

RELEASE AND UPGRADE NOTES

LabVIEW™ Datalogging and Supervisory Control Module

Version 8.5

This document describes the system requirements and the process of installing the LabVIEW Datalogging and Supervisory Control (DSC) Module 8.5 and the DSC Module Run-Time System 8.5. This document also describes the new features available with version 8.5 and compatibility and upgrade issues you might encounter when you use version 8.5.

If you want to upgrade the DSC Module from the DSC Module 7.x or earlier, refer to the *LabVIEW Datalogging and Supervisory Control Module 8.2 Release and Upgrade Notes*. The *Upgrading from the LabVIEW DSC Module 7.x* section provides important information for upgrade users. Refer to the National Instruments Web site at ni.com/info and enter the info code `dsc820` to access the *LabVIEW Datalogging and Supervisory Control Module 8.2 Release and Upgrade Notes*.

Refer to the *Getting Started with the LabVIEW Datalogging and Supervisory Control Module* manual for exercises you can complete to familiarize yourself with the DSC Module.

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System Requirements

To use the DSC Module, your computer must meet the following minimum system requirements:

- Windows Vista/XP/2000.
- A minimum of 800 MB free disk space. You can increase computer resources to increase performance of DSC Module applications.
- A minimum of 512 MB of RAM. NI recommends 1 GB of RAM.
- LabVIEW Base, Full, or Professional Development System version 8.5. Refer to the *LabVIEW Release Notes* for LabVIEW system requirements.

The DSC Module does not support Windows NT/Me/98/95/Server 2003.

Installation Instructions

Complete the following steps to install the DSC Module.

1. Log in to the development computer as an administrator or as a user with administrative privileges.
2. Install LabVIEW 8.5 from the LabVIEW 8.5 installation CD. Refer to the *LabVIEW Release Notes* for information about installing the LabVIEW development system.
3. Install the DSC Module from the LabVIEW DSC Module 8.5 installation CD. Follow the instructions that appear on the screen.

The DSC Module installs program files, documentation, and examples.



Note By default, the NI Keyboard Filter Driver is not installed. The NI Keyboard Filter Driver activates special security features, including the ability to restrict users from switching between applications by pressing the <Alt-Tab> keys. This driver does not work on laptop computers or on computers with hibernation enabled.

4. Restart the computer.

New Features in the DSC Module 8.5

The following sections describe the new features in the DSC Module 8.5. Refer to the *LabVIEW Help* for more information about using these new features.

Using the Statistical Process Control Toolkit

By default, the LabVIEW Statistical Process Control Toolkit is installed when you install the DSC Module. Use the Statistical Process Control VIs to monitor, analyze, and control processes. For example, you can estimate process distributions and capabilities, calculate and plot histograms, and plot and fit normal probability distribution functions to the histograms.

Refer to the `readme_SPC.html` file, available by selecting **Start»All Programs»National Instruments»LabVIEW 8.5»Readme**, for more information about using the Statistical Process Control Toolkit.

Using the NI OPC Servers Application

Use the NI OPC Servers application to transfer data from industrial devices and systems to client applications on a host machine. The NI OPC Servers application enables data sharing between a variety of applications, such as human-machine interface software, manufacturing execution systems, and enterprise resource planning applications.

By default, the NI OPC Servers application is installed when you install the DSC Module. You have a temporary license for a two-hour evaluation period. If you do not activate the NI OPC Servers application license, this application runs in evaluation mode for two hours. When the evaluation period expires, you must activate a valid license to continue using the NI OPC Servers application.

Refer to the *NI OPC Servers Help*, available by selecting **Start»All Programs»National Instruments»NI OPC Servers»NI OPC Servers Help**, for more information about activating and using the NI OPC Servers application.

Logging OPC Client Diagnostic Information

Logging diagnostic information about OPC Client I/O servers can help you debug an OPC system. You can use the options on the **Diagnostics** page of the **Configure OPC Client I/O Server** dialog box to log diagnostic information about the OPC Client I/O servers you create.

OPC Client I/O servers communicate with both LabVIEW and the Shared Variable Engine. The OPC Client I/O servers log this communication to HTML log files. The log files highlight communication activities in blue and communication errors in red. The log files also provide explanations of the communication errors. You therefore can use the log files to debug an OPC system.

Supporting Modbus Advanced Data Types

In addition to supporting Boolean values and 16-bit unsigned integers, the Modbus and Modbus Slave I/O servers support other data types, including 16-bit signed integers, 32-bit signed and unsigned integers, 32-bit floating-point numbers, and arrays of these data types. These data types enable the Modbus and Modbus Slave I/O servers to access and update multiple Modbus points simultaneously.

Using EPICS Client I/O Servers

EPICS, or the Experimental Physics and Industrial Control System, is a set of open-source software tools you can use to develop large, distributed control systems. EPICS systems use the Channel Access (CA) network protocol to pass data between EPICS clients and EPICS servers, also known as input/output controllers (IOCs). The CA network protocol is an Ethernet-based protocol.

The DSC Module acts as an EPICS client. With the DSC Module, you can monitor and update process variables that an IOC publishes using the CA network protocol. You can create an EPICS Client I/O server to read process variables from and write process variables directly to an IOC.

In the **Project Explorer** window, right-click a target, such as the **My Computer** target, and select **New»I/O Server** from the shortcut menu. In the **Create New I/O Server** dialog box, select **EPICS Client** and click the **Continue** button to create an EPICS Client I/O server.

Using the Multi-Segment Pipe Control

Use the Multi-Segment Pipe control to represent real-world pipe networks that you need to monitor. Use the Multi-Segment Pipe control to reshape and resize an entire pipe network interactively. You can add pipe segments to this pipe network, remove pipe segments, and change the direction in which the flanges point. You also can change the color of the pipe network to customize what the pipe network represents.

New DSC Module VIs

The DSC Module 8.5 provides the following new VIs:

- Browse Database VI
- Deploy Libraries VI
- NI Security Get Group List of User VI
- NI Security Get User List of Group VI

Refer to the *LabVIEW Help* for more information about using these new VIs.

Enhancements to the Multiple Variable Editor

Use the **Multiple Variable Editor** window to configure a large number of shared variables at one time. Right-click a project library and select **Edit Variables** from the shortcut menu to display the **Multiple Variable Editor** window.

The **Multiple Variable Editor** window includes the following enhancements:

- Select and edit multiple shared variables at once using the new table format.
- Search across several shared variables at once using the new advanced search options. Click the **Find** button to display the search options.
- Copy and paste property values across shared variables by clicking the **Copy** and **Paste** buttons.
- Sort shared variable properties by right-clicking a property column and selecting **Sort Ascending** or **Sort Descending** from the shortcut menu.

You no longer need to use the **Multiple Variable Editor** window to import or export shared variable configuration information to or from a spreadsheet file. To import the information, right-click a project library and select **Import Variables** from the shortcut menu. To export the information, right-click a project library and select **Export Variables** from the shortcut menu.

Enhancements to the SharedVariableIO Properties

SharedVariableIO properties in the following categories are available in real-time operating systems.

- Description
- Initial Value
- Scaling
- Update Deadband

Compatibility Issues

When you open a VI saved in a previous version of the DSC Module, the VI might be broken if the VI contains an indicator, constant, or control created from the **shared variable value change notification** output of the following VIs:

- Cancel Value Change Notifications VI
- Enable Value Change Notifications VI
- Request Value Change Notifications VI

To fix the broken VI, delete the indicator, constant, or control. Then create a new indicator, constant, or control from the **shared variable value change notification** output and wire it to the appropriate parameter.

Considerations for the DSC Module Run-Time System

If you want to run applications built with LabVIEW, the DSC Module, and the LabVIEW Application Builder on a computer without the DSC Module installed, you must install the DSC Module Run-Time System. The DSC Module Run-Time System contains components to enable the DSC features in the built applications.

To use the DSC Module Run-Time System, the computer must meet the following minimum system requirements:

- Windows Vista/XP/2000.
- A minimum of 600 MB free disk space.
- A minimum of 512 MB of RAM.

Complete the following steps to install the DSC Module Run-Time System.

1. Log in to the computer as an administrator or as a user with administrative privileges.
2. Install the DSC Module Run-Time System 8.5 from the LabVIEW DSC Module Run-Time System 8.5 installation CD.
3. Follow the instructions that appear on the screen.
4. Restart the computer.

Known Issues

Refer to the `readme_DSC.html` file, available by selecting **Start»All Programs»National Instruments»LabVIEW 8.5»Readme** or on the LabVIEW DSC Module installation CD, for information about known issues with the DSC Module.

Refer to the `readme_DSC_RTS.html` file, available by selecting **Start»All Programs»National Instruments»LabVIEW 8.5»Readme** or on the LabVIEW DSC Module Run-Time System installation CD, for information about known issues with the DSC Module Run-Time System.

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