WinMon®

Graphical User Interface Software

ENERGYLINE
An S&C Company

FLEXIBLE INTELLIGENT AUTOMATION

A Powerful Tool for Managing Controls on Your Distribution System

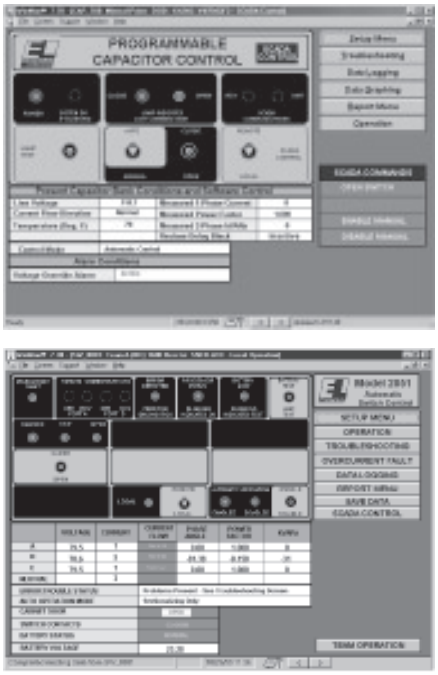
One of the key challenges utilities face when trying to implement feeder automation is how to monitor and control smart devices beyond the substation fence. Traditional SCADA probably isn't the answer – especially if your system has hundreds of devices. So how can you make best use of the data collected by IEDs when you have fewer people to do the work? Can several departments share up-to-date information without all needing special workstations? How do you know the devices are programmed and functioning properly? What if you want to use equipment in the future that speaks a different protocol? And how easily can the system accommodate changes as it expands?

- ***Easily manage large numbers of devices from your desktop.***
- ***Go beyond SCADA - view event, troubleshooting, and alarm logs, change any setpoint, verify software versions, or download all historical data.***
- ***Share up-to-date information without trips to the field and without special workstations.***
- ***Use diverse mixes of equipment and multiple SCADA protocols simultaneously.***
- ***Let different devices and departments operate within a single network.***
- ***No need to configure each control and status point individually.***
- ***Use the optional query tool to access data for many controls at once.***
- ***Use global commands to send configuration changes to sets of controls.***

EnergyLine Has a Solution

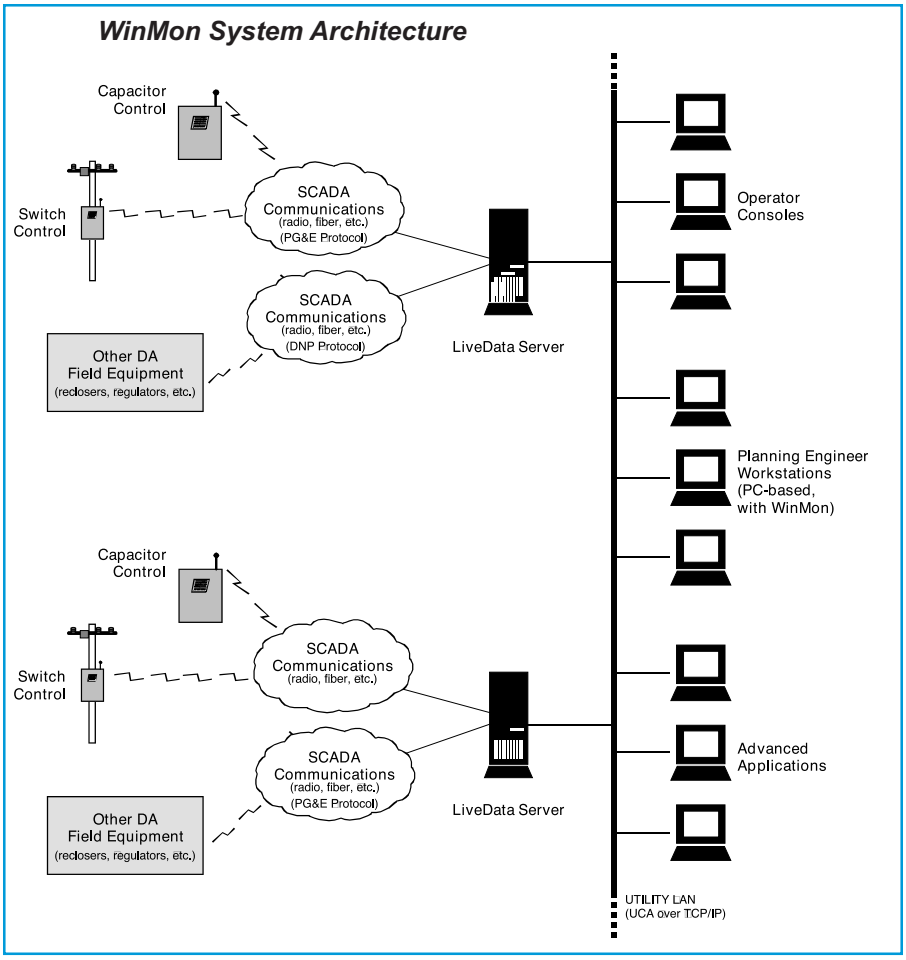
WinMon Graphical User Interface Software provides full, on-line access to the configuration, real-time, and historical data commonly found in electric power distribution automation (DA) equipment. The WinMon GUI runs on PCs, giving authorized users real-time access to the DA system from their desktops. The open architecture lets various field devices, protocols, and departments operate within a single network, embracing the best available tool for each requirement without locking you into all-or-nothing packages. And the wide area network communication infrastructure can be shared with other, non-WinMon applications.

The WinMon GUI presents the data in your EnergyLine controls as if you were using our standard, Windows®-based IntelliLINK™ Setup Software



These screens from the WinMon GUI display real-time operating data, including graphical representations of capacitor control (upper screen) and switch control (lower screen) faceplates.

in the field. You also get a screen building tool and other configuration tools that let you customize and



manage your installation and add non-EnergyLine devices to the WinMon system. The WinMon system includes LiveData® Servers for polling, data caching, and SCADA protocol conversion.

The WinMon interface truly integrates your entire DA system.

Building Blocks

The WinMon software has a modular architecture that can accommodate a wide range of building blocks – different protocols, different field devices, different types of users.

The heart of the communication system is LiveData Server, a PC-based application/communication gateway, bridge, and router, all built into one package. It can communicate with field equipment using traditional SCADA protocols (such as PG&E SCADA or DNP 3.0).

The LiveData Server caches the data from devices in the field. Users throughout the utility's network can then share the data via LiveData Client software on their workstations. Built around the most popular local area networking (LAN) standards, including TCP/IP and Ethernet, LiveData Server is a drop-in element in your corporate information network. All LiveData software is built to run under Microsoft® Windows NT®, while client software also runs under Windows 95/98.

LiveData Server provides a highly-efficient, multi-port communication polling engine, without precluding the use of other vendors' products for data access. Multiple user or application workstations, including SCADA operator consoles, data loggers, and the WinMon Engineering Workstation, can easily share access to the resulting data points via LiveData Server.

A Database of Devices

In typical SCADA systems, each field device is custom programmed with each data and control point individually configured. In the WinMon software, data is structured around device types, with multiple devices of a given type referencing a single, common data structure. This is especially important when enlarging a SCADA system. At the same time, the structure also minimizes the need to verify each data point when new devices are brought on-line.

"EnergyLine's WinMon is an extremely powerful tool for enhancing system performance and increasing system reliability. With so many features available at the click of a button, WinMon may become a distribution engineer's best friend."

– Distribution Engineer,
Kansas City Power & Light

The WinMon system's configuration tool generates configuration files for the system based on device identification definitions stored in a relational database. Device ID information is entered into this database using data entry forms that keep data entry time to a minimum. Those screens allow you to access the configuration data and add, modify, or remove devices from the system routinely. In addition, the system keeps internal checks to insure that device names and addresses are internally consistent.

A Global Picture of Your System

With the WinMon system's optional query tool, you can access data for many controls at once. As the servers poll each device, the WinMon system adds their information to a database - both real-time data and events (including timestamp). The database also contains information about the structure of the distribution network. The hierarchy of the system is built around three levels: service centers/areas, substations, and circuits. The query tool allows you to use this database to present information about devices with certain conditions, such as alarms during a given time period or currents above a selected level. This data is displayed in a table, and you can choose what information the table should include (for example, the voltage levels for all the controls on a given circuit).

The query tool can also be used in conjunction with global commands by generating a list of controls (of the same type) with common conditions. Once you have a list – whether you create it yourself or with the query tool – you can then change setpoint values and/or initiate switching operations globally. The WinMon GUI lets you initiate a command to change the setpoints and confirms that the changes were successful.

The Tool of Choice for Planning and Operations

A combination of extensive data access capabilities and unlimited scaleability make the WinMon interface unequaled in the industry. The WinMon GUI has been designed specifically to support the complex data structures associated with advanced control equipment. This gives the distribution planning engineer a much more comprehensive view of the utility's distribution field equipment than traditional SCADA systems.

The WinMon GUI also helps reduce crew time and maintenance by letting operations personnel see what's happening from their desktops. A wealth of historical data is available for investigating service complaints. And with an interface that looks like the actual faceplate of the equipment, the WinMon GUI is easy to use.

What is IntelliLINK™?

IntelliLINK Setup Software is EnergyLine's Windows®-based software for interfacing locally with our family of controls. You can view real-time data, manage setpoints, gather troubleshooting information, and download historical data for reports - all from screens that are easy to use and understand.

"WinMon has proven to be an excellent diagnostic tool for me as a power quality engineer. It assists me in identifying abnormal voltages, power factors, and load levels, as well as outage events, in a timely manner. And I can do all this from my PC, without a trip to the field."

– Power Quality Engineer, Kansas City Power & Light

The Power to Customize

EnergyLine's WinMon interface already has screens to make it easy to view data and control field devices. However, you may want to customize the screens or create new ones that apply to your particular system. This is where WinBuild, a component of the WinMon GUI, comes into play.

For example, you can design a system map with a standard drawing program. By importing this background and adding command buttons, you can create a screen that lets you bring up information for the appropriate device with a single click of a mouse. Additionally, if your GIS system can generate ".BMP" or ".WMF" files, you can easily import your system maps and single-line diagrams. (EnergyLine will be happy to work with you to develop any tools and procedures necessary to make this process routine.)

The WinBuild component also lets you develop screens for non-EnergyLine devices. You can take advantage of these products now, even as protocols and building blocks evolve.

Keeping Pace with the Future

The WinMon interface can work with various field devices, regardless of protocol. This open architecture gives you the freedom to migrate from protocol to protocol with no impact on workstation applications. You can use multiple protocols simultaneously, with smooth transitions and diverse mixes of equipment within one integrated network. The structure of the WinMon software also gives you the freedom to work on more important tasks than verifying every data point when you install a new device – a vital feature when a SCADA system expands. The flexibility and reliability of the WinMon GUI make it an ideal interface for the changing needs of utility personnel.