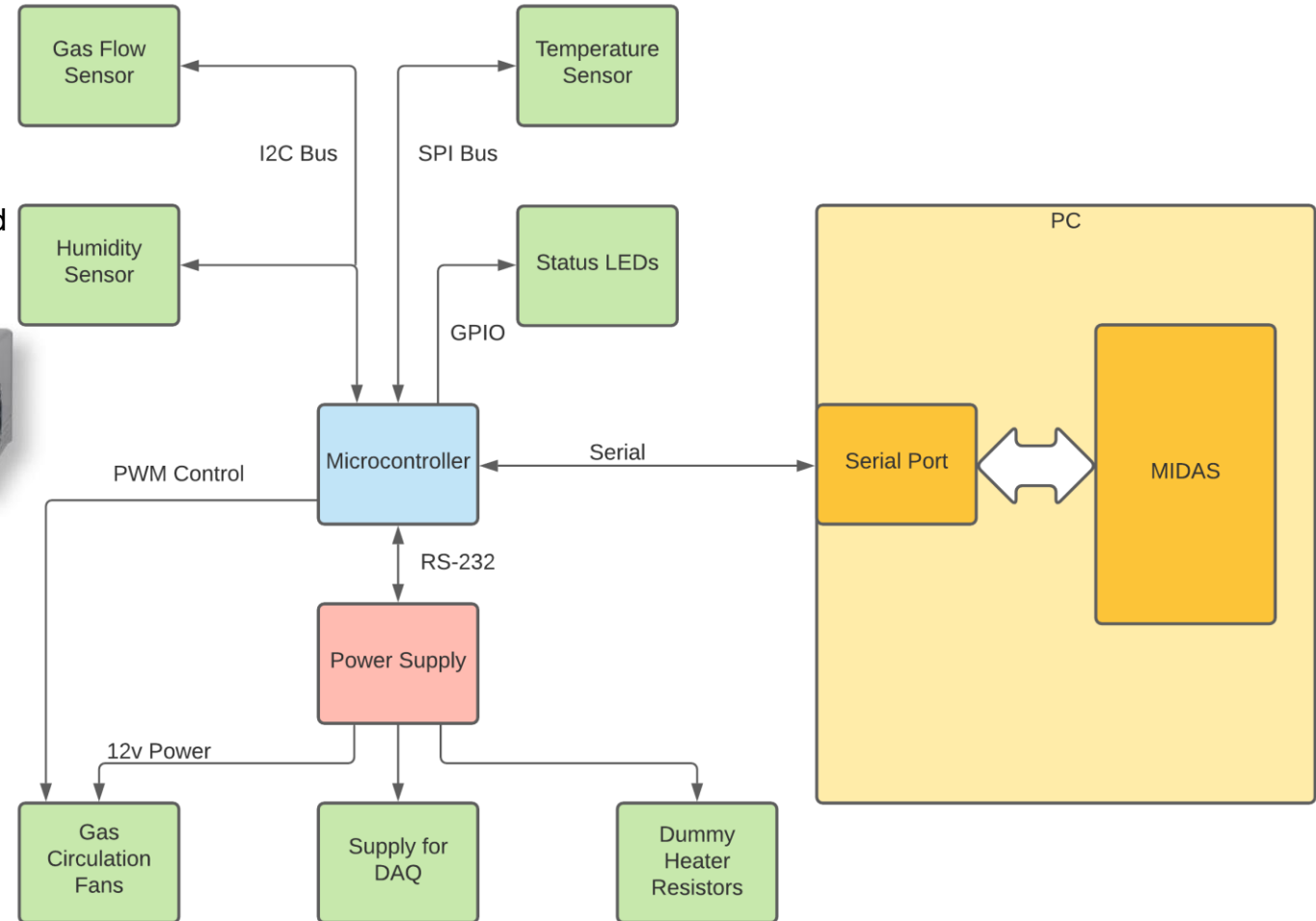# Mu3e Test Stand

- Allows environmental control and testing for Mupix ladders
- Closed loop control of gas flow to control ladder temperature
- Controlled by microcontroller with supervisory control from MIDAS
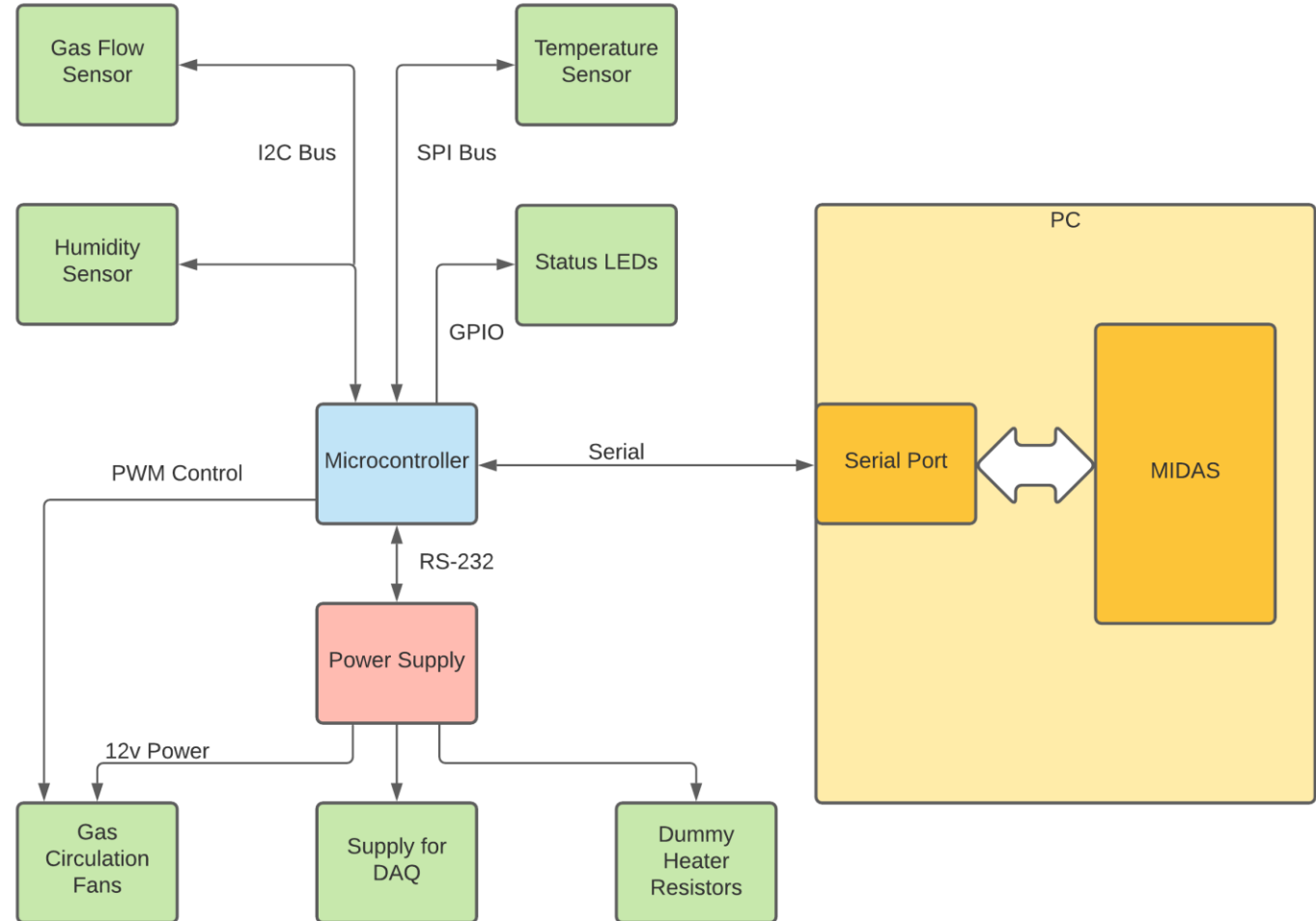- Contains controllable 'dummy' heaters to simulate Mupix heat load

Mu3e Test Stand

- **Miminal complexity interface with MIDAS**:

e.g:

Commands:

?	help - lists commands
v	human readable verbose output
m	machine readable output
s	new setpoint e.g. s15 or s50
r	run - starts closed loop control
x	stop - stops control loop and turns off fan
f	return flow measurement
t	return temperature measurement
h	return humidity measurement
b	broadcast measurements
n	no broadcasting of measurements
d	display all measurements

Mu3e Test Stand

- **Hardware is all working**
- **To-do:**
  - Integrate sensors into test box
  - Integrate Si heaters into test box
  - Freeze H/W requirements and create PCB
  - Increase ruggedness of microcontroller software
    - Error checking – open circuits, comms failure etc
    - Bounding of parameters
    - Verifying of PSU outputs
  - Add features
    - Support for DAQ power
    - Tacho feedback from fan
  - Integrate Front-End Board