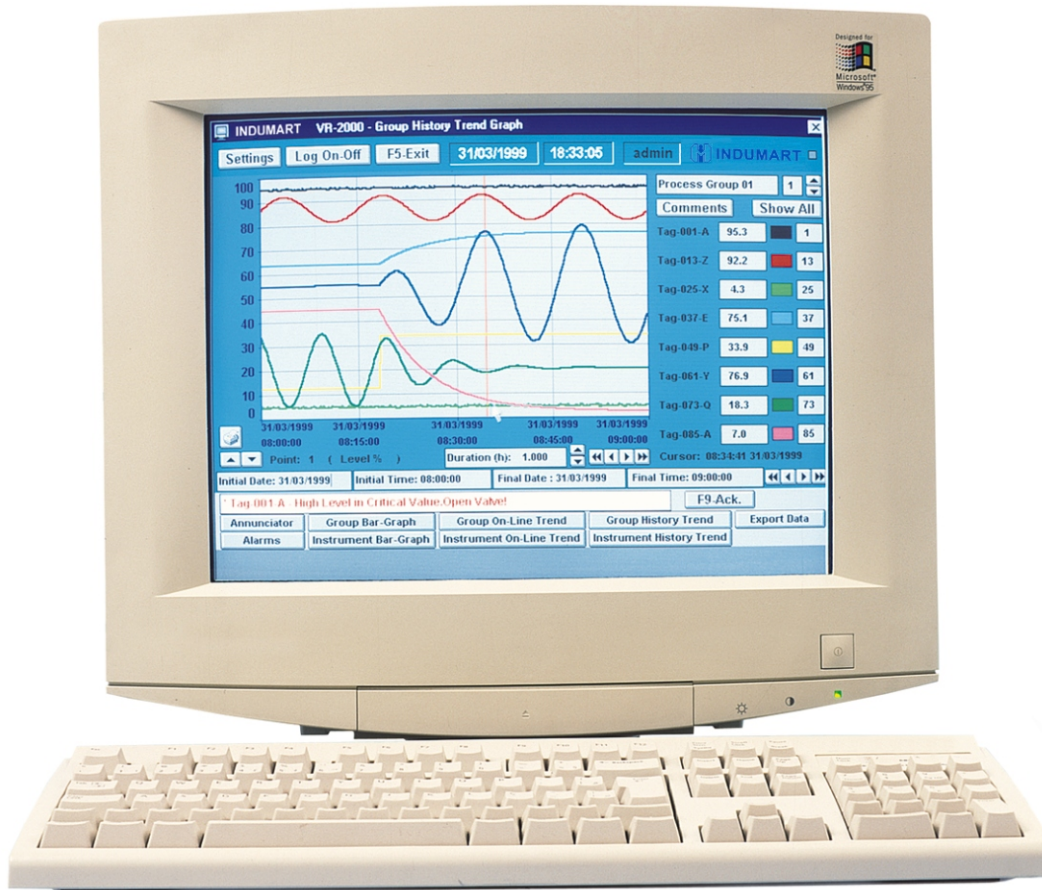


VR-2000



- Data recorder and process variables monitoring software: temperature, flow, level, pressure, etc.
- Ideal for joint use with Multi-Point Indicator DMY-2015, which receives sensors type TC, RTD, 4-20mA, 1-5Vdc and 0-10Vdc signals.
- VR-2000 replaces analog and digital recorders, besides performing alarm annunciator functions.
- Savings in maintenance, does not require pens, special papers or charts. Recorded data are accurate and immune to environment action.
- Easy to learn and use. Screen visualization in 640x480 or 800x600 resolution. Wizard for network configuration.
- Security: users controlled by passwords. All access to VR-2000 resources are password protected. Users categories: Administrator and Operator.
- Process variables visualization by bargraphs, on-line graphs and history trend windows.
- Bargraphs, on-line graphs and history trends shown by group or instrument association.
- 10 group windows allow visualization of 8 points simultaneously. Points can be chosen from any instrument connected. Auto-jog function to switch between groups after its configurable time of exhibition.
- Process variable configurable with range, unit, tag, description and alarm set-points. Alarm set-points are shown in bargraph and graphs scale with red arrows.
- Runs in Windows™ environment and has option to export recorded data to market standard worksheets and databases.
- Data analysis tools for statistics calculations as means, maximum and minimum values, besides the total number of samples in user-defined time intervals. Data exported directly to Excel™ or text files.

INTRODUCTION

The Virtual Recorder VR-2000 software was designed to perform analog and digital recorder functions, using INDUMART 2000 family of microprocessed instruments and serial communication. Up to 30 instruments can be connected, achieving up to 360 measuring points and 120 recording points.

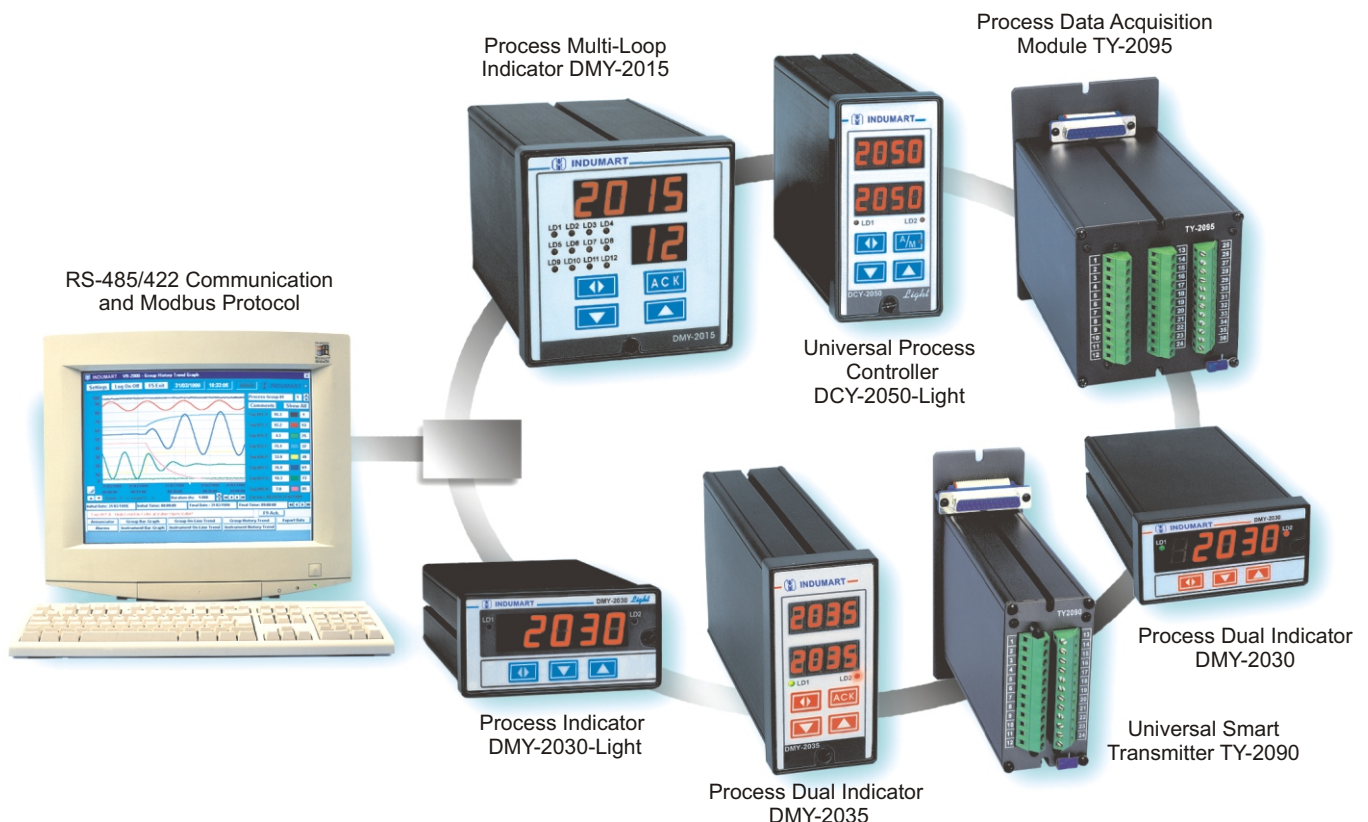
Besides recording process variables in hard disk, the VR-2000 offers alarm programming to warn the operator of abnormal process conditions with acknowledgement, history, messages and printed reports of alarms.

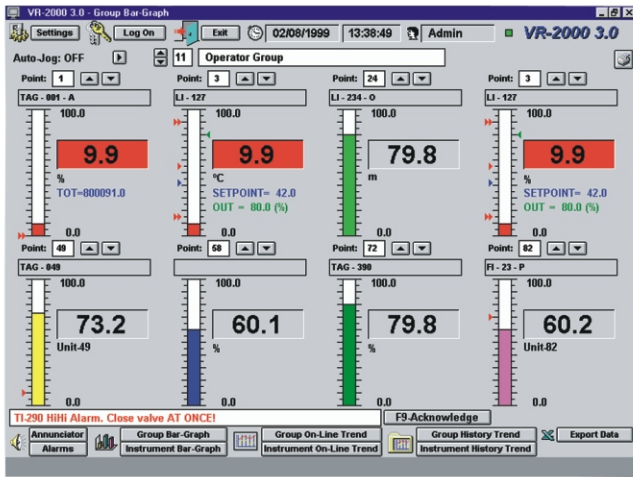
Recorded data are exported to worksheet and database formats in agreement with operator needs. This feature allows further process analysis and optimizations in worksheets from the VR-2000 recorded data.

The VR-2000 minimizes costs in process automation, using INDUMART instruments already installed in the factory including indicators, controllers, counters, transmitters and auto-manual-stations. It is required RS-232 Communication Module (to connect one instrument only) or RS-485/422 Communication

Module (to network connection). The computer allows savings in pens, charts and papers replacement costs of analog recorders, besides mechanical parts maintenance costs. It also eliminates problems storing huge amount of paper and danger of data loss by humidity, stains in the ink and long period of time.

The Virtual Recorder VR-2000 is more efficient and has reduced costs in comparison to "paperless" recorders. The software interface is more elaborated and easier to use than any recorder display. The visualization of recorded data is instantaneous, without changing disks in the digital recorder when searching data using the display. The VR-2000 recorded data are accurate, stored in hard disk drives and offer advantages like back-up in tape drivers, zip drives and even remote units or network servers. Indumart model VR-2000 recorder eliminates the work of collecting disks from the recorders, identifying each disk with labels and replacing them by new ones. Back-up modules provide automatic copy of recorded data and alarms in 3½" disk.



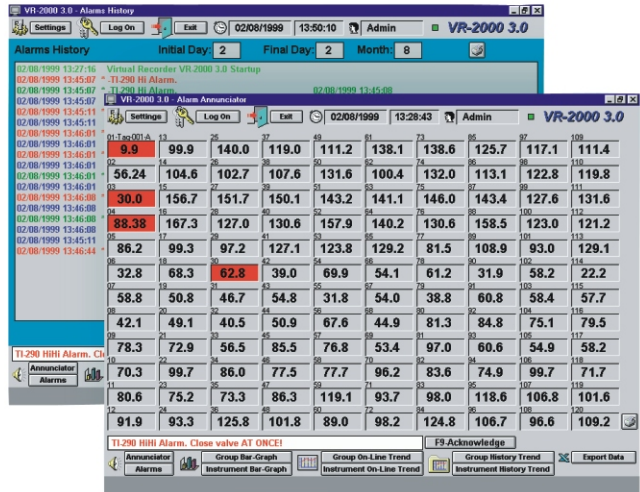


Bargraphs

- Group visualization with 8 process variables.
- Points value shown with large digits.
- Visual alarm warnings in red color.
- Auto-jog of 10 groups with individual time intervals.
- Indication of set-point and control output values of controllers.
- Alarm set-points, control output and set-point shown graphically next to bargraphs scales.
- Indication of totalization values of DMY-2030-TOT.

Alarm Annunciator

- Digital indication of up to 120 points simultaneously.
- Visual alarm warnings in red color.
- Ideal for distant visualization.
- Windows with lists of on-line and recorded alarms.
- Records for date and time of alarms start, acknowledgment and normalization.
- Search of previous alarms by day and month.

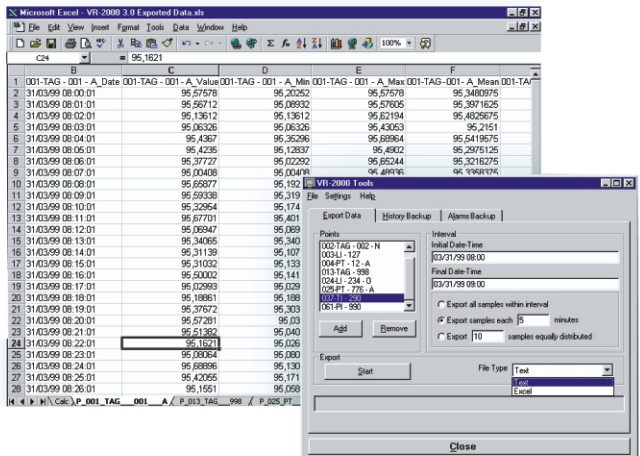


Trends

- Visualization of 8 points simultaneously, 10 group windows and auto-jog.
- Exhibition of 1 point separately with alarms grid.
- Graphs can be printed with 5-line user comments.
- Cursor to search values and dates.
- Horizontal scroll, graph expansion and compression with only one mouse click.

Excel™ Export

- Data export directly to Excel™ worksheets or text files.
- Export options: recorded values, maximum and minimum values, means and number of samples in user-defined intervals.
- Friendly interface for back-up of recorded data and alarms.
- Back-up copies on floppies or network units, compressed or not.





DMY-2015 Process Multi-Loop Indicator

- Ideal for joint use with Virtual Recorder VR-2000.
- Available inputs for 12 thermocouples, 8 RTD, 12 current 4-20mA, 12 voltage 1-5Vdc and combinations from 2 of these inputs.
- Many optional modules are available: up to two SPDT relay alarm modules, water-proof front-panel and RS-232 or RS-422/485 communication.
- High accuracy. Linearization of RTD, thermocouple and also square root extraction.
- 12 alarm indications front LEDs.
- Fully configurable by front-panel push-buttons.

DCY-2050 Universal Process Dual Loop Controller

- Two universal standard inputs for RTD, thermocouples, 0-55mV, 4-20mA, 1-5Vdc and 0-10Vdc. Available specific models for two frequency input signals up to 30KHz, from 300Vpp to 30Vpp.
- Up to two analog output modules of 4-20mA, 1-5Vdc and 0-10Vdc, isolated from inputs and power supply.
- Large control capacity performing the functions: Auto-tune, On-Off, P-PI-PD-PID and Cascade Control, Heating-cooling, time-proportioning, remote set-point, programmable set-point up to 10 segments and Auto-manual station.
- High accuracy. Linearization of RTD, thermocouple and also square root extraction.
- Fully configurable by front-panel push-buttons.



TY-2095 Process Data Acquisition Module

- Ideal for joint use with Virtual Recorder VR-2000.
- Available inputs for 12 thermocouples, 8 RTD, 12 current 4-20mA, 12 voltage 1-5Vdc and combinations from 2 of these inputs.
- Many optional modules available: up to two SPDT relay alarm modules, water-proof front-panel and RS-232 or RS-422/485 communication.
- High accuracy. Linearization of RTD, thermocouple and also square root extraction.
- Its fitting up in DIN rails or surfaces. Its robust construction makes it tough enough for the most hostile environment.
- Programmable by serial communication or through portable programmer.

DMY-2030-Light Process Indicator

- Many optional modules are available: analog output module of 4-20mA, 1-5Vdc and 0-10Vdc, up to two SPDT relay alarm modules, water-proof front-panel and RS-232 or RS-422/485 communication.
- Universal standard input for RTD, thermocouples, 0-55mV, 4-20mA, 1-5Vdc and 0-10Vdc. Available specific models for frequency input signals up to 30KHz, from 300Vpp to 30Vpp.
- High-visibility 4 1/2 digits display.
- High accuracy. Linearization of RTD, thermocouple and also square root extraction.
- Fully configurable by front-panel push-buttons.

