THE MARKET-LEADING INDOOR DRONE FOR INSPECTION AND MAPPING

Elios 3



Insights beyond human reach

Unprecedented Access

Complete surveying and inspection tasks where people and other drones cannot operate.

Stress-free operations

Reduce pilot workload and stress with advanced pilot-assist features.

Unmatched versatility

Capture accurate, repeatable visual, LiDAR, radiation, and UT data with a single platform.

Actionable insights

Localize findings, collaborate efficiently, and turn data into actionable insights.

FLYABILITY

MFE INSPECTION SOLUTIONS

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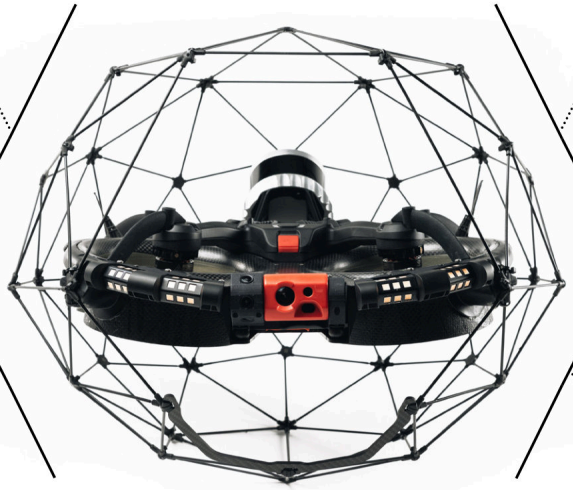
Technical specifications

DESIGNED FOR INDOORS

- Collision-tolerant
- GPS-denied navigation
- Compact design

UNMATCHED VERSATILITY

- Built-in: Visual inspection payload
- Add-Ons: UT, Surveying, RAD



INTUITIVE OPERATIONS

- Autonomy features
- SLAM-based stabilization
- Real-Time 3D Map
- Location-Tagged Data

ACTIONABLE INSIGHTS

- Inspector
- Inspector Online

BUILT FOR LONG-TERM SUCCESS • Easy maintenance • 1-day training to onboard • Dedicated support team • Care

AIRCRAFT

Dimensions (W x H)	48x38 cm (18.9 x 13.8 in)
Weight (incl. battery)	• Aircraft without LiDAR: 1960gr (< 4,32 lbs) • Aircraft with LiDAR: 2450gr (< 5,4 lbs) • Maximum take-off weight with heaviest power and payload options: 3300gr
Flight time	Elios 3 with Rev 6 LIDAR + standard battery: 9 min 10 sec
Ingress protection	Splash and dust resistant design, LiDAR Payload IP68
Max. horizontal speed	• Assist mode: 1.5 m/s (4.9 ft/s), • Assist-Sport mode: 2 m/s (6.6 ft/s), • Attitude mode: 5 m/s (16.4 ft/s), • Sport mode: 7 m/s (23 ft/s)

OPERATIONAL SAFETY & CRASHWORTHINESS

Safety factors	Collision-resilient patented technology, protective cage in carbon
Impact resistance from falling objects	Impact resistant for a falling rock of 2 cm diameter falling from 1 m high on the drone
Max. safe collision speed	2 m/s (< 6.6 ft/s) in frontal collisions, 2.4 m/s (< 7.9 ft/s) in all spherical directions
Fail safe	Automatic return to signal on signal or video loss
Stabilization system	SLAM Based LiDAR and VIO Cameras

LiDAR PAYLOAD (REV 6 - BASE OPTION)

SLAM based mapping	✓
Handheld functionality	✓
Max. range	45 m
Precision	+/- 1.8 cm
Max. accuracy	0.5% drift

BATTERY OPTIONS

	Standard battery	**High-capacity battery**
Energy	99.2 Wh	187 Wh
Capacity	4350 mAh	8200 mAh
Battery type	Smart Battery Management System (BMS), Lithium-ion (LiPo)	Smart Battery Management System (BMS), Lithium-ion (LiPo)
Nominal voltage	22.8 V	22.8 V
Weight	620 g, 1.4 lbs	1100 g, 2.43 lbs
Operating temperature	10 - 40 °C, 50 °F - 104 °F	0 - 50 °C, 32 – 122 °F
Lifetime	50 charge cycles	100 charge cycles
Charging time	1 h	1 h 15

REMOTE CONTROLLER

Max. transmission distance[1]	500 m (1640 ft) in direct visual line of sight
Max. operating time	5 h
Output port	USB-C
Weight	1760 g without tablet (< 3.9 lbs), 2260 g with tablet (< 4.9 lbs)
Tablet model	Samsung Galaxy Tab S7, S8, S9 and S11, and Android versions 14, 15, 16

SHIPPING CASE

Dimensions (HxWxL)	65 x 45 x 55 cm
Shipping weight	24 kg (< 52.9 lbs)

1. One actual range depends on the environment the drone is operated within

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Available payload options

VISUAL INSPECTION PAYLOAD (BUILT-IN)



Data output

4K video, 12MP photos, Thermal imagery

4K CAMERA

Sensor
12.3 MP 1/2.3" CMOS

Video resolution
4K / 30 fps

GSD resolution
Up 0.18mm/pix

Focal lens
2.71 mm

FOV
180° tiltable camera pod

THERMAL RADIOMETRIC CAMERA

Sensor
Lepton 3.5 FLIR

Resolution
160 x 120

Accuracy
From ±5°C or ±5%

Frame rate
9 fps

Thermal sensitivity
≤50 mK

LIGHTING SYSTEM

Light output
16000 Lumens

Modes
Normal, dustproof lighting, oblique lighting

UT PAYLOAD (ADD-ON)



Data output

UT Spot Measurements

PROBE

Manufacturer
Cygnus Instruments

Probe type
Single and Twin Crystal Probes available

Measurement range
0.8mm to 250mm(1)

Measuring mode

Single Echo with Twin Crystal Probes

Echo-Echo with Twin Crystal Probes

Multiple Echo/Multiple Echo Deep Coat with the Single Crystal Probe

Gain and gate control with Twin Crystal Probes
Automatic or manual gain and gate control

PROBE

Accuracy
±0.1 mm (±0.004")

Resolution display
Display 0.1 mm (0.005") or 0.01 mm (0.0005")

IN FLIGHT

- ✓ Live A-scans data
- ✓ Real-time A-scan refinement

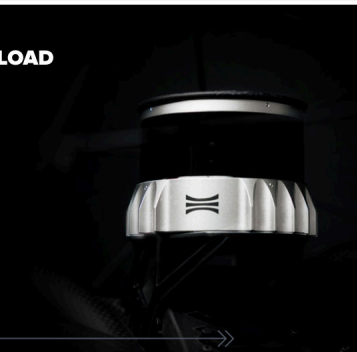
IN POST-PROCESSING

- ✓ Location-tagged UT measurements
- ✓ A-scan review and refining

ROUTINE MAINTENANCE

- ✓ Provided with calibration certificates with nominal 1 year validity
- ✓ Annual Calibration is possible
- ✓ Replacement Probes, Couplant and spare hardware are available

SURVEYING PAYLOAD (ADD-ON)



Data output

Point clouds

SENSOR

Configuration
Ouster OS0 128 beams REV 7 sensor

Accuracy
From 0.1% drift

Precision
1σ +/- 6 mm, 2σ +/- 12 mm

Range
Up to 100 m

SENSOR

Scanning rate
1.3 M pts / sec

Photon sensitivity
10x Handheld functionality

IN POST-PROCESSING

Software
3D Survey Add-On online[2]

Features

- ✓ High-Accuracy Mapping
- ✓ Georeferencing,
- ✓ Optimized SLAM preset
- ✓ Easy export

Export format
LAS

RAD PAYLOAD (ADD-ON)



Data output

Radiation levels

DETECTOR

Configuration
Mirion RDS-32TM WR

Dose rate measurement range
0.05 µSv/h to 10 Sv/h

IEC dose rate measurement range
0.3 µSv/h to 10 Sv/h

IN FLIGHT

- ✓ Comprehensive radiation reading: current and cumulative dose rate along with max recorded value

IN POST-PROCESSING

- ✓ Precise localization of radiation sources on a 3D map of the asset
- ✓ Easy reporting

ROUTINE MAINTENANCE

- ✓ Annual Calibration is possible

1. Depending on probe and configuration, material, temperature.
2. Also available on desktop through our partner solution, FARO Connect.

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Available accessories



TETHER POWER UNIT

Continuous power for stress-free operations



HIGH-CAPACITY BATTERY

17-min max flight time, twice the lifespan



RANGE EXTENDER

Extend the reach in challenging areas



FLAMMABLE GAS SENSOR

Real-time warning of flammable gases

SOFTWARE MENU

FIELD

Advanced Autonomy

Navigate complex spaces with confidence

- ✓ 3D live-map
- ✓ SLAM-Based Stabilization
- ✓ Smart Return-to-Home
- ✓ Return-To-Signal
- ✓ Resume Inspection
- ✓ Repeat Inspection
- ✓ Obstacle Avoidance
- ✓ Autonomous Scanning
- ✓ Enhanced live map

OFFICE

Inspector Desktop

Visualize and analyze your inspection data

- ✓ Location-Tagged Data
- ✓ POI documentation
- ✓ Defect Analysis
- ✓ Advanced reporting
- ✓ Merged Point Clouds
- ✓ One-click data export

Inspector Online

Unlock advanced analysis and seamless collaboration online

- ✓ Easy sharing
- ✓ Comparison over time
- ✓ Colorization
- ✓ Multi-user collaboration
- ✓ Cloud sync & storage
- ✓ High-Accuracy Mapping[1]
- ✓ Georeferencing[1]
- ✓ SOC 2 Type II compliant
- ✓ Cloud-powered processing

TRAINING

80+

Training global facilities

2500+

Certified Elios drone pilots

15+

Complete training programs

Online training simulator to support on-demand learning

SUPPORT

Global Support & Services

Knowledge base with how-to guides, videos and technical help

CARE

Damage waiver in case of incident

All-included wear and tear coverage

1. Available as an additional capability with the 3D Survey Add-on.

FLYABILITY

MFE INSPECTION SOLUTIONS

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