Manuals+ — User Manuals Simplified.

NATIONAL INSTRUMENTS USB-6216 Bus-Powered USB Multifunction Input or Output Device User Guide

Home » NATIONAL INSTRUMENTS » NATIONAL INSTRUMENTS USB-6216 Bus-Powered USB Multifunction Input or Output Device User Guide 📄

Contents

USB-6216 Bus-Powered USB Multifunction Input or Output Device

Product Information: USB-6216 DAQ

The USB-6216 is a bus-powered USB DAQ device manufactured by National Instruments. It is designed to provide basic installation instructions for National Instruments bus-powered USB DAQ devices.
The device comes with a software media for supported application software and versions. It is compatible with Windows operating systems and installs NI-DAQmx automatically.

Unpacking the Kit

When unpacking the kit, it is important to prevent electrostatic discharge (ESD) from damaging the device. To do this, ground yourself using a grounding strap or by holding a grounded object, such as your computer chassis. Touch the antistatic package to a metal part of the computer chassis before removing the device from the package. Inspect the device for loose components or any other sign of damage. Do not touch the exposed pins of connectors. If the device appears damaged in any way, do not install it. Unpack any other items and documentation from the kit and store the device in the antistatic package when not in use.

Installing the Software
Back up any applications before upgrading your software. You must be an Administrator to install NI software on your computer. Refer to the NI-DAQmx Readme on the software media for supported application software and versions. If applicable, install an application development environment (ADE), such as LabVIEW, before installing the software.

Connecting the Device
To set up a bus-powered USB DAQ device, connect the cable from the computer USB port or from any other hub to the USB port on the device. Power on the device. After the computer detects your device (this can take 30 to 45 seconds), the LED on the device blinks or lights. Windows recognizes any newly installed devices the first time the computer reboots after hardware is installed. On some Windows systems, the Found New Hardware wizard opens with a dialog box for every NI device installed. Install the software automatically is selected by default. Click Next or Yes to install the software for the device. If your device is not recognized and the LED does not blink or light, make sure that you installed NI-DAQmx as outlined in the Installing the Software section. After Windows detects newly installed NI USB devices, NI Device Monitor launches. If applicable, install accessories and/or terminal blocks as described in the installation guides. Attach sensors and signal lines to the device, terminal block, or accessory terminals. Refer to the documentation for your DAQ device or accessory for terminal/pinout information.

Configuring the Device in NI MAX
Use NI MAX, installed automatically with NI-DAQmx, to configure your National Instruments hardware. Launch NI MAX and in the Configuration pane, double-click Devices and Interfaces to see the list of installed devices. The module is nested under the chassis. If you do not see your device listed, press to refresh the list of installed

devices. If the device is still not listed, disconnect and reconnect the USB cable to the device and computer. Right-click the device and select Self-Test to perform a basic verification of hardware resources. If necessary, right-click the device and select Configure to add accessory information and configure the device. Right-click the device and select Test Panels to test device functionality.

Bus-Powered USB

This document provides basic installation instructions for National Instruments bus-powered USB DAQ devices. Refer to the documentation specific to your DAQ device for more information.

Unpacking the Kit

- **Caution**

  To prevent electrostatic discharge (ESD) from damaging the device, ground yourself using a grounding strap or by holding a grounded object, such as your computer chassis..

1. Touch the antistatic package to a metal part of the computer chassis.
2. Remove the device from the package and inspect the device for loose components or any other sign of damage.

   Caution

   Never touch the exposed pins of connectors.

   Note

   Do not install a device if it appears damaged in any way.
3. Unpack any other items and documentation from the kit.

   Store the device in the antistatic package when the device is not in use.

Installing the Software
Back up any applications before upgrading your software. You must be an Administrator to install NI software on your computer. Refer to the NI-DAQmx Readme on the software media for supported application software and versions.

1. If applicable, install an application development environment (ADE), such as LabVIEW, Microsoft Visual Studio®, or LabWindows™/CVI™.
2. Install the NI-DAQmx driver software.

Connecting the Device
Complete the following steps to set up a bus-powered USB DAQ device.

1. Connect the cable from the computer USB port or from any other hub to the USB port on the device.
2. Power on the device.

   After the computer detects your device (this can take 30 to 45 seconds), the LED on the device blinks or lights. Windows recognizes any newly installed devices the first time the computer reboots after hardware is installed. On some Windows systems, the Found New Hardware wizard opens with a dialog box for every NI device installed. Install the software automatically is selected by default. Click Next or Yes to install the software for the device.

   Note: If your device is not recognized and the LED does not blink or light, make sure that you installed NI-DAQmx as outlined in the Installing the Software section.

Note: After Windows detects newly installed NI USB devices, NI Device Monitor launches.

3. If applicable, install accessories and/or terminal blocks as described in the installation guides.

4. Attach sensors and signal lines to the device, terminal block, or accessory terminals. Refer to the documentation for your DAQ device or accessory for terminal/pinout information.

Configuring the Device in NI MAX

Use NI MAX, installed automatically with NI-DAQmx, to configure your National Instruments hardware.

1. Launch NI MAX.

2. In the Configuration pane, double-click Devices and Interfaces to see the list of installed devices. The module is nested under the chassis.

   If you do not see your device listed, press <F5> to refresh the list of installed devices. If the device is still not listed, disconnect and reconnect the USB cable to the device and computer.

3. Right-click the device and select Self-Test to perform a basic verification of hardware resources.

4. (Optional) Right-click the device and select Configure to add accessory information and configure the device.

5. Right-click the device and select Test Panels to test device functionality.

   Click Start to test the device functions, and then Stop and Close to exit the test panel. If the test panel displays an error message, refer to ni.com/support.

6. If your device supports Self-Calibration, right-click the device and select Self-Calibrate. A window reports the status of the calibration. Click Finish. For more information about Self-Calibration, refer to the device user manual.

   Note: Remove all sensors and accessories from your device before Self-Calibrating.

Programming
Complete the following steps to configure a measurement using the DAQ Assistant from NI MAX.

1. In NI MAX, right-click Data Neighborhood and select Create New to open the DAQ Assistant.

2. Select NI-DAQmx Task and click Next.

3. Select Acquire Signals or Generate Signals.

4. Select the I/O type, such as analog input, and the measurement type, such as voltage.

5. Select the physical channel(s) to use and click Next.

6. Name the task and click Finish.

7. Configure individual channel settings. Each physical channel you assign to a task receives a virtual channel name. Click Details for physical channel information. Configure the timing and triggering for your task.

8. Click Run.

Troubleshooting

For software installation problems, go to **ni.com/support/daqmx**.
For hardware troubleshooting, go to **ni.com/support** and enter your device name, or go to **ni.com/kb**.
Find device terminal/pinout locations in MAX by right-clicking the device name in the Configuration pane and selecting Device Pinouts.
To return your National Instruments hardware for repair or device calibration, go to **ni.com/info** and enter rdsenn, which starts the Return Merchandise Authorization (RMA) process.

Where to Go Next

Additional resources are online at **ni.com/gettingstarted** and in the NI-DAQmx Help. To access NI-DAQmx Help, launch NI MAX and go to Help»Help Topics»NI-DAQmx»NI-DAQmx Help.

Examples

NI-DAQmx includes example programs to help you get started developing an application. Modify example code and save it in an application, or use examples to develop a new application or add example code to an existing application.

To locate LabVIEW, LabWindows/CVI, Measurement Studio, Visual Basic, and ANSI C examples, go to **ni.com/info** and enter the Info Code daqmxexp. For additional examples, refer to **ni.com/examples**.

Related Documentation

To find the documentation for your DAQ device or accessory—including safety, environmental, and regulatory information documents—go to **ni.com/manuals** and enter the model number.

Worldwide Support and Services

The National Instruments website is your complete resource for technical support. At **ni.com/support**, you have access to everything from troubleshooting and application development self-help resources to email and phone assistance from NI Application Engineers.

Visit **ni.com/services** for NI Factory Installation Services, repairs, extended warranty, and other services.

Visit **ni.com/register** to register your National Instruments product. Product registration facilitates technical support and ensures that you receive important information updates from NI.

National Instruments corporate headquarters is located at 11500 North Mopac Expressway, Austin, Texas, 78759-3504. National Instruments also has offices located around the world. For telephone support in the United States, create your service request at **ni.com/support** or dial 1 866 ASK MYNI (275 6964). For telephone support outside the United States, visit the Worldwide Offices section of **ni.com/niglobal** to access the branch office websites, which provide up-to-date contact information, support phone numbers, email addresses, and current events.

376577A-01 Aug16

Documents / Resources

	NATIONAL INSTRUMENTS USB-6216 Bus-Powered USB Multifunction Input or Output Device [pdf] User Guide USB-6216, USB-6216 Bus-Powered USB Multifunction Input or Output Device, USB-6216, Bus-Powered USB Multifunction Input or Output Device, Multifunction Input or Output Device, Input or Output Device

References

- <img> [Engineer Ambitiously - NI](#)
- <img> [Engineer Ambitiously - NI](#)
- <img> [Example Programs - NI Community](#)
- <img> [NI Learning Center - NI](#)
- <img> [Using Info Codes - NI](#)
- <img> [Search Results - NI](#)
- <img> [Product Documentation - NI](#)
- <img> [Contact Us - NI](#)
- <img> [National Instruments Patents - NI](#)
- <img> [Log In - National Instruments](#)
- <img> [NI Services - NI](#)
- <img> [Support - NI](#)
- <img> [NI-DAQ™mx Download - NI](#)
- <img> [NI Trademarks and Logo Guidelines - NI](#)
- <img> [Example Programs - NI Community](#)
- <img> [NI Learning Center - NI](#)
- <img> [Using Info Codes - NI](#)
- <img> [Search Results - NI](#)
- <img> [Product Documentation - NI](#)
- <img> [Contact Us - NI](#)
- <img> [Log In - National Instruments](#)
- <img> [NI Services - NI](#)
- <img> [Support - NI](#)
- <img> [NI-DAQ™mx Download - NI](#)
- <img> [USB-6216 National Instruments Multifunction I/O Device | Apex Waves](#)

Manuals+,