

# Data Logging and Supervisory Control with LabVIEW

## NI LabVIEW Datalogging and Supervisory Control Module

- Develop distributed monitoring and control systems with LabVIEW graphical development
- Implement alarms, events, and user-level security through intuitive configuration dialogs
- Log data directly to an SQL 92 and ODBC 2.5-compliant database
- Network LabVIEW Real-Time targets and third-party I/O devices with OPC client/server connectivity
- Create professional HMIs with more than 4,000 additional user interface graphics

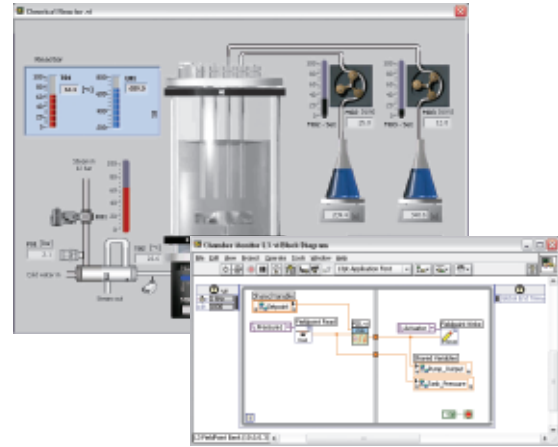
### System Requirements

- Windows 2000/XP
- 256 MB RAM; 512 MB<sup>1</sup>
- Pentium III/Celeron 600 MHz; Pentium 4<sup>1</sup>; Pentium M
- 250 MB disk space; 670 MB<sup>1</sup>

<sup>1</sup>Recommended

### Required Software

- LabVIEW Development System, current version



## Overview

The National Instruments LabVIEW Datalogging and Supervisory Control (DSC) Module is the best way to interactively develop your high-channel-count and distributed monitoring and control systems. The NI LabVIEW DSC Module extends the LabVIEW development environment to interactively configure and manage alarms and events, efficiently log data to a distributed historical database, view real-time and historical data, set application security, and easily network LabVIEW Real-Time targets and other OPC devices to create one complete system. Whether you need to build a full-scale industrial automation and control system, configure thousands of channels in a data-logging application, or just monitor a few I/O points for historical collection, the LabVIEW DSC Module provides the tools to make you more productive.

## Graphical Development Environment

The LabVIEW graphical programming paradigm simplifies the development of your distributed monitoring and control systems. Creating your application is as simple as dragging and dropping graphical functions and wiring the objects together to form a dataflow program. Built-in libraries include resources from general programming functions to powerful, application-specific routines. Construct interactive user interfaces from hundreds of included objects, such as charts and graphs, numerical representations, and Boolean operators. LabVIEW also features robust debugging tools, including probes, breakpoints, execution highlighting, and the ability to single step through your code.

## Distributed Data Logging

The LabVIEW DSC Module provides built-in utilities for data logging and alarm management, as well as real-time and historical trending. Whether you are collecting data from National Instruments data acquisition products, LabVIEW Real-Time targets, Compact FieldPoint or CompactRIO modules, or programmable logic controllers, you can quickly configure the I/O you want and use the LabVIEW DSC Module to automatically acquire the data.

The historical data is stored in an SQL 92 and ODBC 2.5-compliant database, so you can use standard data extraction tools to retrieve the information for use in other parts of the enterprise. Because you can use the LabVIEW DSC Module to log the data to any machine on your network, you can select a single machine to serve as your database host for all of your applications or choose to distribute the data among numerous networked machines. In addition, the LabVIEW DSC Module intuitive wizards help you develop a full data-logging application with no programming.

## Alarms and Events

With the LabVIEW DSC Module, you can automatically monitor and log alarms and events for your system. You can interactively configure specific alarm conditions for individual tags or graphically develop more sophisticated alarming schemes. Intuitive wizards help you build standard alarm indicators and summary displays.

Use LabVIEW to graphically develop advanced monitoring applications. With the LabVIEW event structure (Figure 1), you can programmatically respond to specific alarms or system events by adjusting system values, sending an e-mail to a designated operator, or shutting down the system.

# Data Logging and Supervisory Control with LabVIEW

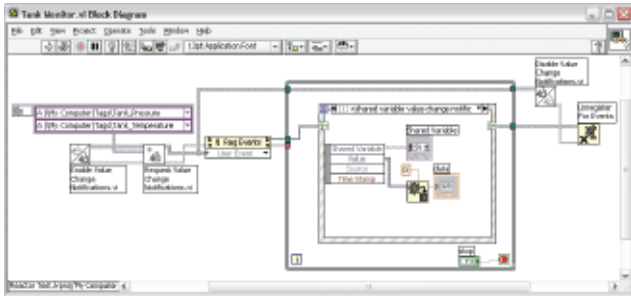


Figure 1. Programmatically respond to system events with the LabVIEW event structure.

## Real-Time and Historical Trending

With the trending functionality in the LabVIEW DSC Module, you can view both historical and real-time data from your processes. Using trends, you have access to the entire history of each I/O point, rather than a brief instance in time.

## LabVIEW Real-Time and OPC Device Networking

The LabVIEW DSC Module makes building distributed applications easy and intuitive. Simply browse the network for the I/O you want to access around your lab, your production floor, or the world. Using LabVIEW DSC built-in security, you determine which machines have read-only access, read-and-write access, or any access at all.

The LabVIEW DSC Module adds full OPC client and server capabilities to your LabVIEW applications as well, so you can communicate with any OPC server available on the market today. These servers manage device I/O and communication status information. NI offers the National Instruments Industrial Automation OPC Servers to communicate with various PLCs and other I/O devices.

## Security

With the LabVIEW DSC Module, security is built into the LabVIEW environment and implemented across the network seamlessly. You can add system-level and operator interface security to any existing or new LabVIEW application with no programming (Figure 2). With the LabVIEW DSC Module, you can limit group and user access to different utilities, front panels, and even individual graphical objects by setting up any number of operator accounts and configuring security, based on network IP addresses.

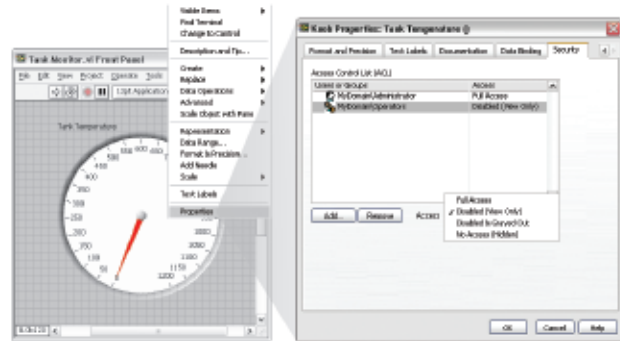


Figure 2. Interactively implement security directly from your front panel objects.

## NI Developer Suite Standard Control Edition

The NI Developer Suite Control Edition is a subscription program that delivers quarterly NI software updates and priority technical support. This offering bundles complementary software into one package. The NI Developer Suite Standard Control Edition includes the LabVIEW Full Development System, the LabVIEW DSC Module, and the NI Industrial Automation OPC Servers.

### Ordering Information

NI LabVIEW Datalogging and Supervisory Control Module Development System .....	778311-03
Run-Time System .....	778312-03
Run-Time System with IA OPC Servers .....	778315-03
NI Developer Suite Standard Control Edition .....	777905-03
Professional Control Edition .....	777906-03
NI Industrial Automation OPC Servers Development License .....	777616-01
Run-Time License .....	777616-02

### Training

LabVIEW Datalogging and Supervisory Control Course ....910519-xx<sup>1</sup>  
<sup>1</sup>01 (NI Corporate), 11 (Regional), 21 (On-Site)

### BUY NOW!

For complete product specifications, pricing, and accessory information, call 800 813 3693 (U.S. only) or go to [ni.com/labviewdsc](http://ni.com/labviewdsc).

# NI Services and Support



NI has the services and support to meet your needs around the globe and through the application life cycle – from planning and development through deployment and ongoing maintenance. We offer services and service levels to meet customer requirements in research, design, validation, and manufacturing. Visit [ni.com/services](http://ni.com/services).

## Local Sales and Technical Support

In offices worldwide, our staff is local to the country, giving you access to engineers who speak your language. NI delivers industry-leading technical support through online knowledge bases, our applications engineers, and access to 14,000 measurement and automation professionals within NI Developer Exchange forums. Find immediate answers to your questions at [ni.com/support](http://ni.com/support).

## Training and Certification

NI training is the fastest, most certain route to productivity with our tools. NI training can shorten your learning curve, save development time, and reduce maintenance costs over the application life cycle. We schedule instructor-led courses in cities worldwide, or we can hold a course at your facility. We also offer a professional certification program

that identifies individuals who have high levels of skill and knowledge on using NI products. Visit [ni.com/training](http://ni.com/training).



## Professional Services

Our Professional Services Team is comprised of NI applications engineers, NI Consulting Services, and a worldwide National Instruments Alliance Partner program of more than 600 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit [ni.com/alliance](http://ni.com/alliance).

## Software Service Programs

NI offers service programs that provide automatic upgrades to your application development environment and higher levels of technical support. Our service programs ensure that you always have the latest advances in productivity and receive live, on-demand access to NI applications engineers through phone and e-mail to assist in developing your solutions. Service programs are cost effective and simplify software purchasing as an annual, fixed cost, making it easier to plan and budget than intermittent individual upgrades. You also receive discounts for our training courses and materials. For details, visit [ni.com/ssp](http://ni.com/ssp).

### Basic Service Level

- Upgrades purchased separately
- Support by NI applications engineers, R&D engineers, partners, and community members through online Developer Exchange
- Access to KnowledgeBase, example code, troubleshooting wizards, solutions, and white papers

### Standard Service Level

- Automatic upgrades included
- All the benefits of Basic Service
- Support by NI applications engineers through direct phone or e-mail access
- Exclusive access to on-demand training through Services Resource Center

### Premier Service Level

- All the benefits of Standard Service
- Support by NI senior applications engineers through direct phone or e-mail access with extended hours of operation



[ni.com](http://ni.com) • (800) 813 3693

National Instruments • [info@ni.com](mailto:info@ni.com)