
INTEL®
FALCON™ 8+ SYSTEM
Designed for professional inspection and surveying.

The professional Intel® Falcon™ 8+ UAS offers advanced performance for business critical flights.

Best-in-class safety

With maximum electronic and hardware system redundancy, the AscTec Trinity Control Unit provides triple redundant flight control, with three redundant IMUs for quick and reliable data fusion that verify and control the UAV position, altitude, and orientation to help ensure responsiveness and stability during flights. Additional redundancies include communications, batteries, rotors and motors.

Precision for accurate, actionable data

Professional payload options with the best weight-to-payload ratio on the market, provide detailed data for orthography and 3D reconstruction, with millimeter accuracy for ground sample distance (GSD). The unique, patented v-shaped design helps ensure unobstructed data capture and enables a greater than 180 degree view from top to bottom for a range of perspectives, from one camera, in one flight.

Robust flight performance

The Intel Falcon 8+ drone is designed to provide consistent, stable flights in the face of external influences like weak GPS signals and high winds as well as providing resistance to magnetic field disturbances. Lightweight with best weight to payload ratio for efficient flights, it allows you to collect incredibly accurate, high-quality, geo-referenced, actionable data, while operating in challenging environments.

The Intel® Cockpit Controller is the main control for the Intel Falcon 8+ system and features an innovative joystick design for single-hand flight control.

Mission control and flight automation

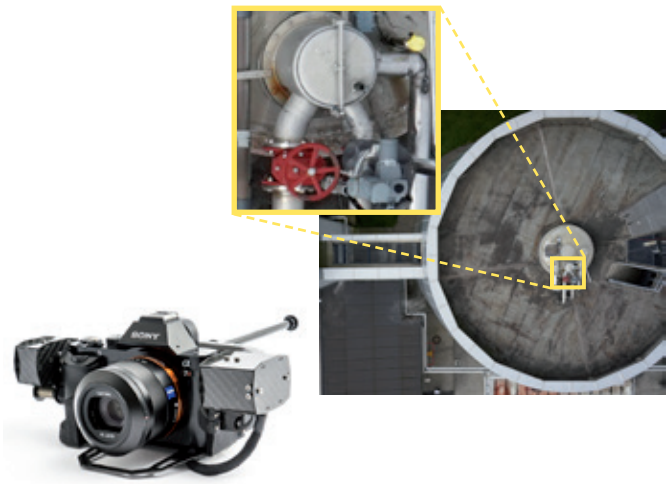
The professional grade Intel Falcon 8+ system combines high quality industrial design with a comprehensive mission control. Multiple feature options have been precisely designed to comply with the highest industry demands, enabling quick automated data generation.

Survey Package

Highest resolution for inspection, surveying and mapping

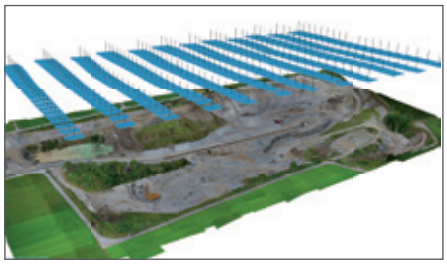
Sony* Alpha 7R

A precise 36 MP full-frame DSLM camera, the Alpha 7R includes a Sony Sonnar T* FE 35mm f/2.8 ZA Lens with Carl Zeiss T* anti-reflective coating in combination with a 35-mm full-frame sensor and BIONZ X* image processor.



Survey functions

Complex Flight Planning
The AscTec Navigator flight planning software enables high area output. Prepare complex waypoint missions on your laptop to automate survey flights.



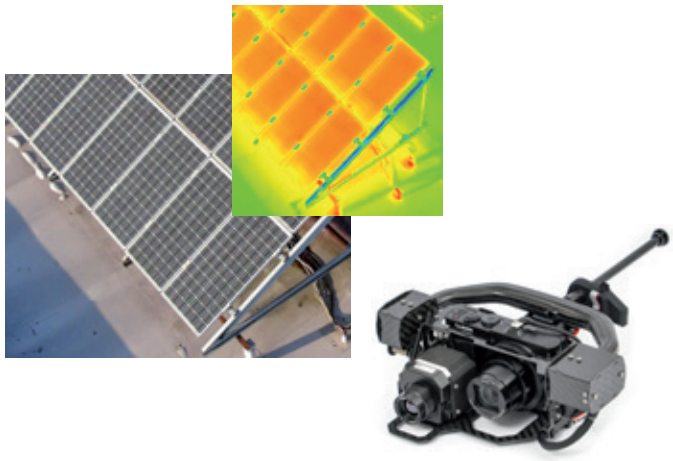
Quick Survey
This tool supports a fast and automated survey flight without a laptop. Simply enter the required parameters such as ground sample distance, then define coordinates of start and final angle via Intel Cockpit Ground Control Station; the Intel Falcon 8+ drone will automatically set flight altitude, speed, GPS-based photo positions and overlapping to provide the desired results within the shortest flight time.

Inspection Package

Detailed thermal and visual information for industrial inspection

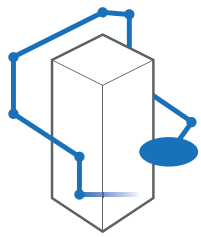
Inspection payload ZS50

The hybrid RGB + 14-Bit RAW data inspection payload combines a near-infrared camera with a high resolution digital camera mounted in parallel. One inspection flight provides actionable data and images, including relevant position, time-stamping, orientation, and real-time thermal and RGB video feed.



Inspection functions

Path Planning with Exact Waypoints
WP/Path function creates an exact reproduction of aerial imaging. Several photo positions, including camera orientation, can be saved as single waypoints or as complex paths with many waypoints, thus providing an automated process to repeat the flight.



Circle of Interest (COI)
The Circle of Interest (COI) function generates a circular waypoint flight to enable the systematic capturing of images around the point of interest according to your setting.

Independent Camera Control (ICC)
A camera operator is able to control the payload orientation and pitch angle.

Intel Falcon 8+ Drone Technical Specifications

FLIGHT SYSTEM	
Type	V-shaped Octocopter
Size	768 x 817 x 160 mm (30.24 x 32.17 x 6.30 in)
Engines	8 electrical, brushless (sensorless) motors with 125 W max. power each
Rotor Diameter	20.32 cm (8 in)
Number of rotors	8
Empty weight	1.2 kg (2.65 lbs)
Payload weight (camera and gimbal)	0.8 kg (1.76 lbs)
Take off weight	2.8 kg (6.17 lbs)
Flight time[1]	Up to 16-26 minutes
Max data link range[2]	1 km (FCC version) (3281 feet)
Max altitude[2]	4000 m MSL (13123 feet)
Max video link range[2]	500 m (FCC version) (1640 feet)
Max tolerable wind speed	12 m/s (GPS Mode) 16 m/s (Height Mode, Manual Mode)
Power supply	2x Intel® Powerpack 4000 (redundant setup)
Operating temperature	-5 °C to 40 °C (23° F to 104° F)

NAVIGATION SENSORS	
AscTec Trinity Control Unit	Triple redundant Inertial Measurement Unit (IMU: barometer, compass, accelerometers, gyroscopes)
Global Navigation Satellite System (GNSS)	GPS and GLONASS

MAX. AIRSPEED	
Manual Mode	18 m/s (40 mph)
Height Mode	18 m/s (40 mph)
GPS Mode	4.5 m/s (10 mph) standard up to 10 m/s (22 mph) in mapping flights
Climb/sink rate	
Manual Mode	6 to 10 m/s (13 to 22 mph)
Height Mode	3 m/s (6 mph)
GPS Mode	3 m/s (6 mph)
Turn rate	
Manual Mode/Height Mode	115 °/s
GPS Mode	75 °/s
Max pitch and roll angles	
Manual Mode/Height Mode	50 °/s
GPS Mode	45 °/s

WIRELESS COMMUNICATION	
Two independent (diversity) command and control links	2.4 GHz adaptive FHSS link 100 mW
Digital video link	Low latency digital link. 5.1 GHz with up to 250 mW. Resolution depending on payload, up to 1080p full HD.

[1] New batteries, fully charged and at room temperature. Flights performed at approximately 0 m (0 feet) above sea level at outside temperature of approximately 15 °C (59° F), no wind, slow and steady flight maneuvers, no hovering. All measurements done at International Standard Atmosphere (ISA). Other factors may also influence the results.

[2] The pilot is responsible for knowing and complying with all laws and regulations applicable to the airspace in which the Intel Falcon 8+ System is operated. Jurisdictions have different safety rules such as: authorization for flying unmanned aircraft; flying near airports, manned aircraft, or people; operation within visual line of sight; altitude limits and others. Flights performed at approximately 120 m (393 feet) above ground in GPS Mode, drone facing away from pilot, Cockpit antenna oriented exactly towards drone, no obstacles in-between line of sight to drone and 400 m radius around drone and pilot, no external disturbance of the 2.4 Ghz and 5.8 GHz bands. All measurements done at International Standard Atmosphere (ISA). Other factors may also influence the results.

Learn more: http://www.intel.com.

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