Proficy RX™

Process Analysis Software for Process Analytical Technologies (PAT)

Process understanding lies at the heart of any PAT deployment. Multiple types of instruments, hardware and software are an obstacle to collecting, consolidating and analyzing data. Challenges exist with varied data types, non-intuitive software environments and validation of disparate applications. Proficy RX from GE Fanuc helps you address those challenges and drive manufacturing operational improvement.

Addressing Production Challenges

Proficy RX is a unique software solution that provides standardized control and networking of multiple instruments, eliminating the necessity to manage, learn and validate multiple instrument interface software applications. Preprocessing of analytical data ensures similar data formats and protocols and the intuitive nature of Proficy RX provides a single development environment, and 21 CFR Part 11 tools ensure quick and compliant deployment in regulated environments.

Managing the Measurement Process

Proficy RX manages the measurement process – from application development to routine on-line operation. During development it provides all of the tools needed to design virtually any analytical method. Once a method has been developed, it can be locked down and provided with a custom operator screen with access to predetermined set of operations and displays.

In the traditional world of distributed control Systems (DCS) and programmable logic controllers (PLC), relatively simple sensors such as RTDs, flow meters, and pressure gauges are used to provide one dimensional (scalar) information which can be processed directly by the DCS/PLC. With advent of Process Analytical Technology,

the situation has changed drastically. An analytical instrument, such as a near-infrared (NIR) spectrometer, may provide as many as 2,000 independent spectral data points in less than a second. This large amount of data must be collected, stored, displayed, transmitted, and processed in such a way as to provide timely and manageable information about the process variables of interest. Proficy RX fills this role, bridging the gap between the instrumentation at the manufacturing process and the data historian, SCADA, or other enterprise-level data system.

Key Elements of the Proficy RX Approach

Proficy RX is organized in such a way as to provide a high degree of flexibility within a framework specifically tailored to the needs of analytical instrumentation.

Database Storage

Proficy RX employs a standard database structure for all user information, and configuration protocols. This structure provides a full audit trail while facilitating networking and hand-off to other data systems.

Proficy Historian Data Storage

Proficy RX leverages the power of Proficy Historian for storage of all spectral data. Proficy Historian provides an efficient and secure means of storage, allowing for a single, true, "system of record" for all manufacturing data.

PAT-Specific User Interface

Proficy RX's four main windows are designed to streamline the performance of the tasks typically encountered in process analysis.

PAT-Specific Command Structure

Proficy RX's command syntax is modular and hierarchical. As a result, it requires only a relatively small number of easily understood standardized commands to meet the great majority of both laboratory and process requirements.

Standardized Instrument and Software Interfacing

The unique requirements of individual instruments, sampling systems, chemometrics routines, and enterprise-wide data systems are met by specific Proficy RX drivers.

Menu-Driven Method Development

Proficy RX's composer utility includes pop-up script composers for all of the standard commands. These enable you to design any analytical method by simply selecting items from pull-down menus and filling in blanks.

Proficy RX's Major Functions:

- Sample system design and control
- Simultaneous control of multiple analyzers
- Real-time trending of any number of streams
- System diagnostics, data display, and alarming
- Archiving of data in a local or remote SQL database
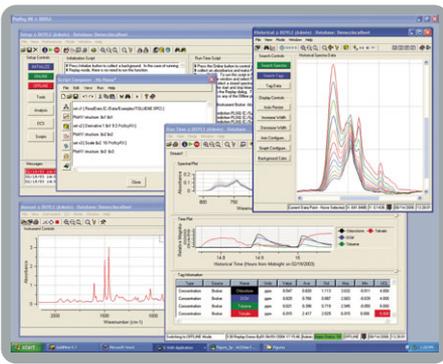- Comprehensive historical data analysis

Figure 1:
Simultaneous display of Proficy RX's four primary windows.

Proficy RX's Four Main Windows in Brief:

Proficy RX's diverse capabilities are grouped into four categories corresponding to the program's four main windows. Access to these windows and to many of their specific functions is controlled by user privileges set by the system administrator. The four windows can be displayed individually or in any combination. (See Figure 1.) Their primary functions are as follows:
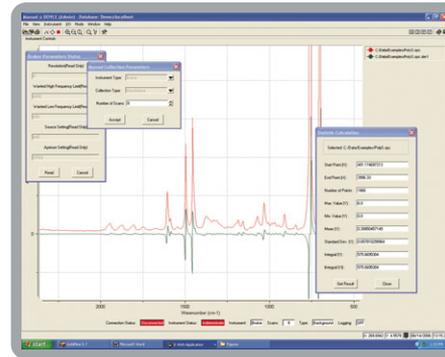
The Manual Window:

Allows you to operate an instrument in real time and to perform various operations on the data obtained. Simply select the instrument of choice and operating parameters from the pull-down menu and start collecting data.
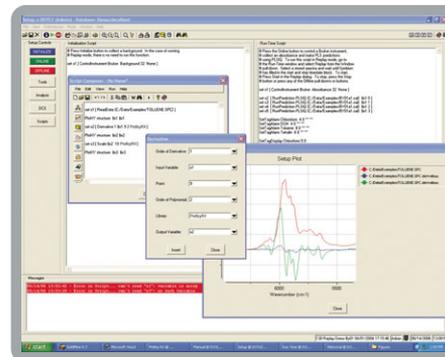
The Set-Up Window:

Includes the script composer, user and database management utilities, system preferences functions, and other utilities to enable you to configure an analysis method to meet virtually any need.

The Run-Time Window:

Displays the information required to monitor a process in real time. In its most general form it includes multiple trend plots, displays of current and recent spectra, and tabular statistical information. It can easily be customized to provide only the specific displays required for a particular application.

The Historical Window:

Provides access to all of the data stored in the database. Data can be searched by any combination of attributes such as time and date, series, name, instrument, operator, process line, etc.

GE Fanuc Automation Information Centers

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Europe, Middle East and Africa:
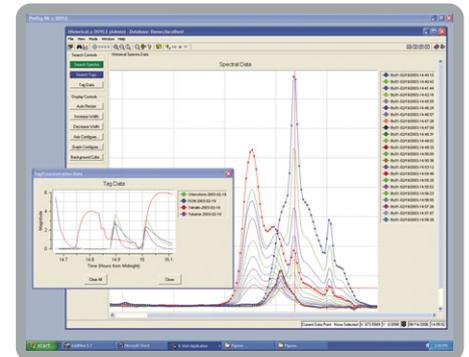800 1 GE FANUC or 800 1 4332682
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Additional Resources

For more information, please visit the GE Fanuc web site at:

www.gefanuc.com

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