

UAVX640

Thermal Industrial Drone



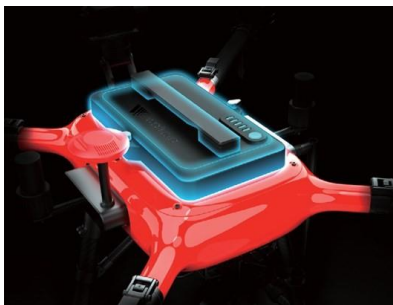
The SATIR UAVX640 is a cutting-edge drone designed for optimal performance and safety. Featuring a modular, foldable design, it is highly portable and easy to deploy.

Equipped with dual magnetic compasses and a GNSS+grid RTK system, the UAVX640 offers precise positioning and navigation, ensuring reliable flight operations. Its advanced obstacle avoidance system, including 360-degree sensing, significantly enhances safety. With a long flight time of 54 minutes and a substantial payload capacity of 8kg, this drone is capable of handling demanding tasks.

The UAVX640 also boasts a robust build, with IP54 protection against water, dust, and corrosion, making it suitable for various environmental conditions.

Key Features

- 640 X 512 IR Detector (1280x1024 Optional)
- Foldable Design
- IP54 Protection Level
- Intelligent Flight Battery
- 12km Image Transmission
- Industry Specific Software



UAVX640 Specifications

Aircraft	
Symmetrical motor wheelbase	1047mm
Outline size	1140mm x 1140mm x 531mm (Arm extended, blade folded)
	514 mm x 439 mm x 469mm (Arm Folded)
Motor	kv value: 180rpm/v
Electric regulation	Continuous current: 80a (Good heat dissipation condition)
Blade specification: diameter pitch	24x7.9 inch
Standard take-off weight	7.8kg (including battery)
Maximum take-off weight	15.8 kg (sea level)
Maximum rising speed	5 m/s
Maximum descent speed	3 m/s
Maximum horizontal flight speed	GPS mode: 5m/s (windless environment), Cruise mode: 3-20m/s adjustable (windless environment) Attitude mode: 25m/s (windless environment)
Maximum pitch angle	positioning mode: 40°, Cruise mode: 40°, Attitude mode: 40°
Maximum rotation speed	Pitch axis: 100 °/S
Maximum allowable wind speed	17m/s
Maximum flight time	54minutes (no load)
Maximum flight altitude	5000m
Recommended operating temperature	0°C~ +40°C
Hover accuracy (with rtk)	vertical: ± 10cm horizontal: ±5cm
Hover accuracy (Without rtk)	vertical: ± 0.5 m horizontal: ± 0.1 m
Laser radar obstacle avoidance system	
Obstacle sensing range	0.5m-40m @90% reflectivity (100Klux), 0.5m-13.5m @10% reflectance
FOV	Horizon 3°
Measuring frequency	50 Hz
Yaw	360°
Pitch	±90°
Detection distance	≤ 40 m

Network RTK	
Frequency band	GPS: L1/L2/L5 GLOINASS: F1/F2 Beidou: B1/B2/B3 Galileo: E1/E5
Orientation accuracy	0.2 °/1m baseline, Horizontal: 1cm+1ppm
Positioning accuracy	Level: 1cm+1ppm, Vertical: 2cm+1ppm, 1ppm: for every increase of 1km, The accuracy will deteriorate by 1mm.
Positioning update rate	1hz, 2hz, 5hz, 10hz and 20hz
Cold start	<45s
Hot start	<10s
Recapture	<1s
Initialization reliability	>99.9%
Differential data transmission format	Rtcm 2.X/3.X
Data link	4g
Communication distance	Unlimited distance (with 4g network signal)
Working environment temperature	0°C to 45°C

Camera	
Image sensor	1/2.3inch SONY IMX117 CMOS
Lens Pixel	12MPixels
ISO range	100-3200(video)/100-6400(photo)
Video resolution	4K 30fps
Photo resolution	3840x2160
Focal length	6.7-134.5mm
Focus time	7-8 seconds
Zoom magnification	30 X optical zoom
Doubling speed	About 2.0 seconds
Horizontal perspective	59.8°-3.0 (wide angle-telescope)
Close range	more than 5000mm (wide angle-telescope)
Max. Video bit stream	64Mbps
Compression standard	H.264/H.265
Supporting file storage format	JPG/MP4
Support memory card type	Micro-SD card, Max. support:128G, transmission speed of Class 10 or above or up to UHS-1 rating Micro SD card
Gimbal	
Input voltage	12v
Size	136*98*139mm
Weight	452g
Stabilization system	3 axes (pitch, roll, yaw)
Accuracy of angle control	static: $\pm 0.008^\circ$; dynamic: $\pm 0.02^\circ$; Anti-shake: $\pm 0.008^\circ$
Controllable Rotation Range	Pitch: -110° to $+60^\circ$; Horizontal: $\pm 150^\circ$; roll: $\pm 10^\circ$;
Max control speed	pitch: $30^\circ/s$; horizontal: $30^\circ/s$; Roll: direct control angle
Downward View with Fixed Height Module	
Speed measurement range	Flying speed $< 18\text{km/h}$ (height: 2 m, sufficient light)
Altitude measurement range	$\leq 12\text{ m}$
Precise hovering range	$\pm 0.1\text{m}$
Measurement frequency	100hz

Infrared Thermal Imaging	
Detector Type	Uncooled Vanadium Oxide Focal Plane Detector
Resolution	640 X 512 (1280x1024 Optional)
Spectral Range	8 μ m~ 14 μ m
Thermal sensitivity (NETD)	\leq 40mK@f/1.0
Focal length	13mm
Video resolution	640*512@30fps
Measurement Mode	Point temperature measurement, Area temperature measurement, Max/Min Temperature
Colour palette	White hot, black hot, rainbow iron red, amber, etc.
Temperature Range	-20°C - +550°C
Photo shooting mode	Single shot\continuous shot\timed shot
Image Format	TIFF
Laser Ranging	
Wavelength	905nm (eye-safe)
Measuring range	2~1500m
Distance measurement accuracy	$\pm(0.2m+D \times 0.15\%)$, where D represents the distance from the vertical reflecting surface

Remote control SATIR – S12	
Model	SATIR-S12
Operating frequency	2400MHz to 2483MHz
Maximum communication distance	12KM (open without shelter, no electromagnetic interference)
Display equipment	5.5-inch 1920*1080, 1000NITS highlight screen
Charging interface	Type-c
Battery	3.7V 10000mAh LiPo 1S
Endurance time	8-24 hours
Operating temperature	-10°C to 40°C
Charging ambient temperature	5°C to 40°C
Weight	600g
Size	190*152*94 mm
Intelligent Flight Battery	
Voltage	45.6V
Capacity	1400mAh
Discharge rate	10C
Battery type	LiHV 12S

Mountable Parts



The dual 4K HD 3-lens camera

The X640 dual 4K ultra HD three-lens camera integrates visible light fixed focus wide-angle camera, visible light zoom camera, thermal imaging camera and laser range finder in one, supported by advanced intelligent algorithms, bringing unprecedented sensing and imaging capabilities to industry-level UAVs. Use with Walkera industrial drones to bring a new experience to all-weather operations. Support point temperature measurement, area temperature measurement, and high temperature alarm can visually display different temperature ranges, helping you quickly and accurately locate the target object. Support real-time target recognition, target location and target tracking functions.

- Thermal image camera sensor 640x512
- 160 times hybrid optical zoom
- Laser range 1200m
- Visible light and thermal imaging linkage zoom
- Smart night view enhancement
- IP44 protection class



Visible light and thermal imaging dual-display



Support point temperature measurement, area temperature measurement and high temperature alarm



30X 4K Optical Zoom Camera

4K 30fps high-definition recording, super long-distance monitoring, details at a glance. Make power communication facilities inspections, traffic patrols, bridge inspections and other tasks safer and more efficient.



Communication Facility Inspection

Traffic Patrols

Bridge Inspection

UAVX640

Applications

Multi-purpose Gas Analyzer (Custom Edition)

Application Environment
Detection.



Environment Detection

Megaphone

Application police reconnaissance.



Police Reconnaissance

Water intake apparatus

Application of environmental
water quality testing



River water quality detection

Thrower

Applicated delivery of aiding
materials.



Material delivery

Airborne catapult

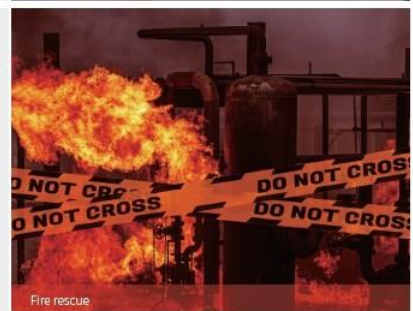
Fire rescue application



Fire rescue

Searchlight

Application police reconnaissance.



Fire rescue