Description

Totalflow has applied the SCADAvantage™ system to gas production applications. Because of its design, SCADAvantage™ applications are simple to add to or delete from a system. Since it is an open system, a large array of controls is available for mapping, text data display, application representation, trending, and other capabilities.
Features

- Map overview
- POD Application
- Coal Bed Methane Application
- Compressor Station Application

Map overview
Totalflow SCADAvantage™ systems begin with a map overview of the customer’s sites. When a person logs on, the system determines from the user ID and password what sites are assigned and what rights this person has for these sites. The system then creates a properly scaled map of those sites.

The tree view on the left side of the display provides one form of navigation within the system. This tree organizes the sites, PODs, leases, or other categories that the user finds convenient. Alarms are generally in a grid at the bottom of the page.

A user-selected icon on the map represents each site. This icon can change color when in alarm, commonly it will be green when all parameters at the site are within limits, or change to red when there is an alarm. The tree view icons will have the same colors.
**POD application**

This screen shows a POD display. The wells are grouped into Leases. The tree view on the left shows the wells divided into two groups, CDP Meters and Leases. The leases are divided into wells and PODs, and the West Kitty POD has been chosen and highlighted.

The Main Display shows two primary areas, a summary line at the top for the pod as a whole, and a listing of the various wells and their associated data in the center of the screen.

Above the summary line is a set of tabs that simplify navigation in the system (Map, SCADA, and Templates or displays).
Coal Bed application

SCADAvantage™ has been widely used for coal bed methane applications. This display is a typical operator interface, with graphics, text, control, and excellent navigation capabilities.

This display shows a VFD pump, water meter, and a Totalflow Flow Computer. From this screen the operator can monitor the water flow, gas flow, and pump operation. The operator can also download set points or configuration data to the pump. The Info pad in the lower middle of the display can be used to pass messages such as “Pump down, parts will arrive next Tuesday” to others. Info pad entries are stored in the database and may be included on reports or as part of the site log.

Buttons on the display support trending – either pre-selected and configured trends or trends chosen and configured on the fly. Other buttons can increase the scan rate at the device or send a new set point.

Overall, this application allows the operator to easily monitor the devices at the site and react quickly to changes either by altering configuration information or commands or by dispatching someone to fix a problem.
Compressor Station application
This display provides monitoring for a Compressor Station Application. It also shows some of the strengths of the SCADAvantage™ design.

The grid in the upper center of the screen provides data on compressors at the station. This display can be configured for each user to summarize the compressor data required for efficient monitoring and control of the compressor station.

The tree view on the left side of the screen provides navigation and alarm monitoring just as on the other screens. The alarm log is also located on the bottom of the screen.

The SCADAvantage™ Trend Display is a control that can be used in its full screen mode, or simply included as part of another display. In this case, it adds useful information to the operator's display. The display also has an Info pad for recording and communicating status or other site information.

This second compressor station display is for another application. It combines a great deal of data on one screen, and provides navigation to supporting screens that have detailed information on the individual compressors.

Colored buttons provide control for various aspects of the station. The STOP button in the system parameters section, for instance, allows the station to be shut down remotely in case of a serious alarm condition. Individual compressors can be stopped and started as needed.

This design provides information on Inlets, compressor operation, and outlets, breaking down both the inlet and outlet data by producer. The screen also provides buttons that bring up displays of comparative information between subscribed, and design capacity, and comparisons with actual throughput.

The button “Station Notes” brings up an Infopad for the station operation. The E and D buttons bring up Infopads for individual compressors – recording such items as oil usage and reasons for downtime. All Infopad entries are automatically identified with the user ID and time and date stamp.
Benefits

SCADAvantage™, configured with these applications, allows an operator or other user to remotely monitor sites, dispatch maintenance people when needed, respond to changing conditions at the site by remotely changing site parameters or sending commands to the units, or to record observations in the infopads. The data in the SCADAvantage™ database is available over the corporate network to authorized persons that need it to meet corporate needs.

SCADAvantage™ also supports advanced applications such as The Compressor Efficiency or Dynocard capabilities.
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