

Preparation

1. Install SDK

Unzip YDLidar-SDK-master.tar.xz in the source code folder to get YDLidar-SDK-master.

Input following command:

```
mkdir build
cd build
cmake ..
make -j4
sudo make install
```

2. Create a new workspace and compile function packages

Take the creation name ydlidar_ws as an example. Input following command:

```
mkdir ydlidar_ws
cd ydlidar_ws
mkdir src
cd src
catkin_init_workspace
```

Copy the decompressed ydlidar_ros_driver-master function package to the ydlidar_ws/src directory.

Then, in the directory of ydlidar_ws, use catkin_make to compile,

```
cd ~/ydlidar_ws
catkin_make
```

After the compilation is passed, add the path of the workspace to .bashrc.

```
sudo gedit ~/.bashrc
```

Copy the following content to the end of the file.

```
source ~/ydlidar_ws/devel/setup.bash --extend
```

3. Bind lidar port name

Open the terminal, input the following command:

```
cd ~/ydlidar_ws/src/ydlidar_ros_driver-master/startup
sudo chmod 777 initenv.sh
sudo bash initenv.sh
```

Then, re-plug the lidar wiring and enter the command ll /dev/rplidar in the terminal.

```
yahboom@ubuntu:~$ ll /dev/ydliar
lrwxrwxrwx 1 root root 7 Nov 13 18:07 /dev/ydliar -> ttyUSB0
yahboom@ubuntu:~$
```

The above content indicates that the binding is successful. The end is not necessarily 0 and changes according to the order in which the devices are inserted.

4. Test Lidar

Save and exit.

Reopen a terminal and enter the following statement to open the lidar.

```
#x3/x3pro雷达
roslaunch ydlidar_ros_driver x3.launch

#4ros雷达
roslaunch ydlidar_ros_driver TG.launch
```

View lidar data with rostopic tool.

```
rostopic echo /scan
```

```
header:
  seq: 196
  stamp:
    secs: 1699928072
    nsecs: 777624000
  frame_id: "laser"
angle_min: -3.14159274101
angle_max: 3.14159274101
angle_increment: 0.0180033966899
time_increment: 0.000255906255916
scan_time: 0.0900790020823
range_min: 0.10000000149
range_max: 12.0
ranges: [inf, 1.4919999837875366, inf, inf, inf, inf, inf, inf, inf, inf, inf, inf, inf, inf, inf, inf, inf, inf, inf, 7.6269998
55041504, 7.8979997634887695, 8.0, 8.416999816894531, 8.647000312805176, 8.932000160217285, 9.260499954223633, inf, inf, inf, inf, in
f, inf, inf, 10.640999794006348, 10.534000396728516, 10.482999801635742, 10.444000244140625, 10.388999938964844, 10.35099983215332, 1
0.270999908447266, 10.251999855041504, 10.182000160217285, 10.1850004196167, 10.182000160217285, 10.166000366210938, 10.1590003967285
16, 10.156999588012695, 10.149999618530273, 10.156999588012695, 10.119999885559082, 10.111000061035156, 10.182000160217285, inf, inf,
10.206999778747559, 10.131999969482422, 10.196999549865723, 10.206000328063965, 10.20300006866455, 10.232999801635742, 10.2690000534
05762, 10.315999984741211, 10.350000381469727, 10.406999588012695, 10.472000122070312, 10.527000427246094, 10.595000267028809, 10.654
000282287598, 10.734999656677246, 10.779000282287598, 10.77299976348877, 10.970000267028809, 10.86299991607666, 10.696000099182129, 1
0.782999992370605, 10.986000061035156, 11.173999786376953, 11.362000465393066, 11.5, 11.670999526977539, 11.807999610900879, inf, inf
, inf, 11.82699966430664, 11.947999954223633, 11.503000259399414, 11.059000015258789, 10.868000030517578, 10.73900032043457, 10.56149
959564209, inf, 4.572999954223633, 4.672999858856201, 4.752999782562256, 4.833000183105469, 4.933000087738037, 5.0329999923706055, 5.
14900016784668, 5.265999794006348, 5.375999927520752, 5.501999855041504, 5.616000175476074, 5.789000034332275, 5.939000129699707, 6.0
46000003814697, 6.242000102996826, 6.438499927520752, 5.662499904632568, 4.764999866485596, 4.730999946594238, 4.681000232696533, 4.6
27999782562256, 4.574999809265137, 4.53000020980835, 4.492000102996826, inf, inf, 4.375999927520752, 4.367499828338623, inf, inf, inf]
```

ctrl c closes the terminal that just drove the lidar.

Then enter the following statement in the terminal to drive the radar, and open rviz to display the point cloud.

```
#x3/x3pro lidar
roslaunch ydlidar_ros_driver x3_lidar_view.launch

#4ros lidar
roslaunch ydlidar_ros_driver 4ros_lidar_view.launch
```

