Tersus
MetaVerse Painter
Mobile Mapping System

Overview

MVP is a mobile mapping system which can rapidly capture rich geospatial data while mounted on mobile platforms such as drones. As a cost-effective and high-precision mobile mapping application solution, it highly the high-performance GNSS-aided inertial navigation system (INS) and Tersus's patented GNSS receiver and supports RTK/PPK processing. MVP supports several LiDARs currently available in the market, such as Hesai, LIVOX, Velodyne, Quanergy, Ouster and RIEGL.

MVP is a complete solution provided by Tersus, including LiDAR, industrial-grade camera, mounting brackets, vibration isolator and other optional equipment, as well as LiDAR Calibration, Bore-Sighting, datalogging software and Tersus Engine supported automatic Post-Processing (PPK) and Point Cloud Processing software.

With massive high-precision 3D spatial data, high-density point cloud data and high-resolution panoramic image data, MVP can be widely used for terrain mapping, mine and water conservancy measurement and maintenance, agricultural and forestry surveying, power line inspections, and disaster emergency response, as well as smart cities, BIM modeling, urban streetscapes, transportation infrastructure measurements, etc.

Key Features

- ✓ Dense point clouds (up to 1,920,000 meas./sec) and images
- ✓ 300m scan range
- ✓ Field of view 360°
- ✓ 5mm accuracy, 10mm precision
- ✓ Advanced GNSS RTK system and built-in IMU supported
- ✓ User-friendly mounting
- ✓ Lightweight (1.23kg with camera)
- ✓ Low power consumption
- ✓ Multiple platforms (Drone, Vehicle, handheld) supported
- ✓ Powerful one-click processing software

Technical Specifications

System Platform	
Weight	0.87kg (without camera)
	1.23kg (with camera)
Power Supply / Voltage	DC 9 ~ 36 V
Power Consumption	17 W without camera, 24W with Sony camera
Operating Temperature	-10℃ ~ +40℃
Storage Temperature	-40℃ ~ +85℃
Dust-&Waterproof	IP64
Data Storage	256GB USB, up to 1TB
Scanner Performance (based on Hesai Pandar XT32-M2X)	
Laser Class	Class 1 Eye Safe
Wavelength	905 nm
Operating Principle	TOF [1)]
Measurement Range	0.5 to 300 m
Field of View (Horizontal)	360°
Horizontal Resolution	0.09° （5Hz）
	0.18° （10Hz）
	0.36° （20Hz）
Field of View (Vertical)	40.3°（-20.8° ~ +19.5°）
Vertical Resolution	1.3°
Frame Rate	5 Hz, 10 Hz, 20 Hz
Returns supported	Single Return (Last, Strongest, First)
	Dual Return
	Triple Return
Max. Effective Measurement Rate	640,000 pts/ sec (single return) 1,280,000 pts/ sec (dual return) 1,920,000 pts/sec (triple return)
LiDAR Accuracy/ Precision	10 mm / 5mm
Point Cloud Precision	±2.5 cm (5 m/s @ 50 m AGL)
Note: 1) Distance measurement: Time of Flight (TOF), distance to the object can be measured by calculating the time between laser emission and receipt.	
GNSS / IMU Performance	
Positioning Accuracy (RMS)	0.5cm+1ppm (PPK)
	1cm+1ppm (RTK)
GNSS data rate	Up to 100Hz
IMU data rate	Up to 2000Hz
Roll & Pitch Accuracy	＜0.01° Pitch & Roll
Heading Accuracy	＜0.05° Heading
Optional Accessories	
Camera	RGB Camera (24MP)

	Thermal Camera
DJI Skyport Adapter	
Vibration Isolator	
Antenna Mounts	Aerial Mount for drone
	Vehicle Mount

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