DJI ENTERPRISE

MATRICE 300 RTK

Built Tough. Works Smart.

A New Standard for the Commercial Drone Industry

The Matrice 300 RTK is DJI's latest commercial drone platform that takes inspiration from modern aviation systems. Offering up to 55 minutes of flight time, advanced AI capabilities, 6 Directional Sensing & Positioning and more, the M300 RTK sets a whole new standard by combining intelligence with high-performance and unrivaled reliability.

15 km Max Transmission[1]

55-min Max Flight Time[2]

6 Directional Sensing & Positioning

Primary Flight Display

IP45 Rating

-20°C to 50°C Operating Temperature

Hot-swappable Battery

UAV Health Management System

[1] Unobstructed, free of interference, when FCC compliant. Maximum flight range specification is a proxy for radio link strength and resilience. Always fly your drone within visual line of sight unless otherwise permitted.

[2] Actual flight time may vary because of the environment and payload configurations.

Improved Transmission System

The all-new OcuSync Enterprise enables transmission up to 15 km away and supports triple-channel[3] 1080p video. Real-time auto-switching between 2.4 GHz and 5.8 GHz[4] enables more reliable flight near high-interference environments, while AES-256 encryption offers secure data transmission.

15 km
Transmission Range

1080 p
Triple-channel Video

2.4/5.8 GHz
Real-time Auto-switching

[3] Each RC supports two streams. Triple stream channeling is only supported with dual RC.
[4] Due to local policies, some countries do not support 5.8 GHz transmission.

Enhanced Flight Performance

The refined airframe and propulsion system design gives you a more efficient and stable flight, even in harsh conditions.

55 min
Max Flight Time

7 m/s
Max Descend Speed[5]

23 m/s
Max Speed

7000 m
Service Ceiling[6]

15 m/s
Wind Resistance

[5] Achieved in Forward Flight using S Mode.
[6] The service ceiling of 7000 m is achievable with high altitude propellers.

Multiple Payload Configurations

Configure your M300 RTK to fit your mission needs. Mount up to 3 payloads simultaneously, with a maximum payload capacity of 2.7 kg.

Single Downward Gimbal

Single Upward Gimbal x Single Downward Gimbal

Single Upward Gimbal x Dual Downward Gimbals

Smart Inspection

Live Mission Recording

Record mission actions such as aircraft movement, gimbal orientation, photo shooting, and zoom level to create sample mission files for future automated inspections.

AI Spot-Check[7]

Automate routine inspections and capture consistent results every time. Onboard AI recognizes the subject of interest and identifies it in subsequent automated missions to ensure consistent framing.

Waypoints 2.0

Create up to 65,535 waypoints and set multiple actions for one or more payloads, including 3rd party ones, at each waypoint. Flightpath planning is also optimized to maximize flexibility and efficiency for your missions.

[7] This feature is only supported when the aircraft is paired with the Zenmuse H20 Series payloads.

Smart Pin & Track[8]

PinPoint

A quick tap marks an object in view, advanced sensor fusion algorithms immediately deliver its coordinates.

Smart Track

Identify and follow moving subjects like people, vehicles, and boats with the auto-zoom function, while continuously acquiring the subject's dynamic location.

Location Sharing

While either PinPoint or Smart Track is enabled, the subject's location can be projected across multiple camera views, to another remote controller, or shared through online platforms such as DJI FlightHub[9].

[8] This feature is only supported when the aircraft is paired with the Zenmuse H20 Series payloads.

[9] Support for location sharing via DJI FlightHub is coming soon.

Aviation-Grade Situational Awareness

The M300 RTK adopts a new Primary Flight Display (PFD) that integrates flight, navigation, and obstacle information to empower the pilot with exceptional situational awareness.

Flight Information

Flight information such as aircraft attitude, altitude, and velocity, as well as wind speed and wind direction, are all intuitively presented.

Navigation Display

Pilots can also view the live status of the aircraft's heading, trajectory, PinPoint information, and home point projection, in a more efficient way. Visualize all nearby obstacles at once with the new obstacle map, so you can be fully informed.

Advanced Dual Control

Either operator can now obtain control of the aircraft or payload with a single tap. This creates new possibilities for mission strategies as well as higher flexibility during operations.

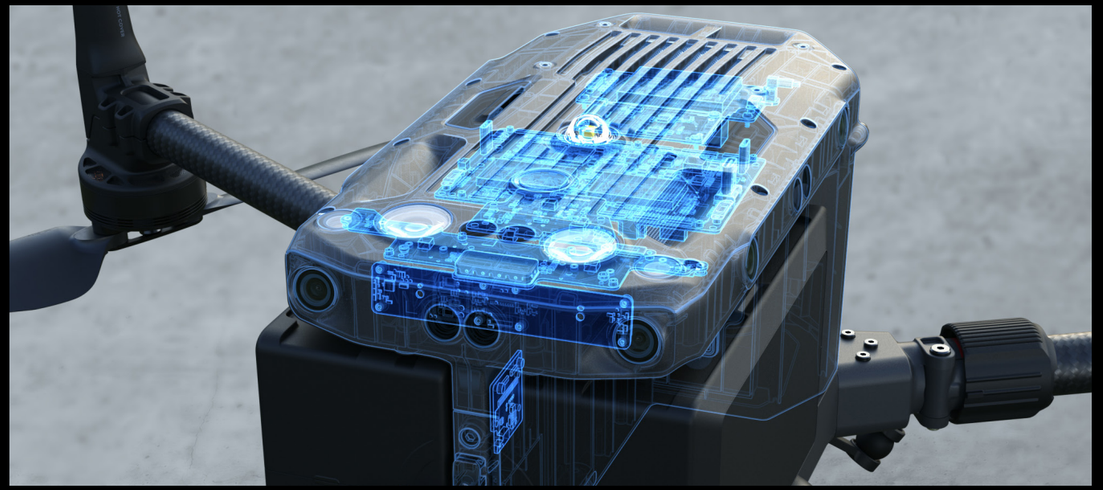
A Powerful Vision System You Can Rely On

To enhance in-flight safety and aircraft stability, dual-vision and TOF sensors appear on all six sides of the aircraft, offering a maximum detection range of up to 40m, with options to customize the aircraft's sensing behavior via the DJI Pilot App. Even in complex operating environments, this 6 Directional Sensing and Positioning system helps keep the aircraft and the mission safe.

Professional Maintenance for Your Drone Fleet

The new integrated Health Management System displays the current status of all systems, notification logs, and a preliminary troubleshooting guide. Also in the system are the aircraft's flight logs, duration, and mileage throughout its entire lifecycle, and tips on aircraft care and maintenance.

「 Visit the Matrice 300 RTK product page to download the maintenance manual. 」



Redundancy Systems for Safer Flights

The M300 RTK's built-in advanced redundancy systems help keep your critical missions going even in unexpected scenarios.

「 For more information, visit the Matrice 300 RTK product page to get a comprehensive Redundant Systems report. 」

More Adaptable Than Ever Before

- IP45
- Self-Heating Battery
- -20°C to 50°C
- Anti-Collision Beacon
- AirSense ADS-B Receiver

Accessories

Battery Station

The battery station manages up to 8 flight batteries and 4 remote controller batteries, while fast charging allows you to conduct your missions without running out of power.

TB60 Intelligent Flight Battery

The high-capacity, hot-swappable TB60 Intelligent Flight Battery lets operators change batteries without powering off, saving time during critical missions.

DJI Smart Controller Enterprise

The DJI Smart Controller Enterprise comes with an ultra-bright 5.5-inch 1080p display that maintains clear visibility even in direct sunlight.

Twice as bright as conventional smart devices at 1000 cd/m2 | Supports DJI Pilot and 3rd party apps| HDMI port and microSD card slot | -20℃ to 40℃ operating temperature | Advanced Dual Operator Mode

Accessories

D-RTK 2 Mobile Station[10]

Gain improved relative accuracy with centimeter-level precision positioning data using the D-RTK 2 High Precision GNSS Mobile Station, which supports all major global satellite navigation systems and provides real-time differential corrections.

CSM Radar[11]

For an added safety measure, a Circular Scanning Millimeter-Wave (CSM) Radar with a detection range between 1 to 30 m can be mounted on top of the aircraft.

[10] D-RTK 2 Mobile Station for Matrice 200 Series V2 and P4R can be upgraded to support M300 RTK.

[11] The CSM Radar will be available soon.

Compatible Payloads

Zenmuse H20

Hybrid sensor solution with LRF, zoom and wide camera

Zenmuse H20T

Hybrid sensor solution with LRF, zoom, wide and thermal camera

Zenmuse XT S[12]

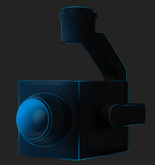
Precise and rapid aerial thermal imaging with ≤40 mK sensitivity @ f/1.0

Zenmuse XT2

Dual-sensor camera with a 4K visual sensor and thermal imaging with <50 mK sensitivity

Zenmuse Z30

30× optical zoom camera ideal for detailed inspections



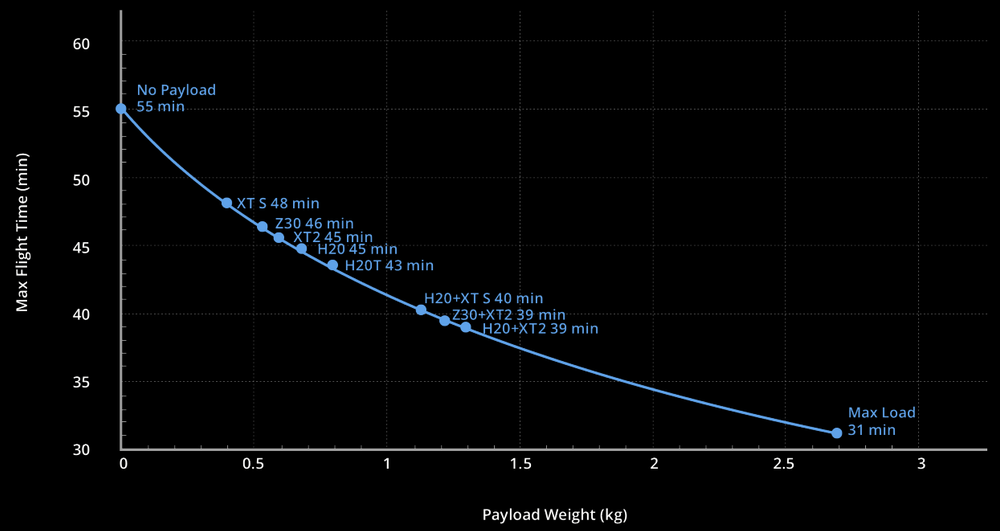
Third-Party Payloads

for specialized missions and tasks

[12] The Zenmuse XT S is only available in select countries and regions.

Flight Time

Estimate your M300 RTK's flight time based on the payload configuration.



Purpose-built Applications

DJI PILOT

DJI Pilot is developed specifically for enterprise users to unleash the power of their DJI drones. With development made specifically for the M300 RTK, DJI Pilot optimizes your flight capability for peak performance.

DJI FLIGHTHUB

DJI FlightHub is a one-stop solution for managing your drone operations, supporting large organizations to effectively scale their aerial operations. Compatible with the M300 RTK, you can integrate FlightHub directly into your existing fleet of DJI drones and leverage its aerial intel across your organization.

Leverage The DJI Ecosystem For Extended Solutions

PAYLOAD SDK

Integrate a variety of 3rd party payloads like gas detectors, loudspeakers, multispectral sensors, and more. Payload SDK supports DJI SkyPort, DJI SkyPort V2, and DJI X-Port. These greatly reduce the payload development lifecycle and maximize the potential of your payloads in more diverse scenarios.

ONBOARD SDK

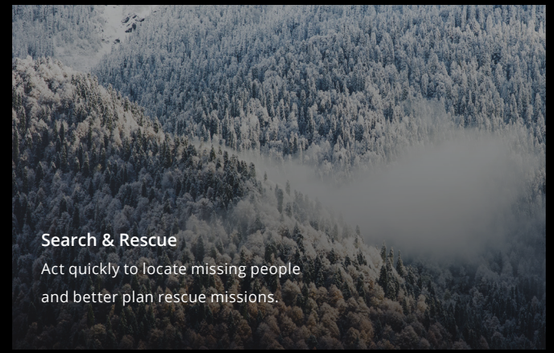
Harness the full computing power of your M300 RTK. Onboard SDK supports customized development of a wide range of features such as 6 Directional Sensing and Positioning, UAV Health Management System, Waypoints 2.0, and more.

MOBILE SDK

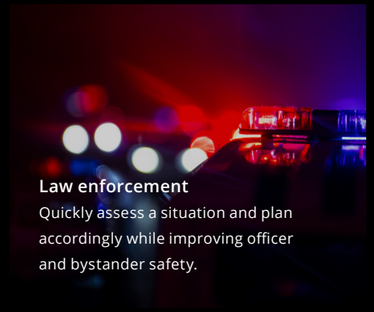
With a large network of 3rd party mobile applications, you can unlock the capabilities of your drone platform to meet specialized mission needs. Utilizing Mobile SDK, the M300 RTK supports highly customizable mobile app development.

Applications

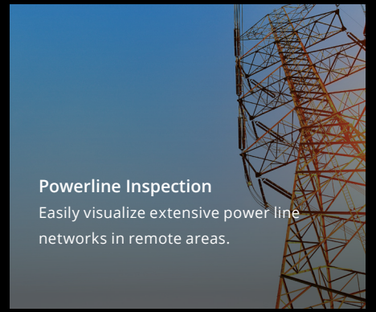
Firefighting
Fight fires and save lives without endangering personnel.



Search & Rescue
Act quickly to locate missing people and better plan rescue missions.



Law enforcement
Quickly assess a situation and plan accordingly while improving officer and bystander safety.



Powerline Inspection
Easily visualize extensive power line networks in remote areas.

Oil & Gas
Conduct inspections of pipelines, well sites and more – while keeping workers away from risky areas.

Specifications: Aircraft

	MATRICE 300 RTK
Dimensions	Unfolded, propellers excluded : 810×670×430 mm (L×W×H) Folded, propellers and landing gears included : 430 × 420 × 430 mm (L×W×H)
Diagonal Wheelbase	895 mm
Weight (Batteries excluded)	3600 g
Max Payload	2700 g
Max Takeoff Weight	9000 g
Operating Frequency	2.4000-2.4835 GHz; 5.725-5.850 GHz
EIRP	2.400-2.4835 GHz: 29.5 dBm (FCC); 18.5 dBm (CE); 18.5 dBm (SRRC); 18.5 dBm (MIC) 5.725-5.850 GHz: 28.5 dBm (FCC); 12.5 dBm (CE); 28.5 dBm (SRRC)
Hovering Accuracy (Windless or breezy)	±0.1 m (Vision System enabled); ±0.5 m (P-mode with GPS); ±0.1 m (RTK functioning properly)
	±0.3 m (Vision System enabled)); ±1.5 m (P-mode with GPS); ±0.1 m (RTK functioning properly)
Max Angular Velocity	Pitch: 300°/s, Yaw: 100°/s
Max Pitch Angle	30° (P-mode and Forward Vision System enabled: 25°)
Max Ascent Speed/Max Descent Speed (vertical)	6 m/s; 5 m/s
Max Descent Speed (tilt)	7 m/s
Max Horizontal Speed	23 m/s

Specifications: Aircraft

	MATRICE 300 RTK
Service Ceiling	5000 m (2110 propellers, takeoff weight ≤ 7 kg) / 7000 m (2195 High-Altitude Low-Noise Propellers, takeoff weight ≤ 7kg)
Max Wind Resistance	15 m/s
Max Flight Time (Sea level)	55 minutes
Supported DJI Gimbals	Zenmuse XT2/XT S/Z30/H20/H20T
Supported Gimbal Configurations	Dual Downward Gimbals, Single Upward Gimbal, Single Downward Gimbal, Single Upward + Single Downward Gimbals, Triple Gimbals
Other Supported DJI Products	CMS Radar, Manifold 2
Ingress Protection Rating	IP45
GNSS	GPS+GLONASS+BeiDou+Galileo
Operating Temperature	-4° F to 122° F (-20°C to 50°C)

Specifications: Smart Controller Enterprise

OcuSync Enterprise Operation Frequency Range	2.400-2.4835 GHz; 5.725-5.850 GHz[13]	
Max Transmission Distance (Unobstructed, free of interference)	NCC/FCC: 15 km CE/MIC: 8 km SRRC: 8 km	
Transmitter Power (EIRP)	2.400-2.4835 GHz: 29.5 dBm (FCC); 18.5 dBm (CE); 18.5 dBm (SRRC); 18.5 dBm (MIC) 5.725-5.850 GHz: 28.5 dBm (FCC); 12.5 dBm (CE); 20.5 dBm (SRRC)	
External Battery	Name	WB37 Intelligent Battery
	Capacity	4920 mAh
	Voltage	7.6 V
	Battery Type	LiPo
	Energy	37.39 Wh
	Charge Time (Using BS60 Intelligent Battery Station)	70 min (15°C to 45°C); 130 min (0° to 15°C)
Built-in Battery	Battery Type	18650 Li-ion (5000 mAh @ 7.2 V)
	Charge Type	Supports USB charger rated 12 V / 2 A

[13] Local regulations in some countries prohibit the use of the 5.8 GHz and 5.2 GHz frequencies and in some regions the 5.2 GHz frequency band is only allowed for indoor use.

Specifications: Smart Controller Enterprise

Built-in Battery	Rated Power	17 W
	Charge Time	2 hours and 15 minutes (Using a USB charger rated 12 V / 2 A)
Working Time[14]	Built-in battery: Approx. 2.5 hours Built-in Battery + External Battery: Approx. 4.5 hours	
Power Supply Voltage / Current (USB-A port)	5 V / 1.5 A	
Operation Temperature Range	-4°F to 104°F (-20°C to 40°C)	

Specifications: Vision System

Obstacle Sensing Range	Forward / Backward / Left / Right: 0.7 - 40 m Upward / Downward: 0.6 - 30 m
FOV	Forward / Backward / Downward: 65°(H), 50°(V) Left / Right / Upward: 75°(H), 60°(V)
Operating Environment	Surfaces with clear patterns and adequate lighting (> 15 lux, the equivalent of an environment with normal exposure levels such as indoors with a fluorescent light)

[14] The Smart Controller Enterprise will supply power for the mobile device installed, which may affect the above-mentioned specifications.

Specifications: Infrared ToF Sensing System

Obstacle Sensing Range	0.1 -8 m
FOV	30°
Operating Environment	Large obstacles with diffuse reflection and a high reflectivity (reflectivity> 10%)

Specifications: Intelligent Flight Battery

Capacity	5935 mAh
Voltage	52.8 V
Battery Type	LiPo 12S
Energy	274 Wh
Net Weight (Each)	Approx. 1.35 kg
Operating Temperature	-4°F to 122°F (-20°C to 50°C)
Optimal Storage Temperature	71.6° to 86°F (22°C to 30°C)
Charging Temperature	41°F to 104°F (5°C to 40°C)
Charging Time	When using the Battery Station, Using a 220 V power supply: It takes about 60 minutes to fully charge two TB60 Intelligent Flight Batteries, and it takes about 30 minutes to charge from 20% to 90% Using a 110 V power supply: It takes about 70 minutes to fully charge two TB60 Intelligent Flight Batteries, and it takes about 40 minutes to charge from 20% to 90%

Specifications: FPV Camera

Resolution	960p
FOV	145°
Frame Rate	30 fps

Specifications: Battery Station

Maximum Capacity	8 TB60 Intelligent Flight Batteries 4 WB37 Batteries
Input Voltage	100-120VAC, 50-60Hz / 220-240VAC, 50-60Hz
Output Power	100 V-120 V: 750 W 220 V-240 V: 992 W
Operating Temperature	-20°C to 40°C

*Please refer to the official product page for the latest specifications.

DJI ENTERPRISE

ZENMUSE H20 SERIES

Unleash the Power of One

“H” For Hybrid

Multi-sensor payloads that bring a whole new meaning to mission efficiency. The unique intelligence and integrated design provide unprecedented aerial imaging capabilities for a range of commercial drone applications.

12 MP Wide Camera
82.9° DFOV

20 MP Zoom Camera
23× Hybrid Optical Zoom

Radiometric Thermal Camera
640×512 px

Laser Rangefinder 1200 m

IP44 Rating

-20°C to 50°C Operating Temperature

Active Image Stabilization and EIS

Night Scene Mode

All the Sensors You Need – In One

Capture everything. Up close or from a distance. In true living color or thermal. An integrated laser rangefinder (LRF) measures the distance to an object at up to 1200 m away. A powerful, integrated payload that unleashes advanced intelligent capabilities for DJI's industrial drone platforms.

H20 – Triple-Sensor Solution

20 MP Zoom Camera
12 MP Wide Camera
1200 m LRF

H20T – Quad-Sensor Solution

20 MP Zoom Camera
12 MP Wide Camera
1200 m LRF
640×512 px Radiometric Thermal Camera

Everything in View

Wide Camera

Equivalent Focal Length: 24mm
DFOV: 82.9°
12 MP 1/2.3" CMOS Sensor

Precise Distance Data

Laser Rangefinder

Range: 3 m – 1200 m
Accuracy: ± (0.2 m + D×0.15%)

Closing the Distance

Powerful Zoom Camera

23× Hybrid Optical Zoom
200× Max Zoom
20 MP 1/1.7" CMOS Sensor
Video Resolution: 4K/30fps

See the Unseen

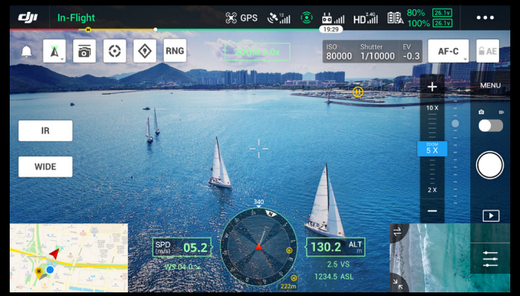
Radiometric Thermal Camera

DFOV: 40.6°
Resolution: 640×512
Frame Rate: 30fps
Thermal Sensitivity: ≤ 50mk@f1.0 (NEDT)

The All-In-One

Multi-Sensor Payloads

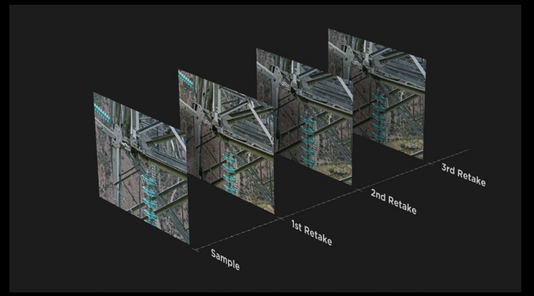
See the full picture without missing any details wherever, whenever your mission takes place.



Seamless User Interface

A new integrated user interface lets you quickly switch between wide, zoom, and thermal camera views, and preview the zoom FOV while in wide or thermal camera view.

Intelligent Ways to Collect Data



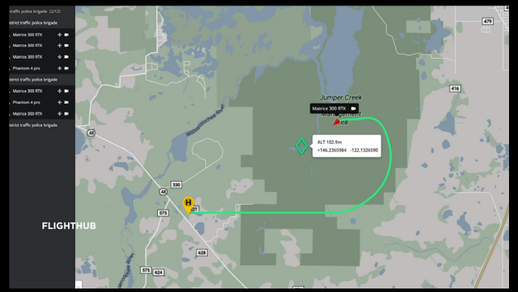
AI Spot-Check

Automate routine inspections and capture consistent results every time. Onboard AI recognizes the pre-marked subject of interest in subsequent automated missions to ensure consistent framing.

High-Res Grid Photo

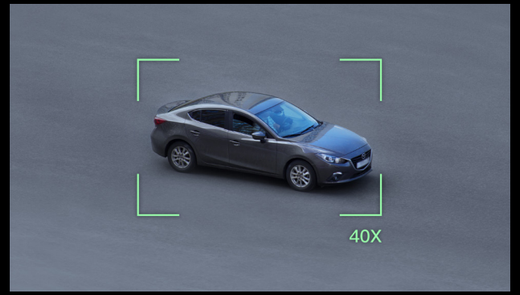
Frame an area of interest in wide camera view, and the zoom camera will automatically capture a set of 20 MP images of the area. These images are stored together with an overview image that can be viewed in greater detail.

Intelligent Ways to Collect Data



PinPoint

A quick tap marks an object in view, advanced sensor fusion algorithms immediately deliver its coordinates.

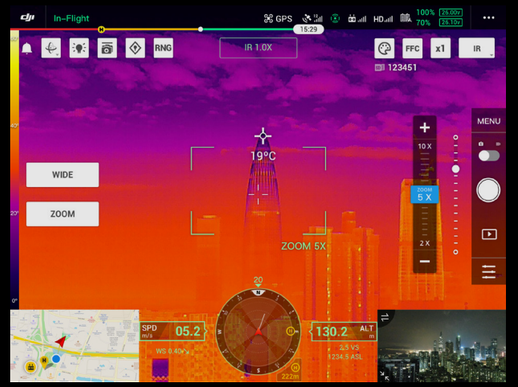


Smart Track

Identify and follow moving subjects like people, vehicles, and boats with the auto-zoom function, while continuously acquiring the subject's dynamic location.

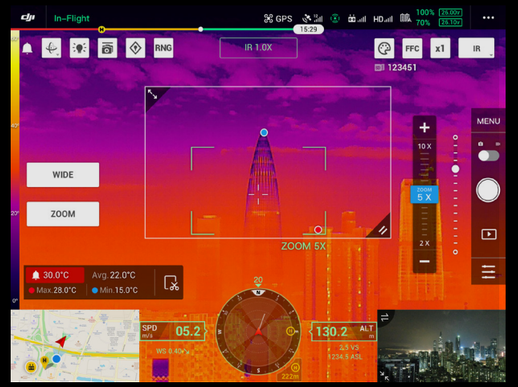
Visualize Temperatures Immediately

Monitor the temperature of a site or an asset to eliminate any risks by acquiring a precise temperature reading from the air.



Spot Meter

Tap a point to get a real-time reading of the surface temperature.



Area Measurement

Select an area to view the lowest, highest, and average temperatures.

Intelligent Features of the Thermal Camera

Temp Alarm

Receive instant notifications in DJI Pilot when object temperatures exceed your preset alert values.

Isotherms

Visualize a specific band of temperatures to find what is important.

Color Palettes

Adjust the colors applied to the thermal data based on the needs of specific scenarios.

Gain Modes

Adjust gain modes to change the temperature range captured: High Gain Mode covers a smaller temperature range but is more sensitive to temperature differences; Low Gain Mode covers a wider temperature range.

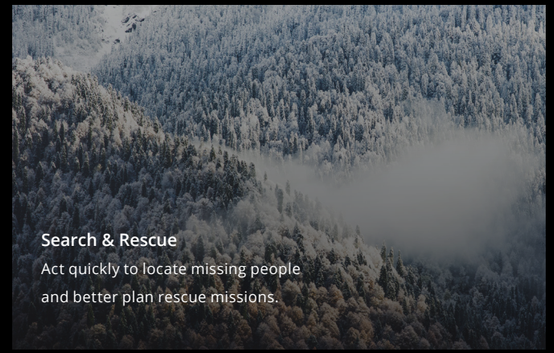
R-JPEG Images

Images captured by the Zenmuse H20T are in the R-JPEG format with embedded temperature information. By importing these images into DJI Thermal Analysis Tool, you can measure temperature, and adjust parameters such as Emissivity, and Reflected Temp.

Applications

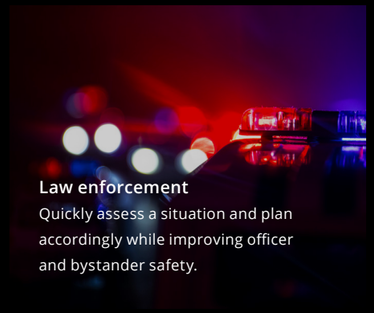
Firefighting

Fight fires and save lives without endangering personnel.



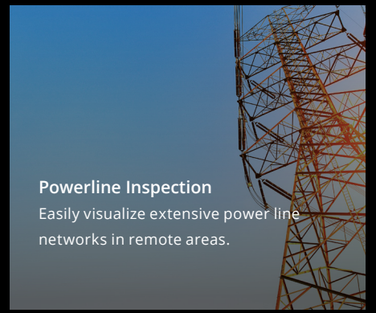
Search & Rescue

Act quickly to locate missing people and better plan rescue missions.



Law enforcement

Quickly assess a situation and plan accordingly while improving officer and bystander safety.



Powerline Inspection

Easily visualize extensive power line networks in remote areas.

Oil & Gas

Conduct inspections of pipelines, well sites and more – while keeping workers away from risky areas.

Specifications: General

	ZENMUSE H20	ZENMUSE H20T
Dimensions	150 × 114 × 151 mm	167 × 135 × 161 mm
Weight	678 ± 5 g	828 ± 5 g
Protection Rating	IP44	
Laser Safety	Class 1M (IEC 60825-1:2014)	
Supported Aircraft	Matrice 300 RTK	

Specifications: Gimbal

	ZENMUSE H20	ZENMUSE H20T
Angular Vibration Range	±0.01°	
Mount	Detachable	

Specifications: Zoom Camera

		ZENMUSE H20	ZENMUSE H20T
Sensor	1/1.7″ CMOS, Effective Pixels: 20M		
Lens	Focal length	6.83-119.94 mm (equivalent: 31.7-556.2 mm)	
	Aperture	f/2.8-f/11 (normal), f/1.6-f/11 (night)	
	Focus	1 m to ∞ (wide), 8 m to ∞ (telephoto)	

Specifications: Wide Camera

		ZENMUSE H20	ZENMUSE H20T
Sensor	1/2.3″ CMOS, Effective Pixels: 12M		
Lens	DFOV	82.9°	
	Focal length	4.5 mm (equivalent: 24 mm)	
	Aperture	f/2.8	
	Focus	1 m to ∞	

Specifications: Thermal Camera

	ZENMUSE H20T	
Thermal Imager	Uncooled VOx Microbolometer	
Lens	DFOV	40.6°
	Focal length	13.5 mm (equivalent: 58 mm)
	Aperture	f/1.0
	Focus	5 m to ∞

Specifications: Laser Rangefinder

	ZENMUSE H20	ZENMUSE H20T
Wavelength	905 nm	
Measuring Range	3-1200 m (20% reflectivity, full spot)	
Measuring Accuracy	± (0.2 m + D×0.15%), D is the distance to a vertical surface	

Specifications: Storage

	ZENMUSE H20	ZENMUSE H20T
Supported SD Cards	Supports a microSD card with capacity of up to 128 GB. A UHS-I Speed Grade 3 rating microSD card is required.	
Supported File System	FAT32 (≤32 GB), exFAT (>32 GB)	

Specifications: Environment

	ZENMUSE H20	ZENMUSE H20T
Operating Temperature	-20°C to 50°C	
Storage Temperature	-20°C to 60°C	

*Please refer to the official product page for the latest specifications.

DJI ENTERPRISE

DJI L1

Instant Clarity, Superior Accuracy

A Lidar + RGB Solution for Aerial Surveying

The Zenmuse L1 integrates a Livox Lidar module, a high-accuracy IMU, and a camera with a 1-inch CMOS on a 3-axis stabilized gimbal. When used with Matrice 300 RTK and DJI Terra, the L1 forms a complete solution that gives you real-time 3D data throughout the day, efficiently capturing the details of complex structures and delivering highly accurate reconstructed models.

Integrates a Lidar module, an RGB camera, and a high-accuracy IMU

High Efficiency 2 km^2 covered in a single flight[1]

High Accuracy Vertical Accuracy: 5 cm / Horizontal Accuracy: 10 cm[2]

Point Rate: 240,000pts/s

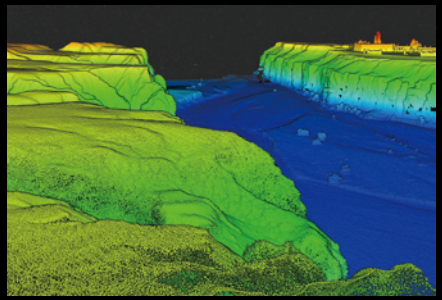
Supports 3 Returns[3]

Detection Range: 450 m (80% reflectivity, 0 klx)

IP44 Ingress Protection Level

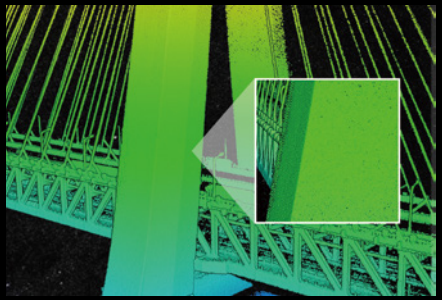
Point Cloud LiveView

Digitize without Compromise



Exceptional Efficiency

Generate true-color point cloud models in real time, or acquire 2 km^2 of point cloud data in a single flight[1] using the Livox frame Lidar module with a 70° FOV and a visible light camera with a 1-inch sensor.



Unparalleled Accuracy

Render centimeter-accurate reconstructions thanks to the high-accuracy IMU, a vision sensor for positioning accuracy, and the incorporation of GNSS data.

Ready When You Are

The IP44 rating allows the L1 to be operated in rainy or foggy environments. The Lidar module's active scanning method enables you to fly at night.

Visualize Data as You Fly

Livox Lidar Module

- Frame Lidar with up to 100% effective point cloud results
- Detection Range: 450 m (80% reflectivity, 0 klx) / 190 m (10% reflectivity, 100 klx)
- Effective Point Rate: 240,000 pts/s
- Supports 3 Returns[3]
- Line Scan Mode and Non-repetitive Petal Scan Mode

Everything in View

RGB Camera

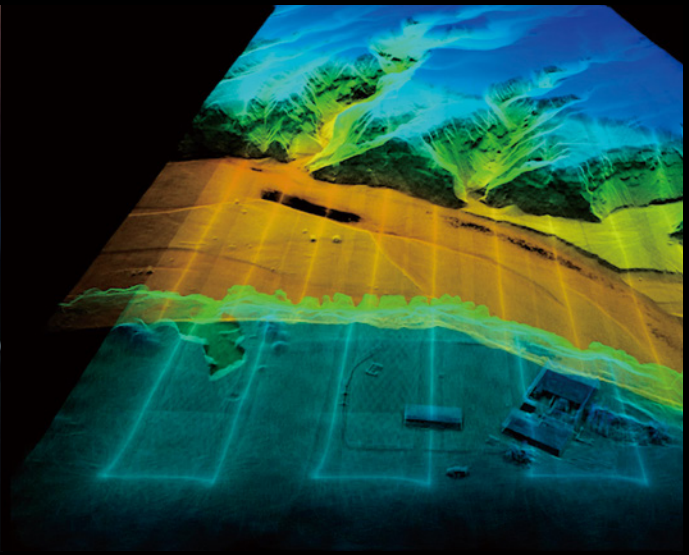
- 20MP
- 1-inch CMOS
- Mechanical Shutter

Accurate Details at Your Disposal

High-accuracy IMU

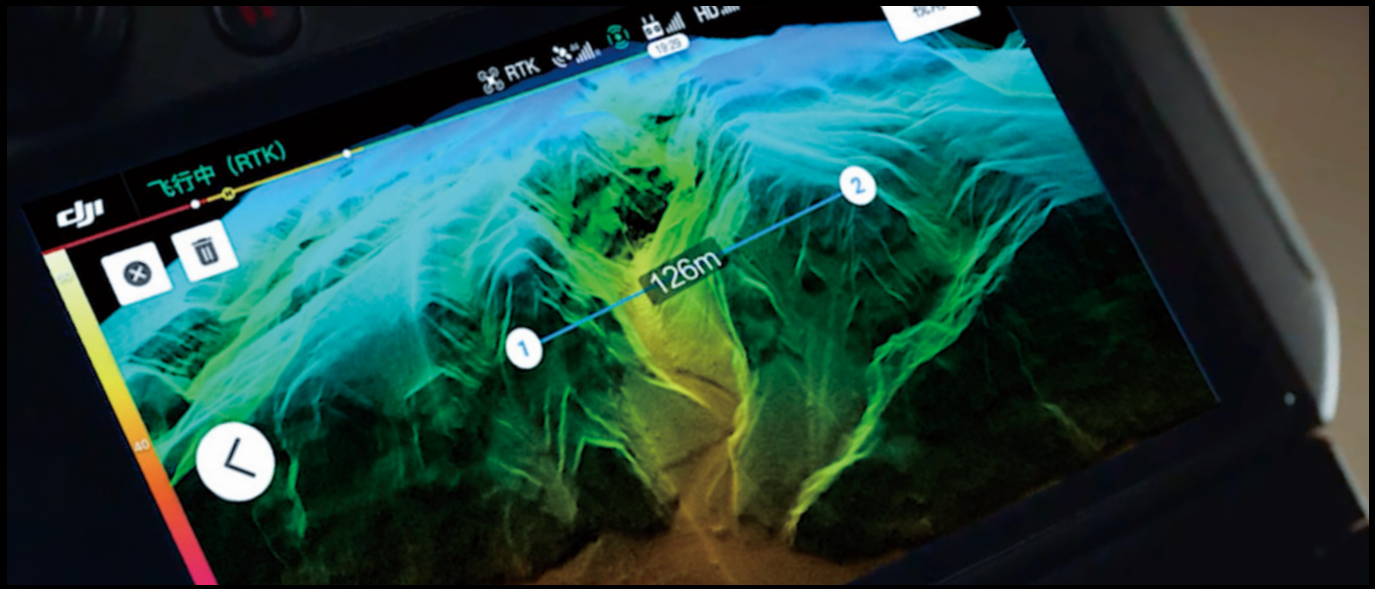
- Accuracy: 0.025° (roll/pitch) / 0.08° (yaw)
- Vision Sensor for Positioning Accuracy
- GNSS, IMU, RGB Data Fusion

Recreate the World in 3D Point Clouds



Point Cloud LiveView

Real-time point clouds provide immediate insights onsite, so operators are informed to make critical decisions quickly. You can also verify fieldwork quality by checking point cloud data immediately after each flight.



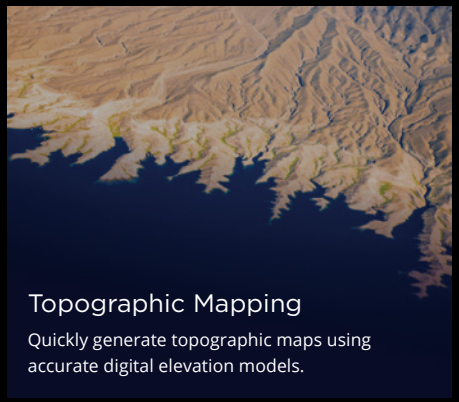
Measurement and Annotation

Acquire and communicate critical dimensions on the point cloud model using measurements and annotations.

One-stop Post-processing

DJI Terra fuses the IMU and GNSS data for point cloud and visible light calculations, in addition to conducting POS data calculations so you can effortlessly generate reconstructed models and accuracy reports.

Application Scenarios



Topographic Mapping

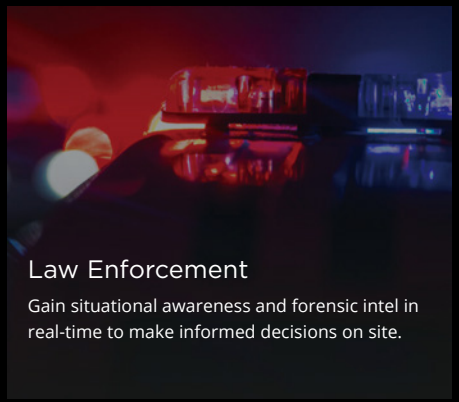
Quickly generate topographic maps using accurate digital elevation models.

AEC and Surveying

Manage the full project lifecycle using highly accurate point clouds and 3D models.

Emergency Response

Any time of the day, gather critical insights in real-time using true-color point clouds.



Law Enforcement

Gain situational awareness and forensic intel in real-time to make informed decisions on site.

Energy and Infrastructure

Model sparse or complex structures in detail to manage them efficiently and safely.

Agriculture and Forestry Management

Gain insight into vegetation density, area, stock volume, canopy width, and growth trends.

Specifications

General

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 @ 20% 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 petal 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

[1] Over 30 minutes, at a speed of 10 m/s, a flight altitude of 100 m, with a side overlap rate of 20%, point cloud density > 200 points/m^2.
[2] Flight altitude: 50 m
[3] In operations with two or three returns, the point rate is 480,000 pts/s

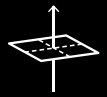
DJI ENTERPRISE

DJI P1

Efficiency through Flexible Full-frame Photogrammetry

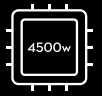
Full Frame - The New Benchmark for Aerial Surveying

The Zenmuse P1 integrates a full-frame sensor with interchangeable fixed-focus lenses on a 3-axis stabilized gimbal. Designed for photogrammetry flight missions, it takes efficiency and accuracy to a whole new level.

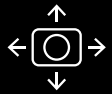


Accuracy without GCPs:
3 cm horizontally / 5 cm vertically [1]

High Efficiency
3 km^2 covered in a single flight [2]



45 MP
Full-frame Sensor



3-axis Stabilized Gimbal,
Smart Oblique Capture

Global Mechanical Shutter[3],
Shutter Speed 1/2000 Seconds

TimeSync 2.0 - synchronization
at the microsecond level

Your Go-to Tool for Aerial Photogrammetry

Extraordinary Efficiency

The P1 includes a full-frame, low-noise high-sensitivity sensor that can take a photo every 0.7 s during the flight, and covering 3 km^2 [2] in a single flight.

Remarkable Accuracy

Equipped with a global mechanical shutter and the all-new TimeSync 2.0 system, which synchronizes time across modules at the microsecond level, the P1 lets users capture centimeter-accurate data combined with the real-time position and orientation compensation technology.

Robust Versatility

Create 2D, 3D, and detailed models thanks to the integrated 3-axis gimbal that can be outfitted with 24/35/50mm lenses and the Smart Oblique Capture feature.

Efficiency to Cover It All

Full-frame Camera

- 45MP Full-frame Sensor
- 4.4 μm Pixel Size
- Low-noise, high sensitivity imaging extends daily operational time
- Take a photo every 0.7 s during the flight
- TimeSync 2.0 aligns the camera, flight controller, RTK module, and gimbal at the microsecond level

Flexibility to Capture It All

Multiple Fixed-focus Lens Options

- Global Mechanical Shutter [3] with a shutter speed of 1/2000 seconds
- Sends the median exposure pulse in microseconds
- Supports 24/35/50mm lenses with DJI DL mounts

Work Smart, Work Fast

Smart Oblique Capture

Cover 7.5 km^2 [4] in a single workday with the P1. Elevate the efficiency of your oblique photography mission using Smart Oblique Capture, where the gimbal automatically rotates to take photos at the different angles needed. Only photos essential to the reconstruction will be taken at the edge of the flight area, increasing post-processing efficiency by 20%[5] to 50%[6].

Fieldwork Report[7]

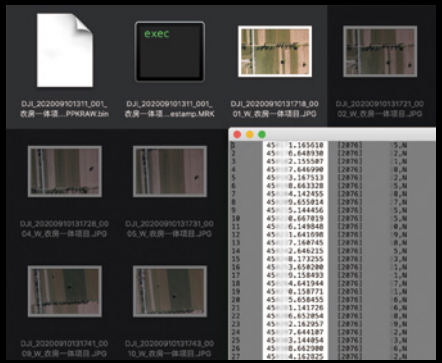
Verify data quality immediately post-flight by checking the position data and number of the images acquired, as well as RTK status and positioning accuracy.

Smart Data Management

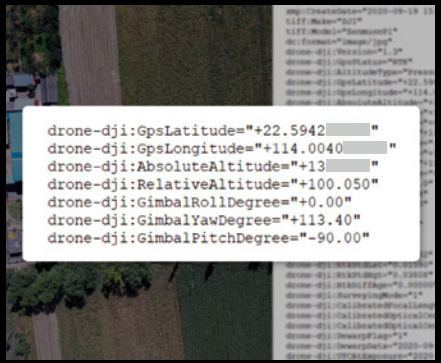
Your mission data management - streamlined.

Mission result files are automatically associated with the Mission Name and Mission Time.

A centralized storage location for photos, GNSS data, and TimeStamps. MRK files.



The image metadata contains the camera's intrinsic and extrinsic parameters and the status of RTK.



A Mission Mode for Any Scenario

2D Orthomosaic Mission

Generate orthomosaics without GCPs using the P1, perfect for medium to large-area operations.

3D Oblique Mission

Effortlessly acquire oblique images from multiple angles that meet 3D modeling requirements across industries such as urban planning and centimeter-level accurate cadastral surveys to serve 3D reality models and smart city planning.

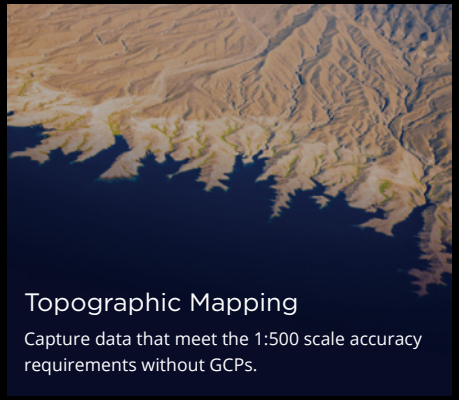
Detailed Modeling Mission

Acquire ultra-high resolution image data of vertical or slanted surfaces from a safe distance that faithfully recreates subtle textures, structures, and features, for detailed reconstructions, geological surveys, heritage site conservation, hydraulic engineering, and more.

Real-time Mapping Mission

Gather geographic information of large areas in real-time using DJI Terra so that teams can make crucial decisions quickly on site.

Application Scenarios



Topographic Mapping

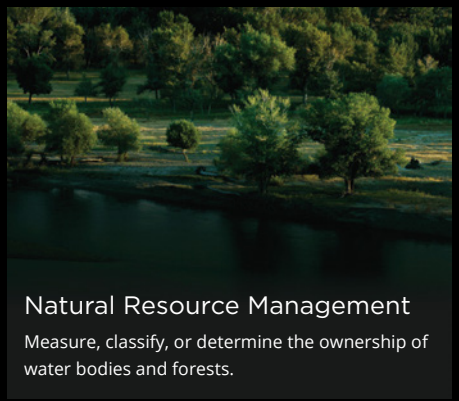
Capture data that meet the 1:500 scale accuracy requirements without GCPs.

Cadastral Surveying

Quickly generate centimeter-level accurate 3D reality models.

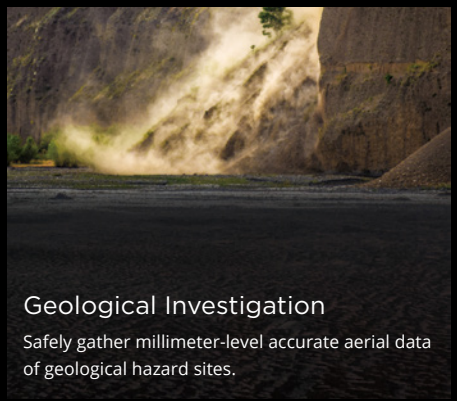
AEC and Surveying

Manage the full project lifecycle with 2D and 3D drone data.



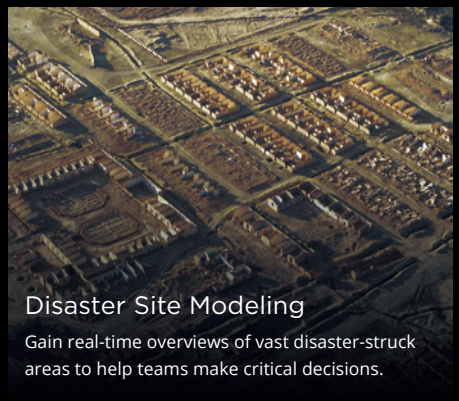
Natural Resource Management

Measure, classify, or determine the ownership of water bodies and forests.



Geological Investigation

Safely gather millimeter-level accurate aerial data of geological hazard sites.



Disaster Site Modeling

Gain real-time overviews of vast disaster-struck areas to help teams make critical decisions.

Specifications

General

Dimensions	198 × 166 × 129 mm
Weight	Approx. 787 g
Power	13 W
IP Rating	IP4X
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)
Absolute Accuracy	Horizontal: 3 cm, Vertical: 5 cm *

* Using Mapping Mission at a GSD of 3 cm and flight speed of 15 m/s, with an 75% front overlap rate and a 55% side overlap rate.

Camera

Sensor	Sensor size (Still): 35.9 × 24 mm (Full frame) Sensor size (Max video recording area): 34 × 19 mm Effective Pixels: 45MP Pixel size: 4.4 μm
Supported Lenses	DJI DL 24mm F2.8 LS ASPH (with lens hood and balancing ring/filter), FOV 84° DJI DL 35mm F2.8 LS ASPH (with lens hood and balancing ring/filter), FOV 63.5° DJI DL 50mm F2.8 LS ASPH (with lens hood and balancing ring/filter), FOV 46.8°
Supported SD Cards	SD: UHS-1 rating or above; Max capacity: 128 GB
Storage Files	Photo / GNSS Raw Observation Data/ Image Log File
Photo Size	3:2 (8192 × 5460)
Operation Modes	Capture, Record, Playback
Minimum Photo Interval	0.7 s
Shutter Speed	Mechanical Shutter Speed: 1/2000-1/8 s Electronic Shutter Speed: 1/8000-8 s
Aperture Range	f/2.8-f/16
ISO Range	Photo: 100-25600；Video: 100-3200

Video

Video Format	MP4
Video Resolution	16:9 (3840×2160)
Frame Rate	60fps

Gimbal

Stabilized System	3-axis (tilt, roll, pan)
Angular Vibration Range	0.01°
Mount	Detachable DJI SKYPORT
Mechanical Range	Tilt: -125° to +40°; Roll: -55° to +55°; Pan: ±320°

[1] Using Mapping Mission at a GSD of 3 cm, with an 75% front overlap rate and a 55% side overlap rate.
[2] At a GSD of 3 cm, with an 75% front overlap rate and a 55% side overlap rate.
[3] The global shutter is achieved with a central leaf shutter
[4] Using Smart Oblique Capture at a GSD of 3 cm, with an 80% front overlap rate and a 65% side overlap rate.
[5] Area mapped: 1.5 km^2, flight altitude: 200 m
[6] Area mapped: 0.5 km^2, flight altitude: 200 m
[7] Support coming soon.


ZENMUSE P1

Get a Quote

Schedule a Demo

The Drone Center

DJI Authorised dealer in the ME

www.thedronecentre.ae