Engage thrusters (setup pymodbus):

Run the following from the terminal, Update your pi

1. sudo apt update

2. sudo apt upgrade

Download the git repo to get Matt's test code

3. github.com/peterha34, "Pymodbus server with updating callback.py" is the file you want.

Install pymodbus

4. pip install pymodbus

Install pymodbus dependencies (twisted)

5. sudo apt-get install python-twisted

Get your wireless IP address

6. ifconfig (probably WLAN#)

Note down the ipv4 address of your WLAN

Update the Pymodbus test file with wireless IP address, edit

“Pymodbus server with updating callback.py" file

7. cd to where you saved the file

8. view Pymodbus\ server\ with\ updating\ callback.py

9. scroll to the bottom you want to edit

piAddress = "#######" (change this to you WLAN IP)

10. save and close file

Run the test file to confirm that all necessary apps are installed

11. python Pymodbus\ server\ with\ updating\ callback.py

If you are not getting errors, congrats you have all necessary files installed.

This is how you connect to the IGSS network to send data.

Run the following from the terminal

1. sudo sysctl -w net.ipv6.conf.all.disable_ipv6=1

2. sudo sysctl -w net.ipv6.conf.default.disable_ipv6=1

2.5 and 2.6 might be unnecessary, don't use these unless all else fails

2.5 sudo nano /etc/sysctl/conf

2.6 add the following lines to the bottom of the file

net.ipv6.conf.all.disable_ipv6=1

net.ipv6.conf.default.disable_ipv6=1

net.ipv6.conf.lo.disable_ipv6=1

Go to the following location

3. cd /etc/network/interfaces.d

Create a new file / overwrite current file

4. sudo view eth0

Copy the following into the empty file

5.

cat /etc/network/interfaces.d/eth0

iface eth0 inet static

address **{Your assigned IP address} (e.g. 192.168.1.3)**

netmask 255.255.255.0

gateway 192.168.1.1

6. Save and close the file

Now view/edit the /etc/network/interfaces file

7. sudo view /etc/network/interfaces

Copy/replace the following lines into the file, I suggest making a backup before editing (WARNING: this can break your network settings, proceed with caution)

8.

```
#interfaces(5) file used by ifup(8) and ifdown(8)


# Please note that this file is written to be used with dhcpcd

# For static IP, consult /etc/dhcpcd.conf and 'man dhcpcd.conf'


source /etc/network/interfaces.d/*


auto lo

iface lo inet loopback


allow-hotplug eth0
```

9. Save and close the file

10. Restart the Pi

11. ifconfig

If you see your specific static IP under eth0, congrats you have completed this step successfully

Testing MODBUS:

Update the Pymodbus test file with static IP address, to do so, edit

“Pymodbus server with updating callback.py" file

1. cd to where you saved the file
2. view Pymodbus\ server\ with\ updating\ callback.py
3. scroll to the bottom you want to edit

    piAddress = "#######" (change this to your static IP)

4. save and close file
5. python Pymodbus\ server\ with\ updating\ callback.py

If no errors are displaying congrats, everything is working and the tests are complete.