

# **YDLIDAR ROS MANUAL**

DOC#: 01.13.000000

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## CREATE A YDLIDAR ROS DRIVER PACKAGE

- (1) Use the command to create the catkin\_ws workspace, the terminal switches to a ROS workspace src directory, and catkin\_ws to replace your ROS workspace.

```
$ mkdir -p ~/catkin_ws/src  
$ cd ~/catkin_ws/src  
$ catkin_init_workspace  
$ cd ~/catkin_ws && catkin_make
```

- (2) Add the catkin environment variable to the ~/.bashrc file and make it take effect.

```
$ echo "source ~/catkin_ws/devel/setup.bash" >> ~/.bashrc  
$ source ~/.bashrc
```

- (3) Cloning the corresponding Lidar types ydlidar project to the src directory under your ROS workspace.

```
$git clone https://github.com/YDLIDAR/ydlidar\_ros  
$cd ydlidar_ros  
$git checkout G4  
$cd ../../..
```

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*Note: git checkout followed by the corresponding Lidar model*

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- (4) Compile and generate ydlidar\_node and ydlidar\_client.

```
$catkin_make
```

## RUN YDLIDAR ROS DRIVER PACKAGE

Create a serial port alias [/dev/ydlidar] for Lidar

```
$roscd ydlidar/startup  
  
$sudo chmod 0777 *  
  
$sudo sh initenv.sh
```

*Note: After creating a serial port alias, you need to re-plug the USB to take effect.*

There are two ways to run the YDLIDAR ROS driver package.

(1) Run ydlidar\_node and rviz

```
$roslaunch ydlidar lidar_view.launch  
  
### You can see the scan results in the rviz
```

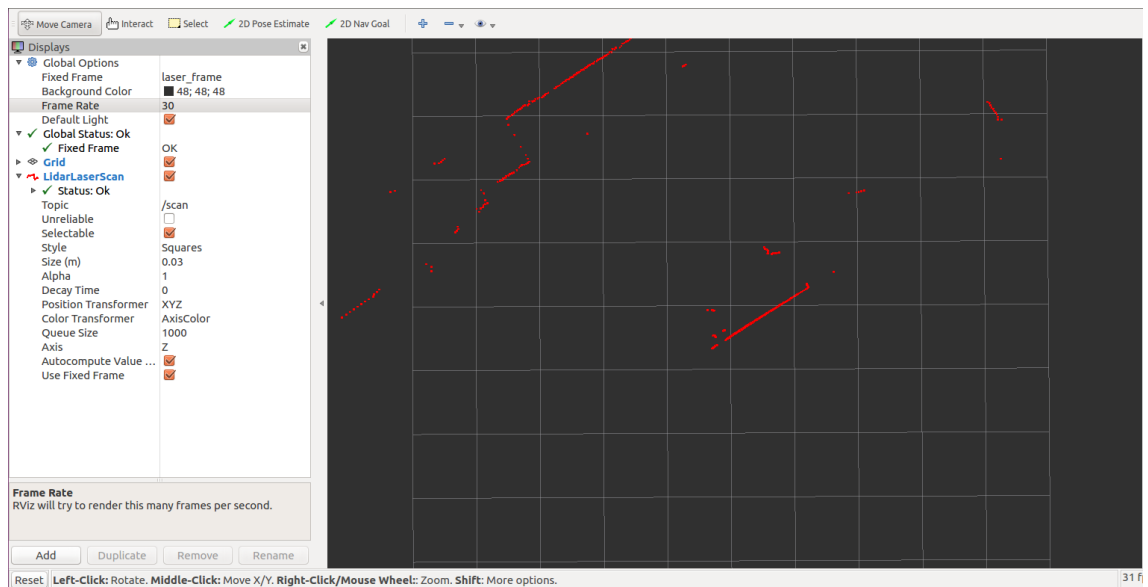


图 1 YDLIDAR RVIZ 运行显示

(2) Run ydlidar\_node and ydlidar\_client

```
$roslaunch ydlidar lidar.launch

$rosvetool ydlidar ydlidar_client

### Lidar data output visible at the terminal
```

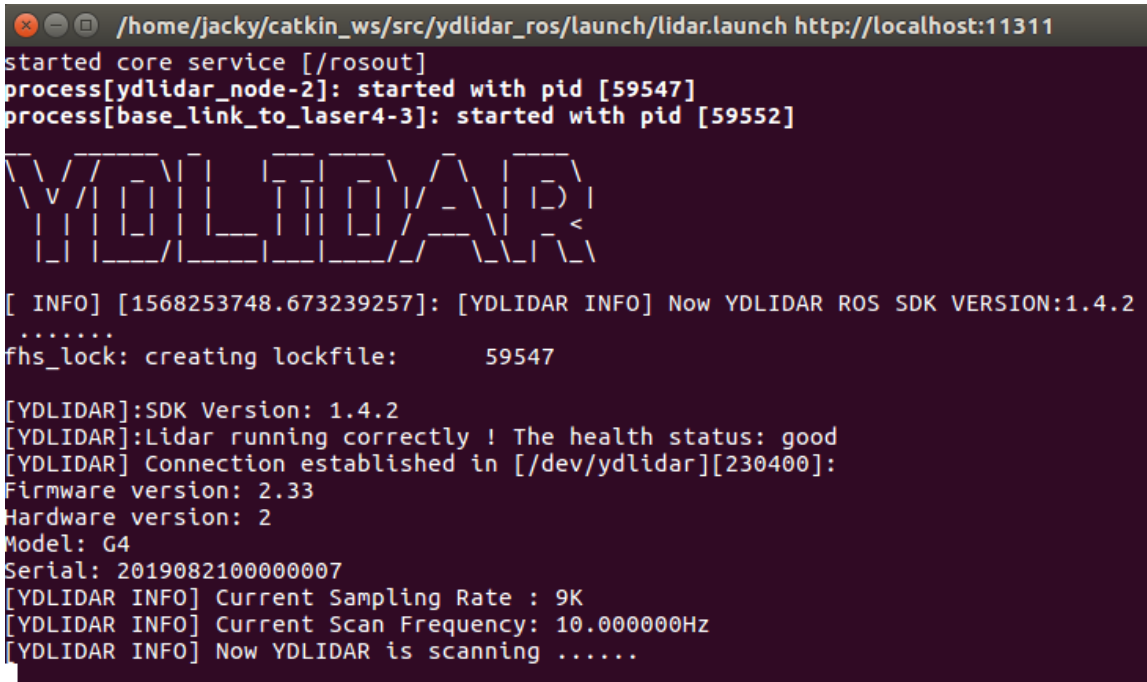


FIG2 YDLIDAR TERMINAL DISPLAY STEP 1

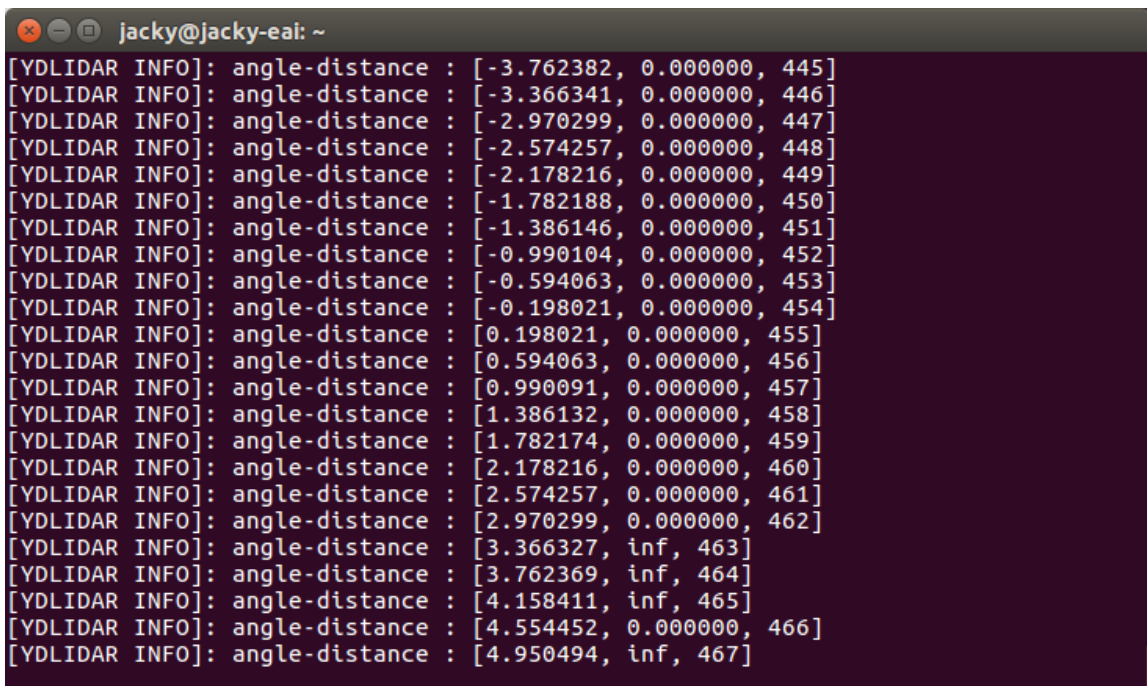


FIG2 YDLIDAR TERMINAL DISPLAY STEP 2

## YDLIDAR COORDINATE SYSTEM

YDLIDAR rotates clockwise. The SDK data output is left-handed data with distance and angle information. The ROS driver package output has converted it to a right-handed coordinate system output.

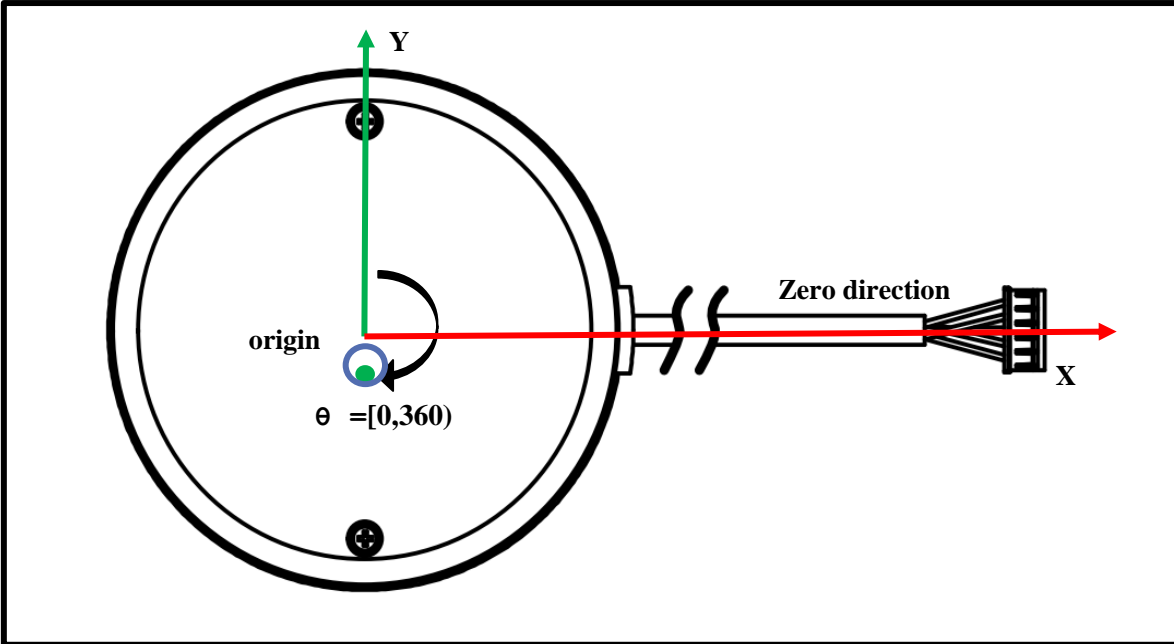


FIG4 YDLIDAR G2/G4/G6 COORDINATE SYSTEM

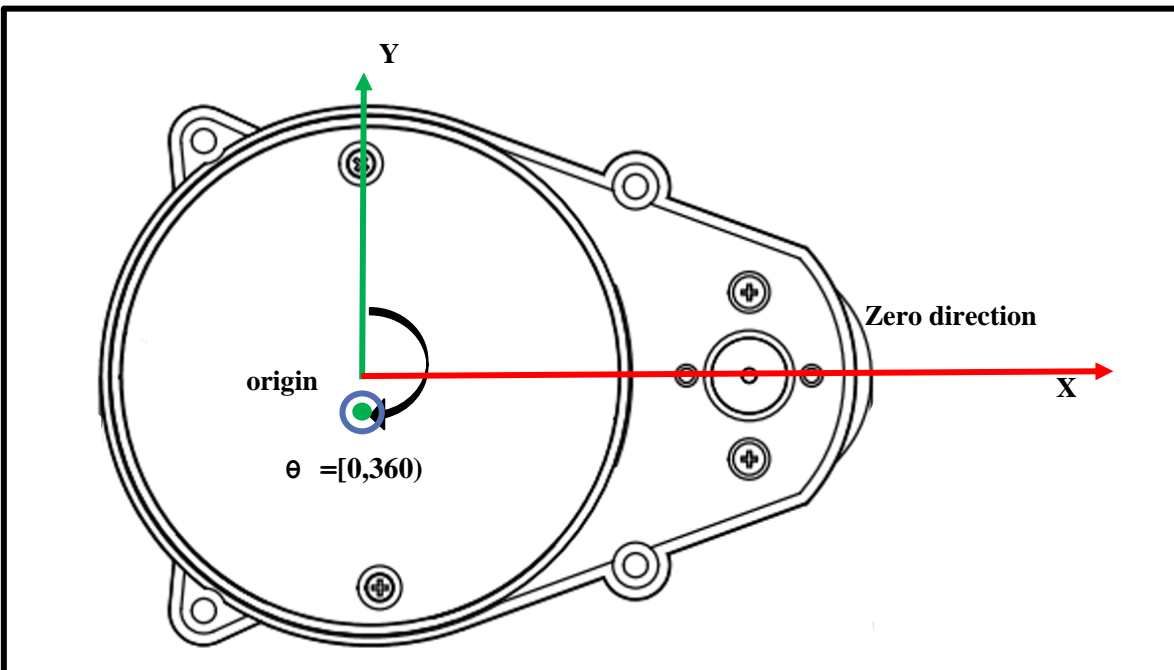


FIG5 YDLIDAR X4 COORDINATE SYSTEM

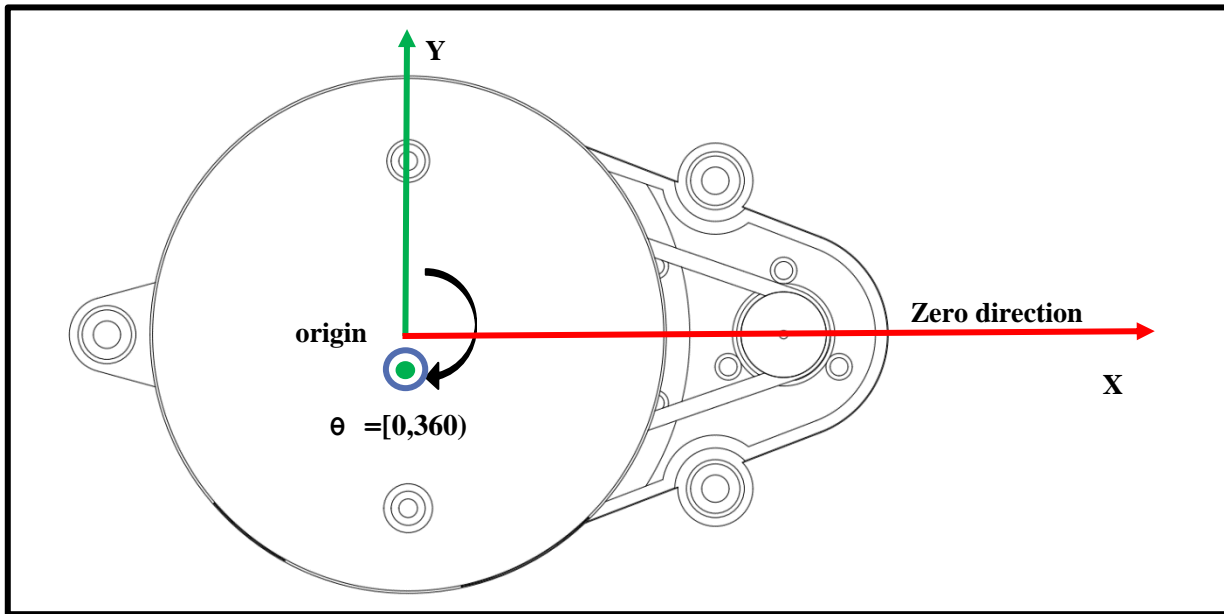


FIG6 YDLIDAR S2/X2/X2L COORDINATE SYSTEM