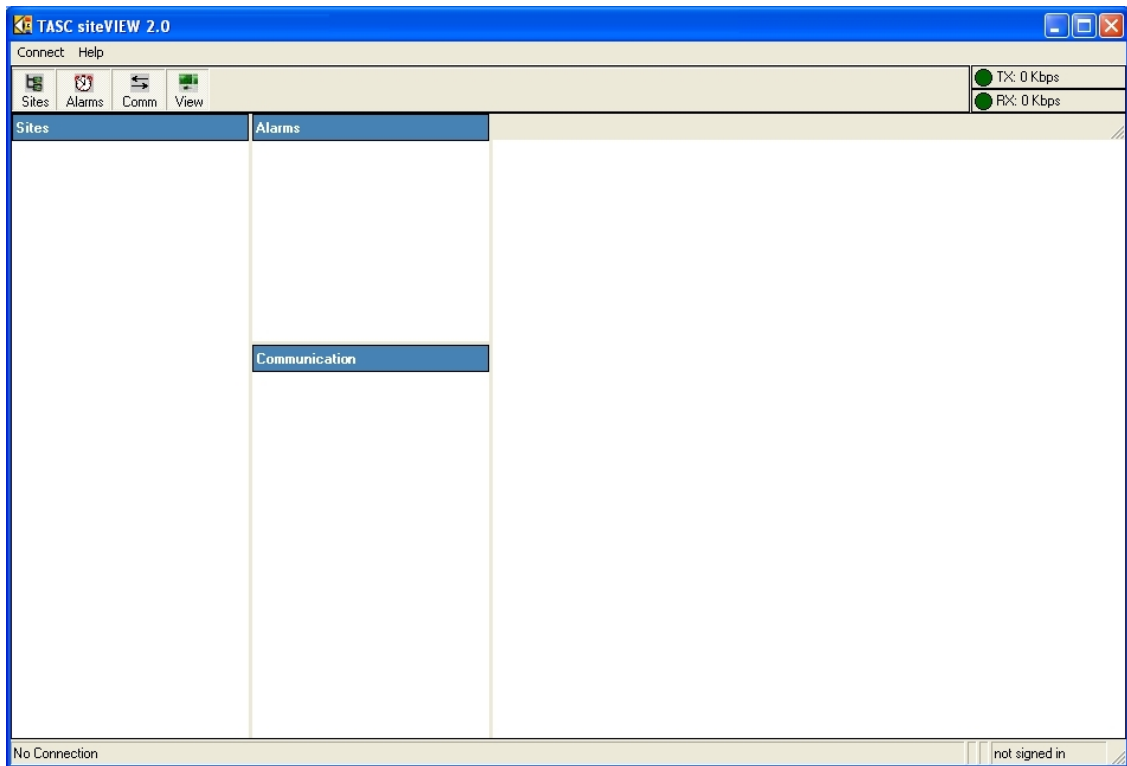


Figure 8 - User Interface - Not Connected to Data Handler

To connect to the *Data Handler*, select “Connect->Connect to Server” from the main menu and you will be presented with a connection form.

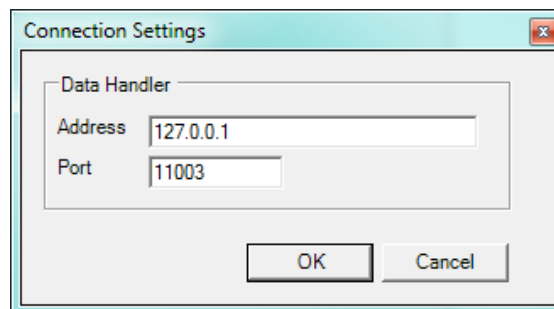


Figure 9 – Data Handler Connection Form

Enter the IP Address or the DNS machine name of the computer where the *Data Handler* is installed. During the client installation, the default *Data Handler* connection is set up as 127.0.0.1 with port 11003.



If the *siteVIEW User Interface* is running on the same machine as the *Data Handler*, the recommended IP Address is localhost (127.0.0.1).

Once the *Sign In* form appears, sign in using a valid username and password. When signing in to siteVIEW for the first time, use the username *svadmin* with password *siteview*. The *svadmin* is an administrator account with full rights to every part of siteVIEW.



Note: To ensure proper security, change the svadmin password during the first sign in

3.5.2. Password Recovery

There is a password-recovery link on the login form, but it only works if a user has setup their email address.

After selecting the password-recovery link, the user specifies the username. An email containing their password information is sent to the user's email account. An administrative user can set the default SMTP server in the notification options form. If the SMTP server is not set, the password-recovery email will fail.

When a user logs in they are reminded to set their email address each time they log in until they set an email address. Admin users can set their email address and the email addresses of other users in the user admin form.

Non-administrative users can set their email address by selecting "Connect->Accounts->Change Email Address" from the main menu.

A message is displayed to the user to tell them if the email was sent or not. The email is then sent to the SMTP server, which may fail to send the email for other reasons.

3.6. Redundant Data Handler

A redundant *Data Handler* option is available in *siteVIEW*, where a second *Data Handler* waits and is ready to take over in case the primary *Data Handler* goes offline for some reason.



Note: The Redundant Data Handler is only available if the security key has been configured to allow the Redundant Data Handler as a siteVIEW 2.1 option and it is only available as an option in a siteVIEW Enterprise 2.1 system.

3.6.1. Configuration

Setup and configure the redundant *Data Handler* in the same way as the main server.

To setup a redundant *Data Handler*, use the *Data Handler* using the same version of installation program as was used to install the primary *Data Handler*. The redundant *Data Handler* must be installed onto a different computer than the primary *Data Handler*, but also the redundant *Data Handler* requires a special redundant *Data Handler* security key before it will take on the role of a redundant *Data Handler*.

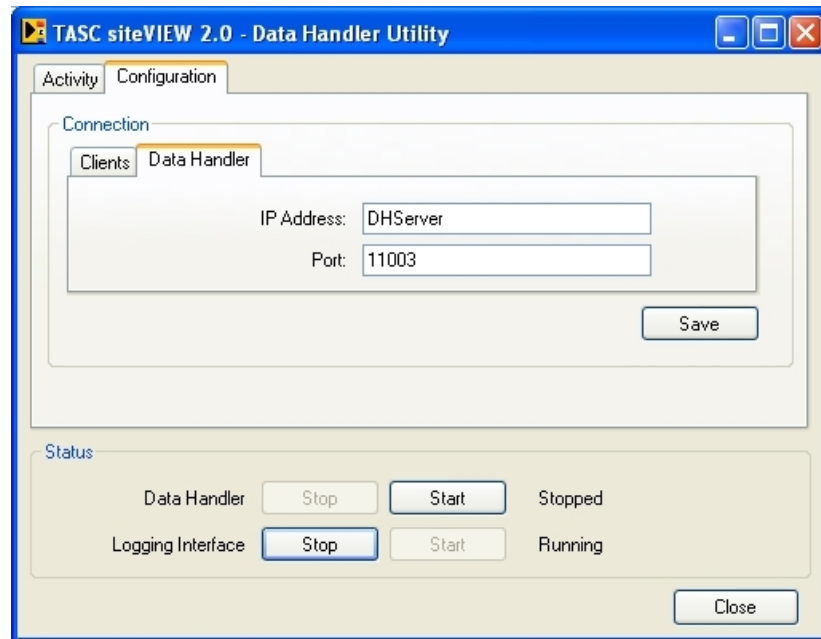


Figure 10 – Redundant Data Handler Configuration Utility

When the redundant server security key is located, the configuration utility provides a way of connecting to the primary *Data Handler*. Specify the port and IP address or name of the primary *Data Handler*, save the configuration and then stop and restart the redundant *Data Handler*. The redundant *Data Handler* will then connect to the primary *Data Handler* and will register itself in the system, synchronize its data, and wait as a backup server. The main server then notifies the connected clients of the location of the redundant *Data Handler*. In the event that the main server becomes unavailable for some reason, the *Communication Services* and client *User Interfaces* will attempt to connect to the redundant *Data Handler* until the primary *Data Handler* comes back online.

A redundant *Logging Interface* is installed when the redundant *Data Handler* is installed. When the redundant *Data Handler* takes over from the main *Data Handler*, the redundant *Data Handler* will store historical data temporarily. When siteVIEW client *User Interfaces* connect to the redundant *Data Handler* and a user attempts to open the *Log Viewer*, they will connect to the redundant *Logging Interface* and so the data seen will not show the data that is stored on the main *Data Handler*. Once the main *Data Handler* is up and running again, it will take over as the main *Data Handler* once more and the redundant *Data Handler* will update the main *Data Handler* with all the historical data that was saved by the redundant *Data Handler*.



Note: Ensure that the redundant server is visible through the network to the *Communication Services* and the clients.

The status bar of the siteVIEW client then shows the location and status of the redundant *Data Handler*.

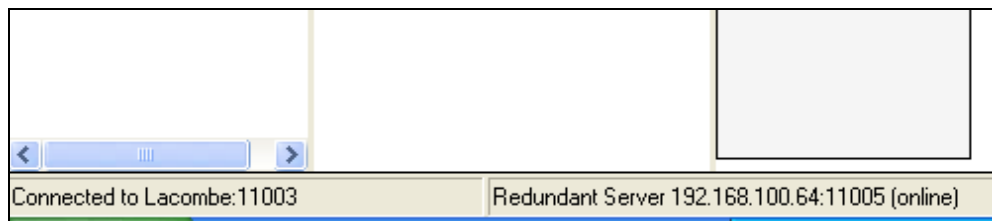


Figure 11 – Redundant Data Handler Status

As well the status bar indicates when the client is connected to the redundant *Data Handler* instead of the main one.

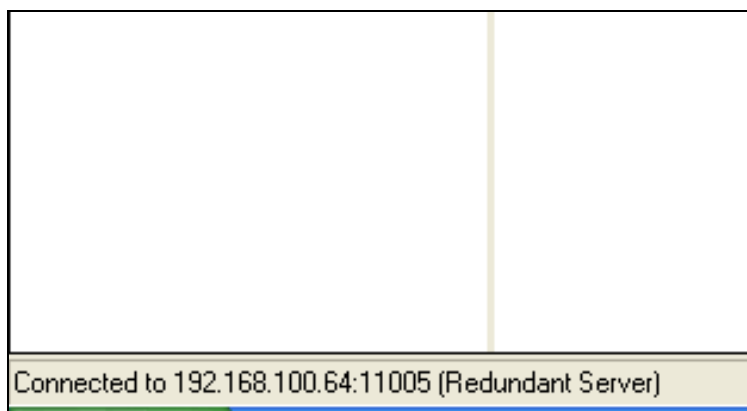


Figure 12 – Connected to Redundant Data Handler

4. THE GRAPHICAL USER INTERFACE

The TASC siteVIEW 2.1 user interface consists of a main application window that is divided into several sections

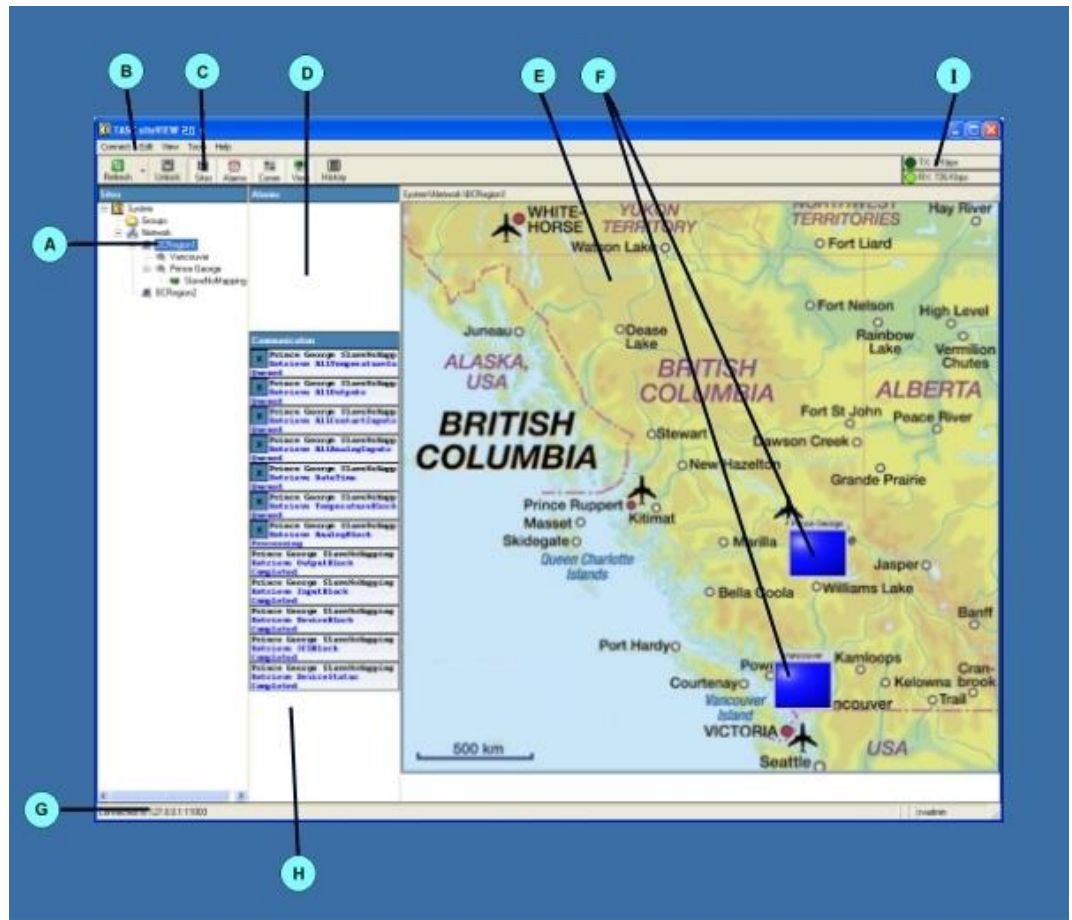


Figure 13 - siteVIEW User Interface

- A.** Site Navigation Tree - A tree view of the nodes in a network
- B.** Main Menu – Contains all available menu options
- C.** Toolbar – Quick access to routine functions
- D.** Alarm Panel – Detailed listing of all alarms
- E.** Site Panel – Graphical display of sites or network
- F.** Panel Components – Interactive elements in the network
- G.** Status Bar – Real time program information
- H.** Communication Panel – Listing of network communications
- I.** Bandwidth Meter – Displays network data passed to and from siteVIEW

4.1. Site Navigation Tree

The Site Navigation Tree is a logical representation of a network of monitoring devices (ie. siteCOMMANDER), which are capable of reporting input and output states to siteVIEW through a communication port (COM port) on the *Communication Service*.

The first level node of the Site Navigation Tree represents the complete siteVIEW system, which contains a 'Groups' node and a 'Network' node.

The Groups node contains custom arranged groups of devices and folders. The "Groups" node's purpose is to arrange devices into custom groupings. Add sub-folders to the "Groups" node and then drag device links into various folders. Right-click on the mouse will provide the additional Cut to Group (for moving to a new group), Copy to Group and Paste to Group options.

The first level nodes of the Network represent *Communication Services* that are connected to the *Data Handler*. The second level nodes of the Network represent the monitored communication ports on the *Communication Service*. The communication ports are used for monitoring remote devices. The third level of Network represents the physical device.

Right clicking on one of the tree nodes levels (i.e. system, groups, network, server, COM port, device) allows quick access to menu options, by displaying a context menu that pertains to the selected node.

Left clicking on a node updates the site panel to display a graphical representation of all nodes beneath the selected node.

4.2. Main Menu

The main menu allows access to configuration and monitoring of the tree nodes. Some menu items change depending on the node selected, and also depending on the user's security rights (See Managing User Accounts, section 5.1, on page 37 of this manual.)

4.3. Tool Bar

The toolbar allows quick access to some menu options

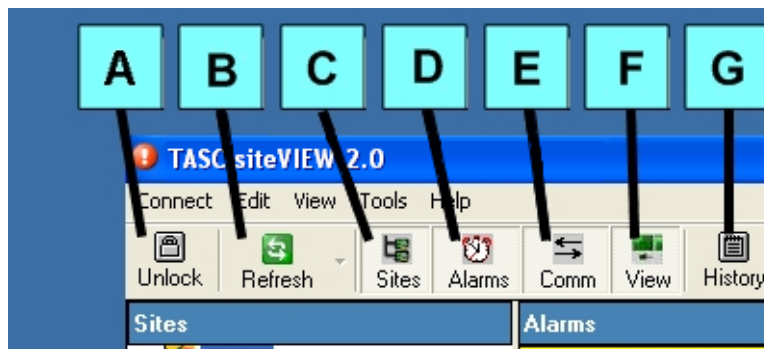


Figure 14 - Toolbar Buttons

- A. Lock/Unlock Site Panel layout
- B. Perform manual poll of the selected portion of the network
- C. Hide/Show Site Navigation Tree
- D. Hide/Show Alarm Panel
- E. Hide/Show Communication Panel
- F. Hide/Show Site Panel
- G. View logs

4.4. Alarm Panel

The alarm panel displays a list of alarms that have not been cleared at the remote site. Each alarm item in the alarm panel has the following information:

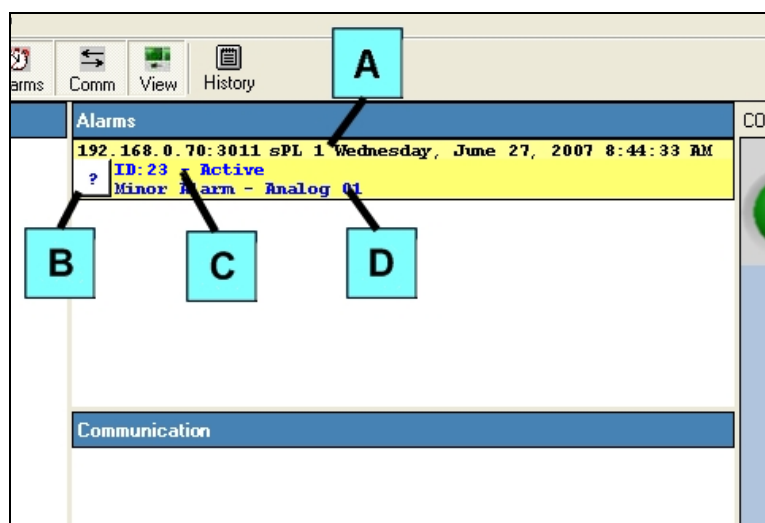


Figure 15 - Alarm Panel Components

- A.** Port & device name of the alarm and the last time the alarm status changed
- B.** Auto-find button
- C.** Alarm ID and status
- D.** Alarm severity and the name of the I/O where the alarm condition occurred

The auto-find button appears as a square button with a question mark in the center. Selecting the auto-find button causes the corresponding device node to be selected on the Tree View and for the corresponding panel to be drawn.

Double clicking on an alarm shows more detailed information about the selected alarm and allows the user to acknowledge and clear the alarm.

When an alarm is active and unacknowledged, the alarm will flash a different color depending on the severity of the alarm.

Right-clicking the mouse in the Alarms panel area provides additional contextual options:

- Use the “Clear All Alarms” to clear all ceased alarms
- Access detailed information about the selected alarm
- View a historical summary of alarms within the Log Viewer

4.5. Site Panel

The site panel displays a graphical representation of the currently selected tree node. This provides simplified visibility in networks of monitored devices.

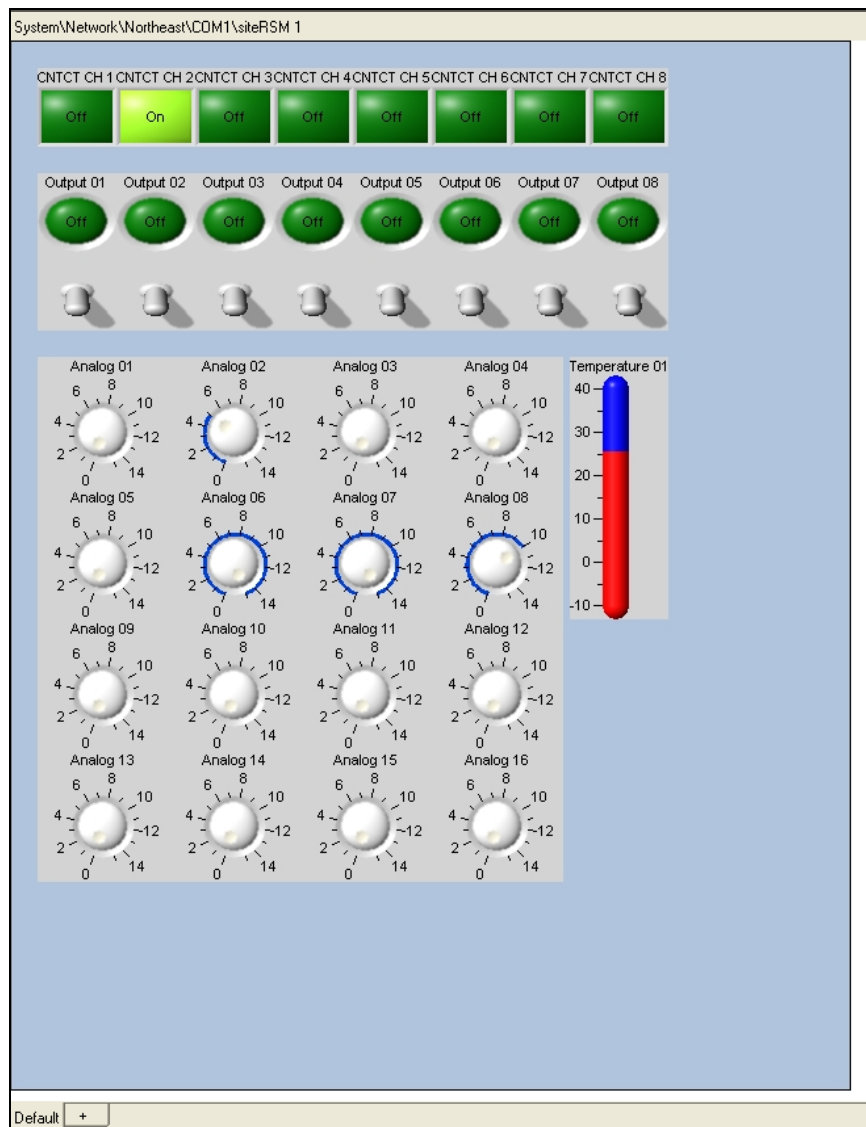


Figure 16 – Site Panel

At the top of the site panel is a status bar that displays the full path name of the selected network tree node.

Device outputs can be controlled from the site panel.

The size, component placement, background image and color of the panel can all be customized. (See Site Panel, section 6.4, on page 52 for information on customizing the site panel)

When a device's panel is selected, the ability to add more panels is available. A panel selection tab appears on the bottom of the device panel. This feature allows a device to be represented in multiple ways. Press the far right tab with a plus (+) sign on it to add a new panel, or right click on the panel and select the "Insert New Panel" option. From the same menu you can also rename the selected panel or delete it. If a device only has one panel, it cannot be deleted. The menu options can also be accessed from the main menu by selecting "Edit->Panel".

4.6. Panel Components

The Site Panel is made up of images, text and panel components. Panel components are interactive elements that allow the operator to navigate as well as monitor and control various areas of their network. Panel components include virtual knobs, buttons, lights, switches, labels, temperature gauges and more.

At a sever node, Panel Components represent the available and configured COM ports that are accessible on the network.

At a COM Port node, panel components represent the available and configured devices accessible on the network.

At a device node, Panel Components represent the specific physical inputs and outputs available to a particular device.

The type, size, color, font and many other configuration options can be customized. (See Panel Control Property Form, section 6.4.2, on page 53 for information on customizing the panel controls)

4.7. Status Bar

The status bar is used to display various messages to the user. The far left of the status bar displays the *Data Handler* connection status and the far right displays the user login status. The center of the status bar shows the online

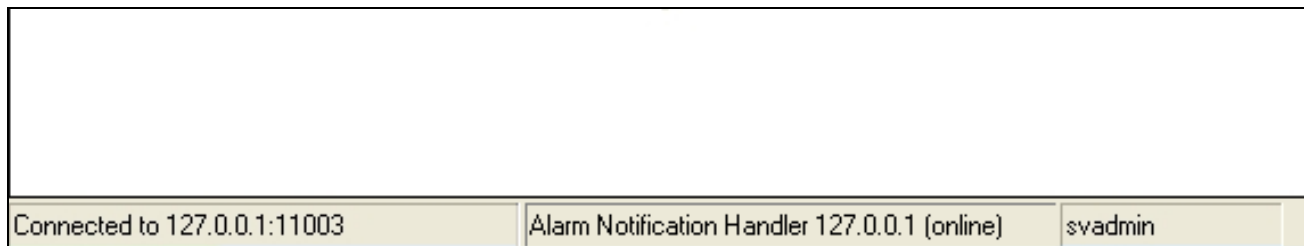


Figure 17 - Status Bar Components

status of the *Alarm Notification Handler* and if installed, the *Redundant Data Handler*.

4.8. Communication Panel

The communication panel contains recent network communication traffic and the following details pertaining to those transactions:

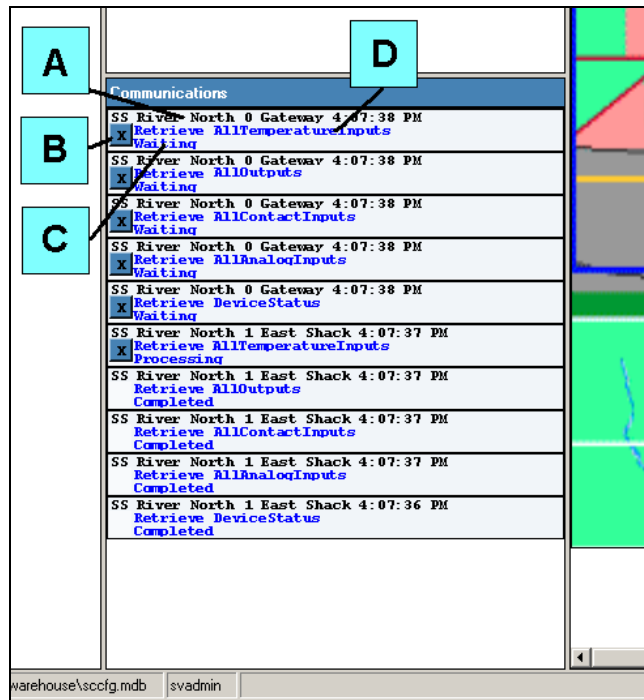


Figure 18 - Communication Panel

- **A.** Name of COM port and device the communication pertains to and the time when the communication request occurred
- **B.** Cancel transaction button
- **C.** Communication transaction status
- **D.** Communication transaction command and subcommand

When a new communication transaction is added to the communication panel, any transactions that are older than 8 seconds and are no longer processing, are removed from the communications panel.

Output control traffic is considered a special case. By updating an output a user either turns on or turns off that output. The output that is affected and the state that it is being set to are displayed next to the command and subcommand.

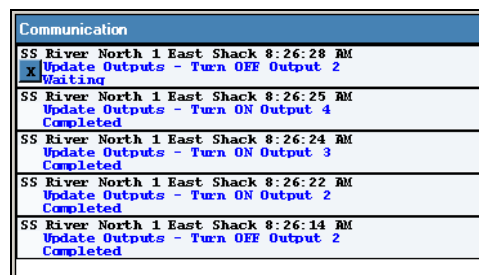


Figure 19 - Outputs Update Communication

4.9. Bandwidth Meter

The bandwidth meter shows how much data is being transmitted (TX) and received (RX) by the siteVIEW client. The data is displayed in kilobits per second (kbps) and is updated every second. There are 8192 kilobits in 1 Megabyte (MB).

To see the total amount of data sent or received, hover the mouse pointer over the corresponding label.

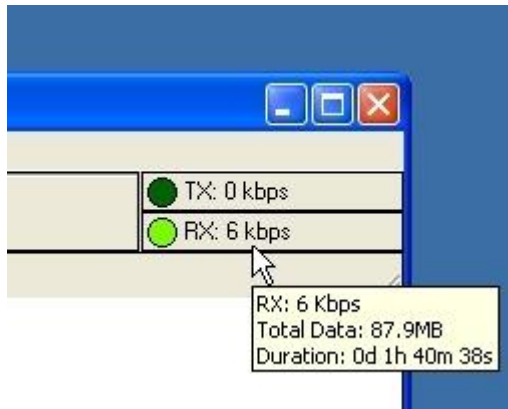


Figure 20 – Bandwidth Meter

5. USER ADMINISTRATION

5.1. Managing User Accounts

To create, modify or delete siteVIEW user accounts open the user administration form, which can be viewed by selecting “Connect->Accounts->User Administration” from the main menu.

Figure 21 - User Administration

The following tasks may be performed using the user administration form:

- Create new user accounts
- First name, last name and username may be altered
- Security rights may be altered
- User accounts may be enabled or disabled
- The user's password can be set
- User specific alarm notification options may be set, depending on which options are available from within siteVIEW (ie. email, paging, etc).
- Existing users may be deleted from the system
- View a history of user login/logout activity
- The user's email address can be set. This is used for password-recovery purposes (If email is enabled in the system the email address can also be used for email notification.)

The following table lists the available security rights and the access associated with each type:

	User Maintenance	Device & System Configuration	Panel Layout	Alarm Control	Manual Polling	Output Control
View Only	None	Read	Read	Read	Read	Read
User	None	Read	Read	Read/ Write	Read/ Write	Read/ Write
Admin	Read/ Write	Read/ Write	Read/ Write	Read/ Write	Read/ Write	Read/ Write

Table 2 – Login Security Level Matrix

5.1.1. Changing An Account Password

A user can change their account password through the “Change Password” form by selecting “Connect->Accounts->Change Password.”

Figure 22 - Changing Your Password

5.1.2. Forced User Sign Out

In the case of a power failure or a system crash/reset, siteVIEW may not get a chance to properly sign users out of the system. Also, there may be times when an operator(s) needs to be forcibly signed out of the system.

In either case, operators may be forced out by anyone who has more security rights than they do. Operators may also sign themselves out. To view users that are currently signed in, type in a valid username and password at the sign in prompt, and select the “Users” button.

Figure 23 - User Sign In Form

This will open the “Current Users” form, with a list of users that are currently signed in, the computer that the user signed in from, and the date and time the he or she signed in.

To sign a user out, select the user from the list of currently signed in users and select “Sign out”.

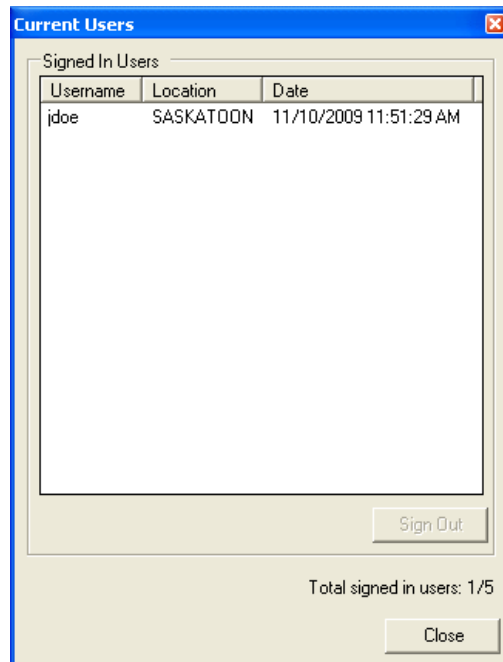


Figure 24 - Current Users

6. SYSTEM CONFIGURATION

The entire siteVIEW system is represented in two ways: it is represented as a logical tree, which is referred to as the *Site Navigation Tree*, and as a graphical panel, which is referred to as the *Site Panel*. Items in the site navigation tree are referred to as *nodes*.

When a node on the tree is selected, menu options pertaining to that node are accessible through both the main menu, which is located at the top of the User Interface, and the context sensitive popup menu, which can be accessed by selecting a node with the mouse and then performing a right mouse click. This document will explain how to configure siteVIEW using the main menu, but the same functionality can be accessed using the context specific popup menu.

The Tree View displays a list of *Communication Services*, the COM ports in use by the *Communication Service* and the devices that are monitored through the COM port(s). Main menu items pertain to the selected node.



Note: Only the administrator users can configure the system.

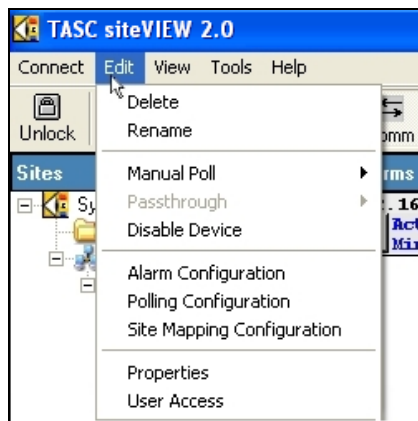


Figure 25 - Edit Menu

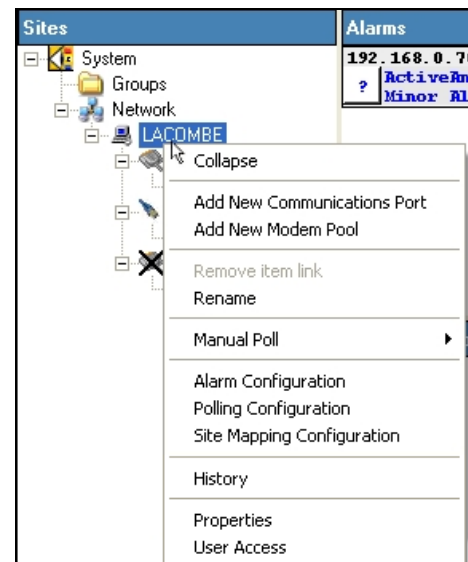


Figure 26 – Communication Service Level Context Menu

6.1. The Communication Service

The *Communication Services*, which are connected to the system, are visible in the site navigation tree. To view information pertaining to a particular *Communication Service*, select the desired node in the site navigation tree

and then select “Edit->Properties” from the main menu. This launches the server details form.

The server details form displays the machine name that the *Communication Service* resides on and its software version.

By default, siteVIEW uses the NetBIOS name of the server for the name of that server node in the site navigation tree. Using the alias field, a system applicable name can be used. The alias and description are the only items on the server details form that can be modified.



Note: Existing archived log files will still contain the old *Communication Service* alias name.

Figure 27 - Server Details

6.2. Communication Ports

6.2.1. Adding A New Communication Port

Each *Communication Service* potentially has available serial and Ethernet Com Ports, which can be used to monitor networks of hardware devices. To add and configure an available COM port for siteVIEW monitoring, select “Edit->Add New Communications Port” from the main menu. This launches the *Connection Wizard*.

In the first stage of the *Connection Wizard* form, select the COM Port type. If the selected type is *Serial* then a list of available serial communication ports will be displayed in the port drop down list. Select the port and protocol, and select “PSTN Modem Port” if the port is an internal PSTN modem or if it is connected to an external PSTN modem.

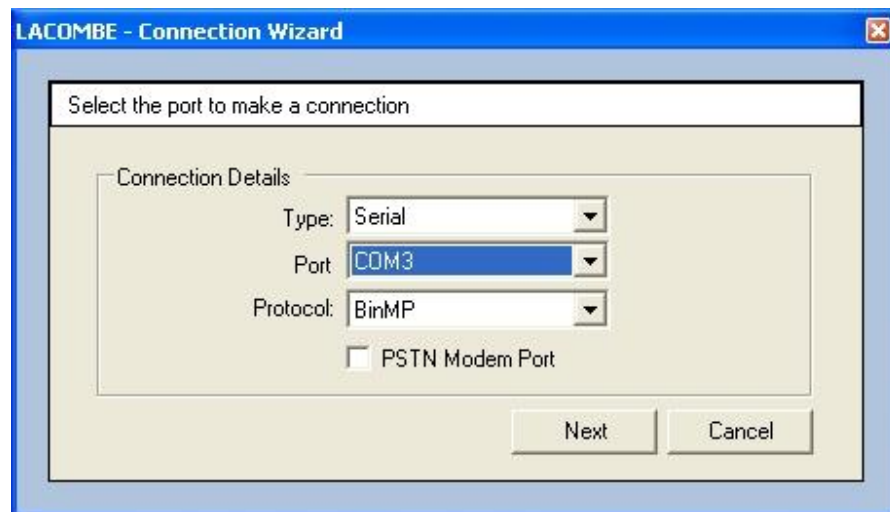


Figure 28 – Connection Wizard – Serial Details

If the selected COM Port type is *Ethernet* then Ethernet connection will be displayed. The IP Address and Port of the remote Ethernet device will not be needed until the Ethernet devices are added.

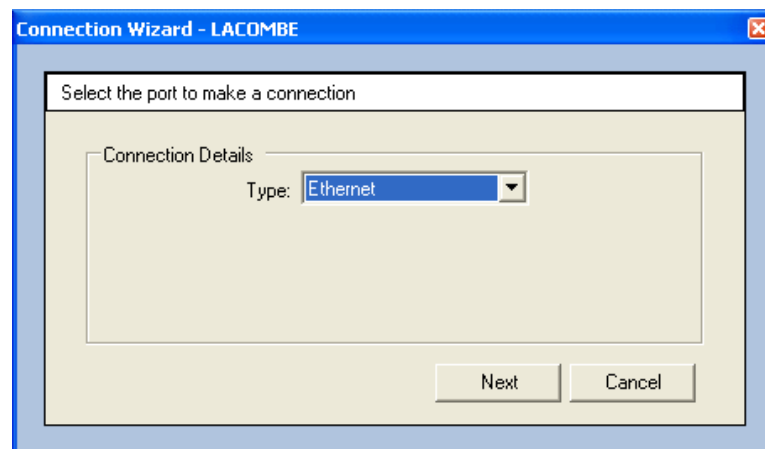


Figure 29 – Connection Wizard – Ethernet Details

After entering the required serial or Ethernet information, select next.

For a serial device, enter the port timing parameters. The *Packet Timeout* is entered in milliseconds and is the maximum amount of time a COM Port should wait for a response after sending out a request. The *Inter-Byte Timeout* is also entered in milliseconds and is the maximum time a COM Port should wait between incoming data bytes before the incoming data is considered complete. The Ethernet timing parameters are entered when you add the device.

If COM Port communication is timing out too often, it may be that the packet timeout is too short. If communication is taking too long to complete, try reducing the packet timeout.

If COM Port communication results in abnormally high communication errors, it may be that the inter-byte timeout is too low. Setting the inter-byte timeout too high also results in the packet timeout taking too long.

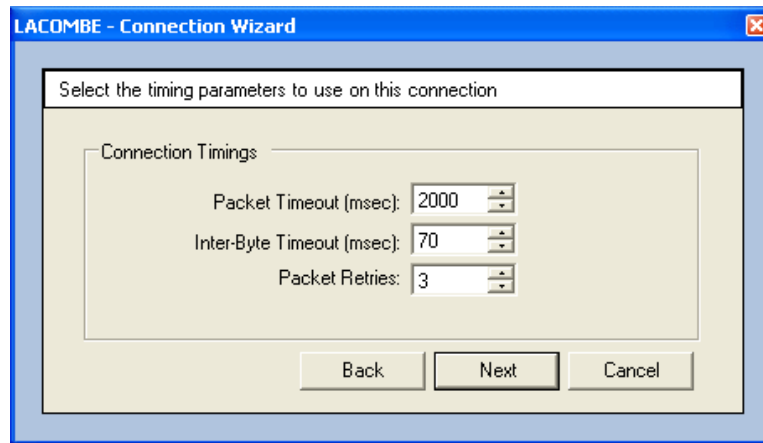


Figure 30 – Connection Wizard – Timings

Change the Packet Retries to specify the number of times a port should retry packets that have no response.

Experiment with the timings until you achieve the fastest and most reliable communication.



As an additional step for optimizing communications, review the [TransmitReceiveCOMxx](#) (where xx is the COM port number) log files found within the CommSvc directory to view retries for a given COM port. Iteratively, using manual Full Refreshes to test communication exchange, adjust the Packet Timeout parameter to minimize retries recorded within the log file.

Defaults: Packet Timeout 2000 msec; Inter-byte Timeout 70 msec; Packet Retries 3.

COM Port Configuration	Packet Timeout (msecs)	Inter-Byte Timeout (msecs)
Ethernet	1000-1500	50-100
Serial	1000-3000	50-200
Serial with PSTN Modem	2000-5000	100-300
Serial with Radio	Depends on the technology used and the number of radio hops.	Depends on the technology used and the number of radio hops.

Table 3 – Recommended Communication Timing Parameters

After selecting the timing parameters, select next. Choose a name for the connection and a description to remind users of useful information about the connection and then select finish to add the COM Port.

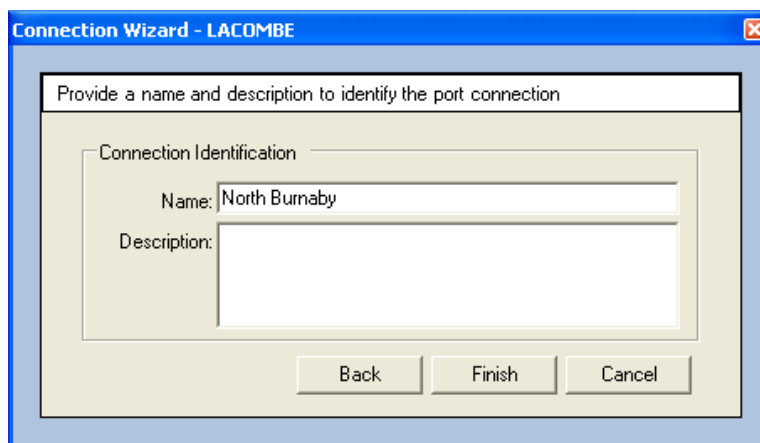


Figure 31 – Connection Wizard – Identification

6.2.2. Configuring an Existing Communication Port

To view and change information pertaining to a particular COM port on a *Communication Service*, select the desired COM port node on the Tree View and then select “Edit->Properties” from the main menu. This launches the Connection Details form.

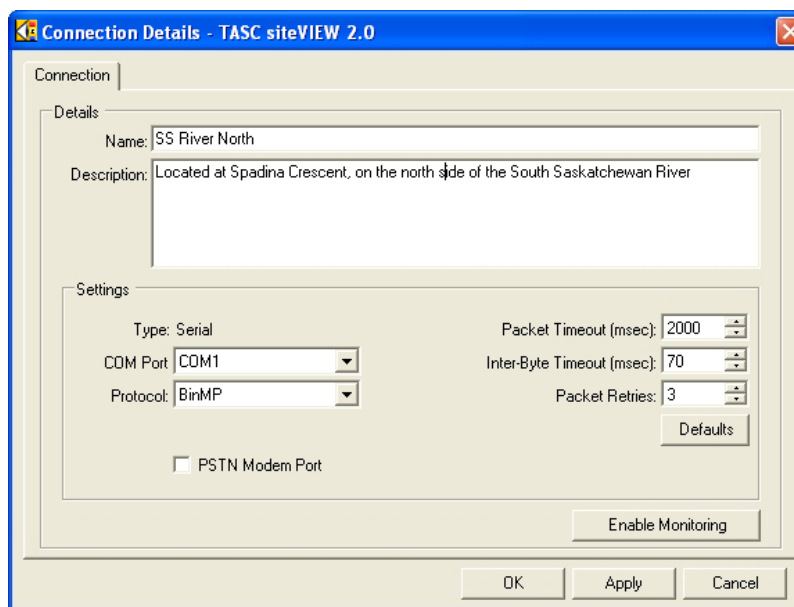


Figure 32 - Connection Details

Select a name for the COM port. The name will be how siteVIEW refers to this communication port throughout the application.



Note: Existing archived log files will still contain the old port name.

The description properties of both the COM port and device detail forms are displayed when a user hovers the mouse above a Site Panel control that represents the COM port or device.

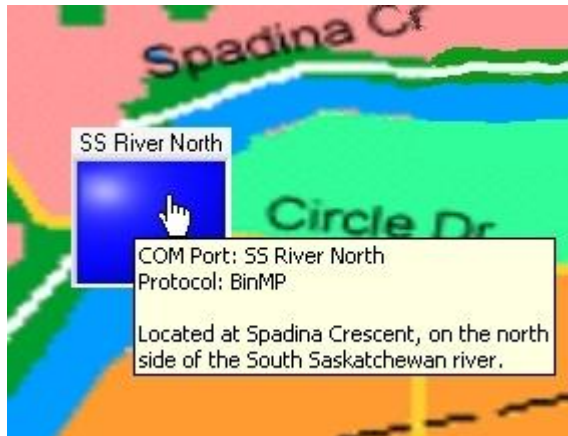


Figure 33 – COM Port Panel Component

Changes can only be made to port settings if the port is offline or by closing the port by disabling monitoring.

For a serial connection, the COM port field contains a list of communication ports available on the *Communication Service*. For an Ethernet connection, the IP Address and Port fields must be specified.

The Protocol drop down field sets the protocol, which is used to communicate on the communication port. By default this protocol is set to BinMP. Other protocols are available as Add-On features from TASC.

Two COM port timeout values exist. The packet timeout is the time the *Communication Service* will wait for a reply after transmitting a communication packet to a device. When the *Communication Service* is receiving a response packet, the packet bytes are received one at a time. The inter-byte timeout is the time in which the *Communication Service* should wait between packet bytes, before deciding the packet has failed.

By increasing the packet timeout and the inter-byte timeout, siteVIEW is more likely to receive a packet. If siteVIEW needs to frequently retry packet transmissions, it is possible that one or both of these timeout values needs to be increased. If siteVIEW frequently encounters communication errors, it is possible that the inter-byte timeout needs to be increased. If these timeout values are too high, siteVIEW communication may seem to take an unusually long time. Achieving the correct balance of timing values ensures that packets are handled efficiently.

6.3. Devices

6.3.1. Adding a New Device

Each *Communication Service* COM or Ethernet port is capable of communicating to a network of hardware devices. To add and configure a device for siteVIEW monitoring, first highlight the Port that connects the network of hardware devices to the *Communication Service* and select “Edit->New Device” from the main menu. This launches the *Device Monitoring Wizard*.

First, the device details form will display the device description page. Enter the device type and any addressing information and then select next. The correct addressing information must be selected in order for proper communication to occur.

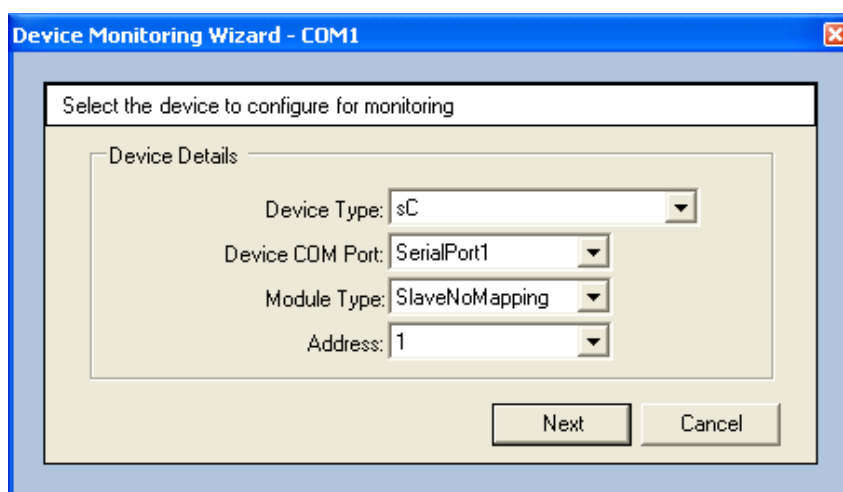


Figure 34 – Device Monitoring Wizard - Details

Next choose the device name and description. The device name will be used by siteVIEW to make reference to the device. The description appears when a user hovers over the Site Panel control that represents the device.

For information about device specific connection parameters, see TASC siteCOMMANDER (see **Appendix B** on page 104), TASC sitePORTAL Lite (see **Appendix C** on page 116), TASC siteRSM device types (see **Appendix D** on page 128) and Ping devices (see Appendix E on page xxx).

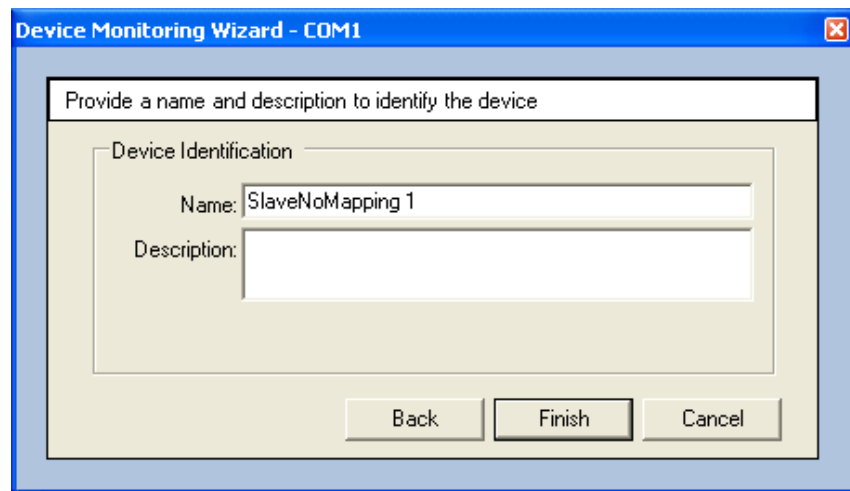


Figure 35 – Device Monitoring Wizard - Identification

After entering the device name and description (optional), select the Finish button to add the device. siteVIEW will then attempt to communicate with the device by polling the device for its status and configuration. If any of the communication is incomplete, an indication of this will be displayed in the site navigation tree, beside the device's name.

siteVIEW will not allow configuration changes to be made on the device until the entire device configuration has been successfully downloaded. From that point on, siteVIEW assumes that it is the only application that has access to the device. If changes are later made to the device using a configuration tool such as the sitePORTAL Configuration Utility (SPCU), siteVIEW's configuration for the device will be out of date and this may result in erroneous data displayed in siteVIEW. To bring siteVIEW back up to date, perform a complete refresh from siteVIEW for the modified device.

Ethernet devices have an additional connection details setup page. In the connection details page enter the IP address, IP port and communication timing parameters.

Figure 36 – Ethernet Device Connection Details



Note: siteVIEW scope 2.1 is configured with a 3 device maximum.

6.3.2. Device Details

After communication with a device has been successfully established, additional device configuration is made available. Selecting “Edit->Properties” from the main menu opens the device details form. The device details form provides the ability to configure a device.

The device details form has multiple tabs. The available tabs differ from device to device depending on the device’s firmware version, the available siteVIEW add-ons, and the type of device.

Device Uploaded Configuration

Currently, siteVIEW supports the TASC siteCOMMANDER (see **Appendix B** on page 104), TASC sitePORTAL Lite (see **Appendix C** on page 116) and the TASC siteRSM device types (see **Appendix D** on page 128)

When changing a device’s name, please note that existing archived log files will still contain the old device name.

The IP address, IP port and timing parameters can be set for Ethernet devices in the communications tab of the device details form.



WARNING: Making configuration changes to a device will cause the device to restart its firmware. As a result the device outputs will turn off. This could unintentionally activate/deactivate equipment located at the remote site without warning. It is the customer’s responsibility to ensure personnel or property is not damaged.

Extra Device Configuration

Some configuration is stored in siteVIEW and not uploaded into the device. The temperature units and the analog formula are extra input configuration parameters that are stored in siteVIEW but are not uploaded to the device.

The temperature units are configurable via the Units selection box on the Temperature Inputs tab of the Device Details form. Available temperature conversions include Celsius, Fahrenheit, Kelvin, Rankine and Réaumur. The default unit value is Celsius.

The screenshot shows the 'Temperature 01 - Device Details - TASC siteVIEW Enterprise 2.0' window. The 'Temperature Inputs' tab is active. The 'Units' dropdown menu is open, showing options: Celsius, Fahrenheit, Kelvin, Rankine, and Réaumur. The 'Celsius' option is selected. The window also shows 'High Temperature Set Points' and 'Low Temperature Set Points' sections with various input fields for thresholds and local outputs.

	1	2	3	4	5	6	7	8	ALL
Enable Events	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Present	Yes	No	No	No	No	No	No	No	No
Units	Celsius	Celsius	Celsius	Celsius	Celsius	Celsius	Celsius	Celsius	Celsius
Input Qualifier	Celsius								
High Temperature Set Points									
Threshold	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Local Output									
Low Temperature Set Points									
Threshold	11.5	-55.0	-55.0	-55.0	-55.0	-55.0	-55.0	-55.0	
Local Output									
Hold (secs)	5	1	1	1	1	1	1	1	

☒ Only upload changed settings

OK Apply Cancel

Figure 37 – Device Details – Temperature Units Selection

Similar to the temperature units, the Analog Input formula are configurable via the Formula selection box on the Analog Input tab of the Device Details form. The formula values are configurable through the Formula Configuration form that can be opened by selecting the Edit button that corresponds to the Formula selection box.

Device Details - TASC siteVIEW Enterprise 2.0

Description | General | Communication | Contact Inputs | Analog Inputs | Temperature Inputs | Outputs

Analog Input Configuration

	1	2	3	4	5	6	7	8	ALL
Enable Events	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Range	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V
Sensor									
Offset	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Input Qualifier	--	8	--	--	--	--	--	--	--
Units	Volts	Volts	Volts	Volts	Volts	Volts	Volts	Volts	Volts
Formula	-none-	-none-	-none-	-none-	-none-	-none-	-none-	-none-	-none-
<input type="button" value="Edit"/>									
High Threshold Set Points									
Threshold	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Adjusted	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Local Output	--	--	--	--	--	--	--	--	--
Low Threshold Set Points									
Threshold	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Adjusted	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Local Output	--	--	--	--	--	--	--	--	--
Hold (secs)	1	1	1	1	1	1	1	1	1

☒ Only upload changed settings

Figure 38 – Device Details – Analog Formula Configuration

Use the Formula Configuration form to add, remove and update various analog conversions.

The formula Name field is the unique identifier of the formula. The formula name will appear in the Formula selection field.

The formula Units field is an optional field that is displayed in the Log Viewer.

The formula Decimal Places field configures how many decimal places the adjusted value should be rounded.

The formula Equation is used to calculate the value of the analog sensor, where x is the input value. See the Formula Configuration form for a complete list of accepted equation operators and an example of how to use each one.

The Sample field allows the equation to be tested. This value is input into the equation by replacing x and calculating the result. If there are no errors, the result is displayed. If there was an error with the formatting then an error is displayed.

Name	Units	Equation	Decimals
Sensor 1	dB	$2x^3 - 2.3x^2 + 4x - 6.234$	2
Sensor 2	dB	$5.64x^4 + 0.54x^3 - 27.9x^2 + 8.35x - 206.234$	2

Name: Units: Decimals:

Equation:

Sample: = 292.27 dB

New Update Delete

Operator	Description	Example
x	variable	$\sqrt{x - \ln(2x + 7.45)}$
()	Open & Close Brackets	$x(4+5)$
!	Factorial	$x!$
^	Exponent	$2^{(3 * x)}$
sqrt	Square Root	$\sqrt{x^4}$
*	Multiply	$x * 5$
/	Divide	$x/5$
%	Modulus	$x \% 10$
+	Add	$4.231x + 5.2354$
-	Subtract	$90 - x$
logb	Logarithm (b = base)	$\log_4(x)$
log	Logarithm (base 10)	$\log(x)$
ln	Natural Log	$\ln(25x)$
sec	Secant	$\sec(x)$
sin	Sine	$\sin(35.001x)$
tan	Tangent	$\tan(45.023/x)$
csc	Cosecant	$\csc(x)$
cos	Cosine	$\cos(180) + x$
cot	Cotangent	$\cot(x-25.23)$
abs	Absolute	$\text{abs}(-25 * x)$
pi	3.141592653589793238...	$\pi * x^2$

Close

Figure 39 – Formula Configuration Form

Once an analog formula has been configured it can be selected and applied to any analog input. The analog input's adjusted high and low threshold values will be calculated and displayed. The formula will also be used to calculate the analog value whenever a status is returned from the device and the calculated value will be displayed in the Log Viewer and on any panel controls that represent the analog input.

6.3.3. Ping Devices

When adding a device to an Ethernet port, there is an option to add a Ping device. This device does not have any configuration, or I/O, instead siteVIEW can connect to any network device that supports pinging. The device can be scheduled to be pinged periodically using scheduled polling. If an unresponsive site alarm is setup for the device, the alarm will trigger whenever the site does not respond to a ping.

6.4. Site Panel

Each node in the site navigation tree has a panel associated with it. The panel contains controls that graphically map out the items available at the server, COM port or device. A server's panel contains controls that represent COM ports, a COM port's panel contains controls that represent devices, and a device's panel contains controls that represent the device's inputs and outputs. Performing a left mouse click on a panel control that represents a COM port or a device causes siteVIEW to display the panel for the selected COM port or device, essentially traversing the Tree View. Performing a left mouse click on a panel control that represents an output causes siteVIEW to turn on or turn off the associated output. Panel controls that represent device inputs serve as visual indicators of the inputs real life state.

A user can modify the layout and appearance of the panel and the panel controls to give more meaning to the panel.

6.4.1. Background Properties

The Site Panel background properties form can be modified in the *Panel Details* form, which is opened by selecting "Edit->Panel->Panel Background" from the main menu. The Panel Details form pertains to the currently displayed panel.

The panel height and width affect the total size of the panel. This can be different from the actual height and width that the user sees. The panel height and width can be set larger or smaller than the actual viewable area of the PC screen.

An image may be set as the panel background by selecting it from the list. When an image is selected, a preview of the image is shown in the picture box above the image list. To add an image to the list, select the Browse button, navigate to the desired image file and select ok. The Rename and Delete buttons rename and delete a selected image on the image list.



It is recommended that background images be less than 256KB in size. Larger images may take longer to load.

The mode setting determines how the background image will be fit into the background.

Color sets the panel background color.

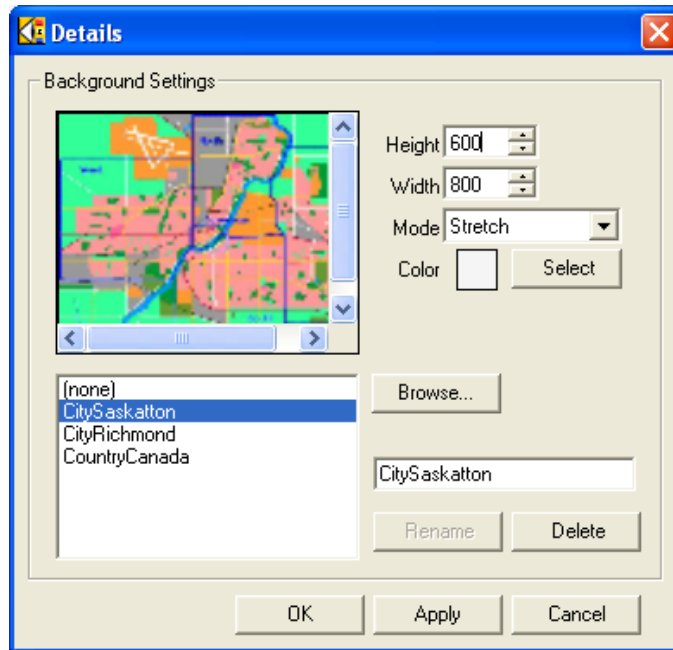


Figure 40 - Background Properties

6.4.2. Panel Control Property Form

There are several types of panel controls. Individual panel controls may be customized to give the control more meaning. Panel controls represent COM port connections to sites, devices, contact inputs, analog inputs, temperature inputs and outputs. In most cases it makes sense to represent sites and devices by a Boolean push button, contact inputs and outputs only have two states and so they are best represented by a visual on or off using a Boolean, and analog and temperature inputs have ranges and are best represented by knobs and slides.

Selecting the “Edit->Panel->Unlock Panel” from the main menu unlocks the currently displayed panel and allows the individual panel controls to be modified. While a panel is unlocked, the normal functionality of the panel controls ceases. Selecting a panel control opens a form that shows the panel control’s display properties. On the top of the panel control display properties form is a drop down field of all the controls that belong to the current panel. This drop down field, along with the previous and next buttons, is used to navigate through the panel controls.

To select multiple panel controls, left click the mouse at some point on the panel, then while holding the left mouse down, drag the mouse over the panel controls you wish to select. Multiple controls can also be selected by hold the keyboard’s Ctrl button down while left clicking panel controls.

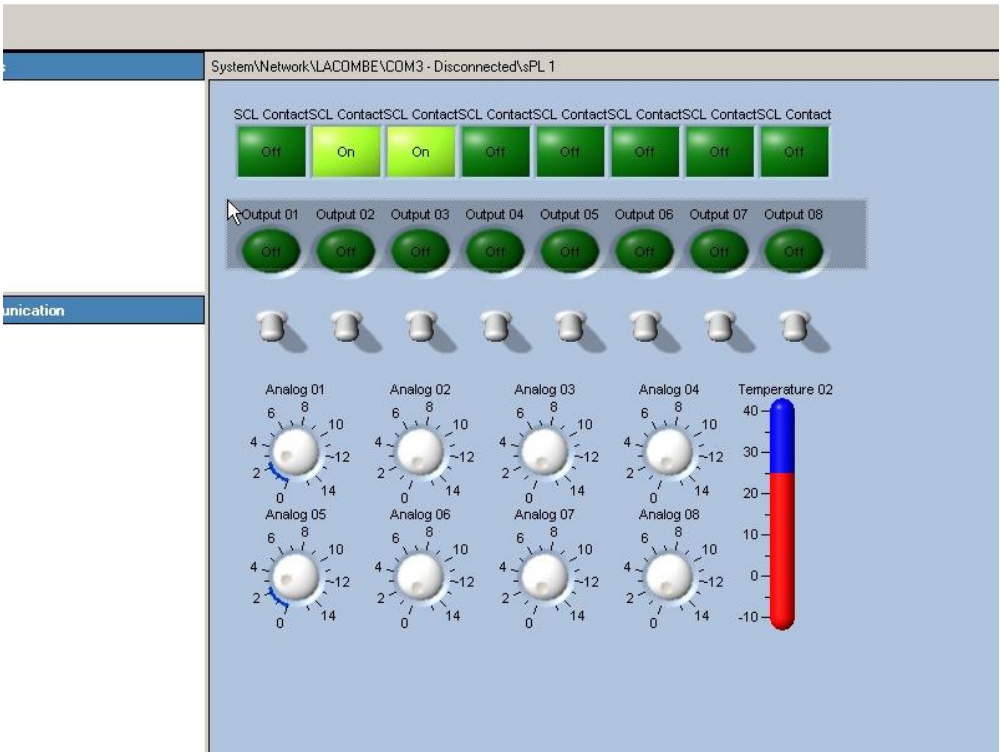


Figure 41 – Selecting Multiple Panel Controls With The Mouse

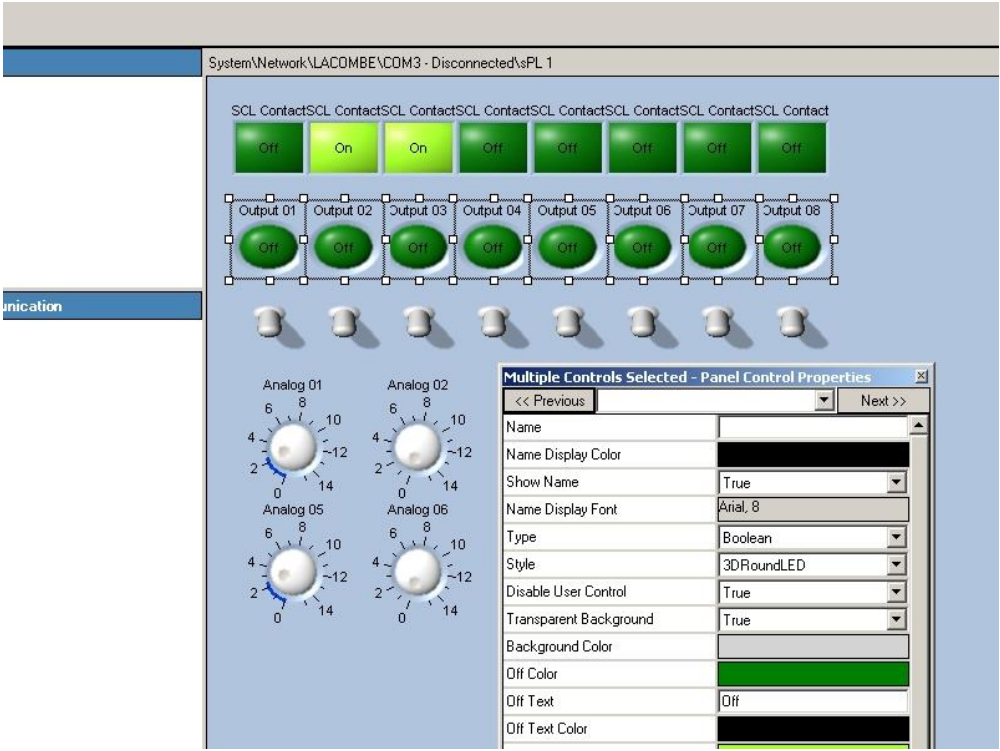


Figure 42 – Multiple Panel Controls Selected

Certain panel control properties are common for all panel control types. Other properties are specific to a control type. The Disable User Control and confirmation properties are only available if the control it represents is an output. When the confirmation property is selected siteVIEW will prompt a user for confirmation if the user turns the output on or off. The Disable User Control option removes user control entirely. An administrator can set these settings accordingly

The name of the panel control can be changed and shown or hidden using the Panel Control Display Properties form. A panel control can be made visible or hidden, or it can be deleted completely by selecting the delete button. Panel control colors, types and styles are all changed using the panel control display properties form.

Output 5 - Panel Control Properties	
<< Previous Output 05 Next >>	
Name	Output 05
Name Display Color	[Black]
Show Name	True
Name Display Font	Arial, 8
Type	Boolean
Disable User Control	True
Style	3DRoundLED
Transparent Background	True
Background Color	[Gray]
Off Color	[Green]
Off Text	Off
Off Text Color	[Black]
On Color	[Yellow-Green]
On Text	On
On Text Color	[Black]
Top	100
Left	260
Width	60
Height	60
Visible	True
Delete Close	

Figure 43 – Panel Control Display Properties

6.4.3. Panel Control Types

Four panel control types are available in siteVIEW. The four panel control types are: Boolean, slide, knob and display.

Boolean




























Vertical Toggle (VToggle) 	Horizontal Toggle (HToggle) 	Square LED (SquareLED) 	Square Star LED (SquareStarLED) 
Round LED (RoundLED) 	Round Star LED (RoundStarLED) 	Round Push Button (RoundPushButton) 	Square Push Button (SquarePushButton) 
Vertical 3D Slide (V3dSlide) 	Horizontal 3D Slide (H3dSlide) 	Vertical Slide (VSlide) 	Horizontal Slide (HSlide) 
Toggle On/Off (ToggleOnOff) 	Command OK (CommandOK) 	Bitmap (Bitmap) 	3D Vertical Toggle (3DVToggle) 
3D Square LED (3DSquareLED) 	3D Horizontal Toggle (3DHToggle) 	3D Round LED (3DRoundLED) 	3D Push Button (3DPushButton) 
3D Vertical Rocker (3DVRocker) 	3D Horizontal Rocker (3DHRocker) 	3D Vertical Slide Switch (3DVSlideSwitch) 	3D Horizontal Slide Switch (3DHSlideSwitch) 
3D Toggle On/Off (3DToggleOnOff) 	3D Command OK (3DCommandOK) 	3D Bitmap (3DBitmap) 	

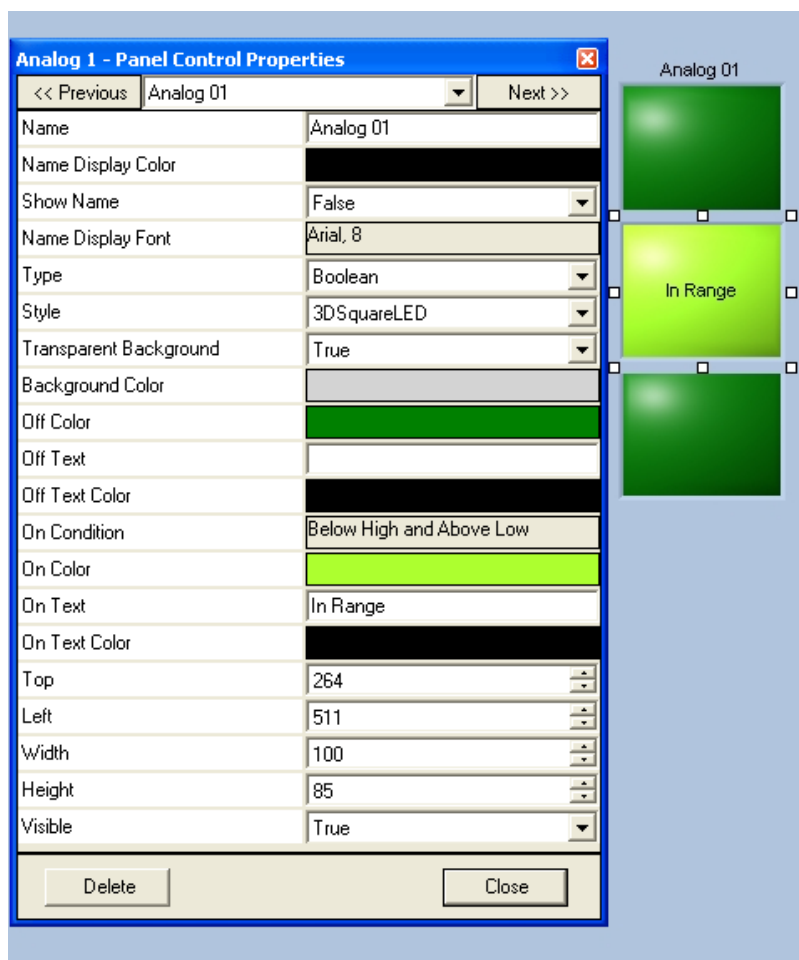
Figure 44 - Boolean Styles of Panel Controls

Boolean control types are used to represent on and off, or are used as buttons. Properties specific to this control type include the off color, off text, off text color, on color, on text and on text color.

Output 5 - Panel Control Properties	
<< Previous	Output 05
Next >>	
Name	Output 05
Name Display Color	
Show Name	False
Name Display Font	Arial, 8
Type	Boolean
Confirmation Required	True
Disable User Control	False
Style	3DVToggle
Transparent Background	True
Background Color	
Off Color	
Off Text	
Off Text Color	
On Color	
On Text	
On Text Color	
Top	160
Left	260
Width	160
Height	60
Visible	True
Delete Close	

Figure 45 - Boolean Element Properties

When Boolean control types are used to represent analog inputs, an “On Condition” property becomes available for the control. The on condition specifies the conditions when the Boolean control should appear on. When these conditions are not met, the Boolean control will appear off. In Figure 46 – Analog Boolean Control Properties, three Boolean controls are used to represent “Analog 01”. The top Boolean control is set to be on when the analog’s value is above its high threshold. The middle and selected Boolean control is set to appear on when the analog’s value is below the high threshold and above the low threshold. The bottom Boolean control is set to be on when the analog’s value is below the low threshold.



Analog 1 - Panel Control Properties

<< Previous Analog 01 Next >>

Name	Analog 01
Name Display Color	
Show Name	False
Name Display Font	Arial, 8
Type	Boolean
Style	3DSquareLED
Transparent Background	True
Background Color	
Off Color	
Off Text	
Off Text Color	
On Condition	Below High and Above Low
On Color	
On Text	In Range
On Text Color	
Top	264
Left	511
Width	100
Height	85
Visible	True

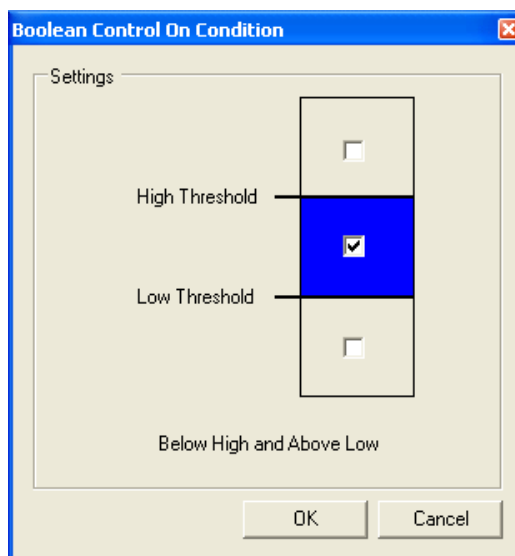
Delete Close

Analog 01

In Range

Figure 46 – Analog Boolean Control Properties

Double clicking on the “On Condition” property’s configuration text opens the Boolean Control On Condition configuration form. Use this form to select when the Boolean control should appear on.



Boolean Control On Condition

Settings

High Threshold ☐

Low Threshold ☒

Below High and Above Low ☐

OK Cancel

Figure 47 - Boolean Control On Condition

Knob

Knob control types are used to represent a range of values. Properties specific to this control type include the foreground color, format string, axis caption, axis maximum and minimum, axis inversion, and the start and end of

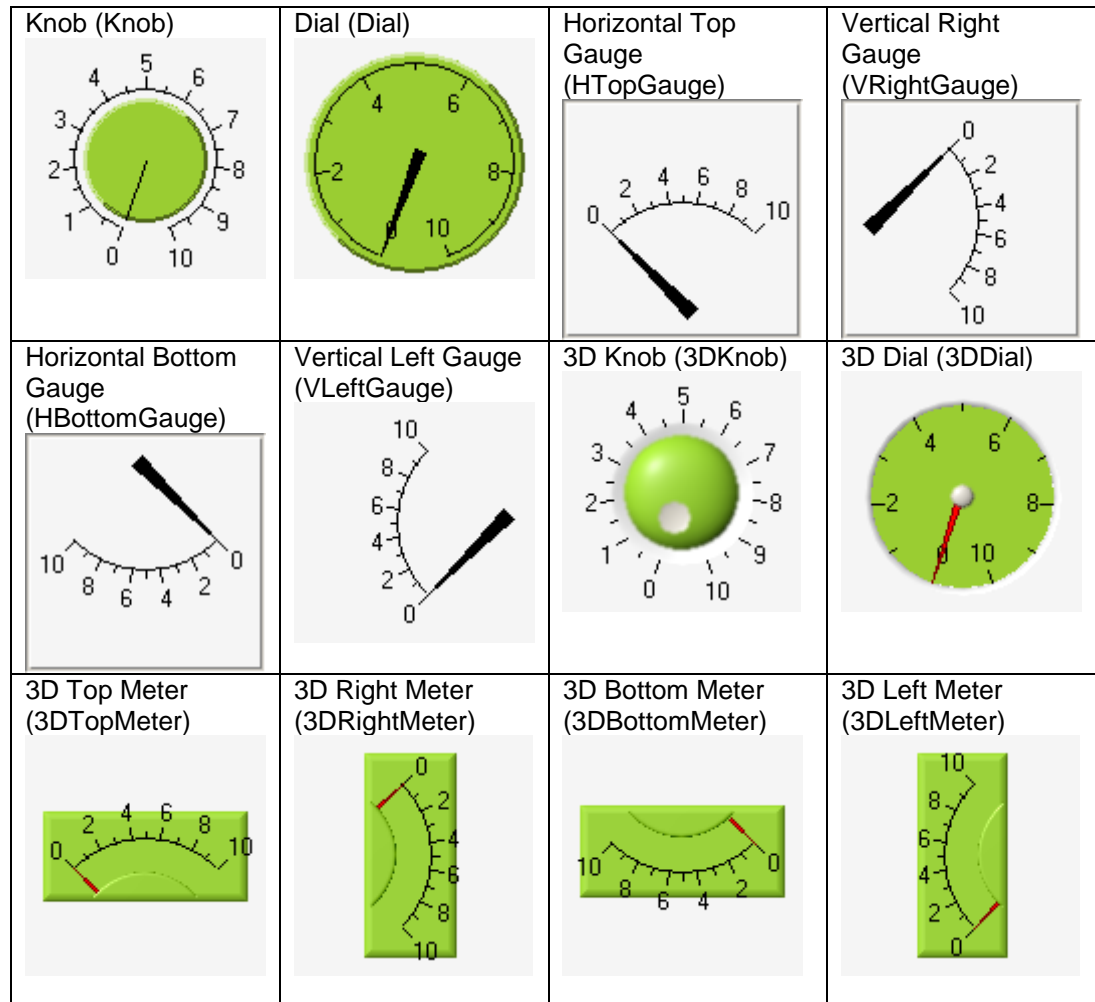


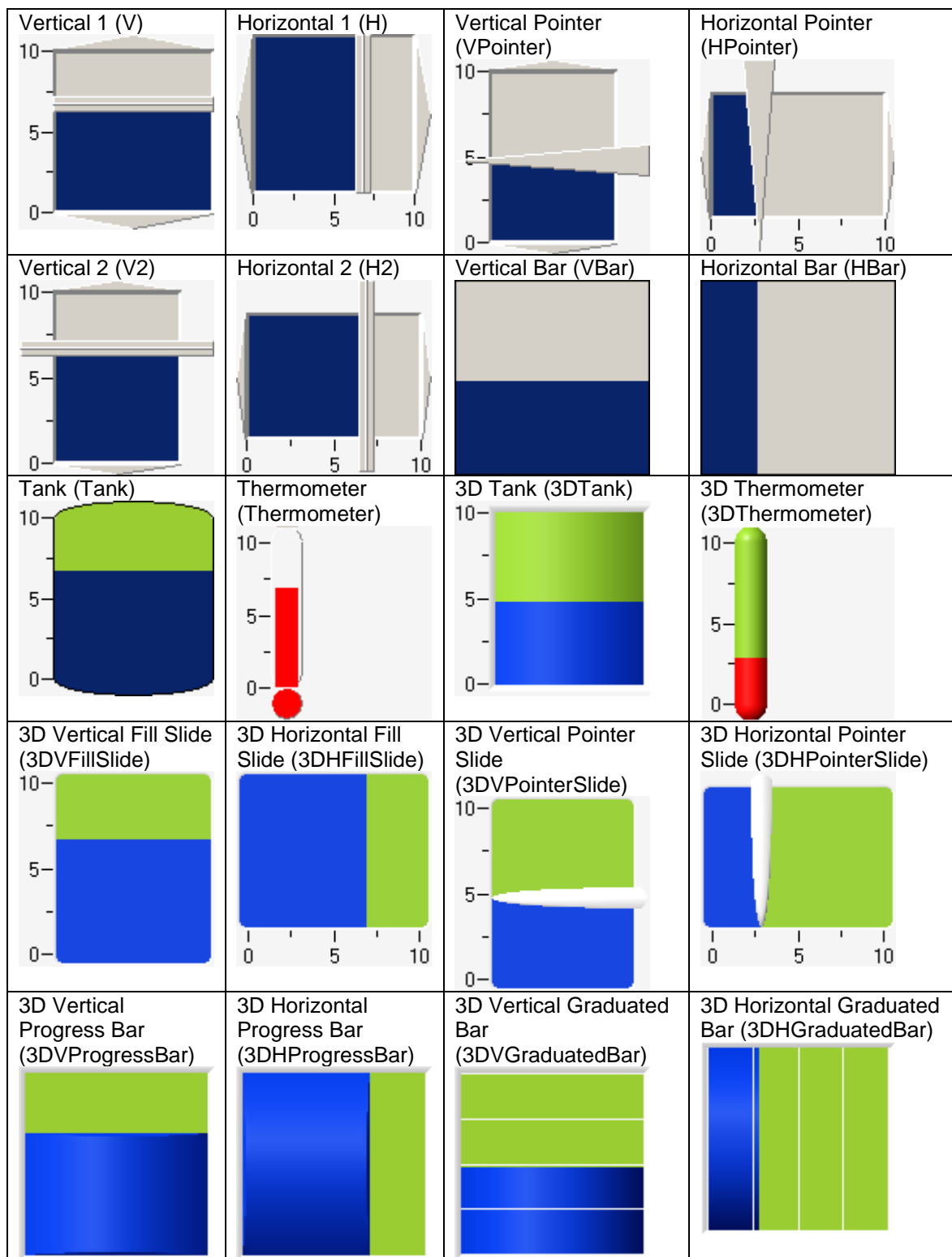
Figure 48 - Knob Styles of Panel Controls

the arc of values. The knob control type is represented as an arc.

The format string is discussed in more detail at the end of this section. The axis minimum and maximum specify the minimum and maximum values that the knob will display. The axis can be inverted so that the numeric scale is shown in reverse order. The arc start and end values determine the arc's span. When the arc start and end values are set to -1 a default value is used.

Analog 8 - Panel Control Properties	
<< Previous	Analog 08
Name	Analog 08
Name Display Color	
Show Name	True
Name Display Font	Arial, 8
Type	Knob
Style	3DKnob
Transparent Background	True
Background Color	
Foreground Color	
Format String	
Arc Start	-1
Arc End	-1
Axis Caption	
Axis Maximum	15.0
Axis Minimum	0.0
Invert Axis	True
Left/Bottom Ticks	True
Right/Top Ticks	False
Inner Ticks	False
Outer Ticks	True
Major Ticks	True
Minor Ticks	True
Major Tick Color	
Minor Tick Color	
Tick Spacing	Automatic
Top	340
Left	320
Width	100
Height	100
Visible	True
<div> Delete Close </div>	

Figure 49 - Knob Properties

Slide**Figure 50 - Slide Styles of Panel Controls**

Slide control types are like the knob control type since they are also used to represent a range of values. Properties specific to this control type include

the fore color, format string, axis caption, axis maximum and minimum, axis inversion. The slide property is represented as a vertical or horizontal line.

The format string is discussed in more detail at the end of this section. The axis minimum and maximum specify the minimum and maximum values that the slide will display. The axis can be inverted so that the numeric scale is shown in reverse order.

Temperature 2 - Panel Control Properties	
<< Previous Temperature 02 Next >>	
Name	Temperature 02
Name Display Color	
Show Name	True
Name Display Font	Arial, 8
Type	Slide
Style	3DHPinterSlide
Transparent Background	False
Background Color	
Foreground Color	Blue
Format String	
Axis Caption	
Axis Maximum	40.0
Axis Minimum	-10.0
Invert Axis	False
Left/Bottom Ticks	True
Right/Top Ticks	False
Inner Ticks	False
Outer Ticks	True
Major Ticks	True
Minor Ticks	True
Major Tick Color	
Minor Tick Color	
Tick Spacing	Automatic
Top	679
Left	162
Width	455
Height	104
Visible	True
Delete Close	

Figure 51 - Slide Style Properties

Display



Figure 52 - Display Style of Panel Controls

Display control types are used to display numeric values using a text string. Properties specific to this control type include the fore color and format string.

The format string is discussed in more detail at the end of this section.

6.4.4. Format String

The format string that is available in the Panel Control Properties form can be used to format the value the user sees.



Note: The format string is limited in its functionality and should only be used to configure the panel control values as they appear on the screen. The values that are produced as a result of the format string do not appear in the Log Viewer or anywhere else in the system. To format the system value of an analog input, configure the Formula value in the Device Properties form (see Extra Device Configuration on page 49).

Figure 53 - Display Style Properties

The following are examples of the variables and components that can be used to form a Format String.

- . (decimal point) - specifies the beginning of the number within the label. Use # and 0 to the right of the decimal point to specify the precision. If you do not include a decimal point in the format string, a decimal point is assumed to be the first character in the format string
- 0 - specifies the precision to the right of the decimal point. For example, ".#0" always produces two digits to the right of the decimal point, even when given an exact number such as 1.0
- # - specifies the precision to the right of the decimal point. For example, "##" produces up to two digits to the right of the decimal point. Thus, 1.0 produces 1, while 1.025 produces 1.03
- e, E - specifies exponential notation. "E" specifies the capital letter, while "e" specifies the lowercase letter
- *nn - scales labels. For example, ".*10" prints the value 1.0 as 10

- +nn or -nn - offsets labels. For example ".+20" prints the value 1.0 as 21
- k - specifies symbolic notation. For the format string ".k", 1.0 prints as 1, 1000 prints as 1k, and .001 prints as 1m
- "text" - specifies to add text to the label. For example, '".V"' adds a V to the right of every label. Thus, 1.0 becomes 1 V
- \$, % - specifies to print these special characters

The following are two useful format string examples:

- Celsius to Fahrenheit Conversion

Note that this conversion is not necessary if your temperature sensor is already set up to use Fahrenheit units, however this example demonstrates how to use the format string.

Using the equation $^{\circ}\text{F} = (1.8) ^{\circ}\text{C} + 32$ to calculate the Fahrenheit value, a format string of `*1.8 +32` would be used and would result in the following:

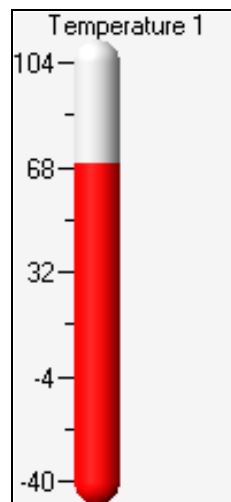


Figure 54 - Celcius to Fahrenheit Conversion

- Adding Text

Using the previous example for converting Celsius to Fahrenheit, adding the string "°F" to the format string would become `*1.8 +32 "°F"` and would result in the following:

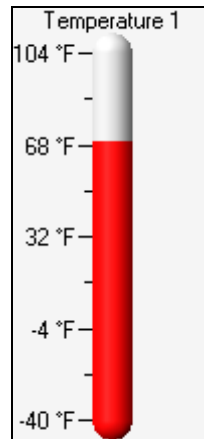


Figure 55 - Adding Text to Format String



Note: To add a degree symbol (°) to your format string, hold the ALT key down and type the number 0176, or refer to the “Character Map” to look for special characters to copy and paste into siteVIEW. The “Character Map” is included with the Microsoft Windows operating system and can be accessed from the windows start menu by selecting “Program->Accessories->System Tools->Character Map”.

- Fahrenheit to Celsius Conversion

To convert Fahrenheit to Celsius using the equation $^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1.8$, the format string would be `-32 *0.5556`, where 0.5556 is the inverse of 1.8.



Note: There is no division operator available with the format string field. So the user must take the inverse and multiply. Also there must not be any space between the operator and the number, so if you want to add 32, you must write `+32`, and not `+ 32`. Lastly, you cannot use operators more than once, so you can write `*1.8 +32`, but if you write `+4.2 *1.8 +32`, the first value is ignored.

6.4.5. Adding Controls to a Panel

It may be useful to have multiple components on a panel that represent the same input or output. For example, it may be useful to show an analog or temperature value as a dial or thermometer, and at the same time have a text representation of the same information.

To add controls to a panel, first unlock the panel by selecting “Edit->Site->Unlock Panel” from the main menu. While the Site Panel is unlocked, select “Edit->Site->Add Panel Control” to open the “Add Panel Control” form. Ensure the control is being added to the correct panel, then choose an input or output from the I/O list and select the add button.

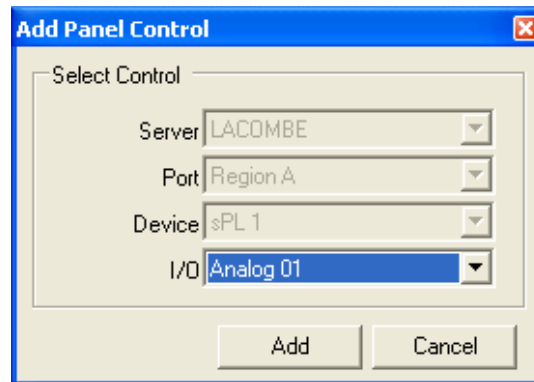


Figure 56 - Adding I/O to a Panel

The new control will appear in the top left corner of the panel. Move the control to the desired location and change the control properties as needed.

It may be useful to have two panel controls representing the same output. By disabling user control on one of the outputs, the disabled control will show the actual device value. Whereas the control that allows user control would be out of sync with the device starting from the time a user changes the output until the device response is received.

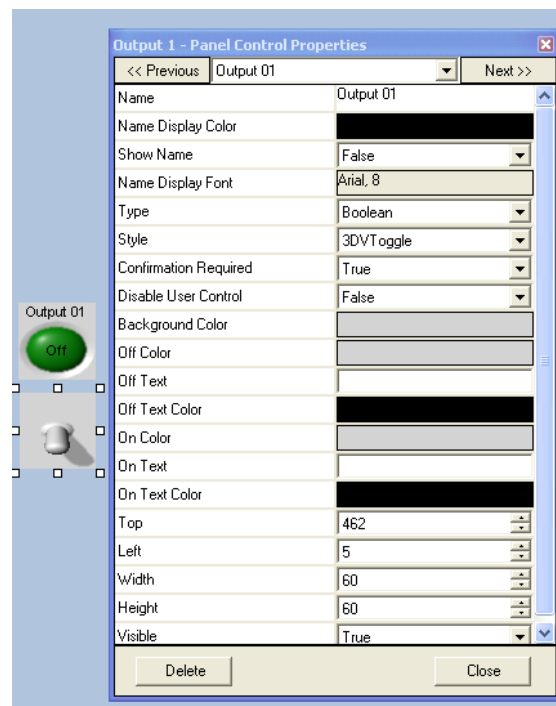


Figure 57 - Panel Control Properties

6.4.6. Panel Import and Export

A panel may be exported to a file and re-imported later into the same panel or into a different panel. If any differences exist between two panels, those differences are ignored. For example, if a panel file that contains a temperature input control is imported into a panel with no temperature input to match, the resulting panel will not contain a temperature input control. The import and export functionality can be accessed by selecting “Edit->Panel->Import Panel” and “Edit->Panel->Export Panel” respectively.

6.5. Alarm Conditions

Alarm conditions can be configured for individual inputs, outputs, or devices.

Alarm conditions can also be configured to alarm when a device is unresponsive.

A user can then manage alarms by taking necessary actions as defined by procedures or the instructions associated with the alarm.

6.5.1. Alarm Condition States

Alarm conditions set boundaries for inputs or outputs, allowing the user to be notified when the value goes outside this boundary. When the value is outside the alarm condition’s boundary, the alarm has then been triggered and the user is notified.

Users can acknowledge and clear alarms, hence possible alarm status values are Ceased, CeasedAndAcknowledged, CeasedAndCleared, Active, ActiveAndAcknowledged and ActiveAndCleared.

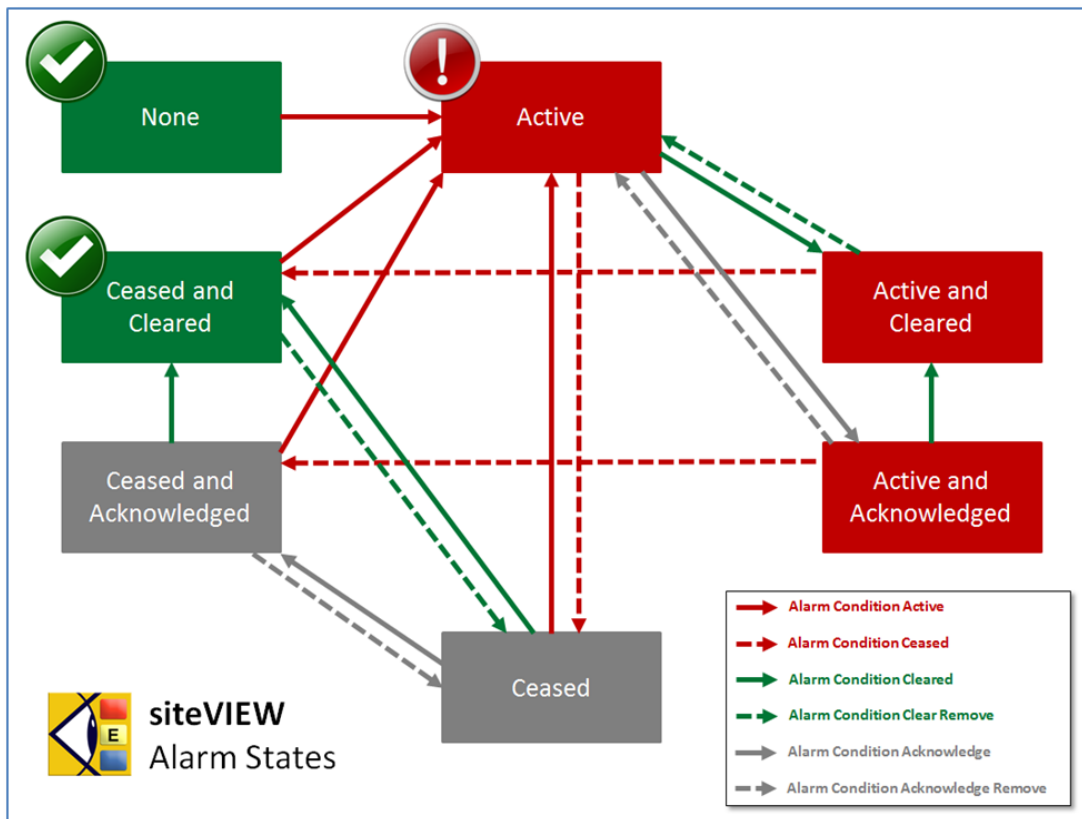


Figure 58 – siteVIEW Alarm Condition States

6.5.2. Configuring an Alarm Condition

To configure an alarm, select a tree node under the “Network” node. Selecting a tree node under the “Groups” node will result in a read only view of configured alarm conditions.

Selecting “Edit->Alarm Configuration” from the main menu opens the alarm configuration form. From this form a user can create new alarm, and delete or modify existing ones.

When creating an alarm, ensure the server, COM port, device and device I/O are selected correctly. Changes made to the alarm configuration form do not take effect until the update button is selected or add is selected while creating a new alarm condition.

The alarm severity is used to place importance and priority on alarms. Three alarm severity options exist: Minor, Major and Critical. Minor alarms are the least severe and Critical alarms are the most severe. The different alarm severities are color coded in the alarm status panel. By default active critical alarms appear red, active major alarms appear orange and active minor alarms appear yellow. Ceased, acknowledged and cleared alarms appear grey in color. These colors are configurable (See Global Alarm Notification Settings, section 6.5.3 on page 76, for information on how to change alarm severity colors).

An alarm can be enabled or disabled by changing the Enabled option.

The type and number fields indicate the input or output the alarm condition applies to.

The alarm conditions for a contact input or an output have only two choices and that is On or Off. In other words an alarm can be set to trigger when the input or output is on or when it is off.

ID	Server	COM Site	Device	I/O	Type	Number	Severity	Condition
34	Server1	Prince Ge...	SlaveNoMa...	---	---	---	Minor	Non-Responsive
35	Server1	Prince Ge...	SlaveNoMa...	Output 01	Output	1	Minor	is off
36	Server1	Prince Ge...	SlaveNoMa...	Analog 09	Analog	9	Minor	(value < 0.75 V) or (value ...

Figure 59 - Alarm Configuration Form

The analog or temperature input alarm conditions are based on the low and high thresholds of the device's input, which are configured through the device details form and displayed as read-only fields in the alarm configuration form. When an input's value crosses one of its thresholds, the device then notifies siteVIEW of the change. The alarm can be triggered if the input's values go above a threshold, below a threshold or the threshold change can be ignored.

To configure an non-responsive device alarm, select the desired device and select no I/O. Then whenever the device does not respond to a request from siteVIEW, the alarm will trigger. The non-responsive site alarm does not cease until a successful request/response transaction occurs. An non-responsive device alarm also triggers when the device's port or computer becomes unavailable. Disabling a port or device does not cause an non-responsive device alarm.

The alarm details are useful for providing instructions to the user when the alarm occurs.

The list on the bottom of the alarm configuration form displays alarm conditions. Select an entry from the list to see the alarm condition details. If an alarm condition does not appear on the alarm condition list, ensure the filter is selected correctly.

6.5.2.1. Analog and Temperature Sensor Alarm Conditions

Unlike Digital Inputs/Outputs and Device (Non-Responsive) alarms, Analog and Temperature sensor alarm conditions can be set configured in multiple ways:

Case	Low Condition Setting	High Condition Setting	Comment
A	LT (Less Than)	GT (Greater Than)	Used for “exclusionary” alarm zones
B	LT	LT	<i>Note: Only High condition is considered</i>
C	LT	Ignore	Single alarm condition
D	GT	GT	<i>Note: Only Low condition is considered</i>
E	GT	LT	Used for “inclusionary” alarm zones
F	GT	Ignore	Single alarm zone
G	Ignore	GT	Single alarm zone
H	Ignore	LT	Single alarm zone
I	Ignore	Ignore	<i>Note: No alarm conditions considered</i>

6.5.1. Alarm Management

Alarms may be managed using siteVIEW interface options.

6.5.1.1. Show Cleared Alarms

Upon startup of siteVIEW, the “Show Cleared Alarms” option, available in the Alarm list, is enabled. This flag determines if Active and Cleared alarms are displayed.

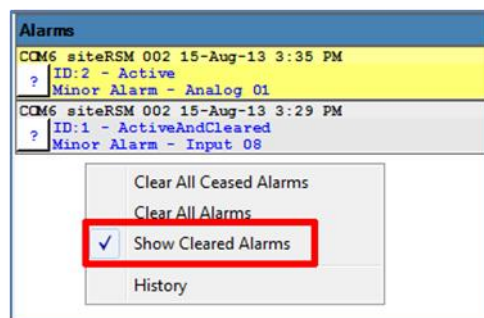


Figure 60 – Alarm Management

Show Cleared Alarms

6.5.1.2. Clear All Reported Alarms

From the Alarm list, use “Clear All Alarms” to clear all active and ceased alarms.

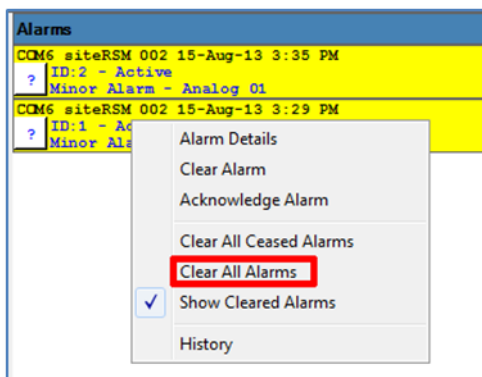


Figure 61 – Alarm Management

Clear All Alarms

6.5.1.3. Clear a Selected Alarm

From the Alarm list, use “Clear Alarm” to clear a specific alarm from the alarm list.

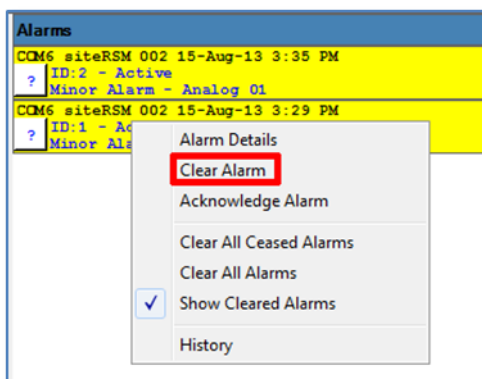


Figure 62 – Alarm Management

Clear a Selected Alarm

6.5.1.4. Acknowledge a Selected Alarm

From the Alarm list, use “Acknowledge Alarm” to acknowledge a specific alarm from the alarm list.

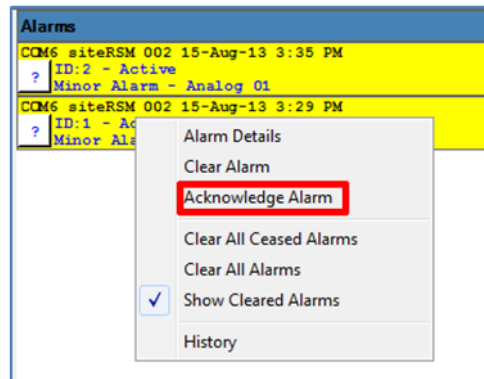


Figure 63 – Alarm Management

Acknowledge a Selected Alarm

6.5.1.5. Clear All Alarms for a Device

From the Sites tree, select a device and use “Clear All Alarms for Device” to clear all active alarms for the selected device.

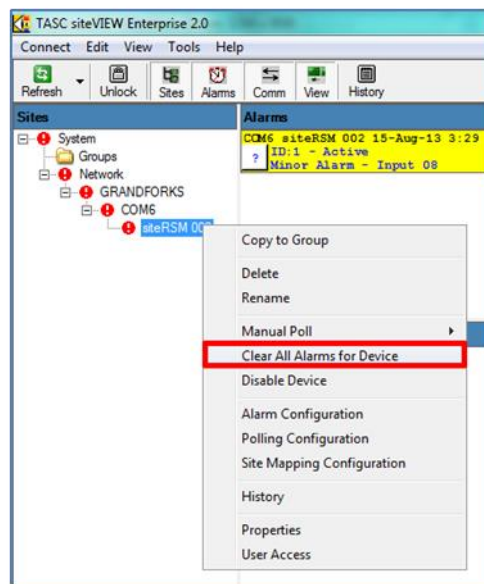


Figure 64 – Alarm Management

Clear All Alarms for a Device

6.5.1.6. Clear All Ceased Alarms

From the Alarm list, use “Clear All Ceased Alarms” to clear all ceased alarms. This will return the alarm condition to “Ceased and Cleared” or normal state.

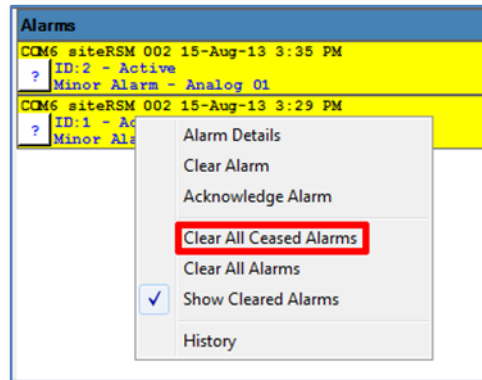


Figure 65 – Alarm Management

Clear All Ceased Alarms

6.5.2. Alarm Specific Reporting Options

Selecting the notification button opens the Alarm Reporting Options form. The alarm condition specific options can be configured from the Alarm Reporting Options form.

Sounds

Selecting the sound tab from the Alarm Reporting Options form allows the selected sound and play interval to be changed. The selected sound file will play on the event the alarm is triggered.

If an alarm is selected the sound interval can be changed. The play interval determines the length of time siteVIEW will wait before replaying the sound file.

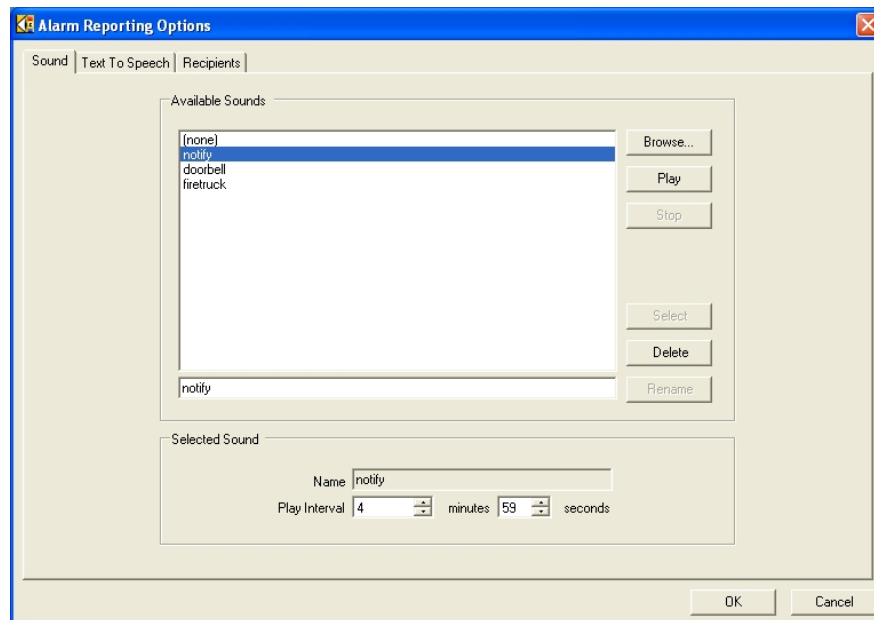


Figure 66 – Alarm Sound

From the sound tab, sound files may be deleted, renamed or sampled, and new sound files may be loaded. siteVIEW is capable of playing most common sound file types including wave (.wav), midi (.mid), mpeg layer 3 (.mp3) and windows media audio (.wma).

Text to Speech

Selecting the “Text To Speech” tab from the Alarm Reporting Options form allows the spoken message and play interval to be changed. The specified text string will be spoken through the client PC’s speakers in the event the alarm is triggered.

The play interval determines the length of time siteVIEW will wait before replaying the message.

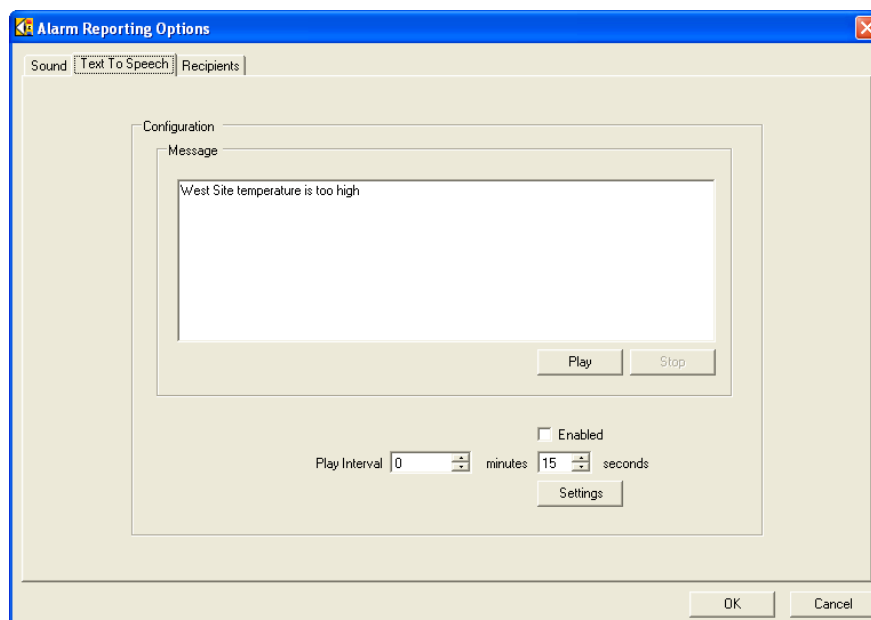


Figure 67 –Text to Speech

Recipients

Recipients are users who receive notification of the alarm. Selecting the “Recipients” tab from the Alarm Reporting Options form allows the selected alarm recipient list to be updated. The selected recipients will be notified when an alarm occurs. The User’s notification options are configured from the “User Administration” form (see Managing User Accounts, section 5.1, on page 37).

If the Notify SNMP Agent is selected, the SNMP Manager will be notified when the alarm occurs. The SNMP Manager is configured within the Global Alarm Notification settings area.

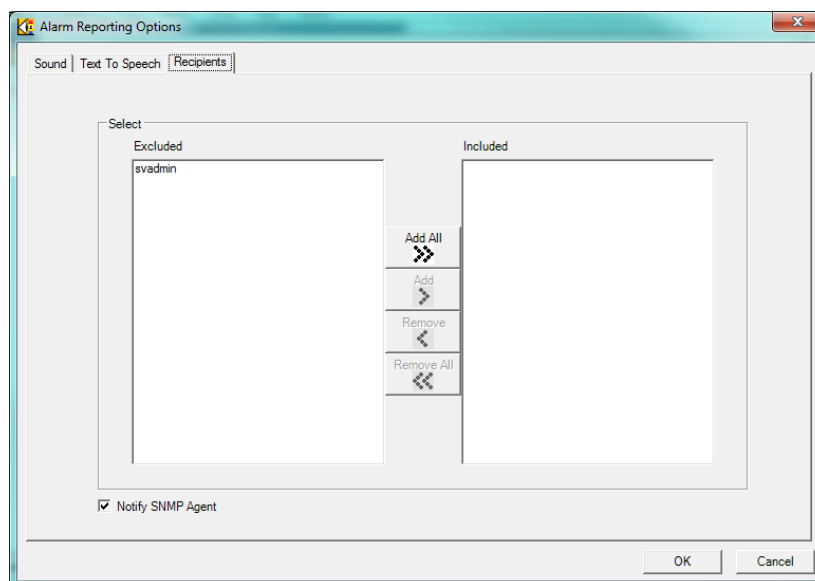


Figure 68 - Alarm Recipients

6.5.3. Global Alarm Notification Settings

By default, when an alarm is cleared, it no longer shows in the alarm panel. However, by selecting “View->Show Cleared Alarms” from the main menu, you may show or hide cleared alarms.

Selecting “Tools-> Notification Settings” from the main menu opens the Notification Configuration Form. From this form, global alarm notification options may be set that apply to all alarm conditions.

Display Settings

Selecting the “Display Settings” tab allows a user to change the alarm panel colors for the different alarm severities.

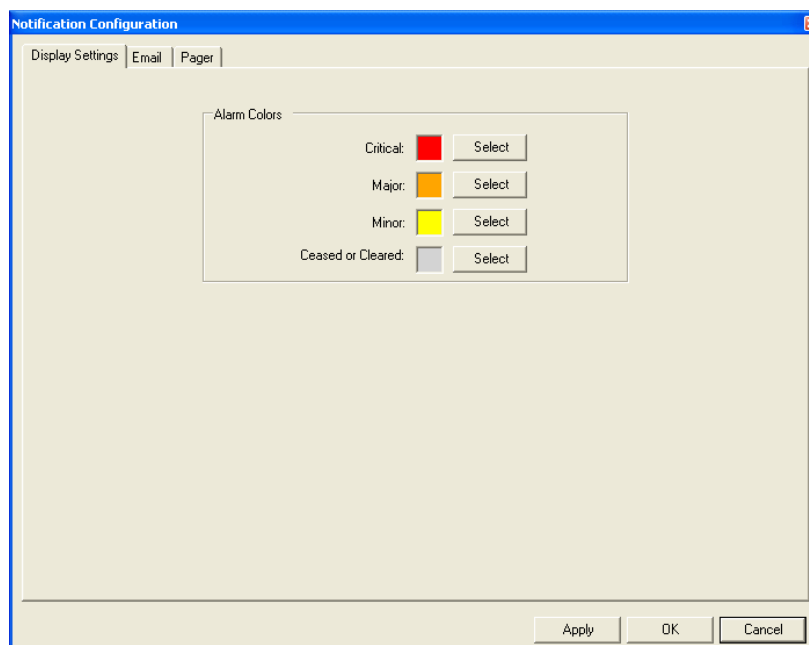


Figure 69 – Notification Configuration – Display Settings

Email

Email alarm notifications are only available if the security key has been configured to allow Email as a siteVIEW option. However, the email page is still available even if email is not enabled in the system for password recovery purposes. Specify an SMTP server that will serve as the default SMTP server during password recovery.

Selecting the “Email” tab allows a user to configure the outgoing email server, the retry interval, the default email message template and the default recipient email addresses. This form also allows the user to test the email reporting system by sending test emails.

The screenshot shows the 'Notification Configuration' window with the 'Email' tab selected. The 'Outgoing Mail' section includes fields for 'Server (SMTP)' (smtp.gmail.com:587), 'SMTP Account Name' (myemail@gmail.com), 'Password' (mygmailpassword), a checked 'Enable SSL' checkbox, 'Name' (Recognizable Name), and 'From E-mail' (mygmailid@gmail.com). The 'Email Test' section has a 'To' field (someoneknow@gmail.com) and a text area with 'This is a test e-mail from TASC siteVIEW 2.0.' and a 'Send' button. The 'Default Recipient Email Addresses' section has fields for 'Critical:', 'Major:', and 'Minor:'. The 'Options' section has a 'Retry Interval' set to 0 hours and 30 minutes, and a 'Default email message:' field with an 'Edit' button. 'OK' and 'Cancel' buttons are at the bottom right.

Figure 70 – Notification Configuration – Email

The outgoing mail SMTP Server is the email server that will be used to send email. This can be any SMTP server that the *Alarm Notification Handler* has access to. If the server resides on the same computer as the *Alarm Notification Handler*, then the server can be set as “localhost” or “127.0.0.1” or even the DNS name of the computer the *Alarm Notification Handler* resides on. A remote server can also be specified.

The outgoing mail name is the sender name that will appear on all out going emails from siteVIEW. A valid *From* email address must also be supplied for the SMTP server to authenticate that the email is being sent from a valid email account.



To use siteVIEW with third party email services which require a secure connection, ensure that *Enable SSL* is selected and the specific port number is appended to the *Server (SMTP)* name.

For example, to use Google’s Gmail service, *Server (SMTP)* would be smtp.gmail.com:587 and the *Enable SSL* option would be checked.

The email test section allows a user to test the outgoing mail configuration by sending a test email to a specified email address.

The default recipient email addresses allows for system wide emails to be sent based on the criticality of the alarm that initiated the email. Each criticality can have one or more email addresses separated by a comma or a semi-colon.

The retry interval indicates how often the email will be resent. The email will continue to be sent to the recipient until the alarm has ceased or been acknowledged or cleared.

Pressing the “Edit” button opens the Notification Message editor. From the Notification Message editor, the siteVIEW alarm notification email can be modified. The left side of the form can be edited and the right side of the form displays an example of what the alarm email will look like. A column of buttons is located down the center of the form. When any of the buttons are pressed, a predefined field tag is inserted into the message. For example, pressing the button labeled “Alarm ID” inserts the alarm id tag into the message in the form of “<ALARM_ID>.” This tag is a placeholder that gets replaced with the actual alarm id before the email is sent.

Figure 71 – Default Email Message Editor

Pager Settings



Note: Paging is only available if the security key has been configured to allow paging as a siteVIEW 2.1 option and it is only available as an option in a siteVIEW Enterprise 2.1 system.

Selecting the “Pager” tab allows a user to configure the outgoing pager modem line, the retry interval, the numeric paging message and the default recipient pager numbers. This form also allows the user to test the pager reporting system by sending test pages.

The screenshot shows the 'Notification Configuration' dialog box with the 'Pager' tab selected. The 'Outgoing Calls' section shows 'Modem Line' set to 'Conexant D480 MDC V.92 Modem'. The 'Pager Test' section has a 'Pager Number' field with '9,6045551515' and a 'Send' button. The 'Default Recipient Pager Numbers' section has three empty text boxes for 'Critical', 'Major', and 'Minor'. The 'Options' section has a 'Retry Interval' of '0' hours and '4' minutes, and a 'Numeric Paging Message' field with '1234567890'. At the bottom are 'Apply', 'OK', and 'Cancel' buttons.

Figure 72 – Notification Configuration – Pager Settings

The outgoing modem line is the modem line that will be used to send pages. This can be any modem line that is configured on the *Alarm Notification Handler* computer.

The pager test section allows a user to test the outgoing pager configuration by sending a test page to a specified phone number.

The default recipient pager numbers allows for system wide pages to be sent based on the criticality of the alarm that initiated the page. Each criticality can have one or more pager numbers separated by a semi-colon.



Note: Do not use a comma to separate pager numbers, as a comma is used to indicate a pause when dialing a number.

The retry interval indicates how often the page will be resent. The page will continue to be sent to the recipient until the alarm has ceased or been acknowledged or cleared.

FleetSync Settings



Note: FleetSync is only available if the security key has been configured to allow FleetSync as a siteVIEW 2.1 option and it is only available as an option in a siteVIEW Enterprise 2.1 system.

Selecting the “FleetSync” tab allows a user to configure the outgoing FleetSync notification options.

The screenshot shows the 'Notification Configuration' dialog box with the 'FleetSync' tab selected. The dialog has a title bar with a close button. Below the title bar is a tabbed interface with tabs for 'Display Settings', 'Email', 'Pager', 'FleetSync' (selected), and 'SNMP'. The main content area is divided into two sections: 'Default Recipient Radios' and 'Options'. The 'Default Recipient Radios' section contains three rows: 'Critical:', 'Major:', and 'Minor:', each followed by a text input field and an 'Edit' button. The 'Options' section contains a 'Retry Interval' field with a spinner set to '0' and a label 'hours', followed by a spinner set to '30' and a label 'minutes'. Below this is a 'Default FleetSync message:' field with an 'Edit' button. At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

Figure 73 – Notification Configuration – FleetSync Settings

SNMP Settings



Note: SNMP is only available if the security key has been configured to allow SNMP as a siteVIEW 2.1 option and it is only available as an option in a siteVIEW Enterprise 2.1 system.

The SNMP notification feature allows siteVIEW to send a SNMP v2 Trap to a SNMP-capable manager – for example, a Network Operations Center software system.

Selecting the “SNMP” tab allows a user to configure the outgoing SNMP notification options.

Notification Configuration

Display Settings | Email | Pager | FleetSync | **SNMP**

Settings

Manager

Address: 192.168.0.144

Port: 162

MIB: siteView

Test Trap

Send

OK Cancel

Figure 74 – Notification Configuration – SNMP Settings

The SNMP - Settings section defines the SNMP Manager’s location in terms of Address and Port number. Use the MIB dropdown to select the SNMP MIB file to be used.

To test SNMP trap, use the SNMP – Test Trap section’s Send button.

6.6. Automated Polling

Automated Polling is used to check the status of selected devices within the network at scheduled intervals. This is used to ensure that conditions at remote locations remain within acceptable parameters.

To configure polling, select a tree node under the “Network” node. Selecting a tree node under the “Groups” node will result in a read only view of configured polling.

Selecting “Edit->Polling Configuration” from the main menu opens the polling configuration form. From this form a user can create polling schedules, and delete or modify existing ones.

Changes made to the polling configuration form do not take effect until Update is selected after making changes to an existing polling schedule or add is selected while creating a new polling schedule.

Sub Command	Frequency	Start Date	Start Time	End Date	End Time
AllAnalogInputs	every 1 Day	6/20/2007	4:30 PM	none	none
DeviceStatus	every 12 Hours	6/20/2007	4:31 PM	none	none
AllOutputs	every 1 Day	6/20/2007	4:31 PM	none	none
AllContactInputs	every 1 Day	6/20/2007	4:31 PM	none	none
AllTemperatureInputs	every 1 Day	6/20/2007	4:31 PM	none	none

Figure 75 - Polling Configuration Form

A scheduled poll tells siteVIEW to communicate with a device at a specified time. The type of communication depends on the type selected. Available scheduled poll communication types are:

- **DeviceStatus:** retrieves the device status. This ensures that siteVIEW has not lost communication with the device. Also it allows siteVIEW to detect if any device configuration has changed. If a change in device configuration is detected, siteVIEW will automatically download the new configuration settings.
- **DeviceStatus** is also the option to choose for pinging a device. siteVIEW will then ping for the device's status.
- **AllContactInputs:** retrieves the contact input values.

- AllTemperatureInputs: retrieves the temperature input values.
- AllOutputs: retrieves the output values.
- AllAnalogInputs: retrieves the analog input values.
- MinMaxLogCount: retrieves the min/max log count. If the returned value is more than zero, siteVIEW will automatically download and clear the min/max log.
- SampleLogCount: retrieves the sample log count. If the returned value is more than zero, siteVIEW will automatically download and clear the sample log.
- RealTimeClockRam: retrieves values stored in the real time clock (RTC) random access memory (RAM). The data logger timers are stored in the RTC RAM.

A scheduled poll has an interval. This interval specifies how often the scheduled poll is to occur. An interval of every two hours will cause the scheduled poll to occur every two hours for the selected days, starting from the start date and ending on the end date. The scheduled poll end date can be set to never end by removing the end date option. If the selected interval is in minutes or hours, an end time may be specified. If an end time is specified but no end date is specified, the scheduled poll will occur indefinitely but only between the specified times each day. An end time cannot be specified if the time interval specified is day, week, month or year.

Scheduled polls without the *Enabled* option selected will not occur, but can be re-enabled by selecting the *Enabled* option and then selecting Update.

In order for a scheduled poll to occur, at least one device must be assigned to the scheduled poll. There are two list-boxes in the scheduled poll form, each showing a list of *Communication Services*, along with the *Communication Service's* COM ports and the devices connected to those COM ports. The Excluded list contains devices that will not be included in this scheduled poll; whereas the Included list contains devices that will all be polled at the scheduled time. After including or excluding devices in the scheduled poll the update button must be selected in order to Update the schedule poll.

Deleting a scheduled poll permanently deletes the scheduled poll for all devices associated with the scheduled poll.

The list on the bottom of the scheduled polling configuration form lists existing scheduled polls. Clicking on an entry in the list shows the schedule details. If a scheduled poll does not appear on the scheduled poll list, ensure the device filtering options are selected correctly.

6.7. Site Mapping

To configure site mapping, select a tree node under the "Network" node. Selecting a tree node under the "Groups" node will result in a read only view of site mapping.

Selecting “Edit->Site Mapping Configuration” from the main menu opens the site mapping configuration form. From this form a user can map outputs to any other input or output which is monitored by siteVIEW. The site mapping configuration form is also used to delete or modify existing mappings.

Changes made to the site mapping configuration form do not take affect until update is selected after making changes to an existing output mapping or add is selected while creating a new output mapping.

An output mapping tells siteVIEW to turn on or turn off a specified output based on the result of some other input or output in siteVIEW.

Server	COM Site	Device	I/O Name	Type	Number	Condition	Target Server	Targ
LACOMBE	192.168.0.	sPL 1	Analog 01	Analog	1	value < 12.00	LACOMBE	192

Figure 76 - Site Mapping Configuration Form



WARNING: Site Mapping cannot occur if siteVIEW loses its connection to the mapped device. If the target device is unreachable then no output event can occur.

The input condition is specified for a specific server, COM port, device and input or output on that device. When the input or output condition occurs, siteVIEW is then to take the specified output action. An input condition can occur when an input or output is turned on or off, or an input condition can occur when an analog or temperature value is less than or greater than one of its thresholds.

The site mapping condition form allows a user to modify, delete and enable or disable site mappings.

The list on the bottom of the site mapping configuration form displays site mappings. Select an entry from the list to see the site mapping details. If a site mapping does not appear on the site mappings list, ensure the filter is selected correctly.

6.8. User Access

Selecting “Edit->User Access” from the main menu opens the User Access configuration form. The User Access form is only viewable by an administrator. The User Access form allows administrators to restrict access of other users to parts of the system. This way different users can be assigned to different parts of the system and can only see the parts that they are assigned to.

By default, all users have access to different parts of the system and they must be manually denied access to various parts of the system. Administrator users cannot be given restricted access and so they will always have access to all parts of the system.

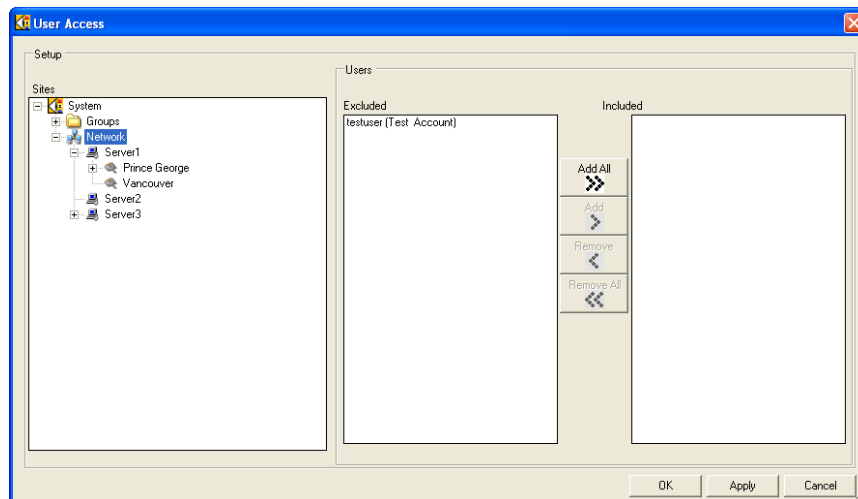


Figure 77 – User Access Configuration

7. MONITORING AND CONTROLING DEVICES

Once devices are configured they are ready for monitoring and control. Monitoring and control using siteVIEW includes viewing the current status of devices, controlling device outputs and responding to alarms.

siteVIEW does not exit completely when the siteVIEW user interface is closed (by selecting the close button in the top right corner of the main application form). Instead siteVIEW is minimized to the system tray. To exit the siteVIEW user interface completely, select "Connect->Exit siteVIEW" from the main menu. Once siteVIEW is closed, the *Data Handler*, *Communication Service* and *Alarm Notification Handler* continue to function. Communication with the configured sites, auto polling, site mapping and new status information returned from the device all continue to occur even though the user interface has been closed.



Note: Even though the User Interface may be closed, monitoring, alarm reporting, scheduled polling and Site Mapping continue to occur for the rest of the User Interfaces connected to the Data Handler

7.1. Device Inputs and Outputs

siteVIEW can monitor several types of inputs and outputs. Those inputs and outputs can be represented in different meaningful ways.

Panel control outputs can be turned on and off, but inputs cannot be changed. Outputs may be controlled if the user has the required access rights.



Warning: When controlling outputs, the value displayed on the panel will be different than the actual output value while the command is being sent.

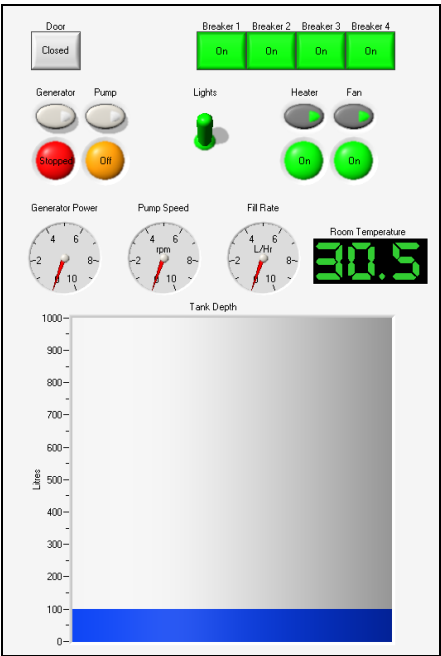



Figure 78 - Site Panel Example

7.2. Alarm Handling

Alarm conditions pertain to input and output values. When an alarm condition occurs, an alarm is triggered and the siteVIEW user is notified in several ways. Visually, the affected input or output Panel Component will blink on and off, the associated navigation tree node displays an alert icon and an alarm is added to the alarm panel.

 **WARNING:** the 3DCommandOk and 3DToggleOnOff Boolean control styles do not blink during an alarm condition.

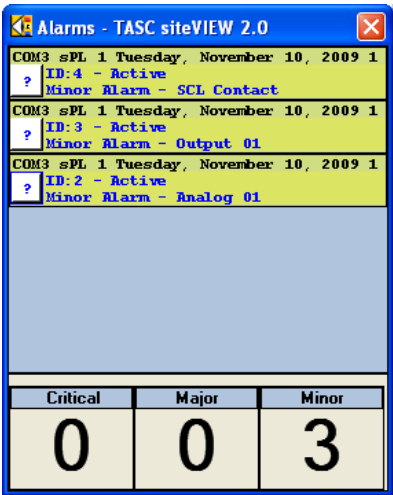


Figure 79 - Alarm Pop-Up Notification

If siteVIEW is minimized when an alarm occurs, the siteVIEW system tray icon will display a blinking alert icon and an alarm pop-up screen is displayed above the siteVIEW system tray icon, in the bottom right area of the screen. The pop-up screen can be displayed manually from the main menu by selecting "View->Show Alarm Pop-up Window."

If the triggered alarm has a sound file associated to it, the sound file will play while the alarm is active or until the user mutes the alarm sound.

The alarm popup form displays a summary of active alarms. Whereas the alarm panel displays all active and inactive alarms that have not been cleared. Each entry of the alarm popup form and each entry on the alarm panel have a find button with a question mark on it. Selecting the find button navigates the user to the device where the alarm occurred, and the device panel is displayed.

Each alarm entry on the alarm panel and alarm popup displays information about the input or output where the alarm has occurred. Performing a double mouse click on an alarm panel entry displays the alarm details form.

Alarm Details

Alarm ID: 36 Server: Server1 COM Site: Prince George Device: SlaveNoMapping

Alarm Details

I/O: Analog 09 Type: Analog Number: 9

Condition: (value < 0.75 V) or (value > 4.00 V)

Last Update: Monday, January 01, 0001 12:00:00 AM

Alarm Options

Sound:

Status: Active

Action:

Figure 80 - Alarm Details Form

The Alarm Details form gives details of the alarm location, the time the alarm's status last changed and details about the alarm. The Details field is useful for providing instructions to a user in the event that the alarm is triggered.

If an alarm has a sound file associated to it, selecting the mute button stops the sound from playing until the alarm has been triggered again. The snooze button causes the alarm sound to stop and not resume again until five minutes later. If within those five minutes the alarm condition ceases, the

snooze is interrupted and the sound will not occur again until the next time the alarm is triggered.

The status of the alarm is displayed in the status field. A user can change the status of the alarm by selecting an action and then selecting the Set button. Active alarms can be cleared or acknowledged. Acknowledging an alarm causes the alarm to remain in the alarm panel, but all other alarm indications stop. Clearing an alarm removes the alarm from the alarm panel completely. But selecting “View->Show Cleared Alarms” causes cleared alarms to be displayed on the alarm panel as well.

Alarm panel entries have different colors based on the alarm severity and status. Critical alarms appear with a red background, major alarm backgrounds are orange and minor alarm backgrounds are yellow. When an alarm has become inactive or when an alarm is cleared, the alarm panel entry background turns grey. The background of an active alarm blinks when the alarm is neither acknowledged nor cleared.

7.3. Manually Polling the Devices in the Network

Options exist that allow a user to manually initiate a poll. This allows the operator to retrieve the current status of the selected unit at any time. To perform a manual poll select one of the “Edit->Manual Poll” submenus. Selecting the manual poll button on the tool bar can access the same functionality.

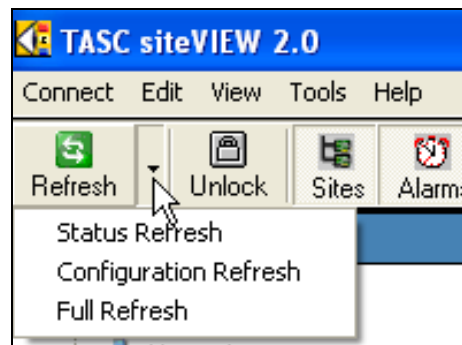


Figure 81 - Manual Poll Options

Selecting “Edit->Manual Poll->Status Refresh” causes siteVIEW to retrieve the status and I/O values of all devices under the currently selected node.

For instance, if a Server node is selected then all COM Ports and their respective devices will be polled.

If a COM Port Node is selected then all devices within that COM Port will be polled.

If a device node is selected then only that particular device will be polled.

A status refresh retrieves a device's status and I/O values. A configuration refresh retrieves the device's configuration settings. A full refresh performs the functionality of a status refresh and a configuration refresh combined.

8. LOGGING

Each time an alarm occurs, or an I/O value changes or communication with a device occurs, siteVIEW records the event in a log. This is known as siteVIEW logging.

Some devices also have logging of their own. This kind of logging is referred to as device logging. Device logging is currently only available for the TASC siteCOMMANDER device type and is not visible in systems that are not configured to support siteCOMMANDERS.

The log viewer can be viewed by selecting “View->History” from the main menu or by selecting the history button from the toolbar.

The log viewer connects to the logging interface, which resides on the *Data Handler* computer.

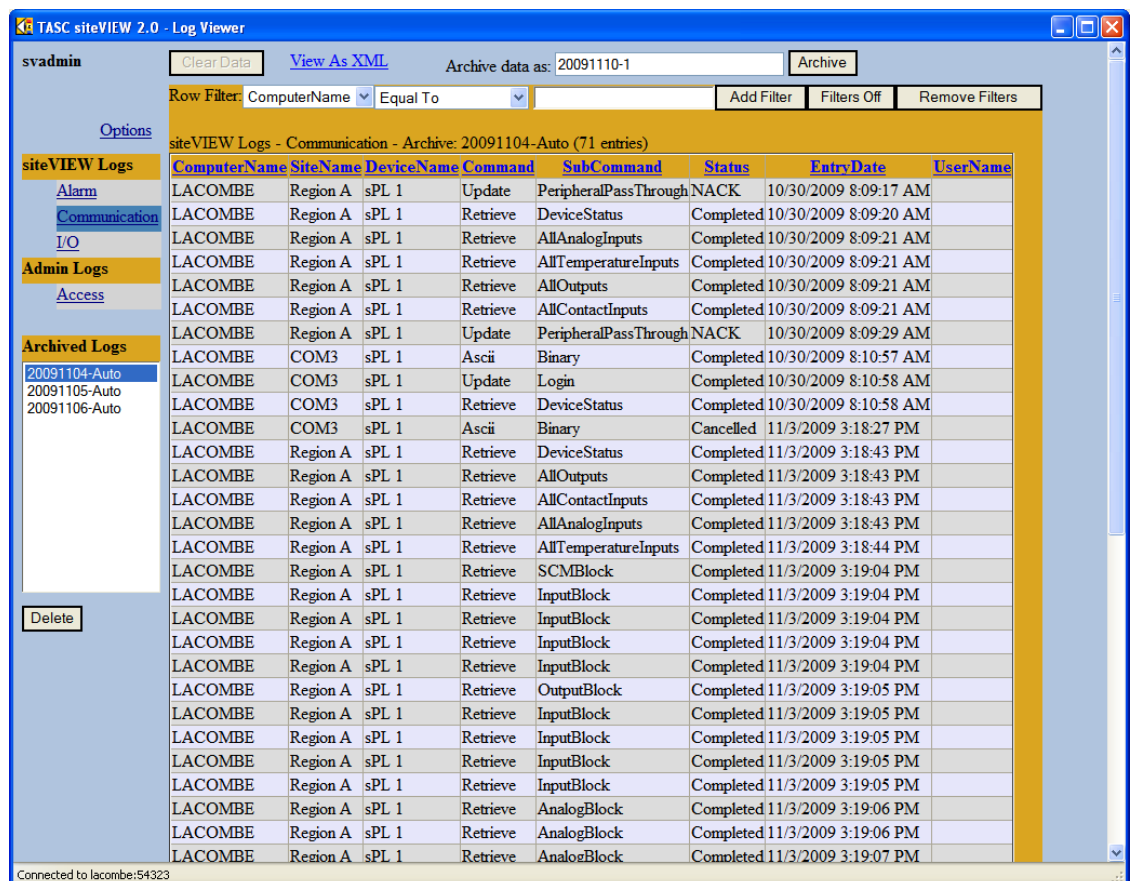


Figure 82 - siteVIEW Log Viewer

The log viewer form displays log entries on the right and a list of log types on the left.

From the menu links of the log viewer form a user can export, clear or refresh log entries. The log data can be filtered and archived, and any data can be exported to xml.

A list of archived logs is shown on the bottom left of the Log Viewer. Select an archived log to view it in the Log Viewer or delete it. Logs are automatically archived to prevent the logs from becoming unmanageably large.

8.1. siteVIEW Logging

Each time an alarm's status changes an entry for the alarm is recorded in the alarms log. The alarm log also contains a field named Username. This field records the user who changed the alarm status. If the Username field is empty, then the alarm status was changed automatically by the system.

Each time communication occurs between siteVIEW and a device, the communication is recorded in the communications log.

Each time an I/O value is returned from a device, an entry is recorded in the I/O values log that indicates this value.

siteVIEW also records each time a user logs in or out of the siteVIEW system in the access log, however, this log can only be viewed by an administrator.

8.2. Device Logging

Device logging is only available for the TASC siteCOMMANDER device.

A siteCOMMANDER may be set up to perform logging locally. If device logging is enabled for a siteCOMMANDER, it can be manually retrieved or automatically retrieved by siteVIEW by setting up an automated poll. To retrieve a device's log manually, select a siteCOMMANDER's device node on the navigation tree and then select "Edit->Data Logger" from the main menu. This will open the device data logger form.

The first time the device data logger form is opened for a device, most of the information will be unavailable. There are two refresh buttons on the device data logger form that allow a user to refresh the logger information. If the data logger is running, the data logger information will constantly change at the device and siteVIEW will not be aware of the changes without performing another refresh.

A user can download the sample log or the min/max log and when the download has completed, siteVIEW automatically clears the log that was downloaded. Or a user can manually clear the log without downloading the values.

The data logger can be stopped and started from the device data logger form. The time the logger was started is displayed in the field labeled start time.

Several timers exist in the device Data Logger form. These values are not stored in the data logger and they cannot be automatically downloaded. The timers are only available for viewing through the device data logger form. The timers display the total accumulated time the carrier operated squelch (COS) was active, if the device is a siteCOMMANDER equipped with the FFSK option, and accumulated time the inputs were on. The last update time displays the last time these values were updated.

8.3. Log Viewer Properties

You can access the *Log Viewer Properties* page by selecting the options link from the *Log Viewer* form.

8.3.1. Log Archiving

By default logs available from the *Log Viewer* are automatically archived every evening at midnight by the *Logging Interface*. The length of time to keep a log entry before archiving is adjustable, as are the auto-delete options.

The log archives are saved to "<InstallDir>\data\Archive", where <InstallDir> is the installation path of the *Data Handler* (by default, <InstallDir> is "C:\Program Files\TASC\siteVIEW 2.1\DataHandler"). The amount of computer hard drive space the *Logging Interface* needs to maintain these archives ranges greatly, depending on the amount of activity in the system and how long the archives are stored, so please monitor these files to make sure the computer does not run out of space.

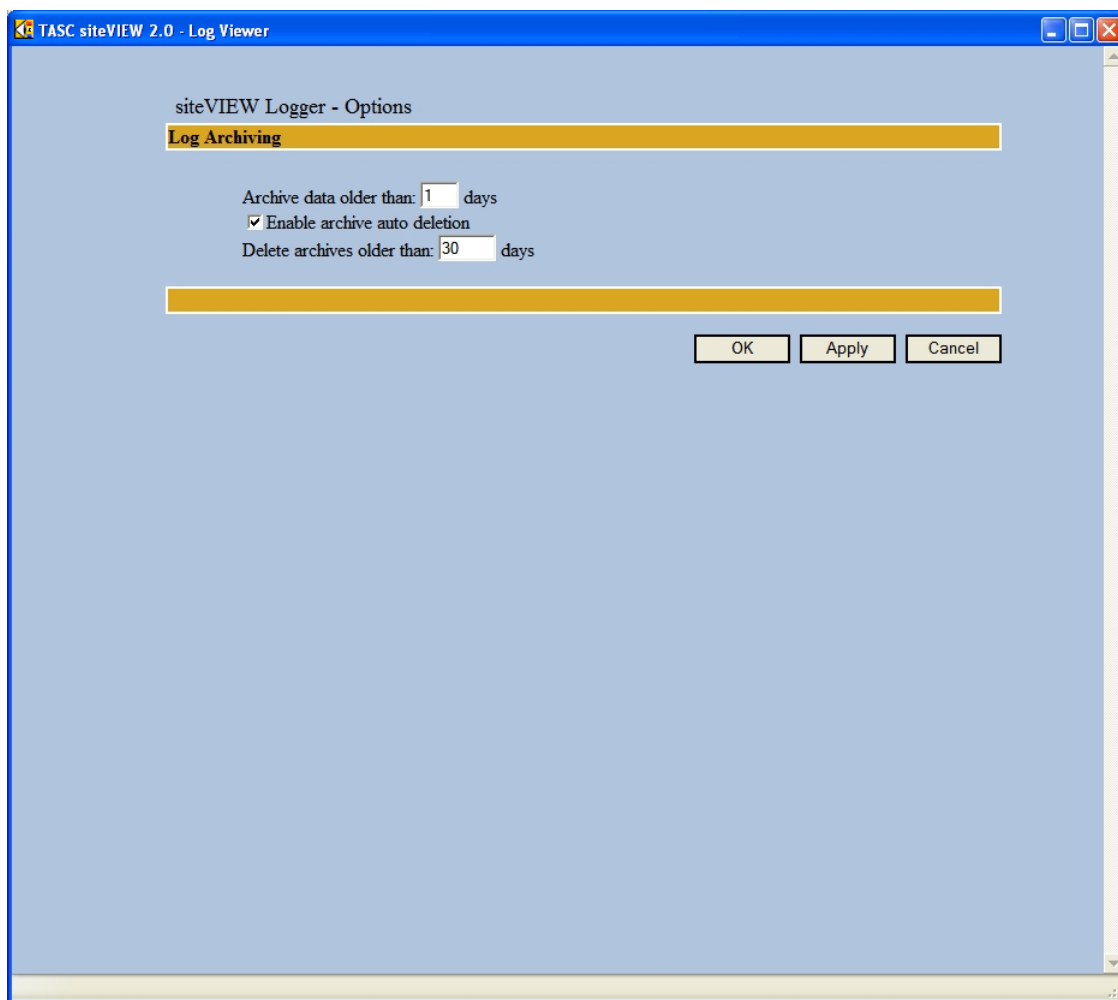


Figure 83 - siteVIEW Log Viewer - Options

9. SYSTEM ARCHIVE AND RESTORE

The stored data and logs can be archived and restored. To access the archive and restore options, select “Tools->System Archive/Restore” from the main menu.

9.1. Automated Archive

To setup automated system archiving, check the enabled checkbox, setup the path on the server where to archive to and set up a schedule.

The screenshot shows the 'System Archive' dialog box with the 'Automated Archive' tab selected. The 'Options' section includes an 'Enabled' checkbox (unchecked), a 'Path' text box containing '.\SystemArchives' with a 'Browse' button, and a 'Days to keep archive' spinner set to 30. A note states: '*Please note, the archive path is relative to the server.' The 'Schedule' section shows 'Every 2' weeks, with checkboxes for days of the week (Mon, Tue, Wed, Thu, Fri, Sat, Sun) where Monday is checked. The 'Starting' date is 'Mar 31, 2008' at '10:50 AM'. 'Apply' and 'Cancel' buttons are at the bottom right.

Figure 84 – Automated System Archive

9.2. Manual Archive & Restore

System archives can be archived manually by selecting an archive name and selecting the archive button. The archive will automatically be saved into the default archive directory.

To manually restore a stored system archive, select an available archive from the list and then select restore.

Archives that were stored in previous versions of siteVIEW will be automatically updated to the newer version when the archive is restored.

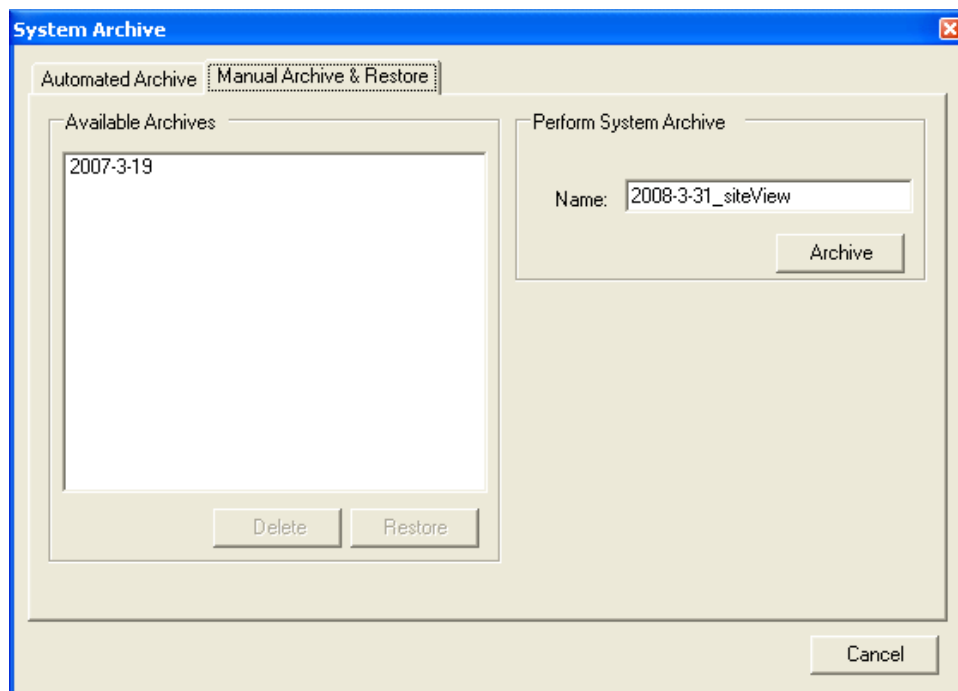


Figure 85 – Manual System Archive & Restore

10. TROUBLESHOOTING

10.1. Event Viewer

TASC siteVIEW uses the Windows operating system's [Event Viewer](#) to track when the *Data Handler* stops and starts. The Event Viewer is also used to track key information such as licenses and add-ons, and to track *Data Handler* application errors.

To access the Windows Event Viewer, select Administrative Tools from the Windows Control Panel. Under administrative tools, select Event Viewer. The TASC siteVIEW event log is specific to TASC siteVIEW 2.1.

The Event Viewer can be used to help troubleshoot problems with the security key, notification errors (e.g., email server problems) and *Data Handler* connectivity problems.

10.2. Communication Service Log Files

10.2.1. Message Transaction Log Files

The Message Transaction log file provides high-level operational information for the siteVIEW Communication Service software module, including:

- Message requests and responses from siteVIEW (Data Handler)
- Overall health of all underlying communication ports

By default, the CommunicationService.log file is disabled. To enable the CommunicationService.log file:

- Navigate to the `C:\Program Files (x86)\TASC\siteVIEW Enterprise Edition 2.0\CommSvc` directory
- Use a text editor to edit the `CommunicationService.exe.config` configuration file
- Add the following line before the `</appSettings>` line:
`<add key="CommunicationServiceLogging" value="True" />`
- Save the file

- Use the TASC Communication Service Utility to restart the CommunicationService

```

4:35:56 PM.174,Disconnected from Data Handler Server
2:00:01 PM.643,=====
2:00:01 PM.645,Log File=C:\SVE2Root\Enterprise2\Enterprise2\appSoftware\Bin\CommunicationService\CommunicationService.log [Verbosity=Logs]
2:00:01 PM.645,Connecting to Data Handler Server at 127.0.0.1:11003
2:00:02 PM.896,Connected to Data Handler Server
2:00:03 PM.60,CommSvc->Server [---]: Msg=Update.ClientIdentification
2:00:03 PM.386,Server->CommSvc [---]: Msg=Update.ClientIdentification for Service(2)
2:00:03 PM.391,CommSvc->Server [---]: Msg=Retrieve.SystemSettings
2:00:03 PM.391,CommSvc->Server [---]: Msg=Retrieve.RedundantServerConfig
2:00:03 PM.391,CommSvc->Server [---]: Msg=Retrieve.CommPortConfig
2:00:03 PM.803,Server->CommSvc [---]: Msg=Update.SystemSettings [Server=GRANDFORKS Version=1.0.4813.20928]
2:00:04 PM.16,Server->CommSvc [---]: Msg=Update.CommPortConfig [Port=COM10(COM10) ID1=2 Type=Serial]
2:00:04 PM.184,CommSvc->Server [---]: Msg=Update.ConnectionState for CommPort(2)
2:00:05 PM.201,Server->CommSvc [---]: Msg=Update.CommPortConfig [Port=COM6(COM6) ID1=3 Type=Serial]
2:00:05 PM.206,CommSvc->Server [---]: Msg=Update.CommPortStatus for CommPort(2) is Connected
2:00:13 PM.29,Server->CommSvc [001]: Msg=Update.CommPortTransaction Cmd=Retrieve.DeviceStatus using PortID=2 [Status=Queued]
2:00:13 PM.29,Server->CommSvc [002]: Msg=Update.CommPortTransaction Cmd=Retrieve.AllAnalogInputs using PortID=2 [Status=Queued]
2:00:13 PM.30,Server->CommSvc [003]: Msg=Update.CommPortTransaction Cmd=Retrieve.AllContactInputs using PortID=2 [Status=Queued]
2:00:13 PM.30,Server->CommSvc [004]: Msg=Update.CommPortTransaction Cmd=Retrieve.AllOutputs using PortID=2 [Status=Queued]
2:00:13 PM.30,Server->CommSvc [005]: Msg=Update.CommPortTransaction Cmd=Retrieve.AllTemperatureInputs using PortID=2 [Status=Queued]
2:00:13 PM.30,CommSvc->Server [---]: Msg=Update.TransactionStatus
2:00:13 PM.171,CommSvc->Server [001]: Msg=Update.TransactionStatus
2:00:16 PM.785,CommSvc->Server [001]: Msg=Update.TransactionStatus
2:00:17 PM.45,CommSvc->Server [001]: Msg=Update.CommPortTransaction Cmd=Status.DeviceStatus using PortID=2
2:00:17 PM.60,CommSvc->Server [002]: Msg=Update.TransactionStatus
2:00:17 PM.293,CommSvc->Server [002]: Msg=Update.CommPortTransaction Cmd=Status.AllAnalogInputs using PortID=2

```

Figure 86 – Sample Message Transaction Log File

10.2.1. Port Transactions Log Files

For each COM port, a TransmitReceiveCOMxxx.log file (where xxx is the COM port number) is created in the C:\<Program Files>\TASC\siteVIEW Enterprise Edition 2.0\CommSvc directory to track communication transactions.

The port transaction log files are created and update automatically. In addition to transactions, the state, availability and the connection status of the port is provided.

```

.. - Monitor: Refresh0 [Port=COM10, State=Unavailable, Avail=False, IsOpen=False]
.. - Monitor: Refresh1 [Port=COM10, State=Unavailable, Avail=True, IsOpen=False]
.. - Monitor: Opening [Port=COM10, State=Unavailable, Avail=True, IsOpen=False]
.. - Monitor: Open OK [Port=COM10, State=Unavailable, Avail=True, IsOpen=True]
.. - Monitor: Opened [Port=COM10, State=ClearToSend, Avail=True, Connection=Connected, ResetPort=False]
.. - Monitor: Change [Port=COM10, State=ClearToSend, Avail=True, Connection=Connected, ResetPort=False]
TX - COM10,255 254 253 252 251 250 249 248 247 246 245 244 243 242 241 240 239 238 237 236 235 234 233 232 231
RX - COM10,10 0 1 0 55 3 15 192 160 0 75
TX - COM10,8 1 0 2 133 0 8 0 103
.. - Monitor: Change [Port=COM10, State=WaitingForReply, Avail=True, Connection=Connected, ResetPort=False]
.. - Monitor: Change [Port=COM10, State=ClearToSend, Avail=True, Connection=Connected, ResetPort=False]
RX - COM10,24 0 1 32 133 2 8 0 161 0 33 2 72 0 88 0 33 2 32 2 48 2 0 0 92

```

**Retry to open
is successful**

Figure 87 – Sample Port Transaction Log File

10.3. Solutions to Problems

I cannot sign into siteVIEW because there are no licenses available

- Look in the event viewer and ensure the *Data Handler* properly detected the key and its licenses.
- It may be possible the *Data Handler* is not properly detecting the security key for some reason. Stop the *Data Handler* using the *Data Handler Utility* and then exit the *Data Handler Utility* completely by minimizing it and then closing it once it minimizes to the system tray. Then use the “Safely Remove Hardware” program, which is also located in the system tray to remove the siteVIEW USB Key. Once the key is uninstalled, remove the key manually and then reinsert the key. Make sure the key is inserted completely. The siteVIEW USB Key should then reappear on the list of installed hardware. Then restart the *Data Handler Utility* by selecting “Start->Programs->TASC->Data Handler Utility.” Then using the *Data Handler Utility*, start the *Data Handler*.
- Sometimes the siteVIEW USB Key is removed improperly and then the computer must be restarted before the system will properly detect the security key again.

siteVIEW will not detect my key

- Ensure the key is properly inserted into an available USB connection on the computer where the *Data Handler* resides. Do not remove the key at any time while the *Data Handler* is running.
- If the key is properly inserted and *siteVIEW* still does not detect the key, remove the key and restart the computer. Once the computer has restarted then insert the key and allow the operating system to find and install any drivers it needs. Once the operating system has detecting the key, *siteVIEW* should function properly.

The Communication Service is not running

- Use the *Communication Service Configuration Tool* to start the *Communication Service*. Several *Communication Services* can be installed on different computers and each *Communication Service* is installed with its own configuration tool.

The Alarm Notification Handler is not running

- Use the *Alarm Notification Handler Configuration Tool* to start the *Alarm Notification Handler*.

I cannot make changes to the system

- Ensure the login user you are using has the appropriate rights to access the *siteVIEW* features you wish to use.

siteVIEW is unable to make a connection to a device

- Ensure the device addressing is correct, otherwise *siteVIEW* will not be able to connect to the device.
- Ensure the device is connected properly.
- If using an Ethernet to serial connection to connect to the device, check that the virtual serial communications port is setup properly in the Lantronix CPR Manager application.

siteVIEW tells me the COM port is already in use

- Ensure no other applications are using a COM port that *siteVIEW* is expecting to use for monitoring. Once an application is closed and the COM port is freed up again for *siteVIEW* to use, select "Edit->Properties" for the COM port that had difficulties, and then select the refresh button to allow *siteVIEW* to resume monitoring on the COM port.

I cannot connect to the Data Handler

- Ensure the *Data Handler* you are trying to connect is visible to the computer you are trying to connect from. Make sure the *Data Handler* listen port is not in use by another program.

The Log Viewer Does not work properly

- Using the *Data Handler Utility*, ensure the logging interface service is running and make sure the logging interface listen port is not in use by another program.

APPENDIX A. TASC HARDWARE & FIRMWARE

A.1. Overview

The TASC siteCOMMANDER (sC), sitePORTAL Lite (sPL) and siteRSM (sRSM) all use the same hardware but are different by their application firmware. This common hardware is known as the TASC TRIO.

The TASC TRIO has eight analog inputs, eight contact inputs, eight digital outputs and has room for up to eight temperature sensors.

The siteRSM and sitePORTAL Lite hardware devices are capable of adding digital and analog expansion boards. They are capable of adding a total of 4 digital expansion boards, each with 8 additional contact inputs, allowing for a maximum of 40 contact inputs (32 expansion and 8 on-board). And these boards are capable of adding a total of 2 analog expansion boards, each with 8 additional analog inputs, allowing for a maximum of 24 analog inputs (16 expansion and 8 on-board). How it is packaged will determine the number of expansion inputs.

A.2. Configuration Utilities

TASC devices can be configured using their individual configuration utility, or by using siteVIEW. If the configuration utility is used to configure a device, siteVIEW will be unaware of the change and so siteVIEW's configuration will be out of date for the device. To update siteVIEW perform a complete refresh on the device.

A.3. Analog Inputs

A.3.1. Jumper Configuration

Each analog input may be set to a different range via jumpers J1 to J16 in conjunction with the device's configuration utility. Each analog input has two jumpers noting that the order of jumpers is reversed, i.e. J1 & J2 correspond to the highest analog input.

Analog	Jumper block
8	J1 / J2
7	J3 / J4
6	J5 / J6
5	J7 / J8
4	J9 / J10
3	J11 / J12
2	J13 / J14
1	J15 / J16

Table 4 - Device Properties – Analog Jumper Configuration

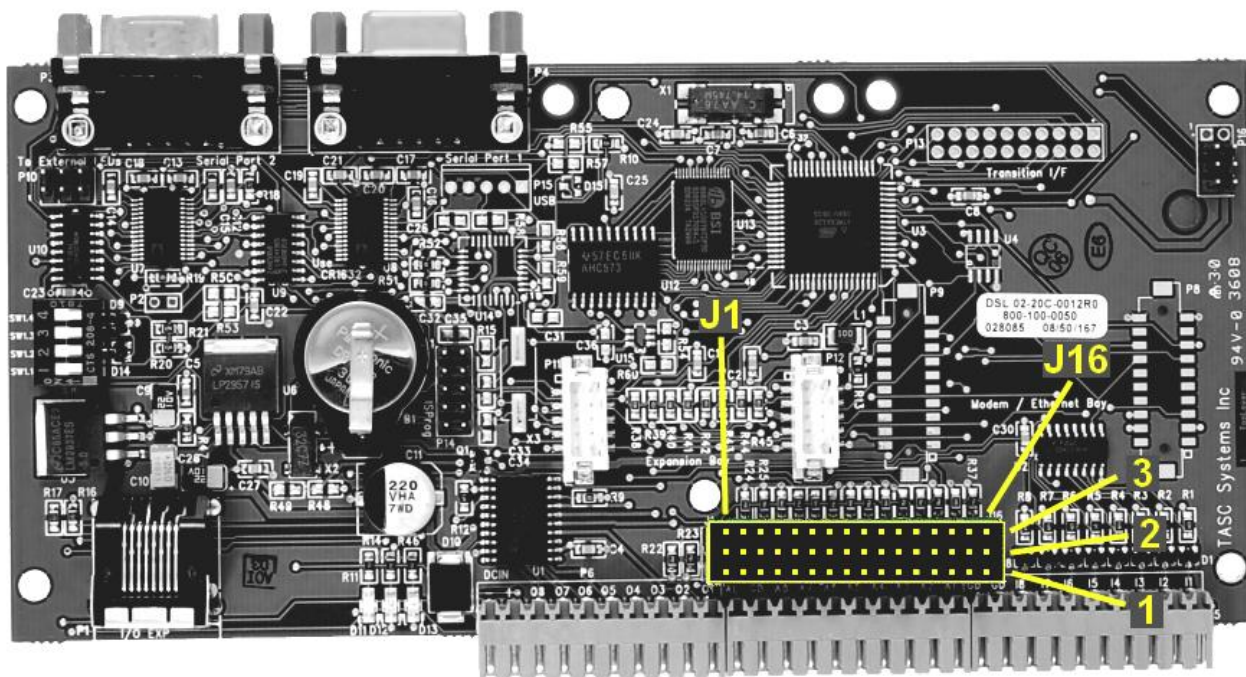


Figure 88 - Photo of Analog Jumpers

Each pair of jumpers configures one of two programmed ranges.

Analog	0-5.0V or User Range	0-25V
1	J16-1 to J16-2 J15 Out	J16-3 to J16-2 J15-1 to J15-2
2	J14-1 to J14-2 J13 Out	J14-3 to J14-2 J13-1 to J13-2
3	J12-1 to J12-2 J11 Out	J12-3 to J12-2 J11-1 to J11-2
4	J10-1 to J10-2 J9 Out	J10-3 to J10-2 J9-1 to J9-2
5	J8-1 to J8-2 J7 Out	J8-3 to J8-2 J7-1 to J7-2
6	J6-1 to J6-2 J5 Out	J6-3 to J6-2 J5-1 to J5-2
7	J4-1 to J4-2 J3 Out	J4-3 to J4-2 J3-1 to J3-2
8	J2-1 to J2-2 J1 Out	J2-3 to J2-2 J1-1 to J1-2

Table 5 - Device Properties – Analog Jumper Ranges

When a range is selected via the jumper block, the corresponding range must also be set in the analog configuration pages for the device.

A 3.2. User Ranges

The user may select one of four external analog ranges by supplying an external ‘potential divider’ resistor network. 1% tolerance resistors should be used. To configure an analog input for an externally supplied resistor network, set the jumpers the same as for 5V.

The following table shows suggested external resistor network values for the user range settings.

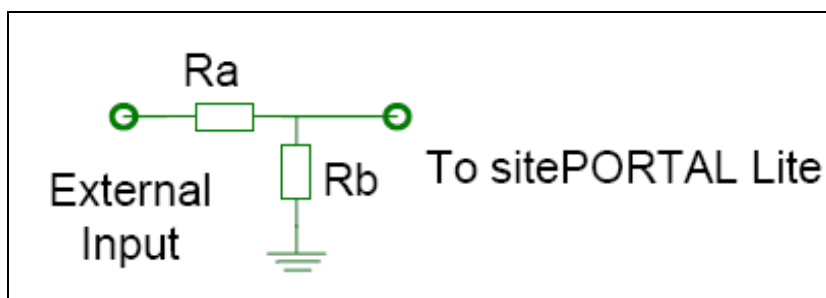


Figure 89 - External Resistor Network

$2 \times 5V = 10V$	$4 \times 5V = 20V$	$10 \times 5V = 50V$	$20 \times 5V = 100V$
$R_a = 10K\Omega$ $R_b = 10K\Omega$	$R_a = 30K\Omega$ $R_b = 10K\Omega$	$R_a = 90K\Omega$ $R_b = 10K\Omega$	$R_a = 190K\Omega$ $R_b = 10K\Omega$

Table 6 - Device Properties – Suggested External Resistor Network Values

APPENDIX B. TASC SITECOMMANDER CONFIGURATION

The TASC siteCOMMANDER is a hardware device that can be used in conjunction with siteVIEW. The device has its own firmware configuration that can be changed either using the siteCOMMANDER Configuration Utility (SCCU) or by using siteVIEW.

Some highlights of the siteCOMMANDER features include:

- Monitoring of 8 built in contact (digital) inputs.
- Monitoring of 8 built in analog inputs.
- Monitoring and control of 8 built in digital outputs.
- Support for adding and monitoring TASC Temperature Sensors.
- Device logging.
- Low power mode.
- Connectivity via RS232 and FFSK.

This section discusses how to change the siteCOMMANDER device settings.

Refer to the siteCOMMANDER User Manual (050-015-0002) for detailed instructions and examples of use of the siteCOMMANDER.

B.1. Description

The description tab contains the name and description of the device, which is used in siteVIEW.

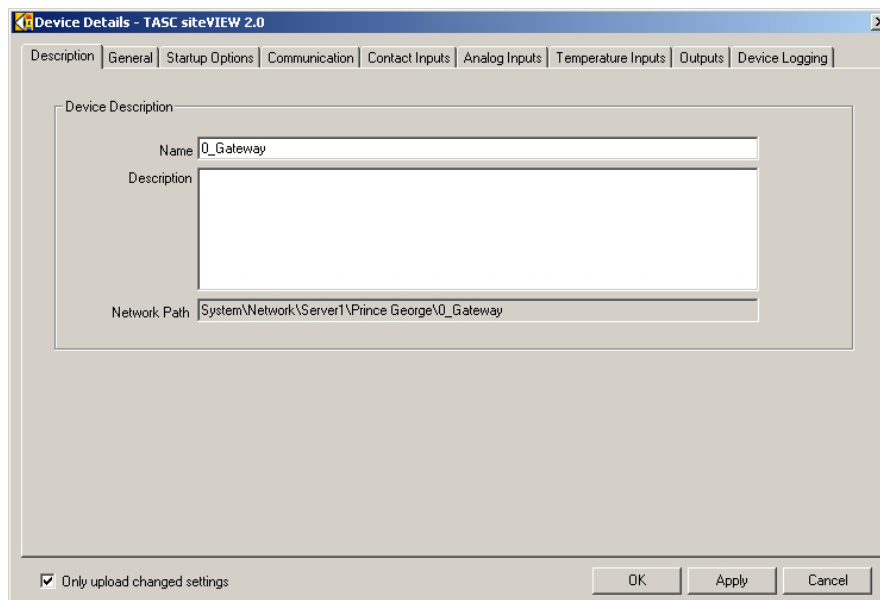


Figure 90 - Device Properties

B.2. General

The general tab contains read-only information about the device such as the device type, the device's internal firmware version, extra device options available and the number of temperature sensors that are attached to the device.

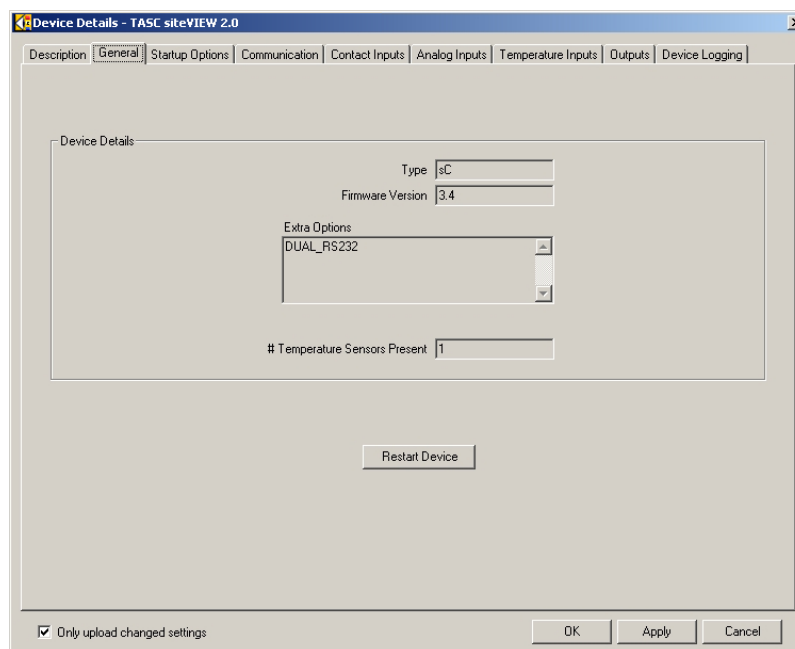


Figure 91 - Device Properties - General

The "Restart Device" button forces the device to reboot the firmware. This is useful if the device is not recognizing a new temperature sensor, because the siteCOMMANDER only scans for new temperature sensors at boot time.

B.3. Startup Options

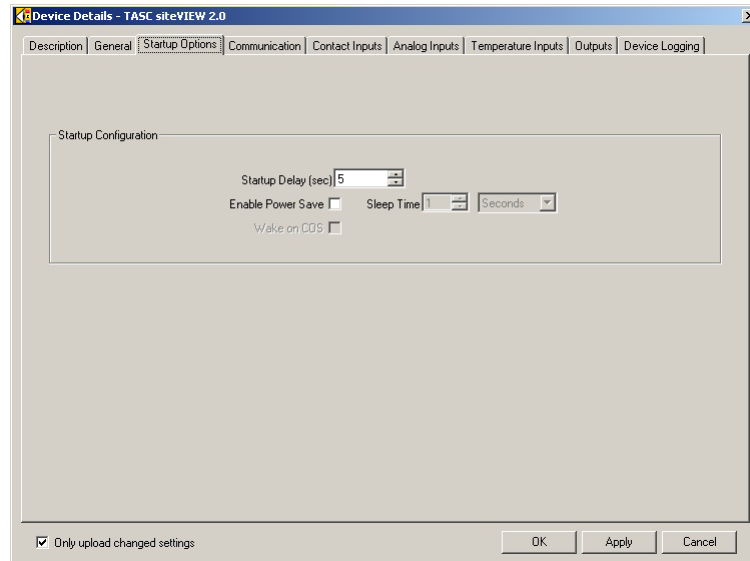


Figure 92 - Device Properties - Startup Options

The startup options tab contains configuration that pertain only to the startup of the device. The startup delay is the length of time in seconds that the device will wait after starting, before it begins monitoring. The enable power save option causes the device to switch into low power mode. When the device is in low power mode, it will have a sleep time. At the end of each sleep interval, the device will wake up and check its status. The wake on COS option causes the device to wake up out of low power mode when it detects a carrier operated squelch from the ffsk module.

B.4. Communication

Making changes to the communication form after the first communication has been established causes the communication configuration to be altered.

The device COM port specifies the COM port the device is to use as its primary COM port.

The module type of the device determines the role of the device. The following is a quick description of each mode:

- **Gateway:** This mode is used on a single device to connect a network of siteCOMMANDERs to the siteVIEW Enterprise *Communication Service*.
- **Master:** This mode is used in point-to-point or point-to-multipoint applications not involving siteVIEW products

- **Slave No Mapping:** This mode is used for remote devices in siteVIEW and non-siteVIEW applications
- **Slave Input Mapping:** This mode is used strictly for point-to-point or point-to-multipoint applications not involving siteVIEW products

The COM port retry count decides how many times the device should send a message before giving up. The retry timeout determines how long to wait for a response after sending a packet.

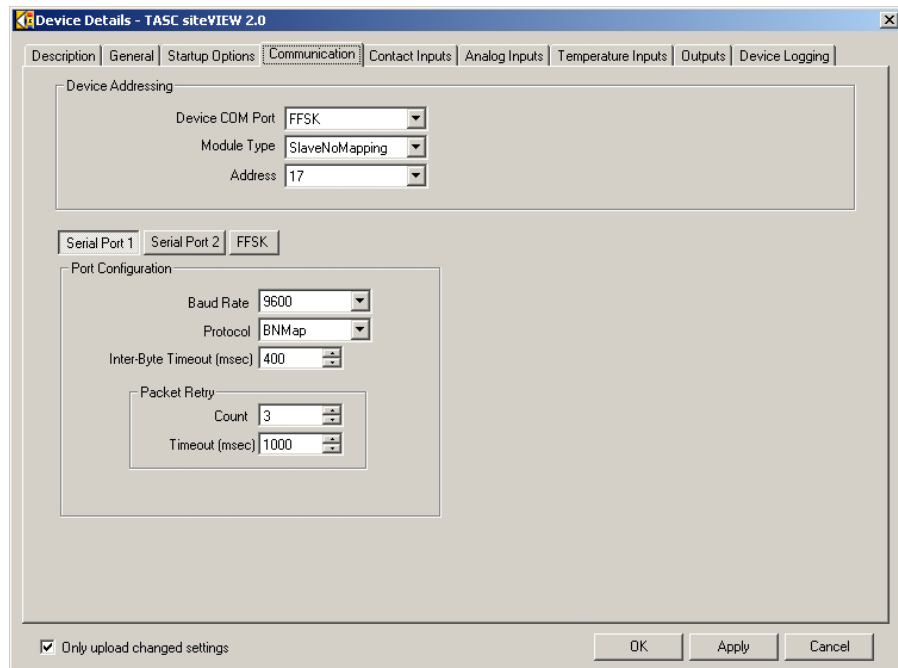


Figure 93 - Device Properties - Communication

Serial port 2 and the FFSK port can only be changed when siteVIEW is in a local connection with the device. This is to ensure that siteVIEW does not lose connectivity with the device it is configuring. To configure serial port 2 and the FFSK port siteVIEW must connect to the device locally.

See Recommended Communication Timing Parameters, Table 3 – Recommended Communication Timing Parameters, on page 38, for recommended timing parameters.

Figure 94 - Device Properties - FFSK Communication

B.5. Contact Inputs

If *Enable Event* is selected for a contact input, the device will notify siteVIEW whenever the input is turned on or off. The off state specifies if the input is normally in the open state or if it is normally closed. The state that is specified as normal then becomes the off state of the device.

The input mode can be set as normal or toggle. If normal is selected, the input is edged triggered. If toggle is selected, the input is triggered based on levels; the input will alter its state on alternating positive levels.

Figure 95 - Device Properties - Contact Inputs

By selecting a local output, an input can be set such that when the input is turned on, an output is turned on and when the input is turned off that same output is then turned off.

The hold time specifies the amount of time the input must stay on before the output will be turned on or off. The local output specifies the output to be turned on and off. The output delay indicates how long the device should wait before turning on the local output.

The output action can be normal, set or reset. If the output action is normal, then the output turns on when the input is turn on and the output turns off when the input is turned off. If the output action is set, then the output is turned on when the input is turned on, but the output is unaffected when the input is turned off. Reset causes the output to be turned off when the input is turned on, but is unaffected when the input is turned off.

B.6. Analog Inputs

If enable event is selected for an analog input, the device will notify siteVIEW whenever the input crosses either the low or high threshold voltage.

The range indicates the analog input type that is connected to the device. If this value is not set correctly, siteVIEW may report invalid analog input information.

Various sensors are available that attach to the analog input. If a sensor is connected to an analog input use the sensor drop down list to specify which sensor is present.

The units will change automatically depending on the range and sensor that are selected.

The analog formula and Hi & Low adjusted values allow an analog input to be formatted using an equation (For more information see Extra Device Configuration on page 49).

The offset value allows an analog's value to be adjusted by the specified amount.

By selecting a local output, an analog input is set such that when the input voltage goes above the high threshold, an output is turned on and when the input voltage goes below the high threshold that same output is then turned off. An output can be assigned to both the high and low thresholds and the same output can be used for both or a different output can be used.

Selecting the invert set points option causes the assigned output to turn on when the voltage goes below the high threshold voltage and above the low threshold voltage. The same output turns off when the voltage goes above the high threshold or below the low threshold. Only the low output is used when the set points are inverted.

The hold time specifies the amount of time the analog input must stay above or below the threshold before the output will be turned on or off. The local output specifies the output to be turned on and off. The output delay indicates how long the device should wait before turning on the local output.

Figure 96 - Device Properties - Analog Inputs

The siteCOMMANDER module cannot accept voltages on its inputs that are negative with respect to ground. Application of negative voltages to the digital and analog inputs will damage the module.

The module provides fixed input ranges of 0-5 VDC and 0-25 VDC depending on jumper settings. Four user ranges of X2, X4, X10 and X20 can also be programmed based on a 5.12 VDC internal reference.

B.7. Temperature Inputs

If enable event is selected for a temperature input, the device will notify siteVIEW whenever the input crosses either the low or high threshold temperature.

The device may have zero to eight temperature sensors present. The present indicator lets the user know which sensor is available for configuration.

The temperature units field specifies which temperature scale to use for calculating values related to the temperature input.

By selecting a local output, a temperature input can be set such that when the input temperature goes above the high threshold, an output is turned on and when the input temperature goes below the low threshold an output is then turned off.

The hold time specifies the amount of time the temperature input must stay above or below the threshold before the output will be turned on or off, and it is also the time before the event will be reported to siteVIEW. The local output specifies the output to be turned on and off. The output delay indicates how long the device should wait before turning on the local output.

		1	2	3	4	5	6	7	8	ALL
Enable Events		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Present		No	Yes	No	No	No	No	No	No	
Units		Celcius	Farenheit	Celcius	Celcius	Celcius	Celcius	Celcius	Celcius	
High Temperature Set Points										
Threshold		40.0	104.0	40.0	40.0	40.0	40.0	40.0	40.0	
Hold (secs)		1	1	1	1	1	1	1	1	1
Local Output		---	---	---	---	---	---	---	---	
Output Delay		0	0	0	0	0	0	0	0	0
Low Temperature Set Points										
Threshold		0.0	32.0	0.0	0.0	0.0	0.0	0.0	0.0	
Hold (secs)		1	1	1	1	1	1	1	1	1
Local Output		---	---	---	---	---	---	---	---	
Output Delay		0	0	0	0	0	0	0	0	0

☒ Only upload changed settings

OK Apply Cancel

Figure 97 - Device Properties - Temperature Inputs

B.8. Outputs

The off state specifies if the output is normally in the open state or if it is normally closed. The state that is specified as normal then becomes the off state of the device.

The output mode can be set as latch or pulse. If *Latch* is selected, when the output is turned on it is left on until the output is turned off again. If pulse is selected, when the output is turned on the output only stays on for the length of times specified by the pulse width.

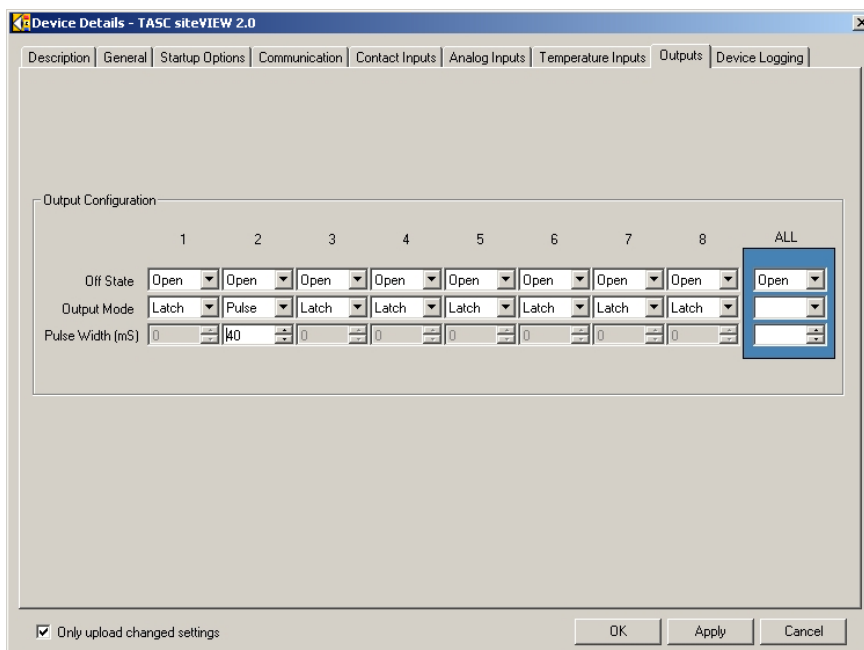


Figure 98 - Device Properties - Outputs

B.9. Device Logging – Configuration

The log roll over determines what the device will do when its log file becomes full. If log roll over is enabled, the device will overwrite the oldest log entry to create a new one. If log roll over is not enabled, the device will stop logging when the data logger buffer is full.

Selecting power up run ensures the data logger starts automatically whenever the device starts up.

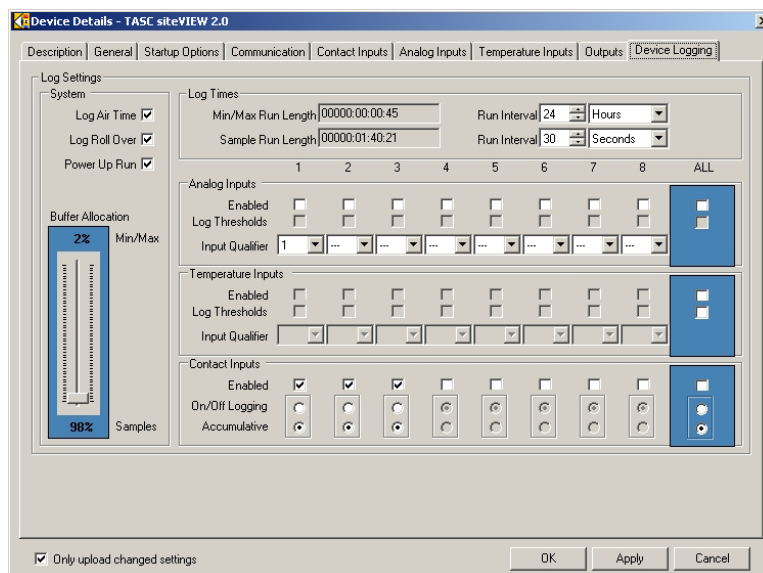


Figure 99 - Device Properties - Device Logging

The data logger logs sample data at selected intervals and it logs min/max data for selected inputs. The buffer allocation determines how much of the data logger buffer is allocated to each data logger type.

The enabled option determines if the selected input is included when logging. The analog and temperature inputs have a log thresholds option that will cause the data logger to log each time the input's value crosses its high or low threshold.

The input qualifier causes the input value to only be logged when the assigned input qualifier is on. So the input qualifier causes the analog or temperature threshold changes to be ignored if the input qualifier is off. In other words, when an analog or temperature input crosses a threshold, the value will only be logged if the assigned input qualifier is on.

The contact inputs can be logged each time they are turned on or off, or they can be logged as accumulative on times.

B.10. Device Logging – Downloading To siteVIEW

Once device logging configuration has been setup, close the device properties form and open the Device Data Logger form for the selected device, by selecting "Edit->Data Logger" from the main menu.

The Device Data Logger form can be used to stop and start the device logger, download the logs, clear the logs, view the contact input accumulation timers and clear the contact input accumulation timers.

To see the status of the device logger, press the "Refresh" button in the "Data Logger Details" group box. If the data logger is stopped, the start time will be unavailable and the log counts will be empty. Once the data logger is started, the device will begin to store sample and min/max logs based on which inputs the device is configured to log.

Figure 100 - Device Data Logger



Note: The threshold logs are saved and downloaded along with the Min/Max Log.

The device has 9 timers that are stored on the device's real time clock. If logging of these accumulator timers was enabled for the corresponding contact input then the device will increment the timers for every second that the input is in the on position. These timers are updated even when the device data logger is stopped.

The last update time shows the last time that siteVIEW downloaded these values from the device. Press the "Refresh" button in the "Timers" group box to download the current accumulator timer values.

Selecting the checkbox beside the timer and then pressing the "Clear" button will reset the corresponding timer back to zero.

The maximum accumulator timer values are 16,777,215 seconds (194 days), after which the timer will roll over back to zero.

The COS timer increments on receipt of the externally supplied carrier detect signal via the optional FFSK module. The time that carrier is present (the signal is active), is added to the COS accumulator. The accumulator accuracy is in seconds. To enable tracking of the COS accumulator, select open the Device Properties form, select the Device Logging tab and check the "Log Airtime" box.

For more information on setting up specific logging on specific inputs, see the previous section Device Logging – Configuration.

Manually Downloading Device Logs

Once the sample log or min/max log have a record count greater than zero, press the download button to manually download the data. The data will be downloaded in chunks, so depending on how much data has been stored it could take several packets to download all the data. Once all the data has been downloaded, siteVIEW will automatically clear the log. You may clear the logs manually by pressing the “Clear Log” button for the corresponding log. Stopping and starting the data logger will also clear the log data, but the “Clear Log” button will clear the log without stopping the data logger.

Automatically Downloading Device Logs

To setup automatic downloading of the sample log, create a scheduled poll for the device that checks the sample log count. If the sample log count is greater than zero, siteVIEW will automatically download and clear the sample log. Similarly, to setup automatic downloading of the min/max and threshold logs, create a scheduled poll that checks the min/max log count. If the min/max log count is greater than zero, siteVIEW will automatically download and clear the min/max and threshold logs.

APPENDIX C. TASC SITEPORTAL LITE CONFIGURATION

The TASC sitePORTAL Lite is a hardware device that can be used in conjunction with siteVIEW. The device has its own firmware configuration that can be changed either using the sitePORTAL Configuration Utility (SPCU) or by using siteVIEW.

Some highlights of the sitePORTAL Lite features include:

- Monitoring of 8 built in contact inputs, plus support for adding TASC Contact Input expansion boards.
- Monitoring of 8 built in analog inputs, plus support for adding TASC Analog Input expansion boards.
- Monitoring and control of 8 built in digital outputs.
- Support for adding and monitoring TASC Temperature Sensors.
- 1-2 peripheral passthrough ports.
- Connectivity via TCP/IP, IP Modem, PSTN Modem and RS232.

This section discusses how to change the sitePORTAL Lite device settings.

Refer to the sitePORTAL Lite User Manual (050-015-0012) for detailed instructions and examples of use of the sitePORTAL Lite.

C.1. Description

The description tab contains the name and description of the device, which is used in siteVIEW. As well the device login username and password that siteVIEW will use to connect to the device can be changed on this page.

The screenshot shows the 'Device Details - TASC siteVIEW 2.0' window. The 'Description' tab is active, showing fields for 'Name' (tPL 1), 'Description' (empty), and 'Network Path' (System\Network\Server1\Prince George\PL 1). Below these is a 'Login' section with fields for 'Username' (siteview), 'Password' (masked), and 'Retype Password' (masked). At the bottom, there is a checkbox for 'Only upload changed settings' and buttons for 'OK', 'Apply', and 'Cancel'.

Figure 101 - Device Details - Description

C.2. General

The general tab contains read-only information about the device such as the device type, the device's internal firmware version, extra device options available, analog and contact input expansion boards attached to the device and the number of temperature sensors that are attached to the device.

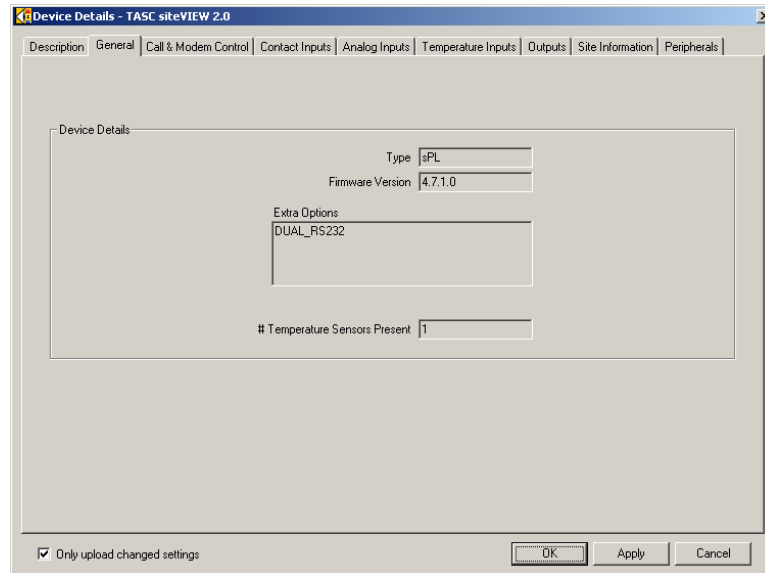


Figure 102 - Device Details - General

C.3. Call & Modem Control

The call & modem control tab is used to configure connection settings.

C.3.1. Call Control

The *Peripheral Inactivity Time* is the length of inactivity in minutes that the sitePORTAL Lite will wait before disconnecting from the peripheral device and returning to regular monitoring mode.

User login Inactivity is the length of inactivity time in minutes the sitePORTAL Lite will wait before disconnecting from siteVIEW.

The *Login Time* is the amount of time in seconds that a remote application has to enter in the login credentials before the sitePORTAL Lite will disconnect the connection. *Attempts* is the number of unsuccessful login tries the remote application has before the sitePORTAL Lite enters a state of hacker guard, where no one can log in for the amount of time specified in the field name Recycle Time.

The *Inter-Byte Timeout* determines how long the com port should wait between incoming bytes before timing out.

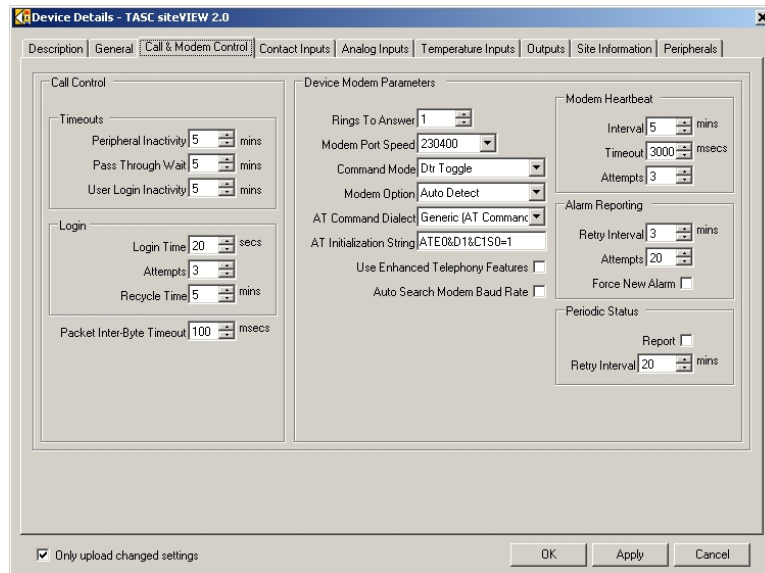


Figure 103 - Device Details – Call & Modem Control

C.3.2. Device Modem Parameters

Rings To Answer specifies the number of rings before a modem will answer a call.

Modem Port Speed is the baud rate that the modem will operate at.

Modem Option is the modem type: no modem, auto detect, internal or external.

AT Command Dialect offers support for a generic modem, but also a few other modem types.

AT Initialization String allows a user to enter a modem initialization string that the sitePORTAL Lite will use when it initializes the modem.

Use Enhanced Telephony Features enables or disables advanced features such as call cadence validation. The sitePORTAL Lite will then only answer calls with a specified ring cadence. The cadence of the ring to answer is set in the Site Phone Number field of the Site Information tab. This is only available if the optional plug in modem TASC PN 800-100-0046 is installed.

The ring cadence must be entered in the following format: [x,y,z], where x is the length in milliseconds of the first ring, y is the length of the pause between rings, and z is the length of the second ring. All times are in milliseconds. The cadence value is surrounded by square brackets, has commas separating cadence values, no spaces between values, has three values, and all times are integer values. The sitePORTAL Lite will then only answer calls that have the specified ring cadence.

If the cadence value is not entered correctly, or is blank, sitePORTAL Lite will ignore all incoming calls. There is one exception, if the ring cadence is a star

character surrounded by square brackets (ie. [*]), then all calls will be answered.

Auto Search Modem Baud Rate causes the sitePORTAL Lite to attempt to find the baud rate of the incoming connection automatically.

Modem Heartbeat is how often the AT initialization sequence is sent to the modem to make sure it is online. The Timeout is the amount of time the sitePORTAL Lite waits to receive a response from the modem before it retries the initialization and Attempts is the number of retry attempts sitePORTAL Lite performs.

The *Alarm Reporting Retry Interval* is the time in minutes the sitePORTAL Lite will wait since an unsuccessful alarm report before it retries. *Attempts* is the number of unsuccessful alarm report retry attempts the sitePORTAL Lite will attempt before giving up. *Force New Alarm* sets the sitePORTAL Lite to report a new alarm even if previous alarm attempts have failed and are waiting for the retry interval to elapse. If Force New Alarm is not selected, new alarms will wait along with the other alarms.

Periodic Status Report sets the sitePORTAL Lite to periodically report its status to siteVIEW. The *Retry Interval* is how often the sitePORTAL Lite will attempt to report its status.

C.4. Contact Inputs

The sitePORTAL Lite comes with 8 built in contact inputs, but can be expanded with a maximum of 4 TASC digital expansion boards, each with 8 contact inputs, allowing a maximum of 40 contact inputs.

If *Enable Event* is selected for a contact input, the device will notify siteVIEW whenever the input is turned on or off. The off state specifies if the input is normally in the open state or if it is normally closed. The state that is specified as normal then becomes the off state of the device.

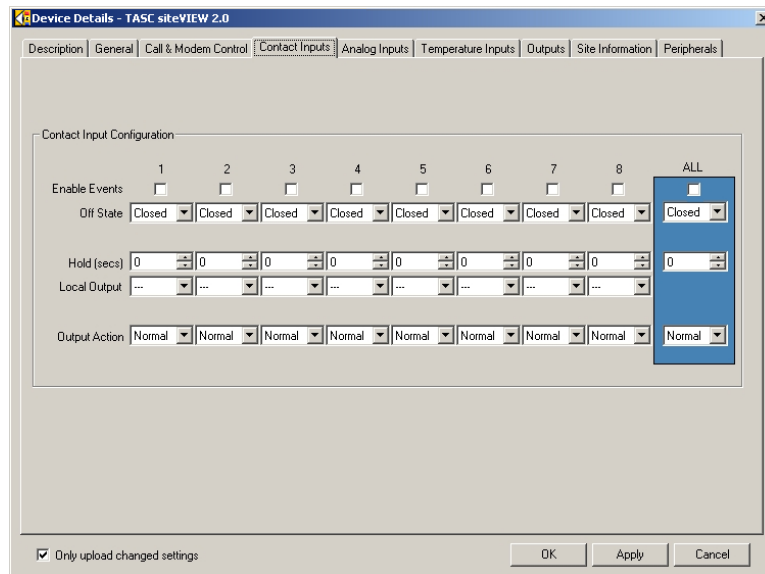


Figure 104 - Device Properties – Contact Inputs

By selecting a local output, an input can be set such that when the input is turned on, an output is turned on and when the input is turned off that same output is then turned off.

The hold time specifies the amount of time the input must stay on before the output will be turned on or off. The local output specifies the output to be turned on and off. The output delay indicates how long the device should wait before turning on the local output.

The output action can be normal, set or reset. If the output action is normal, then the output turns on when the input is turned on and the output turns off when the input is turned off. If the output action is set, then the output is turned on when the input is turned on, but the output is unaffected when the input is turned off. Reset causes the output to be turned off when the input is turned on, but is unaffected when the input is turned off.

C.5. Analog Inputs

The sitePORTAL Lite comes with 8 built in analog inputs, but can be expanded with a maximum of 2 TASC Analog Expansion boards, each with 8 analog inputs, allowing a maximum of 24 analog inputs.

If enable event is selected for an analog input, the device will notify siteVIEW whenever the input crosses either the low or high threshold voltage.

The range indicates the analog input type that is connected to the device. If this value is not set correctly, siteVIEW may report invalid analog input information.

Various sensors are available that attach to the analog input. If a sensor is connected to an analog input, use the sensor drop down list to specify which sensor is present.

The units will change automatically depending on the range and sensor that are selected.

The analog formula and Hi & Low adjusted values allow an analog input to be formatted using an equation (For more information see Extra Device Configuration on page 49).

The offset value allows an analog's value to be adjusted by the specified amount.

The input qualifier causes the analog threshold changes to be ignored if the input qualifier is off. In other words, when an analog input crosses a threshold, the value will only be reported to siteVIEW if the assigned input qualifier is on.

By selecting a local output, an analog input can be set such that when the input voltage goes above the high threshold, an output is turned on and when the input voltage goes below the low threshold that same output is then turned off.

	1	2	3	4	5	6	7	8	ALL
Enable Events	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Range	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V
Sensor									
Offset	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Input Qualifier									
Units	Volts	Volts	Volts	Volts	Volts	Volts	Volts	Volts	Volts
Formula	-none-	-none-	-none-	-none-	-none-	-none-	-none-	-none-	-none-
High Threshold Set Points									
Threshold	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Adjusted	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Low Threshold Set Points									
Threshold	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Adjusted	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Hold (secs)	1	1	1	1	1	1	1	1	1
Local Output									
Output Action	Output S	Output S	Output S	Output S	Output S	Output S	Output S	Output S	Output S

☒ Only upload changed settings OK Apply Cancel

Figure 105 - Device Properties – Analog Inputs

The hold time specifies the amount of time the analog input must stay above or below the threshold before the output will be turned on or off. The local output specifies the output to be turned on and off. The output delay indicates how long the device should wait before turning on the local output. The output action offers several conditions for when the local output will turn on or off based on the analog voltage.

The sitePORTAL Lite module cannot accept voltages on its inputs that are negative with respect to ground. Application of negative voltages to the digital and analog inputs will damage the module.

The module provides fixed input ranges of 0-5 VDC and 0-25 VDC depending on jumper settings. Four user ranges of X2, X4, X10 and X20 can also be programmed based on a 5.12 VDC internal reference.

C.6. Temperature Inputs

If *Enable Event* is selected for a temperature input, the device will notify siteVIEW whenever the input crosses either the low or high threshold temperature.

Figure 106 - Device Properties – Temperature Inputs

The device may have zero to eight temperature sensors present. The present indicator lets the user know which sensor is available for configuration.

The temperature units field specifies which temperature scale to use for calculating values related to the temperature input.

The input qualifier causes the temperature threshold changes to be ignored if the input qualifier is off. In other words, when a temperature input crosses a threshold, the value will only be reported to siteVIEW if the assigned input qualifier is on.

The hold time specifies the amount of time the temperature input must stay above or below the threshold before the event is reported to siteVIEW.

C.7. Outputs

The off state specifies if the output is normally in the open state or if it is normally closed. The state that is specified as normal then becomes the off state of the device.

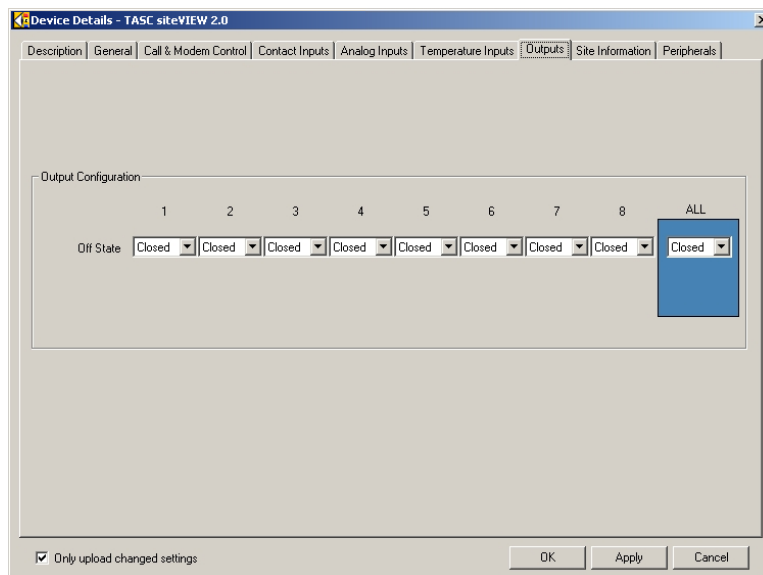


Figure 107 - Device Properties – Outputs

C.8. Site Information

When an I/O event occurs, the sitePORTAL Lite will attempt to report the event to siteVIEW. The Network Operations Control Center information must be supplied in order for the sitePORTAL Lite to properly know how to connect to siteVIEW. Enter the IP Address and IP Port if the device is connected to siteVIEW via Ethernet, or supply the phone number if the device is connected via a PSTN modem.

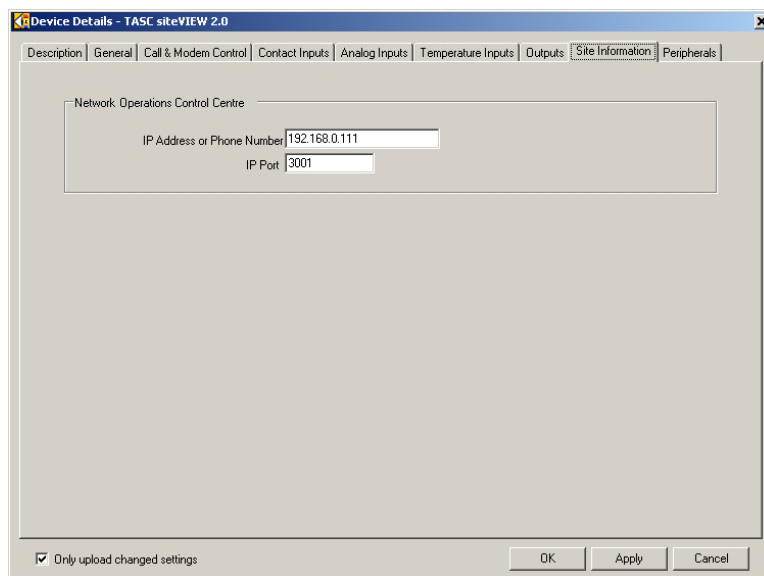


Figure 108 - Device Properties – Site Information

C.9. Peripherals

The sitePORTAL Lite has two serial ports that can be used to connect third-party hardware to the sitePORTAL Lite. Peripheral 2 is only available when the primary communication channel to the sitePORTAL Lite is either Ethernet or a PSTN modem, thereby freeing the second serial port.

Third-party software can then connect to the device by having the sitePORTAL Lite into passthrough mode. Then siteVIEW will open a virtual serial port that the third-party software can communicate with. siteVIEW will then pass on any data it receives from the virtual port on to the sitePORTAL Lite, which will pass the data on to the peripheral device. Data from the peripheral device is passed on to the third-party application in the same way.

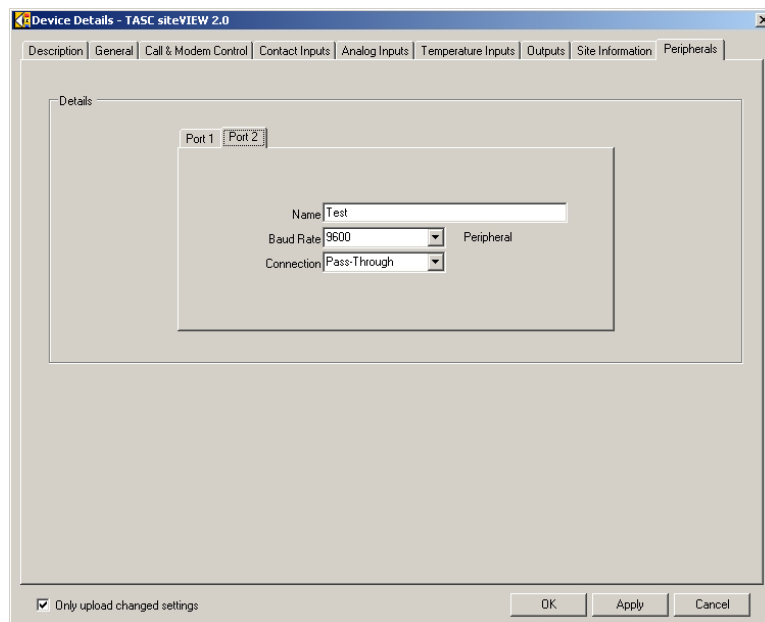


Figure 109 - Device Properties – Peripherals

Set the name of the connected peripheral device and the baud rate it expects to communicate at. Then select “Edit->Passthrough” from the main menu in siteVIEW to start peripheral passthrough.

C.10. Peripheral Passthrough in siteVIEW

Once a device is setup for peripheral passthrough, connect to that device. Once connected right click on the device’s network tree node and select “Passthrough” and then the peripheral that you would like to connect to.

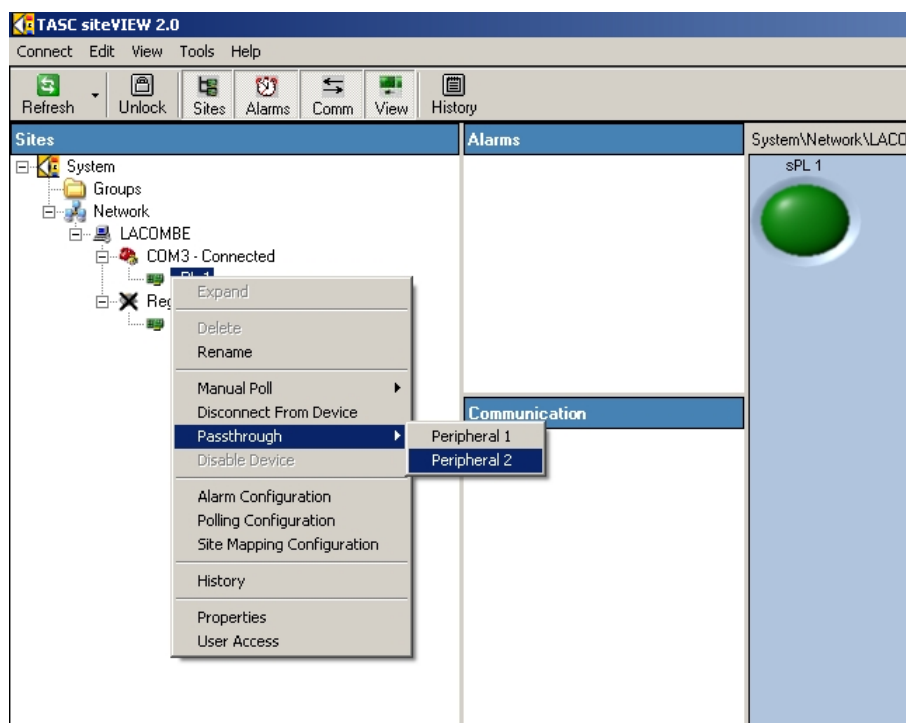


Figure 110 – Starting Peripheral Passthrough

Once the peripheral connection has begun, siteVIEW will launch a program that will create a virtual COM port and facilitate a connection to the peripheral device and any application that connects to the virtual port. Once the connection is established, use the peripheral device's configuration software to connect to the virtual COM port.

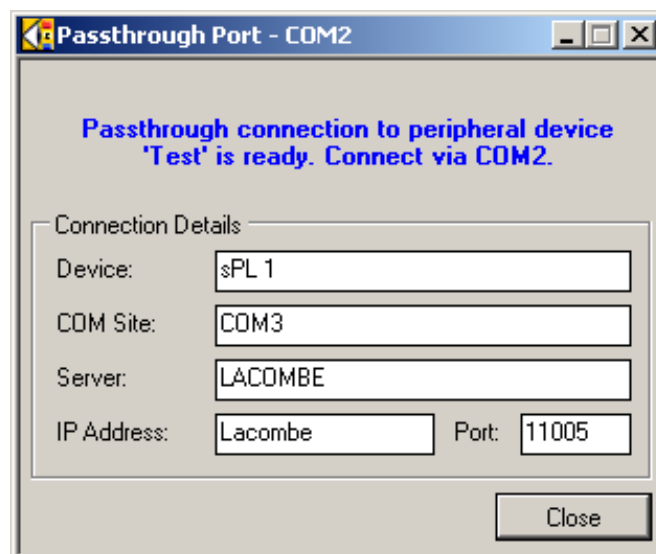


Figure 111 – Peripheral Passthrough Connection Waiting

In the figure above, siteVIEW selected COM2 as the virtual port because it was the first port available. Once a program then connects to COM2, the passthrough port window then hides itself. If the program then releases the COM port, the passthrough port window then becomes visible again. Closing the passthrough port window releases the passthrough connection and siteVIEW closes the connection to the device. If the passthrough connection sits connected for too long without passing any data to or from the device, then eventually the device will disconnect after the peripheral inactivity timeout has expired and the passthrough port window will be closed.

APPENDIX D. TASC SITERSM CONFIGURATION

The TASC siteRSM is a hardware device that can be used in conjunction with siteVIEW. The device has its own firmware configuration that can be changed either using the siteCOMMANDER Configuration Utility (SCCU) or by using siteVIEW.

Some highlights of the siteRSM features include:

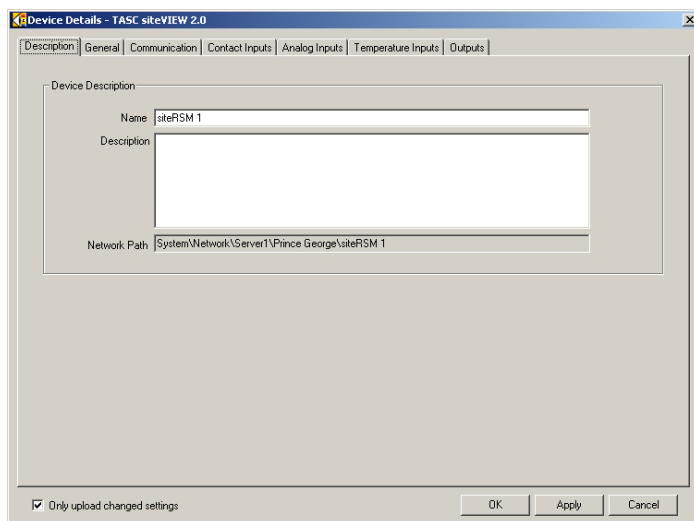
- Monitoring of 8 built in contact inputs, plus support for adding TASC Contact Input expansion boards.
- Monitoring of 8 built in analog inputs, plus support for adding TASC Analog Input expansion boards.
- Monitoring and control of 8 built in digital outputs.
- Support for adding and monitoring TASC Temperature Sensors.
- Connectivity via RS232 or Ethernet.
- Low power mode.

This section discusses how to change the siteRSM device settings.

Refer to the siteRSM User Manual (050-015-0052) for detailed instructions and examples of use of the siteRSM.

D.1. Description

The description tab contains the name and description of the device, which is used in siteVIEW.

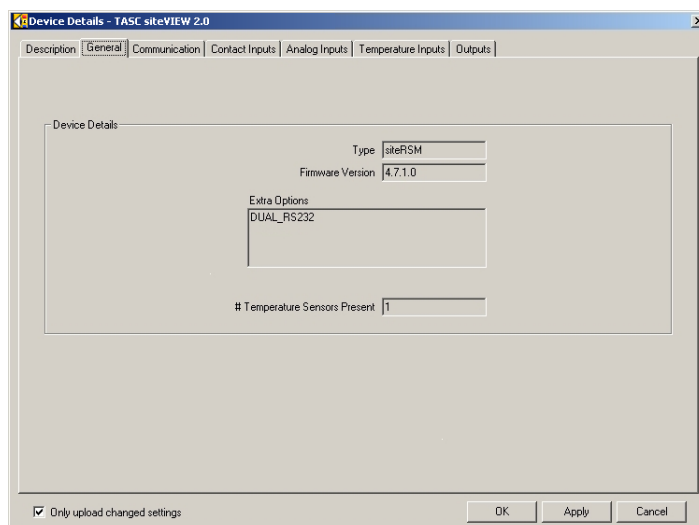


The screenshot shows the 'Device Details - TASC siteVIEW 2.0' window with the 'Description' tab selected. The window has a tabbed interface with tabs for 'Description', 'General', 'Communication', 'Contact Inputs', 'Analog Inputs', 'Temperature Inputs', and 'Outputs'. The 'Description' tab contains a 'Device Description' section with a 'Name' field set to 'siteRSM 1', a 'Description' field (empty), and a 'Network Path' field set to 'System\Network\Server1\Prince George\siteRSM 1'. At the bottom, there is a checkbox labeled 'Only upload changed settings' which is checked, and three buttons: 'OK', 'Apply', and 'Cancel'.

Figure 112 - Device Details - Description

D.2. General

The general tab contains read-only information about the device such as the device type, the device's internal firmware version, extra device options available, analog and contact input expansion boards attached to the device and the number of temperature sensors that are attached to the device.



The screenshot shows the 'Device Details - TASC siteVIEW 2.0' window with the 'General' tab selected. The window has a tabbed interface with tabs for 'Description', 'General', 'Communication', 'Contact Inputs', 'Analog Inputs', 'Temperature Inputs', and 'Outputs'. The 'General' tab contains a 'Device Details' section with the following fields: 'Type' set to 'siteRSM', 'Firmware Version' set to '4.7.1.0', 'Extra Options' set to 'DUAL_RS232', and '# Temperature Sensors Present' set to '1'. At the bottom, there is a checkbox labeled 'Only upload changed settings' which is checked, and three buttons: 'OK', 'Apply', and 'Cancel'.

Figure 113 - Device Details - General

D.3. Communication Settings

Making changes to the communication form after the first communication has been established causes the communication configuration to be altered.

The device COM port specifies the COM port the device is to use as its primary COM port.

The module type of the device operates like a siteCOMMANDER in slave no mapping mode, which is used for remote devices in both siteVIEW and non-siteVIEW applications.

The COM port packet retry count decides how many times the device should send a message before giving up. The packet retry timeout determines how long to wait for a response after sending a packet. The inter-byte timeout determines how long the com port should wait between incoming bytes before timing out.

Serial port 2 can only be changed when siteVIEW is in a local connection with the device. This is to ensure that siteVIEW does not lose connectivity with the device it is configuring. To configure serial port 2 siteVIEW must connect to the device locally.

See Recommended Communication Timing Parameters, Table 3 – Recommended Communication Timing Parameters, on page 38, for recommended timing parameters.

The screenshot shows the 'Device Details - TASC siteVIEW 2.0' window with the 'Communication' tab selected. The 'Device Addressing' section includes a dropdown for 'Device COM Port' set to 'SerialPort2', a dropdown for 'Module Type' set to 'SlaveNoMapping', and a dropdown for 'Address' set to '1'. Below this, there are two tabs: 'Serial Port 1' and 'Serial Port 2'. The 'Serial Port 2' tab is active, showing 'Port Configuration' settings: 'Baud Rate' is 9600, 'Protocol' is BinMP, 'Inter-Byte Timeout (msec)' is 300, 'Packet Retry' section has 'Count' at 5 and 'Timeout (msec)' at 500. At the bottom, there is a checkbox 'Only upload changed settings' which is checked, and three buttons: 'OK', 'Apply', and 'Cancel'.

Figure 114 - Device Details – Communication

D.4. Contact Inputs

The siteRSM comes with 8 built in contact inputs, but can be expanded with a maximum of 4 TASC digital expansion boards, each with 8 contact inputs, allowing a maximum of 40 contact inputs.

If *Enable Event* is selected for a contact input, the device will notify siteVIEW whenever the input is turned on or off. The off state specifies if the input is normally in the open state or if it is normally closed. The state that is specified as normal then becomes the off state of the device.

By selecting a local output, an input can be set such that when the input is turned on, an output is turned on and when the input is turned off that same output is then turned off.

The hold time specifies the amount of time the input must stay on before the output will be turned on or off. The local output specifies the output to be turned on and off. The output delay indicates how long the device should wait before turning on the local output.

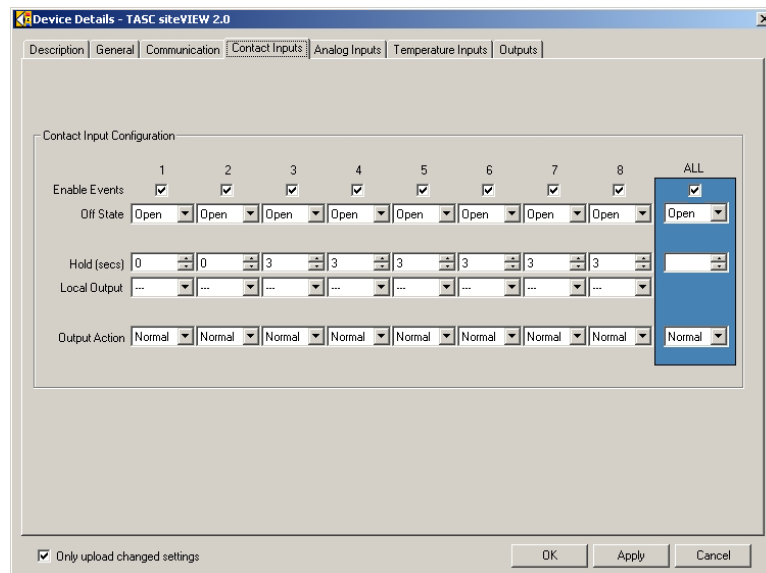


Figure 115 - Device Properties – Contact Inputs

The output action can be normal, set or reset. If the output action is normal, then the output turns on when the input is turned on and the output turns off when the input is turned off. If the output action is set, then the output is turned on when the input is turned on, but the output is unaffected when the input is turned off. Reset causes the output to be turned off when the input is turned on, but is unaffected when the input is turned off.

D.5. Analog Inputs

The siteRSM comes with 8 built in analog inputs, but can be expanded with a maximum of 2 TASC Analog Expansion boards, each with 8 analog inputs, allowing a maximum of 24 analog inputs.

If enable event is selected for an analog input, the device will notify siteVIEW whenever the input crosses either the low or high threshold voltage.

The range indicates the analog input type that is connected to the device. If this value is not set correctly, siteVIEW may report invalid analog input information.

Various sensors are available that attach to the analog input. If a sensor is connected to an analog input use the sensor drop down list to specify which sensor is present.



Selecting the TASC sensor will provide configure the sensor for use within siteVIEW. (Since most TASC sensors provide 5V input, they will not be visible unless the range selected is 0-5V.) Once the sensor is selected, the units will change automatically depending on the range and sensor that are selected.

The offset value allows an analog's value to be adjusted by the specified amount.

The analog formula and Hi & Low adjusted values allow an analog input to be formatted using an equation (For more information see Extra Device Configuration on page 49). Formulas may also be used with TASC sensors.

The input qualifier causes the analog threshold changes to be ignored if the input qualifier is off. In other words, when an analog input crosses a threshold, the value will only be reported to siteVIEW if the assigned input qualifier is on.

By selecting a local output, an analog input is set such that when the input voltage goes above the high threshold, an output is turned on and when the input voltage goes below the low threshold that same output is then turned off.

The hold time specifies the amount of time the analog input must stay above or below the threshold before the output will be turned on or off. The local output specifies the output to be turned on and off. The output delay indicates how long the device should wait before turning on the local output. The output action offers several conditions for when the local output will turn on or off based on the analog voltage.

The siteRSM module cannot accept voltages on its inputs that are negative with respect to ground. Application of negative voltages to the digital and analog inputs will damage the module.

The module provides fixed input ranges of 0-5 VDC and 0-25 VDC depending on jumper settings. Four user ranges of X2, X4, X10 and X20 can also be programmed based on a 5.12 VDC internal reference.

Device Details - TASC siteVIEW Enterprise 2.0

Description | General | Communication | Contact Inputs | Analog Inputs | Temperature Inputs | Outputs

Analog Input Configuration

	1	2	3	4	5	6	7	8	ALL
Enable Events	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Range	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V	0-25.0V
Sensor									
Offset	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Input Qualifier	---	---	---	---	---	---	---	---	---
Units	Volts	Volts	Volts	Volts	Volts	Volts	Volts	Volts	Volts
Formula	-none-	-none-	-none-	-none-	-none-	-none-	-none-	-none-	-none-
High Threshold Set Points									
Threshold	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Adjusted	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Local Output	---	---	---	---	---	---	---	---	---
Low Threshold Set Points									
Threshold	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Adjusted	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Local Output	---	---	---	---	---	---	---	---	---
Hold (secs)	1	1	1	1	1	1	1	1	1

☒ Only upload changed settings

OK Apply Cancel

Figure 116 - Device Properties – Analog Inputs

D.6. Temperature Inputs

If *Enable Event* is selected for a temperature input, the device will notify siteVIEW whenever the input crosses either the low or high threshold temperature.

The device may have zero to eight temperature sensors present. The present indicator lets the user know which sensor is available for configuration.

The temperature units field specifies which temperature scale to use for calculating values related to the temperature input.

Device Details - TASC siteVIEW Enterprise 2.0

Description | General | Communication | Contact Inputs | Analog Inputs | **Temperature Inputs** | Outputs

Temperature Input Configuration

	1	2	3	4	5	6	7	8	ALL
Enable Events	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Present	Yes	No	No	No	No	No	No	No	No
Units	Celsius	Celsius	Celsius	Celsius	Celsius	Celsius	Celsius	Celsius	Celsius
Input Qualifier	On	Off	Off	Off	Off	Off	Off	Off	Off
High Temperature Set Points									
Threshold	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Local Output	On	Off	Off	Off	Off	Off	Off	Off	Off
Low Temperature Set Points									
Threshold	11.5	-55.0	-55.0	-55.0	-55.0	-55.0	-55.0	-55.0	-55.0
Local Output	On	Off	Off	Off	Off	Off	Off	Off	Off
Hold (secs)	5	1	1	1	1	1	1	1	1

☒ Only upload changed settings

OK Apply Cancel

Figure 117 - Device Properties – Temperature Inputs

The input qualifier causes the temperature threshold changes to be ignored if the input qualifier is off. In other words, when a temperature input crosses a threshold, the value will only be reported to siteVIEW if the assigned input qualifier is on.

The hold time specifies the amount of time the temperature input must stay above or below the threshold before the event is reported to siteVIEW.

By selecting a local output, a temperature input is set such that when the input temperature goes above the high threshold, an output is turned on and when the input temperature goes below the low threshold, an output is then turned off.

D.7. Outputs

The off state specifies if the output is normally in the open state or if it is normally closed. The state that is specified as normal then becomes the off state of the device.

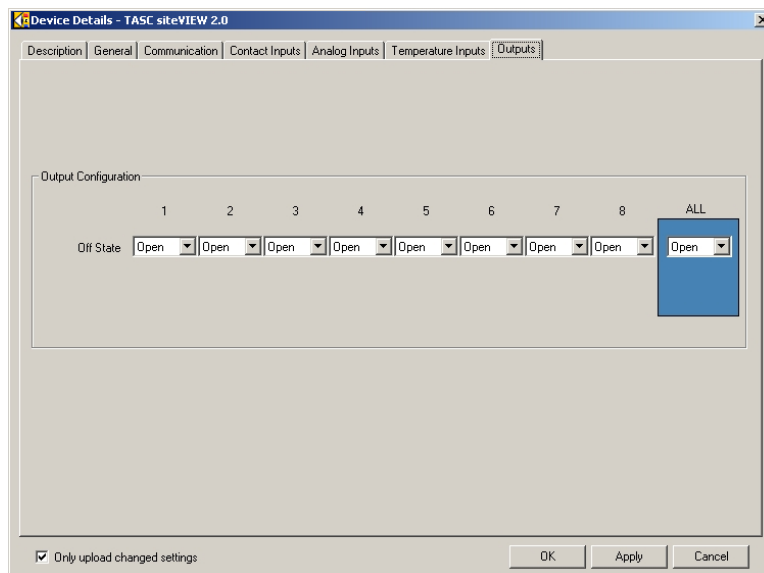


Figure 118 - Device Properties – Outputs

APPENDIX E. PING DEVICE CONFIGURATION

Ping devices are a new device type, introduced in siteVIEW v2.1. Ping devices work in a similar manner as the widely used [Ping networking utility](#) which is used to test the reachability of a host on an Internet Protocol (IP) network.

siteVIEW Ping devices can be used to determine whether an IP device is available or “up and running”.

E.1. Adding Ping Devices

Before adding Ping device, an Ethernet communication port must be added. Ping devices cannot be added to Serial communication ports.

To add a Ping device, use the Edit – Add Device function or right-click on the Ethernet communication port and select Add Device. The resulting Device Monitoring Wizard is used to define the Ping device’s properties:

For the Device Details section, select Ping as the Device Type, then select Next

For the Device Identification section, enter a user-friendly name describing the Ping device in the Name field. Optionally, add additional long-form information within the Description field, then select Next.

For the Connection Details, enter an IP (IPv4) address or a DNS name for the device. siteVIEW will automatically resolve a DNS name to the IPv4 address of the device. Then press Finish to add the Ping device. Currently, siteVIEW does not support IPv6 addressing.

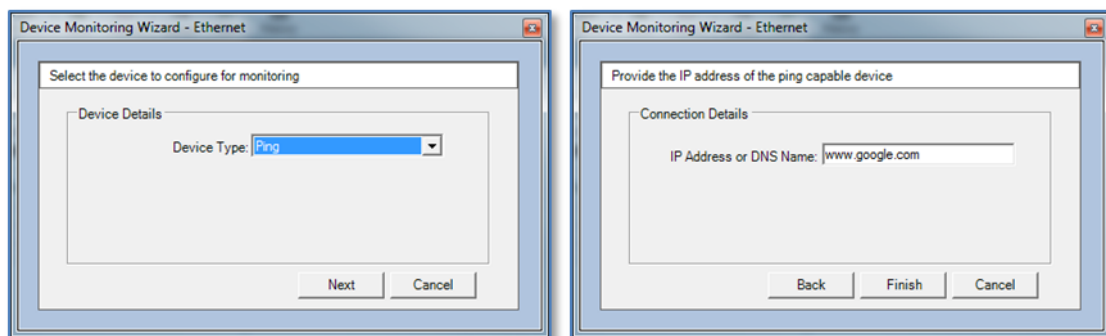




Figure 119 - Ping Device - Add Device

E.2. Using Ping Devices

Ping devices can only be polled using a siteVIEW DeviceStatus command. The DeviceStatus command is interpreted by the siteVIEW Communication Service as request to send ping message.

siteVIEW Ping devices are “stateless” devices and therefore are never “offline”. Ping devices either respond to a Device Status command, which indicates that the device is available, or they do not respond, which indicates that the device is unavailable. Unavailability can be alarmed using siteVIEW’s “Non-Responsive” alarm trigger.

E.2.1. Understanding Ping Transactions

Each DeviceStatus poll initiates a ping message transaction. The ping transaction sends a single ICMP packet to the Ping device (host) and listens for a response.

If a response is received, the Communication Service will signal that the DeviceStatus command has completed successfully. The Ping device will also show that it is ready for another transaction.

If the device does not respond after 500ms, the Communication Service will try again three times (every ~3 seconds). If after the initial attempt and the three retries, the device still hasn’t responded, the Communication Service will signal that the device has timed out and is not responding. This “No Response” event can be used with the siteVIEW alarm system to indicate that the device is not available on the network. On the Sites network tree, the Ping device will also show an “X”, indicating a failed transaction, but will be ready for another transaction.

E.2.2. Generating Ping Transactions

The DeviceStatus command can be sent in two ways:

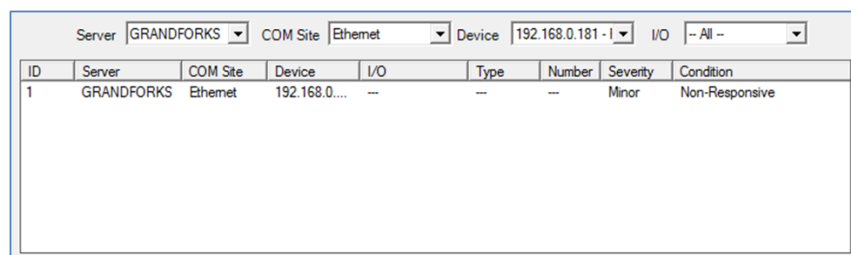
- By pressing the Refresh button which sends out an immediate DeviceStatus command. This method is useful to quickly verify the device's availability as required.
 - If the Ethernet communication port is selected in the Sites network tree when the Refresh button is pressed, all Ping devices underneath the Ethernet communication port will be sent a DeviceStatus command.
 - If a specific Ping device is selected in the Sites network tree when the Refresh button is pressed, only the selected Ping device will be sent a DeviceStatus command.
- The most typical use for Ping devices is to set up a DeviceStatus poll using siteVIEW's Polling Configuration utility. In this way, DeviceStatus commands can be sent to a Ping device(s) periodically and if the device doesn't respond, a siteVIEW alarm can be triggered.

Though the Polling Configuration utility allows for non-DeviceStatus commands to be sent to Ping devices, non-DeviceStatus commands are ignored by the siteVIEW Communication Service.

E.2.3. Monitoring Ping Devices Transactions

The combination of a repetitive Device Status poll and a Non-Responsive alarm will provide functional monitoring of the device – allowing notifications if the device becomes unavailable.

Within the Alarm Configuration utility, select the Ping device, but for I/O select "None" – this creates a Non-Responsive alarm for the device.



ID	Server	COM Site	Device	I/O	Type	Number	Severity	Condition
1	GRANDFORKS	Ethernet	192.168.0.181 - I	---	---	---	Minor	Non-Responsive

Figure 120 - Ping Device - Non-Responsive Alarms

E.2.4. Reviewing Ping Device Transactions

siteVIEW logs all activity with Ping devices.

- siteVIEW History – To view historical communication and alarm information associated with a Ping device, select the History button to initiate a Log View session. The Communication link shows all communication transactions, filterable by device type and other criteria. The Alarm link shows all alarm occurrences, filterable by device type and other criteria.

- Device Communication Log – each device keeps a detailed log of transaction communication. This detailed text file is found in the CommSvc folder and is called TransmitReceive<device name>.log. The <device name> is the IP or DNS name of the device – for example: TransmitReceive192.168.0.100.log. To differentiate between TASC IP devices, remember that Ping devices do not reference a port number.

APPENDIX F. SITEVIEW TO DEVICE COMMUNICATIONS

F.1. siteVIEW to siteRSM Communication Management

F.1.1. Overview

There are three methods of communicating with a siteRSM device:

- Serial Device – using a computer COM port
- Lantronix CPR Port – using a Lantronix's COM Port Redirector (CPR) technology
- Ethernet Port – using IP-based communication

During normal operations TASC serial, CPR-based serial and Ethernet devices, work identically. Each device processes transactions in order received. If multiple commands are sent – for example, as the result of a Refresh operation – these commands are queued and transacted sequentially.

F.1.2. Selecting TASC Serial, CPR Serial and Ethernet Devices

Since there are several ways to connect siteVIEW to a siteRSM, here are some guidelines to build a robust monitoring network:

- Use the siteRSM's "primary" transmission port as the main connection
 - Only one port on the siteRSM can be configured to send threshold events - by default, the IP port on the siteRSM is defined as the primary port. Use the primary port as the main connection because it can respond to refresh and poll requests, and send threshold events in real-time.
 - While the siteRSM's serial port may be configured as the primary transmission port, generally, it is purposed for local configuration via the SCCU software. In the case where the serial port is configured as the primary port, use a siteVIEW serial device to monitor the siteRSM.
- Use only one siteVIEW device per siteRSM connection
 - It is not possible to connect to a siteRSM IP port using multiple active siteVIEW devices simultaneously since the siteRSM's IP port accepts only one connection at a time. Use either an IP device or a CPR serial device connection – not both.



For existing siteVIEW networks, it is possible to migrate from CPR devices to IP devices. In this case, it is important to remove, or at minimum, disable, the CPR device when adding the IP device for the siteRSM.

- A Ping device can be added to a siteRSM connection to monitor availability
 - A Ping device may be added to a siteRSM, even if an IP device or CPR device previously exists. A Ping device works independently to a IP device or CPR device to monitor the availability of the siteRSM.
- A Ping devices can be added to non-siteRSM connections
 - A Ping device may be added to monitor non-siteRSM devices within a network. For example, it may be useful to monitor the availability of a critical device(s) within the network.

F.1.3. Differences between TASC Serial, CPR Serial and IP Devices

However, during failed communications and communication interruption recovery, there are subtle differences related to the differences between the underlying physical communication methods:

	Serial Port	CPR Port	Ethernet Port
Connection interrupted failures – for example, if a cable is unplugged	If the cable is disconnected, current and all queued transactions will be attempted, but will fail (with retries) as timed out (no response).	Initial transactions will fail due to time out (with retries). When the connection is confirmed as failed (as determined by the CPR Manager's TCP Keep Alive settings), the transaction being processed will fail with a communication error. All subsequent queued transactions remain queued.	Initial transactions will fail due to time out (with retries). In 30 seconds, when the connection is confirmed as failed, the transaction being processed will fail with a communication error. All subsequent queued transactions remain queued.
Recovery from connection interruptions	If the cable is reconnected, all subsequent commands will be transacted normally.	siteVIEW continuously checks the connection and upon recovery, all queued events are processed.	siteVIEW continuously checks the connection and upon recovery, all queued events are processed.

It is important to note that during connection interruptions, all events from the TASC device may be lost, therefore the connection should be validated frequently.



To ensure that serial, CPR serial and IP devices are connected, use a repetitive Device Status poll (every x minutes) in combination with a Non-Responsive alarm. Using this mechanism will allow notification of any connection failures and limit any loss of events being sent from the device.

F.1.4. Communication Alarms

Steps can be used to ensure administrative awareness of communication problems. siteVIEW can be configured to report non-responsive connections using the built-in notification system. (The non-responsive alarm functionality is also available via the SNMP notification option.)



Use the non-responsive alarms to receive notifications of failed connections to quickly localize and make any required repairs to the communication infrastructure used by siteVIEW to communicate with siteRSM devices.

To add a non-responsive communication alarm:

- Bring up the Alarm Configuration dialog
- Select the Server, COM Site and Device to monitor. Importantly, leave the I/O option as “- None –”. The “- None –” option is used to signal the Device communication health
- Optionally, set any Notifications to be used for the alarm (Sound, Text to Speech, Email or SNMP)
- Press the “Update” button to save and activate the alarm.

ID	Server	COM Site	Device	I/O	Type	Number	Severity	Condition
20	GRANDFORKS	COM10	siteRSM 001	Input 08	Input	8	Minor	is on
22	GRANDFORKS	COM10	siteRSM 001	--	--	--	Minor	Non-Responsive

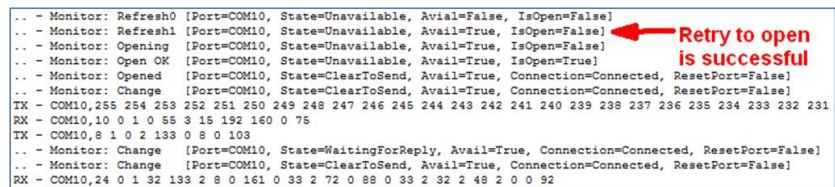
Figure 121 – Communication Alarms – Non-Responsive Alarms

F.1.5. Communication Logging System

siteVIEW provides a communication logging sub-system:

- *TransmitReceiveCOMxxx log files* - The TransmitReceiveCOMxxx (where xxx is the port number) log file system, which is enabled by default, provides detailed information related to the health and status of the COM port.

This file is located in the `C:\Program Files (x86)\TASC\siteVIEW Enterprise Edition 2.0\CommSvc` directory



```

.. - Monitor: Refresh0 [Port=COM10, State=Unavailable, Avail=False, IsOpen=False]
.. - Monitor: Refresh1 [Port=COM10, State=Unavailable, Avail=True, IsOpen=False]
.. - Monitor: Opening [Port=COM10, State=Unavailable, Avail=True, IsOpen=False]
.. - Monitor: Open OK [Port=COM10, State=Unavailable, Avail=True, IsOpen=True]
.. - Monitor: Opened [Port=COM10, State=ClearToSend, Avail=True, Connection=Connected, ResetPort=False]
.. - Monitor: Change [Port=COM10, State=ClearToSend, Avail=True, Connection=Connected, ResetPort=False]
TX - COM10,255 254 253 252 251 250 249 248 247 246 245 244 243 242 241 240 239 238 237 236 235 234 233 232 231
RX - COM10,10 0 1 0 55 3 15 192 160 0 75
TX - COM10,8 1 0 2 133 0 8 0 103
.. - Monitor: Change [Port=COM10, State=WaitingForReply, Avail=True, Connection=Connected, ResetPort=False]
.. - Monitor: Change [Port=COM10, State=ClearToSend, Avail=True, Connection=Connected, ResetPort=False]
RX - COM10,24 0 1 32 133 2 8 0 161 0 33 2 72 0 88 0 33 2 32 2 48 2 0 0 92

```

Figure 122 – Communication Logging System – Transmit Receive Log Files

- *CommunicationService log file* – siteVIEW a new, though optional, log file called the CommunicationService.log. This log file provides high-level operational information for the siteVIEW Communication Service software module, including:
 - Message requests and responses from siteVIEW (Data Handler)
 - Overall health of all underlying communication ports

By default, the CommunicationService.log file is disabled. To enable the CommunicationService.log file:

- Navigate to the `C:\Program Files (x86)\TASC\siteVIEW Enterprise Edition 2.0\CommSvc` directory
- Use a text editor to edit the `CommunicationService.exe.config` configuration file
- Add the following line before the `</appSettings>` line:


```
<add key="CommunicationServiceLogging" value="True" />
```
- Save the file
- Use the TASC Communication Service Utility to restart the CommunicationService

- This file is located in the C:\Program Files (x86)\TASC\siteVIEW Enterprise Edition 2.0\CommSvc directory











```










4:35:56 PM.174,Disconnected from Data Handler Server
2:00:01 PM.643,=====
2:00:01 PM.645,Log File=C:\SVEZRoot\Enterprise2\Enterprise2\appSoftware\Bin\CommunicationService\CommunicationService.log [Verbosity=Logs]
2:00:01 PM.645,Connecting to Data Handler Server at 127.0.0.1:11003
2:00:02 PM.686,Connected to Data Handler Server
2:00:03 PM.60,CommSvc->Server [---]: Mag=Update.ClientIdentification
2:00:03 PM.386,Server->CommSvc [---]: Mag=Update.ClientIdentification for Service(2)
2:00:03 PM.391,CommSvc->Server [---]: Mag=Retrieve.SystemSettings
2:00:03 PM.391,CommSvc->Server [---]: Mag=Retrieve.RedundantServerConfig
2:00:03 PM.391,CommSvc->Server [---]: Mag=Retrieve.CommPortConfig
2:00:03 PM.803,Server->CommSvc [---]: Mag=Update.SystemSettings [Server=GRANDFORKS Version=1.0.4813.20928]
2:00:04 PM.16,Server->CommSvc [---]: Mag=Update.CommPortConfig [Port=COM10 (COM10) ID1=2 Type=Serial]
2:00:04 PM.184,CommSvc->Server [---]: Mag=Update.ConnectionState for CommPort(2)
2:00:05 PM.201,Server->CommSvc [---]: Mag=Update.CommPortConfig [Port=COM6 (COM6) ID1=3 Type=Serial]
2:00:05 PM.206,CommSvc->Server [---]: Mag=Update.CommPortStatus for CommPort(2) is Connected
2:00:13 PM.29,Server->CommSvc [001]: Mag=Update.CommPortTransaction Cmd=Retrieve.DeviceStatus using PortID=2 [Status=Queued]
2:00:13 PM.30,Server->CommSvc [002]: Mag=Update.CommPortTransaction Cmd=Retrieve.AllAnalogInputs using PortID=2 [Status=Queued]
2:00:13 PM.30,Server->CommSvc [003]: Mag=Update.CommPortTransaction Cmd=Retrieve.AllContactInputs using PortID=2 [Status=Queued]
2:00:13 PM.30,Server->CommSvc [004]: Mag=Update.CommPortTransaction Cmd=Retrieve.AllOutputs using PortID=2 [Status=Queued]
2:00:13 PM.30,Server->CommSvc [005]: Mag=Update.CommPortTransaction Cmd=Retrieve.AllTemperatureInputs using PortID=2 [Status=Queued]
2:00:13 PM.30,CommSvc->Server [---]: Mag=Update.TransactionStatus
2:00:13 PM.171,CommSvc->Server [001]: Mag=Update.TransactionStatus
2:00:16 PM.785,CommSvc->Server [001]: Mag=Update.TransactionStatus
2:00:17 PM.45,CommSvc->Server [001]: Mag=Update.CommPortTransaction Cmd=Status.DeviceStatus using PortID=2
2:00:17 PM.60,CommSvc->Server [002]: Mag=Update.TransactionStatus
2:00:17 PM.293,CommSvc->Server [002]: Mag=Update.CommPortTransaction Cmd=Status.AllAnalogInputs using PortID=2

```

Figure 123 – Communication Logging System – Communication Service Log File

F.1.6. Communication State Icons

State Image	Description of State
	Communication Service online
	Communication Service offline <i>Check to see if communication service is running or connected to siteVIEW Data Handler</i>
	Communication (Serial) Port enabled and available
	Communication (Serial) Port disabled or unavailable <i>If port is disabled, it must be enabled to communicate. Check to see if cable unplugged or, in the case of a CPR port, whether the IP Address is available</i>
	Device enabled and available
	Device disabled or unavailable <i>If device is disabled, it must be enabled to communicate. If previous communication to device was lost (e.g., no response), or other communication error - check to see if device is operational or if there is a connection (e.g., cabling) issue</i>
	Modem connected
	Modem disconnected or unavailable <i>Check modem status.</i>
	Modem pool available
	Modem pool unavailable

State Image	Description of State
	Alarm is active
	siteVIEW Network <i>Top most node on siteVIEW network. All communication services nodes and children will be connected here.</i>
	Group Folder <i>Group folder allows organization of devices</i>
	siteVIEW system <i>Top most node within a siteVIEW system – includes groupings and network.</i>
	Shortcut to an enabled and available Device <i>A shortcut to a device within a group folder</i>
	Shortcut to a disabled or unavailable Device <i>If device is disabled, it must be enabled to communicate. If previous communication to device was lost (e.g., no response), or other communication error - check to see if device is operational or if there is a connection (e.g., cabling) issue</i>
	Ethernet Port enabled and available
	Ethernet Port disabled or unavailable <i>If port is disabled, it must be enabled to communicate. Check to see if cable unplugged or, in the case of a CPR port, whether the IP Address is available</i>
	Device Updates Waiting <i>siteVIEW has sensed a difference between the siteVIEW representation of the device and the actual device contents. siteVIEW recommends a status and/or configuration refresh to ensure that the siteVIEW device representation is synchronized with the actual device.</i>

F.2. siteVIEW Communication via Lantronix CPR Ports

F.2.1. Lantronix CPR Overview

siteVIEW utilizes Lantronix technology to implement an IP connection to the siteRSM. siteVIEW and related components can be configured to ensure robust communications.

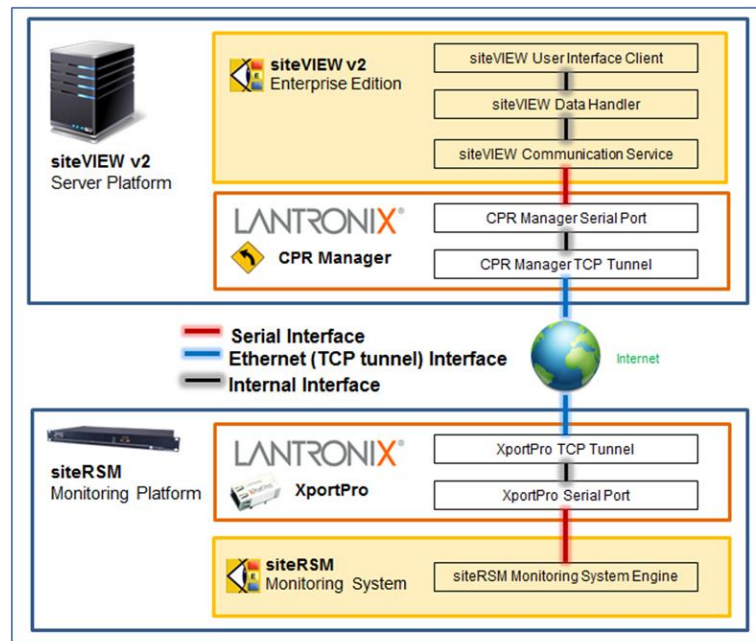


Figure 124 – siteVIEW to siteRSM Connections

siteVIEW can automatically recognize failed IP connections on Lantronix Com Port Redirector (CPR) managed ports for siteRSM devices. Specifically, failures are recognized at any attempt to request information (write) from a damaged IP connection. Failed connections are immediately closed and marked as unavailable.

This siteVIEW manages all of these IP communication failure modes:

- (Temporary) Ethernet disconnections – this represents the most prevalent failure type and includes unplugged networking cables, router/switch malfunctions and ISP network adjustments.
- siteRSM power cycles – restarting the siteRSM will disrupt communications. This failure is prevalent during deployment.
- Loss of Windows network adapter – includes any disruptions to the siteVIEW host's underlying IP infrastructure. For example, entry/exit from sleep mode or changes to the Window's network system setup.

Auto-recovery is implemented by using siteVIEW's polling mechanism to constantly recheck the port for a restored connection.



TASC Systems recommends using an indefinite Device Status poll on each CPR serial-to-IP port. This poll acts as a “ping” mechanism and serves two purposes:

- Allows siteVIEW to recognize (and close) failed connections
- For failed ports, the Device Status poll is a recurring check for a restored connection

The Device Status poll should be set to request Device Status information every minute, indefinitely.

A Device Status poll is recommended as it represents the smallest message exchange between siteVIEW and the siteRSM over connection and, hence, has no material influence on the system's communication overhead. Furthermore, no I/O information is exchanged thereby ensuring that all alarming and site mapping is influenced.

Using a check every minute, the smallest time granularity for a siteVIEW poll, ensures that a failed connection is recognized in no more than a minute. Furthermore, a connection is re-established in no more than a minute after it has been restored.

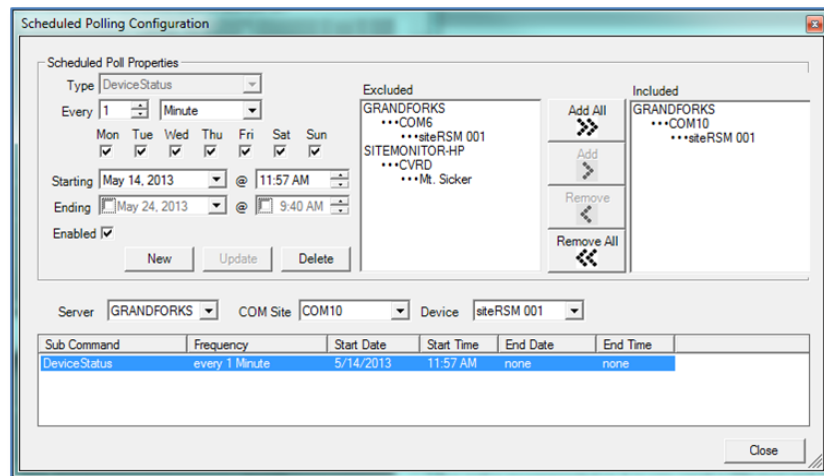


Figure 125 – Connection Management – Device Status Poll

F.2.2. siteRSM Tunnel Settings

The siteRSM's IP Interface is implemented using an embedded Lantronix XPort Pro (or XPort) adapter. Though the Lantronix Xport Pro (or XPort) is pre-configured at the factory, reducing the TCP Keep Alive time to 10,000msec is recommended to more quickly dismantle bad connections.



TASC Systems recommends setting the Lantronix XPort Pro's Tunnel setting for the TCP Keep Alive parameter to 10,000 msec. This ensures that any broken or failed connection is dismantled in no more than ~10 seconds of failure.

To change the setting:

- Use a web browser to access the IP address of the siteRSM
- Login to the siteRSM using user=admin and password=PASS
- Select the Tunnel option (on the left-hand menu list)
- Select Accept Mode option (on the top menu list)
- Change the TCP Keep Alive value to 10000 msec
- Press the "Submit" button to accept and save the change

The screenshot displays the XPort Pro web interface. On the left is a vertical menu with options like Status, CLI, CPM, Diagnostics, DNS, Email, Filesystem, FTP, Host, HTTP, IP Address Filter, Line, LPD, Modbus, Network, PPP, Protocol Stack, Query Port, RSS, SNMP, SSH, SSL, Syslog, System, Terminal, TFTP, Tunnel, VIP, and XML. The 'Tunnel' option is selected. The main content area shows 'Tunnel 1' settings. At the top, there are tabs for Statistics, Serial Settings, Packing Mode, Accept Mode (selected), Connect Mode, and Disconnect Mode. Below these, the 'Tunnel 1 - Accept Mode' section contains several configuration fields. A red rectangular box highlights the 'Mode' (set to 'Always'), 'Local Port' (10001), 'Protocol' (TCP), and 'TCP Keep Alive' (10000 milliseconds) fields. Other fields include 'Flush Serial' (Enabled), 'Block Serial' (Disabled), 'Block Network' (Disabled), 'Password' (<None>), 'Email on Connect' (<None>), 'Email on Disconnect' (<None>), and 'CP Output' (Group:). A 'Logout' link is in the top right corner. The footer states 'Copyright © Lantronix, Inc. 2007-2010. All rights reserved.'

Figure 126 – siteRSM Tunnel Settings – XPort Pro



TASC Systems recommends setting the Lantronix XPort's Tunnel setting for the TCP Keep Alive parameter to 10,000 msec. This ensures that any broken or failed connection is dismantled in no more than ~10 seconds of failure.

To change the setting:

- Use a web browser to access the IP address of the siteRSM
- Login to the siteRSM using user=admin and password=<empty>
- Select the Server option (on the left-hand menu list)
- Change the TCP Keep Alive value to 10 seconds
- Press the “OK” button to accept and save the change

Firmware Version:
MAC Address:

Server Settings

Server Configuration

Telnet Password:

Retype Password:

Advanced

ARP Cache Timeout (secs):

TCP Keepalive (secs):

Monitor Mode @ Bootup: ☒ Enable ☐ Disable

CPU Performance Mode: ☐ Low ☒ Regular ☐ High

HTTP Server Port:

Config Server Port:

MTU Size:

OK

Figure 127 – siteRSM Tunnel Settings - XPort

F.2.3. Lantronix CPR Settings

The siteVIEW IP infrastructure is implemented using the Lantronix CPR Manager software, which provides IP connections for serial ports used within siteVIEW. Amended settings are recommended to more quickly dismantle bad connections.



TASC Systems recommends setting the CPR Manager port setting for the TCP Keep Alive parameter to 10,000 msec. This ensures that any broken or failed connection is dismantled in no more than ~10 seconds of failure.

TASC Systems recommends disabling the CPR Manager port setting for Timeout Reconnect. This ensures that failed port is closed until fully restored by siteVIEW.

To change the setting:

- Run the Lantronix CPR Manager software
- Select the COM port to modify
- On the Settings tab, ensure TCP Keep Alive is enabled (checked), set the KeepAlive Time to 10000 msec and KeepAlive Interval to 1000 msec
- On the Settings tab, disable (uncheck) the Timeout Reconnection option.
- Press the “Save” button on the top ribbon menu to accept and save the changes

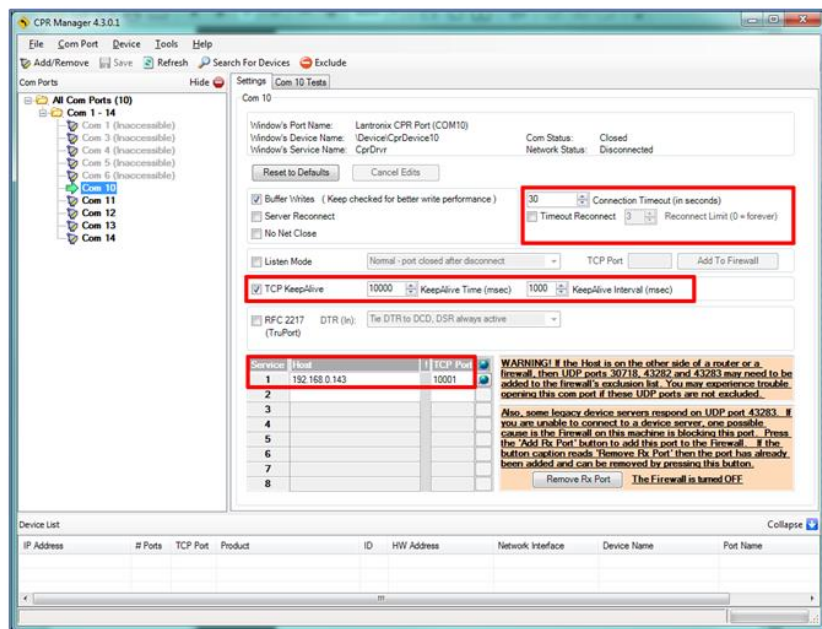


Figure 128 – siteRSM Tunnel Settings

F.3. siteVIEW Communication via Ethernet Ports

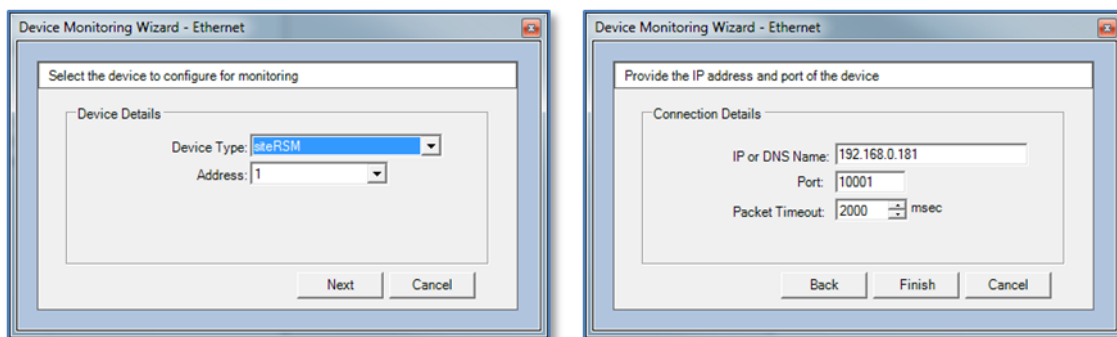
F.3.1. Adding Ethernet Devices

To connect to a TASC device via IP, an Ethernet communication port must be added.

Once an Ethernet port has been added, use the Edit – Add Device function or right-click on the Ethernet communication port and select Add Device. The resulting Device Monitoring Wizard is used to define the TASC IP device's properties:

- For the Device Details section, select the type of TASC device and address then select Next
- For the Device Identification section, enter a user-friendly name describing the TASC device in the Name field. Optionally, add additional long-form information within the Description field, then select Next.
- For the Connection Details, enter an IP (IPv4) address or a DNS name for the device. siteVIEW will automatically resolve a DNS name to the IPv4 address of the device. Specify the port number, typically for siteRSM devices this will be 10001. Specify the Packet Timeout (time between retries), then press Finish to add the device.

IPv6 interfaces are not supported.



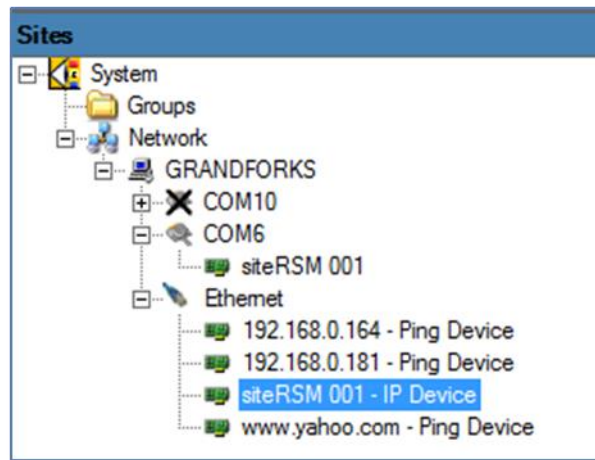


Figure 129 - Ethernet Port Communication - Add Device

F.3.2. Using Ethernet Devices

TASC IP devices operate almost the same as conventional serial or CPR devices, with the only difference being the underlying physical communication interface.

F.3.2.1. Understanding Ethernet Device Transactions

For TASC devices, siteVIEW supports a set of TASC protocol commands. These commands allow siteVIEW to request either status or configuration information from the device. The siteVIEW Communication Service sends each command as a transaction to the device.

If a response to a transaction is received, siteVIEW will interpret and process the results automatically.

If the device does not respond within the Interbyte timeout specified, the Communication Service will try again as per the number of Retries configured for the device. If after the initial attempt and the three retries, the device still hasn't responded, the Communication Service will signal that the device has timed out and is not responding. This "No Response" event can be used with the siteVIEW alarm system to indicate that the device is not available on the network. On the Sites network tree, the device will also show an "X", indicating a failed transaction.

F.3.2.2. Generating IP Device Transactions

siteVIEW communicates with IP devices, as with serial or CPR device, in the following three ways:

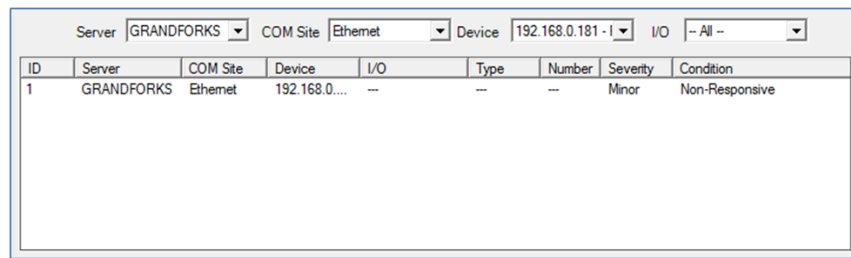
- Through manual refresh button presses. Each refresh button press consists of multiple commands, which are processed sequentially as individual transactions. There are three types of refreshes:
 - Status refresh: commands to request the current status of the device and associated I/O.

- Configuration refresh: commands to request the current configuration of the device.
- Full: commands to request both status and configuration of the device.
- Through scheduled polled commands. Use the siteVIEW Polling Configuration editor to set up one or more commands to send to the device.
- Through events received from the device based on digital input change of state, analog input threshold crossings or temperature threshold crossings.

F.3.2.3. Monitoring TASC Ethernet Device Transactions

The combination of a repetitive Device Status poll and a Non-Responsive alarm will provide functional monitoring of the device – allowing notifications if the device becomes unavailable.

Within the Alarm Configuration utility, select the IP device, but for I/O select “None” – this creates a Non-Responsive alarm for the device.



ID	Server	COM Site	Device	I/O	Type	Number	Severity	Condition
1	GRANDFORKS	Ethernet	192.168.0.181 - I	---	---	---	Minor	Non-Responsive

Figure 130 - Ethernet Port Communication - Monitoring Port Health

F.3.2.4. Reviewing Ethernet Device Transactions

siteVIEW logs all activity with IP devices.

siteVIEW History – To view historical communication and alarm information associated with a IP device, select the History button to initiate a Log View session. The Communication link shows all communication transactions, filterable by device type and other criteria. The Alarm link shows all alarm occurrences, filterable by device type and other criteria.

Device Communication Log – each device keeps a detailed log of transaction communication. This detailed text file is found in the CommSvc folder and is called TransmitReceive<device name>.log. The <device name> is the IP or DNS name of the device, followed by an underscore and then followed by the port number – for example: TransmitReceive192.168.0.200_10001.log. To differentiate between TASC Ping devices, remember that Ping devices do not reference a port number.

F.4. Migrating TASC Serial or CPR Serial Devices to Ethernet Devices

To take advantage of a direct IP connection, it may be desirable to convert existing TASC serial or CRP serial devices to an IP device. While the process of adding an IP device will automatically upload fundamental information directly from the siteRSM, including basic I/O configuration, siteVIEW-specific information, which is stored in the siteVIEW database, must be also considered to fully convert the device to IP. siteVIEW-specific database information includes panel designs, formulas, alarms, poll schedules and mapping.

F.4.1. Adjusting siteRSM IP Settings

Check to see if the siteRSM requires Adjusting

Older siteRSMs must be prepared for siteVIEW IP connections. To identify if the siteRSM's configuration must be prepared for siteVIEW IP connections, using an Internet browser, navigate to the IP address of the siteRSM (user=admin, password=<nothing/empty>).

If you are unable to login (Error=401 Authorization Failed), then no configuration changes are required, the siteRSM is ready for use with siteVIEW.

However, if you see a screen like the one below, indicating the siteRSM's IP interface is using an XPort Device Server, then additional steps must be taken to prepare the siteRSM for operation with siteVIEW's IP interface.



Figure 131 - Migrating to Ethernet - siteRSM Config Logon Screen

Adjust Serial Packing Settings

For siteRSMs that require adjustments, use a Telnet session to adjust the Serial Packing Control, so that siteVIEW messages will be sent as one packet, not multiple. To do this:

1. Run the Lantronix Device Installer software and then allow the Device Installer software to locate the siteRSM's adapter (IP address)
2. Select the siteRSM adapter and then select the Telenet Configuration tab and press Connect

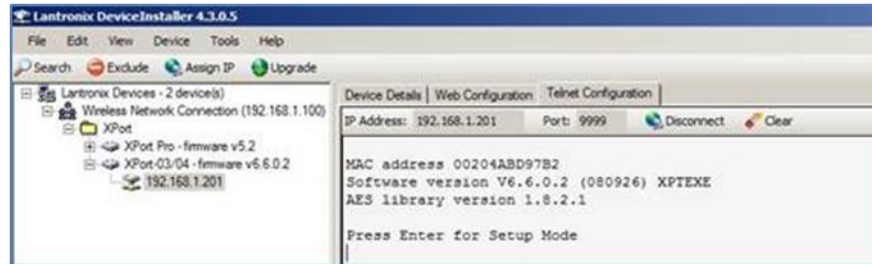


Figure 132 - Migrating to Ethernet - Telnet Config

3. Press Enter to enter the configuration menu, then select the "1 – Channel 1" option.

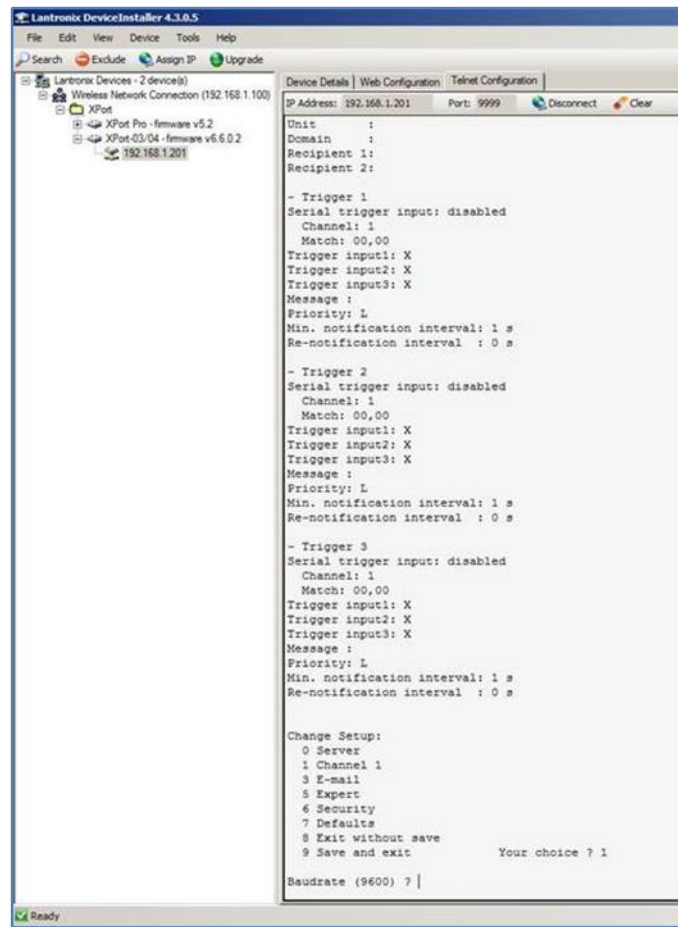


Figure 133 - Migrating to Ethernet - Select Channel

4. Press Enter (no change) until you get to FlushMode. The default is 77, which means that Packing is disabled. Enter f7 and Enter, to enable Packing. The default for Pack Cntrl is 00, which means 12ms Packing Interval. Enter 01 and Enter, which means 52ms Packing Interval. Press Enter (no change) for the rest of the settings, until you return to the menu.

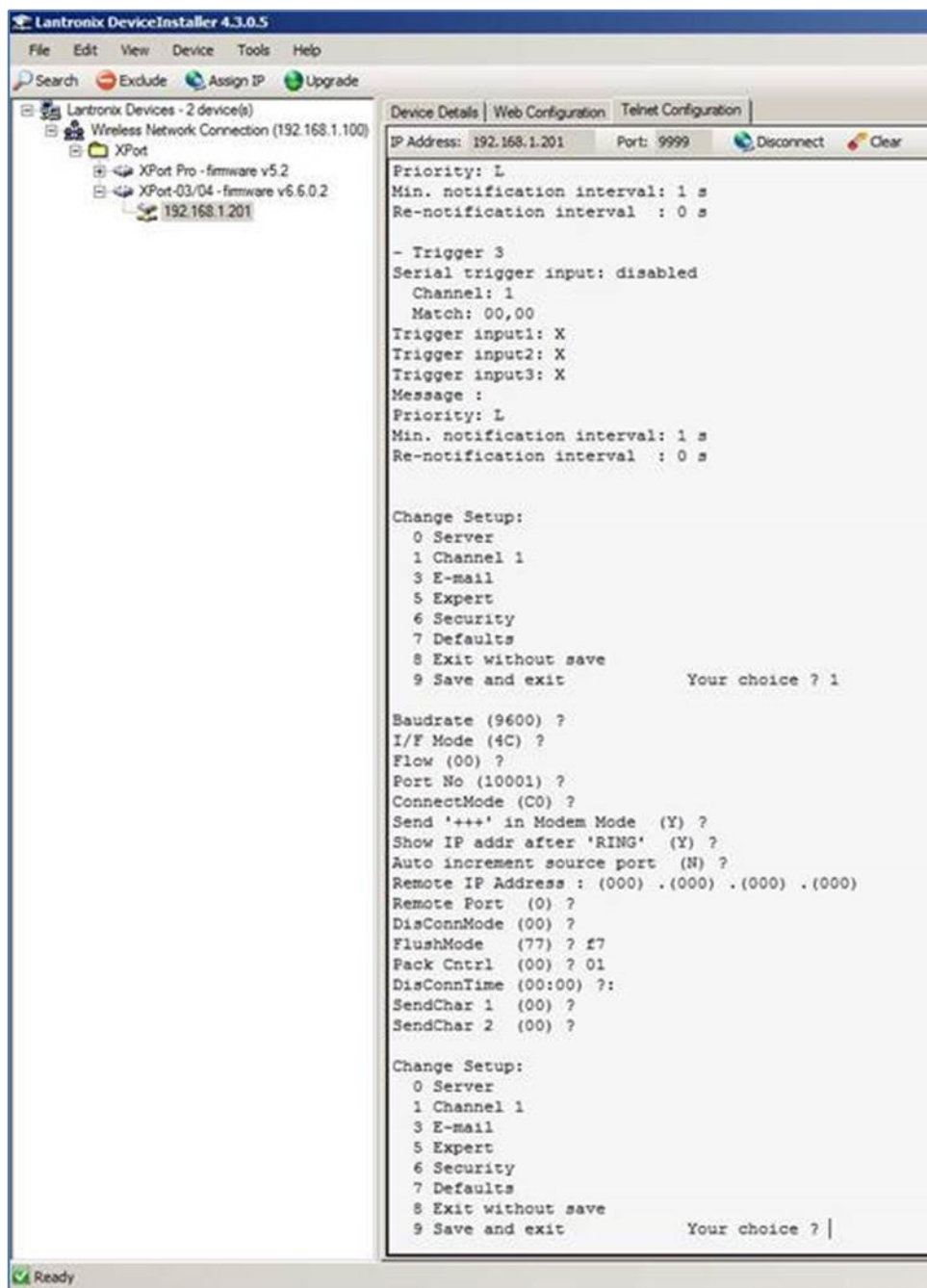


Figure 134 - Migrating to Ethernet - Flush Mode

5. Press 9 and Enter to Save and exit.

```

Change Setup:
 0 Server
 1 Channel 1
 3 E-mail
 5 Expert
 6 Security
 7 Defaults
 8 Exit without save
 9 Save and exit
                                Your choice ? 1

Baudrate (9600) ?
I/F Mode (4C) ?
Flow (00) ?
Port No (10001) ?
ConnectMode (C0) ?
Send '+++' in Modem Mode (Y) ?
Show IP addr after 'RING' (Y) ?
Auto increment source port (N) ?
Remote IP Address : (000) .(000) .(000) .(000)
Remote Port (0) ?
DisConnMode (00) ?
FlushMode (77) ? f7
Pack Cntrl (00) ? 01
DisConnTime (00:00) ? :
SendChar 1 (00) ?
SendChar 2 (00) ?

Change Setup:
 0 Server
 1 Channel 1
 3 E-mail
 5 Expert
 6 Security
 7 Defaults
 8 Exit without save
 9 Save and exit
                                Your choice ? 9

Parameters stored ...
|

```

Figure 135 - Migrating to Ethernet - Save Config



While the Device Installer offers a web interface option to adjust these settings, TASC recommends using the Telnet interface, as cached settings may result in unexpected behavior using the web interface.

F.4.2. Creating the IP Device

The following steps are recommended to convert an existing TASC Serial or CPR Serial device to an IP device:

1. Ensure that the CPR Serial device is disabled. Since the IP connection on a siteRSM allows one connection at a time, disabling the CPR Serial will ensure that the IP device is given precedence to the connection.
2. Create an Ethernet communication port. This port represents the Ethernet adapter for siteVIEW's communication service and will serve as the connection to all IP devices.

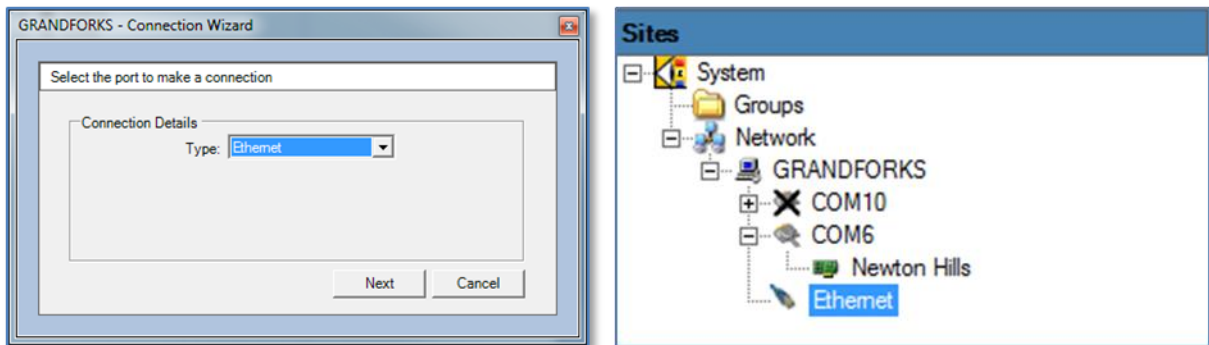


Figure 136 - Migrating to Ethernet - Create Ethernet Port

3. Create a siteRSM device under the Ethernet communication port. Use the IP address for the siteRSM – if you previously had a CPR serial port, use the IP address which was used within the CPR Manager software for the CPR serial port. The port address by default is 10001. Packet Timeout is the amount of time to wait before retrying a communication message – the default is 2000msec (2 seconds).

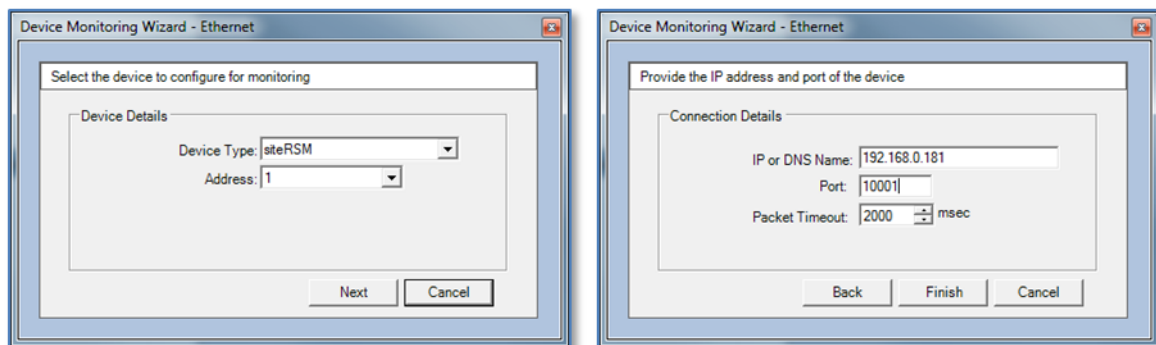


Figure 137 - Migrating to Ethernet - Add Device

As part of the creation process, siteVIEW will automatically interrogate the siteRSM and upload all information related to the device's hardware configuration and current status – this includes:

- Amount of digital inputs, digital outputs, analog inputs and temperature inputs, and which points are enabled/disabled.

- Current I/O configuration including:
 - Digital inputs – off state, hold times, local outputs and output action
 - Analog inputs – ranges, sensor types, offsets, qualifiers, thresholds, local outputs and hold times
 - Temperature inputs – units, qualifiers, thresholds, local outputs and hold times
 - Outputs – off states

F.4.3. Migrating siteVIEW-specific Data

Panel Information

1. Export the panel design from the existing CPR serial (or TASC serial) device. The panel design includes the background image and I/O control user interface settings. To export, right-click anywhere on the Panel View screen for the CPR serial (or TASC serial) device and select “Export Panel”, then select a location to store the resulting .PNL file.

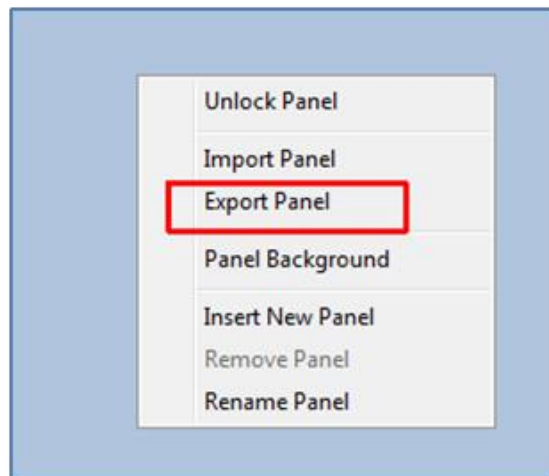


Figure 138 - Migrating to Ethernet - Export Panel

2. Import the panel design to the new IP device. To import, right-click anywhere on the Panel View screen for the IP device and select “Import Panel”, then select the previously saved .PNL file. During the import process, an Importing Options dialog will be presented. To ensure that the panel mimics the information previously assigned, enable both the “Import names of panel control items” (which ensures any names previously attached to your panel are imported) and “Delete extra panel controls that are not in the import file” (which will delete any controls that were not in the previous panel).

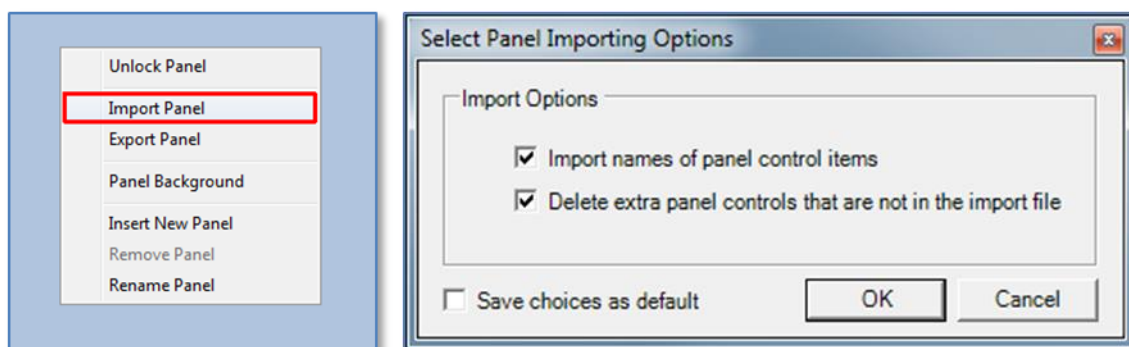


Figure 139 - Migrating to Ethernet - Import Panel

Update Formulas

3. If the previous TASC serial or CPR serial device used formulas, adjust the properties of the analog inputs to use the formula. Open up the Device Properties and select the Analog Inputs tab, and then use the Formula drop down list to select the appropriate formula.

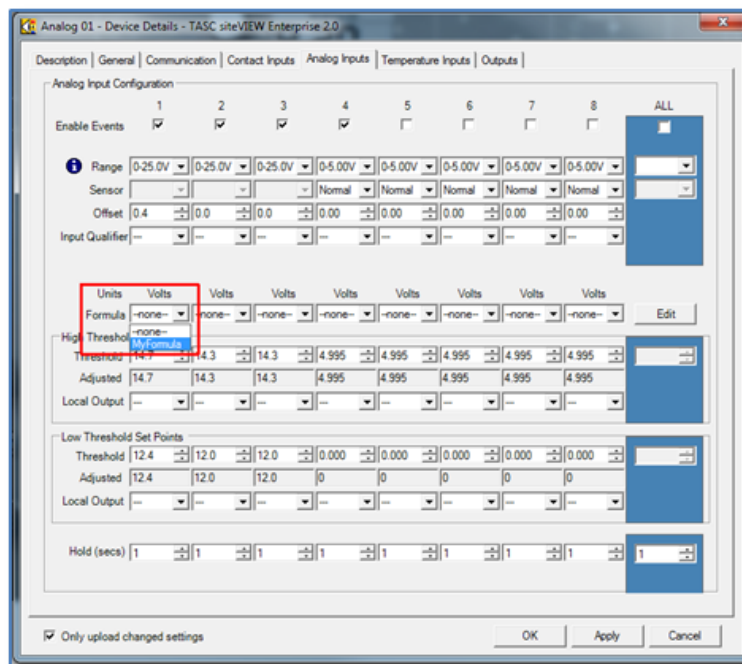


Figure 140 - Migrating to Ethernet - Update Formulas

Create Alarms

4. Create the alarms for the IP device using the Alarm Configuration form. At this time, alarms cannot be modified or exported/imported for a new device - it is necessary to re-create the alarms.

Adjust Scheduled Polls

5. Adjust the scheduled polls for the IP device using the Schedule Polling Configuration form. Select the polls that you would like to add the IP

device to and then use the “Add” button to include the IP device to the list of devices support for the selected poll.

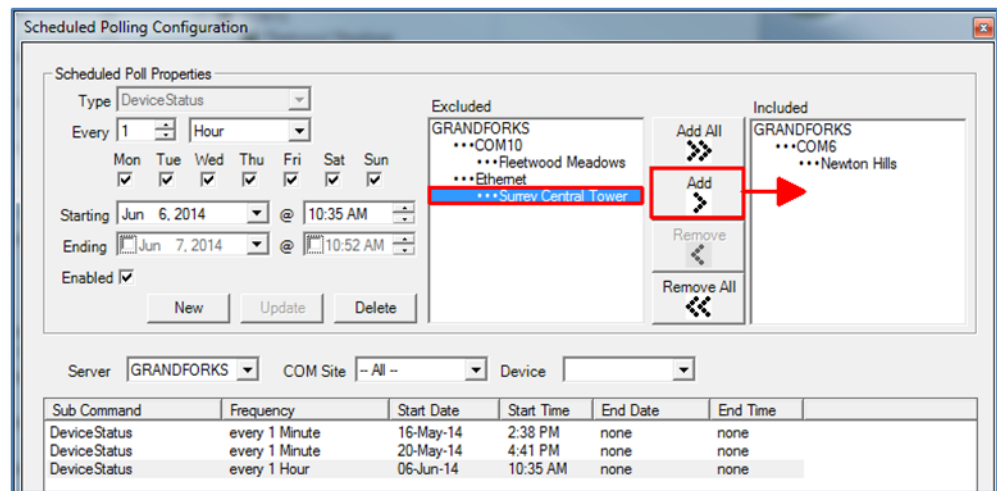


Figure 141 - Migrating to Ethernet - Adjust Scheduled Polls

Create Site Mappings

6. Create the site mappings for the IP device using the Site Mappings Configuration form. At this time, site mappings cannot be modified or exported/imported for a new device - it is necessary to re-create the site mappings

F.4.4. Testing and Finalizing Migration

1. Confirm operation of the IP device. Use the IP device during normal operations to verify that the device is operating properly before deleting the previous CPR serial or TASC serial devices.
2. Delete the CPR serial or TASC serial devices. Once the migrated IP device has been validated, delete the obsolete CPR serial or TASC serial device. This is an optional step and can be carried out at any time as long as the device remains disabled.

APPENDIX G. SITEVIEW PANEL DESIGN

G.1. Panel Design Guidelines

siteVIEW panel is the container for the siteVIEW view window. The panel image is the background image used to define the context for the user.

G.1.1. Panel Image Size

Maximum panel background sizes for a siteVIEW user interface are determined by resolutions provided by your system's graphics card. (It is useful to remember that the resolution is determined by the graphics card and then matched to the monitor.)

You must account for ~150 pixels used vertically (menus, status) and ~410 pixels (typical) used vertically (network tree, communication and alarm windows). That is, use the given screen resolution, subtract the pixels used by the siteVIEW software to arrive at the allowable panel background size.

Below are popular screen resolutions for Windows platforms (shown in rough order of popularity as of end of year 2012) and the associated siteVIEW background panel size:

Screen Resolution	Recommended siteVIEW Background Panel Image Size	Comments
1920 x 1080, 1920 x 1200	1400-1500 x 930	16:9, recent desktops, *Recommended, popular* , 1920 x 1200 (used by 24" widescreen LCD monitors)
1366 x 768	950 x 615	16:9, laptops *Popular* but limited vertical depth, (Minimum resolution required to support all the features of Windows 8)
1280 x 720	870 x 570	16:9, recent laptops/desktops *Popular* but limited vertical depth
1680 x 1050, 1600 x 900	1190 x 750	16:9, recent desktops/laptops 1680 x 1050 (used by 20"/22" widescreen LCD monitors)
1280 x 1024	870 x 870	4:3, older resolution, declining in popularity

Sources:

- http://www.w3schools.com/browsers/browsers_resolution_higher.asp (mentioned popular and/or growing in popularity resolutions).
- <http://msdn.microsoft.com/en-us/library/windows/apps/hh780612.aspx> (for Windows 8 resolutions)
- <http://windows.microsoft.com/en-CA/windows7/Getting-the-best-display-on-your-monitor>

It may be beneficial to create a wider canvas than the panel's background image to allow storage of hidden controls. In this way, when the screen is unlocked the unused controls are accessible via a simple scroll.

Due to their popularity, it may be desirable to design the panel a widescreen (16:9) format. Wider formats are recommended because users can control the hiding or modifying the pixels allocated to the network tree and/or the Communication/Alarm regions.

G.1.2. Panel Image Layout

The following guidelines are recommended for creation of siteVIEW panels:

- A grouping element (e.g., lined perimeter, box) should be used to enclose all siteVIEW controls. Sub-grouping elements should be used to group controls of similar functionality – for example, all environmental controls may be placed together.
- All critical (i.e., alarming) controls should be placed near the top and/or grouped together
- All controls should be accompanied by either an icon or label to clearly indicate functionality.
- A title, associated logo or both should be placed at the top of the screen to indicate the domain of the panel. For example, if the panel is for a particular site, the site's name could be the title or if the panel is designed for a particular customer, the customer's logo could be displayed at the top. Breadcrumb navigation may be used as part of the titling.
- The recommended format for panel backgrounds is either PNG or JPG.
- If siteVIEW will be deployed on a touchscreen, layout sizing must take into account human ergonomics to ensure proper selection of siteVIEW controls.

G.1.3. Panel Sub-Groups

Typical panel sub-group elements include:

- Transmit/Receive information (e.g., forward power, transmit voltage/current)
- Equipment related information (e.g., signals from the radio/repeater)
- Environmental information (e.g., door sensor, temperature, fuel, battery levels)

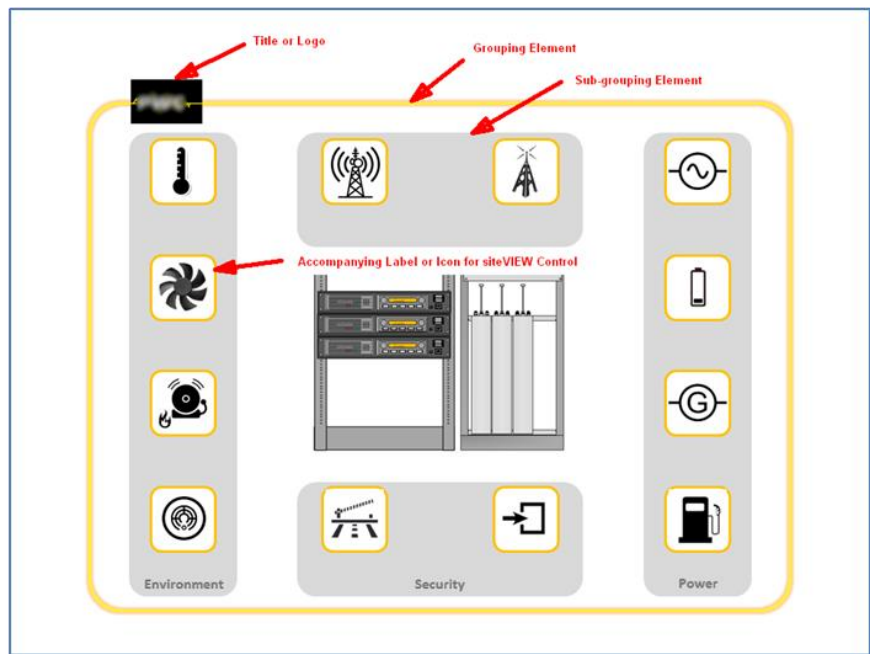


Figure 142 – Sample Panel Layout

G.1.4. HMI Standards

The following HMI standards may be considered as part of the panel design process. They provide guidance on color schemes, layout and other ergonomic factors.

- ISA (Instrument Society of America) 101 Human-Machine Interface:
 - Official Standard: <http://www.isa.org/MSTemplate.cfm?MicrositeID=1142&CommitteeID=6899>
 - 3rd Party Overview: http://www.yca-yokogawa-usersgroup.com/uploads/3/1/8/5/3185440/mesatutorial_-_isa101_hmiworkshop.pdf
- A Human Factors Approach to Supervisory Control Interface Improvement: http://cdn.intechopen.com/pdfs/4695/InTech-A_human_factors_approach_to_supervisory_control_interface_improvement.pdf

G.1.5. Panel Image Design Tools

While there are many tools that can be used to design background panel images, the following considerations may be useful in the selection of a design tool:

- Ability to concretely define in pixels canvas size, grouping elements and sub-grouping elements
- Ability to control location of titling, logos and/or icons by pixel
- Ability to generate PNG or JPG files

Suitable products, shown in order of recommendation are listed:

- Adobe Photoshop (or Illustrator) or equivalent, for example, Paint.NET, Gimp
- Microsoft PowerPoint

G.2. Panel Icons

Icons are embedded within a Panel Image to provide semantic context for individual I/O points, devices or network nodes.

G.2.1. Icon Usage

- siteVIEW panels should utilize standard icon sets, which conform to industry standard or de facto meaning. siteVIEW ships with a sample set of icons located in the \PanelIcons folder.
- The recommended format for icons is either PNG or JPG.
- If siteVIEW will be deployed on a touchscreen, icon sizing must take into account human ergonomics to ensure proper selection of siteVIEW controls.

G.2.2. Icon Design Tools

While there are many tools that can be used to design icon images, the following considerations may be useful in the selection of a design tool:

- Ability to concretely define size, resolution, colors in pixels
- Ability to generate PNG or JPG files

Suitable products, shown in order of recommendation are listed:

- Adobe Photoshop (or Illustrator) or equivalent, for example, Paint.NET, Gimp
- Microsoft PowerPoint

G.3. siteVIEW Control Guidelines

siteVIEW controls are elements that represent I/O points. Controls are provided for contact inputs, contact outputs, analog inputs and temperature sensors.

siteVIEW utilizes a subset of the National Instrument Measurement Studio control set: <http://www.ni.com/mstudio/gallery/start.htm> – four basic control types are supported: Boolean, Knob, Slide and Display. Each type has multiple styles and properties.

siteVIEW loads a default set of controls and associated properties, upon first accessing a TASC device.

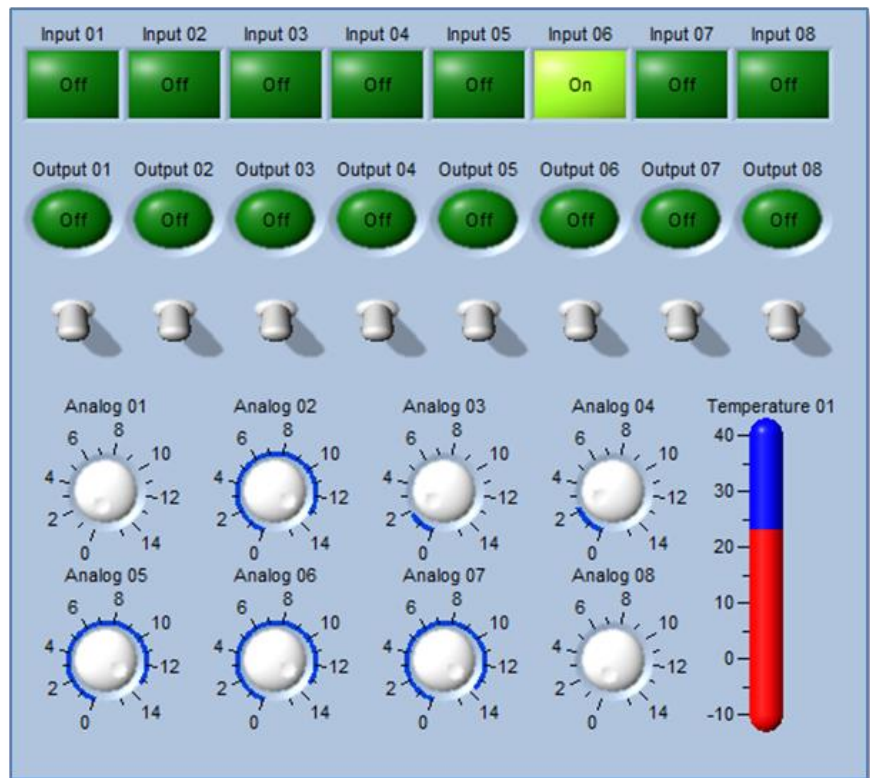


Figure 143 – Default siteVIEW Controls

G.3.1. siteVIEW Control Usage

- If siteVIEW will be deployed on a touchscreen, sizing must take into account human ergonomics to ensure proper selection of siteVIEW controls

G.3.2. Contact Input Controls

- Recommended type is Boolean
- Recommended style is LED. Do not use Toggle, Slide, Rocker or Button styles as they may indicate controllable characteristics
- Recommended color scheme:
 - For OFF status, use non-active color like grey
 - For ON status, use active color like green

G.3.3. Contact Outputs Controls

- Recommended type is Boolean
- Recommended styles are Toggle, Slide, Rocker or Button styles as they indicate controllable characteristics. Do not use LED styles.
- Recommended color scheme:
 - For OFF status, use non-active color like grey
 - For ON status, use active color like green

G.3.4. Analog Input Controls

- Recommended type is Knob, Slide or Display. Do not use Boolean.

G.3.5. Temperature Controls

- Recommended type is Knob, Slide or Display. Do not use Boolean.

G.4. Standard siteVIEW Icon Sets



Figure 144 – Standard siteVIEW Icon Set

APPENDIX H. SITEVIEW ADMINISTRATION

H.1. siteVIEW Deployment

As an enterprise solution, a siteVIEW deployment involves multiple steps or phases. The following task guideline is provided to properly plan and implement a siteVIEW deployment:

H.1.1. Device Planning

- Sensor planning – determine what is to be monitored and what sensors will be used to provide the monitoring capability.
- I/O assignment – based on the points to be monitored, use the device configuration software (e.g., SCCU) to define and enable the I/O layout map, including qualifiers, hold times and threshold ranges.
- Backhaul communications – determine the method in which the device will communicate events to siteVIEW.

H.1.2. System Communication/Network Design

- Determine the layout architecture of the various siteVIEW components.
 - Location and redundancy of the siteVIEW Data Handler.
 - To determine number and location of siteVIEW Communication Services, consider communication load balancing for the number of managed devices.
 - Location of siteVIEW Alarm Notification system by considering notification mechanisms to be used.
 - Location and number of siteVIEW user interfaces required.
- Install the various siteVIEW components.
- Determine siteVIEW interfaces to other IT systems including SMTP servers, SNMP managers and backup systems.

H.1.3. siteVIEW User Interface Design

- Implement panel design for each device including:
 - Image design and import for background panel.

- Naming, location, type and theme selection for each I/O control.

H.1.4. siteVIEW I/O Properties Refinement

- Select supported sensor settings (e.g., TASC differential sensors, TASC BPS sensors).
- Validate qualifiers, hold times, threshold and local output settings for each I/O point to ensure real-world congruency, and, if required, validate formula settings and offsets.
- Determine and configure site-mapping requirements.

H.1.5. siteVIEW User Account Management

- Define user accounts and rights.
- Define groups and user access rights.

H.1.6. siteVIEW Notification and Alarming Definition

- Use Global Notification Settings to define mechanisms to be used for notification.
- Use Alarm Settings to define alarms, configure the related notification methods and users to be notified.

H.1.7. siteVIEW Communication Optimization

- Determine and configure polling strategy.
- Review system communications and mitigate communication retries by adjusting packet timeouts.
- Review communications load to determine if thresholds need to be adjusted or if devices should be balanced amongst Communication Service servers.

H.1.8. Operational Preparedness

- Review logging infrastructure and resultant files.
 - For cases where the frequency of I/O and alarm history is high, further refine qualifiers, hold times and threshold to decrease the I/O and alarm events.
 - If there is sufficient data, exporting to Excel or other analysis tool may provide insight into system tuning or trends.
- Using device configuration software (e.g., SCCU), create backups of the device's system.

- Export siteVIEW panels for reuse and/or recovery. (*Panel export files maybe preferential for managing and tracking user interface changes where the rest of the system siteVIEW configuration is static.*)
- Determine and configure system database scheduled archiving strategy. Define backup and recovery strategy, including off-site backups.
- Confirm operational readiness:
 - Confirm integration with other IT components.
 - Power stability (e.g., UPS).
 - Network stability and redundancy.
 - Consider managing all shutdowns, including shutting of operating system updates.
 - Create Windows restore points or system ghost copies in case of catastrophic failure.
- User and administrative training.