DASYLab®
Data Acquisition System Laboratory

Quick Start
Using DASYLab with a
Measurement Computing
USB Temp and TC Series Device

Thank you for purchasing a USB Temp and TC Series temperature data acquisition device from Measurement Computing Corporation (MCC).

The USB Temp and TC Series consists of the following devices:

- USB-TEMP and USB-TEMP-AI
- USB-TC and USB-TC-AI

Refer to the *Getting Started: Using DASYLab with a Measurement Computing DAQ Device* booklet that shipped with your device for instructions about system requirements, downloading, and installing the required software and the latest evaluation version of DASYLab. This booklet is also available on our website at www.mccdaq.com/PDFs/Manuals/QS-DASYLab-MCCDRV.pdf.

Configure your USB Temp and TC Series device in InstaCal

When configuring your USB Temp and TC Series device in InstaCal for use with the DASYLab examples, complete the following steps before you exit InstaCal (refer to the *Run InstaCal and add your MCC device* section in the *Getting Started: Using DASYLab with a Measurement Computing DAQ Device* booklet that shipped with your device).

1. Right-click on any other MCC device and select **Remove Board** from the context menu to remove it from the InstaCal configuration. The examples are designed to work with a single device configured as **Board# 0**.
2. If you removed one or more MCC devices in step 3, right-click the USB Temp and TC Series device and select
   Change Board #.
3. Make sure **0** displays in the **Board Number** list and click **OK** on the **User Board Number** dialog box.

   The USB Temp and TC Series device is assigned **Board# 0** in the InstaCal configuration.
4. Double-click the USB Temp and TC Series device to open the **Board Configuration** dialog box.
5. Configure the device based on the temperature sensor type(s) you are using and the channels you have connected.

   For USB-TEMP-AI and USB-TC-AI devices, configure voltage channels for differential input. The examples are designed for this input configuration.
6. Select **Exit** from the **File** menu to close InstaCal.

One you install DASYLab and all the required software, follow the instructions in the Download and install USB Temp and TC Series examples section on page 2.

MEASUREMENT COMPUTING™

Download and install USB Temp and TC Series examples

To download a set of temperature measurement examples for USB Temp and TC Series devices, complete the following steps:

1. Visit the *DASYLab Preconfigured Examples* page at www.mccdaq.com/DASYLab-Examples.aspx.
2. Click one of the following links:
   o for examples compatible with DASYLab 12, click Version 12 Examples Download
   o for examples compatible with DASYLab 13, click Version 13 Examples Download
3. Click **Save File** in the dialog box.
4. Run the self-extracting executable file from the download location to run the DASYLab configurator.
5. Click **Yes** in the **Import Package** dialog box.
6. On the **Packages** tab, click ⊞ to expand the **MCC-DRV Examples** node, select **MCC-DRV USB-TC and USB-TEMP Examples**, click **Enable**, and then click **Continue**.
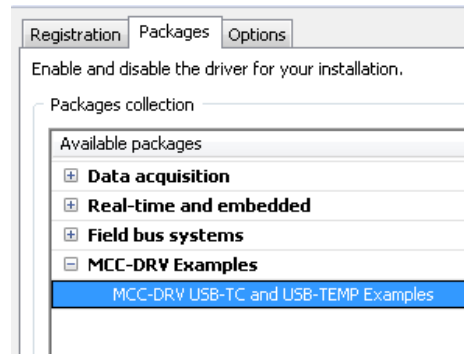
The configurator closes.
7. Launch DASYLab from the **Start** menu.
8. Select **File»Open** and double-click on **MCC-DRV Examples for USB-TC and USB-TEMP** in the **Open Worksheet** dialog box.
9. Double-click on either the USB-TC or USB-TEMP folder to open the examples for each device.
10. Select an example and click **Open**

See the next section for a description of the examples.

Using the DASYLab MCC-DRV Examples with a USB Temp and TC Series device

The following examples demonstrate how to use DASYLab with a USB Temp and TC Series device for typical temperature monitoring tasks. Five examples are included for each device in the Series. With the exception of the two-point control examples, all worksheets run with DASYLab Lite or better.

Data acquired from the device is averaged over five seconds using a running average, and then displayed on a Digital Meter, a Chart Recorder, and a Bar Graph configured as a thermometer-type display. The Write Data module then logs data to a text file.

The Bar Graph and Digital Meter display the data trend and change colors when the data is above or below the defined range. The running minimum and maximum are also computed and displayed.

Each example worksheet includes simple instructions and a description of the worksheet logic.

The location of the example worksheets varies depending on the operating system on your computer.

Select **Options»Default Folders** and look at the **Worksheet** path for the location of worksheet folders and files.

To open other examples, select **File»Open** and browse to the example you want to run.

Examples	Description
USB-TEMP-1Channel.DSB USB-TEMP-AI-1Channel.DSB USB-TC-1Channel.DSB USB-TC-AI-1Channel.DSB	Acquires and displays temperature data from one channel, displays minimum and maximum temperature values, and logs temperature data to a text file.
USB-TEMP-1Channel-multifile-user-input.DSB USB-TEMP-AI-1Channel-multifile-user-input.DSB USB-TC-1Channel-multifile-user-input.DSB USB-TC-AI-1Channel-multifile-user-input.DSB	Perform the same functions as the one-channel examples above, except these examples include an Enter Project startup dialog for you to input text that is included in the name of the file written to by the Write Data module. The Write Data module also uses the multifile feature to create a series of files, rather than appending data to an existing file.
USB-TEMP-4Channel.DSB USB-TEMP-AI-4Channel.DSB USB-TC-4Channel.DSB USB-TC-AI-4Channel.DSB	Perform the same functions as the one-channel examples above, except these examples acquire, display, and log temperature data from the first four channels on the device.
USB-TEMP-ALL_Channels.DSB USB-TEMP-AI-ALL_Channels.DSB USB-TC-ALL_Channels.DSB USB-TC-AI-ALL_Channels.DSB	Perform the same functions as the one-channel examples above, except these examples acquire, display, and log data from all available channels. ▪ For the USB-TEMP and USB-TC examples, temperature data is acquired from all channels. ▪ For the USB-TEMP-AI and USB-TC-AI examples, temperature data is acquired from four channels, and voltage data is acquired from the other four channels
These examples require DASYLab Basic USB-TEMP-TwoPointControl.DSB USB-TEMP-AI-TwoPointControl.DSB USB-TC-TwoPointControl.DSB USB-TC-AI-TwoPointControl.DSB	Acquires temperature data and outputs the data to a Digital Output module to control a heater. You specify a setpoint using a Slider module, and a Write Global Variable module saves the value. A Read Global Variable module outputs the setpoint value, and the setpoint and the data are displayed on a Chart Recorder. The Bar Graph and Digital Meter use the setpoint as the lower limit.

Working with the Examples

When you open the worksheet file, you will see the DASYLab work area, with the display windows arranged over it.

- Press <Alt-2> to minimize the display windows and reveal the work area.
- Press <Alt-1> to restore the display windows.
- To see the displays arranged as a virtual instrument panel, select **Window»Layout 1**. The Layout view can be expanded to display on the full screen by pressing <Ctrl-F>. Press <Esc> to exit full screen mode.
- To run the worksheet, click ▶ or press < F5>.

Data is logged to the DASYLab default data folder (select **Options»Default Folders** for the location). With the exception of the *multifile* and the *two-point control* examples, data is appended to the same file. The file names reflect the name of the worksheet.

The *multifile* example prompts the user for a *project name* and uses that project name to form the file name. Additionally a sequence number is added to the end of the filename to ensure that the filename is unique.

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