

## Specs

### General

Product Name	Zenmuse L1
Dimensions	152×110×169 mm
Weight	Approx. 900 g
Power	30 W
IP Rating	IP44
Supported Aircraft	Matrice 300 RTK
Operating Temperature Range	-20° to 50° C (-4° to 122° F)
Storage Temperature Range	-20° to 60° C (-4° to 140° F)

### System Performance

Detection Range	450 m @ 80% reflectivity, 0 klx; 190 m @ 10% reflectivity, 100 klx
Point Rate	Single return: 240,000 pts/s; Multiple return: 480,000 pts/s
System Accuracy	Horizontal: 10 cm @ 50 m; Vertical: 5 cm @ 50 m
Real-time Point Cloud Coloring Modes	True color; coloring by reflectivity; coloring by elevation

### Lidar

Ranging Accuracy	3 cm @ 100 m
Maximum Returns Supported	3
Scan Modes	Repetitive line scan mode, non-repetitive petal scan mode
FOV	Repetitive line scan: 70.4°×4.5°; Non-repetitive scan: 70.4°×77.2°
Laser Safety	Class 1

### Inertial Navigation System

IMU Update Frequency	200 Hz
Accelerometer Range	±8 g
Angular Velocity Meter Range	±2000 dps
Yaw Accuracy	Real-time: 0.18°, Post-processing: 0.08°
Pitch / Roll Accuracy	Real-time: 0.03°, Post-processing: 0.025°

### Auxiliary Positioning Vision Sensor

Resolution	1280×960
FOV	95°

### RGB Mapping Camera

Sensor Size	1 inch
Effective Pixels	20 MP
Photo Size	4864×3648 (4:3); 5472×3648 (3:2)
Focal Length	8.8 mm / 24 mm (Equivalent)
Shutter Speed	Mechanical Shutter Speed: 1/2000 - 8 s Electronic Shutter Speed: 1/8000 - 8 s
ISO	Video: 100 - 3200 (Auto), 100 - 6400 (Manual) Photo: 100 - 3200 (Auto), 100 - 12800 (Manual)
Aperture Range	f/2.8 - f/11

### Gimbal

Stabilized System	3-axis (tilt, roll, pan)
Angular Vibration Range	0.01°
Mount	Detachable DJI SKYPORT
Mechanical Range	Tilt: -120° to +30°; Pan: ±320°
Operation Modes	Follow/Free/Re-center

### Data Storage

Raw Data Storage	Photo/IMU/Point cloud data storage
Point Cloud Data Storage	Real-time modeling data storage
Supported microSD Cards	microSD: Class 10 or UHS-1 rating or above; Max capacity: 256 GB

### Post-processing Software

Supported Software	DJI Terra
Data Format	DJI Terra supports exporting standard format point cloud models: Point cloud format: PNTS/LAS/PLY/PCD/S3MB format Reconstruction model format: B3DM/OSGB/PLY/OBJ/S3MB format

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