

# The Sage Advisor



## SCADA, SECURITY & AUTOMATION NEWSLETTER

Volume 26, Issue 1 • Spring 2016

A Publication of Sage Designs, Inc.

### Redesigned Pillbox Installs Smoothly

Sage Designs is happy to report the recent completion of the first in-ground installation for the newly redesigned Pillbox™ RTU enclosure system. The updated Pillbox design features improvements to security and usability, such as: Redesigned mast mounts that now include an integral vandal-resistant J-box, internal battery-cage elevator for ease of service, and a powerful mast winch that turns raising and lowering the mast into an easy one-person job.

The Pillbox was chosen for this site by our customer due to complaints of repeated vandalism, as a way to address their need for an enclosure which would both avoid attention from thieves and vandals as well as inhibit access to the salable electronics associated with the installation, including a 350-series SCADAPack RTU.

To ensure that the new and improved model installs smoothly, as designed, the Pillbox engineering team was on-site to consult and observe the in-field installation process. This also offered the opportunity to document the installation process and the real-time reactions of the professionals involved.

Day one of the installation was quick and error-free. After placing and leveling the body within the prepared footing excavation (see figure 1), the concrete was poured and finished, and the team left to allow the concrete to cure.

The Pillbox engineering team returned less



Figure 1.

than a week later to consult and observe the installation of the cage, installation of the panel, and commissioning of the unit. The install team was impressed with the new mast mounting system, which now uses a pin and saddle arrangement to simplify installation, as an improvement over the previous threaded system. In the new Pillbox design, the mast is simply set into a saddle which forms the entry point for the solar power and antenna feed through the mast itself. Once the mast is raised, the two halves of the junction box seal together and use both the weight of the mast and the mounting of the Pillbox body to seal out water and repel intrusion. (see figure 2)

[Redesigned Pillbox Continued on Page 6](#)



Figure 2.

### ClearSCADA 2015 R2

Schneider Electric is pleased to announce the release of SCADA Expert ClearSCADA 2015R2. This release is rooted in four key pillars: Performance & Scalability, Usability Enhancements, Security Enhancements and Improved Driver Functionality.

#### Performance & Scalability

A substantial focus of this release has been facilitation of the overall performance of larger systems, broken down into improvements spread across four areas:

- **Improvements to Database Locking:** Priority is now given to tasks writing to the database, allowing them to be processed more quickly and freeing up resources
- **Asynchronous Driver Updates:** Data from ClearSCADA drivers is now loaded asynchronously, allowing the driver to continue polling while updates are processed by the server.
- **Consolidation of Main-Standby Transfer Requests:** Fewer round-trips between servers improves historic transfer performance, especially over WAN links
- **Consolidation of Client Requests:** Pick-menu requests have been optimised to improve overall responsiveness within the User Interface

With the implementation of the above improvements, test groups have experienced a 2X improvement in overall system responsiveness.

#### Usability Enhancements

Another key area of this release has been improving the user experience through six user-oriented improvements:

- **Database Search:** The ability to search from the Ribbon with support for up to 50 results within the tool window.
- **Full Screen Mode:** In this mode, ViewX completely removes the ribbon or quick access menu.



- **Momentary Button:** Execute two separate actions without the requirement of script or logic.
  - **Locking Embedded Alarm List:** Configurable restrictions designed to help prevent run-time changes such as filtering, sorting, or shrinking columns.
  - **Historic Alarm Indication:** Trend markers display in a different color to indicate Alarm State.
  - **Online Help:** New and improved launch screens for the homepage and four major topic areas.
- Improved Driver Functionality**  
New and improved communications packages have been implemented in ClearSCADA 2015 R2 to expand the compatibility range of ClearSCADA, the most notable include:
- **NOCT60:** Support for the new NOCT60; combination of Foxboro CFT51 Coriolis Flow Transmitter and Schneider Electric Realflo Flow Computer.
  - **SCADAPACK E:** Extensions to support changes in firmware 8.12.2, support of 5000 series I/O and enhancements to new Modbus Scanner functionality.
  - **DNP 3:** Device profiles for ClearSCADA's DNP3 Master and Slave implementation are now provided in XML format.

[ClearSCADA 2015 R2 Continued on Page 7](#)

#### Inside this issue:

- Sage Designs is **HIRING!**
- ClearSCADA 2015 R2 Release
- Training Classes
- WIN-911 Enterprise Release
- South Gate Water SCADA



# WIN-911 Enterprise Release 2.16.1

WIN-911 is the most widely used alarm notification software in the process control industry, protecting 10,000 facilities in 70 countries and six continents, including hundreds of Fortune 500 and Global 500 companies. WIN-911 delivers alarms and other key data using a variety of notification methods. WIN-911 Enterprise Edition offers an advanced logic engine to determine who should receive critical alarms and how notifications should escalate. This new release of Enterprise Edition adds significant improvements in function to an already feature-rich alarm notification package.

## Changes in Enterprise Edition Version 2.16.1:

### 1. New Basic Notification Workflow.

The new Basic Tactic simplifies the process of creating a callout list in WIN-911 Enterprise Edition. The Basic Tactic will be familiar to WIN-911 Version users in that it emulates the simple call out list for groups. Simply add to the list users you want to notify, in the order you want to notify them.

This new feature in Enterprise Edition adds the power to do more by using rule-based strategies to control when the callout list starts and stops based on alarm states. Multiple callout lists can be used to route alarms based on areas of your plant or facility.

### 2. New SMS Notifier.

WIN-911 Enterprise adds text notification and reporting using cellular modems and your wireless service provider with the new SMS notification method. The new SMS notifier adds support for Ethernet modems and the ability to configure multiple gateways. This powerful addition to Enterprise will allow you to pool additional modems to ensure that notifications are sent as rapidly as possible, or to provide a backup modem for more reliable text messaging. The new SMS Notifier has all the features of other Enterprise two-way notification alarm acknowledgments, reports, and alarm queries.

### 3. Email Notification Enhancements: Email to SMS, Acknowledgments.

WIN-911 Enterprise improves alarm acknowledgments using email notifications. With the addition of alarm ticket numbers, it is now possible to use any email

server to send alarms and receive the acknowledgments. This enhancement opens up the ability to send alerts to mobile phones through your wireless carrier's email-to-text gateway as well as acknowledge alarms, request reports, and check the status of individual alarms.

### 4. New WIN-911 Log Viewer, Alarm Monitor, Alarm History View, Alarm Acknowledgment, Escalation Tracking.

The new enhanced WIN-911 Log Viewer is now an alarm monitor window as well as a powerful diagnostic tool. The Log Viewer now shows all alarm state changes and track acknowledgments in real time or allow you to go back in time and review the Enterprise Edition alarm history log.

If you would like more information or to schedule a demo, please contact your local Sage Designs Inc. sales representative!

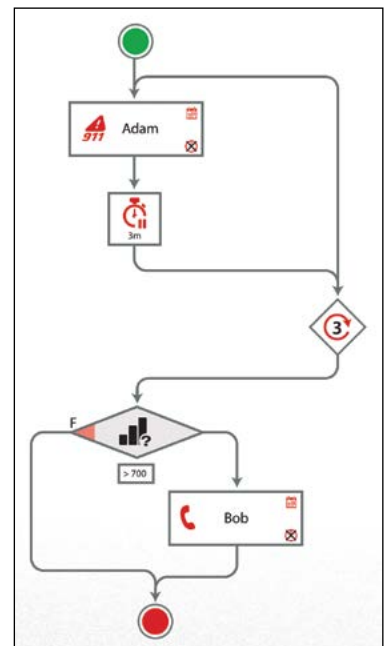
The screenshot shows the 'Basic Tactics' configuration window for a 'Basic Alert'. It includes fields for Name, Description, Delay Before Notification (0:00:10), Repeats (1), and Callout List. The Callout List is a table with columns for Connection, Type, Retries, Delay Between Retries, and Delay After.

Connection	Type	Retries	Delay Between Retries	Delay After
<input type="checkbox"/> John Smith	✉	1	0:02:00	0:00:00
<input type="checkbox"/> Mike	✉	0	0:00:00	0:00:00
<input type="checkbox"/> Gary	✉	0	0:00:00	0:00:00

The screenshot shows the 'WIN-911 Log Viewer (Active)' window. It has tabs for 'Live' and 'Historical'. Below the tabs is a table with columns: Select, State, Most Recent Event, Alarm Point, Condition, Source Type, Source, Strategy, Initial Date/Time, and Labels. There are three rows of data.

Select	State	Most Recent Event	Alarm Point	Condition	Source Type	Source	Strategy	Initial Date/Time	Labels
<input type="checkbox"/>	⚠	10/30/2015 9:19:30 AM	Tank Pump	Pump is on	OPCDA	KEP	Default	10/30/2015 9:19:11 AM	
<input checked="" type="checkbox"/>	⚠	10/30/2015 9:15:39 AM	Gate Valve	Closed	OPCDA	KEP	Default	10/30/2015 9:15:39 AM	
<input type="checkbox"/>	✓	10/29/2015 3:15:59 PM	Hopper 1	LO	IFIX	IFIX	Default	10/29/2015 3:14:56 PM	

At the bottom left, there is an 'Ack Selected' button. At the bottom right, there is a circular arrow icon.



# SCADAwise™ Training Classes

## ClearSCADA

## SCADAPack

### ClearSCADA Level 1 Training Course

May 9-12, 2016 — Mill Valley, CA  
September 26-29, 2016 — Mill Valley, CA

- Day 1 (8AM– 4PM) Installing ClearSCADA, Introduction to ClearSCADA, Components, Using ViewX, Using WebX, ClearSCADA Help
- Day 2 (8AM - 4PM) Configuring using ViewX, Database Organization, Basic Telemetry Configuration, Creating Mimics, Creating Trends
- Day 3 (8AM - 4PM) Configuring using ViewX, Templates & Instances, Logic Languages, Security, Communications Diagnostics
- Day 4 (8AM - 4PM) Reports, System Configuration, System Architecture, Questions

**Cost:** ClearSCADA Training Course \$2,200 (2016 rates)

Sage Designs' ClearSCADA Level 1 Course has been certified by (a) the California Department of Public Health as courses qualifying for contact hour credit for Water Operator Certification for Drinking Water Treatment or Distribution in the State of California and (b) the State of Nevada Department of Environmental Protection, Bureau of Drinking Water for contact hours towards the Nevada Drinking Water Operator Certification Program.

**(28 Contact Hours)**

### Telepace Studio Training Course

May 2-4, 2016 — Mill Valley, CA  
September 12-14, 2016 — Mill Valley, CA

- Day 1 (8AM - 4PM) SCADAPack controller operation, Series 5000 I/O, Telepace Studio introduction
- Day 2 (8AM - 4PM) Telepace Studio advanced programming techniques and advanced functions
- Day 3 (8AM - 2PM) Controller communications, Modbus Master/Slave protocol, Diagnostics, Modems

**Cost:** SCADAPack Telepace Studio Course \$1,650\* (2016 rates)

\* You must have a licensed copy of Telepace Studio installed on your computer for this course. If you do not have a licensed copy, you may purchase one with the class at a special course price. Course price for Telepace Studio: \$510 + applicable CA sales taxes

Sage Designs' Telepace Studio Course has been certified by (a) the California Department of Public Health as courses qualifying for contact hour credit for Water Operator Certification for Drinking Water Treatment or Distribution in the State of California and (b) the State of Nevada Department of Environmental Protection, Bureau of Drinking Water for contact hours towards the Nevada Drinking Water Operator Certification Program.

**(20 Contact Hours)**

### ClearSCADA Level 2 Training Course

2016 Dates TBD

- Day 1 (8AM– 4PM) Installation, Understanding the Architecture of ClearSCADA, Application Design Considerations, Server Automation Interface, ClearSCADA Logic Engine, Using ODBC and SQL.
- Day 2 (8AM - 4PM) Advanced Mimic Design and Techniques, Data Grids and Data Tables.
- Day 3 (8AM - 1PM) Accessing Historical Data, Ad Hoc trends, Archiving

**Prerequisite:** ClearSCADA Level 1 Training Course

**Cost:** ClearSCADA Level 2 Training Course \$1,650 (2016 rates)

**(20 Contact Hours)**

**Instructors:** ClearSCADA Level 1 & Telepace classes will be taught by Tony Sannella, Sage Designs, a Factory-Certified Instructor. SCADA Level 2 classes will be taught by a SEUSA-certified training instructor. The ClearSCADA Test Drives will be conducted by Sage Designs or a factory representative.

**Location:** See individual course registration form. Those requiring overnight accommodations should call the hotel directly for reservations.

**What should I bring?** Laptop computer with minimum requirements as shown on the specific course registration forms, plus necessary permissions to install software on your computer.

\*You must have a licensed copy of Telepace Studio to take the Telepace course. We offer a course price for a license or you may purchase through your local Schneider Electric TRSS representative.

**What is provided?** Course manual, daily continental breakfast, lunch & beverages.



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email: [info@scadawise.com](mailto:info@scadawise.com)

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Download the Registration form at: <http://www.SCADAwise.com>

**\* \* \* Registration Deadline: 4 weeks before 1<sup>st</sup> day of course \* \* \***

All registrations are subject to cancellation fees. A confirmation notice will be sent to all registrants on or before the deadline date.



## City of South Gate Water SCADA

The City of South Gate, in Los Angeles County California, serves close to 98,000 people within an area of approximately 7.5 square miles. Before beginning their current project, the original Water SCADA System was a tone telemetry system that relied on phone lines to collect data and distribute commands to manage the water system. Over time, as replacement parts were no longer available and area phone companies made it more difficult to lease phone lines, the system morphed into TI PLC's operated with Wonderware's proprietary Software. Several years later, faced with a TI/Wonderware system needing replacement hardware that couldn't be found, the City was ready for a change.

After repeated consultation with Sage Designs and other industry leaders, the City decided on a SCADA system built around Schneider Electric

TRSS SCADAPack and Enterprise ClearSCADA for their Management Software, with WIN-911 Professional level software to handle alarm notification.

The City of South Gate's SCADA system manages 7 active well sites, each of which supplies water from the Los Angeles Central Basin, 2 elevated water tanks, 4 surface ground water tanks with 8.2 million gallons of storage, and a 4.2 million gallon underground reservoir. Also needing to be managed by the new system were the City's two connection to Metropolitan Water District, which are seldom used in favor of the City's well-provided water. Diesel generators provide back-up power for the City's three booster stations and multiple associated well sites.

With the addition of SCADAPack 334s to South Gate's new system, operators have a substantially increased level of flexibility in system maintenance. Nine

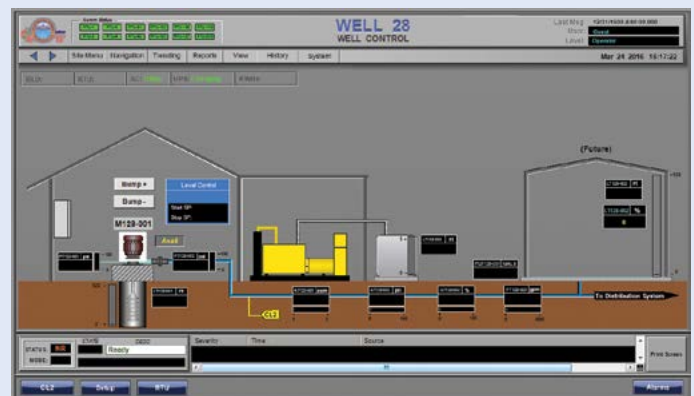
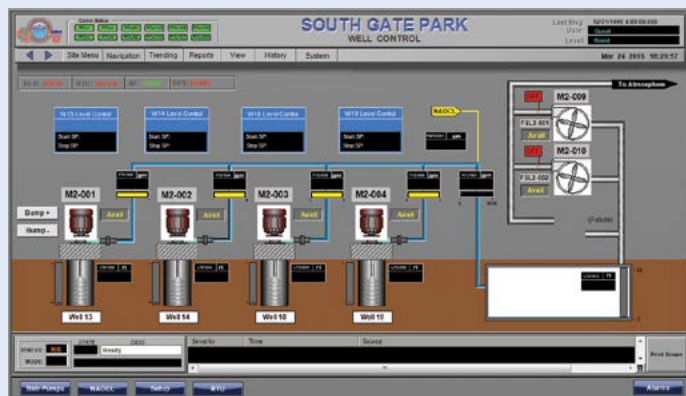
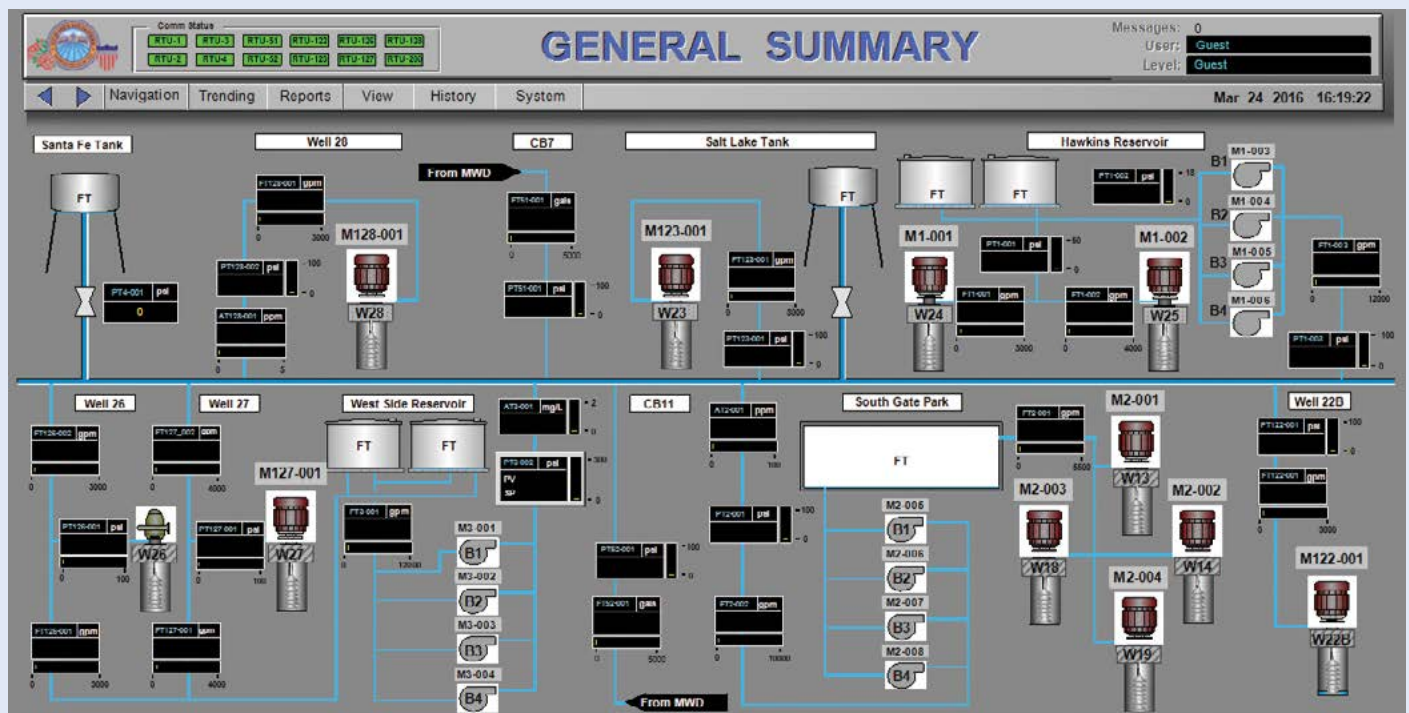
of the 14 sites have operator interfaces networked with SCADAPack controllers to locally monitor and operate both the well and reservoir sites. Esteem Ethernet radios provide the radio network for the system to communicate wirelessly with the central control room.

Each remote site uses a SCADAPack 334 controller in a standard configuration, including: 480VAC power quality, RTU power status monitoring, site security status monitoring, UPS back ups, time-of-use-based pump control, auto reservoir level control, auto distribution system pressure control, auto pump duty rotation, water quality monitoring for pH and turbidity, and data logging for an included historian.

During the project the control room space was remodeled into a large, open room used for both meeting and for monitoring the control system. The ClearSCADA redundant servers reside in the control room at the City Yard,

where the interactive graphic screens are viewable on four large LED screens across their entire back wall. The scope of the interface allows for single large graphics on each screen, or for the presentation of multiple graphics per screen, depending on the requirements of the user. Two ViewX workstations and monitors adjacent to the console allow for easy access, and the system is augmented by 6 laptops with ClearSCADA mobile ViewX clients to allow operators use of the system while in the field.

Chris Castillo manages the City's water system and Ron Hernandez is responsible for the operation and maintenance of the SCADA system. HydroScientific West was contracted to manage the ClearSCADA software and SCADAPack logic programs. HydroScientific is also involved in integrating a new Well site booster pump station and reservoir.





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- SCADAPack Smart RTUs & rPACs
- Accutech wireless instrumentation
- Trio data radios



For more information, live equipment demonstrations, a listing of contact-hour certified classes near you, or to schedule a consultation on solving your SCADA challenges, contact your local Schneider Electric | TRSS representative:



(888) 275-7243  
www.sagedesignsinc.com  
www.scadawise.com



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## Redesigned Pillbox Installs Smoothly, *continued from page 1*

Installation went smoothly with the redesigned Mast Winch system, which required only a user-supplied cordless drill to lift the 20' mast with solar panels and antennas attached. The team quickly realized that the mast could be partially raised, allowing for an elevated working position for installing and servicing the solar panel and other equipment. During install, we discovered that the incorrect antenna had been supplied, but the team was able to replace it in just a few minutes by lowering the mast to a convenient working height, replacing the antenna, and re-erecting the mast via the winch system.

The matching Battery Cage Elevator system works similarly to the Mast Winch, and was also observed to allow easy access to the batteries for storage and service, without the risk of strain or other injury possible

## Pill<sup>SCADA</sup>Wise BOX

when required to raise heavy batteries by hand. (see figure 3) Although these did not need to be replaced during the process after their initial installation, they were raised and lowered several times both for demonstration purposes and out of a sense of fun at how easy the process worked.

In the overall analysis: The Pillbox body went into the ground in less than half a day, and the installation and commissioning was completed in less than a day. The entire installation proved to be a simple operation executed without incident. We expect future units to be installed in two sessions, totaling as little as a half day of labor, after our customers and integrators are trained in the procedures and structural features to create a quick and trouble-free install.



Figure 3.



## ClearSCADA Crystal Reports Licensing Change

Effective January 1 2016, Schneider Electric is subject to a new licensing requirement for ClearSCADA's connectivity to Crystal Reports.

While Crystal Reports (an SAP product) connectivity has been included with standard ClearSCADA systems for some time, Schneider Electric has recently been made aware of a change in SAP licensing requirements that has necessitated a change in ClearSCADA licensing for that connectivity.

If you are not using Crystal Reports, no action is required from you.

If you are using Crystal Reports in connection with your ClearSCADA server please contact Sage Designs immediately in order to be in compliance with SAP guidelines. We will provide a quote to add the now-required Crystal Reports Runtime Connectivity License to your system. **Please note:** Upgrading your ClearSCADA version to ClearSCADA 2015 R2 prior to purchasing a Crystal Reports Runtime Connectivity License will cause

the connected Crystal Reports software to cease functioning.

Schneider Electric has issued an official statement on this change, which we have posted to the Sage Designs website and have made accessible through the QR code included here. If you have any questions about this change, please contact Schneider Electric or your local Sage Designs representative.

Thank you for choosing ClearSCADA!



Scan here for full product release notes



## Sage Designs is HIRING!

*Do you know someone who's looking for a change? Who works well independently and is driven to succeed in building and improving customer relationships?*

Sage Designs is looking for a new outside sales engineer to better serve our Fresno/Central California region customers. The right candidate will be able to understand and explain the operations of SCADA equipment and enjoy working with our customers in the agriculture and water industries to find the best solutions to their challenges. If you can help us find the right candidate, a \$400 referral bonus will be paid upon hiring!

Please send resumes and cover letters to:  
[david@scadawise.com](mailto:david@scadawise.com)

**Security Enhancements**

To better serve users of industrial software who are required to protect the integrity of their application, ClearSCADA 2015 R2 focuses on:

- **Connect To A Fully Sync Server:** Clients can configure if they are connecting to a synchronizing standby server
- **Secure Email:** Secure Password Authentication for SMTP and

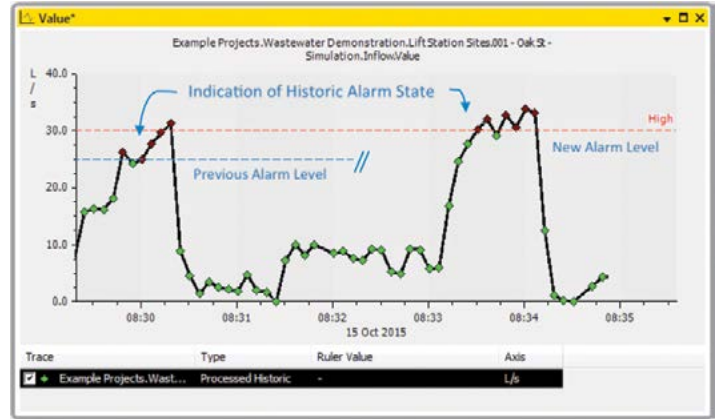
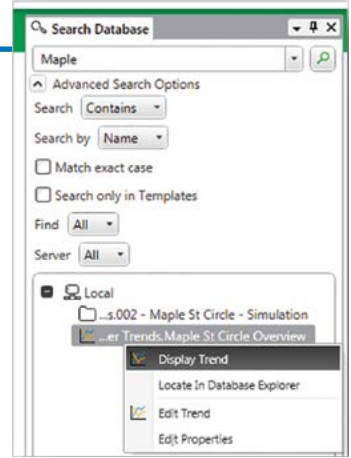
encryption for both SMTP and POP3 connections

- **Protection of Registry Passwords:** ClearSCADA System Account Credentials now can only be unencrypted by the server by which they were originally encrypted.

As of this version upgrade, we are now happy to be able to offer Test and Development Keys for ClearSCADA. Customers have the ability to select

50K, 250K, 500K, or 900K data points as required to suit their capacity requirements. Each key will be valid for one year and will contain two floating ViewX and WebX for remote access, as well as all standard commercially available options and latest version support.

Also changing in this release is ClearSCADA licensing for Crystal Reports connectivity, please see the notification article elsewhere in this issue for more details.



# Pill SCADAwise BOX

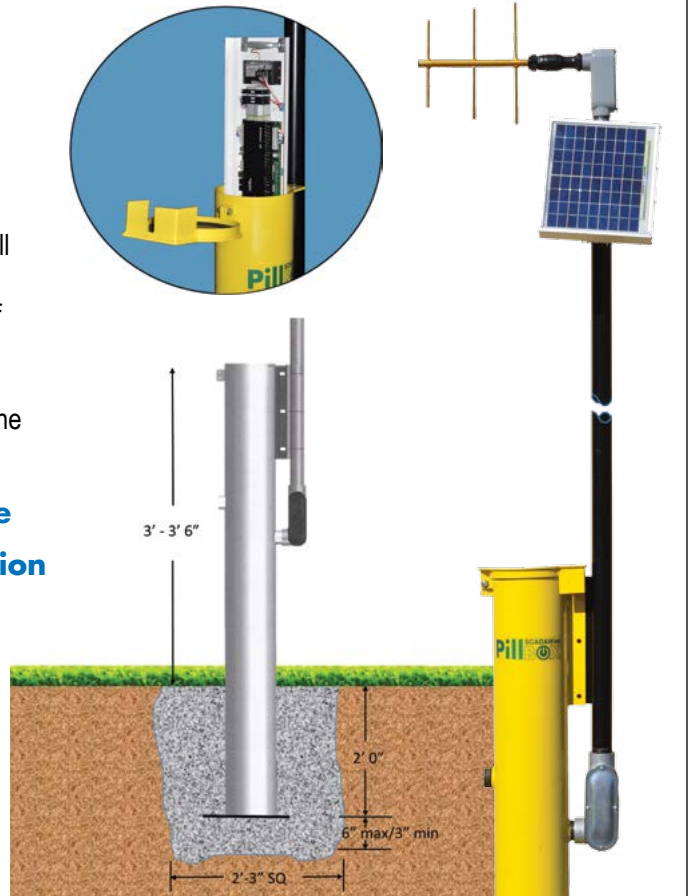
The Pillbox™ is a self-contained housing for field installation of electronics packages that need protection from the elements as well as unwelcomed attention. Inside, there is up to 3 sq. ft. of panel space with 3' of mounting DIN rail for mounting equipment and 3' of wiring Panduit. The equipment panel slides in behind the retainer system which allows for easy removal of all mounted components. The bottom of the retainer system includes a battery tray allowing the removal and service of the batteries without tools for disassembly.

- ✓ Easy to Install
- ✓ Low Maintenance
- ✓ Tamper-resistant
- ✓ Engineered Solution

For more information contact:

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# The Sage Advisor

## SCADA, SECURITY & AUTOMATION NEWSLETTER

### Calendar of Events

- |                       |  |   |
|-----------------------|--|---|
| April 27-28, 2016     | <b>CWEA Annual Conference</b> , Santa Clara, CA                        |   |
| May 2-4, 2016         | <b>Telepace Studio Ladder Logic Training Course*</b> , Mill Valley, CA |  |
| May 9-12, 2016        | <b>ClearSCADA Level 1 Training Course*</b> , Mill Valley, CA           |  |
| May 17-19, 2016       | <b>USCID 2016 Annual Conference</b> , San Diego, CA                    |   |
| August 10, 2016       | <b>CA-NV/AWWA Water Education Seminar</b> , Orange, CA                 |   |
| August, 2016          | <b>Wine Country Water Works</b> , Rohnert Park, CA                     |   |
| September 12-14, 2016 | <b>Telepace Studio Ladder Logic Training Course*</b> , Mill Valley, CA |  |
| September 20-22, 2016 | <b>Tri-State Seminar on the River</b> , Las Vegas, NV                  |   |
| September 26-29, 2016 | <b>ClearSCADA Level 1 Training Course*</b> , Mill Valley, CA           |  |
| October 24-27, 2016   | <b>CA-NV AWWA Fall Conference</b> , San Diego, CA                      |   |

\*Download the registration form from our website or call for more information.

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**SCADA & Security Products**



**SCADA**

- ClearSCADA Enterprise Software
- SCADAPack RTU/PLC Controllers
- FlowStation Pump Controllers
- Pillbox Ruggedized SCADA Enclosures
- WIN-911 Alarm Notification Software
- ScadaDroid Alarm Dialer



**WIRELESS**

- Accutech Wireless Instrumentation
- Trio Spread Spectrum & Licensed Radios
- Teledesign Systems VHF & UHF Licensed
- FreeWave Spread Spectrum Serial & Ethernet



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