

RESEPI Ultra LITE

LIDAR SCANNING & MAPPING · HESAI XT-32

The lightest complete RESEPI payload, combining Hesai XT-32 LiDAR with a 5 MP colorization camera for accurate, all-in-one aerial 3D mapping.


2-3^{CM}

SYSTEM ACCURACY

1.1^{KG}

WEIGHT

32^{CH}

LIDAR CHANNELS

120^M

MAX RANGE

5^{MP}

COLORIZATION CAM

System

System Accuracy	2 – 3 cm
Precision	2 – 4 cm
Precision (1 σ Noise Removal)	1.5 – 2.5 cm
Recommended AGL	Up to 100 m
Weight	1.1 kg
Dimensions	13.1 x 11.2 x 10.3 cm
Max Flight Time (DJI M350)	35 minutes
External Storage	256GB USB
System Computer	Quad Core 1GB RAM, 8GB eMMC
Operational Voltage Range	9–45V
Power Consumption	14.5 Watts

Software (PCMasterPro™)

Field Checks	Yes
Pre-Processing	Yes
Post-Processing	Yes, Supported
SLAM (Powered by Kudan)	Yes
Strip Alignment (BayesMap)	Yes
Additional Features	Coordinate System Transformation, Batch Processing, Noise Filtering, etc.

Colorization Camera

Type	CMOS Rolling Shutter
Resolution	5MP
Lens	Fixed Manual Focus
Max Trigger Rate	2 s
Field of View	HFOV 70.8°, VFOV 55.6°

LiDAR

Laser Range Capabilities	80m @ 10% ref. (c9-24) 50m @ 10% ref. (c1-8, 25-32) · 0.05 to 120m
Range Accuracy	+/- 1cm
FOV (Horizontal)	360°
FOV (Vertical)	31°
Scan Angle (Vertical)	-16° to 15°
Beam Divergence	0.021° (H), 0.047° (V)
Number of Laser	32
Number of Returns	2
Pulse Rate	640k/s (single return); 1280k/s (dual return)

GPS-Aided INS

IMU	Inertial Labs Kernel-210
GNSS	NovAtel OEM7500
Constellations	GPS, GLONASS, Galileo, BeiDou, QZSS, SBAS, L-Band
Frequencies	L1, L1C, L2, L2C, B1, B2, E1, E5b
Operation Modes	RTK and PPK
INS Algorithm Type	Extended Kalman Filter
Output Rates	Up to 200Hz (INS); Up to 2,000Hz (IMU)
Pitch/Roll Accuracy	0.03° (RTK); 0.006° (PPK)
Heading Accuracy	0.1° (RTK); 0.03 (PPK)
Velocity Accuracy	<0.03 m/s
Position Accuracy	1cm + 1ppm (RTK); 0.5cm (PPK)

MULTI-MODE OPERATION

Supports aerial scanning, hand-held pedestrian SLAM, and vehicle-mounted mobile mapping. SnapFit adapters enable rapid mounting on Freefly, WISPR, and DJI platforms.

APPLICATIONS

Utilities and power-line mapping, construction volumetrics, site surveying, precision agriculture, forestry, and mining operations, ideal for cost-conscious endurance missions where both LiDAR and a camera are required.