

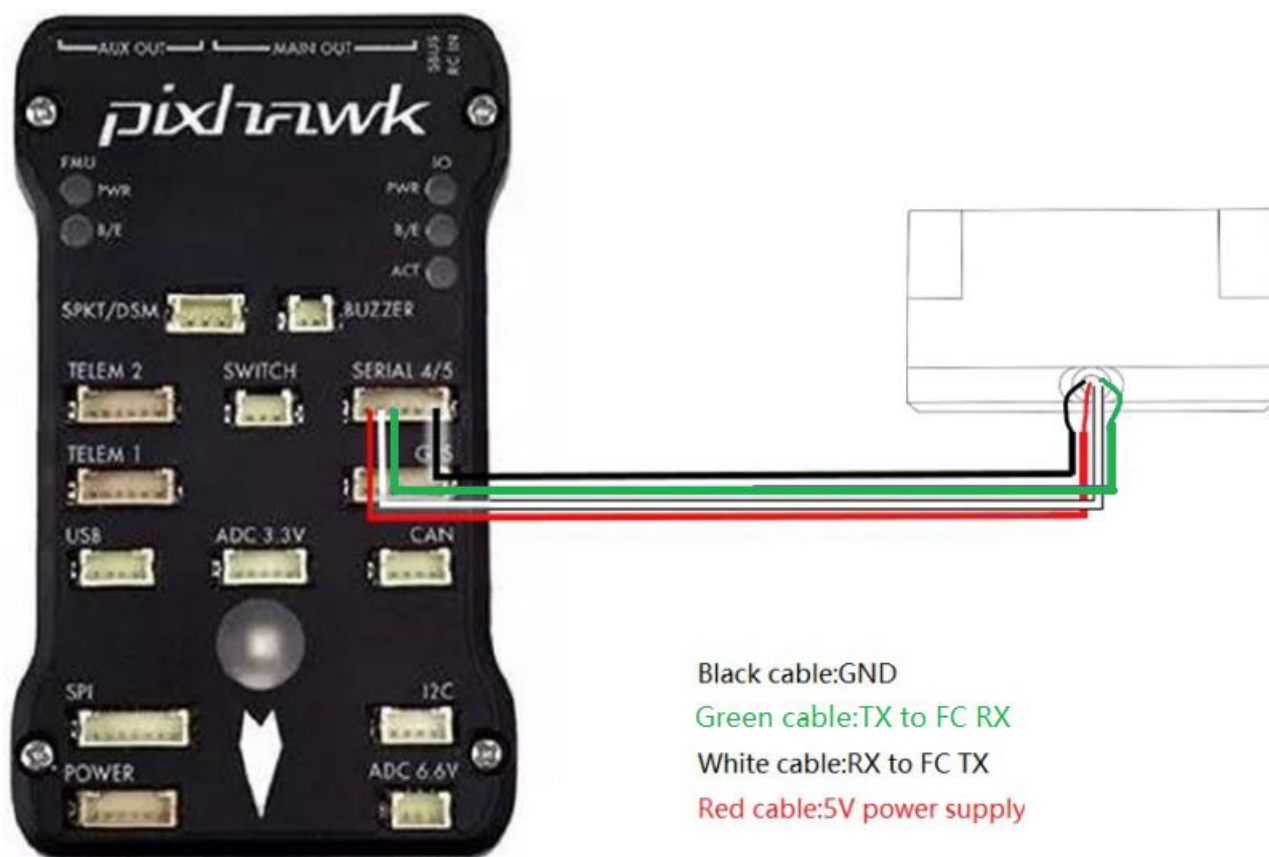
# **Application of TFmini Plus in PX4**

[www.benewake.com](http://www.benewake.com)  
Benewake (Beijing) Co., Ltd.

PX4 is popular and used by a lot of customers. TFmini Plus 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 Plus 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

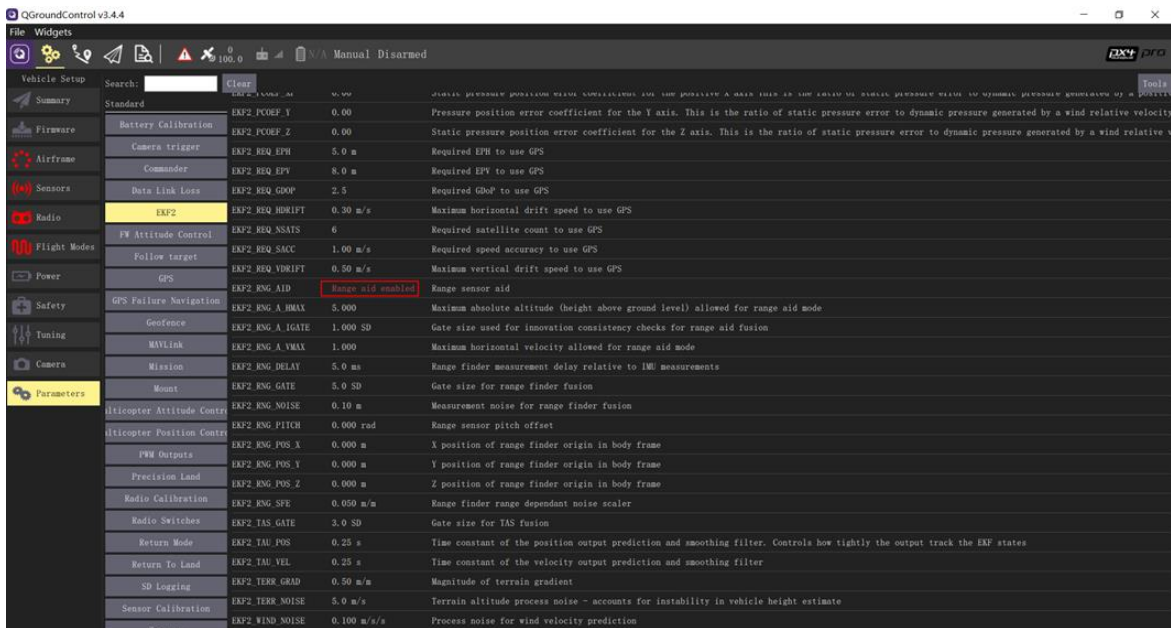
This article uses Pixhawk as an example to illustrate the connection, as shown below:



Install the TFmini Plus on the aircraft, securely and vertically, and ensure that there are no obstacles in front of the lens. The TFmini Plus 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:



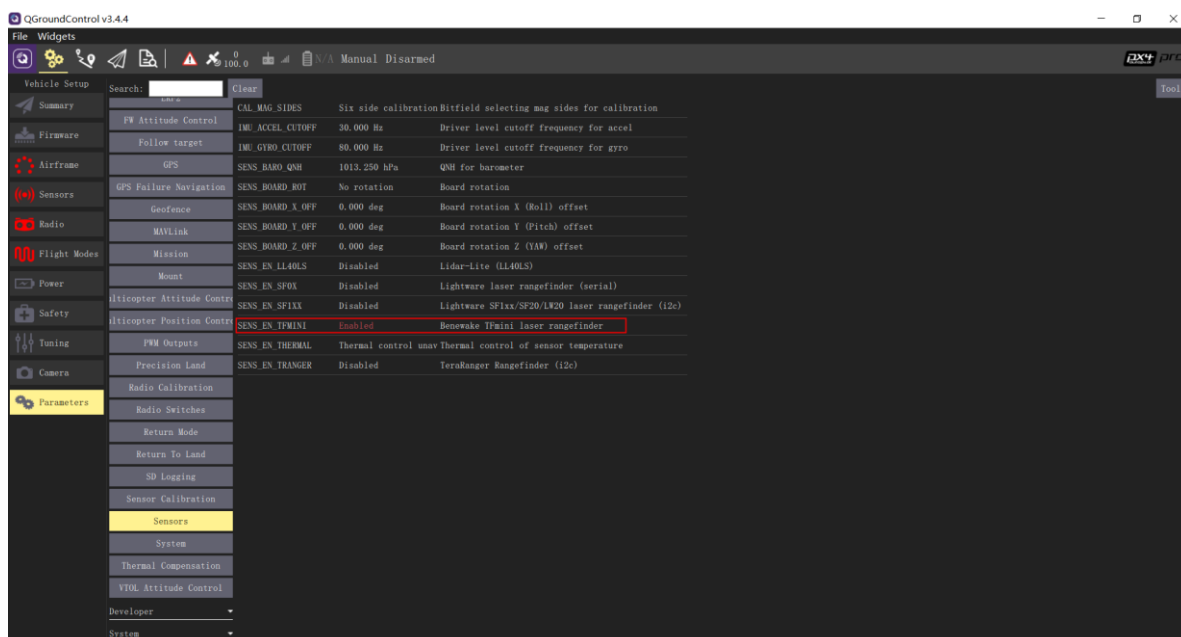
Customer setting:

(1)EKF2\_RNG\_A\_VMAX: TFmini Plus aircraft maximum horizontal speed trigger value, TFmini Plus 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 Plus aircraft, the TFmini Plus 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.

Detail description could be found at the parameters place.

2.Select Setting--Sensors--SENS\_EN\_TFMINI, select Enabled,see the following picture:



TFmini Plus measurement result will be displayed on the panel, see the following picture:

