**Flow readback instructions**

Remember, the flow readback software does not control gas flow. If the software stops, gas will still flow to the detector!

**Bold print indicates terminal commands**

(Hint) Most of the instructions below are detailed, but can be found in the command line memory by (arrow up) so you don’t have to type in every command, just (arrow up or down) in a terminal window until you find it.

1. To start EPICS IOC, open terminal window and change to the EPICS directory (**cd /usr/local/epics/base**)
   1. type command "**softIoc -d Flow\_status.db**" without quotes and hit enter
   2. the activity below should happen:

softIoc\_registerRecordDeviceDriver(pdbbase)

dbLoadRecords("Flow\_status.db")

iocInit()

Starting iocInit

############################################################################

## EPICS R7.0.3.1

## EPICS Base built Nov 19 2020

############################################################################

iocRun: All initialization complete

epics>

* 1. EPICS IOC has started, minimize this window DO NOT CLOSE

1. To start CSS Phoebus display, open a separate terminal window and change directory (**cd /home/pi/Apps/CSS\_Phoebus/phoebus-product**)
   1. double click on file "phoebus.sh" and press execute
   2. Prototype GEM Flow Display will start
2. if it does not start:
   1. click file and then open on the top banner of the CS- Studio window and find "Prototype\_8ch\_flow.bob" in /home/pi/Apps/CSS\_Phoebus/phoebus-product
   2. then select open at the bottom
   3. the process variables will start updating after step 3
3. To start gas flow readout, open a terminal window and change to the EPICS directory (**cd/usr/local/epics/base**)
   1. Type "**./BB\_flow2.py**" without the quotation marks and hit enter, this will start the prototype gas flow readback executable, the program looks like this when running:

stop bit = 0

chan status for bb:GEM:gas:sensor:ch01 is 1

8182

Mux channel is ch01 sensor full scale = 750 flow is -1.144

bb:GEM:gas:ch01 -1.1444091796875

loop @ 1

* 1. Minimize Thonny, do not close.

1. To start datalogger, open a terminal window and change to the EPICS directory (**cd /usr/local/epics/base**)
   1. Type “**python BB\_flow\_log\_2.py**” and hit enter
   2. The logger will start, minimize the window and do not close

Special instructions for DSG expert

\*\*To Start caReapeter, it is located in (/usr/local/epics/base-7.0.3.1/modules/ca/src/client/O.linux-arm)\*\*

\*\*a. locate the file and double click on it, then select execute\*\*