



SCADA-Mission Data Sheet

What is SCADA?

SCADA is an acronym for Supervisory Control And Data Acquisition, which is a computer system for gathering and analyzing real time data, and also instructing commands to the controllers. SCADA systems are widely used to monitor and control a plant or equipment in industries such as telecommunications, water and waste control, energy, oil and gas refining and transportation. The SCADA tasks are done by collecting and storing information from controllers, such as PLCs and RTUs, remotely and displaying it in a Human Machine Interface (HMI). This set of tasks are performed by the SCADA systems.

SCADA Mission

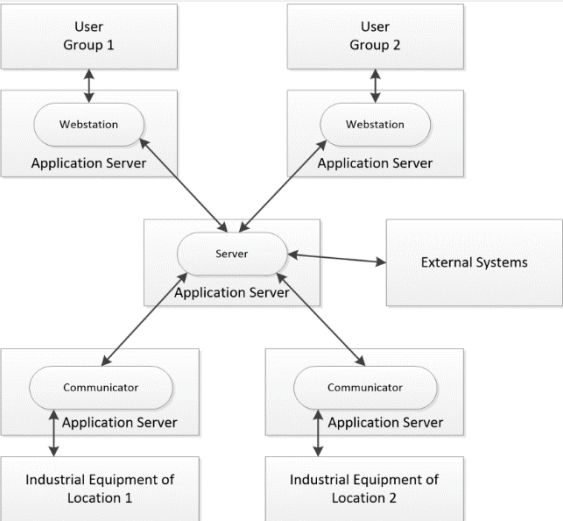
The use of SCADA in industries has a history of near 50 years, and different generations of this system have been produced and developed. The SCADA Mission is of the latest generation of SCADAs, which is a web-based SCADA. In this system, the SCADA server communicates with the controllers via the network. The information received from this tool is stored in the SCADA server database and is also displayed for the operator graphically in a web browser page.

SCADA Mission's main application is automation, monitoring and control of industries such as energy production, transmission and distribution. SCADA Mission is made of a huge set of software modules that have been developed by the engineers and experts of ida-ltd, which can be used in different industries. In SCADA systems, security, capabilities, support and development are of paramount importance. The SCADA Mission is a native product that provides all of these items at a high level of quality.

In this system, the operator can easily be notified of the status of each device and send the necessary commands to the controllers if needed. The operator can also set a warning limit for parameters of these devices, so that if the parameters and sensors reach to these limits, the relevant agents will be notified immediately.

SCADA Mission software structure

The architecture of SCADA Mission software is multi-layered and distributed. Applications can run on a single server or multiple computers across the network. Controllers can use communication channels of various types to connect to the system. The distributed architecture of SCADA Mission software is shown below.



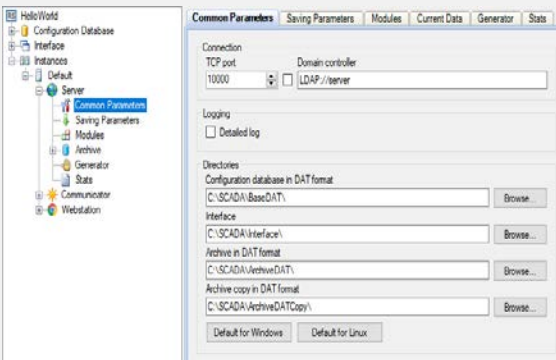
SCADA-Mission Data Sheet

SCADA Mission components

The SCADA Mission consists of several components, each one is developed for a unique task. The most important parts of this software are Server, Communicator, Webstation, Agent, Admin, and Schematic Editor. In the following, these components are briefly introduced.

Server Application

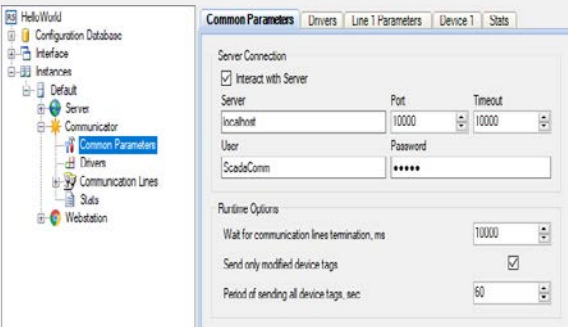
The SCADA Mission's server manages the data archive, performs mathematical calculations, and provides information to client applications. The server writes the data to the original archive and copies a backup at the same time. The server works as a service, meaning it has no user interface and works continuously in the background. A graphical user interface (GUI) for server configuration is provided in the Administrator program and is shown here.



The program monitors the user's connections and checks the user's access level when processing requests and passing commands. The information about the program mode and the performed actions is stored by text logs. The server is designed to run non-stop. The server is also expandable by using modules. Additional server modules allow server performance to be expanded according to customer needs.

Communicator Application

The communicator interacts with the controllers and transmits their data to the server program. Communication with controllers connected to a system is done in parallel in several lines (communication line). The communicator receives current data, archived data, and events from the controller and sends commands to the controllers. It also helps troubleshoot communication lines and devices.

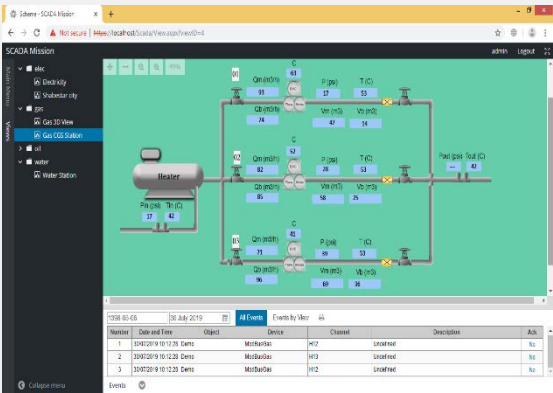


The communicator works like a service and it is designed to run non-stop. Program information, communication lines, and any connected device are stored in log files. A GUI has been created for the Communicator program settings in the Administrator program (above figure).

SCADA-Mission Data Sheet

Webstation Application

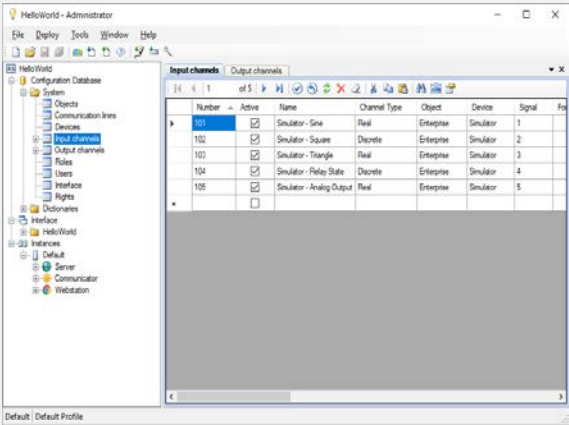
Webstation is a web application that provides information to a distributor through browsers in various forms (tables, schematics, charts, reports, etc.) and provides the operators with commands. Reports are generated in the typical HTML and Microsoft Excel formats.



The user is able to select a view (table or schema) and the date of access to the archive data. To display the input channel diagram, the user just have to click on a the related icon in a table or a suitable element in a layout. WebStation is available from any computer or tablet connected to the organization's network without the need to install special software. The access to the views and the controls is managed by the admin system, which determines the level of user access.

Administrator Application

The Administrator program (the figure below) is designed to develop SCADA Mission projects and monitor the status of the automated system. The Administrator also has an integrated database and settings editing development environment that provides the settings for the SCADA's main applications, server modules, and device drivers.

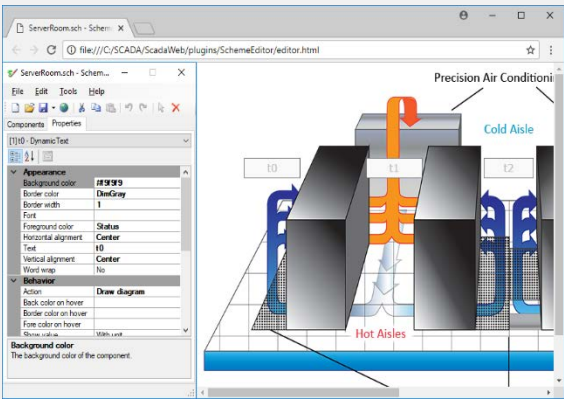


- The Administrator also has the following capabilities:
- Import and export tables of configuration database to exchange work between projects.
 - Automatic creation of input and output channels by Wizard.
 - Channel cloning feature that minimizes manual input.
- An admin project consists of a set of configuration files, mainly using the XML template. This approach makes it easy to copy projects from one computer to another.

SCADA-Mission Data Sheet

Scheme Editor

The schema editor is designed to create schematics that are displayed at the operator's workstation. The design editor is used by engineers during SCADA Mission settings and configurations.



A 'schematic' consists of textual and graphical elements which define a set of characteristics by their appearance and behavior. In a schematic, static elements represent immutable content. In addition, dynamic elements are also attached to configuration database channels that allow them to display current measured values and modes, draw graphs, and send commands with the user's click.

Agent Application

The Agent applications transfers the settings between the Administrator program and other components of SCADA Mission such as Server, Communicator, and Webstation. In addition, the Agent provides the report files for display in the Administrator. The agent runs as a service. The agent communicates with the Administrator via TCP. Therefore, it is possible to install Administrator on the same operating computer or other computer that is accessible through the network.

SCADA-Mission Data Sheet

Supported Protocols

- Modbus
- GSM
- SMTP
- OPC
- MQTT
- DNP3
- SNMP

Security

- Data encryption
- SSL security protocol
- Reports on breaches of access
- Register and track transactions
- Security certificate
- Access based on organizational duty
- Firewall support

Compatibility

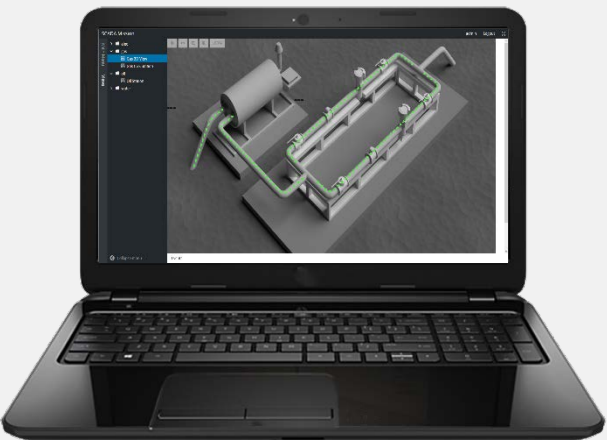
- | | |
|---|--|
| <ul style="list-style-type: none">• OS• Web Browser• Port• Export Format• Database• Comm. method with other soft.• Comm. with dispatching soft. | <ul style="list-style-type: none">Windows, Linux, MacIE, Chrome, Firefox, Opera, EdgeSerial, TCP, UDPExcel, PDF, PNGOracle, SQL Server, MySQL, Post rage, Ado dBWeb serviceGIS, PM |
|---|--|

Application and Usage

- Industrial automation systems
- Home automation systems
- Energy accounting system
- Security and fire alarm systems
- Access control systems

Capabilities

- Stability and reliability
- Monitoring in web browsers
- Sending automatic and secure commands
- Unlimited number of tags
- Writing formula for channels
- Stability on non-basic modifications
- ICCP comm. with control centers
- Realtime database
- Dynamic map coloring
- Automatic backups
- Expandability due to modular structure
- Gregorian and Shamsi calendar
- Available extra modules
- Compatible with AutoCAD formats





زنجان، بلوار پرفسور ثبوتی، پارک علم و فناوری تحصیلات تکمیلی علوم زنجان، طبقه اول، واحد ۱۰۷

۰۲۴۳۳۱۵۴۳۱۵



info@ida-ltd.com



www.ida-ltd.com

