The INS1000 is a state-of-the-art, high performance GNSS with built-in inertial sensors. It offers dual frequency RTK and tight coupling between GNSS and inertial sensors to provide cm-level accuracy, enhanced reliability, and superior performance during GNSS outages. The Automotive Dead Reckoning (ADR) solution delivers strong performance in GNSS challenged urban environments.
The ACEINNA INS1000 is compatible with all major global satellite systems; it supports USB, Ethernet, CAN, and RS-232 interfaces; and it supports dual GNSS antennae for accurate heading in static and dynamic scenarios, and difficult magnetic environments.

**Applications**
- Autonomous Vehicles
- Precision Agriculture
- Construction Vehicles
- Automotive testing

**Features**
- Tightly coupled GNSS + Inertial solution
- Internal MEMS Gyros and Accelerometers
- GPS, GLONASS, Beidou, Galileo, SBAS
- Dual antennae for accurate heading
- Dual frequency (L1 / L2) RTK
- 100 Hz navigation solution (position, velocity, pitch, roll, heading)
- Calibrated over -40C to +85C
- High Reliability, MTBF > 50k hours

This product has been developed exclusively for commercial applications. It has not been tested for, and makes no representation or warranty as to conformance with, any military specifications or its suitability for any military application or end-use. Additionally, any use of this product for nuclear, chemical or biological weapons, or weapons research, or for any use in missiles, rockets, and/or UAV’s of 300km or greater range, or any other activity prohibited by the Export Administration Regulations, is expressly prohibited without the written consent and without obtaining appropriate US export license(s) when required by US law. Diversion contrary to U.S. law is prohibited. Specifications are subject to change without notice.
Support

For more detailed information, please refer to the INS1000 Developer Manual. It is available at the following location:

AceinnaNav Control Software (ACS) is a graphical user interface for the AceinnaNav integrated navigation system. It displays continuous position, velocity, attitude, and trajectory information from the system. Additionally, it also provides tools to configure the system and log output data from the system.
Hardware

- INS1000 DEV KIT
  - INS1000 (INS1000 Rover)
  - Antenna GPS (2x Rover GPS Antenna)
  - INS1000-Base (INS1000 Base Station)
  - Antenna-GPSB (High Gain Survey Grade GPS Antenna)
  - INS1000-CKit (Cables/Connectors)
- INS1000-Pbox (Pelican Box)

Note: The DEV KIT comes disassembled. Some basic assembly is required.

Developer Tools

- System Setup Guide – How to connect the hardware, install and configure the system.
- Base station Guide – How to set up and configure the base station.
  - https://docs-ins1000.readthedocs.io/en/latest/base_outline.html#
- Reference Manual – How to use the system.
- Software Guide – How to use the GUI.
  - https://docs-ins1000.readthedocs.io/en/latest/user_outline.html#

System Requirements

- Rover Internet connection