SkyView OpenPilot

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This solution contains two different products for a complete solution to get your unmanned vehicle flying, it consists of both a hardware solution to steer the vehicle in-air and a software guaranteed to work with the hardware. Both the software and the hardware communicates through open standards meaning no more hassle with vendor specific protocols!

The solution is a cost-effective solution, yet comparable to systems many times more expensive. This is achieved through agile and responsive development, which gives the customer the most value for the money.

The solution consists of the following components

Hardware - OpenPilot

The hardware solution consists of a award-winning auto-pilot for unmanned vehicles called SkyView OpenPilot. The hardware consists of COTS components and includes integrated components necessary to control a vehicle, including a modem, pressure sensors and a GPS and is highly configurable with its expansion ports. The on-board software has several mathematical algorithms integrated, allowing it to make much better use of its sensors and the data it collects for a safer and more efficient flight.

Software - SkyView GCS Lite

SkyView GCS is a highly sophisticated Ground Control Station software. It is developed in C#, allowing for quick and easy development of add-ons and for future-proof code. This GCS has many of the features only found in much more expensive software. Some examples are the NATO STANAG 4586 integration, allowing it to control any type of vehicle, the 3D Visualizer for displaying the vehicle and the targets in a georeferenced environment and the ability to run SkyView GCS on multiple operating systems, including Windows, Mac OS X and various Linux systems.

SkyView OpenPilot

Specifications

- Board size 10.1 x 4.1 cm²
- Ruggedized enclosure available according to needs
- Dual processor for
    - Sensor and data processing
      (IMU, Magnetometer, GPS, Altimeter, Airspeed sensor, etc)
    - Flight management and communication
      (Control or Navigation algorithms, Payload management, Communications, etc)
- Internal long range modem (up to 32 km)
- Highly professional, ruggedized 9 DoF digital Inertial Measurement Unit
- Internal 3-axis magnetometer
- Altimeter sensor (Absolute pressure)
- GPS, position accuracy 2.6 m / Update rate 5 Hz.
- Airspeed sensor (Differential pressure)
- Altitude sonar (high accuracy, 2 cm when <6.5 m)
- 6x analog ports (12 bits)
- 2x I2C bus
- 2x SPI ports
- 3x serial port for external modules
- 12 directly connectable servos
- Up to 36 connectable servos with an external board(s)
- Up to 200 Hz servo update rate
- Input voltage ranging from 4.5V to 18V
- 3.3 and 5V internal supplies for servos, and external payloads
- Multiple battery monitoring capability
- Payload control capability
- Embedded RTC for sensitive missions
- Control by Joystick or SkyView GCS GUI
- 7 control modes
- Kalman filtering, state feedback algorithms, GPS navigation
- In flight adjustable state feedback gains
- In flight adjustable mission plan
- Autopilot Software Development Kit available
- SkyView GCS Lite included (SkyView GCS Pro and Ultimate upgrades available)