Foxboro Evo™ Process Automation System

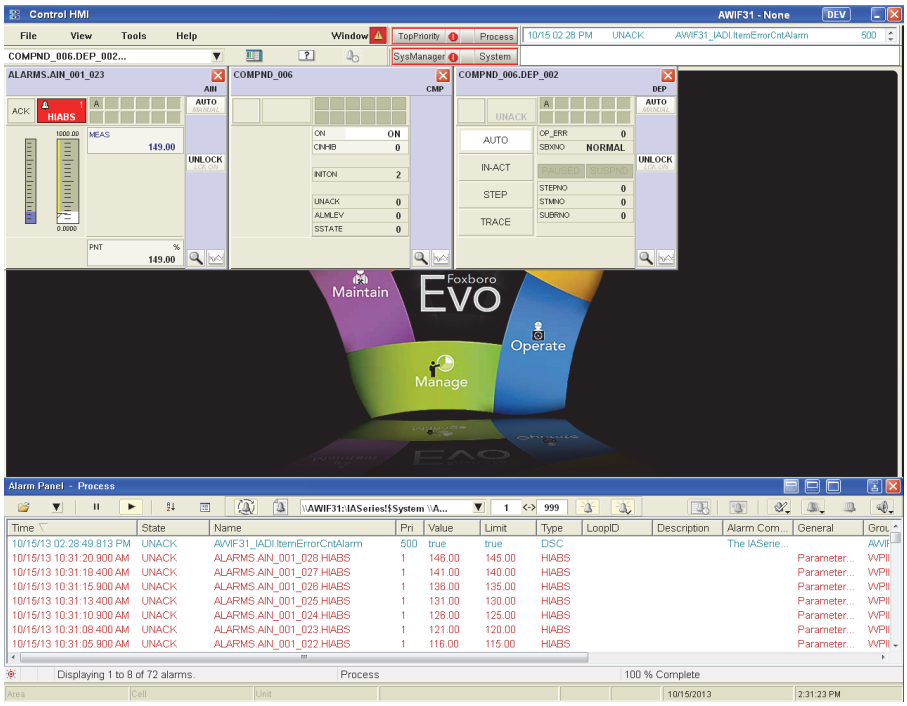
Product Specifications

Foxboro®

by Schneider Electric

PSS 31S-10B2 B3

Control HMI Application



The Foxboro Evo™ Control HMI (hereinafter referred to as the Control HMI) is the primary graphical human interface for use by process plant personnel in monitoring and controlling industrial processes.

FEATURES

This comprehensive visualization software subsystem provides:

- Intuitive, easy to navigate display hierarchy
- Foxboro Evo Control Core Services (hereinafter referred to as the Control Core Services) block faceplate overlays
- Process and system alarm summaries
- Real-time and historical trending
- Role-based security options
- Powerful scripting language.

NAVIGATION HIERARCHY

The Control HMI offers a hierarchical navigation feature to organize graphical displays into logical plant-oriented groupings. With the Framer application, users define up to a four-level display hierarchy in a hierarchical organization that reflects the desired process plant structure.

Horizontal or vertical navigation windows can be used to view the window hierarchy to quickly select a display at any level.

The hierarchy supports up to twelve entries per level which allow the user to traverse it using the standard keyboard function keys.

Process alarm indications are shown at each level rapidly guiding the operator to any point in alarm.

The Control HMI supports alerting operators of alarms within the HMI, and through external devices such as annunciator panels and GCIO horns.

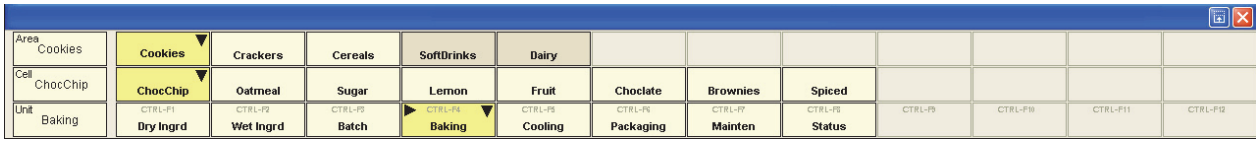


Figure 1. Navigation Display Hierarchy

FACEPLATES AND FACEPLATE OVERLAYS

Control blocks are represented as faceplates that may be inserted into process graphics or used in a group of up to eight faceplate overlays. These provide real-time text and graphical information on all I/O and control blocks. Extensions to the faceplates are faceplate overlays which provide more detailed information about each faceplate. Faceplate overlays are composed of multiple overlays, including alarm views, tuning views, configuration views and real-time trend views.

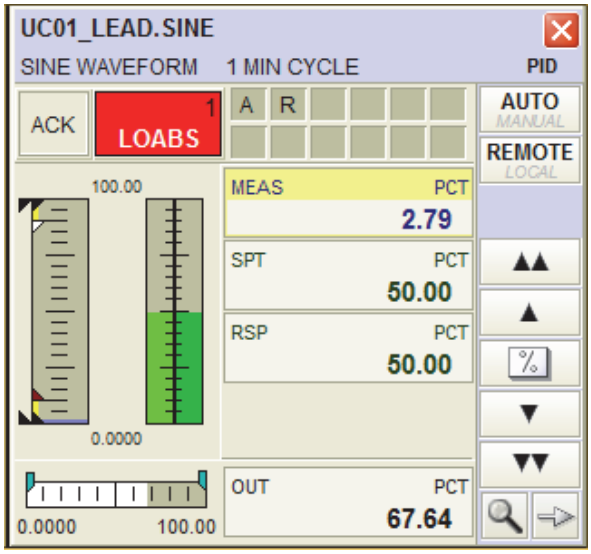


Figure 2. Faceplate Overlay

CONTROL SITUATIONAL AWARENESS SYMBOL SET

The Control HMI includes a set of symbols that support the situational awareness philosophy of subdued shading for all non-alarmed content on the

process graphic. It uses color only when alerting an operator of a situation that may require his or her attention. The Control HMI also includes a wide range of situationally aware symbols, such as instrumentation, equipment, input, and status symbols.

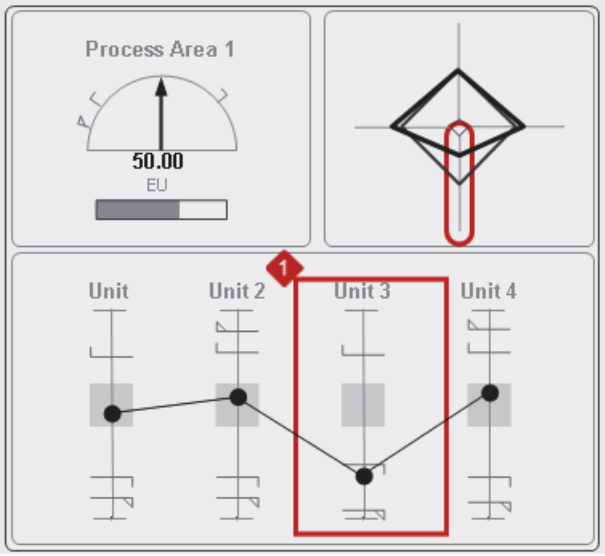


Figure 3. Examples of Situational Awareness Symbols

ALARM WINDOW

The Alarm Window displays alarms in a scrollable window. It can be adjusted to three sizes within the HMI. The user can filter for certain types of alarms, such as unacknowledged alarms, Priority 1 alarms only, all alarms, and so forth, using alarm queries. Users can switch to any configured query to change filters on the fly.

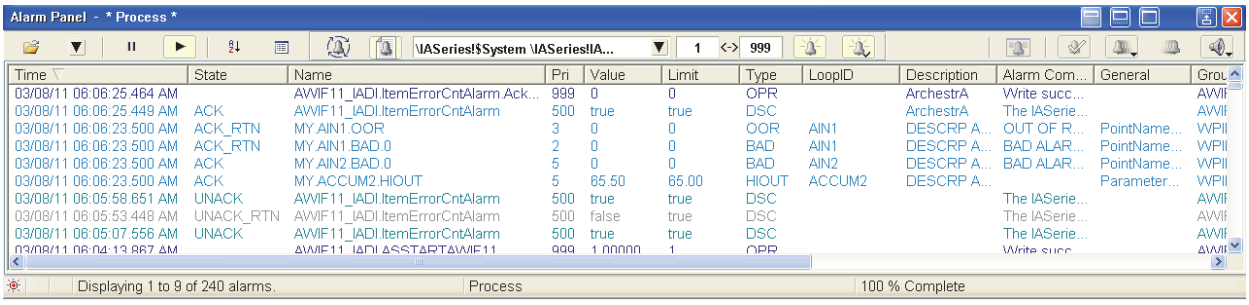


Figure 4. Alarm Window

REAL TIME AND HISTORICAL TRENDING

A powerful data trending capability is available that delivers trends that include analog or discrete event data to notify plant personnel of process changes. Users may enter specific or relative time periods to view data to compare data from different time periods. Other useful features include:

- Scaling by tag or entire trend
- Annotations with user and time entries
- Statistics such as average, min/max
- Zoom In/Out to analyze trend details.

Scratchpad trends are available for historical trending, as shown in Figure 5. Users may save current trend tags and settings for later review. A Real Time trend window is associated with each faceplate overlay for viewing Foxboro Evo block data in real time.

Up to 16 tags may be selected for each real time trend window.

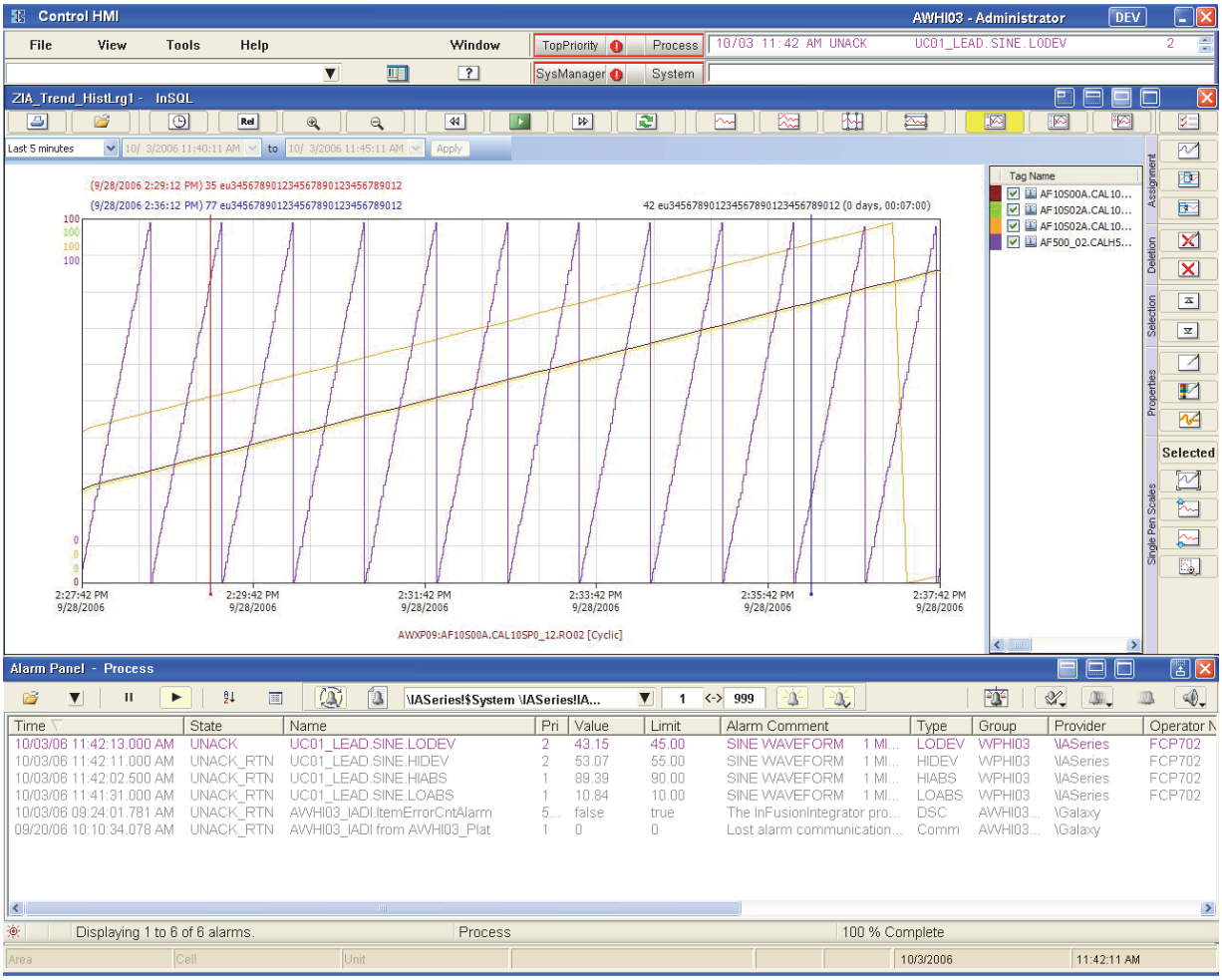


Figure 5. Trend Display

BLOCK SELECT BROWSER

The Block Select Browser is a graphical interface that presents a view of the control schema in the monitored controllers. This interface allows users to access hierarchical views from controllers to compounds and control blocks, as well as access to faceplate overlays in order to perform control actions, such as ramping a variable and auto/manual switching.

This browser also supports report configurations which can generate a screen or printed report listing compounds or control blocks that are in an exception condition such as:

- Compounds or blocks off scan
- Compounds or blocks in alarm
- Compounds or blocks with alarms inhibited
- Blocks not on control
- Blocks in manual mode
- Blocks with Bad I/O.

Reports may be filtered in a variety of combinations through an easy-to-use graphical configurator.

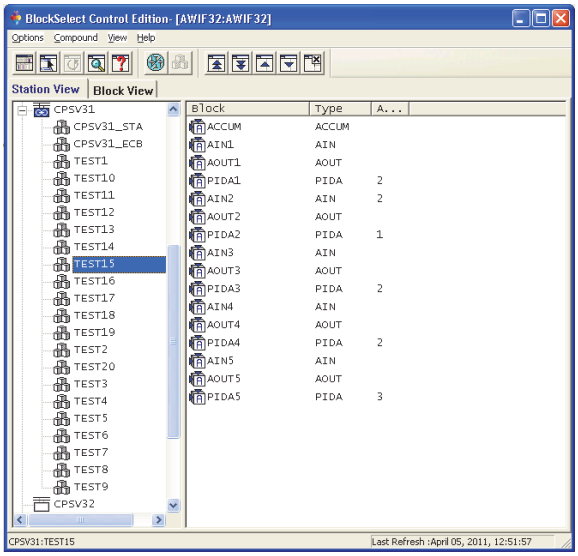


Figure 6. Block Select Browser

ROLE-BASED SECURITY

The Control HMI utilizes a role-based model that provides write access security down to a parameter level. This three level model consists of the following:

- Users are associated with specific roles
- Roles are associated with specific security groups
- Security groups are associated with write access at the control block level.

Created at control configuration time using the Control Editors, role-based security allows the administrator to create flexible configurations that allow a user's runtime permissions to vary from object-to-object, action-to-action and process-to-process.

QUICKSCRIPT EDITOR

A QuickScript Editor is available to allow users to customize display applications to meet specific needs. Scripts can be configured to execute based on a range of parameters, such as process conditions, application events, keyboard stokes, etc.

The QuickScript environment supports QuickFunctions, which allow a user to develop a library of scripts that can be re-used, thus shortening the time required to develop the application engineering tasks.

Also provided are selections of common expressions and structures, such as greater than, less than, if-then-else, along with advanced functions that include math, string conversion and others. A built-in validation engine allows the user to validate scripts before deploying them, preventing runtime errors and decreasing application development time.

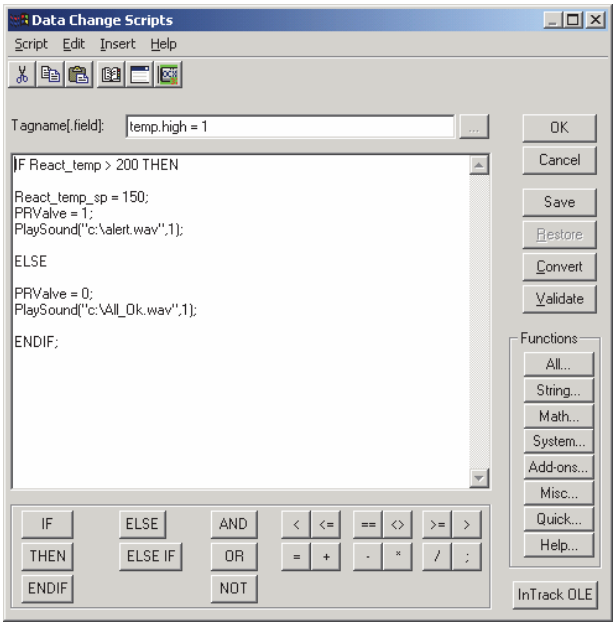


Figure 7. QuickScript Editor

OTHER FEATURES

Terminal Services and Remote Desktop Services

Using Microsoft Remote Desktop Services (for stations with Windows 7 and Windows Server 2008 R2 Standard) or Microsoft Terminal Services (for stations with Windows XP and Windows Server 2003), the Control HMI provides users with the following benefits:

- Reduced tasks via centralized Software Administration and Management
- Use of a range of devices such as thin client terminals, etc.
- Wireless platforms for mobile operations
- Network load balancing using multiple servers.

SPECIFICATIONS

The Control HMI is designed to run on a Control Core Services workstation running the Windows® 7, Windows Server® 2008 R2 Standard, Windows Server® 2003 or Windows XP® operating system.

It is designed to operate with I/A Series software v8.8 or Control Core Services v9.0 or later. The Control HMI must be displayed at 1280x1024 or 1920x1080 resolution when accessed on any workstation locally or remotely.

Foxboro®

by Schneider Electric

Invensys Systems, Inc
10900 Equity Drive
Houston, TX 77041
United States of America
http://www.invensys.com

Global Customer Support
Inside U.S.: 1-866-746-6477
Outside U.S.: 1-508-549-2424
Website:
https://support.ips.invensys.com

MB 031 0714