

Common Problem Analysis

1. How to start the robot correctly?

Answer: When turning on the robot, you should turn on the power in a standing position. You cannot power it on while lying flat. Also, be aware that it will shake at the moment of powering on due to self-stabilization. At this time, we need to intervene manually until the robot stabilizes itself, so as to ensure that the data of sensors such as gyroscopes are completely initialized and reset to zero.

2. Why do robots need to be configured with parameters?

Answer: Since each user's WiFi environment and IP address are different, parameters need to be configured according to actual conditions.

3. What are the functions of the KEY buttons of the ESP32 communication board and the STM32 control board?

Answer: The RESET KEY of the ESP32 communication board is used for reset. The KEY1 button can send the configuration of the image transmission module. When the camera image packet is lost and cannot be received, press the KEY1 button again to resend the configuration. The KEY2 button is undefined for development; the RESET KEY of the STM32 control board is used for reset. The KEY1 button can be pressed to enable the function of automatically reporting data at the bottom layer.

4. What is the reason for the robot buzzer to keep beeping?

A: When the battery is low, the robot will make a beeping sound (every 100 milliseconds). At this time, the robot cannot be controlled and cannot maintain balance. Please turn off the robot and charge it.

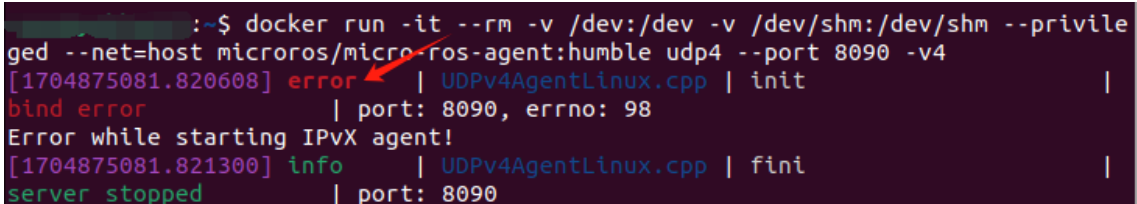
5. What does the robot MCU status indicator light mean?

A: The ESP32 communication board MCU light flashes, indicating normal operation; the STM32 control board MCU light flashes, indicating normal operation, and the MCU light is always on when the battery is low.

6. When building a map and navigating, it is impossible to obtain real-time TF transformation?

A: Press the reset button again and reconnect the agent.

7. What should I do if an error is displayed when opening the microROS agent?



```
root@micro-robot:~# docker run -it --rm -v /dev:/dev -v /dev/shm:/dev/shm --privileged
ged --net=host microros/micro-ros-agent:humble udp4 --port 8090 -v4
[1704875081.820608] error | UDPv4AgentLinux.cpp | init |
bind error | port: 8090, errno: 98
Error while starting IPVX agent!
[1704875081.821300] info | UDPv4AgentLinux.cpp | fini |
server stopped | port: 8090
```

Answer: The microROS agent can only be started in one terminal. If there is already a terminal that starts the microROS agent in the background, an error will be reported when the agent is started again. Please press Ctrl+C in the original agent terminal to exit the agent before running the agent. If the docker process is running in the background due to abnormal closure of the agent, please query the current docker process number and end the current agent docker process before running the agent.

```
docker ps -a | grep microros/micro-ros-agent
docker stop xxxxxxxxxx
docker run -it --rm -v /dev:/dev -v /dev/shm:/dev/shm --privileged --net=host
microros/micro-ros-agent:humble udp4 --port 8899 -v4
```

```
~$ docker ps -a | grep microros/micro-ros-agent
6c8aac7b18e5 microros/micro-ros-agent:humble "/bin/sh /micro-ros_..." 4 seconds ago Up 3 seconds jovial_feynman
~$ docker stop 6c8aac7b18e5
6c8aac7b18e5
~$ docker ps -a | grep microros/micro-ros-agent
~$ docker run -it --rm -v /dev:/dev -v /dev/shm:/dev/shm --privileged --net=host microros/micro-ros-agent:humble udp4 --port 8090 -v4
[1704875781.918662] info | UDPv4AgentLinux.cpp | init |
running... | port: 8090
[1704875781.919189] info | Root.cpp | set_verbose_level | 1
ogger setup | verbose_level: 4
```