Setting Up the Hokuyo Laser Scanner

Specs:

* Model: UST-10LX
* Connection: Ethernet
* Supply Voltage: 12-24V
* IP Address: 192.168.0.10

Source: <http://wiki.ros.org/hokuyo_node/Tutorials/UsingTheHokuyoNode>

1. Connect Hokuyo to computer using Ethernet port or USB adapter
2. Click on Wifi icon in the top toolbar.
3. Select “Edit Connections” -> “Add” -> “Create”
4. Rename the connection (“Hokuyo” or “LiDAR”)
5. Select the “IPv4 Settings” tab and change the Method to “Manual”
6. In the Address section select “Add” and enter the following address information

Address: 192.168.0.15 | Netmask: 255.255.255.0 | Gateway: 192.168.0.10

1. Now click “Routes” and check the box for “Use this connection only for resources on its network”
2. Click “OK” and “Save”
3. Test the connection by opening a terminal and entering $ ping 192.168.0.10 which should print information about message packets sent and received. R

Launching the LiDAR Node in ROS

1. Make sure the urg\_node package is installed. If not:

$ sudo apt-get install ros-kinetic-urg-node

1. Open a terminal and enter $ roscore to start the master node
2. In a new terminal or terminal tab with the hokuyo plugged in, enter

$ rosrun urg\_node urg\_node \_ip\_address:=192.168.0.10

This starts the urg\_node and data should be streaming.

Visualize LiDAR Data

1. In a new terminal $ roscore
2. Open another terminal

$ rosrun urg\_node urg\_node \_ip\_address:=192.168.0.10

1. Open another terminal $ rosrun rviz rviz which opens the GUI for Rviz
2. Make the following changes in the left panel settings:

Global Options -> Fixed Frame: /laser

Grid -> Reference Frame: /laser

1. In the bottom left click “Add”, select “Laser Scan”, and click “OK”
2. Change “Laser Scan -> Topic: /scan

Now you should see the LiDAR data plotted on a 2D plane. Move the sensor around to see the changes in Rviz

Launch File Syntax for LiDAR

Every time you want to start the LiDAR sensor, you need to enter the rosrun urg\_node command into a separate terminal. Instead, we can use launch files to initiate the LiDAR sensor without having to enter that command. When you are comfortable with using launch files, add the following syntax to the desired launch file:

<!-- Laser -->

<node pkg=“urg\_node” type=“urg\_node” name=“laser scanner”>

<param name=“ip\_address” value=“192.168.0.10”/>

</node>

This section will launch the LiDAR node without the user having to enter the rosrun command manually after launching a launch file.

Source: <https://github.com/ros-drivers/urg_node/blob/indigo-devel/launch/urg_lidar.launch>