ROS 传感器自检功能

1. 功能简介

ROS 传感器自检功能可对传感器进行半自动检测，打开 launch 后可以在界面上选择对应的车型、相机和雷达，同时也可以自行添加传感器进行自检。

2. 使用方法

使用前需要确保上位机连接小车 WiFi，并已经 SSH 远程登录到小车端。

1） 编译功能包

编译功能包之前需要进行功能包的编译，需要进入工作空间目录下进行功能包编译如下图所示。

```
wheeltec@wheeltec:~/wheeltec_robot$ catkin_make -DCATKIN_WHITELIST_PACKAGES=sh_manager
```

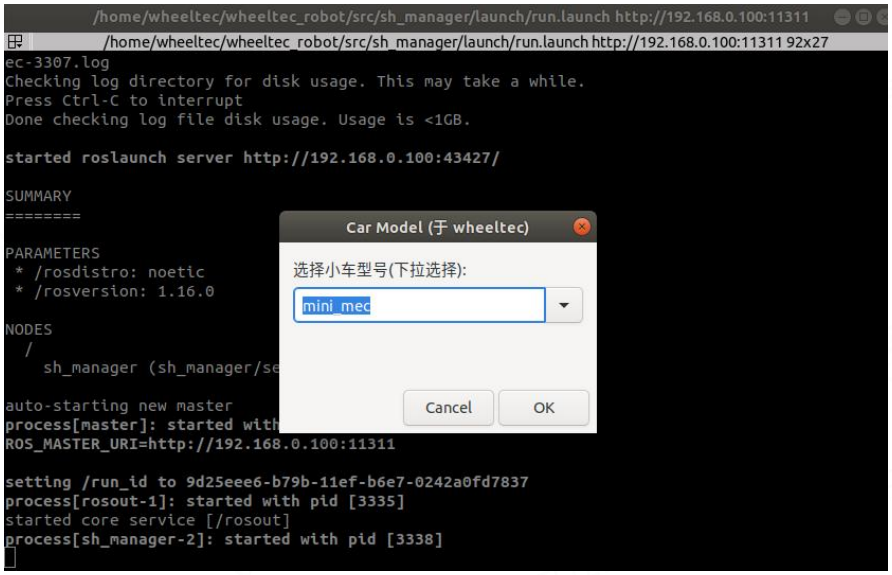
编译自检功能包

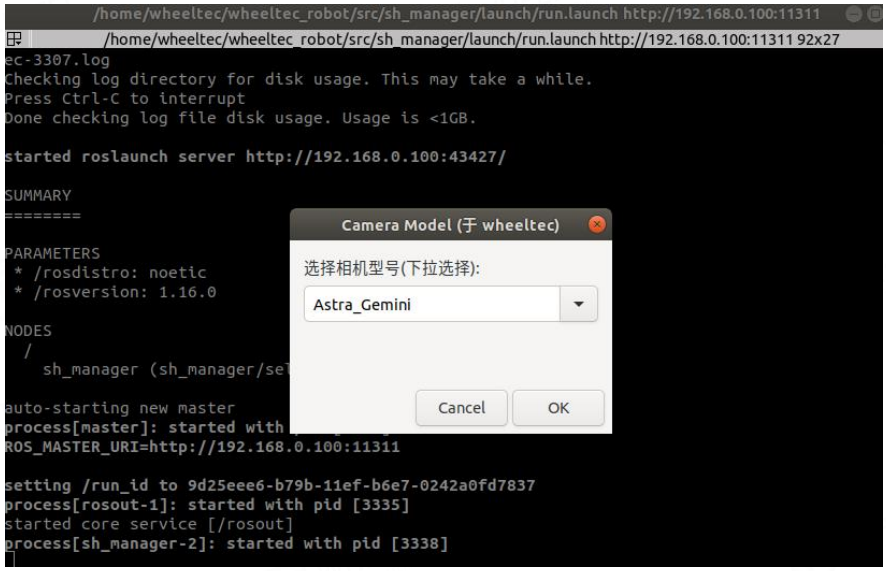
2） 打开终端输入启动自检功能的指令

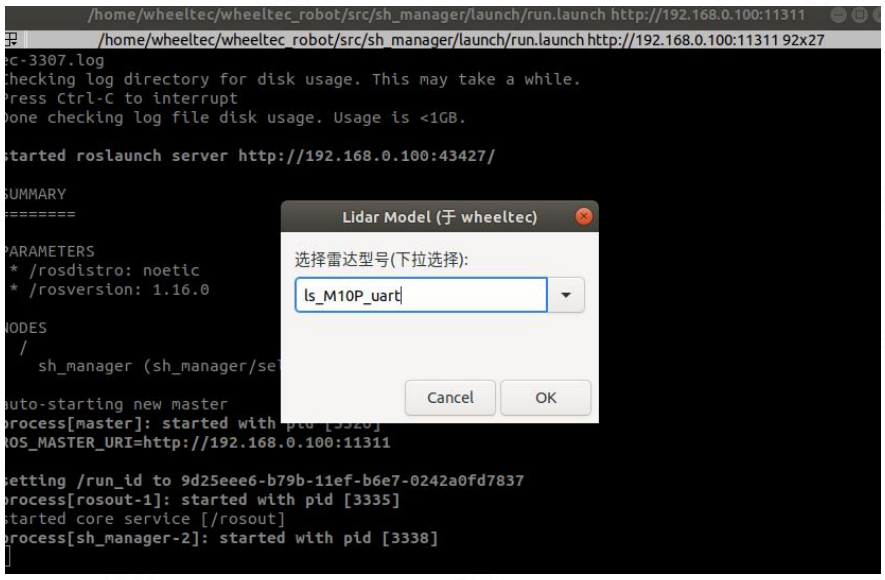
```
roslaunch sh_manager run.launch
```

```
wheeltec@wheeltec:~/wheeltec_robot$ roslaunch sh_manager run.launch
... logging to /home/wheeltec/.ros/log/b5285e40-ae1b-11ef-a92f-92de804828b6/roslaunch-wheeltec-1767.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://192.168.0.100:35549/

SUMMARY
========

PARAMETERS
 * /rosdistro: melodic
 * /rosversion: 1.14.13

NODES
  /
    sh_manager (sh_manager/self_check.sh)

auto-starting new master
process[master]: started with pid [1779]
ROS_MASTER_URI=http://192.168.0.100:11311
```

3） 选择车型、雷达型号、相机型号

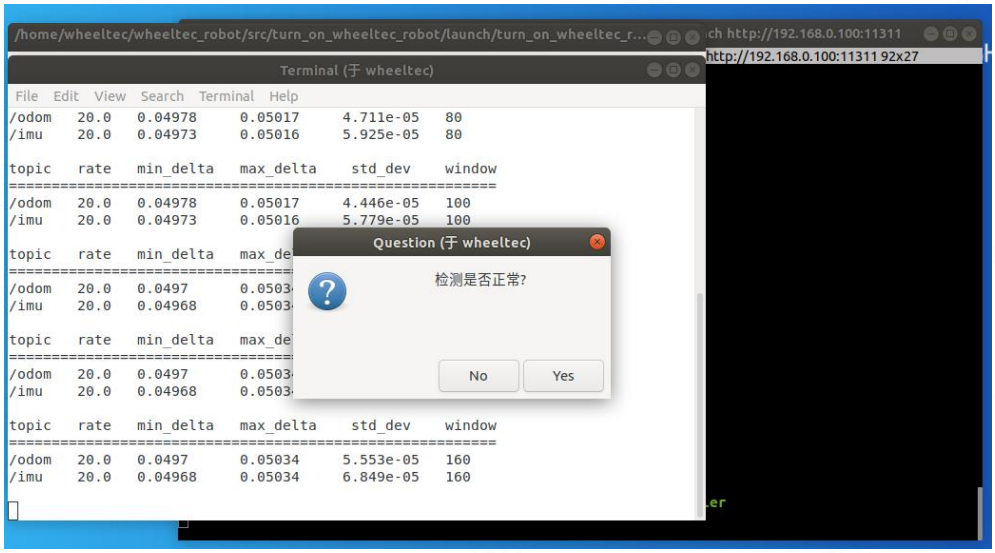

/home/wheeltec/wheeltec_robot/src/sh_manager/launch/run.launch http://192.168.0.100:11311
/home/wheeltec/wheeltec_robot/src/sh_manager/launch/run.launch http://192.168.0.100:11311 92x27
ec-3307.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.
started roslaunch server http://192.168.0.100:43427/
SUMMARY
========
PARAMETERS
* /rosdistro: noetic
* /rosversion: 1.16.0
NODES
/
sh_manager (sh_manager/se
auto-starting new master
process[master]: started with
ROS_MASTER_URI=http://192.168.0.100:11311
setting /run_id to 9d25eee6-b79b-11ef-b6e7-0242a0fd7837
process[rosout-1]: started with pid [3335]
started core service [/rosout]
process[sh_manager-2]: started with pid [3338]
Car Model (于 wheeltec)
选择小车型号(下拉选择):
mini_mec
Cancel
OK

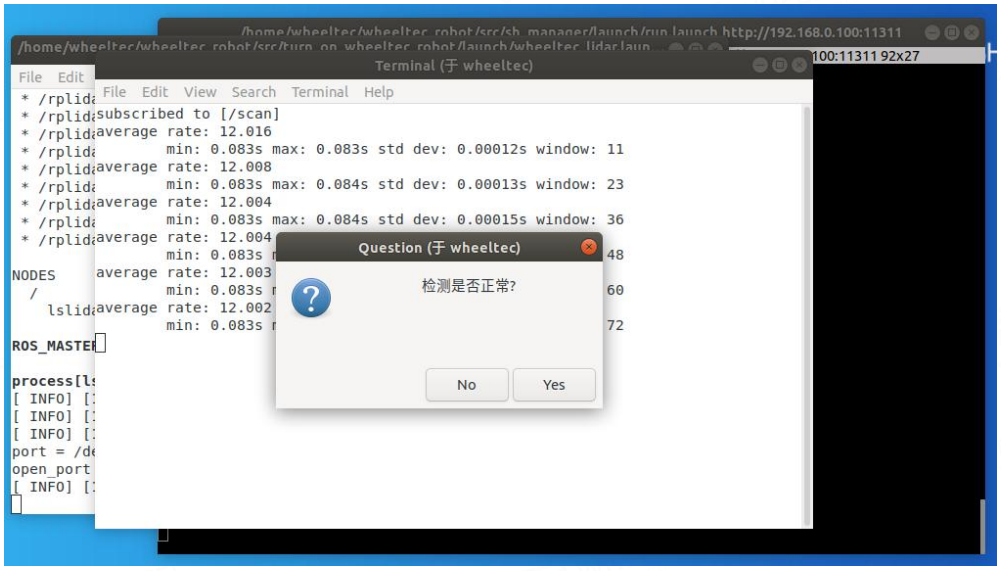

/home/wheeltec/wheeltec_robot/src/sh_manager/launch/run.launch http://192.168.0.100:11311
/home/wheeltec/wheeltec_robot/src/sh_manager/launch/run.launch http://192.168.0.100:11311 92x27
ec-3307.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.
started roslaunch server http://192.168.0.100:43427/
SUMMARY
========
PARAMETERS
* /rosdistro: noetic
* /rosversion: 1.16.0
NODES
/
sh_manager (sh_manager/se
auto-starting new master
process[master]: started with
ROS_MASTER_URI=http://192.168.0.100:11311
setting /run_id to 9d25eee6-b79b-11ef-b6e7-0242a0fd7837
process[rosout-1]: started with pid [3335]
started core service [/rosout]
process[sh_manager-2]: started with pid [3338]
Camera Model (于 wheeltec)
选择相机型号(下拉选择):
Astra_Gemini
Cancel
OK

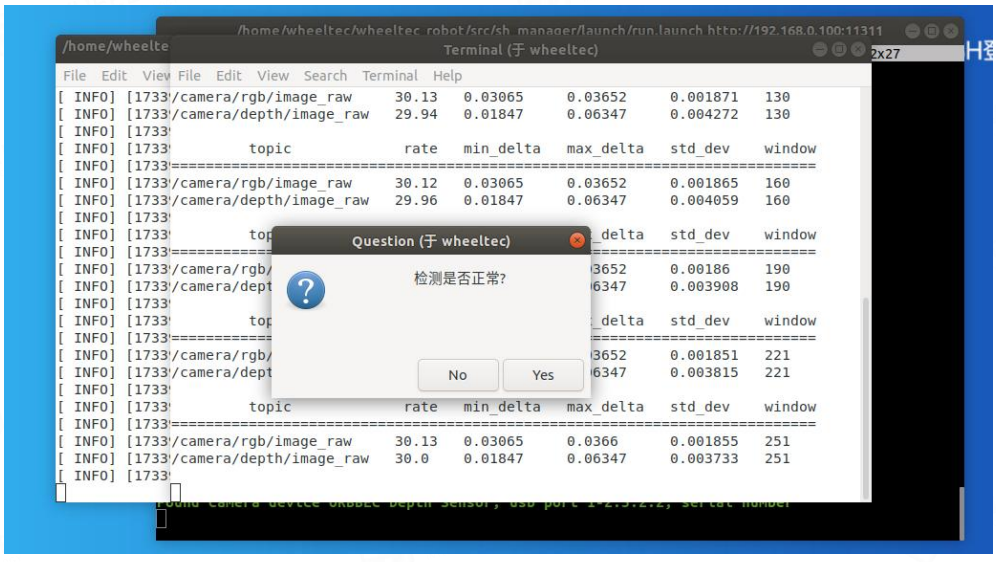

/home/wheeltec/wheeltec_robot/src/sh_manager/launch/run.launch http://192.168.0.100:11311
/home/wheeltec/wheeltec_robot/src/sh_manager/launch/run.launch http://192.168.0.100:11311 92x27
ec-3307.log
hecking log directory for disk usage. This may take a while.
ress Ctrl-C to interrupt
one checking log file disk usage. Usage is <1GB.
tarted roslaunch server http://192.168.0.100:43427/
UMMARY
========
ARAMETERS
* /rosdistro: noetic
* /rosversion: 1.16.0
ODES
/
sh_manager (sh_manager/se
uto-starting new master
ROS_MASTER_URI=http://192.168.0.100:11311
etting /run_id to 9d25eee6-b79b-11ef-b6e7-0242a0fd7837
process[rosout-1]: started with pid [3335]
tarted core service [/rosout]
process[sh_manager-2]: started with pid [3338]
Lidar Model (于 wheeltec)
选择雷达型号(下拉选择):
ls_M10P_uart
Cancel
OK

传感器类型选择

4) 人工检测

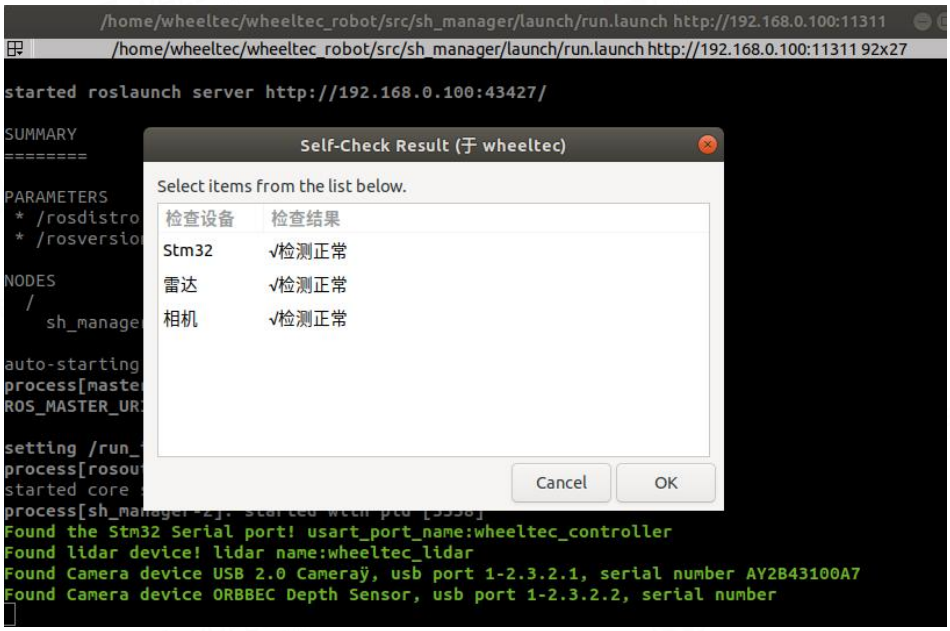

Terminal (于 wheeltec)
File Edit View Search Terminal Help
Question (于 wheeltec)
检测是否正常?
No
Yes


Terminal (于 wheeltec)
File Edit View Search Terminal Help
Question (于 wheeltec)
检测是否正常?
No
Yes


Terminal (于 wheeltec)
Question (于 wheeltec)
检测是否正常?
No
Yes

手动确认

5) 结果输出


/home/wheeltec/wheeltec_robot/src/sh_manager/launch/run.launch http://192.168.0.100:11311
/home/wheeltec/wheeltec_robot/src/sh_manager/launch/run.launch http://192.168.0.100:11311 92x27
started roslaunch server http://192.168.0.100:43427/
SUMMARY
PARAMETERS
NODES
auto-starting
Self-Check Result (于 wheeltec)
Select items from the list below.
检查设备
检查结果
Stm32
√检测正常
雷达
√检测正常
相机
√检测正常
Cancel
OK
Found the Stm32 Serial port! usart_port_name:wheeltec_controller
Found lidar device! lidar name:wheeltec_lidar
Found Camera device USB 2.0 Cameraÿ, usb port 1-2.3.2.1, serial number AY2B43100A7
Found Camera device ORBBEC Depth Sensor, usb port 1-2.3.2.2, serial number

结果输出