СИСТЕМЫ УПРАВЛЕНИЯ

Руководство пользователя

на Experion HS SCADA

The Power of Experion for Any Operation

Honeywell's Experion HS SCADA solution gives operators the tools they need to monitor and control the plant environment in real-time for faster responses, safer operations and a more productive process. Built on the proven Experion platform, it is reliable, flexible, easy to use and scalable for any plant with 50 to 16,050 points.

Meeting Your Needs

Experion HS addresses the complex needs of modern industrial environments: integrating a wide range of DCS, RTUs and PLCs; incorporating geographically dispersed applications; and ensuring security and regulatory compliance.

Powerful and intuitive, it helps plant managers, plant maintenance engineers, process engineers and operators get the most from their operation.

The Right Answer for Your Application

Easy to configure, simple to expand, stable and secure, Experion HS is used by small- to medium-sized plants in a wide range of industries. For oil & gas, mining, metals & minerals, chemicals, life sciences, power, cement, glass, and food & beverages industries, it accommodates a wide range of applications:

- Environmental chambers
- Dryers, autoclaves and freeze dryers
- Galvanizing plants, heat treatment furnaces and kilns
- Pharmaceutical ovens and fermenters
- Cement plants
- Polystirol plants
- Calcined clay plants
- Catalyst pilot plants
- Steam plants
- Extrusion units
- Food & beverage manufacturing units
- Turbine monitoring.

For every application, Experion HS delivers information where it is needed to boost operator effectiveness, improve management of critical processes and equipment, and promote faster, more accurate engineering and maintenance.

Boost Your Efficiency, Protect Your Plant

Experion HS R430 provides consistent information across the plant to improve productivity, reduce training costs, boost safety and minimize unplanned downtime:

- Easily access information across the plant and, with distributed system architecture (DSA), read and write to up to five other DSA systems (only with other HS, PC/LX systems)
- Protect the plant with the advanced alarm and event management subsystem, and share Experion alarm and event data to OPC clients
- "Pan and zoom" in operator displays for more efficient navigation, particularly through geographically dispersed equipment
- Connect with a wide range of interfaces and support for the IEC 61850 protocol.

With built-in system displays, configurable reports, an onboard historian and out-of-the-box functionality, Experion HS is a more efficient route to operational excellence.

Experion HS for High Value

RELIABLE
High-Performance, Stable and Secure

- Entry-level HMI and SCADA but with Experion's proven performance
- Use with ruggedized computers in any environment
- Fully redundant server option for highest availability
- Electronic signatures with 21 CFR Part 11 guideline traceability
- History backfill from HC900 controllers.

FLEXIBLE
For a Wide Range of Applications

- For a single system or multi-site system when integrated with Experion PKS
- Out-of-the-box functionality—configure rather than build
- Use a single computer as server and client station if required
- Deploy Experion stations on thin clients with virtualization.

EFFICIENT
Better Operator Effectiveness and Higher Profitability

- Plant-wide access to consistent information
- Easy-to-use HMI to reduce training
- Tabbed displays allow quick switching between displays
- Property grid for easy access to relevant information
- Drag-and-drop trend configuration
- Experion history data across every Experion Station.

SCALABLE
Growing With You

- Standard 50-point database expands to 16,050 points, supporting 15 Flex Stations
- Integrate third-party devices using OPC client and server interfaces
- Support "Composite Tags" with a single tag storing multiple parameters.

EASY TO USE
Efficient Implementation

- Quick and easy to configure and use
- Intuitive alarm management minimizes process interruptions
- Built-in reporting functions to document or analyze process and system events
- Easy-to-use scripting and recipe management reduces engineering.

Key Capabilities

Quick Configuration

Experion HS offers a powerful client/server system out of the box. Users simply configure the platform, and operations begin soon after point and hardware configuration.

Equipment templates for not just SCADA points but the entire SCADA configuration, including the operator HMI, radically simplifies configuration. Operators benefit from a superior experience, managing thousands of assets using standard templates that are pre-built and can be replicated with ease.

Expandable up to 16,050 points and with support for up to 15 Flex Stations, points have a composite data structure. This represents several field values in a single point (up to nine for an analog loop), multiplying the number of SCADA points supported, and allowing Experion HS to grow with your operation.

Connecting the Operation

Experion HS R430 connects users to consistent real-time information across the plant:

- With DSA, users can publish and subscribe to PC/LX and other HS systems (R430 or above); subscribe to lower releases of Experion HS; and publish to Experion PKS

- Secure, browser-based access to Experion information for remote users can be achieved using the licensed eserver software. The control environment is fully protected by focusing casual users towards a single access point and isolating process control from the business network.

- IEC 61850 protocol support for energy and utilities users allows real-time communication between telecontrol equipment and systems in geographically dispersed processes.

Easy-to-Use Displays

The Experion HS HMI enables operators to work faster and more productively thanks to tabbed displays, and the property grid, which gives fast access to the information they need. "Pan and zoom" displays with R430 also mean even faster navigation for geographically dispersed equipment such as on pipelines:

- HMIWeb process schematic types can be panned and zoomed with an intuitive interface, using the mouse drag and wheel and touch gestures on suitable devices to build larger process schematics

- A "bird's eye" thumbnail provides rapid navigation around the large, pannable display surface and provides situational awareness via alarm indicators for equipment both in and out of view

- "Hyperzoom" display association—hyperlinks for a defined clickable area—rapidly call up another display, panned and zoomed to a predetermined area.

With standard group displays, users can also configure panel board-like displays. Each group contains up to eight points using standard faceplates for analog and digital status points.

Powerful Trending

Boosting situational awareness to keep the process within desired limits, trends can be preconfigured or configured online. Users simply browse the database and select the desired point and parameter, with up to 32 pens per trend display.

Users benefit from drag and drop trend configuration and copy and paste capability to add points or parameter into trends for faster, deeper insights.

Proven and Reliable SCADA

Built-in Reporting

Built-in reporting functions help document and analyze process and system events. A free format report writer is included as well as a range of standard reports: Alarm/Event Report; Alarm Duration Report; Integrated Excel Report; Point Attribute Report; and Point Cross-Reference.

Integrated reporting of batches or lots of a production process run (typically thermal in nature) can also be compiled and archived automatically.

Integrated Alarm and Event Management

With dynamic alarm suppression, dynamic alarm shelving and alarm tracker to quickly identify and deal with alarm floods, Experion HS R430 takes safety and productivity to new levels.

Alarm management and analysis draws on ASM Consortium expertise and research for a powerful solution to improve operators' handling of process upsets and minimize interruptions. With OPC Alarm & Event Server, users can share Experion Alarm & Event data to OPC clients throughout the operation.

Everything You Need

Experion HS includes the functionality and options needed for any operation:

- **Built-in Experion Historian:** Historical data storage limited only by storage media size and available for use with Experion stations for trend displays, reports, custom displays, applications, spreadsheets and ODBC-compliant databases

- **Full Virtualization** support to enable Experion Stations to be deployed on thin clients for faster deployment of multi-node systems, and excellent remote troubleshooting support

- **Electronic Signatures** for requirements of the pharmaceutical industry and other U.S. Food and Drug Administration (FDA) regulated industries, including compliance with 21 CFR Part 11 guidelines

- **Recipe Management** with recipes up to 30 items that can be chained together to form even larger recipes if required

- **Gas Operations Suite:** Five powerful modules included for gas operations for server-based flow compensation calculations; gas quality calculations; linepack; compressor maps; and basic leak detection.

Systems, Installation and MS Software

HS R430 supports Windows 7* Professional Edition (64-bit) English version Operating System for Experion servers and clients. Windows 7 SP1 is mandatory for the 64-bit OS support both for the Server and the Flex Station. Microsoft Office* 2013 (32-bit) and MS SQL Server 2008R2 are also supported.

Users can install HS R430 in the location they prefer. (Custom Install Path is not supported with MasterLogic Server.)

Redundancy

R410 provides support for non-redundant to redundant server conversion, subject to conditions: the user must have a valid redundant server license; the hardware and software configuration must be the same for the redundant pair; and the non-redundant server name must be used as the base name for the redundant pair.

Scripting

VBScript scripting language is used extensively throughout the supervisory system. Users can create a script that will run when a display is active and attach scripts to server objects such as point parameters, alarm events, report completion and other events.

Support

Experion HS supports a range of other options and set-ups to adapt to fit your operation:

- Integrated keyboard (IKB) and operator entry panel (OEP) keyboard support
- Support for a stand-alone Redirection Manager (RDM) for high availability and reliability of OPC client connections to OPC servers
- MasterLogic Server includes support for DISOE, 8050 PLC points, and for 64-bit OS platforms.
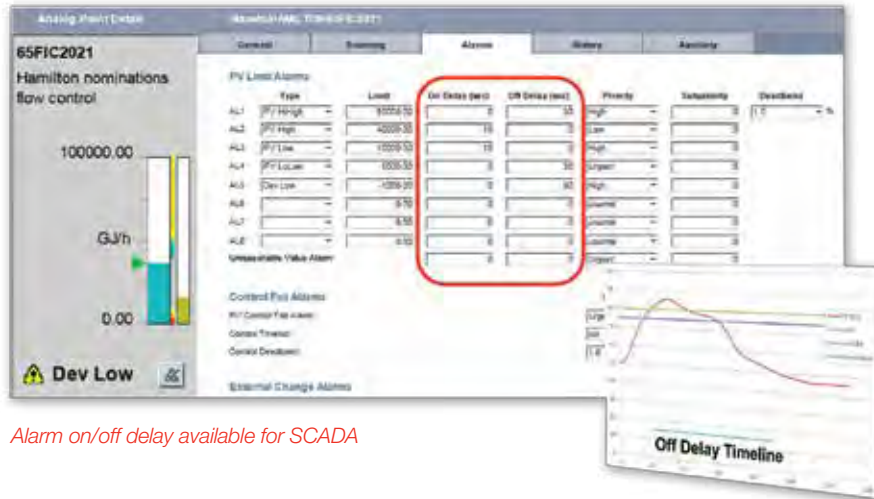
Connect and Integrate with History Backfill

All HC900 and other Honeywell Process Solutions' field products are seamlessly integrated with the HC900 controller set point programmer and recipe/profile management using the Honeywell Universal Modbus driver. A programmer trend display and a tabular segment display allow easy program supervision by operators.
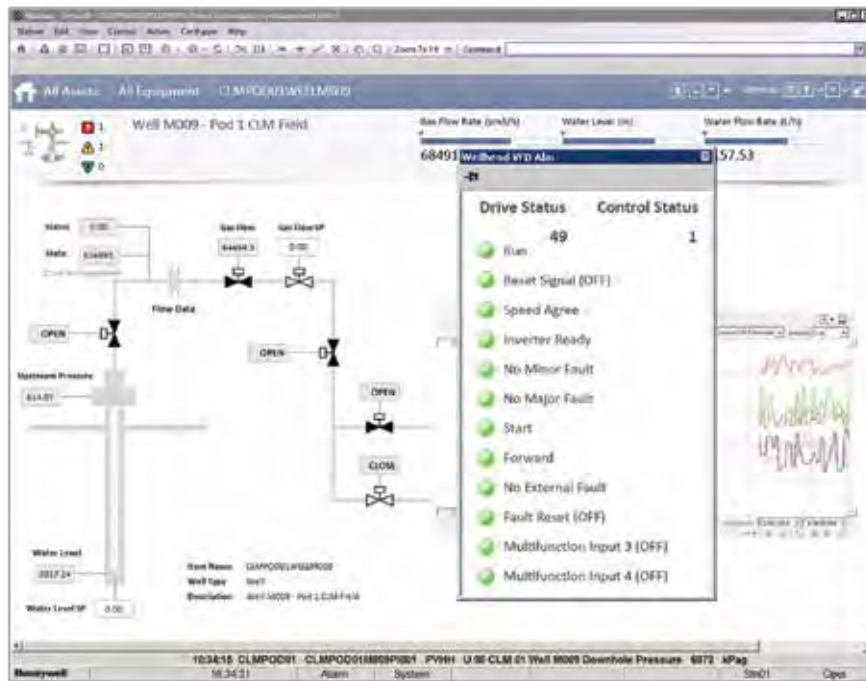
Used with HC900 controllers, the HS History Backfill function can upload historical data after an outage, meeting the data protection and compliance requirements of the pharmaceutical industry and other users. The controller collects essential plant history information and HS uses this to upload in cases where Experion history information is not collected.

Experion HS also seamlessly integrates, configures and exchanges data with a range of dedicated controllers for safety instrumented systems (SIS), programmable logic controllers (PLC) and process control.

- **SIS and Safety Manager:** Honeywell Safety Manager and Fail Safe Controller (FSC) interface centralize process safety information and data for fire & gas, emergency shutdown and burner management applications
- **PLC and MasterLogic 200/200R Integration** brings engineering savings with integrated system diagnostics and clock synchronization with the MasterLogic controller. Integration of Allen Bradley PLCs as well supports a wide range of applications.
- **OPC and Open Standards:** OPC data access server for up to three client connections included; OPC client interface; OPC display data client; and OPC HDA server for up to three client connections. Experion HS supports Modbus (RTU & TCP), DNP3, and IEC870 protocols.

Alarm on/off delay available for SCADA

Dynamic scanning with flexible communication to make the best use of available bandwidth

Honeywell: A Partner You Can Trust

Honeywell Process Solutions (HPS) helps industrial customers around the world operate safe, reliable, efficient, sustainable and more profitable facilities. From the plant floor to the board room, we offer leading technologies and comprehensive lifecycle services for more productive and stable operations.

With more than 40 years' experience and 12,000 employees around the world, HPS has the global expertise and breadth of resources to execute projects of every size and complexity in the oil and gas, refining, pulp and paper, industrial power generation, chemicals and petrochemicals, biofuels, life sciences, and metals, minerals and mining industries.

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