NI is now part of Emerson's new Test & Measurement business group.

LABVIEW

Register | Login | Help

BOARD | Search the community | SEARCH

Topic Options

O All Forum Topics

‹ Previous Topic   Next Topic ›

✔ Solved!   Go to solution

Read Adafruit INA 219 in LabVIEW with Linx and I2C library. %🖼

▭▭▭ MihaelaP
Member

Options ▼

06-01-2020 07:59 AM

I try to read voltage and current from an Adafruit INA 219 sensor with Arduino and I get the correct results. The problem is that I need the results for analyzing them and I need (1) to read the sensor's values in LabVIEW or (2) to send the results from the Arduino to Labview.

1) For reading the results from Adafruit INA 219 in Labview I make a program using the I2C library and Linx but I don't receive the correct values. I don't think that the program is good and I don't understand the I2C communication type. The datasheet of INA 219 is here: http://www.ti.com/lit/ds/symlink/ina219.pdf?ts=1590937044729 and my program here: https://imgur.com/nSi2IPr.

2) I think that another method for getting the results in LabVIEW is to send the results from Arduino (which gives the correct results) to LabVIEW.

Can someone help me, please?

My Arduino code:

```cpp
#include <Wire.h>
#include <Adafruit_INA219.h>

Adafruit_INA219 ina219;


void setup(void)
{
  Serial.begin(115200);
  while (!Serial) {
      // will pause Zero, Leonardo, etc until serial console opens
      delay(1);
  }

  uint32_t currentFrequency;

  Serial.println("Hello!");

  // Initialize the INA219.
  // By default the initialization will use the largest range (32V, 2A).  However
  // you can call a setCalibration function to change this range (see comments).
  ina219.begin();
  // To use a slightly lower 32V, 1A range (higher precision on amps):
  //ina219.setCalibration_32V_1A();
  // Or to use a lower 16V, 400mA range (higher precision on volts and amps):
  //ina219.setCalibration_16V_400mA();

  Serial.println("Measuring voltage and current with INA219 ...");
}

void loop(void)
{
  float shuntvoltage = 0;
  float busvoltage = 0;
  float current_mA = 0;
```

```
  float loadvoltage = 0;


  shuntvoltage = ina219.getShuntVoltage_mV();
  busvoltage = ina219.getBusVoltage_V();
  current_mA = ina219.getCurrent_mA();
  loadvoltage = busvoltage + (shuntvoltage / 1000);


  Serial.print("Bus Voltage:   "); Serial.print(busvoltage); Serial.println("
V");
  //Serial.print("Shunt Voltage: "); Serial.print(shuntvoltage); Serial.print
ln(" mV");
  Serial.print("Load Voltage:  "); Serial.print(loadvoltage); Serial.println
(" V");
  Serial.print("Current:       "); Serial.print(current_mA); Serial.println("
mA");
  Serial.println("");


  delay(500);
}
```

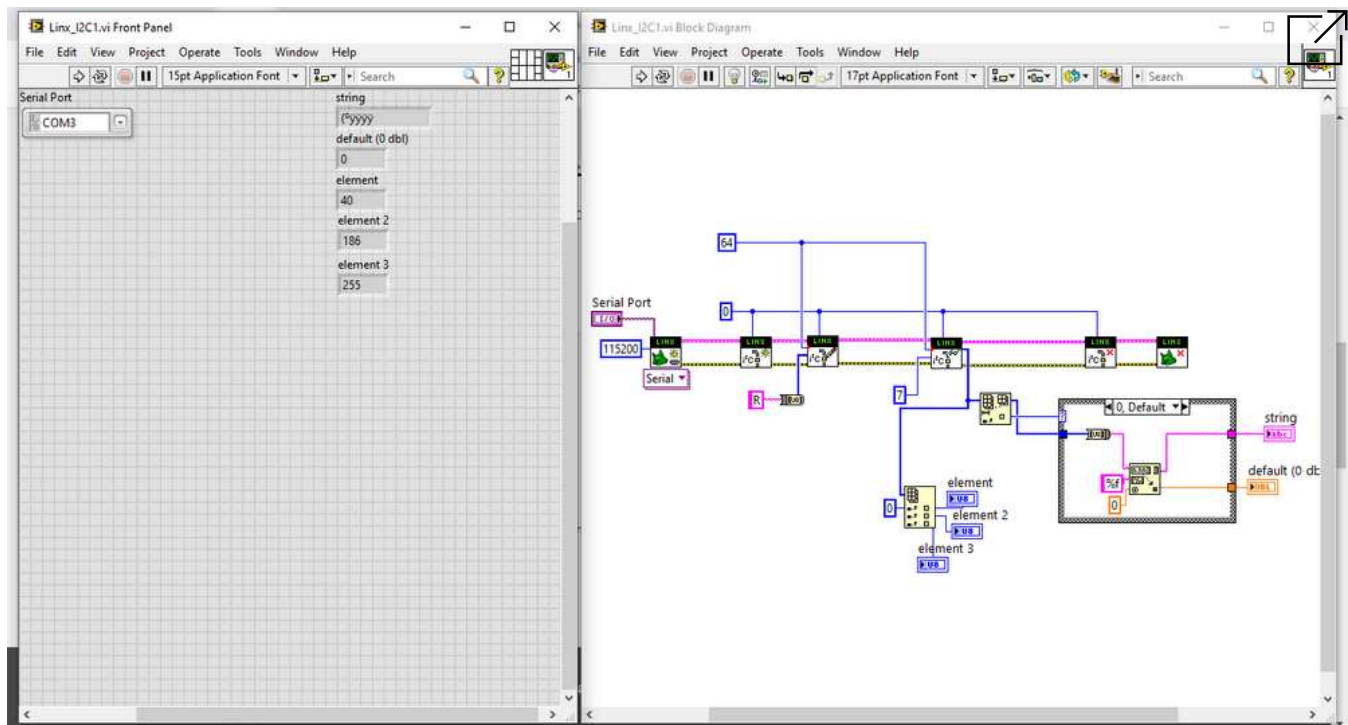## Re: Read Adafruit INA 219 in LabVIEW with Linx and I2C library. 🖼

MihaelaP
Author
Member

Options ▾

06-01-2020 09:19 AM

These are the results received by the current program and I don't understand the resultant string. The values are larger and without variations compared to the values provided by Arduino: 5...5.2 V, 5...5.2 V and 1.7...2.1 mA (for testing values 5V and 2A).

Message 2 of 3

REPLY

☑ Solution   Accepted by topic author MihaelaP

☑ **Re: Read Adafruit INA 219 in LabVIEW with Linx and I2C library.**

RTSLVU
Trusted Enthusiast   Options ▾

06-02-2020 09:37 PM

Quickest way forget LINX and just use the Arduino code you have and VISA to read the values sent from the Arduino

Here's a couple hints...

1. Use PrintLn and send all of your data in one line separated by commas (34.4,45,34,)

2. PrintLn adds a CR or LF to the end, use that as the "Termination Character" in VISA serial setup.

3. Set VISA read to read more bytes than you expect to receive.

4. VISA read will then wait until the termination or times out.

5. Parse the received string using "spreadsheet string to array" and you will have a nice array of numeric values.

```
============================
=== Engineer Ambiguously ===
============================
```

★ **1 KUDO**   (3,052 Views)

Message 3 of 3

○ All Forum Topics

‹ Previous Topic   Next Topic ›

Solutions

Semiconductor / Transportation / Aerospace, Defense, & Government / Academic & Research / Electronics / Energy / Industrial Machinery / Partners

Orders

Find a Distributor / Order Status and History / Retrieve a Quote / Terms of Service / Order by Part Number or Request a Quote

Company

NI is now part of Emerson / Leadership / Careers / Newsroom / Supply Chain & Quality / Events

Support

Downloads / Product Documentation / Discussion Forums / Activate a Product / Submit a Service Request / Site Feedback

(877) 388-1952

LEGAL | IMPRINT | PRIVACY | Manage cookies   United States (English)