

# EVO MAX 4T REVIEW



**PREPARED BY:**

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**EVO Max 4T is the only commercial drone that combines traditional binocular vision systems with millimeter wave radar technology.** This allows the EVO Max 4T's onboard Autel Autonomy Engine to perceive objects down to 0.5 inch, eliminating blind spots and enabling operation in low light or rainy conditions.

The EVO Max 4T brings powerful technologies and advanced autonomy to users. Featuring the new Autonomy Engine, EVO Max 4T 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 EVO Max 4T is as portable as it is capable.

The EVO Max 4T Industrial Drone from Autel is an ideal tool, providing a robust set of technologies for efficient handling of a wide variety of scenarios. The primary payload offers an 8K zoom, 4K low-light wide-angle, and thermal camera, along with a laser rangefinder. Together they make quick work of inspections, search and rescue, security overwatch, land surveying, and many other operations.



# IN BOX



- 1 - AIRCRAFT (INCLUDING BATTERY, PROPELLERS AND GIMBAL COVER, 64G SD)
- 1 - AUTEL ROBOTICS V3 SMART CONTROLLER SE (STICKS INCLUDED)
- 1 - SPARE PROPELLERS (PAIR)
- 1 - SCREWDRIVER
- 1 - BATTERY CHARGER + POWER CABLE
- 1 - SMART CONTROLLER SPARE JOYSTICK
- 1 - RC CHARGER
- 1 - RC CHARGER CABLE
- 1 - DATA CABLE
- 1 - RUGGED CASE
- MANUALS (QUICK START GUIDE, PACK LIST)
- 1 - SMART CONTROLLER LANYARD
- 1 - SMART CONTROLLER COVER



## **key features:**

- **QUAD CAMERA WITH THERMAL & RANGE FINDING**
- **8-CAMERA 720° OBSTACLE AVOIDANCE**
- **ANTI-JAMMING & ANTI-INTERFERENCE**
- **DRONE-TO-DRONE AUTONOMOUS COMMUNICATION**
- **8K CAMERA WITH UP TO 160X HYBRID ZOOM**
- **85° FOV 4K/30 WIDE-ANGLE CAMERA**
- **-4° TO 1022DEG; F THERMAL CAMERA**
- **UP TO 0.75 MILE LASER RANGEFINDER**
- **AUTO TRACKING OF DIFFERENT TARGET TYPES**
- **SKYLINK 3.0 & SMART CONTROLLER V3**



## **Additional Features:**

- **DESIGNED TO DEPLOY TO THE SKY IN JUST 15 SECONDS**
- **IP43-RATED WATER AND DUST RESISTANCE**
- **UP TO 42 MINUTES OF FLIGHT**
- **HOT-SWAPPABLE BATTERIES**
- **UP TO 52 MPH FLIGHT SPEED**
- **UP TO 27 MPH WIND RESISTANCE**
- **UP TO 23,000' SERVICE CEILING**
- **FOLDABLE DESIGN FOR EASY STORAGE AND TRANSPORT**

# APPLICATION

INSPECTION - A PERFECT SOLUTION FOR UTILITIES,  
INFRASTRUCTURE & SURVEYING

**SIMPLIFIED TOWER INSPECTION | POWER &  
PIPELINE INSPECTION | WIND TURBINE  
INSPECTION | GRID MAPPING & SURVEYING |  
SITE PATROL & SECURITY**

- **LIGHTWEIGHT & COMPACT:** EASY TO TRANSPORT IN A SINGLE CASE IN THE BACK OF YOUR PICK-UP, OR IN THE FIELD
- **REDUCES YOUR STRESS:** 15-SEC DEPLOYMENT & AUTONOMY FEATURES MAKE FOR EASIER FLIGHTS & TRACKING WHICH ALLOWS YOU SITUATIONAL FOCUS
- **SAFETY FIRST:** EVO MAX 4T CAN CAREFULLY COVER VERTICAL & HORIZONTAL DISTANCES
- **NO CONDITIONAL APPROVAL:** FLY MISSIONS IN THE DAY, NIGHT, & DURING COMPLEX CONDITION LIKE RAIN, DUST, OR SNOW
- **GET UP CLOSE:** 10X OPTICAL AND 160X HYBRID ZOOM WITH CLEAR DETAILS ON TARGETS UP TO 1.24 MILES AWAY

# APPLICATION

**FIREFIGHTING / SEARCH & RESCUE - A PERFECT SOLUTION  
FOR FIRE & RESCUE**

**IDENTIFY FIRE LINES | MAINTAIN FIRE BREAKS |  
INSPECT STRUCTURES & HOT SPOTS | VISUAL  
ACCESS TO DIFFICULT TERRAIN | IDENTIFY  
AREAS FOR MANNED SUPPORT**

- **LIGHTWEIGHT & COMPACT:** EASY TO TRANSPORT IN A SINGLE CASE, INTO YOUR PATROL CAR, BACK OF YOUR PICK-UP, OR IN THE FIELD
- **REDUCES YOUR STRESS:** 15-SEC DEPLOYMENT & AUTONOMY FEATURES MAKE FOR EASIER FLIGHTS & TRACKING WHICH ALLOWS YOU SITUATIONAL FOCUS
- **MISSION CAPABLE:** CAN DELIVER LOW WEIGHT GOODS, LIKE LIFE PRESERVER, ROPE, OR SIMPLE FIRST AID KIT
- **NO CONDITIONAL APPROVAL:** FLY MISSIONS IN THE DAY, NIGHT, & DURING COMPLEX CONDITION LIKE RAIN, DUST, OR SNOW
- **DISCOVER HOT SPOTS:** USE THE THERMAL CAMERA TO PROVIDE EARLY INSIGHTS & WARNING TO THE TEAM.



# APPLICATION

**PUBLIC SAFETY - A PERFECT SOLUTION FOR LAW  
ENFORCEMENT**

**PRE-PLANNING & SITUATIONAL RESPONSE |  
SUBJECT MONITORING & TRACKING |  
RECONNAISSANCE  
& INTEL GATHERING | DISASTER RESPONSE |  
SCENE PHOTOGRAPHY & RECONSTRUCTION**

- **LIGHTWEIGHT & COMPACT:** EASY TO TRANSPORT IN A SINGLE CASE, INTO YOUR PATROL CAR, BACK OF YOUR PICK-UP, OR IN THE FIELD
- **REDUCES YOUR STRESS:** 5-SEC DEPLOYMENT & AUTONOMY FEATURES MAKE FOR EASIER FLIGHTS & TRACKING WHICH ALLOWS YOU SITUATIONAL FOCUS
- **NO CONDITIONAL APPROVAL:** FLY MISSIONS IN THE DAY, NIGHT, & DURING COMPLEX CONDITION LIKE RAIN, DUST, OR SNOW
- **TEAM-ORIENTED:** KEPT OTHER UNITS 'IN-THE-KNOW' USING STREAMING FROM LIVE DECK 2 WITH SECURE AES-256 DATA ENCRYPTION.



# SPECIFICATION

## AIRCRAFT

### **Weight**

3.5 lbs (1600g, battery and gimbal included)

### **Dimensions**

576\*660\*149 (folded, incl. propellers) 340\*407\*148(folded, excl. propellers) 257\*136\*133 (unfolded, excl. propellers)

### **Diagonal Wheelbase**

1.52 ft (464mm)

### **Max Ascent Speed**

8m/s

### **Max Descent Speed**

6m/s

### **Max Horizontal Speed (windless near sea level)**

22m/s

### **Max Service Ceiling Above Sea Level**

23000ft (7000m)

### **Max Flight Time (windless)**

42 mins

### **Max Hovering Time (windless)**

40 mins

### **Max Wind Resistance**

27mph\* \*Takeoff and landing can withstand wind speeds up to 27 mph (12 m/s).

### **IP Rating**

IP43

### **Max Tilt Angle**

35°

### **Max Angular Velocity**

Pitch: 300°/s; Yaw: 120°/s

### **Operating Temperature**

-4°F to 122°F (-20°C - 50°C)

### **Operating Frequency**

2.4G/5.2G\*/5.8G/900MHz\*

### **Transmitter Power (EIRP)**

2.4GHz:<33dBm(FCC), 20dBm(CE/SRRC/MIC) 5.8GHz:33dBm(FCC), <30dBm(SRRC), <14dBm(CE) 5.15-5.25GHz: < 23dBm(FCC/SRRC/MIC) 5.25-5.35GHz:<30dBm(FCC), <23dBm(SRRC/MIC)

### **Hovering Accuracy**

Vertical: ±0.1 m (Vision System enabled); ±0.3 m (GPS enabled); ±0.15 m (RTK enabled);  
Horizontal: ±0.15 m (Vision System enabled); ±0.3 m (GPS enabled);

# SPECIFICATION

## GIMBAL

### **Mechanical Range**

Pan: -135° to 45° Tilt: -45° to 45° Roll: -100° to 100°

### **Controllable Range**

-90° to 45°

### **Stable system**

3-axis mechanical gimbal (pitch, tilt, roll)

### **Max Control Speed (pitch)**

200°/s

### **Angular Vibration Range**

<0.005°



## ZOOM CAMERA (TELEPHOTO)

### **Sensor**

1/2" CMOS, Effective pixels: 48M

### **Lens**

Focal length: 11.8-43.3mm (35mm, equivalent: 64-234mm) Aperture: f/2.8-f/4.8

### **Exposure Compensation**

±3EV 0.3EV/step

### **ISO Range**

Normal Mode: Auto: ISO100 ~ ISO6400 Manual: Photo: ISO100 ~ ISO12800 Video: ISO100 ~ ISO6400

### **Shutter Speed**

Photo: 8s ~ 1/8000s Video: 1s ~ 1/8000s

### **Max Photo Size**

8000×6000

### **Max Video Resolution**

7680×4320

# SPECIFICATION

## WIDE CAMERA

### Sensor

1/1.28 CMOS, Effective pixels: 50M

### Lens

DFOV: 85° Focal length: 4.5 mm (equivalent: 23 mm) Aperture: f/1.9 AF motor: 8-wire SMA, PDAF focus

### Exposure Compensation

±3EV 0.3EV/step

### ISO Range

Auto: Photo: ISO100~ISO6400 Video: ISO100~ISO64000 (Night scene mode: up to ISO64000) Manual: Photo: ISO100~ISO12800 Video: ISO100~ISO6400

### Shutter Speed

Photo: 8s ~ 1/8000s Video: 1s ~ 1/8000s

### Max. Video Resolution

3840×2160

### Photo Size

8192\*6144 4096\*3072



## IMAGE TRANSMISSION

### Operating Frequency

2.4G/5.2G\*/5.8G/900MHz\*

### Max Transmission Distance (unobstructed, free of interference)

20km

### Independent Networking

7.9-inch Smart Controller

### Transmitter Power (EIRP)

2.4GHz:<33dBm (FCC) , <20dBm(CE/SRRC/MIC) 5.8GHz:<33dBm(FCC), <30dBm(SRRC), <14dBm(CE) 5.15-5.25GHz: <23dBm(FCC/SRRC/MIC)



# SPECIFICATION

## THERMAL CAMERA

### **Thermal Imager**

Uncooled VOx Microbolometer

### **Lens**

DFOV: 64°

Aperture: 13mm

Focus: f/1.2

Infrared Temperature Measurement

### **Accuracy**

26.6~37.4 °F or reading  $\pm 3\%$  (using the larger value) @ambient temperature -4°F to 140°F

### **Video Resolution**

640\*512

### **Photo Size**

640\*512

### **Pixel Pitch**

12 um

### **Temperature Measurement Method**

Center measurement, pot measurement, rectangular measurement

### **Temperature Measurement Range**

-4°F to 302°F, 32°F to 1022°F (-20°C to 150°C, 0 to 550°C)

### **Temperature Alert**

High and low temperature alarm thresholds, reporting coordinates and temperature values

## LASER RANGE FINDER

### **Measurement Accuracy**

$\pm 1\text{m}$

### **Measuring Range**

1.2km

# SPECIFICATION

## AUTONOMY

### **Non-GPS Hovering and Manual Flight**

Indoor: Horizontal error  $\leq 3\text{cm}$  (At least have texture at one direction) Outdoor: Daytime: Within 500m flight height, horizontal error  $< 0.01 \times \text{height}$  Night: Manual flight is controllable within 100m flight height

### **Non-GPS Return-to-Home**

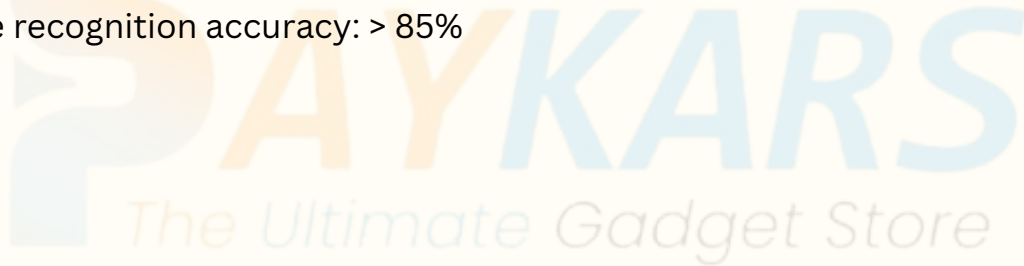
Within 500m flight height, horizontal error of Return-to-Home point  $< 30\text{cm}$

### **Automatic Obstacle Rerouting**

High Speed Obstacle Rerouting: Flight speed up to 20m/s when Min. safety distance to obstacle is 1.5m High Precision Obstacle Rerouting: Flight speed could reach 3m/s when Min. safety distance to obstacle is 0.2m

### **Multi-target Recognition and Tracking**

Target identification types: people, vehicles, boats Number of targets detected: 64 Comprehensive recognition accuracy:  $> 85\%$



## MILLIMETER-WAVE RADAR

### **Frequency**

60Ghz~64Ghz

### **Size**

38\*14\*2mm

### **Weight**

2g

### **EIRP**

18dbm

### **Distance Detection Range**

For Obstacle Avoidance: 0.2m~100m For Height Measurement: 0.05m~200m

### **Ranging Accuracy**

For Obstacle Avoidance: 0.1m For Height Measurement: 0.02m

### **Speed Measurement Range**

$\pm 60\text{m/s}$  (4D Mode) ;  $\pm 28\text{m/s}$  (3D Mode) ;

### **Speed Measurement Accuracy**

$\leq 1\%$

### **Max. Tracking Target Number**

32

# SPECIFICATION

## 7.9-INCH SMART CONTROLLER

### Screen

7.9 inch, 2000nits max. brightness, 2048\*1536 resolution

### External Battery

Capacity: 5800mAh Voltage: 11.55V Battery Type: Li-ion Energy: 67Wh Charging time: 120mins  
Intelligent Lithium Ion Battery

### Operating Time

3 hours (Max. brightness) 4.5 hours (50% brightness)

### Max Transmission Distance (with interference)

FCC: 20km CE: 7km

### Storage

128G

### GNSS

GPS+GLONASS+Galileo+Beidou

### Operating Temperature

-20°C to 40°C

### Protocol

WiFi Direct, Wi-Fi Display, 802.11a/b/g/n/ac Support 2 x 2 MIMO Wi-Fi

### Operating Frequency

2.400 - 2.4835 GHz; 5.150 - 5.250GHz; 5.725 - 5.850 GHz

### Transmitter Power (EIRP)

2.400 - 2.4835 GHz FCC/CE:≤20dBm 5.150 - 5.250GHz FCC:≤17dBm 5.725 - 5.850 GHz  
FCC:≤17dBm CE:≤14dBm

## VISUAL SENSING SYSTEM

### Obstacle Sensing Range

Forward/Upward/Downward/Backward/Sideward: 0.2~50m

### FOV

Forward/Backward/Sideward: 60°(H), 80°(V) Upward/Downward: 360°(H), 190°(V)



# SPECIFICATION

## AIRCRAFT BATTERY

**Capacity**

8070mAh

**Voltage**

14.88V

**Battery Type**

LiPo 4S

**Energy**

120wh

**Net Weight**

520g

**Charging Temperature**

5°C to 45°C (When the temperature is lower than 10° C (50° F), the selfheating function will be automatically enabled. Charging in a low temperature may shorten the lifetime of the battery)

**Hot Swap**

Support

**PAYKARS**  
*The Ultimate Gadget Store*

## QUESTIONS AND ANSWERS

### **What's the maximum flight time of EVO Max 4T?**

The maximum flight time is 42 mins (without payload).

### **What are the updates to SkyLink 3.0 compared with SkyLink 2.0?**

With a further transmission range of 20 kilometers, more frequency bands are supported (2.4/5.2/5.8Ghz/900Mhz), and more resistance to RF interference.

### **Does the EVO Max 4T dust and water resistant?**

Yes, EVO Max 4T is IP43 rating.

### **What's the difference between the 4D mode and 3D mode of the EVO Max 4T millimeter wave radar?**

Under 4D mode, the radar can detect objects from four sections, namely distance, speed, Yaw Angle and Pitch Angle, and the speed range is  $\pm 60\text{m/s}$ . Under 3D mode, the radar can detect objects from three sections, namely distance, speed and Yaw Angle, and the range of speed is  $\pm 28\text{m/s}$ .

## QUESTIONS AND ANSWERS

### **Does the EVO Max 4T enable Night Obstacle Avoidance and Water Surface Obstacle Avoidance ?**

Yes, the millimeter-wave radar mounted on the aircraft accomplishes Night Obstacle Avoidance and Water Surface Obstacle Avoidance.

### **What remote controller comes standard with the EVO Max 4T?**

The EVO Max 4T comes standard with the Autel Smart Controller V3, which features a 7.9-inch retina touch screen with original color display with a resolution of 2048×1536 and a maximum brightness of 2000nit, four times that of regular mobile devices.

### **Does the remote controller have custom buttons?**

The remote controller designed with 2 customizable buttons at the top, which enables the customized functions to be set through the APP, so as to realize the quick control of the drone.



## QUESTIONS AND ANSWERS

### **How many interfaces does the remote controller have?**

The remote controller top has 1 Type-C, 1 HDMI and 1 USB-A for connecting external devices or charging.

### **What's the transmission range between remote controller and aircraft?**

In an open environment without interference, the transmission range is 12.4 miles/20km FCC, 4.3 miles/7km CE.

### **How many frequencies does the remote controller support?**

902-928MHz (FCC)

2.400-2.4835GHz

5.150 – 5.250GHz (FCC, CE, UKCA)

5.725-5.850GHz (Non- Japan)

5.650-5.755GHz (Japan Only)

\*Operating frequency varies by country and model.

### **How to place its antenna?**

Align the antenna's flat wide surface with the aircraft.

## QUESTIONS AND ANSWERS

### **How long it takes to charge the remote controller?**

About 2 hours.

What's the working time?

About 3 hours (Max. Brightness)

About 4.5 hours (50% Brightness)

### **Does the remote controller support HDMI output?**

Yes, it does.

### **What's the built-in storage space?**

The built-in storage is 128GB, but it does not support external SD card expansion storage.

### **Can the payload be replaced?**

The modular design enables the payload replace.

### **What sensor does the EVO Max 4T payload come with?**

Wide camera, zoom camera, thermal imaging camera and laser rangefinder.

### **What types of shooting formats does the camera support?**

Photo Format: JPG/HEIF/IRG

Video Format: MOV/MP4

## QUESTIONS AND ANSWERS

### **Does the EVO Max 4T support temperature measurement?**

Yes, it does and equipped with the temperature analysis tool – IR PC TOOL.

What factors will affect the temperature measurement accuracy of the EVO Max 4T?

1. Atmospheric influence: the higher the temperature and the humidity of the atmosphere, the greater the error of temperature measurement.
2. The distance between the camera and the object to be measured: the farther the distance is, the greater the temperature measurement error.
3. Object emissivity and background temperature: when the surface emissivity of the measured object is low, the background temperature is high, it will cause a large temperature measurement error.

### **What is the capacity and energy of a single battery?**

The capacity is 8070mAh and the energy is 120Wh.



## QUESTIONS AND ANSWERS

### **How does the battery self-discharge work?**

If the battery is stored at a high temperature or out of use for 6 days with high battery level, the self-discharge will be activated to automatically discharge the battery to a safe level. This is the default setting, and the discharge process takes 2-3 days. It is normal that there is no any battery indicator and the battery is slightly hot during the self-discharge process.

### **How does the battery self-heating work?**

If the battery temperature is lower than 10°C after battery inserted into the aircraft and activated, the battery self-heating will be triggered and it will be deactivated automatically once the aircraft took off.

Please note that when the battery temperature is lower than -10°C, the aircraft will not be allowed to take off. It is recommended to operate the aircraft once self-heating completed.

## QUESTIONS AND ANSWERS

### **Can batteries be carried on the plane?**

The battery capacity is 120Wh and can be carried while it can't be checked according to airline requirements.

### **What software is supported?**

Autel Enterprise only currently.

### **Which industries can it be applied to?**

It can be used in many fields, such as law enforcement, power inspection, emergency rescue, construction inspection, etc., to satisfy the data collection in daily work and complete the task stably and efficiently.





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