CO326 : Lab 03 (Data Acquisition)
Group 11

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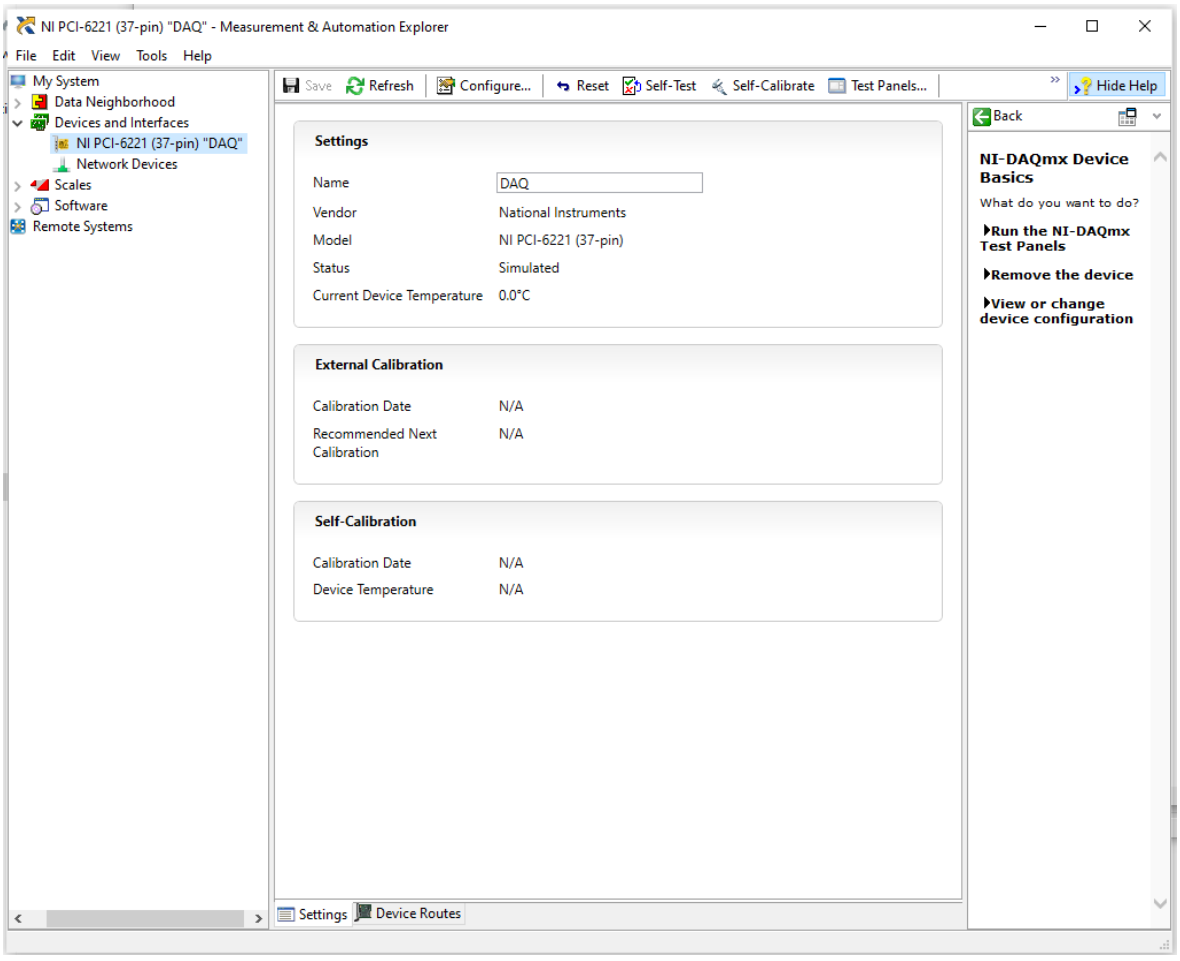
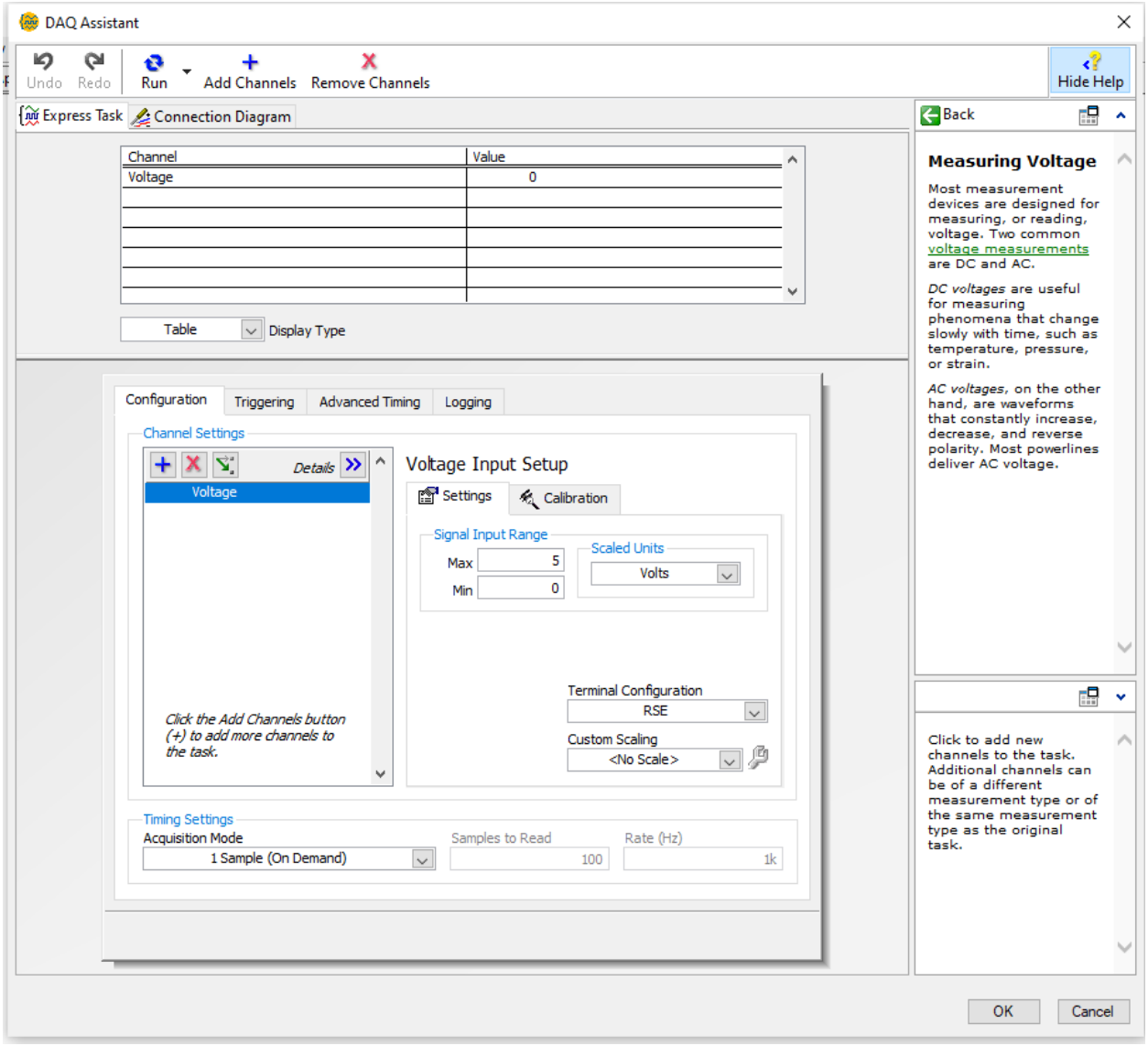
Task 1

Steps :

1. Creating the DAQ card in the NI MAX software. For this, open NI MAX then get the PCI-6221 as the interface and then configure the properties of the PCI-6221.

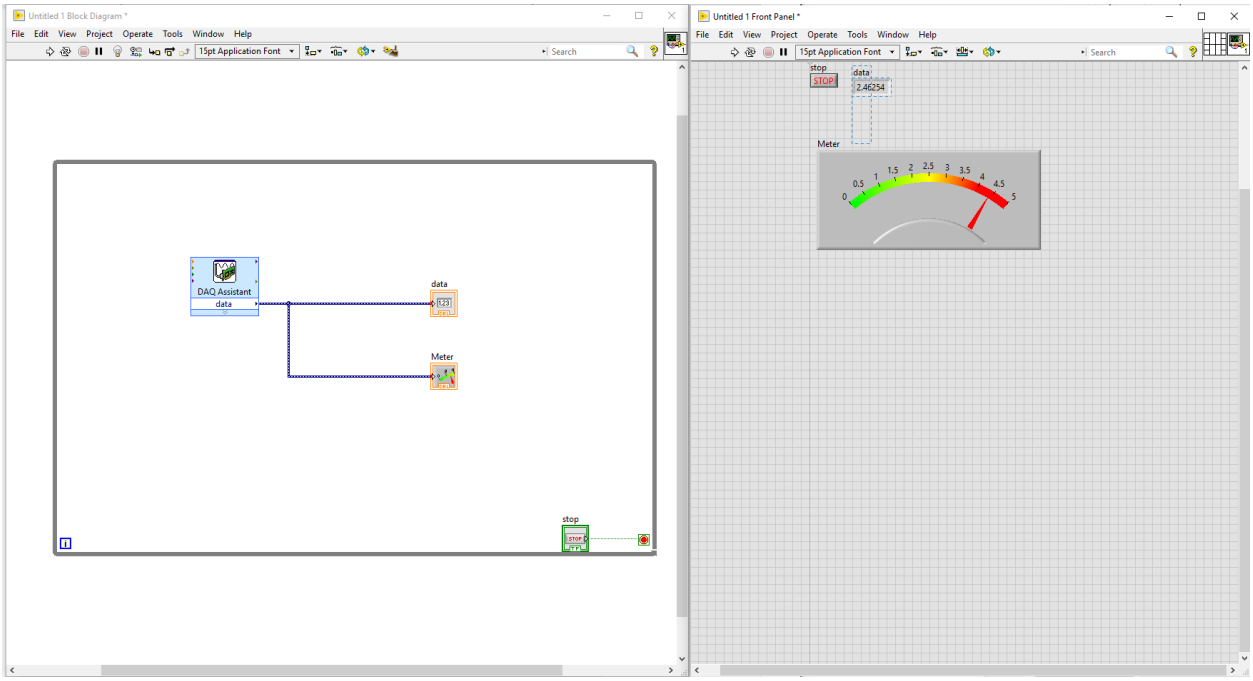


2. Then on the block diagram of the LAB VIEW, get the DAQ assistant and configure it accordingly.

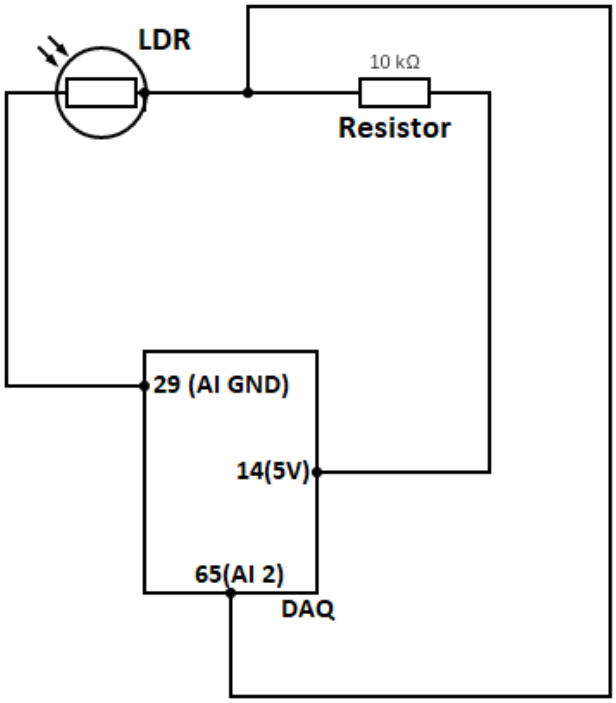


3. Create a numeric indicator and a meter to the DAQ assistant.

4. Add the whole circuit into a while loop and create the stop control button for stopping the while loop.



Hardware Circuit Diagram :



Description :

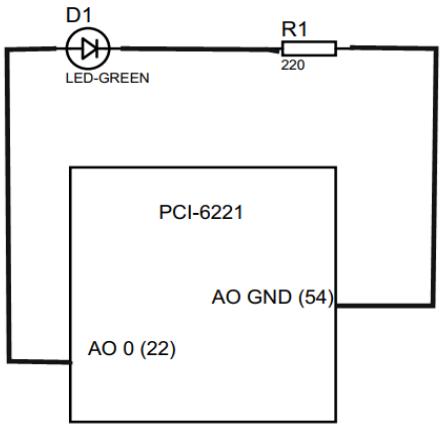
- Components of the circuit
    - PCI-6221 DAQ
    - LDR
    - Resistor (10kΩ)

- List of pins used
    - PIN 14 (+5V)
    - PIN 29 (AI GND)
    - PIN 65 (AI 2)

1. First LDR and Resistor were connected directly to each other.
2. 0V and 5V is supplied across LDR and Resistor by connecting A1 GND to LDR and Vcc(5V) to the resistor.
3. From the in between resistor and LDR, a wire is connected to AI2.
4. LDR acts as a resistor which is sensitive to the light. When LDR changes its resistance according to the light it is exposed to, the voltage that the 65 pin receives will vary.
5. According to that voltage, the meter shows the voltage at that pin.

Task 2

Circuit Diagram



Description

In this task, Using a DAQ Assistant and a slider in LABVIEW to output an analog voltage in the range 0-5V. The brightness of the LED is controlled by the output voltage given by the AO 0 pin of the DAQ card. The slider is used to vary the voltage.

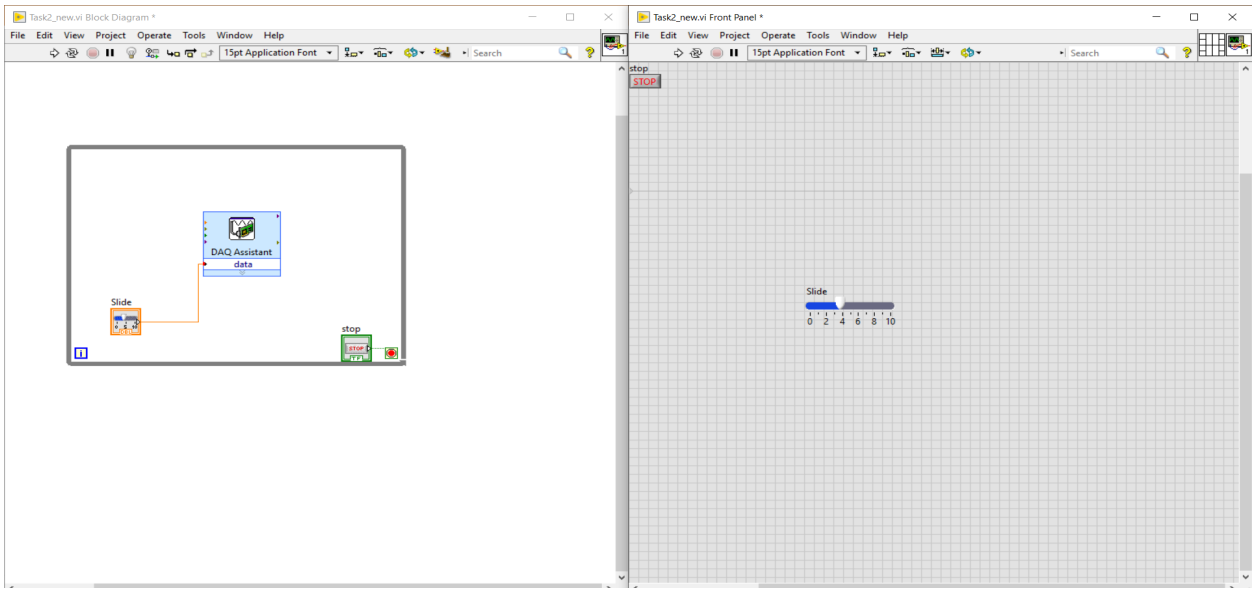
List of components

- PCI-6221 DAQ Card
- Resistor 220Ω
- LED Bulb

List of pins used

- PIN 22 - AO 0
- PIN 54 - AO GND

Block Diagram and Front Panel of LABVIEW



DAQ Assistant Properties