QUANSER
INNOVATE · EDUCATE

QDrone

Quanser innovation unleashed in the autonomous vehicle research space

The Quanser QDrone autonomous air vehicle is a midsized quadrotor equipped with a powerful on-board Intel® Aero Compute board, multiple high resolution cameras and built-in WiFi. This open-architecture research-grade drone is tuned to accelerate your research and is ideal for innovative research in multi-agent, swarm and vision-based applications.

The custom impact-resistant carbon fiber frame makes the QDrone highly manoeuvrable and capable of withstanding high-impact applications with little down time required for repairs. The powerful on-board processor and two high-speed, high-resolution cameras enable high-quality on-board video processing, as well as streaming for real-time monitoring.

Features

Intel® Inside

Intel® Aero Compute Board

Durable

Light-weight carbon-fibre frame suitable for advanced applications

Open Software Architecture

Design, deploy, and tune your algorithms through QUARC® for Simulink®

Extensive and Expandable

Multiple on-board cameras, additional digital and analog I/O channels their own advanced robotics applications.

Research Studio

The Autonomous Vehicles Research Studio comes with everything you need to jumpstart your research.

Vehicles

- QDrone
- QBot 2

Ground Station

- High performance computer:
  Intel® Core i7
  32 GB DDR4 RAM
- Three monitors
- USB flight controller joystick
- High performance router

Studio Space

- Natural Point Optitrack Flex 13
- Battery chargers
- Protective net
- Protective floor tiles
- Ground camera

Product Details

Device Specifications

Dimensions	40 x 40 x 15 cm
Weight (with batteries)	~1000 g
Max Payload	~300 g
Power	3S 11.1V LiPo (3300mAh) with XT60 connector
Flight time	~11 minutes for hover per battery charge
Onboard Computer	Intel® Aero Compute Board (powered by a quad-core Intel Atom® processor) Quad-core 64-bit 2.56 GHz processor 4 GB LPDDR3-1600 RAM
Expandable I/O:	PWM (8x) UART (2x) SPI (3x SS pins) I^2C ADC (4x) Encoder Input (3x) CPU GPIO (5x)
Cameras	Intel® Aero Vision Accessory Kit
Intel® RealSense™ (R200)	Depth sensing (3-4 metre range) Vision (640x480 @ 60 FPS or 1080p @ 30FPS)
Omnivision OV7251	VGA (640x480 @ 120 FPS)

About Quanser:
Quanser is the world leader in education and research for real-time control design and implementation. We specialize in outfitting engineering control laboratories to help universities captivate the brightest minds, motivate them to success and produce graduates with industry-relevant skills. Universities worldwide implement Quanser's open architecture control solutions, industry-relevant curriculum and cutting-edge work stations to teach Introductory, Intermediate or Advanced controls to students in Electrical, Mechanical, Mechatronics, Robotics, Aerospace, Civil, and various other engineering disciplines.