1. Camera usage

How to use the camera

Official website link: https://orbbec3d.com/develop/

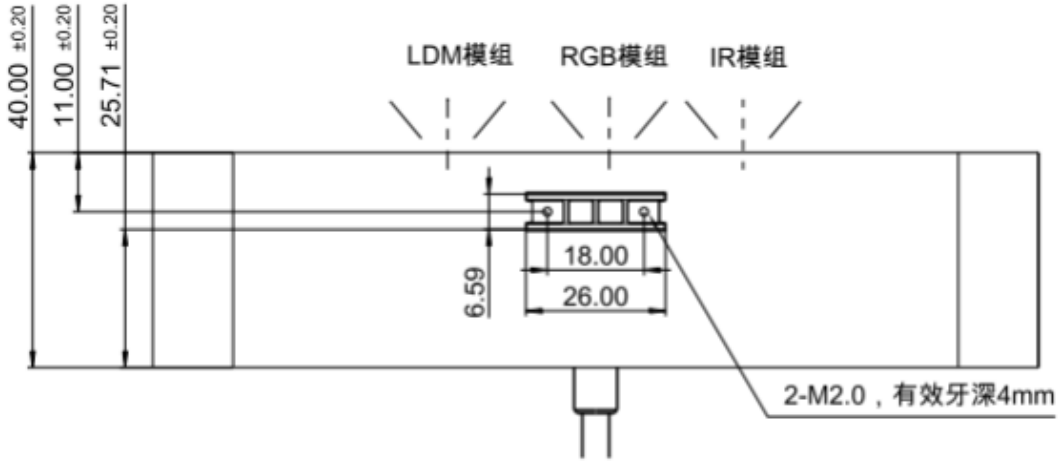
Gemini 335 camera: https://github.com/orbbec/OrbbecSDK

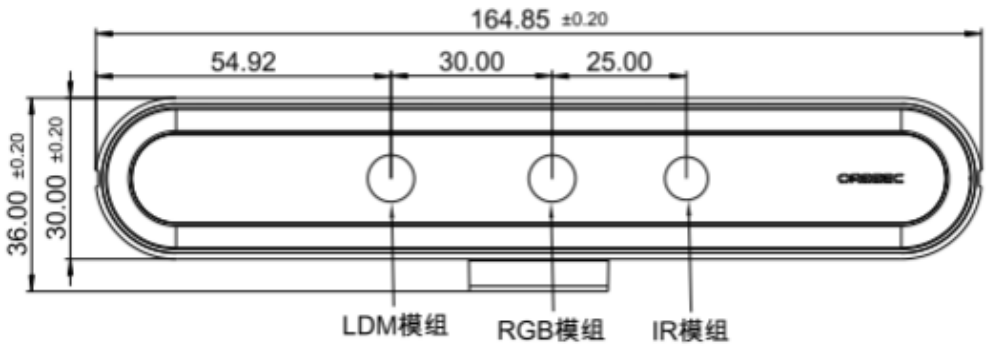
Astra_Pro2 camera: https://github.com/orbbec/OrbbecSDK

Ordinary camera: https://github.com/bosch-ros-pkg/usb_cam.git

Gemini 330 series documents: https://www.orbbec.com.cn/index/Gemini330/info.html?cate=119&id=74

Astra_Pro2 camera specification diagram





Driver compilation

Installation dependencies:

```
# Assuming you have already set up the ROS environment, the same as below
sudo apt install libgflags-dev ros-$ROS_DISTRO-image-geometry ros-$ROS_DISTRO-camera-info-manager \ ros-$ROS_DISTRO-image-transport ros-$ROS_DISTRO-image-publisher libgoogle-glog-dev libusb-1.0-0-dev libeigen3-dev \ ros-$ROS_DISTRO-diagnostic-upda ter ros-$ROS_DISTRO-diagnostic-msgs ``` SDK path: ```
/home/yahboom/YBAMR-COBOT-EDU-00001/src/yahboom_navrobo_core/vision/OrbbecSDK_ROS
``` ROS driver compilation ```shell cd /home/yahboom/YBAMR-COBOT-EDU-00001
catkin build
```

Install udev rules

```
cd /home/yahboom/YBAMR-COBOT-EDU-00001/src/yahboom_navrobo_core/vision/OrbbecSDK_ROS/scripts/
sudo cp 99-obsensor-libusb.rules /etc/udev/rules.d/99-obsensor-libusb.rules
sudo udevadm control --reload && sudo udevadm trigger
```

Camera startup

Note: The camera service of a normal vehicle will start automatically. If you want to start the camera separately, please turn off the chassis service.

```
sudo supervisorctl stop ChassisServer
```

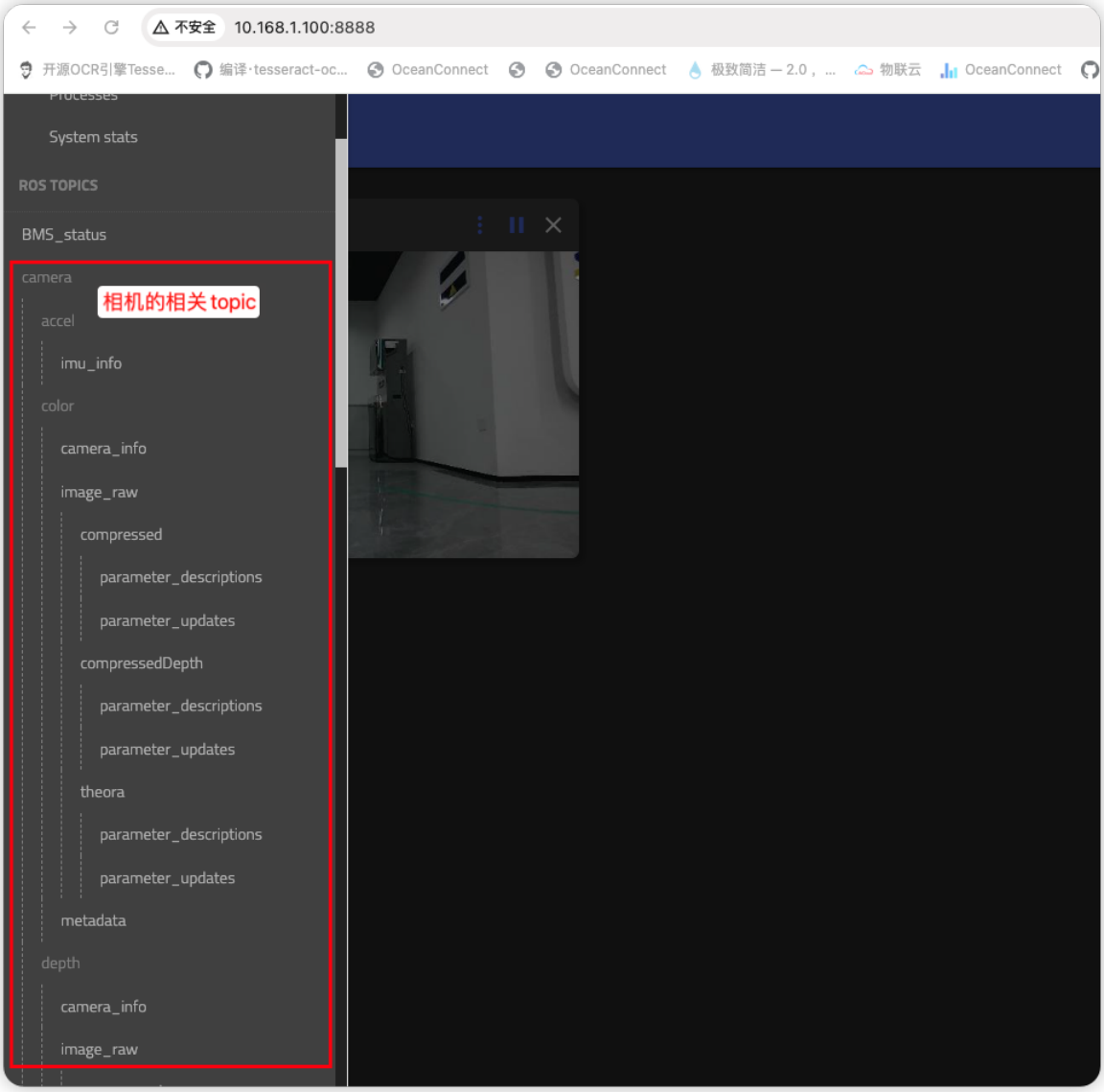
```
cd /home/yahboom/YBAMR-COBOT-EDU-00001/
source ./install/setup.bash

roslaunch orbbec_camera gemini_330_series.launch #Gemini 330
roslaunch orbbec_camera astra_pro2.launch #Astra_Pro 2
```

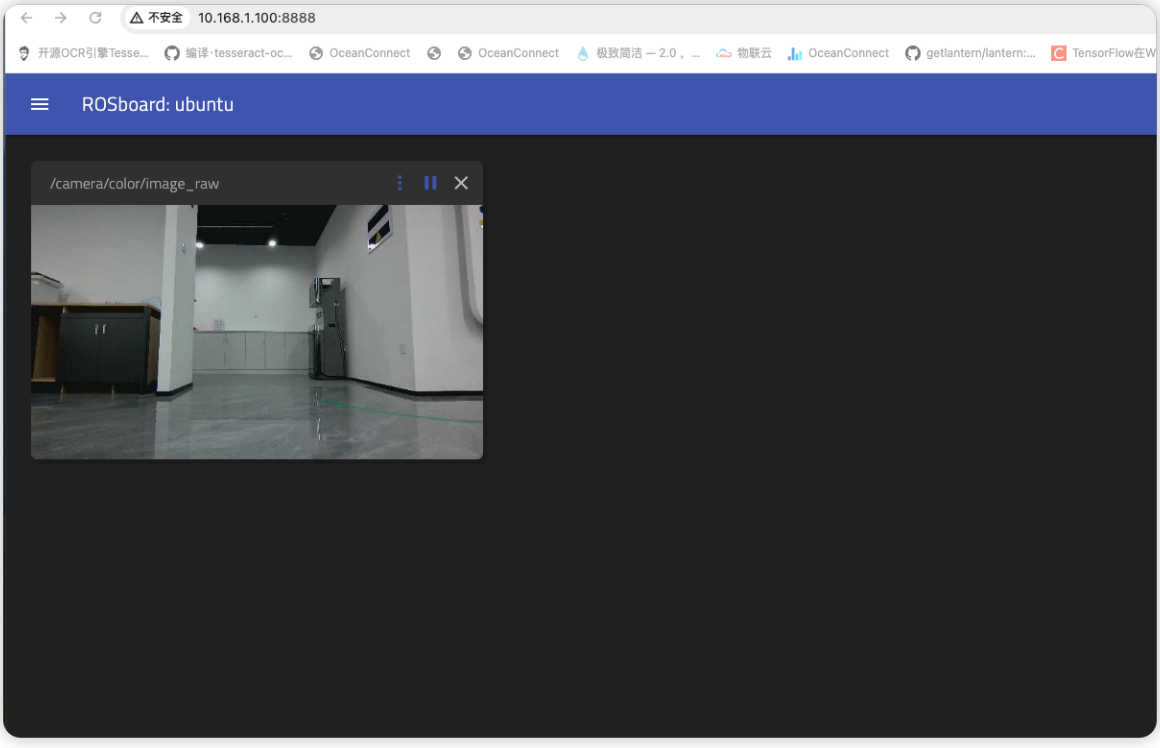
Camera View

For easy observation, you can view it through the vehicle's own web service. Connect to the vehicle's Wi-Fi: yahboom_navrob Password: yahboom890729

Then enter the address in the browser: http://10.168.1.100:8888
```



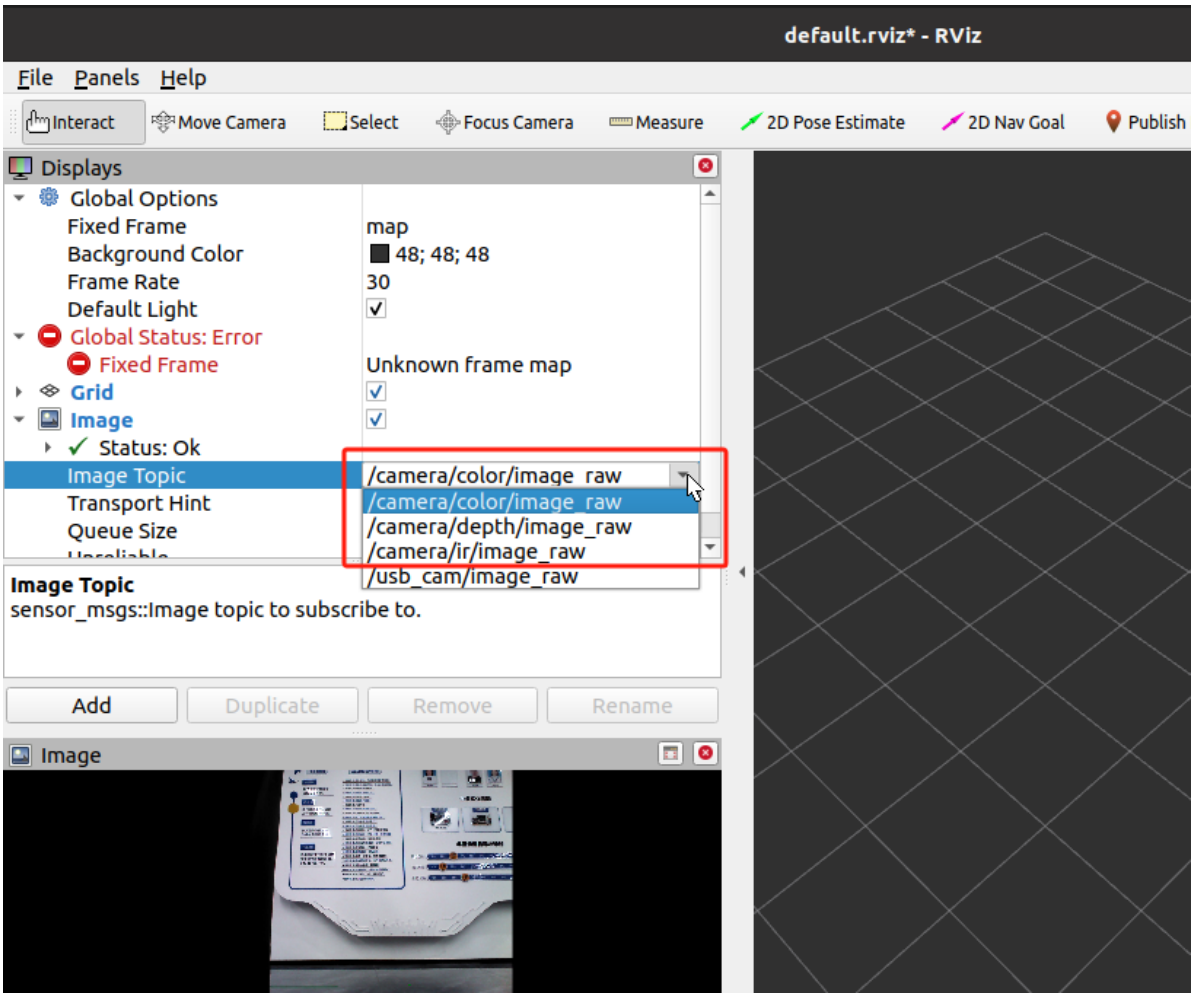
Click image_raw to view the current color image.



You can also use the rviz tool to view

Enter the command,

```
rviz
```



You can select color, depth, or infrared topic display here

If you want to turn on the infrared camera, you need to find the launch file of the camera and turn on this parameter. The default value is false

```
/home/yahboom/YBAMR-COBOT-EDU-
00001/src/yahboom_navrobo_core/vision/OrbbecSDK_ROS/launch/
```

```
    <arg name="connection_delay" default="100"/>
    <arg name="color_width" default="640"/>
    <arg name="color_height" default="480"/>
    <arg name="color_fps" default="10"/>
    <arg name="enable_color" default="true"/>
    <arg name="flip_color" default="false"/>
    <arg name="color_format" default="UYVY"/>
    <arg name="enable_color_auto_exposure" default="true"/>
    <arg name="depth_width" default="640"/>
    <arg name="depth_height" default="480"/>
    <arg name="depth_fps" default="10"/>
    <arg name="enable_depth" default="true"/>
    <arg name="flip_depth" default="false"/>
    <arg name="depth_format" default="Y11"/>
    <arg name="ir_width" default="640"/>
    <arg name="ir_height" default="480"/>
    <arg name="ir_fps" default="10"/>
    <arg name="enable_ir" default="true"/>
    <arg name="ir_format" default="Y10"/>
    <arg name="flip_ir" default="false"/>
    <arg name="enable_ir_auto_exposure" default="true"/>
```