



Flight Control Unit (FCU)

with AscendOS

AscendOS is a purpose-built operating system engineered with the goal of conducting high-quality and rapid **UAS flight research, development, and commercialization**:

- Integrated IMU and static pressure sensors
- Single ARM Cortex-M7 processor, 528 MHz
 - Sensing, state estimation, and inner-loop control
 - Mission management and autonomous path planning
- Unparalleled data-quality, determinism, and a fixed-latency between sensing and actuation
- Simulink Autocode or C++ software deployment, MATLAB-compatible flight data output
- 100 Hz hard-real-time frame rate
- CAN bus, I2C, and SPI sensor inputs
- 16 SBUS and 8 PWM actuator outputs
- 8 analog inputs
- 6 UART ports (4 FCU, 2 companion computer)
- MAV Link and IADS telemetry support
- Optional VectorNav IMU / INS integration
- Optional air data sensor for fixed-wing vehicles
- Available in two sizes
- Designed, manufactured, and assembled in the **USA, ITAR free**

