**ADS1261 Pseudo Code for AC Excitation**

General setup for the ADS1261 ADC

* Write to the MODE0 register (**0x4B**)
  + Set the sample rate to 1200SPS and the filter to SINC4.
* Write the MODE2 register (**0x30**)
  + Enables AIN2 and AIN3 as outputs.
    - NOTE: AIN2 and AIN3 are outputs by default.
  + Connect AIN2 to GPIO\_0 and AIN3 to GPIO\_1.
* Write the MODE3 register (**0x01**)
  + Set AIN2's output to high. AIN3's output is default low.
* Write the IMUX register (**0xFA**)
  + Select IDAC1 to be connected to AINCOM.
* Write the IMAG register (**0x06**)
  + Set IDAC1 output to 1000uA (1mA).
* Write the REF register (**0x10**)
  + Enable the internal reference to enable the internal current source to be used.
    - NOTE: any time the REF register is changed, REF\_REFENB\_MASK must be ORed with the change in order to maintain the IDAC1 current output.

The main program loop

Read the excitation current

* Write the REF register (**0x15**)
  + Enable the internal reference to enable the internal current source to be used.
  + Set the reference to the AVDD 5vdc supply.
* Write the INPMUX register (**0x56**)
  + Set AIN4 and AIN5 to plus and minus analog inputs respectively.
* Write the PGA register (**0x00**)
  + Set the PGA gain to 1.
* Start the ADS1261 conversion.
  + Set the start pin on the ADS1261 high.
  + The conversion mode is continuous by default.
* Wait a while for conversion to complete.
* Read the excitation current.
* Stop the ADS1261 conversion.
  + Set the start pin on the ADS1261 low.
  + The conversion mode is continuous by default.

Read the pressure sensor’s bridge voltage

* Write the REF register (**0x15**)
  + Enable the internal reference to enable the internal current source to be used.
  + Set the reference to the AVDD 5vdc supply.
* Write the INPMUX register (**0x12**)
  + Set AIN0 and AIN1 to plus and minus analog inputs respectively.
* Write the PGA register (**0x00**)
  + Set the PGA gain to 1.
* Start the ADS1261 conversion.
  + Set the start pin on the ADS1261 high.
  + The conversion mode is continuous by default.
* Wait a while for conversion to complete.
* Read the pressure sensor’s bridge supply voltage.
* Stop the ADS1261 conversion.
  + Set the start pin on the ADS1261 low.
  + The conversion mode is continuous by default.

Read the pressure sensor’s bridge output

* Write the REF register (**0x1A**)
  + Enable the internal reference to enable the internal current source to be used.
  + Set the reference to the bridge voltage connected to AIN0 (+ input) and AIN1 (- input).
* Write the MODE1 register (**0x41**)
  + Set conversion mode to 2-wire AC excitation.
  + Set the conversion start delay to 50us.
* Write the MODE2 register (**0x30**)
  + Enables AIN2 and AIN3 as outputs.
    - NOTE: AIN2 and AIN3 are outputs by default.
  + Connect AIN2 to GPIO\_0 and AIN3 to GPIO\_1.
* Write the INPMUX register (**0x78**)
  + Set AIN6 and AIN7 to plus and minus analog inputs respectively.
* Write the PGA register (**0x04**)
  + Set the PGA gain to 16.
* Start the ADS1261 conversion.
  + Set the start pin on the ADS1261 high.
  + The conversion mode is continuous by default.
* Wait a while for conversion to complete.
* Read the pressure sensor’s bridge output voltage.
* Stop the ADS1261 conversion.
  + Set the start pin on the ADS1261 low.
  + The conversion mode is continuous by default.