TESEO_DRAW

Dead reckoning automotive way

GAPG2406140909CFT

Application

- In-dash navigation
- Emergency call (eCall, ERA-GLONASS)
- Usage-Based Insurance (UBI)
- Anti-theft
- Fleet management
- Asset tracking
- Road tolling
- Car to car

Description

TESEO-DRAW firmware is a multi-sensors data fusion hub for Teseo family IC's.

Thanks to filtering and predictive algorithms TESEO-DRAW augments user's positioning experience in terms of accuracy and availability, especially when GNSS signal is degraded by environmental conditions (tunnels, urban canyon, indoor parking and multilevel highways junctions).

Vehicle's position, height, heading and velocity are calculated by a Kalman filter, which fuses information coming from GNSS satellites with data coming from sensors such as gyroscope, accelerometer, odometer and temperature sensors.

TESEO-DRAW is provided bundle with ST TESEO GNSS multiconstellation receiver IC's.
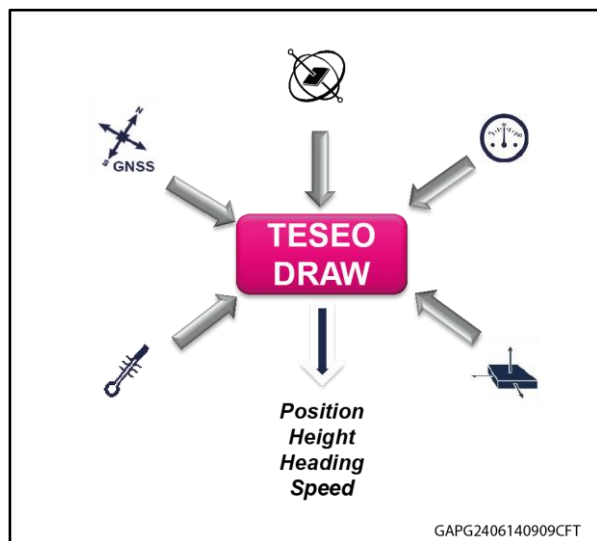
Features

- Flexible firmware solution, supporting different configurations:
    - Classic
    - CAN gyro
    - Mixed
    - Differential Wheel Pulse (DWP)
- Sensors over UART
- Automatic free mount
- Automatic sensors and temperature compensation
- 3D dead reckoning
- Map matching feedback

1 Overview

Figure 1: Dead reckoning user cases
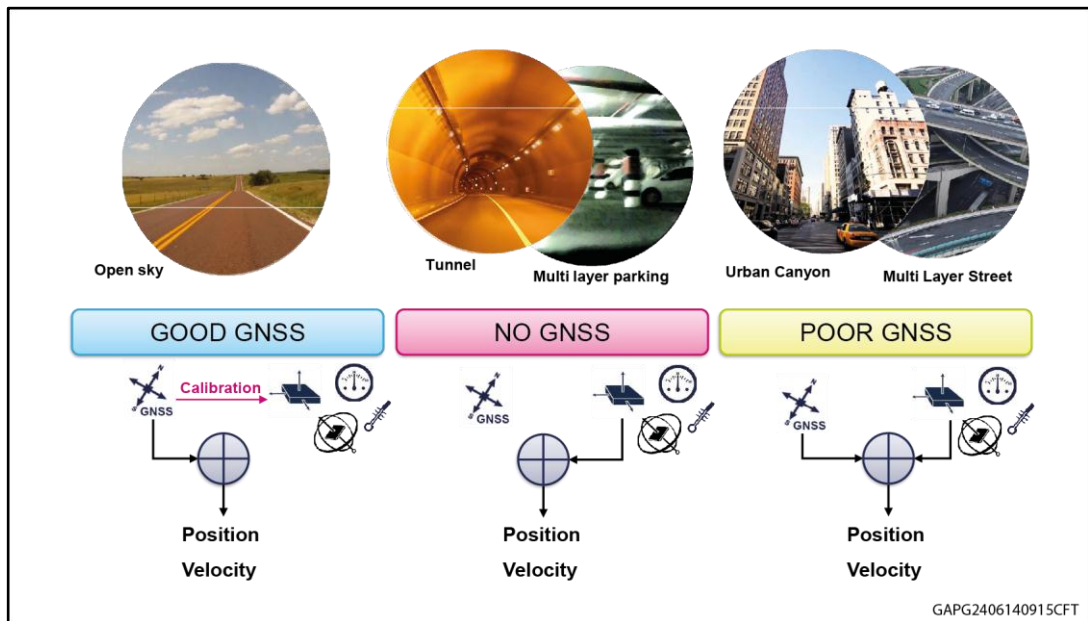
Table 1: Firmware configurations

Name	Yaw rate sensors	Distance sensors	Other sensors
Classic	MEMS gyroscope	Discrete odometer	Discrete reverse signal 3axis accelerometer Temperature sensor
CAN gyro	CAN gyroscope	CAN odometer	CAN reverse signal
Mixed	MEMS gyroscope	CAN odometer	CAN reverse signal 3axis accelerometer Temperature sensor
DWP	CAN differential wheel pulse	CAN odometer	CAN reverse signal

Evaluation tools

TESEO-DRAW firmware is available on demand and works in combination with any Teseo evaluation kit.

2   Revision history

Table 2: Document revision history

Date	Revision	Changes
24-Jun-2014	1	Initial release.

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