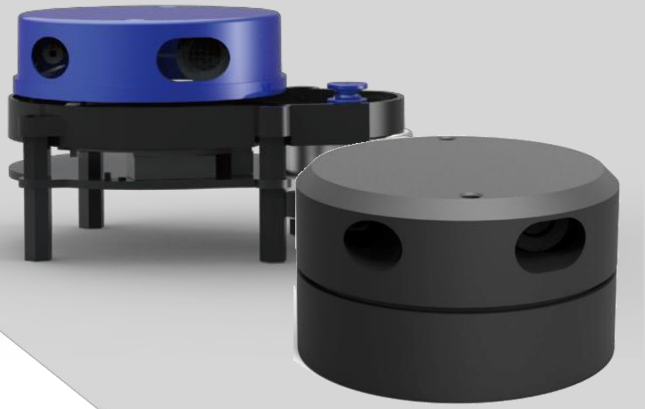
YDLIDAR

YDLIDAR ROS Manual



Doc#：01.13.000019

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Create YDLIDAR ROS driver package

（1） Switch your computer to the src directory of a ROS workspace and replace catkin_ws with your ROS workspace.

```
$cd ~/catkin_ws/src
```

（2） Clone the ydlidar project into the src directory under it.

```
$git clone https://github.com/YDLIDAR/ydlidar

$cd ..
```

（3）Compile and generate ydlidar_node and ydlidar_client.

```
$catkin_make --pkg ydlidar
```

Run YDLIDAR ROS driver package

(1) Create a YDLIDAR serial port alias [/dev/ydlidar].

```
$roscd ydlidar/startup

$sudo chmod 0777 *

$sudo sh initenv.sh
```

(2) Open lidar.launch and change the baud rate corresponding to different types of Lidar. The following is the configuration of X4.

```
$roscd ydlidar/launch

$vim lidar.launch

<param name="baudrate" type="int" value="128000"/>    <!--    G4:230400
X4:128000  F4:153600-->
```

```
$roscd ydlidar/launch

$vim lidar.launch

<param name="baudrate" type="int" value="128000"/>     <!--    G4:230400
X4:128000  F4:153600-->
```

Note 1: Baud rate: G4: 230400 X4: 128000 G6: 512000

Note 2: Re-plugging the USB takes effect,after creating an alias

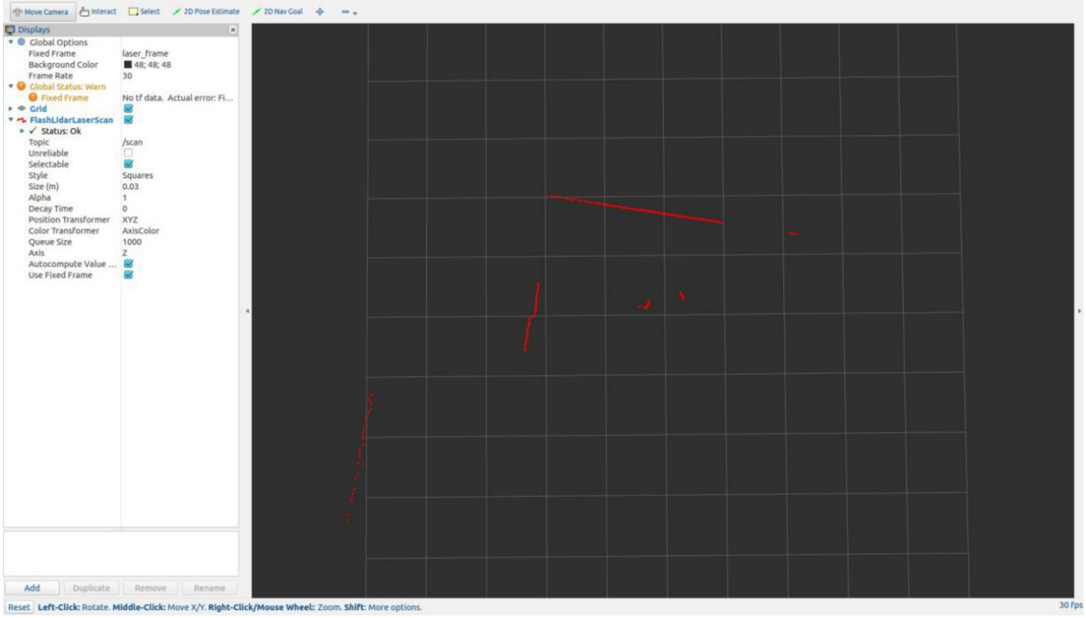
Two ways to run the YDLIDAR ROS driver package.

（1） Run ydlidar_node and rviz

```
$roslaunch ydlidar lidar_view.launch

###Lidar scan results are visible in rviz
```

（2） Run ydlidar_node and ydlidar_client

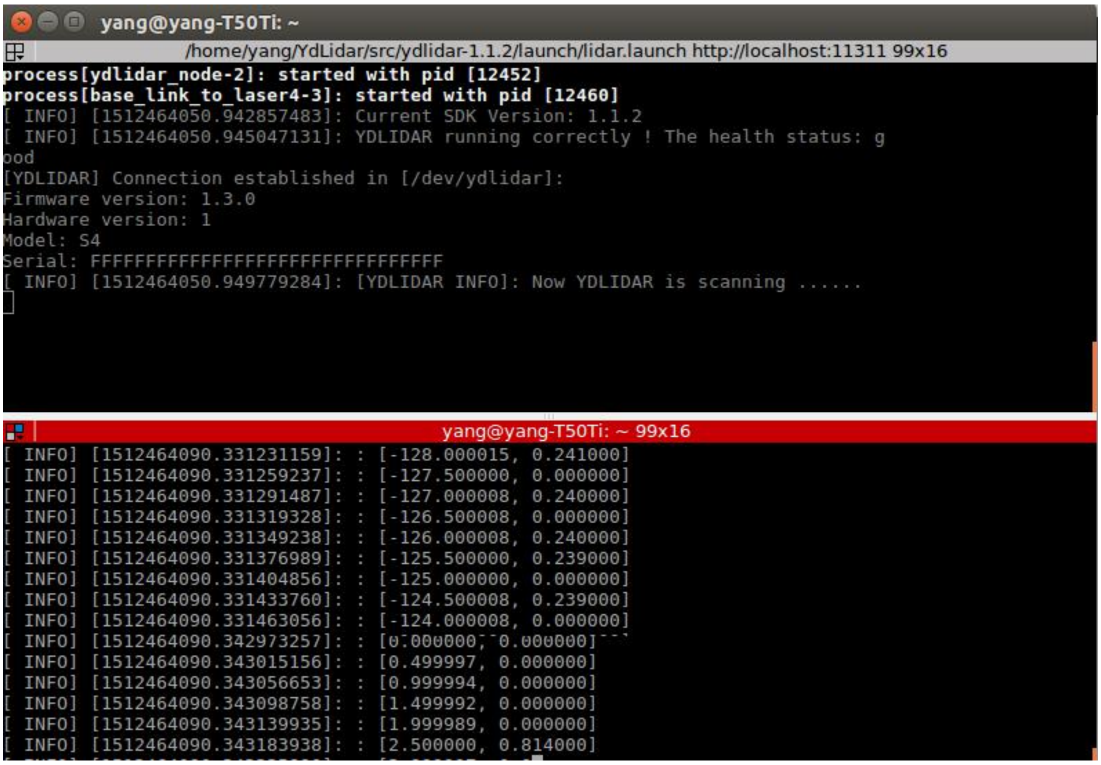
```
$roslaunch ydlidar lidar.launch

$rosrun ydlidar ydlidar_client

###Lidar data output can be seen at the terminal
```



Global Options	
Fixed Frame	laser_frame
Background Color	■ 48; 48; 48
Frame Rate	30
Global Status: Warn	
Fixed Frame	No tf data. Actual error: Fi...
Grid	☑
FlashLidarLaserScan	☑
✓ Status: Ok	
Topic	/scan
Unreliable	□
Selectable	☑
Style	Squares
Size (m)	0.03
Alpha	1
Decay Time	0
Position Transformer	XYZ
Color Transformer	AxisColor
Queue Size	1000
Axis	Z
Autocompute Value ...	☑
Use Fixed Frame	☑

Left-Click: Rotate. **Middle-Click:** Move X/Y. **Right-Click/Mouse Wheel:** Zoom. **Shift:** More options.

Fig. 1 YDLIDAR RVIZ display


yang@yang-T50Ti: ~
/home/yang/YdLidar/src/ydlidar-1.1.2/launch/lidar.launch http://localhost:11311 99x16
yang@yang-T50Ti: ~ 99x16

```
process[ydlidar_node-2]: started with pid [12452]
process[base_link_to_laser4-3]: started with pid [12460]
[ INFO] [1512464050.942857483]: Current SDK Version: 1.1.2
[ INFO] [1512464050.945047131]: YDLIDAR running correctly ! The health status: g
ood
[YDLIDAR] Connection established in [/dev/ydlidar]:
Firmware version: 1.3.0
Hardware version: 1
Model: S4
Serial: FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
[ INFO] [1512464050.949779284]: [YDLIDAR INFO]: Now YDLIDAR is scanning ......
```

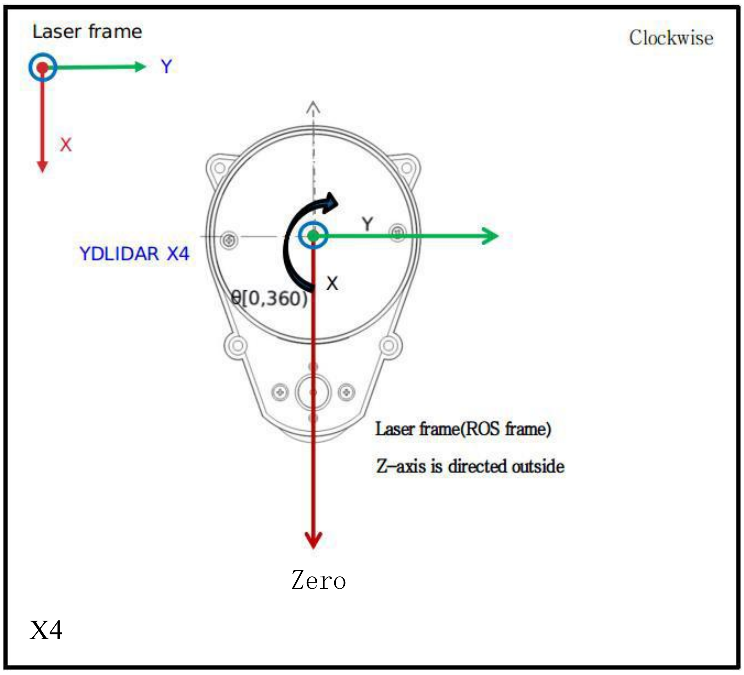
```
[ INFO] [1512464090.331231159]: : [-128.000015, 0.241000]
[ INFO] [1512464090.331259237]: : [-127.500000, 0.000000]
[ INFO] [1512464090.331291487]: : [-127.000008, 0.240000]
[ INFO] [1512464090.331319328]: : [-126.500008, 0.000000]
[ INFO] [1512464090.331349238]: : [-126.000008, 0.240000]
[ INFO] [1512464090.331376989]: : [-125.500000, 0.239000]
[ INFO] [1512464090.331404856]: : [-125.000000, 0.000000]
[ INFO] [1512464090.331433760]: : [-124.500008, 0.239000]
[ INFO] [1512464090.331463056]: : [-124.000008, 0.000000]
[ INFO] [1512464090.342973257]: : [0.000000, 0.000000]
[ INFO] [1512464090.343015156]: : [0.499997, 0.000000]
[ INFO] [1512464090.343056653]: : [0.999994, 0.000000]
[ INFO] [1512464090.343098758]: : [1.499992, 0.000000]
[ INFO] [1512464090.343139935]: : [1.999989, 0.000000]
[ INFO] [1512464090.343183938]: : [2.500000, 0.814000]
```

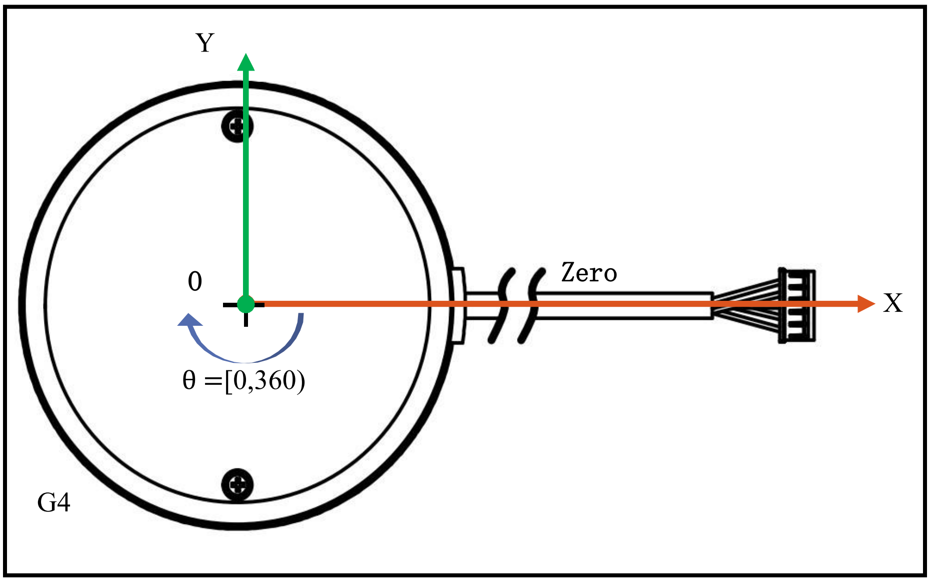
Fig. 2 YDLIDAR Terminal display

YDLIDAR coordinate system

YDLIDAR rotates in the clockwise direction. SDK data output is left-handed data with distance and angle information, ydlidar.

The ROS driver package output has converted it to a right-handed coordinate system output, with the first measurement data coming from the front.





Revision

Date	Revision	Contents
2017-11-29	1.0	First written
2019-05-11	1.1	Update github link and pages，delete info. about F4