FI✗POSITION

# Vision-RTK 2 Release Notes

Release v2.102.4

**FEBRUARY, 2025**

# Table of Contents

# 1 Overview

This release consists of the following artifact:

- Image: fp_vrtk2-release-vr2_2.102.4

At the time of release, the following support documents and code are valid:

- Documentation
    - Release notes (this document): VRTK2_v2.102.4_release notes_v1.pdf
    - Integration manual: VRTK2_integration_manual_v2.3.1.pdf
    - Datasheet: VRTK2_Datasheet_v1.0.pdf
- Support software
    - Fixposition-driver-8.0.1 https://github.com/fixposition/fixposition_driver/tree/8.0.0 and fixposition_driver-7.0.6: https://github.com/fixposition/fixposition_driver/tree/7.0.6
    - fixposition_gnss_tf-3.0.1: https://github.com/fixposition/fixposition_gnss_tf/tree/3.0.1

For any questions or issues, please contact Fixposition support at support@fixposition.com.

# 2 Release notes

The changes described here are with respect to the release 2.102.2.

## 2.1. Positioning

- Improved performance and stability in GNSS degraded conditions.
- Added internal safety checks to increase robustness
- Fix bug that causes unexpected behavior
- Added a filtered output feature, see Sec. 3.2 of this document and Sec. 5.5.5 of the Integration Manual

## 2.2. GNSS

- Improved signal tracking and selection in multipath scenarios.

## 2.3. Web interface

- Update tooltips
    - CAN ID output
    - Quantization
- Hide disabled messages by default on the "Configuration > I/O" page
- Add buttons to show all messages on the "Configuration > I/O" page
- Update some error messages
- Added selection fields for the "Fusion output filtering"

## 2.4. Data interface

- Bump version 2 of the FP_A-TP message
    - Add "tp_week" field
- Add new messages

- o NMEA-GN-ZDA_GNSS1TOS
- o NMEA-GN-... messages
- Add "nav_status" field to NMEA-GN-RMC

## 2.5. Other

## 2.6. Known limitations

- As described in our documentation the altitude of the NMEA-GP-GGA refers to the altitude above the respective ellipsoid instead of the orthometric height according to NMEA standard
- Fusion does not detect bad warmstart parameters (after changing config). Reset data on the 'System > Tools' page
- When recording (to external disk) powering off (by cutting power) or unplugging the USB disk too early may lead to data loss in the recording. Use the webinterface or API to download the recordings, unmount the disk or shutdown the sensor in order to prevent the data loss.
- **Note:** Upgrading to this version from any other version than the last customer release (2.85.3 or 2.102.2), namely other "Beta" versions, may require a factory reset. If you see anything funny, do a factory reset!
- Upon updating, the priorly saved biases are deleted and users need to converge the IMU (and if enabled wheel odometry) by moving for around 80-100 meters while receiving RTK Fix signals. **Only then,** it is possible to use the new **load position** feature. Please note that this process is only necessary at first time use or after factory resets when no IMU bias data is available.
- Some configuration may be reset automatically after the update. To assure your configuration is not lost, kindly save a backup file of your configuration on the "System > Tools > Backup and Restore" page of the web interface.
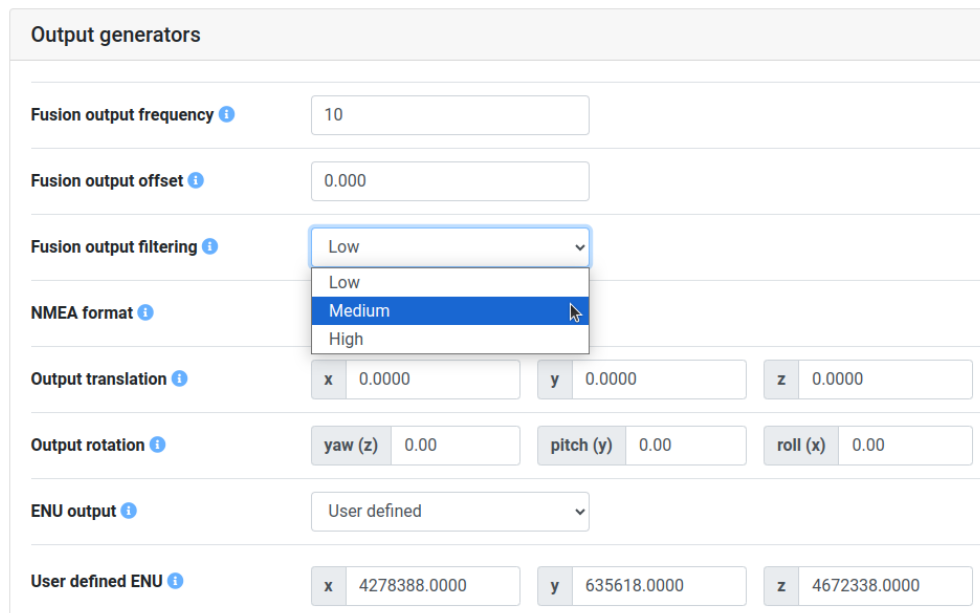
# 3  Highlights

## 3.1. Updated version of the FP_A-TP message

Added a field for the week number along the time of week. For more information on this message see
https://docs.fixposition.com/fd/fp_a-tp

## 3.2. Fusion Output Filtering

To provide a smoother Fusion output, we added different grades so that the user can choose the level of smoothing. We recommend users to use the "Low" or "Medium" settings as higher level of filtering is a trade-off between accuracy and grade of smoothness.



This feature is available in the Output generator settings on the 'Configuration > I/O' page of the web interface.

Please note, that this is a new feature, which might cause unexpected behavior. If you face any such case, kindly inform support@fixposition.com.

## 3.3. Added NMEA-GN-ZDA_GNSS1TOS message

Added a top-of-second message for the NMEA-GN-ZDA message.

## 3.4. Updated the talker ID of NMEA messages

In the past, our NMEA messages were displayed with the talker ID "GP" even though they were using multiconstellation (GN). We updated the messages to have the talker ID "GN", which aligns with the NMEA-0183 standard convention.