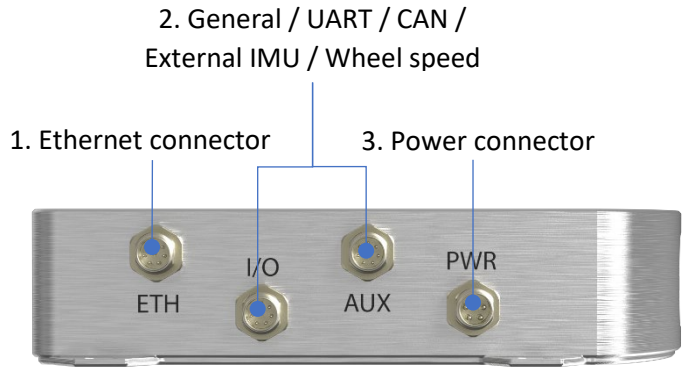
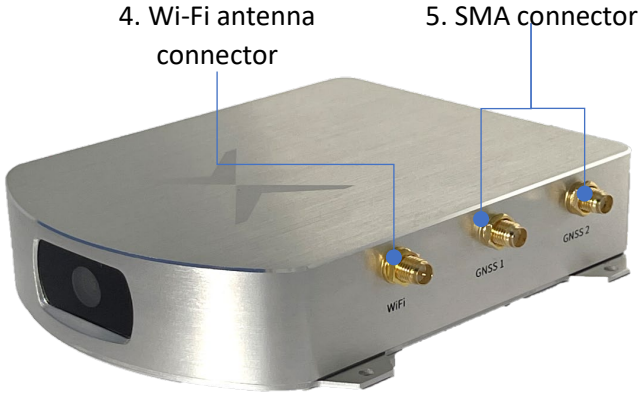
FIXPOSITION

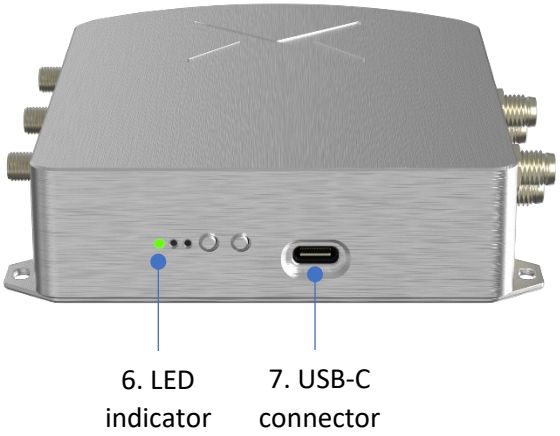
Quick Start Guide

For Vision-RTK 2 Starter Kit

Overview







Starter kit contents

- Vision-RTK 2
- Aluminum bar
- Battery charger
- Shielded ethernet cable
- 2 GNSS antennas
- Battery
- SMA cables
- Power supply cable

Additional requirements

- Internet hotspot
- RTK NTRIP subscription[1]

[1] VRS service providing RTCM3 MSM messages for all four constellations via NTRIP v1 required.

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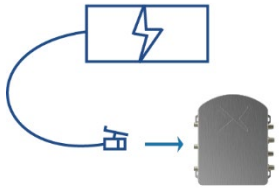
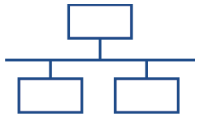
Setup

a. Connect the Vision-RTK 2 to the power supply connector (3). The voltage supply level should be between 5-36 VDC, typically 1.5A@5V.



b. Connect the Vision-RTK 2 to a PC and access the web interface using one of the following options:

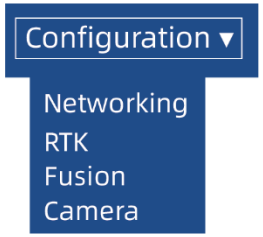
1. Ethernet: connect via the Ethernet port (1). Access the web interface with the address http://10.0.2.1



2. Wi-Fi: connect to the Wi-Fi SSID with the same reference name as the Vision-RTK 2 (e.g. fp-5cbaa2) and use the password “1234567890”. Access the web interface with the address http://10.0.1.1

c. In the section *Configuration*:

1. *Networking*, connect to an available Wi-Fi network with internet access.
2. *RTK*, configure an NTRIP account to receive RTK corrections.
3. *Fusion*, adjust the options for the specific application (e.g. Tuning mode).



d. Ensure the following points:

1. The Vision-RTK 2 is rigidly attached to the vehicle. For initial tests, it is recommended to mount the sensor and antennas on the provided aluminum bar to ensure the correct extrinsic parameters.

2. In *Configuration* → *Camera*, the camera view is not covered and is not dominated by static scenes like the sky or hood of the car. Adjust the cutout at the bottom or top part of the camera view if it has static objects like a vehicle hood so that these are obscured.

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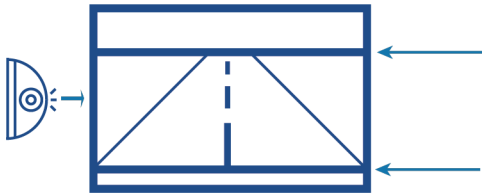
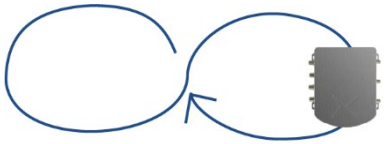


e. In the section *Positioning* → *Fusion Status*, enable the real-time positioning with the blue Start button. The Vision-RTK 2 initialization requires to be outdoors with RTK fix solutions.

f. Drive 2-3 minutes in RTK fix with some dynamic movement to converge the IMU biases (e.g. driving a figure eight).



Interfaces

The Vision-RTK 2 evaluation kit provides a UART connector for transferring data in serial mode and a Wi-Fi connection or an Ethernet port for transferring data in TCP/IP mode. The data is published with a custom Fixposition format. Additional formats can be selected in the section *Configuration* → *Fusion*.

Additional information

For more information about the Vision-RTK 2, contact Fixposition support:

https://www.fixposition.com/contact

See also: IMU biases calibration – Initialization procedure

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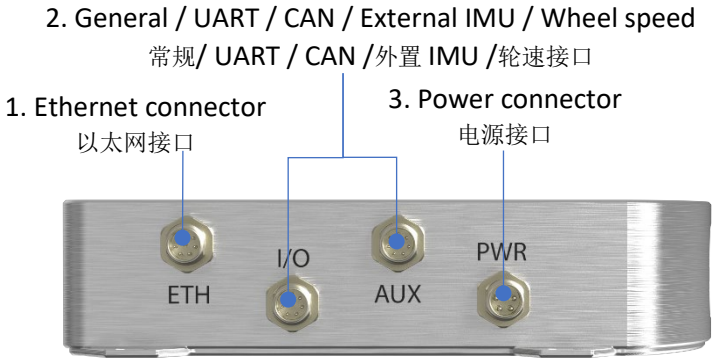
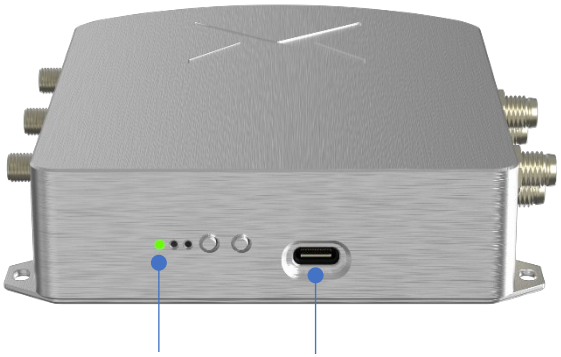
FIXPOSITION

视觉增强 RTK 2 评估套件

快速启动指南

外观一览





评估套件配件

- 视觉增强 RTK 2 传感器
- 铝合金支架
- 屏蔽的以太网线
- 2 GNSS 天线
- SMA 线缆
- 电源线

其他要求

- WiFi 热点
- RTK NTRIP 服务 [1]

[1]需要通过 NTRIP 版本 1 为四颗 GNSS 卫星提供 RTCM3 MSM 消息的 VRS 服务

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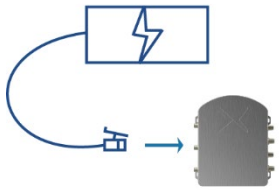
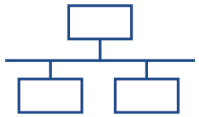
设置

a. 接通视觉增强 RTK 2 电源接口 (3)。供电电压应为 5-36 V 之间的直流电，典型值为 5V 1.5A。



b. 将视觉增强 RTK 2 连接至 PC 端，通过下述任一方式访问网页界面：

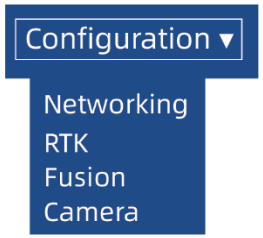
1. 以太网：连接以太网端口 (1)。输入网址 http://10.0.2.1 访问网页界面。



2. Wi-Fi：连接与视觉增强 RTK 2 编号名一致的 Wi-Fi SSID (如：fp-5cbaa2)，密码为“1234567890”。输入网址 http://10.0.1.1 访问网页界面。

c. 在 *Configuration* 中进行设置:

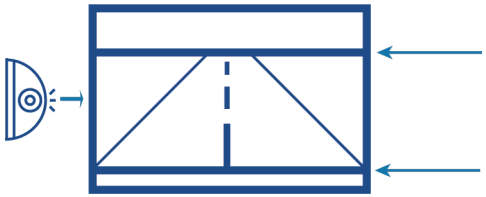
1. *Networking*, 配置并连接至可访问互联网的 Wi-Fi 网络。
2. *RTK*, 配置 NRTIP 账户以接收 RTK 校正数据。
3. *Fusion*, 根据您的具体应用配置参数 (如：应用模式) 。请注意，传感器融合(Fusion)功能处于工作状态时，无法更改相关的配置信息。



d. 确保满足下述要求：

1. 视觉增强 RTK 2 应稳妥牢固地安装在测试设备上。为确保获得准确的外部参数（GNSS 天线到传感器的距离），建议在首次测试时将视觉增强 RTK 2 传感器和 GNSS 天线安装在配套的铝合金支架上。

2. 在 *Configuration* → *Camera* 中，确保镜头画面不受遮挡且不应聚焦于天空、汽车引擎盖等静态场景。当画面中出现汽车引擎盖等遮挡物时，在网页界面中调整镜头画面上下边框从而隐藏遮挡物。



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e. 在 *Positioning* → *Fusion Status* 中，点击蓝色“Start”按键启用实时定位。视觉增强 RTK 2 初始化时要求在室外进行且至少有两个 GNSS 天线均处于 RTK fix 状态。

f. 在 RTK fix 状态下进行 2-3 分钟的动态运动，以收敛 IMU 偏差的估算 (如：按照“8”字轨迹行驶)。

接口

视觉增强 RTK 2 评估套件提供一个在串行模式下传输数据的 UART 接口以及一个在 TCP/IP 模式下传输数据的 Wi-Fi 接口和以太网端口。数据以自定义 Fixposition 格式发布。其他格式可在 *Configuration* → *Fusion* 中进行配置。

其他信息

如需获得更多视觉增强 RTK 2 产品相关信息，请通过以下方式联系我们：

https://www.fixposition.com/contact

附件：请仔细阅读 IMU 偏差校准—初始化流程。

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