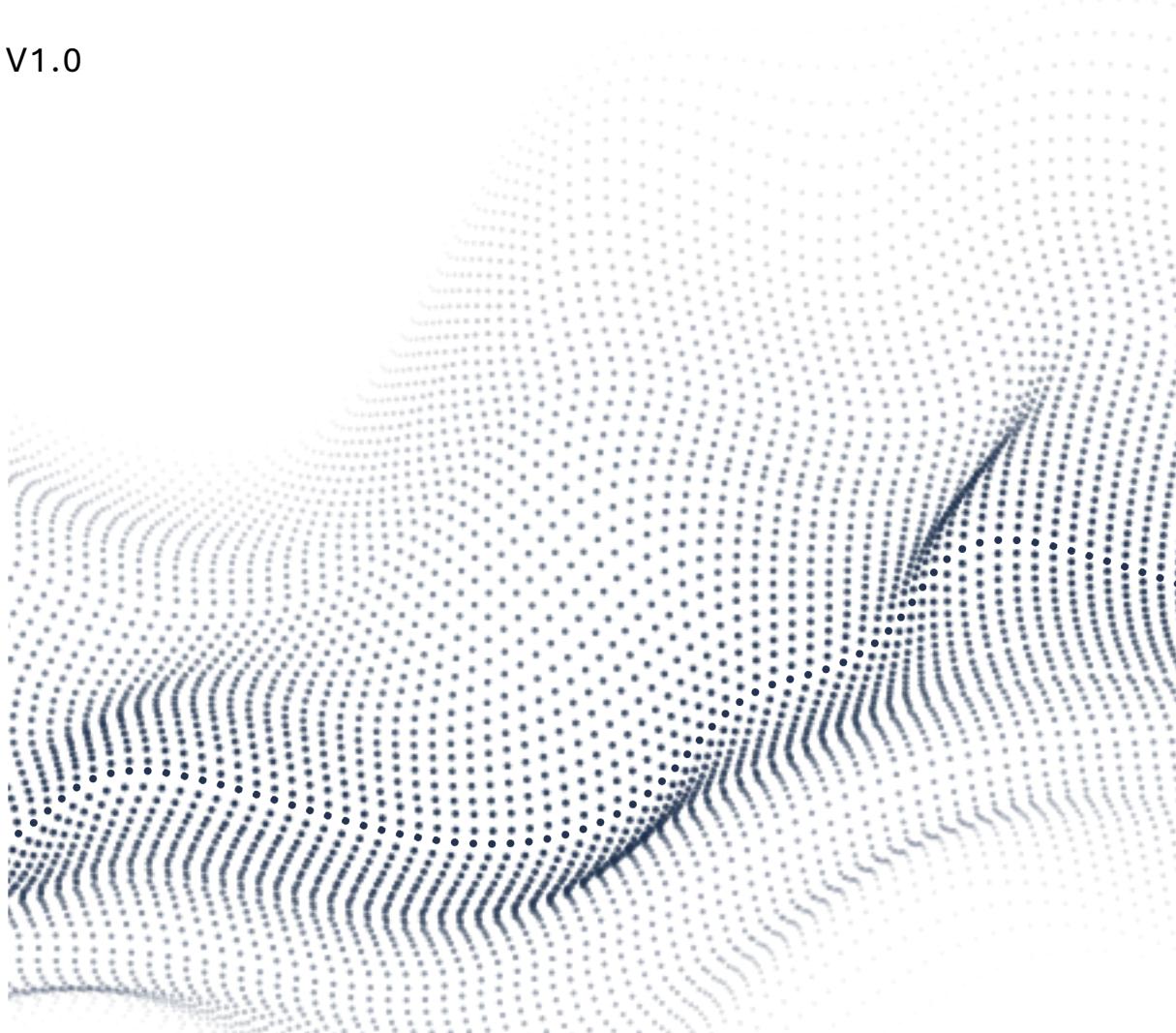


# Scout 137 Gen3

## Drone System

### Technical Specifications

V1.0



# The Scout 137 Gen3 Drone System

The Scout 137 Gen3 Drone System is an advanced solution designed for efficient and safe remote inspections, particularly in confined spaces. Featuring cutting-edge 3D LiDAR technology, it supports BVLOS operations and includes automatic anti-collision features to ensure both safety and precision. A built-in gas sensor enhances situational awareness by detecting the most common flammable gases, contributing to safer inspection conditions. Tethered to a Ground Station, the Scout 137 operates without batteries, offering unlimited flight time and a fully wired control system for uninterrupted, high-performance inspections.



## Key Features

- **Unlimited Flight Time:** The tethered design and innovative power management system, with a 60-meter power and data cable, allows the Scout 137 to operate continuously. This eliminates the need for battery swaps during long-duration inspections.
- **Safe BVLOS Flight:** A fully wired control system ensures stable, real-time communication and control. This enables safe Beyond Visual Line of Sight (BVLOS) operations even in GPS-denied environments.
- **Survey-Grade LiDAR with SLAM and Location-Tagged Data:** The system includes a 128-beam LiDAR that generates dense 3D point clouds in real time. SLAM-based navigation and precise tagging of flight paths and points of interest allow for accurate mapping and efficient post-inspection analysis.
- **4K Camera with 3.5x Optical Zoom:** The integrated camera delivers high-resolution 4K video and supports 3.5x optical zoom, enabling close-up inspection of critical areas without repositioning the drone.
- **UTM Payload Compatibility with Surface Preparation Tool:** Fully compatible with the optional UTM Payload for ultrasonic thickness measurements. A built-in mechanical cleaning system ensures reliable contact on coated or corroded surfaces.

## Drone

Specifications	Details
Dimensions – Drone	448 × 479 × 262 mm (L × W × H)
Dimensions – Transport Case	632 × 602 × 333 mm (L × W × H)
Weight – Drone / Transport Case	3 kg / 16 kg (incl. content)
Maximum Lifting Distance with UTM Payload	35 meters
Operational Temperature Range	From -20°C to +50°C
Ingress Protection	Designed to meet IP54

## Navigation System

Specifications	Details
Sensor	128-Beam Survey Grade 3D Lidar
Sensing Range & FOV	0.5 – 100 m & 360°

## LED Lights

Specifications	Details
Lighting Intensity	Up to 12 000 Lumen
Structured Lighting	Pre-set lighting schemes, or individual control

## Camera System

Specifications	Details
Resolution (Recorded/LiveStreamed)	3840 × 2160 (4K) / 1280 × 720 (HD)
Lens Features	3.5x Optical Zoom with Auto-Focus
Frame Rate & FOV	30 fps, FOV 82°–25° (Zoom dependent)
Gimbal	2-axis stabilization with ± 90° pitch range
Recorded Data Rate/MicroSD Card Storage	Approx. 25 GB per hour / 1 TB

## Ground Station

Specifications	Details
Dimensions – GroundStation	385 × 440 × 245 mm (L × W × H)
Dimensions – Transport Case Weight – Ground Station / Transport Case	676 × 525 × 378 mm (L × W × H) 8.75 kg / 21.3 kg (incl content)
Input Power	200–240 V AC, 50/60 Hz, min. 10 A
Ingress Protection Rating	Designed to meet IP54
Operational Temperature Range	From -20°C to +50°C
Max Power Cable Length	50 meters (using 1.5mm <sup>2</sup> cable and 16A circuit)

## Tether

Specifications	Details
Length / Weight	60 m / 18.5 g/m
Voltage	400 V DC
Data Link Bandwidth	80 Mbit/s
Breaking Strength / Composition	80 kg / PVC, FRPP&Copper

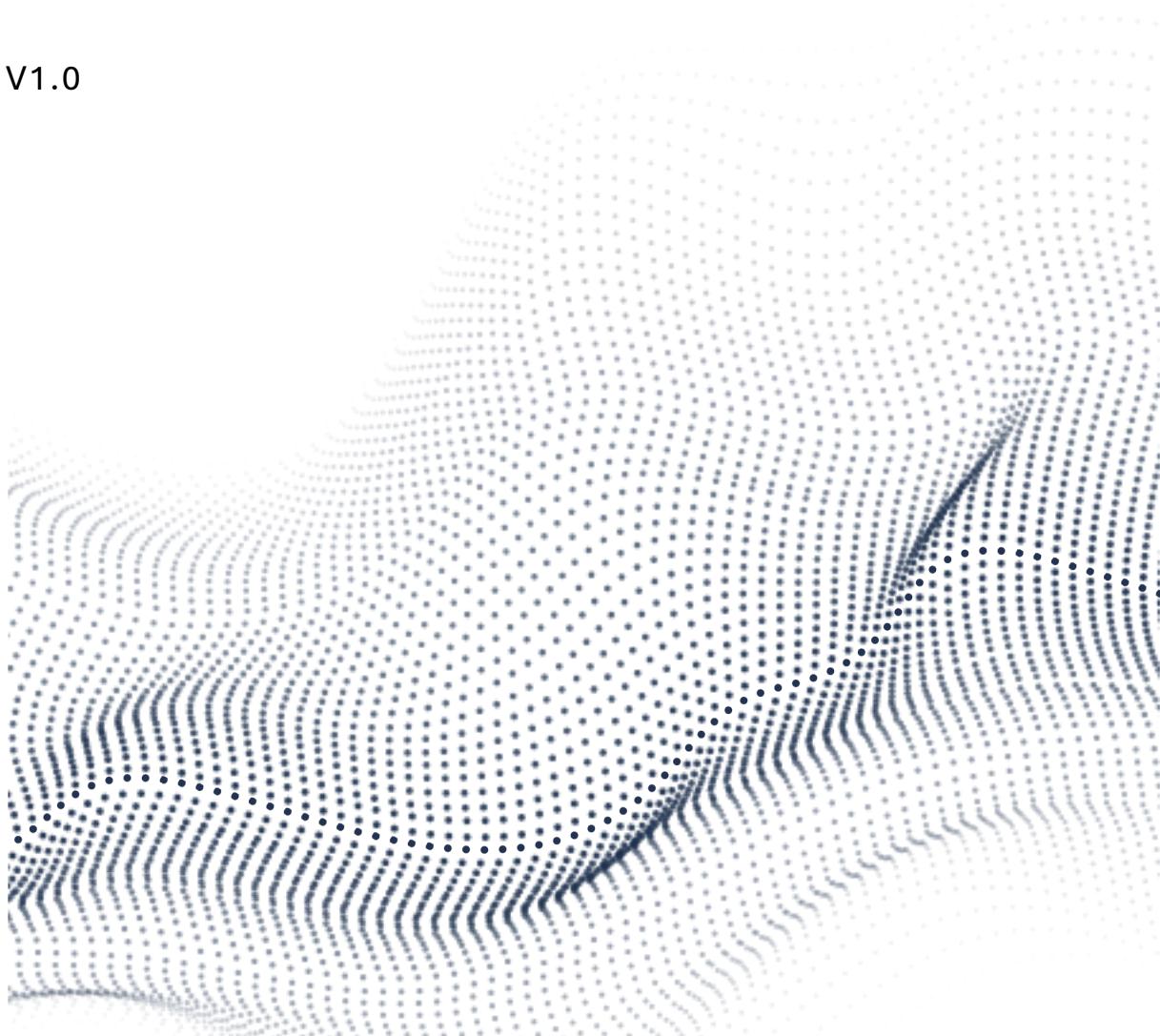
\*Preliminary specifications subject to change

# Scout 137 Gen3

## UTM Payload

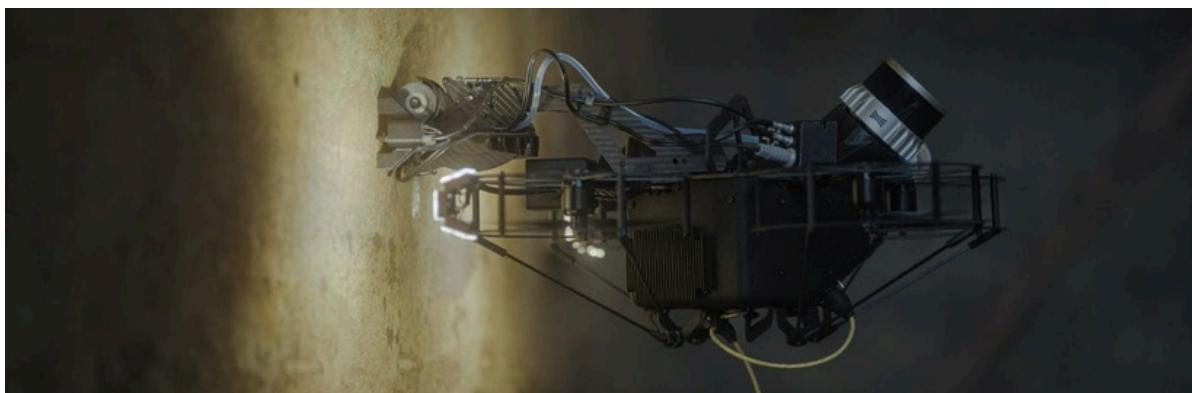
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## The Scout 137 UTM Payload

A state-of-the-art solution tailored for ultrasonic thickness measurements during drone inspections. Paired with the Scout 137 unlimited flighttime, this payload allows for uninterrupted operations, drastically improving efficiency by eliminating the need for battery changes. With an integrated surface preparation tool, the system can clean and measure in a single contact operation for faster and more reliable results. Designed to deliver accurate data even in challenging conditions, it incorporates advanced technologies that ensure precision and ease of use.



## Key Features

- **Fast and Stable Measurements:** Streams more than 65 readings per second, delivering smooth and consistent data, helping detect true wall thickness even in less-than-ideal conditions.
- **Live, High-Quality Visual Data:** Provides detailed, real-time A-Scans during measurements, assisting users to verify data quality in real-time and reducing uncertainty in decision-making.
- **Advanced Inspection Capabilities:** Goes beyond basic thickness checks with multiple measurement modes, allowing better insight into material condition and potential defects.
- **One-Step Surface Preparation:** The probe includes a built-in tool for surface cleaning and measurement in one contact, improving efficiency and reliability, especially on corroded or coated surfaces. Multiple interchangeable brush types are available to suit different materials and surface conditions.
- **Precision Placement with Visual Guidance:** A built-in camera and laser assist with probe alignment, making it easier to place accurately even in hard-to-reach areas.

## Additional Features

The system adapts to a wide range of inspection scenarios, working seamlessly with both single and dual crystal probes, and supports thickness measurements through coatings and across various material types. Its adjustable measurement gates allow fine control for challenging surfaces, and it can handle everything from thin-walled components to thick industrial steel. The probe head's integrated magnets ensure secure contact during inspection, while a dedicated release mechanism allows for stable drone detachment. Each system is factory calibrated to international standards and delivered with full documentation, supporting compliance and traceability requirements.

## Scout 137 Gen3 UTM Payload

Specifications	Details
Type	Thornetix Talisman
Measurement Angles	±90° (including below the drone)
Couplant Type	Water-soluble gel (e.g. Chemetall UCA-2M)
Couplant Dispenser Capacity	Up to 100 readings between refilling
Refresh Rate	Real-time A-Scan display (60+ Hz)
Gain	Up to 80 dB
Digitiser	80 MHz sampling rate
Waveform Rate	65 Hz waveform streaming
Ultrasonic Modes	Modes 1, 2, 3 (per ISO 16809)
Probe Compatibility	Single, dual, twin, delay probes
Probe Configuration	Software-adjustable (delay, gain, etc.)
Measurement Modes	Peak, Edge, Multi-Echo, coating exclusion
Measurement Range	0.5 mm to 600 mm (material dependent)
Measurement Gates	2 gates, manual or automatic
Sampling Rate	Up to 100 MHz
A-Scan Resolution	8-bit resolution
Accuracy	< 0.1mm or ±1%
Resolution	0.001 mm
Surface Preparation	Built-in cleaning tool, swappable brushes
Guidance System	Camera + Class 2 laser
Magnetic Attachment	Magnetic probe attachment
Release Mechanism	Smooth drone detachment
Calibration Standard	ISO 9001 / 17025 certified
Calibration Options	1- & 2-point field calibration via app
Standard Probe	5.0 MHz Dual crystal probe for general purpose
Optional Extra Probes	2.25 MHz – Dual crystal for thick/rough materials 7.5 MHz – Dual crystal for thin/small parts
Compatible Probes	Single, Twin, Delay Line & High-Temperature (2.25–15 MHz)

\*Preliminary specifications subject to change

