

# ScadaPRO



## What is ScadaPRO?

ScadaPro is an advanced real-time information system consisting of a set of integrated modules providing automatic data acquisition, monitoring, recording, trending, man-machine interfaces, networking, report generation and process control. It is readily adaptable to a wide range of engineering applications, including:

- Process Monitoring and Control
- Oil and Gas Well Rig Monitoring
- Well Completion and Stimulation
- Pumping Systems
- Mud Logging and Drilling
- Energy Management
- Power Generation and Transmission
- Mechanical and Electrical Testing
- Environmental and Temperature Monitoring
- Building Management Systems
- Laboratory Testing
- Machine Efficiency Calculation and Downtime Recording
- Wastewater Management
- Remote Asset Management
- Structural Testing

## Features

- Advanced data acquisition and logging capabilities
- Logs to files or databases
- Advanced alarm processing
- Real-time calculator with free form expression.
- Real-time data and alarm monitoring as well as historical trending
- Standard data export to multiple formats
- HMI display builder including rich set of instrumentation Controls
- Full client-server architecture over LAN, WAN and Internet
- Web service option to allow incoming connections through firewalls over the internet
- Support for LAN Desktop, Remote Desktop, Internet Explorer and RDWeb clients
- Supports the Excel RTD and OPC data access standards
- Automatic start-up without operator intervention
- Runs on both legacy (XP) and current versions of Windows
- Available in 32-bit or 64-bit versions
- Integrates fully with Windows security to only allow access to authorised users
- Site to Office option to stream data for viewing by staff and customers
- Add-ons for Mud Logging, PID control and Gas Chromatograph measurement

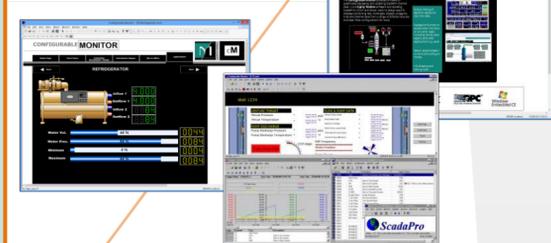
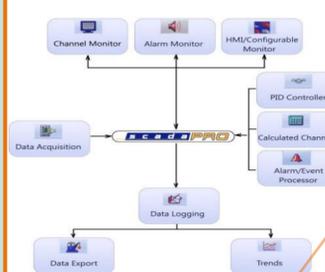
## Microsoft Platform Support

- ScadaPro is optimised to use the powerful real-time multi-tasking features of Windows platforms and can be installed to run as a 32-bit or 64-bit application. The fully implemented client/server architecture provides the means by which data displays, and control can be distributed over a standard network or the internet.
- The system requires a server licence and additional client licences can be purchased as required.
- ScadaPro Client allows the operator to configure and monitor the system either locally or over a LAN/WAN or Internet.
- The ScadaPro server is an embedded service and automatically starts with no operator interaction
- Multi-threaded applications avoid performance bottlenecks.
- Real-time high performance updates over network for all users on the system
- ScadaPro runs on both legacy (XP) and current versions of Windows and Windows Server platforms.
- Viewing and selection of multiple servers on single client screen or window.
- Masks components e.g. I/O devices, loggers or channels using Windows security so operators only see the components they can control
- Read-only security allows operators to view but not change configuration.



## Internet Explorer Support

Trends, Configurable Monitors, Alarm Monitors and Channel Monitors can all be hosted inside Internet Explorer. This allows users to hyperlink to pre-configured Monitor and Trend files to see remote real-time and historical data from within their web browser.



# Software for Real-Time Acquisition and Process Control



## Data Acquisition

ScadaPro is used worldwide to acquire data from a range of I/O devices including data acquisition units, sensors, meters and PLCs. In addition to supporting standard OPC drivers, Measuresoft also offers a suite of high performance drivers which are included with the ScadaPro system. High and low speed data acquisition can be achieved. I/O is configured directly from the software to make configuration easier.

- Agilent 3479XA
- Agilent Power Supplies
- Allen Bradley SLC-500 and PLC5
- Alpha
- AMS 780/900
- BLS 2000
- Climet 500 Particle Counter
- Environ Controller
- Eurotherm Controller
- Fardux Idea Logger
- Fluke PM6504 RCL Meter
- GE Druck Pressure Indicator
- GW Instruments - High speed InStrument
- HP 48720X
- ICP DC0N
- Intercore LDAS
- Kvaser LeafLight CAN interfaces
- Lakeshore Instruments
- Loma Checkweigher LXI EX1048
- Measurement Computing/Computerboards - high speed I/O boards
- Measurement Computing/Computerboards - CB-COM modules
- Measurement Specialties/Pressure
- Systems Pressure Scanners
- Measurement Systems - Datascan 7000
- Measurement Systems - Datascan Solo
- Mettler Toledo Balances
- Mitsubishi PLCs
- Modicon - Modbus
- Parker Instruments Digiplan Stepper Motor
- Pressure Systems Inc. - 9000 and 9010
- OX Runworks
- SATA S-Bus and Profibus I/O boards
- Sartorius Balances
- Stamivive DSA
- Siemens - 3ES4R
- Sigma Modules
- Solartron - IMP
- Texas Instruments /SMATIC - 505/535/545/575 PLCs
- Vestas Wind Turbines
- VicoPro 2000
- WITS In and Out
- WITSML
- Yokogawa 210/230
- Power Meter
- Yokogawa WT3000



## Utilities

The ScadaPro suite includes a range of add-on and utilities applications that simplify tasks.

## Licensing

Single machine or network licence keys. Keys can be moved from machine to machine. Licences can also be upgraded in the field, either manually or online.

## Audit Trail

Full audit trail of all configuration changes which affect data acquisition, data processing, logging and value changes.

## Data Export and Reporting

ScadaPro supports data export from log files to standard spreadsheets and report formats. This allows clients to create their own Reports. Excel templates are supported to define report layouts.

## Data Logging/ Historian

ScadaPro's data logging functionality is second to none. ScadaPro's data collection and logging capabilities provide the power and flexibility to effectively record all important process or environmental data.

Multiple independent data loggers with automatic start

'Period', 'Event' and 'Period until Event' modes with separate Pre, During and Post logging rates

Logging rates up to 1ms

Independent groups of channels can be logged with up to 10,000 channels per group

Automatic scheduling of log cycles to log according to work shifts; including hourly, daily and weekly

Automatic archiving of log files at end of shift and continuous disk space checking

Automatic generation and email of spreadsheets at end of shift

Operator entry of storage locations e.g. product codes or test numbers

Text logging including definition of regularly used text logs

Supports multiple databases including Access, SQL Server, Oracle and Microsoft Excel using ODBC.

Disk checking facility reports error when disk spaces goes below a configured threshold

## Variants

ScadaPro comes in a range of variants with different I/O channel/tag counts, providing you with an upgrade path from 16 to over 10,000 I/O tags as your requirements expand.



## Real-time Calculator

The real-time calculator makes it possible to create and calculate data directly from signal inputs. Free form calculation entry includes:

- Built-in constants
- Statistical & logarithmic functions
- Filtering, counting, and Boolean functions
- Math and trigonometric functions
- Timer and time/date functions

Calculations can be cascaded together to form complex logical sequences

Calculation results can be sent to output channels for direct and supervisory control

All calculated data can be logged, displayed, animated, or alarm processed

Support for Techware steam tables

## Alarm Processing

ScadaPro includes advanced alarm processing and management. Each channel can be given unique high and low event alarm and warning conditions.

Multiple configurable alarms on the same channel can be avoided with arm hysteresis and alarm delay.

Each alarm condition can be given a priority (1-255) and an associated block of text to be displayed in alarm conditions.

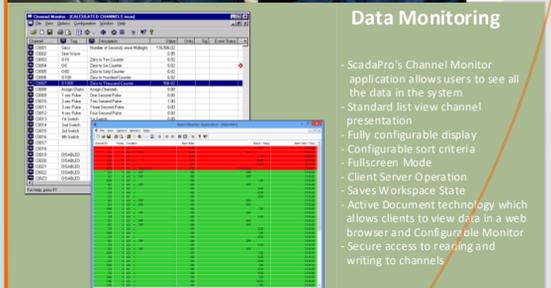
Alarm channels can be linked to a common alarm output channel for annunciation purposes, or to automatically switch off important parts of the process or the plant.

Alarm annunciation is supported and includes: digital output, email, SMS, audio and printer.

The in-built alarm logger and printer records all alarms, the time they occurred and the time they were acknowledged.

Different groups of alarms can be viewed in different windows. Features active document technology that allows clients to view alarms in a web browser and within Configurable Monitor

Alarms can be acknowledged independently or as a group



## Data Monitoring

- ScadaPro's Channel Monitor application allows users to see all the data in the system
- Standard list view channel presentation
- Fully configurable display
- Configurable sort criteria
- Fullscreen Mode
- Client Server Operation
- Saves Workspace State
- Active Document technology which allows clients to view data in a web browser and Configurable Monitor
- Secure access to reading and writing to channels

## HMI Displays

Configurable Monitor lets users develop the Human Machine Interface (HMI) to process and provide a dynamic representation of the phenomena being monitored.

Full drawing and editing tools

Simple linking of dynamic objects to real time data

Suite of real-time instrumentation controls with the ability to customize the attributes of each item. These controls include:

- Angular and circular gauges
- LEDs
- Rulers
- Counters
- Temperature meters
- Progress bars and pie charts
- Ball and bitmap indicators
- Knobs, switch and sliders
- Check Boxes
- List Boxes
- Object grouping

Navigation buttons to access other monitors or run other task including trends, spreadsheets, alarm viewers etc.

Value entry mode for supervisory control and recipe entry with tab or ordering of value entry controls

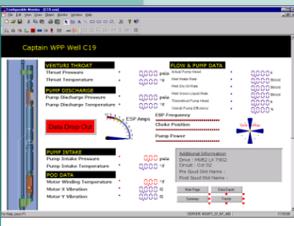
Easy switching between configuration and value entry modes

Control loggers and perform calibration directly from the HMI

A number of separate monitors can be displayed on the screen simultaneously

Active document technology allows viewing of spreadsheets, alarms monitors, channel monitors and trends within Configurable Monitor.

Fullscreen mode and anchor points to display trends



## Trending

ScadaPro Trending displays provide a powerful means of displaying, evaluating and selecting data for further processing or analysis. Data is displayed either in real time or replayed directly into the Trend displays from existing log files

A number of separate Trends can be displayed on the screen simultaneously

Support for up to 32 channels of both analog and digital data in each Trend

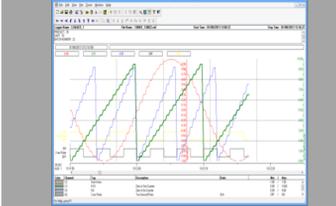
Horizontal and vertical display

Multiple tracks and support for multiple axes per track

Retrieval of free form expressions from databases

Single click pan and zoom make it simple to isolate specific areas of interest and to move from one log file or database table to another

Active document support allows clients to view trends in Web browser or configurable monitor



Data can be highlighted and exported into other analysis packages

Display and entry of current and historical operator text logs

Trend displays can be of any length from 100ms to 50 years

Trends Wizard makes it easy to configure a data logger and a Trend display

Trends application has been updated to include better printing support

Axis labelling

Print page/margin setup



## Connectivity

ScadaPro uses the latest industry open standards including:

**SOAP Web Services**  
ScadaPro's web service allows it to run on the web. Web services are built on Web browser SOAP/XML standards that allow a ScadaPro client to communicate securely with its ScadaPro server over the Internet using http.

**OPC** (OLE for Process Control) is an industry standard created from collaboration between a number of leading worldwide automation and hardware software suppliers with Microsoft. ScadaPro 2.0 comes with an OPC Client as standard allowing data from 3<sup>rd</sup> party OPC systems to be acquired seamlessly. The optional OPC Server allows 3<sup>rd</sup> party OPC applications to connect to ScadaPro data. ScadaPro is OPC Data Access 1.0a and 2.0 compliant.

**ADO/ODBC**  
ScadaPro provides logging to and retrieval from standard databases such as Access, Oracle, SQL Server and Excel via ODBC.

**Excel RTD**  
ScadaPro includes Excel RTD and support for export to XLS/XLSX files. Excel RTD is a method of displaying dynamic real-time data in Excel.

## System Error Processor

A mechanism is provided for recording if a system error has occurred. In order to be able to handle system errors as alarms and to be able to monitor system errors in the alarm monitor, a system error processor with a fixed set of channels is provided.

## PID Controller

An optional Proportional Integral Derivative controller processor is available. It offers:

Control for closed-loop systems

Block diagram, bar graph, and strip chart displays for each control loop

Dynamic viewing of change and effect

Support for user-supplied algorithms (COM DLLs)

Bumpless transfer between manual and automatic modes.

Anti-windup reset.



## Gas Chromatograph

An optional Gas Chromatograph processor is available.

Collects signal from one or more gas detectors.

Flexible number of gases supported with calibration facility.

Dynamic viewing of change and effect.

Support continuous unattended autosampling

Stores each sample in separate log file

Flexible peak annotation

