# DAQ*ami*
## Data Acquisition Companion Software

MEASUREMENT COMPUTING™



## Features

- **Out-of-the-box data acquisition companion software for supported MCC DAQ devices**
- **Easy-to-use drag-and-drop interface**
- **Supports multiple devices for concurrent data input and output applications**
- **Acquire and log virtually unlimited samples from analog, digital, and counter input channels**
- **View up to 1 million samples per channel on displays**
- **Data logged to Technical Data Management Streaming (TDMS) files**
- **Generate signals from analog, digital, and counter/timer output channels**
- **Export acquired data to a .csv file for use in Microsoft® Excel® or MATLAB®**
- **Support for synchronous (composite) I/O operations[2]**
- **English, Chinese, and German language support**

## Supported Operating Systems
- **Microsoft® Windows® 11/10/8/7/Vista® 32/64-bit**

## Overview

DAQami™ provides an easy-to-use drag-and-drop interface that makes logging data and generating signals a quick and simple task.

Users can take advantage of DAQami's short learning curve to become familiar with the capabilities of their DAQ device. Verifying signal connectivity and quality is a snap with DAQami.

DAQami is a perfect fit for interactive testing and data logging, and is ideal for DAQ applications that run for minutes or days.

## Viewing and Logging Data with DAQami

With DAQami, users can include analog, digital, and counter/timer channels from multiple devices in an acquisition. Configurations can be saved to file for reuse and modification.

Once a configuration is complete, DAQami can then acquire and log a virtually unlimited[1] number of samples to TDMS files. The TDMS file format is used by many other applications, such as LabVIEW™, and Excel® with the TDM plugin.

If activated, output channels generate and update signals at the same time.

Up to 1 million samples per channel can also be viewed on displays. When logging data, changes to display settings can be saved to the current TDMS file.

## Selecting Devices

Most USB, Bluetooth, and Ethernet MCC DAQ devices are supported. Once a device is added to an acquisition, users can view device information and select differential or single-ended mode for devices that support both analog input modes.

A software-based DEMO-BOARD is included for evaluating DAQami without physical hardware.
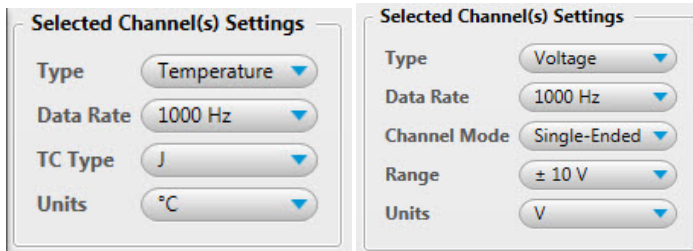
## Configuring Analog Input Channels

DAQami can acquire both voltage and temperature data.

On voltage channels, users can configure settings such as the channel mode, voltage range, and voltage units.

On activated temperature channels, users can configure options such as the thermocouple type and temperature units.

---

1  The number of samples logged per channel depends on the storage space available on the host PC.

2  Only supported by USB-1808 Series and USB-CTR Series devices.

Users can also create custom units based on a *multiplier* and *offset* ($y = mx + b$).



Users can select the measurement type for each activated analog input channel on devices that support both voltage and temperature.

## Configuring Digital Channels

Users can set the direction of digital bits or ports if supported by the device.
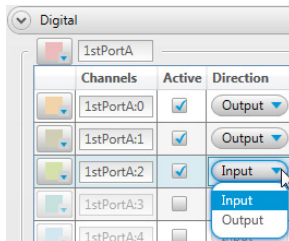


Digital channels are activated and configured for input or output in the Digital channels grid.

## Configuring Counter Input Channels

Depending on the counter features available on the device, DAQami supports the following counter input modes:

- Events – Count high-speed pulse events.
- Frequency[3] – Measure the frequency of a counter input signal.
- Period[2] – Measure the period of a counter input signal.
- Pulse Width[2] – Measure the time from the rising edge to the falling edge, or vice versa, of a counter input signal.
- Timing[2] – Measure the time between an external event on a counter input and the same counter gate.
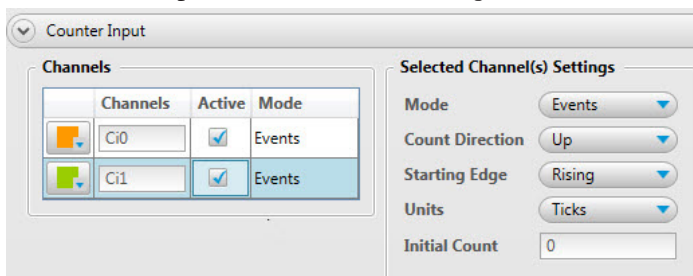


When a counter channel is activated, users can easily configure counter settings in the Counter Input channels grid.
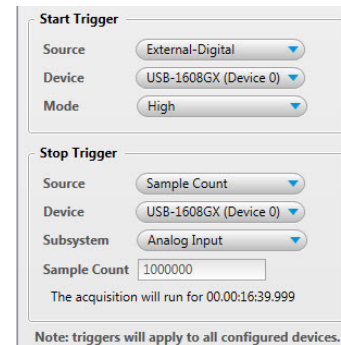
## Configuring Sample Rates and Triggers

The sample rates for all activated input channels on each device can be configured in the **Sample Rates** tab. User can also enable start and stop trigger conditions in the **Triggers** tab.
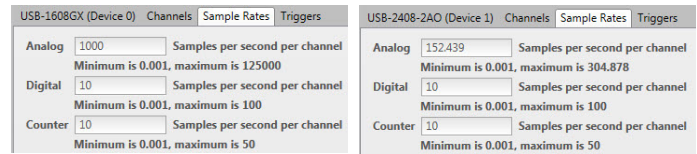


Quickly configure sample rates for each device and input channel type in the Sample Rates tab.



Configure start/stop triggers for all active channels in the Triggers tab.

## Configuring Sample Rates on Composite I/O Devices

For devices that support synchronous analog, digital, and counter operations – also called *composite operations*[4] – users can select one of the following clock options:

- pace all activated input channels from all subsytems with one hardware clock
- pace one subsystem with a hardware clock while all other subsystems are paced with a software clock
- pace all subsystems with a software clock

## Viewing Data on Displays

The following displays can be added to a DAQami acquisition to plot analog/temperature, digital, and counter input data:

- **Strip** – Shows data points for each channel, and continuously scrolls from right to left.
- **Block** – Shows a specified number, or block, of data points for each channel.
- **Scalar** – Shows the numeric value of a data point, or the value of a digital bit on an LED (on = high, off = low)
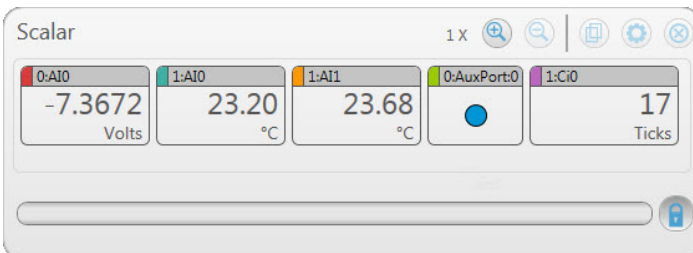
---

3  Currently only supported by USB-1808 Series and USB-CTR Series devices.

4  Only supported by USB-1808 Series and USB-CTR Series devices.

# DAQ*ami*
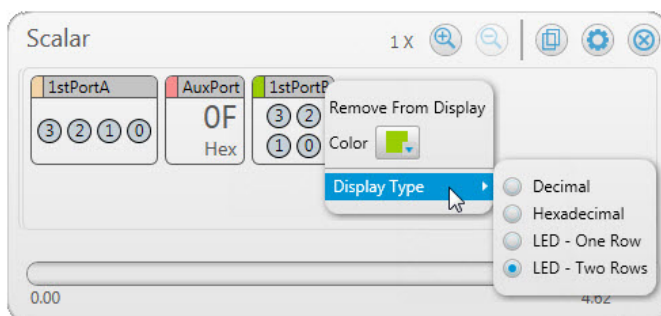## Generating and Updating Output Channels
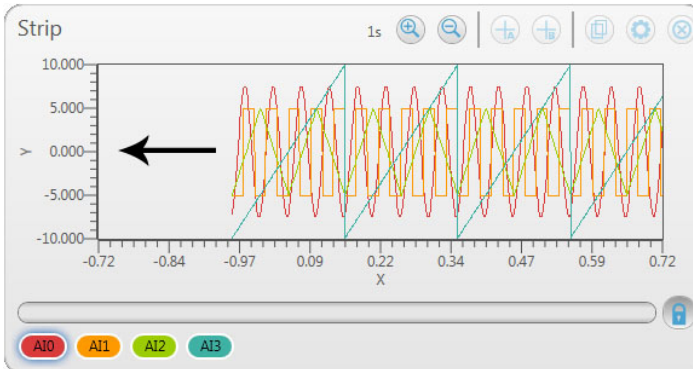


*A Strip display continuously plotting analog data.*
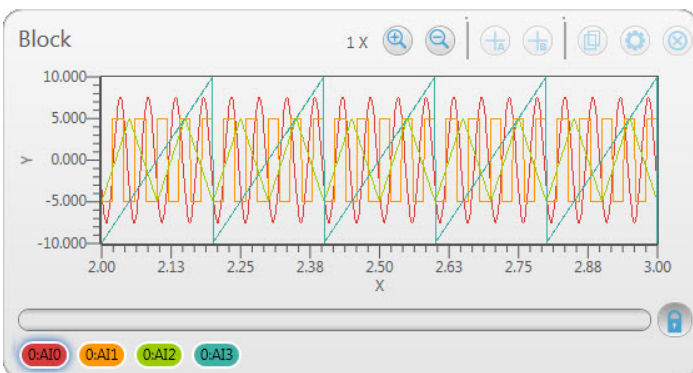


*A Block display plotting blocks of analog data.*



*A Scalar display showing voltage, temperature, digital bit (as an LED), and counter readings.*



*Digital inputs can also be added to displays as a single port, with settings for arranging LEDs, and for showing decimal or hexadecimal values.*

The following features are available on these displays:

- Scroll back and forth to review data as it is being acquired.
- Zoom in or zoom out on a specific section of displayed data.
- Add cursors to display and compare the values of two data points.
- Copy an image of the display for printing and for use in other applications.
- Change the display background and other visual settings on the display.
- On Strip and Block displays, users can select a range of data to export to a .csv file.

## Generating and Updating Analog Outputs

DAQami can generate and update signals from activated analog output channels.

Analog outputs for all supported AO devices can be updated during an acquisition using a slider control on an Output display.

If the device supports hardware pacing, a waveform control is also available. Users can select a sine, square, triangle, or sawtooth wave to output.
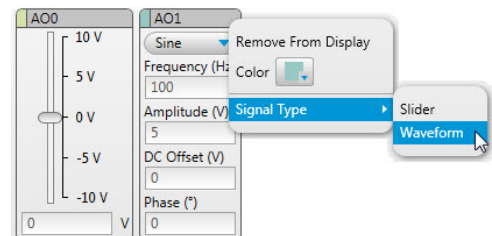


*Users can configure analog output signals before and during an acquisition using a slider control. If the device supports hardware-paced AO, a waveform control is also available.*

## Generating and Updating Digital Outputs

DAQami can generate and update signals from activated digital output channels.

Users can update each digital output to high (On) or low (Off) during an acquisition using a switch control on an Output display.
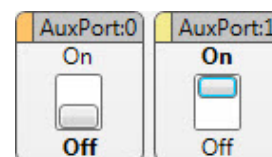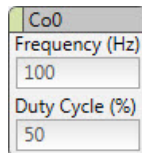


*Use a switch control on an Output display to update the state of a digital output to high or low.*

# DAQ*ami*

## Generating and Updating Counter/ Timer Outputs

DAQami can generate and update signals from activated counter/timer output channels.

Users can update the frequency and duty cycle of each counter/timer output using a pulse output control on an Output display.



*Use a pulse output control on an Output display to update the frequency and duty cycle of a counter/timer output.*

## Saving Configuration Files

Users can save the current configuration to file at any time. Once saved, a configuration file can be opened to use again.

## Reviewing and Exporting Data

Users can review data on Scalar, Strip, and Block displays as it is being acquired.

Users can also open and review data post-acquisition. Device and display settings are saved with each data file.

When an acquisition stops, logged data can be exported to a .csv file. **Auto Export** settings can also be configured to automate data export.

Users can also export a range of data from a Strip or Block display.

## Supported Hardware

Refer to www.mccdaq.com/DAQami for information about supported Measurement Computing DAQ devices.