



**Sustaining Quality**

**Exceeding Expectations**

Atmel Projected Capacitive

Demo Kit Setup Guide

For Controller Board and COF Kits



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# 1. Controller Board Demo Kit

## 1.1. Contents

Each controller board demo kit includes:

- ▶ Touch Sensor
- ▶ Controller Board with Atmel maXTouch® Controller
- ▶ USB Cable
- ▶ Dawar Configuration Utility CD

## 1.2. Connections

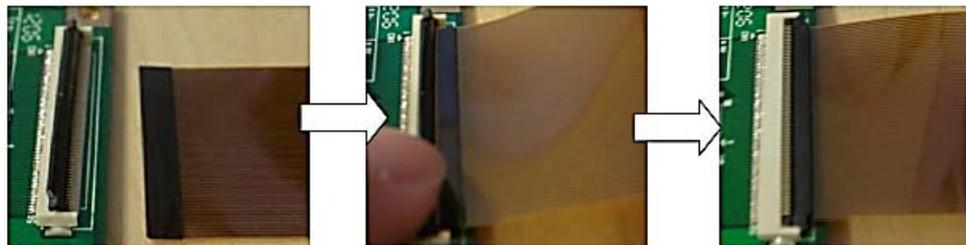
Connect the touch sensor to the controller board as shown:



Note that the location of the controller board may be different than shown above. The touch sensor will only plug into the controller board in one direction.

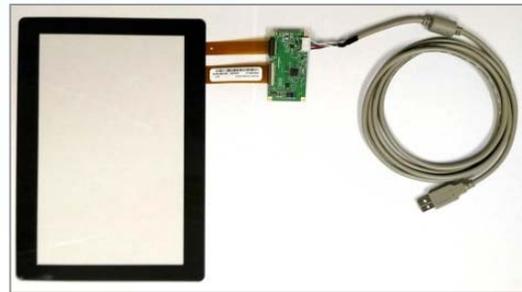
To connect the touch sensor to the controller board:

1. Undo the socket latches
  - NOTE: Depending on the board, the latch may lift up or slide out. Be careful not to damage the latch as the touch sensor will not function correctly without the compression provided by the latch.**
2. Insert the flex tail into the connector. Ensure that the tail is fully inserted and straight.
3. Snap the socket latch back into place.



Connect the USB cable to the connector on the controller board. The connector is keyed and can

only be inserted in one orientation.



Insert the other end of the USB cable into a standard USB port on the computer.

## 1.3. Software

### 1.3.1. Windows

The Atmel maXTouch® USB controllers are compatible with the standard HID digitizer driver included by default in Windows 7, 8, and 10. If you are using the demo kit with Window 7, 8, or 10, the operating system will automatically install the correct driver when you connect the sensor to the computer. Once the driver installation is complete, the touch sensor will function as a digitizer in Windows.

### 1.3.2. Linux

The Atmel maXTouch® USB controllers are compatible with the `hid-multitouch` driver that was added to Linux kernel v2.6.38. To include support for the HID drivers, either use `make menuconfig` to enable USB HID under the “Device Drivers, HID Support” option, or modify the kernel `.config` file to include the following:

```
CONFIG_HIDRAW=y
CONFIG_USB_HIDDEV=y
CONFIG_USB_HID=y
CONFIG_HID_PID=y
CONFIG_HID_SUPPORT=y
CONFIG_HID_MULTITOUCH=y
CONFIG_HID=y
```

There are several public utilities available for testing and modifying the controller settings in Linux. Contact Dawar for more information.

### 1.3.3. Other Operating Systems

Dawar’s Controller Board Kits are only compatible with Windows and Linux.

## 2. Chip-On-Flex (COF) Demo Kit

### 2.1. Contents

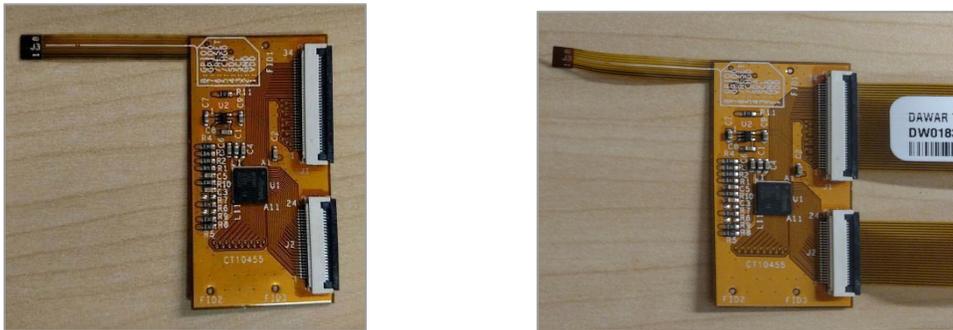
Each COF demo kit includes:

- ▶ Touch Sensor
- ▶ COF Circuit with Atmel maXTouch® Controller

- ▶ I<sup>2</sup>C to USB bridge Board
- ▶ USB cable
- ▶ Dawar Configuration Utility CD

## 2.2. Connections

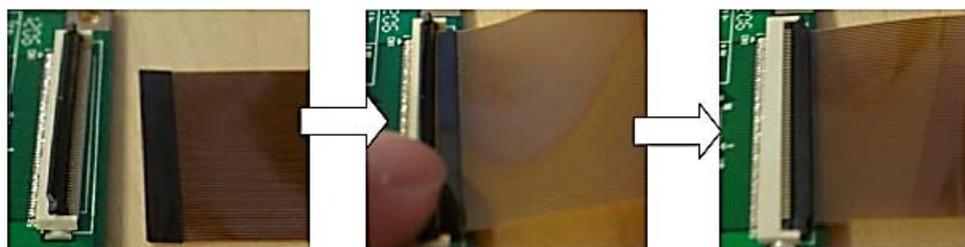
Connect the touch sensor to the COF circuit as shown:



Note that the location of the COF circuit may be different than shown above. The touch sensor will only plug into the COF circuit in one direction.

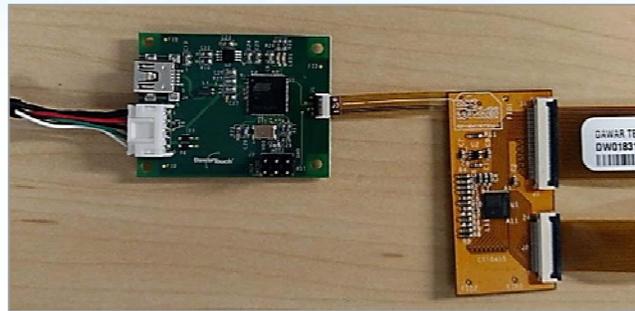
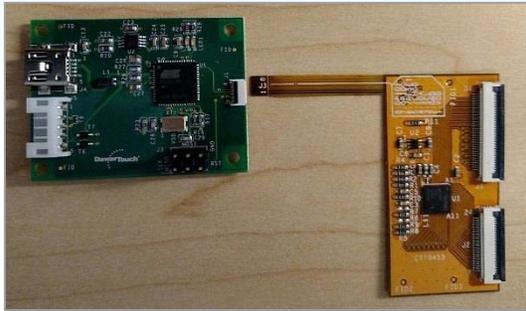
To connect the touch sensor to the COF circuit:

1. Undo the socket latches
  - NOTE: Depending on the board, the latch may lift up or slide out. Be careful not to damage the latch as the touch sensor will not function correctly without the compression provided by the latch.**
2. Insert the flex tail into the connector. Ensure that the tail is fully inserted and straight.
3. Snap the socket latch back into place.



At this point you may connect your host system directly to the I<sup>2</sup>C tail on the COF circuit. You may also use the provided I<sup>2</sup>C to USB bridge board and custom USB cable to connect the COF circuit to a computer.

If using the bridge board, first insert the flex tail into the connector on the bridge board. The COF circuit and bridge board should be oriented so that the components are facing up on both. Then connect the USB cable to the connector on the bridge board. The connector is keyed and can only be inserted in one orientation.



Insert the other end of the USB cable into a standard USB port on the computer.

## 2.3. Software

### 2.3.1. Windows

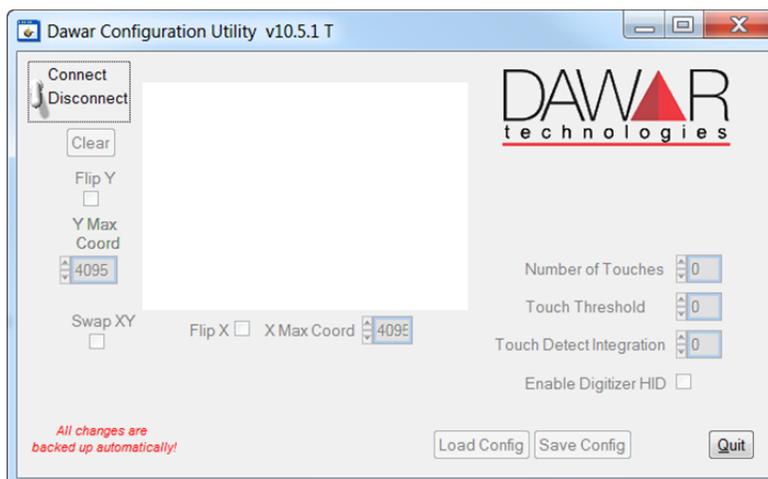
The I<sup>2</sup>C interface is not compatible with Windows. If you are using the I<sup>2</sup>C to USB bridge board to connect to a Windows computer, please note that the Windows digitizer HID feature is not supported when using the bridge board. The touch sensor will not function as a digitizer. In order to test the touch sensor in Windows, use the Dawar Configuration Utility mentioned below.

### 2.3.2. Linux

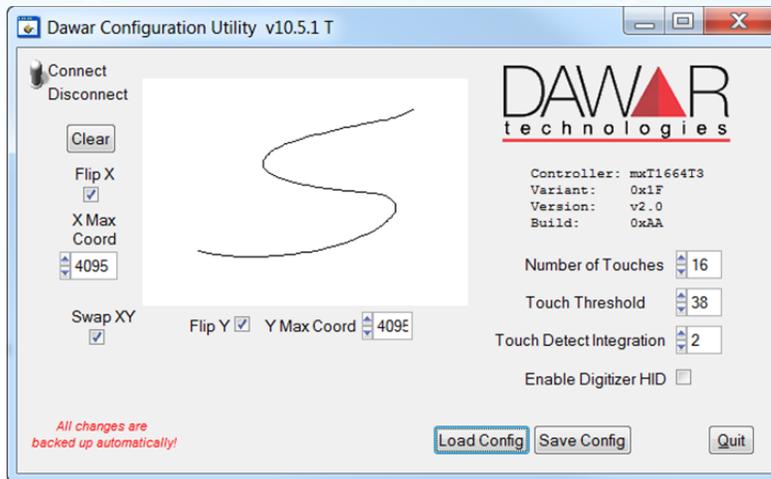
There is a publicly available I<sup>2</sup>C driver for the Atmel maXTouch controllers. The location of the most current driver is <https://github.com/atmel-maxtouch/linux>. A Linux integration app note is available for the I<sup>2</sup>C driver. Contact Dawar for more information.

## 3. Dawar Configuration Utility

The CD included with the demo kit contains a Windows program that can be used for testing and to modify the controller settings. Run `setup.exe` and follow the prompts. A new program named the Dawar Configuration Utility will be added to your Start menu. When you run the Dawar Configuration Utility, the main window looks like this:



Click on the connect switch in the upper left corner. Once the program is connected, touches on the sensor will be shown in the white area on the screen:



When finished, click the Connect switch again to disconnect the software from the sensor.

If you are using the Dawar Configuration Utility with a controller board demo kit with direct USB support, please note that the utility will disable the Windows HID messages (this prevents touches from activating or moving any user elements on the screen while using the utility). The HID messages will be reactivated after you disconnect the software.

## Revision History

Revision	Date	Content	Author
A	01-11-16	Initial Release	Tony Gray