# Introduction to the NI-DCPower .NET Class Library

This file contains important information about the NI-DCPower .NET Class Library and is organized into the following sections:

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| **Note** | To use the NI-DCPower .NET Class Library with NI power supplies and source-measure units (SMUs), the target system must also have the underlying NI-DCPower instrument driver installed, version 17.1 or later. |

### Installed Software

The NI-DCPower .NET Class Library installs files in the following locations:

[MSTUDIOVS2010DIR] is an alias for the following National Instruments file folder location:

* 64-bit: C:\Program Files (x86)\National Instruments\MeasurementStudioVS2010
* 32-bit: C:\Program Files\National Instruments\MeasurementStudioVS2010

[MSTUDIOVS2012DIR] is an alias for the following National Instruments file folder location:

* 64-bit: C:\Program Files (x86)\National Instruments\MeasurementStudioVS2012
* 32-bit: C:\Program Files\National Instruments\MeasurementStudioVS2012

[NIPUBDOCS] is an alias for the following National Instruments file folder location:

* C:\Users\Public\Documents\National Instruments

[IVISTANDARDROOTDIR] is an alias for the following IVI Foundation file folder location:

* 64-bit: C:\Program Files (x86)\IVI Foundation\IVI and C:\Program Files\IVI Foundation\IVI
* 32-bit: C:\Program Files\IVI Foundation\IVI

[Frameworkxx] is an alias for the following file folder locations:

* 64-bit: Framework64
* 32-bit: Framework32

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| **Note** | When installing the NI-DCPower .NET Class Library on a 64-bit operating system, files are installed to both the Framework64 and Framework32 file locations. |

#### File Locations

|  |  |
| --- | --- |
| **Item** | **Default Installed Location** |
| Assemblies | [IVISTANDARDROOTDIR]\Microsoft.NET\[Frameworkxx]\v2.0.50727\IviFoundationSharedComponents 1.4.0\Ivi.Driver.dll  [IVISTANDARDROOTDIR]\Microsoft.NET\[Frameworkxx]\v2.0.50727\IviFoundationSharedComponents 1.4.0\Ivi.DCPwr.dll  [IVISTANDARDROOTDIR]\Microsoft.NET\[Frameworkxx]\v4.0.30319\NationalInstruments.ModularInstruments.NIDCPower 17.1.0\NationalInstruments.ModularInstruments. NIDCPower.Fx40.dll  [IVISTANDARDROOTDIR]\Microsoft.NET\[Frameworkxx]\v4.5.50709\NationalInstruments.ModularInstruments. NIDCPower 17.1.0\NationalInstruments.ModularInstruments. NIDCPower.Fx45.dll  [IVISTANDARDROOTDIR]\Microsoft.NET\[Frameworkxx]\v4.0.30319\NationalInstruments.ModularInstruments.Common 16.0.0\NationalInstruments.ModularInstruments.Common.dll  [IVISTANDARDROOTDIR]\Microsoft.NET\[Frameworkxx]\v4.5.50709\NationalInstruments.ModularInstruments.Common 16.0.0\NationalInstruments.ModularInstruments.Common.dll [MSTUDIOVS2010DIR]\DotNET\Assemblies\Current\NationalInstruments.ModularInstruments. ModularInstrumentsSystem.dll  [MSTUDIOVS2012DIR]\DotNET\Assemblies\Current\NationalInstruments.ModularInstruments. ModularInstrumentsSystem.dll [MSTUDIOVS2010DIR]\DotNET\Assemblies\Current\NationalInstruments.Common.dll  [MSTUDIOVS2012DIR]\DotNET\Assemblies\Current\NationalInstruments.Common.dll |
| Examples | [NIPUBDOCS]\NI-DCPower\NI-DCPower Examples\DotNET 4.0  [NIPUBDOCS]\NI-DCPower\NI-DCPower Examples\DotNET 4.5  [NIPUBDOCS]\NI-ModInst\Examples\DotNET 4.0  [NIPUBDOCS]\NI-ModInst\Examples\DotNET 4.5 |
| Help | [IVISTANDARDROOTDIR]Drivers\niDCPower\documentation\English |

### Documentation

Documentation is available at **Start»All Programs»National Instruments»NI-DCPower»NI-DCPower Documentation**.

## Examples

The installed NI-DCPower .NET examples are available at **Start»All Programs»National Instruments»NI-DCPower»NI-DCPower Examples»DotNET 4.0 and at Start»All Programs»National Instruments»NI-DCPower»NI-DCPower Examples»DotNET 4.5**.

## Connecting to the Instrument

You use the NI-DCPower .NET class library to control NI power supplies and source-measure units (SMUs) through the NI-DCPower instrument driver. The Programming with NI-DCPower topic in the NI DC Power Supplies and SMUs Help explains how to get started with NI-DCPower in different development environments. The NI-DCPower .NET Class Library Help is available at **Start»All Programs»National Instruments»NI-DCPower»NI-DCPower Documentation**.

## Configuring Instrument Settings

The NI-DCPower .NET Class Library API includes methods and properties for setting instrument state variables, as well as methods for controlling the instrument and reading results from the instrument. Refer to the NI-DCPower .NET Class Library Help for full API reference.

Two driver API hierarchies are available. The first is the instrument-specific hierarchy. This hierarchy can be used to access all of the functionality of the instrument. This hierarchy is available to programs that use one of the driver constructors to instantiate the driver. The second hierarchy is the IVI class-compliant hierarchy. This hierarchy can be used to access the IviDCPwr class API. This hierarchy is available to programs that use an IVI.NET Create(...) class factory method to instantiate the driver.

For more information on using the instrument-specific and class-compliant hierarchies, refer to the IVI Interchangeability for NI-DCPower topic in the NI-DCPower .NET Class Library Help.

## Configuring Driver Settings

IVI instrument drivers implement inherent capabilities such as simulation, range checking, state caching, coercion recording, interchangeability checking, and instrument status checking. You can enable/disable these features either programmatically using an attribute, or statically using a configuration utility.

## Known Issues

You can access information about known issues in the NI-DCPower .NET Class Library readme file at **Start»All Programs»National Instruments»NI-DCPower»NI-DCPower Documentation»NI-DCPower .NET 17.1 Readme**.

## Contacting Support

If you have feedback or need help using this driver, contact [ni.com/support](http://www.ni.com/support/).

## Trademarks

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