



# i-MICRO STAR



# QUADROTOR DRONE



## Product Information

The Micro starbrings powerful technologies and advanced autonomy to users. Micro star assesses complex environments to create real-time 3D flight paths for unparalleled obstacle avoidance. Advanced sensors make flight in GPS unavailable areas possible and the incredible new thermal payload unlocks new object identification and tracking scenarios. With a foldable, weather-resistant design, the UAV is as portable as it is capable.

## Features

### • Multiple task mode

The App provides waypoint task, rectangular task, polygon task, tilt photography, spiral task, aerial belt task, imitation flight, map building and other task modes. Users can import the captured photos into the modeling software for 2D or 3D model reconstruction. Applicable to inspection, patrol, and search and rescue scenarios.

• **Autonomous route flight** The autonomous flight technology is used to collect the surrounding environmental data in real time, and realize global path planning, 3D scene reconstruction, autonomous obstacle circumnavigation and homing in complex environments such as mountains, forests and buildings, enabling the security, inspection and mapping industry.

• **Precise navigation without GPS** When the GPS signal cannot be covered, is disabled, and the accuracy and refresh frequency are insufficient, you can still obtain high-precision and low- latency distance and coordinate information to achieve high-precision indoor and outdoor navigation and positioning.

• **Ultra-accurate identification and tracking** Ultra-accurate identification and tracking flexibly match different mounts, based on AI image recognition technology, automatically identify and accurately lock different kinds of targets such as heat sources, moving people and vehicles in the observation area, to achieve high-altitude tracking and data acquisition.

- **Four-lens payload** Equipped with flagship mount, integrated wide Angle, telephoto, infrared, laser ranging in one, intelligent linkage between multiple sensors, breaking through visual limitations, bringing revolutionary experience to all-weather operations.

- **Laser Range Finder**

One-click positioning, quickly obtain the target position, the longest ranging distance up to 1.2 kilometers.

- **Thermal camera**

Thermal imaging resolution of 640x512, using 13mm focus distance lens, support 16x digital zoom, farther and clearer.

- **Wide-angle camera** Video: up to 4K 30p extreme low light video, up to ISO64000, in the moonlight environment, still can shoot clear video details. Photo: Support intelligent hardware multi-frame noise reduction, HDR fusion technology, fine and clear photos in the low light environment.

- **Visible zoom camera** The zoom camera supports 8K 10x continuous optical zoom and up to 160x hybrid zoom, with cars and boats clearly visible from 2km away. Operators do not need to go to the site, which not only improves work efficiency, but also ensures the safety of personnel and flight equipment. Efficient enabling energy inspection, emergency rescue and public security and other industry applications.

- **Triple anti-jamming** The built-in flight control computing unit, GPS receiving module and graph transmission module enable the aircraft to identify flight control interference signals and satellite positioning interference signals, with excellent anti- electromagnetic, anti-RF and anti-GPS decoy characteristics, giving it reliable flight stability.

- **720° Omnidirectional obstacle avoidance all-weather operation** Using "binocular fish-eye vision + millimeter wave radar" multi-source sensor fusion perception technology, with 720° omnidirectional perception and obstacle avoidance capabilities, even in the bridge bottom water surface, high voltage wires and other complex operating environments, can also ensure flight safety and obstacle avoidance, all-weather operation, day and night.

- **Enhanced image transmission performance** Equipped with 4 image transmission antennas, 2 transmitting signals and 4 receiving signals, the communication distance between the aircraft and the ground control terminal can reach 20 kilometers; Support 900 MHz/2.4 GHz/5.2 GHz/5.8 GHz four adaptive frequency hopping frequency band transmission, according to the electromagnetic interference situation, choose the best channel has strong anti-interference ability; Real-time transmission image quality reaches 1080p/60fps, and has a high transmission bit rate of 64Mbps and low latency transmission characteristics of < 150ms; AES-256 encryption is used for full-link data transmission and storage to ensure that end-to-end communication data is not monitored.



## Parameters comparison between i-Micro star with DJI Mavic 3T

AIRCRAFT		
Features	Micro star	DJI Mavic 3T
Net Weight	1640 g (with battery and payload)	920 g (Standard), 870 g (EU Battery)
Max Takeoff Weight	1890 g	1050 g (Standard), 899 g (EU Battery)
Dimensions	Folded: 257×145×131 mm Unfolded: 562×651×147 mm	Folded: 221×96.3×90.3 mm Unfolded: 347.5×283×107.7 mm
Wheelbase	466 mm	380.1 mm
Max Flight Time	42 mins	45 mins (Standard), 36 mins (EU Battery)
Max Hovering Time	38 mins	38 mins (Standard), 30 mins (EU Battery)
Max Horizontal Speed	23 m/s (19 m/s in EU)	21 m/s (Sport), 15 m/s (Normal)
Max Ascent/Descent Speed	8 m/s / 6 m/s	8 m/s / 6 m/s
Max Altitude	4000–4500 m	6000 m
Max Wind Resistance	12 m/s	12 m/s
Operating Temperature Range	-20°C to 50°C	-10°C to 40°C
Max Tilt Angle	36°	35° (Sport), 30° (Normal)
Max Angular Velocity	Pitch: 300°/s; Heading: 120°/s	200°/s
Internal Storage	128 GB (64 GB usable)	NIL
SD Card Support	64 GB included, up to 512 GB	Yes, up to 512 GB
Range (Transmission Distance)	8 km (CE), 20 km (FCC)	8 km (CE), 15 km (FCC)
Operating Frequency	2.4G, 5.1G, 5.8G	2.4G, 5.8G
Transmission Power (EIRP)	2.4G: ≤30 dBm 5.8G: ≤30 dBm	2.4G: <33 dBm 5.8G: <33 dBm
GNSS	GPS + Galileo + BeiDou + GLONASS	GPS + Galileo + BeiDou + GLONASS
Hovering Accuracy	±0.1 m V / ±0.3 m H (vision), ±0.5 m GNSS	±0.1 m V / ±0.3 m H (vision), ±0.5 m GNSS
IP Rating	IP43	NIL

## GIMBAL

Features	Micro star	DJI Mavic 3T
Stabilization	3-axis mechanical gimbal	3-axis (tilt, roll, pan)
Mechanical Range	Pitch: -135° to 45° Roll: -45° to 45° Heading: -45° to 45°	Tilt: -135° to 45° Roll: -45° to 45° Pan: -27° to 27°
Controllable Range	Pitch: -90° to 30°	Tilt: -90° to 35°
Max Control Speed	100°/s (pitch)	100°/s
Angular Jitter	< 0.005°	±0.007°

## VISIBLE ZOOM CAMERA

Features	Micro star	DJI Mavic 3T
Sensor	1/2" CMOS, 48 MP	1/2" CMOS, 12 MP
Lens	Focal length: 11.8–43.3 mm (35 mm equivalent: 64–234 mm) Aperture: f/2.8–f/4.8 Focus: 5 m to ∞	Focal length: 162 mm equivalent Aperture: f/4.4 Focus: 3 m to ∞
ISO Range	Auto: ISO 100–6400 Manual (Photo): ISO 100–12800 Manual (Video): ISO 100–6400	ISO 100–25600
Shutter Speed	Photo: 8 s – 1/8000 s Video: 1 s – 1/8000 s	8 s – 1/8000 s
Zoom	10× Optical Zoom 160× Hybrid Zoom	8× Digital Zoom 56× Hybrid Zoom
Max Photo Resolution	8000 × 6000	4000 × 3000
Max Video Resolution	4000 × 3000	3840 × 2160 (4K) @30fps

## THERMAL CAMERA

Features	Micro star	DJI Mavic 3T
Thermal Sensor	Uncooled VOx Microbolometer	Uncooled VOx Microbolometer
Lens	FOV: 42° Focal Length: 9 mm Aperture: f/1.2 Focus: 6 m to ∞	DFOV: 61° Equivalent Focal Length: 40 mm Aperture: f/1.0 Focus: 5 m to ∞
Temperature Measurement Method	Center Measurement Spot Measurement Rectangular Measurement	Spot Meter Area Measurement
Temperature Measurement Accuracy	±3°C or ±3% (larger value) Ambient temp: -20°C to 60°C	±2°C or ±2% (larger value)
Temperature Measurement Range	-20°C to 150°C (High Gain) 0°C to 550°C (Low Gain)	-20°C to 150°C (High Gain) 0°C to 500°C (Low Gain)
Temperature Alert	Yes, configurable high/low thresholds Reports coordinates and temp values	NIL
Palette	White Hot, Black Hot, Searing, Rainbow, Grey, Ironbow, Cold and Hot	White Hot, Black Hot, Tint, Iron Red, Hot Iron, Arctic, Medical, Fulgurite, Rainbow 1, Rainbow 2

## WIDE-ANGLE CAMERA

Features	Micro star	DJI Mavic 3T
Sensor	1/1.28" CMOS, 50 MP	1/2" CMOS, 48 MP
Lens	FOV: 85° Focal Length: 4.5 mm (23 mm equivalent) Aperture: f/1.9 Focus: PDAF (Auto)	FOV: 84° Focal Length: 24 mm equivalent Aperture: f/2.8 Focus: 1 m to ∞
Exposure Compensation	±3 EV (0.3 EV/step)	NIL
ISO Range	Photo: ISO 100–6400 Video: ISO 100–64000 (night mode supported)	ISO 100–25600
Shutter Speed	Photo: 8 s – 1/8000 s Video: 1 s – 1/8000 s	8 s – 1/8000 s
Max. Video Resolution	4000 × 3000	3840 × 2160 (4K) @30fps

## LASER RANGE FINDER

Features	Micro star	DJI Mavic 3T
Measurement Accuracy	$\pm(1 \text{ m} + D \times 0.15\%)$	NIL
Measuring Range	5 m – 1200 m	NIL

## BATTERY

Features	Micro star	DJI Mavic 3T
Capacity	8070 mAh	5000 mAh (Standard), 4230 mAh (EU C1 Version)
Voltage	14.88 V	15.4 V
Energy	120 Wh	77 Wh (Standard), 65.15 Wh (EU)
Battery Type	LiPo 4S	LiPo 4S
Charging Temperature	5°C – 45°C	5°C – 40°C
Net Weight	520 g	335.5 g (Standard), 285 g (EU)
Hot Swap	Supported	NIL
Power Adapter	Input: 100–240 V AC, 50/60 Hz	DJI USB-C Power Adapter (100W) recommended

Features	Micro star	DJI Mavic 3T
Sensing Range	Front: 0.5–31 m Rear: 0.5–25 m Left/Right: 0.5–26 m Up: 0.2–26 m Down: 0.3–23 m	Forward: 0.5–200 m Backward: 0.5–16 m Lateral: 0.5–25 m Upward: 0.2–10 m Downward: 0.3–18 m
FOV	Front/Rear: 60° H, 80° V Up/Down: 180° H, 120° V	Forward/Backward: 90° H, 103° V Lateral: 90° H, 85° V Upward: 100° front/back, 90° left/right Downward: 130° front/back, 160° left/right
Operating Environment	Front/Rear/Left/Right/Up: Rich texture and >15 lux Down: Diffuse surface, >20% reflectivity, >15 lux	All directions: Clear pattern and >15 lux Down: Diffuse reflective surface >20%, adequate lighting (>15 lux)

## MILLIMETER-WAVE RADAR SENSING SYSTEM

Features	Micro star	DJI Mavic 3T
Frequency	24 GHz & 60 GHz	NIL
Sensing Range	60 GHz: Up: 0.2–20 m, Down: 0.3–80 m, Front/Rear: 0.5–50 m 24 GHz: Down: 0.3–12 m	NIL
FOV	60 GHz: H $\pm 22^\circ$ , V $\pm 20^\circ$ 24 GHz: H $\pm 60^\circ$ , V $\pm 30^\circ$	NIL
Operating Environment	All-weather capability, works in low visibility, detects transparent objects like glass and wires	NIL

## FUSION OMNIDIRECTIONAL SENSING SYSTEM

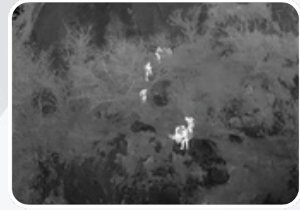
Features	Micro star	DJI Mavic 3T
Sensing Range	Front/Rear: 0.5–50 m Left/Right: 0.5–26 m Up: 0.2–26 m Down: 0.3–80 m	Forward: 0.5–200 m Backward: 0.5–16 m Lateral: 0.5–25 m Upward: 0.2–10 m Downward: 0.3–18 m
FOV	Front/Rear: 120° H, 80° V Up/Down: 180° H, 120° V	Forward: 90° H, 103° V Downward: 130° front/back, 160° left/right Others vary directionally
Operating Environment	Works in all weather conditions Handles glass, wires, night-time, low visibility	Requires surface with visible patterns and lighting >15 lux Limited in low-visibility or pattern-less surfaces

# Application

## Border Surveillance and Security

Continuous monitoring of national borders to detect unauthorized activities, such as smuggling or illegal crossings.

Real-time imaging and tracking of intruders in difficult-to-reach terrain.



## Reconnaissance Missions

Gathering intelligence in hostile or unknown environments.

Providing detailed situational awareness without risking soldiers' lives.



## Search and Rescue Operations

Locating lost or injured personnel in challenging terrains, such as mountains or forests.

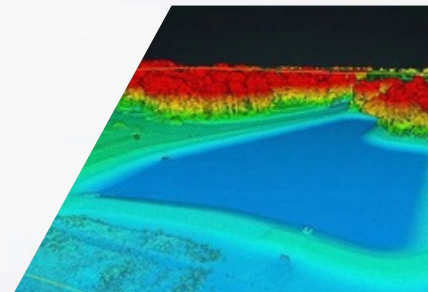
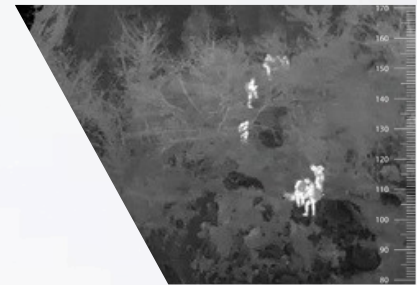
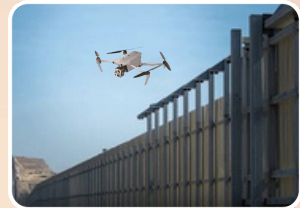
Delivering essential supplies to stranded individuals.

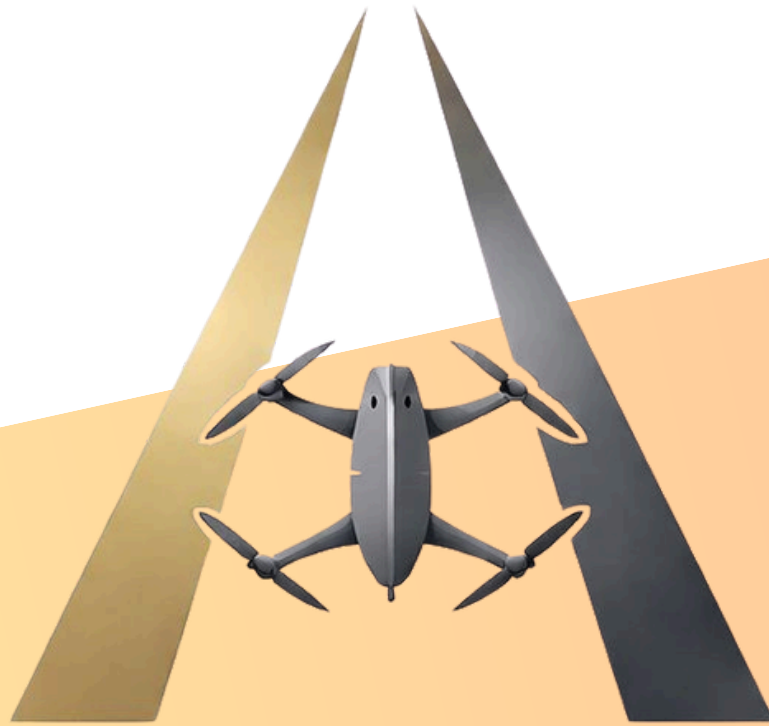


## Counter-Terrorism Operations

Monitoring high-risk areas to identify suspicious movements.

Supporting tactical units with real-time data for precision strikes.





# iDRONES

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