

SCADA and Station HMI

Overview

HMI 500 is a fully featured SCADA/HMI platform for utility or industrial applications providing a concise and intuitive process view for operational purposes, operations management as well as data analysis. HMI 500 introduces a single user interface environment across all SCADA/HMI client platforms from smart phones, tablets and panel PCs, through web clients to desktop-based multi-monitor workstations.

HMI 500 supports alarms and events, data historian as well as multi-client user interface, featuring advanced 2D vector graphics, tagging and pinning, trending and data/alarm lists.

The server components are hosted within any UC 500 family server, featuring scalable database and modular software to support multiple deployment options. The core UC 500 components also provide multi-protocol and multi-channel communication options as well as IEC 61131-3 server-side programming.

With the HMI 500 software solution the user is free to create and deploy enhanced SCADA/HMI visualization and data processing applications using well-known configuration and programming methods. Moreover, HMI 500 solutions are fully setup and managed with the easy to use Efacec Automation Studio integrated engineering environment.



Product Availability Options

<p>UC 500 Server Software</p>	<p>SCADA/HMI server software for standard Windows operating systems*.</p>
<p>UC 500E UC 500H Embedded Station Server</p>	<p>SCADA/HMI server pre-installed in an industrial grade fanless hardware platform.</p>
<p>HMI 500 TOUCH Console</p>	<p>Integrated HMI solution in touch-enabled panel PC.</p>

* Please contact Efacec for pre-installed standard hardware solutions.

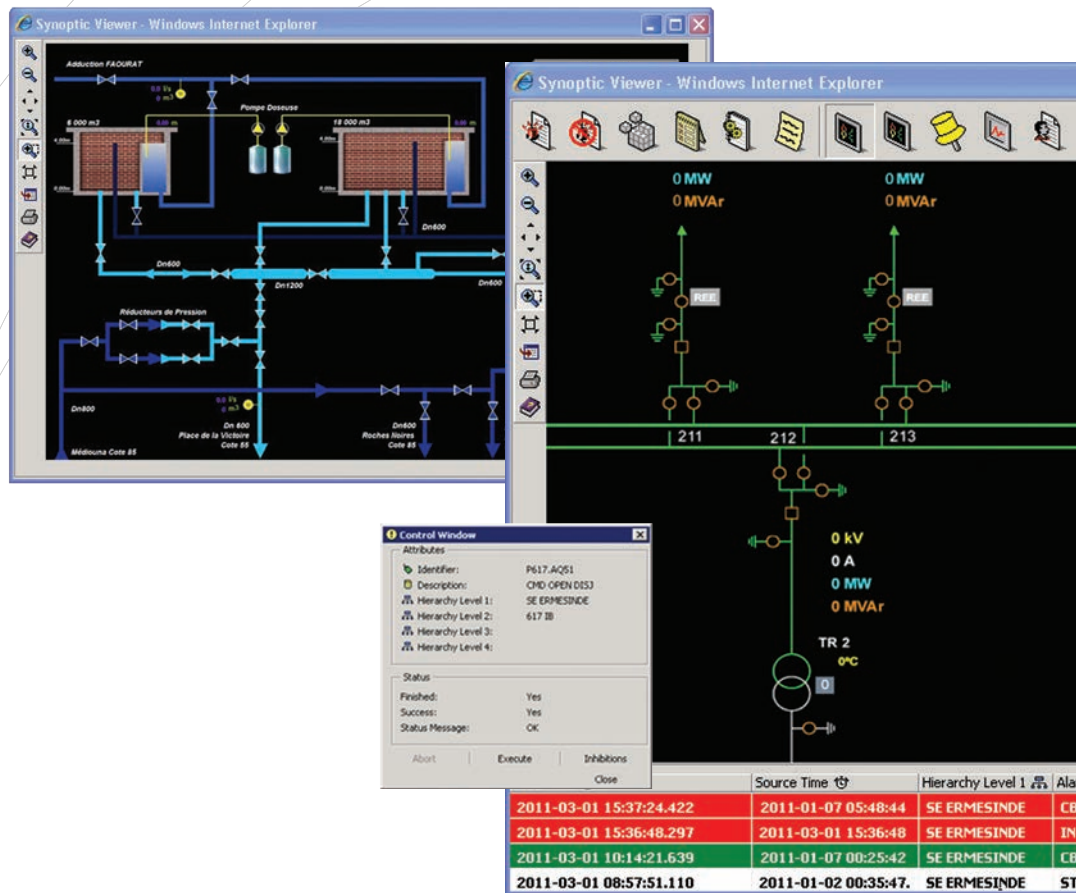
Key Features

- Advanced 2D Vector Graphics Mimic Displays
- Real-time and Historic Trends and Data Lists
- Alarm Management
- Tagging and Pinning
- Reports and Notifications
- IEC 61131-3 Server Programming
- Multiple Server Options Including Redundancy
- Role-based Access Control
- Multiple Real-time Communication Options Based on Open Standards
- User-defined Symbol Libraries

Customer Benefits

- Feature-rich State-of-the-art HMI
- Hassle-free Client Deployment
- Single UI Environment for all Computing Platforms
- Open and User-friendly
- Multiple Server Options
- Highly Adaptable to Users' Requirements
- Object and Template-based Database and HMI Configuration





Multi-user Workspaces

The HMI 500 client-side user interface features multi-window layouts fully customizable by each user. User-options are stored between sessions to enable each user to maintain his working environment. An integrated messaging service is also available to allow user-to-user communication.

Advanced Mimic Displays

Mimic displays can be setup with full blown 2D vector graphics including zoom and decluttering, gradients and transparencies and high-performance data driven animations ranging from multi-states, style changes or 2D transforms that allow the designer to meet the most demanding interactivity requirements.

The use of symbol libraries and powerful user-defined compound symbols with automatic data mapping rulesets allows error free and cost-effective design of the user interface.

Data and Event Displays

A database centered history recording function which includes event data and periodic/statistical data logging with 1ms time-stamping is provided. Stored data can be displayed in filterable and ordered data list screens or extracted for analysis in external tools.

Secure Control Processing

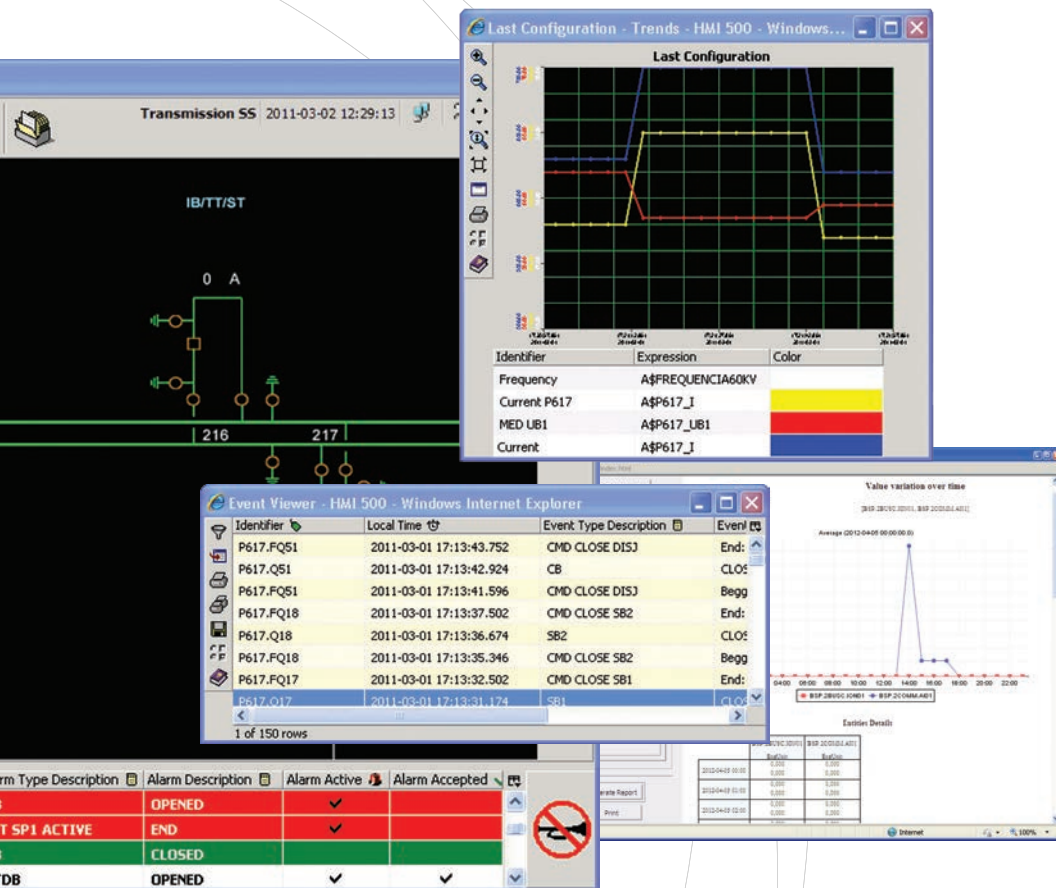
To ensure secure operation of critical equipment both direct and select-operate control execution are available, together with control blocking and final state checking. The control execution user interface allows the user to inspect the status of blocking conditions during execution or before initiation. User interlocking options are also provided to avoid misoperations in either single or simultaneous multi-user configurations.

Tagging and Pinning

To safely support maintenance or other specific system operating conditions the user may enforce data point values as well as inhibit alarms and controls by tagging equipment in the mimic displays or on the management console together with customized status messages. Pins and color schemes automatically display tagged status in all associated data lists or related mimic screens.

Trend Displays

Stored or on-line data can be displayed in multi-channel trends. Each trend display can be fully customized including data or calculated channels, color and axis. All trend definitions can be server-stored for easy access from multiple client stations.



Reports

A reports infrastructure is available, which, combined with the data historian, provides a powerful and highly flexible way to create reports with advanced data visualization, including tables and charts, including data processing features which can deal with large datasets. Reports are fully user-designed and include parameterization capabilities enabling the HMI user to specify report output according to simple input parameters such as values, dates or identifiers. Several output formats are available including HTML, Excel or PDF.

Access Control and System Security

Encryption and authentication is supported for any user access to the SCADA system. Moreover, user profiles are available to support role-based access control to responsibility areas, control level, administration, etc. User management is tightly integrated with operating system security to ensure a high level of system security as well as simplified user management.

Klaxon Support

Depending on active alarm condition and alarm priority level the computer or external klaxon will be automatically activated and disabled upon user request or by timeout.

Engineering

SCADA configuration and management is fully integrated in the easy-to-use Automation Studio toolset. This provides a unified and state-of-the-art engineering environment that includes database editors, 2D display editors and programming tools, validators, import/export tools together with productivity features like wizards, libraries, objects and templates, copy-paste and drag-and-drop, etc.

Alarm Handling

Alarms for discreet events, data levels or calculated conditions are displayed to the operator in both the extensive user-filterable alarm lists, the simplified alarms summary and the mimic screens, depending on whether deep analysis or quick condition awareness is required.

Multiple filtering and ordering options such as time-stamp or priority level are supported. Both alarm current status and user acknowledgment workflows are available individually for each triggering event and all alarm workflow history is database-stored for deferred operation analysis.

Example Applications

Deployment Overview


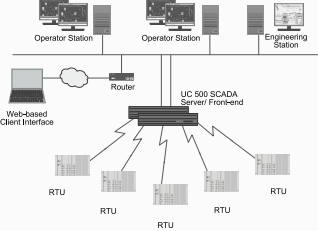

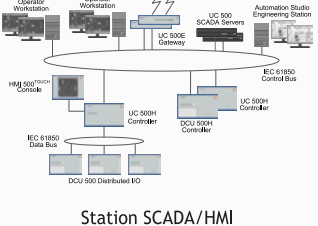

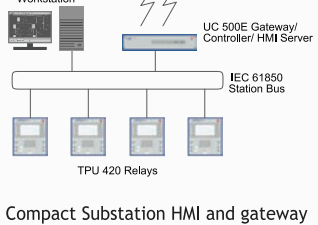
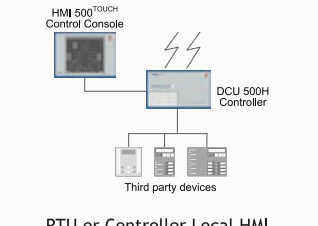
The HMI 500 is available pre-installed or as easy to install software that, together with the plug-and-play Automation Studio toolset, maximizes flexibility and productivity. All available software components can be enabled or disabled according to requirements.

Based on open web standards for user interface and secure communications, the HMI client software may run on different computing platforms and operating systems. No client-side installing is required for most applications which greatly simplifies system integration and maintenance.

Based on standard PC platforms running Windows operating systems, the user benefits from low platform and support costs as well as easy integration with corporate systems or third-party applications. Various hosting hardware options from standard PCs to embedded high-availability platforms and panel PCs are available.

Product Support

Based on the UC 500 field-proven server platform, HMI 500 is the matching HMI solution for future-proof automation. Efacec also provides support throughout the whole system life-cycle with training, product support, specific software development, engineering and maintenance services.

Hosting Platform	Example Application Description
	 <p>Small-scale wide-area SCADA</p>
	 <p>Station SCADA/HMI</p>
	 <p>Compact Substation HMI and gateway</p>
	 <p>RTU or Controller Local HMI</p>

Feature Summary*	
Client Components	
Data Points, Control Points and Set-points	●
Multi-window Layouts	●
2D Scalable Vector Graphics Mimic Displays	●
Alarms Summary and Lists	●
Alarm Inhibition and Klaxon Management	●
Historic and Real-time Data and Event Lists	●
Historic and Real-time Trends	●
Tagging and Pinning	●
Display of Control Inhibition and Interlock Status	●
Data Point Update Blocking and Impose Value	●
Role-based Access Control and Responsibility Areas	●
User Management	●
Symbol Libraries	●
Object Libraries and Server Templates	○
Operating Systems and Platforms**	
Web-based clients on any computing platform (smart phones, tablets, mobile computers, workstations, etc.)	Any operating system with standard compliant web-browser (including SVG) such as, but not limited to Internet Explorer 6 and Firefox (or later)
Desktop-based Workstations	Windows XP or Windows 7
Server Components***	
Number of Simultaneous HMI 500 Clients	Up to 128
Data and Control Points	Up to 64k or larger
Alarms Management	●
Data Historian	●
IEC 61131-3 Programming	○
Communications	Multi-protocol multi-channel serial or IP communications including IED and OPC connectivity Up to 256 IED/RTUs Up to 64 serial ports
Clock Synchronization	NTP or other protocols
Watchdog and Self-monitoring	●
Server Redundancy	○
Automation Studio Connectivity	●
Remote Administration	●
Operating Systems	Windows XP, Windows XPe, Windows

● - Base feature | ○ - Optional feature

* For detailed features and further details please check UC 500 server product catalog



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View the product on our website.
Due to our policy of continuous development, specifications may change without notice. Not valid as a contractual item.



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