

Description

The Avionics Hub provides a central routing point for the CAN inside an airframe. It also provides a simplified manner of connecting multiple aircraft systems to an external PC with a single USB cable (and no external adapters).

The Hub provides three RS232 ports for connection to various systems, and a PC interface to the aircraft CAN. These interfaces enumerate as COM ports on the host PC, via an on-board electrically isolated USB adapter (which protects both the PC and aircraft from any potential ground loop or fault conditions).

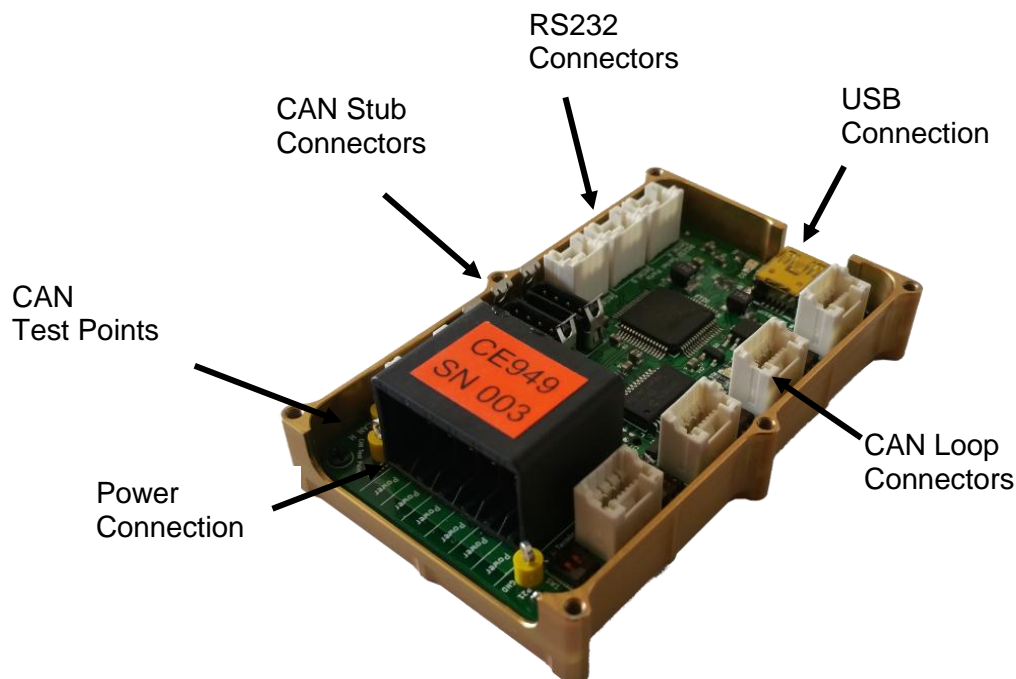
Additionally, the hub provides correct CAN termination, to ensure high signal integrity. It also provides for routing of power and communication connections to various subsystems around the airframe.

Features

The Avionics Hub features a range of connector groups for interconnecting a wide variety of UAV subsystems.

- Single USB port for connection of all communication subsystems to a PC
- Three RS232 serial ports
- Three CAN stub connections (< 0.3m)
- Four CAN connectors, arranged in a loop topology
- Correct termination of the CAN as per the CAN specification
- Dimensions: 73 mm x 47 mm x 22 mm

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System Layout

The avionics architecture system layout is specified in detail in the document *CE986.d01 - System Description*. Figure 1 shows an example layout for connecting the Avionics Hub to the various aircraft systems.

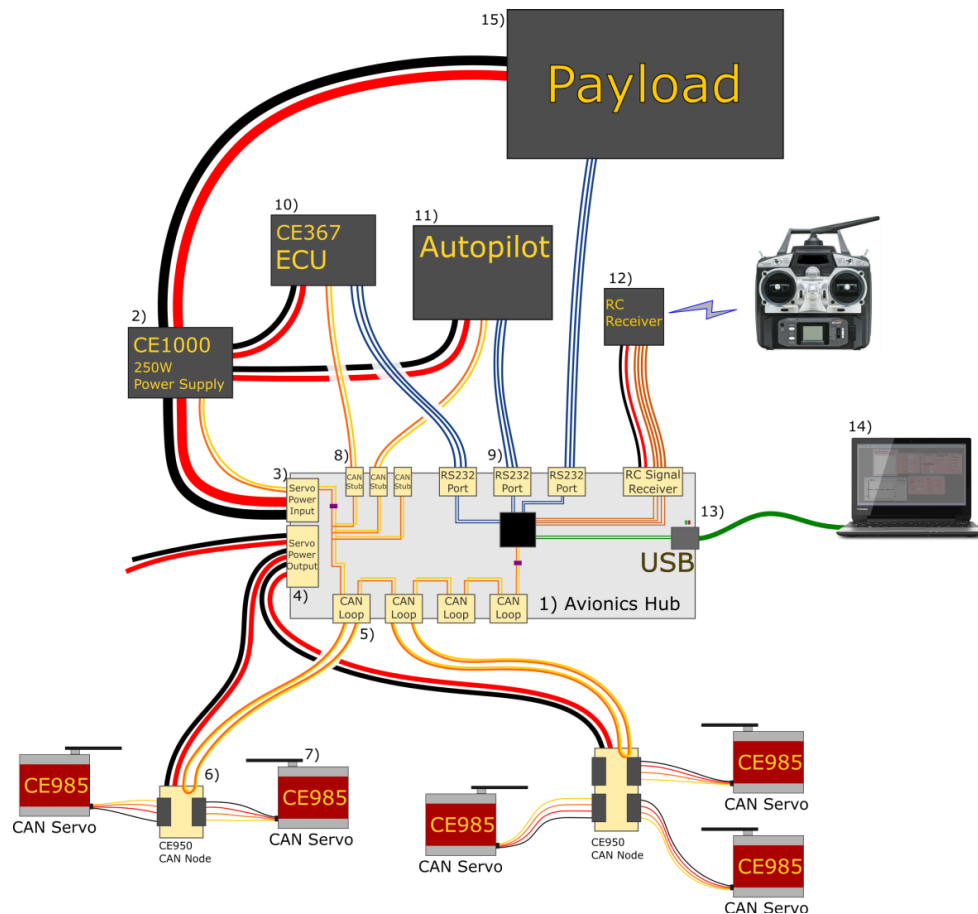


Figure 1 - Avionics Architecture

- 1) Avionics Hub (CE949)
- 2) Power supply (e.g. CE1000 250W power supply)
- 3) Servo power input
- 4) Servo power output
- 5) CAN loop connectors allow star connection of devices while observing correct loop topology
- 6) CE950 CAN node provides power and CAN connection to devices
- 7) CAN devices (in this example, CE985 CAN servo) provides power and CAN via a single connector
- 8) CAN stubs allow direct connection of devices with wire length of < 300mm
- 9) RS232 ports for configuration of Autopilot / ECU (etc)
- 10) Engine Control Unit (CE367)
- 11) Autopilot
- 12) RC receiver, servo signals converted to CAN commands allowing for manual control
- 13) Single USB connection to PC for configuration / data analysis
- 14) Connected computer has access to all RS232 ports and CAN via single connection
- 15) Payload has RS232 and CAN connections to the hub