

Application of TFmini in PX4

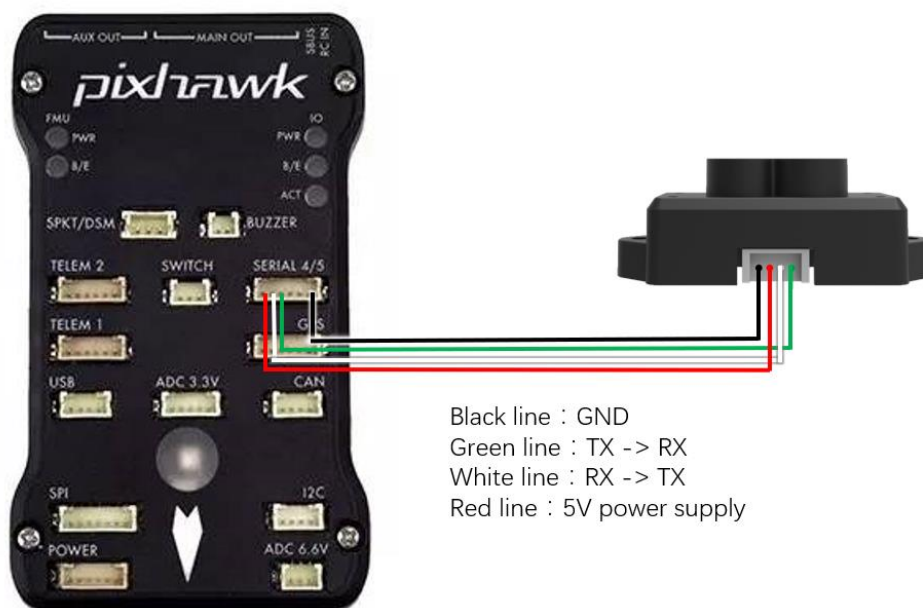
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Benewake (Beijing) Co., Ltd.

PX4 is popular and used by a lot of customers. TFmini is a high cost-effective lidar launched by Benewake(Beijing)Co.,Ltd, which is popular in the LiDAR market. This article introduces the detail application of TFmini in PX4. This article is based on QGroundControl v3.4.4 and PX4 v1.8.2. Any incomplete function at customer side should be upgraded in Ground Control Station and firmware.

I Hardware connection

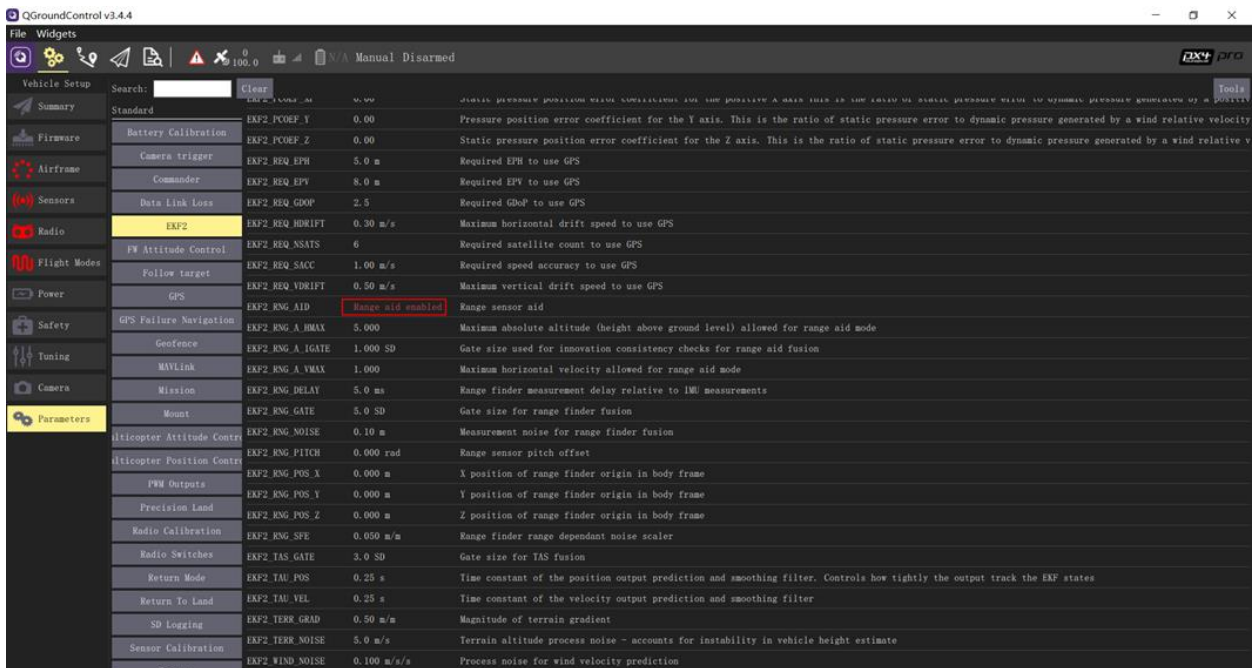
This article uses Pixhawk as an example to illustrate the connection, as shown below:

Install the TFmini on the aircraft, securely and vertically, and ensure that there are no obstacles in front of the lens. The TFmini lens should be larger than 30cm from the ground.



II Software setting

1. Choose *Setting--Parameters--EKF2--EKF2_RNG_AID*, select *Range aid enabled*, see the following picture:

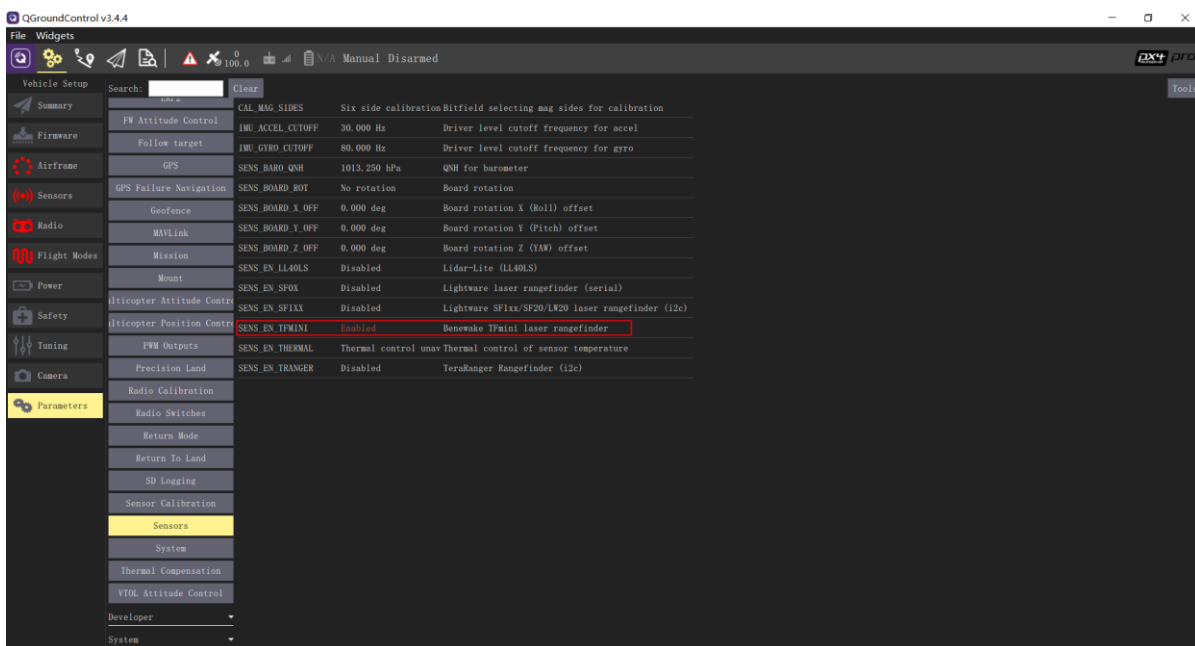


Customer setting:

(1)EKF2_RNG_A_VMAX: TFmini aircraft maximum horizontal speed trigger value, TFmini only takes effect when the flight speed is less than this value. The default value is 1m/s, the minimum value is 0.1m/s, and the maximum value is 2m/s.

(2)EKF2_RNG_A_HMAX: The maximum height trigger value of the TFmini aircraft, the TFmini takes effect only when the flight altitude is less than this value. The default value is 5m, the minimum value is 1m, and the maximum value is 10m.

2.Select Setting--Sensors--SENS_EN_TFMINI, select Enabled,see the following picture:



After setting the above steps, please restart the flight controller and QGroundControl. There is a TFmini numerical display on the main interface, as shown below

