IQS323EV02 User Guide

IQ Switch® - ProxFusion® Series

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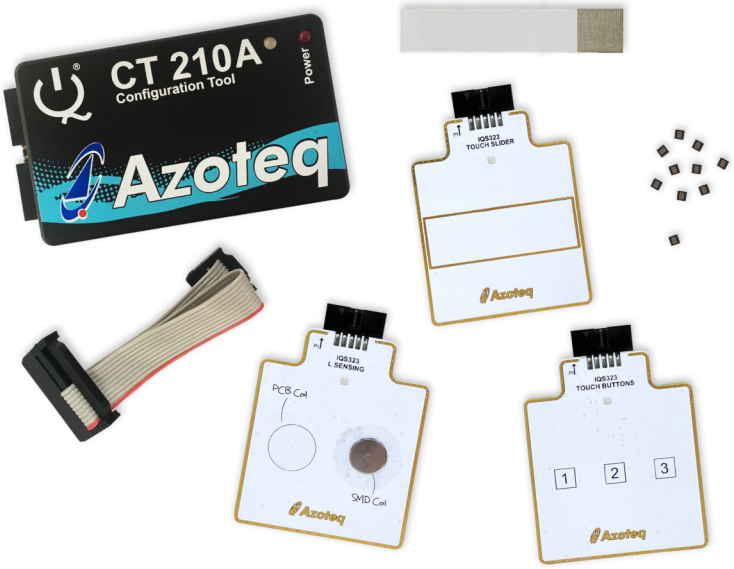
1 Introduction

This user guide describes the operation of the IQS323EV02 Evaluation Kit. The EV-Kit consists of:

- 1 x Touch Slider Module
- 1 x Touch Buttons Module
- 1 x L-Sense (Inductive Sensing) Module
- 10 x IQS323 IC's
- 1 x CT210A
- 1 x Ribbon Cable
- 1 x Piece of Perspex with Conductive Tape
- 1 x Complimentary USB Flash Drive

(Please Note: USB flash drive not included in all kits)

To visualise the sensor data from the EV-Kit, the module can be interfaced with any Windows PC that supports USB. This is done with the CT210A and the relevant IQS323 software Graphical User Interface (GUI) available for download from Azoteq's website. The purpose of the IQS323EV02 EV-Kit is to help application development engineers in evaluating the IC's capabilities. The content of the evaluation kit is shown below.



Download the GUI from Azoteq's website: https://www.azoteq.com/product/iqs323/

The GUI can be found in the following section:

- Design Support → Software
- Click the *Debug and Display tool for IQS323* hyperlink to download the GUI.
- Install the downloaded GUI.
- Connect the CT210A to the PC with a micro USB data cable.

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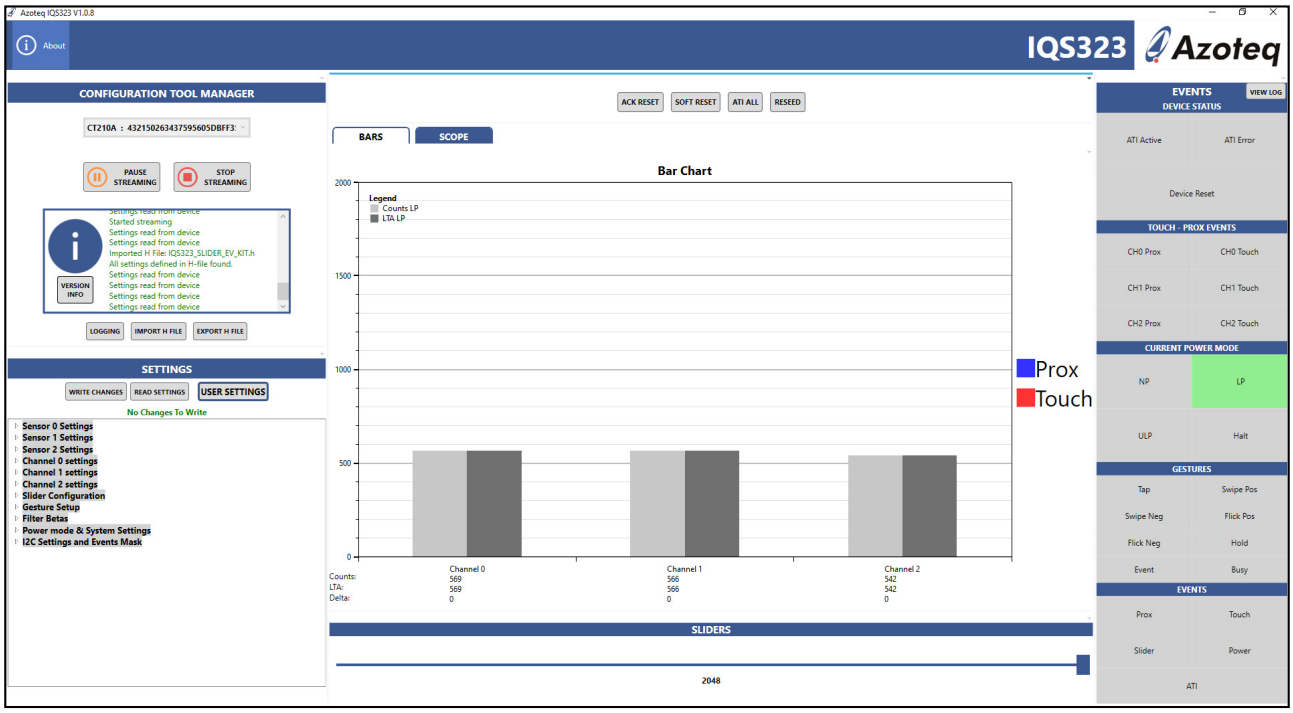
2 Setting up the IQS323 Touch Slider Module

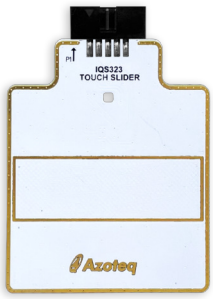
This module uses self capacitance mode and the EV-Kit can be set up as follows:

- Plug the module into the CT210A via ribbon cable
- Run the IQS323 GUI
- Click "START STREAMING"
- Click "USER SETTINGS"
- Select the "EVKit Modules" tab
- Select the image below "Slider" and minimise the pop-up window
- Click "ACK RESET"

The GUI should now look like the following:



Channel 0 represents the left of the slider. Channel 1 represents the middle of the slider. Channel 2 represents the right of the slider. The LED will turn on when a touch is made on the slider. The slider bar at the bottom of the GUI shows the relative position of the finger on the slider.



When evaluation is completed, click "STOP STREAMING".

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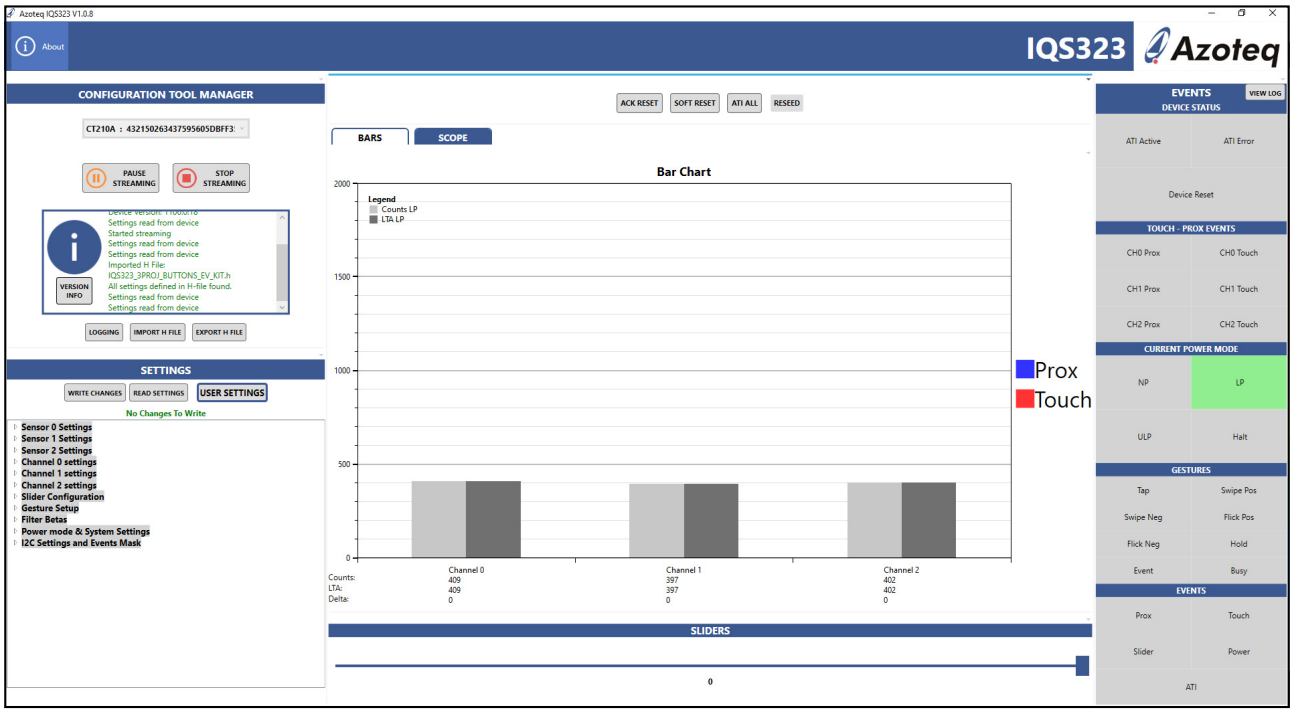
3 Setting up the IQS323 Touch Buttons Module

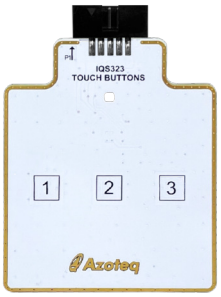
This module uses mutual capacitance mode and the EV-Kit can be set up as follows:

- Plug the module into the CT210A via ribbon cable
- Run the IQS323 GUI
- Click "START STREAMING"
- Click "USER SETTINGS"
- Select the "EVKit Modules" tab
- Select the image below "Three Button" and minimise the pop-up window
- Click "ACK RESET"

The GUI should now look like the following:



Channel 0 represents Button number 1. Channel 1 represents Button number 2. Channel 2 represents Button number 3. The LED will turn on when any channel has detected a "Touch" event.



When evaluation is completed, click "STOP STREAMING".

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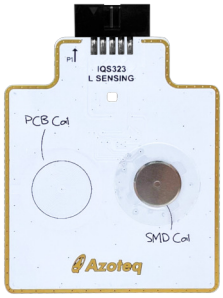
4 Setting up the IQS323 L-Sense (Inductive Sensing) Module

This module uses inductive mode and the EV-Kit can be set up as follows:

- Plug the module into the CT210A via ribbon cable
- Run the IQS323 GUI
- Click "START STREAMING"
- Click "USER SETTINGS"
- Select the "EVKit Modules" tab
- Select the image below "Inductive Options" and minimise the pop-up window
- Click "ACK RESET"

The GUI should now look like the following:

Channel 0 represents the PCB Coil on the left. Channel 1 represents the SMD Coil underneath the metal snap dome on the right. When metal is placed on the PCB Coil, a "Touch" event occurs. The Perspex with attached conductive tape can be used. Press the snap dome above the SMD Coil to observe a "Touch event". The LED will turn on when a "Touch" event is detected.



When evaluation is completed, click "STOP STREAMING".

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5 Reference Designs

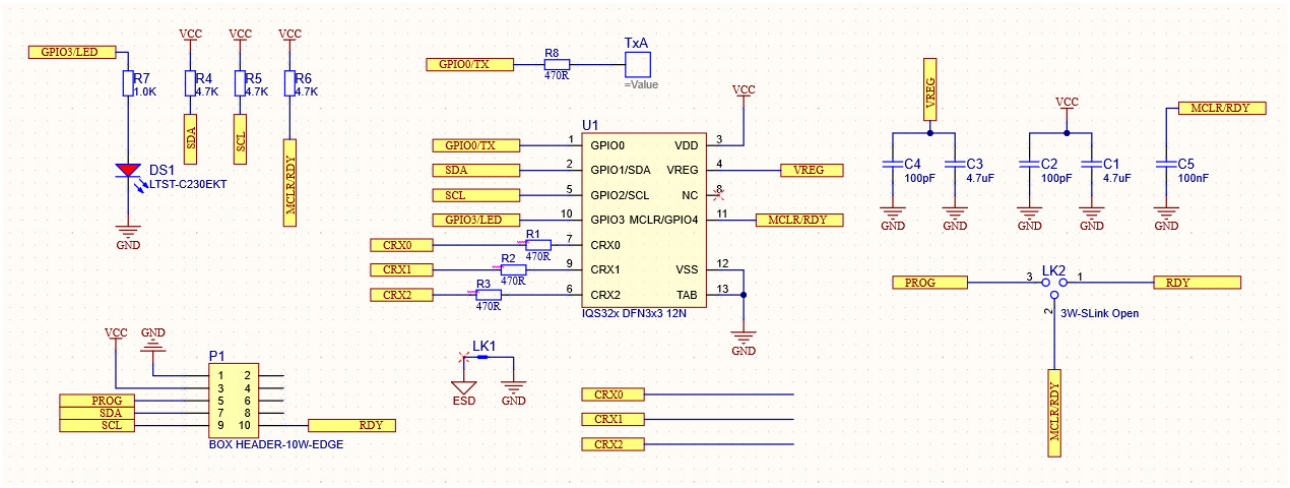

Figure 5.1: Touch Slider Reference Schematic

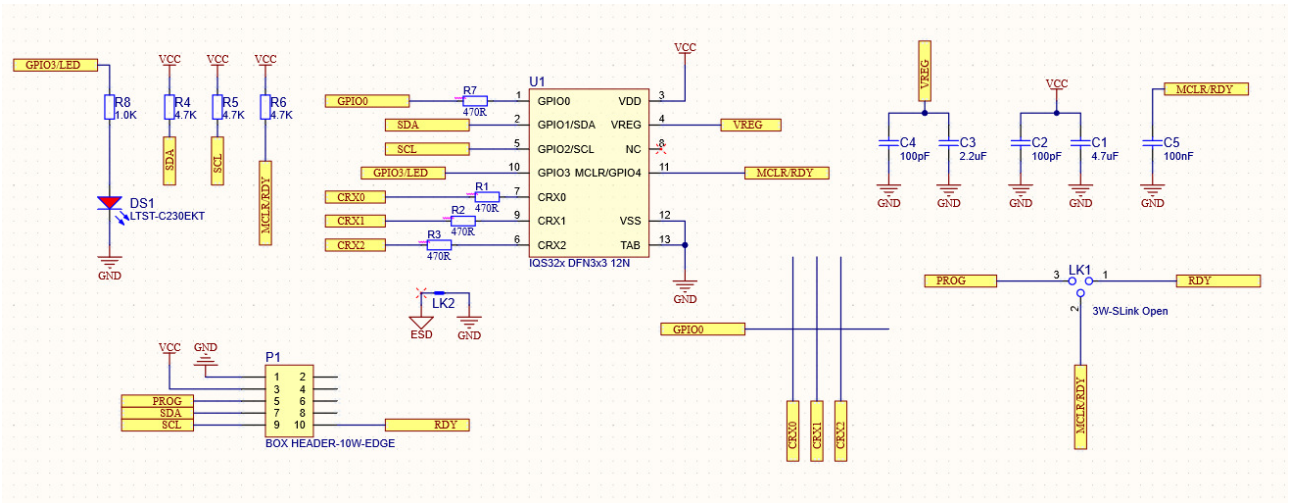

Figure 5.2: Touch Buttons Reference Schematic

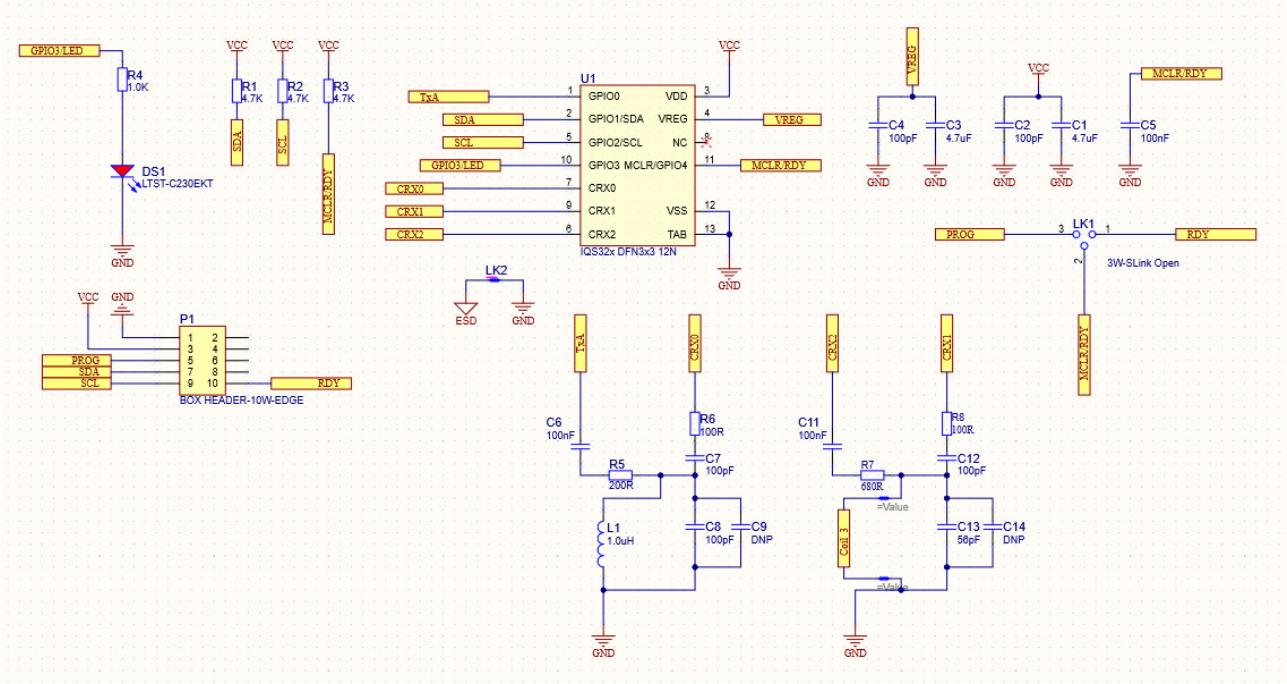

Figure 5.3: L-Sense (Inductive Sensing) Reference Schematic

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