WISPR

PAYLOAD SPECIFICATION

RESEPI OS1-64

LIDAR MAPPING PAYLOAD · OUSTER REV7 OS1-64

A 64-channel Ouster OS1-64 LiDAR payload with an extended 45° vertical field of view, tactical-grade INS, and optional 24 MP colorization camera for high-density 3D mapping.

64CH	200M	45°	3–5CM	24MP
LIDAR CHANNELS	MAX RANGE	VERTICAL FOV	VERTICAL ACCURACY	COLOR CAMERA

System

System Vertical Accuracy	**3 – 5 cm**
Precision	**4 – 6 cm**
Precision after Noise Removal	**2 – 4 cm**
Recommended AGL	**Up to 100m**
Weight	**1kg (without camera)** 1.4kg (with camera)
Dimensions	**20.6 x 16.5 x 14.2 cm**
Max Flight Time	**33 minutes**
External Storage	**256GB USB**
System Computer	**Quad Core** 1GB RAM, 8GB eMMC
Operational Voltage Range	**9–45V**
Power Consumption	**17W**

Software (PCMasterPro™)

Field Checks	**Yes, Included**
Pre-Processing	**Yes, Included**
Post-Processing	**Yes, Supported**

Colorization Camera

Model	**24MP RGB Mapping Camera**
Lens	**Sony E-Mount 16mm, 70° FOV**
Max Trigger Rate	**2 seconds**
External Camera Support	**Yes**

LiDAR

Sensor	**Ouster REV7 OS1-64**
Laser Range Capabilities	**90m @ 10% (all channels)** 0.5 - 200m
Range Accuracy	**±2.5cm**
FOV (Horizontal)	**360°**
FOV (Vertical)	**45°**
Scan Angle (Vertical)	**-22.5° to 22.5°**
Beam Divergence	**0.18° (H), 0.18° (V)**
Number of Laser	**64**
Number of Returns	**2**
Pulse Rate	**2,621k/s (dual return)**

GPS-Aided INS

IMU	**Inertial Labs Tactical Grade IMU-P**
GNSS	**Single/Dual Antenna NovAtel OEM7720**
Constellations	**GPS, GLONASS, BEIDOU, GALILEO**
Output Rate	**Up to 200Hz (INS); Up to 2,000Hz (IMU)**
Pitch/Roll Accuracy	**0.006 (PPK)**
Heading Accuracy	**0.03 (PPK)**
Velocity Accuracy	**<0.03 m/s**
Position Accuracy	**0.5cm (PPK)**

RESEPI WITH OUSTER OS1-64

A lightweight, powerful LiDAR with multiple scanning modes and an extended 45° vertical FOV, optimized for the WISPR SkyScout 2 Series to complete projects with minimal time in data collection.

APPLICATIONS

Utility and power-line mapping, construction volumetrics, government applications, site surveying, precision agriculture, forestry, and mining.