DELAIR

Accuracy with Long Endurance.

BVLOS-READY PROFESSIONAL LIDAR FOR LARGE SCALE & LINEAR ELEVATION MODEL

DT26 E LiDAR

LONG-RANGE UAV FOR LIDAR MAPPING

Key Applications

- Large Scale Mapping (area and corridor)
- Digital Surface and Terrain Modeling
- Asset digitization & Modeling
- Forest inventory
- Vegetation classification
- Change detection

100
Point density up to 100 pts/m² (@80m AGL with single overlap)

5
Accuracy down to 5 cm (@80m AGL with single overlap)

5
Target echoes

Dual
LIDAR & Photogrammetry payload

Key Differentiators

High reliability and robust architecture:
- GNSS redundancy
- Independent and redundant flight termination system
- In-house developed autopilot with advanced safety functions.

High-quality dual-sensor mapping: Simultaneous LiDAR and photogrammetry mapping. Benefit from true point cloud colorization which simplifies the classification process.

Quick return on investment: Beat traditional airborne solutions by capturing high-resolution data on-demand without costly mobilzation fees or long leadtimes. Collect LiDAR and photogrammetry in a single flight, increasing productivity and decreasing operational costs.

Safe technology: Advanced automatic fail safe modes, with emergency parachute. Flight termination system developped following ED12-C/DO178-C DAL D aviation standard. Safety analysis conducted according to recognized aerospace guidelines ARP4754 and ARP4761.

Accuracy matters: Direct georeferencing technology with the Applanix APX-15 enables centimeter-level accuracy for precision mapping.

Power & Utilities | Construction | Railways & Roads | Oil & Gas | Mines & Aggregates | Surveying | Agriculture & Forestry

UAV specifications

Endurance[1]
Up to 100 minutes

Weight (payload included)
17 kg (37.5 pounds)

Wingspan / Length:
3.3 m / 1.6 m (10.8 ft / 5.2 ft)

Material
Composite (fiberglass, carbon, kevlar), EPP foam

Deployment time
8 min

Take-off / Landing
Catapult / Belly (all terrain)

Cruise speed:
57 km/h (31 mph)

Field of View / Scanning width:
46° / 102 m @ 120 m AGL (334 ft @394 ft AGL)

Point density:
50 pts/m² @ 80 m AGL in a one-way flight

Point cloud accuracy:
up to 10 cm horizontal /
5 cm vertical with a single overlap @80 m

Maximum distance covered:
110 km (68 miles)

Maximum surface area covered:
5,2 km² @ 80 m / 9,7 km² @ 120 m

Communication range:
Up to 55 km / 34 miles (820 ft AGL)

OPERATING CONDITIONS:

Weather :
35 km/h (19 kt) wind, light rain, -15 to 40°C

Take-off & Landing altitude / ceiling:
0 to 2000 m ASL @ 0° - Ceiling up to 2750 m

Landing space:
200 m x 35 m (650 ft x 115 ft)

Deliverables

- **Pre-processed LIDAR data with Riegl suite, compatible with any LiDAR software platform:**
  Global Mapper, AutoCAD, Terrasolid, PLSCADD & more.
- **RGB data compatible with any photogrammetry and GIS software :**
  PIX4D, ESRI ArcGIS, QGIS and more.
- **Analytics:**
  3D point cloud (colourised with camera data and with classes data), DTM (Digital Terrain Model), DSM (Digital Surface Model), Contour Lines, Cross Sections, Elevation Profiles, Stockpile Volume Calculation, Vegetation Encroachment and conductor vectorization.

Sensors

RIEGL MiniVUX- 1DL

Max. measurement rate:
up to 100,000 meas./sec

Max. range @ target reflectivity:
60% 200 m/ 657 ft

Range accuracy:
15 mm /0.5 inches

Number of targets echoes : 5

High precision IMU & L1/L2 GNSS Receiver for PPK processing

Industrial-grade Photogrammetry Camera
Sensor type:
Global shutter, distortion-free

Image resolution / Dynamic range :
21.4 Mpix / 70 dB
HFOV / VFOV: 38°/ 32°

In-flight sensor configuration:
Auto or manual (shutter, gain, brightness)

GCS software

FLIGHT DECK PRO

The most advanced and reliable flight control and planning software

Plan :
Simulate your flight with video simulation. Optimized feature for corridor mapping missions.
Fly:
Get real time telemetry transmission, control your flight parameters and payload, get real time video transmission.
Analyze:
Recover your flight meta data and logs for analysis.

Safety systems

Dual link Automatic Dependent Surveillance - Broadcast (ADS-B) UAT transceiver
Assists with Detect and Avoid (DAA) functionality for Unmanned Aircraft Systems (UAS) operations in the National Airspace System (NAS)
Detects commercial aircraft threats on 1090MHz and 978MHz within a 100 statute mile radius in real time.
Transmits ADS-B on 978MHz (UAT) 20W nominal

Advanced automatic fail safe modes, with emergency parachute. Flight termination system developped following ED12-C/DO178-C DAL D aviation standard. Safety analysis conducted according to recognized aerospace guidelines ARP4754 and ARP4761.

Geocaging (fully configurable ceiling protection, geofencing, forbidden zone protection)
Real-time video navigation back-up (looking down camera)
Position and anti-collision strobe lights

1 *Actual results may vary depending on UAV configuration, battery age and condition, and operational, environmental and climate conditions.*

DELAIR
www.delair.aero
FRANCE : Toulouse - Headquarters

Specifications subject to change without notice to improve reliability, function or design or otherwise.
© 2021, Delair SAS. All rights reserved. Delair is a trademark of Delair SAS, registered in France. All other trademarks are the property of their respective owners.