

Silverwing Aeronautics

BTS testing procedure

Point of contact:

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This document specifies the steps to control the Raspberry Pi that interfaces with the power supply, motors and load cells.

Requirements:

- Delta programmable power supply (with ethernet interface)
- Raspberry Pi with ADC
- Python script for interfacing between temperature sensor and power supply
- A local network (with internet connection) for the raspberry Pi
 - Phone hotspots the Pi has acces to:
 - Olivier
 - Nayan
- Acces to the GitHub at [olivierwitteman/Silverwing](https://github.com/olivierwitteman/Silverwing) (Timothy, Ralph & Olivier atm)

General procedure

1. Make sure all connections are made reliably between
 1. Pi and mains outlet (Delta usb port does not provide enough power for Pi)
 2. Pi and Delta [ethernet]
 3. Pi and thermistor (two red wires)
 4. Pi and digital thermometer
2. Connect the interfacing computer to the same network as the Pi is on
3. Turn on the Delta and engage the circuit by rotating the emergency switch
4. `ssh pi@SilverPi.local`
 1. Password: Silverwing01
5. Change directories to Silverwing/BTS ('`cd Silverwing/BTS`') (**update the test matrices by following 'Updating the test matrix on the Pi' below**)
6. Execute the main control script with '`python BTS.py`'
 1. Press 'Ctrl+C' at any point to exit the script, stop the test and disable the power supply. To start the script again return to step 5.x.
 2. Your computer has to stay connected during the test. If you want to run a test in the background (ie. Without computer connected) run '`python BTS.py &`' instead. Note the PID of the process and use 'kill PID' in combination with the physical emergency switch to stop a test.
7. Upload test data from Pi
 1. '`git add -A`'
 2. '`git commit -m 'Uploading test data'`'
 3. '`git push`'
 1. Password 'Silverwing01'

Updating the test matrix on the Pi

8. Ask Olivier for now
9. On the Raspberry Pi (**follow the login instructions from general procedure**)
 1. 'git pull'
 1. password: 'Silverwing01'