



INTEL® FALCON™ 8+ DRONE
– TOPCON EDITION
AERIAL IMAGING SOLUTION





Innovative design delivering top-quality data

- Configurable for inspection or mapping
- Use multiple sensors simultaneously
- Resistant to magnetic interference
- Operational in windy areas
- Low noise, emission-free operation

The Intel® Falcon™ 8+ Drone – Topcon Edition is a rotary-wing UAS designed for inspection and monitoring or survey and mapping applications, depending on which camera payloads are used.

Offering flexibility in tight spaces and challenging environments, the Intel Falcon 8+ Drone – Topcon Edition uses best-in-class sensors, active vibration damping and an actively compensating camera mount. The Intel Falcon 8+ Drone – Topcon Edition Inspection Package can be used for multiple types of inspection projects that require high-resolution imaging. The Mapping Package is well-suited for multi-hectare (multi-acre) projects.

Inspection Package

The Inspection Package payload consists of the Panasonic Lumix DMC-ZS50 for true color RGB images and the FLIR Tau 2 640 for infrared imaging.

With the Inspection Package, operators can perform close-up inspections to detect millimeter damage, fine hairline cracks, leaks or heat power losses. The hybrid RGB + 14-Bit RAW data inspection payload combines a near-infrared camera with a high-resolution digital camera mounted in parallel.

Mapping Package

The Mapping Package is an innovative solution for small mapping projects and volume calculations. High-resolution geo-referenced aerial images can be taken from various heights within set GPS tolerances and offer a complement to conventional methods. The Mapping Package includes a 36 megapixel RGB camera (Sony Alpha 7R) and delivers orthophotos or 3D models in Topcon ContextCapture software, powered by Bentley.



Intel® Cockpit™ Ground Control Station (GCS)

Data links, remote control of the camera and the controls for the Intel Falcon 8+ Drone – Topcon Edition are completely integrated into the GCS and provide absolute freedom of movement. Optional independent camera control allows two-person operation for inspection flights.





Ease-of-use

- Minimal pilot corrections
- Simple plug and play camera integration
- GCS includes built-in automated flight functions
- Advanced flight planning via a PC
- Automated, reproducible 3D flights



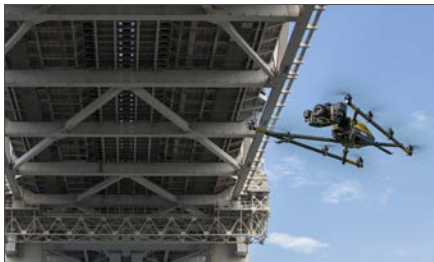
Designed for stability

- Balanced V-shape design
- Unaffected by magnetic interference
- Automatic compensation for wind gusts
- Active vibration damping



Built-in fail-safes

- Three autopilots
- Redundant electronics
- Redundant propulsion system
- Redundant radio links



Top-quality data

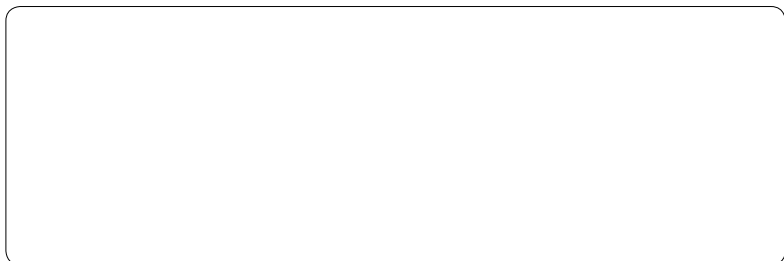
- Best-in-class sensors
- Automatically compensating camera mount
- Delivers detailed data
- Workplace tested since 2009

* The Intel® Falcon™ 8+ Drone – Topcon Edition may not yet be available in all markets



For more information:
topconpositioning.com/falcon8plus

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Innovative design delivering top-quality data

The Intel® Falcon™ 8+ Drone – Topcon Edition is a rotary-wing UAS designed for inspection and monitoring or survey and mapping, with multiple optimized camera payloads available for each application.

Offering flexibility in tight spaces and challenging environments, the Intel Falcon 8+ Drone – Topcon Edition uses best-in-class sensors, active vibration damping and an actively compensating camera mount. The Intel Falcon 8+ Drone – Topcon Edition Inspection Package can be used for multiple types of inspection projects that require high-resolution imaging. The Mapping Package is well-suited for multi-hectare (multi-acre) projects.

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- Use multiple sensors simultaneously
- Resistant to magnetic interference
- Operational in windy areas
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General	
Type	V-Form Octocopter
Size (w x l x h)	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
Rotor weight	6 g (0.21 oz.)
Empty weight	1.2 kg (2.65 lbs.)
Max. payload weight (camera and gimbal)	0.8 kg (1.76 lbs.)
Max. take off weight	2.8 kg (6.17 lbs.)
Max. flight time without payload*	26 min
Max. flight time with max. payload weight*	16 min
Max. flight time with A7R	16 min
Max. flight time with inspection payload ZS50	18 min
Max. range data link**	1 km (FCC version) (3,281 feet) 850 m (CE version) (2,788 feet)
Max. service ceiling**	4,000 m MSL (13,123 feet)
Max. altitude above ground level**	Varies by country in which you operate the UAV and requires you to check the regulations that apply for your country of operation.
Max. range video link**	500 m (FCC and CE version) (1,640 feet)
Max. tolerable wind speed	12 m/s (26 mph) (GPS Mode) 16 m/s (35 mph) (Height Mode, Manual Mode)
Max. precipitation	Not recommended to operate in any form of precipitation
Operating temperature	-5°C to 45°C (23°F to 113°F)
Short term storage temperature (up to 1 month)	-5°C to 40°C (23°F to 104°F)
Long term storage temperature (above 1 month)	-5°C to 25°C (23°F to 77°F)
Power supply	2 x Intel Powerpack 4000 (redundant setup)
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
Max. 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)
Max. turn rate	
Manual Mode/Height Mode	115°/s
GPS Mode	75°/s
Max. pitch and roll angles	
Manual Mode/Height Mode	50°
GPS Mode	45°

Wireless Communication	
2 independent (diversity) command and control links	2.4 GHz adaptive FHSS link up to 100 mW
Digital video link	Low Latency digital link. 5.1 GHz to 5.8 GHz with up to 24 dBm / 250 mW (FCC compliant version). 5.1 GHz to 5.8 GHz with up to 20 dBm / 100 mW (CE compliant version). Resolution depending on payload up to 1080p Full HD.
Intel Powerpack battery	
Type	LiPo 4S
Capacity	4000 mAh
Voltage (nominal)	14.8 V
Energy	59.2 Wh
Operating temperature	-5°C to 40°C (14°F to 104°F)
Charge temperature	Recommended: 10°C to 30°C (50°F to 86°F) Max.: 5°C to 40°C (41°F to 104°F)
Short term storage temperature (up to 1 month)	-5°C to 40°C (23°F to 104°F)
Long term storage temperature (above 1 month)	18°C to 28°C (64°F to 82°F)
Recommended storage voltage	3.7 V per cell
Max Charging Power	80 W
Typical cycle life	150 cycles
Weight	398 g (14 oz) (tolerance +/- 5%)
AC Adapter (charger for Powerpack PP4000)	
Input voltage	100-240 V, 50/60 Hz
Maximum input current	1.5 A
Maximum output current	4.74 A
Output voltage	19.0 V



Intel Cockpit GCS	
Dimension (w x l x h)	320 x 380 x 135 mm (12.60 x 14.96 x 5.31 in)
Weight	2.7 kg (5.95 lbs.) (w/o battery) / 3.1 kg (6.83 lbs.) (with battery)
Power supply	1 x Intel Powerpack battery
Operating time*	Up to 2 hours
Operating temperature	-5°C to 45°C (23°F to 113°F)
Short term storage temperature (up to 1 month)	-5°C to 40°C (23°F to 104°F)
Long term storage temperature (above 1 month)	-5°C to 25°C (23°F to 77°F)
Touchscreen	8.3", resolution 1980 x 1200 px
Connections	4 x USB, 1 x HDMI

* 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.

**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.



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