

# 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.

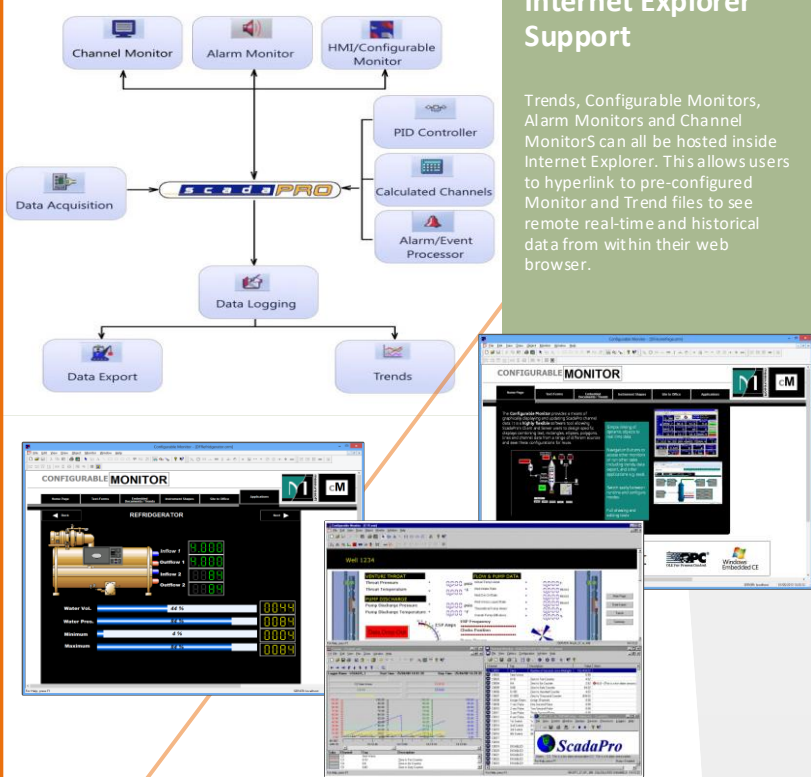
Masks components e.g. I/O devices, loggers or channels using Windows security so operators only see the components they can control

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



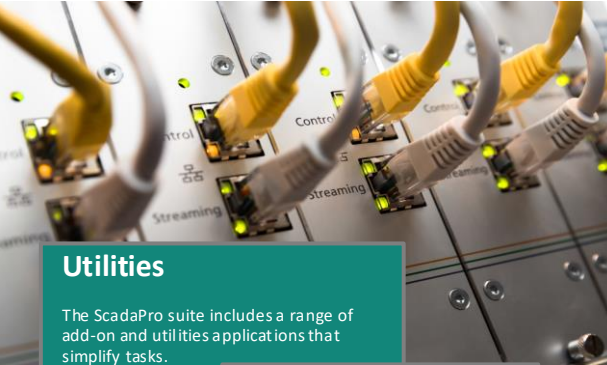
## Data Acquisition

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. Drivers include:

Agilent 3479XA  
Agilent Power Supplies  
Allen Bradley SLC-500 and PLC-5  
Alpha  
AMS 780/900  
BLS 2000  
Cimnet 500 Particle Counter  
Environcon Controller  
Eurotherm Controller  
Fardux Idea Logger  
Fluke PM6504 RCL Meter  
GE Druck Pressure Indicator  
GW Instruments – high speed instrument  
HP 44720X  
ICP DCON  
Intecore 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 47000  
Measurement Systems – Datascan Solo  
Mettler Toledo Balances  
Mitsubishi PLCs  
Modicon – Modbus  
Parker Instruments Digiplan Stepper Motor

Pressure Systems Inc. - 9000 and 9010  
OX Runworks  
SAIA S-Bus and Profibus  
Santorius Balances  
Scanivalve DSA  
Siemens – 3ES4R  
Sigma Modules  
Solatron – IMP  
Texas Instruments/SIMATIC – 505/535/545/575 PLCs  
Vestas Wind Turbines  
ViscoPro 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 spreadsheet 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 team 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 alarm 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 announcement 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

## 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  
Knob, 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 ordering of value entry controls

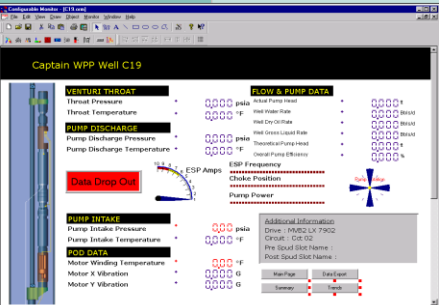
Easy switching between configuration and value entry modes

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

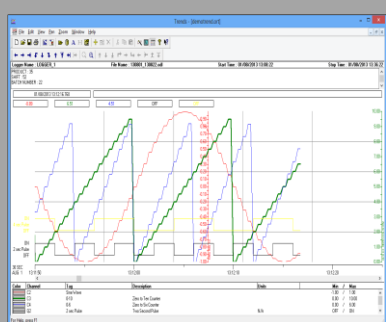
Horizontal and vertical display

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

Printscreen/margin setup

Fullscreen mode

Logger configuration wizard facilitates quick and easy setup

Extended color support

Plot errors as blank or low scale



## 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 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

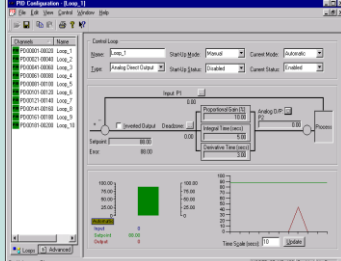
Block diagram, bar graph, and strip chart displays for each control loop

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

