INDAGO 3  Vertical Takeoff and Landing Systems For Military Markets

LOCKHEED MARTIN
Explore. Examine. Investigate.

The Indago is a Vertical Take-off and Landing (VTOL) Small Unmanned Aircraft System (sUAS) which was specifically designed and built to be a portable, rapidly deployable, Intelligence, Surveillance and Reconnaissance (ISR) platform. Indago System development began over 10 years ago with the development of the highly advanced and dependable Kestrel autopilot. Completing field trials and low rate initial production in 2012, more than 300 Indago Systems have been successfully fielded. Today, with the continued refinement and feedback from our customer base, our latest sUAS solution is the Indago 3 system. With a low acoustic signature, ruggedized dependability, and rucksack portability the Indago 3 System is successfully deployed in support of military operations and covert missions globally.
Features Include:
- Man packable, compact folding design
- Setup in 60 seconds, airborne in 3.5 minutes
- Whisper quiet, rugged, all-weather capability
- Operation via hand controller or laptop
- Tactical Scalable MANET (TSM) encrypted radio
- Hot-swappable payload options for ISR, battlefield situational awareness, and target acquisition
- Industry-leading image stabilization with vision tracking
- Configurable failsafe behaviors

Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
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<tbody>
<tr>
<td>Endurance</td>
<td>50 to 75 minutes with payload</td>
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<tr>
<td>Payload</td>
<td>Multiple, hot-swappable payloads</td>
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<tr>
<td>Range</td>
<td>10 km line of sight</td>
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<tr>
<td>Dimensions</td>
<td>32 x 32 x 7 in (12 x 9 x 7 folded)</td>
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<tr>
<td>Weight</td>
<td>4.4 lbs. 2050 grams with payload</td>
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<tr>
<td>Operating Altitude</td>
<td>10-500 ft AGL (typical); 18,000+ MSL</td>
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<tr>
<td>GCS</td>
<td>Touchscreen hand controller with Virtual Cockpit or mGCS</td>
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Hand Controller
- For small UAS, fixed-wing and VTOL
- Stand-alone, untethered operation
- Secure digital data link
- Windows based operating system
- Intuitive user interface developed with feedback from tens of thousands of flight hours
- Small, ergonomic design with large outdoor readable touchscreen
- Ruggedized and weather resistant (IP 55)
- Lightweight (3.1 lbs.)
- Long run time (4 hours)

Battery
- Provides 50 to 70 minutes of Indago 3 flight time with payload
- Packaged in durable Kevlar/carbon fiber enclosure
- Integrated fuel gauge for quick indication of state of charge

System Charger
- Allows simultaneous charging of both Indago and hand controller batteries
- Accepts wide range of input voltage (120-240 AC, 10-28 DC)
- Ultra-reliable (waterproof when fully closed)

System Packaging
- Major system components protected in carbon fiber “soft-shells”
- Full System weight is less than 10 lbs
- Additional packaging options available upon request

Accessories
Payloads

Indago payloads are designed for military operations. Combined with the aircraft’s whisper quiet acoustic signature, the high resolution camera systems are able to provide users with incredible zoom capability used to accurately identify people, objects, vehicles, and weapons. The EO or daytime cameras include low light settings which are useful during twilight, night time, and cloudy days. The IR cameras providing thermal infrared capabilities for covert night time operations providing heat signatures in white hot, black hot, and heat map color displays for detailed analysis and situational awareness in the darkness.

ION 30X Payload

Features Include:
- 30x optical zoom provides industry leading zoom capability providing highly detailed target identification and ISR operations
- Crisp 720P live video feed from large global shutter imager
- Industry-leading 3-axis mechanical and electronic stabilization keep the image rock solid in even the worst environmental conditions
- Vision processing provides feature tracking of objects, reducing operator workload
- Real-time Geo-location and Geo-pointing capability

Specifications
- Video: 720P global shutter
- Optical Zoom: Level 30x (2° fully zoomed FOV)
- Stabilization: 3-axis mechanical and electronic
- Weight: 470 grams

Noctis IR Payload

Features Include:
- Dual FLIR Boson IR cameras provide 640x512 video and still imagery streamed to Hand Controller and recorded onboard
- Digital zoom from 32° to 2° FOV with seamless transition between cameras
- Integrated laser pointer for high accuracy targeting
- Vision processing provides feature tracking of objects, reducing operator workload
- Real-time Geo-location and Geo-pointing capability

Specifications
- Image Capture: 32° Wide HFOV Lens, 8° Narrow HFOV Lens
- Video: IR: 640x512
- Laser Pointer: 1.50 mW low power, 650 mW high power
- Stabilization: Roll/Pitch mechanical and electronic
- Weight: 570 grams