PRODUCTSHEET

AP9135

GPS/INERTIAL SENSOR MODULE

NGINUITY

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PRODUCTOVERVIEW

AP9135 GPS/INERTIAL SENSOR MODULE

A compact high performance position and motion sensor module providing 10 degrees of freedom data and acquisition of aerospace data bus information. An ideal sensor module and serial interface addition to many recorders and systems requiring position awareness.

Product Features

GPS Receiver

- 66 channel
- 10Hz GPS
- Sensitivity of -165dBm

Accelerometer

- 3 axis acceleration
- Configurable full scale output range of ±2g, ±4g, ±8g or ±16g
- Sensitivity of 4mg per bit
- Output rate up to 100Hz with bandwidth down to 3Hz

Gyro

- 3 axis angular rate
- Full scale output range up to 2000°/s
- Sensitivity of 0.07°/s per bit
- Output rate up to 100Hz with bandwidth down to 5Hz

Compass

- 3 axis magnetometer
- Output rate up to 100Hz with bandwidth down to 1Hz

- On-board motion processing algorithms provide optimised data output performance
- Dual channel ARINC 429 acquisition
- Dual channel ARINC 717 acquisition
- Single channel ARINC 825 acquisition
- On-board data storage up to 32GB
- USB interface for data access, configuration and recorded data download
- Sensor and acquisition data available on 4 separate USB virtual com ports
- USB powered for data record mode
- Compact size of 75 x 50 x 10 mm
- Data timestamp
- Quick and simple configuration and set up
- Windows API, LabView & CVI drivers available
- Operating temperature range: -40°C to +85°C

The AP9135 GPS/Inertial Sensor Module integrates all the sensors needed to achieve full position and motion sensing of any platform for data recording or position indication applications. The individual sensor data as well as the fused data is available directly on the Universal Serial Bus (USB) interface when connected to a host computer. Providing USB power to the system will instigate data recording to the internal memory card for later extraction and replay. The data is recorded in accordance with the current configuration settings.

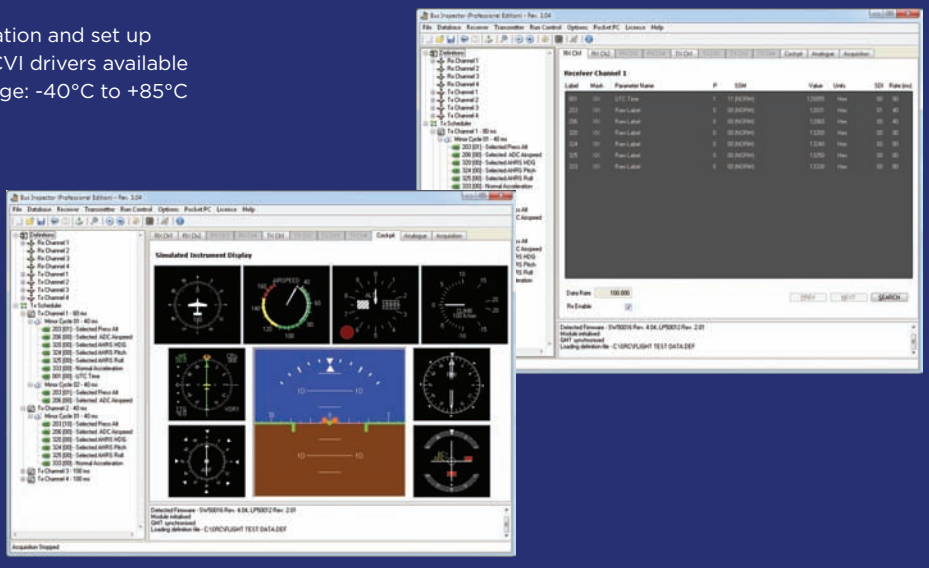
The AP9135 board is available for OEM integration in your own product or is available packaged in a ruggedized enclosure, suitable for military or aerospace applications. The AP9135 products are provided with our data analysis and replay software including conversion of raw data into engineering units and the export of time stamped data to a spreadsheet or database for further analysis.

Software libraries and drivers are available for Windows API, LabView and CVI, to allow integration in your software applications.

Versions Available

- **AP9135-MK0001**
  OEM circuit card without connectors or cable
- **AP9135-MK0010**
  Military ruggedised

Please see our website for more details



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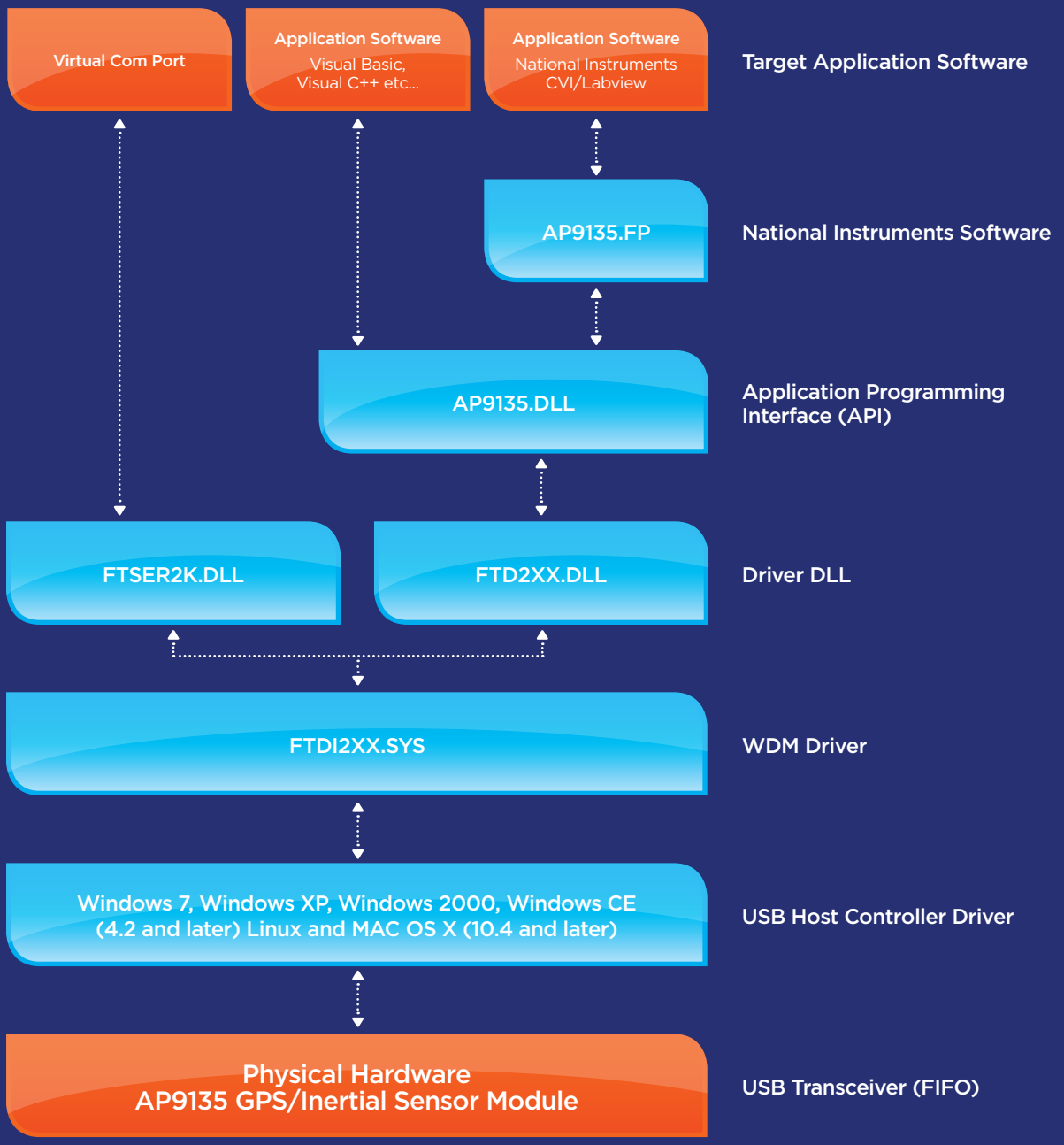
Application Interface

The following diagram details the AP9135 GPS/Inertial Sensor Module driver library architecture. Two alternative software interfaces are provided. The first interface provides a Virtual COM Port (VCP) which appears to the system as a legacy COM port. Each received word is presented on the port as a simple 13 byte record. The second interface (API) is provided via a proprietary DLL (AP9135.DLL). The proprietary API provides special functions that are not available in standard operating system COM ports, such as label filtering, engineering units conversion and real time acquisition.



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