



Alpha Surveying

Alpha 4i

Alpha 4i Ultra RTK

98×53mm | 380g | Leading professional RTK into ultra small era



Alpha 4i

With the latest system framework, and the latest generation positioning engine SoC, Alpha 4i goes beyond the design limitation, and it unloads 50% of the burden for global surveyors successfully. It's with excellent performance and ultra small size.



Ideally made, lightly weight



380g

Material of the Shell:

Made with nano material and wave-transparent top cover, Alpha4i is with aluminum alloy enforced housing. It's with 316 molybdenum steel threaded connector and 5/8 pin interface.

3 Outstanding Technologies



Remarkable performance and experience



Anti-block



Instant fix



high precision

Long battery life

18h



CORS Mode

15h



Radio Receiving Mode

8h



Radio Transmitting Mode

Fully Compatible Transceiver Internal UHF Radio

- Supports various working modes in global regions
- Support 410-470MHz full frequency band
- Compatible with various mainstream RTK protocols
- Output stable solution to 3KM base station surveying area
- Compatible with 35W external radio

All-satellites full-frequency 8cm positioning antenna

Alpha 4i carries all-satellites full-frequency positioning antenna, which, for the first time, shortens the traditional 11cm antenna diameter to 8cm, without losing any signal. With High frequency microwave radiation carrier and electromagnetic band gap Technology, combined four feed points phase center design and high-gain wide beam, Alpha 4i can get instant fixed solution in low elevation and complicated situations.

The latest generation of global positioning SoC chip

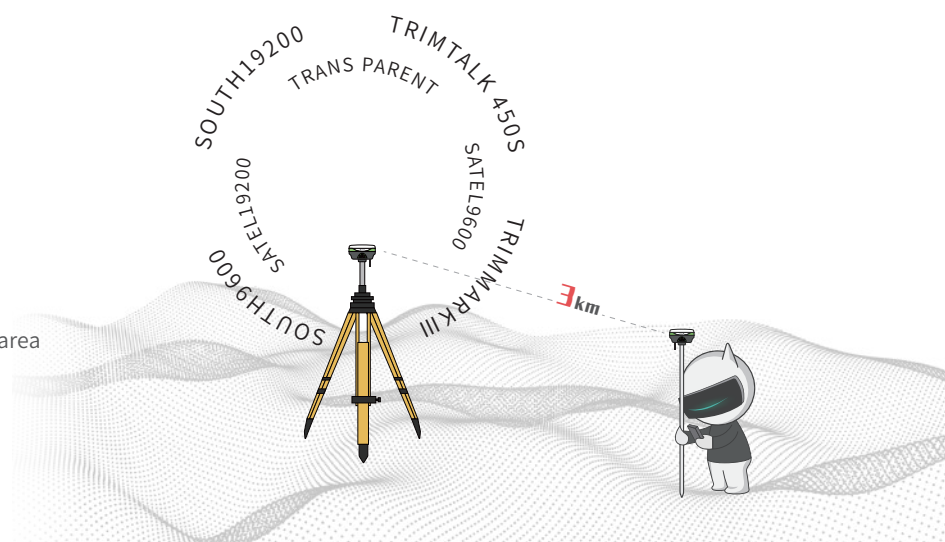
Integrated with the latest generation NebulasIV radio frequency baseband and high-precision algorithm, the latest SoC chip supports all-satellites full-frequency computation algorithms. Independent frequency point tracking and 60 dB narrow band anti-interference, make it continue to positioning even lose satellite signal.

Embedded real-time operating system RTOS

Embedded military class real-time operating system RTOS for the first time, Alpha 4i can fully satisfy RTK development requirement and is more compatible with IoT application scenario. RTOS system is widely used in spacecrafts, missiles, robots, Tmall Elf and other IoT devices for its lower power consumption, smaller volume and real-time instant response.

Globally supports 7 satellites 24 frequencies of the 7 major satellites

Satellite System	Frequency point/signal
GPS	L1C/A, L1C, L2C, L2P, L5
BDS	B1I, B2I, B3I, B1C, B2a, B2b
GLONASS	G1, G2, G3
Galileo	E1, E5a, E5b, E6
QZSS	L1C/A, L1C, L2C, L5
SBAS	L1
NAVIC	L5



90° Inertial Navigation



Covered Place



Jungle



Underground



Dangerous Point



Buildings



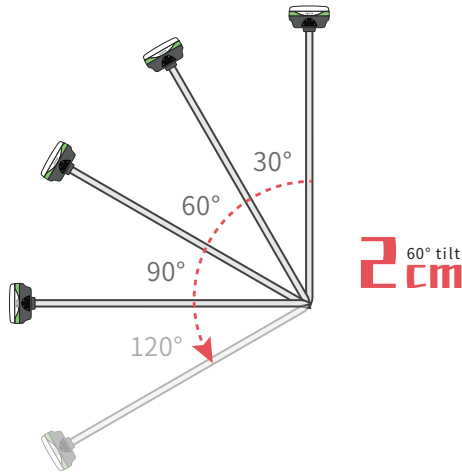
Hiding Point



Level Point



Hang Point




Fast initialization IMU, support tilt measurement with 2CM accuracy when tilt angle 60°. IMU can still work in tilt angle 90° even 120°


Greater Convenience




Hard Plastic Box
Industrial-grade small hard plastic box, 27*23*11cm.



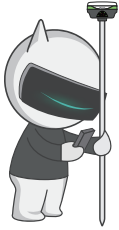
Fast Charging
Power delivery, supports operation with external power banks.




IP67
IP67 dustproof and waterproof, comes with protective rubber gasket, drop-resistant up to 1.5 meters with the pole.




Centering Rod
1.5m portable centering rod, collapses to 50cm.





Colorful Protection Ring (Optional)
Various colorful Protection ring can be selected to make surveying a interesting jobmeters with the pole.



Carrying Bag (Optional)
Optional carrying bag is with ergonomic design, you can use it take 5i RTK or bottled water



Controller Holder
capable of holding a mobile phone



Satellite Differential Service (Upgrading)
Support PPP service for free, can finish convergence in 15mins to get 10cm accuracy

DiMap (surveying software)



DiMap has gone through deep iterations and gained a deep understanding of user survey habits. With built-in rich surveying modules and cloud integration, DiMap is professional, intelligent and easy-to-use.



Base station and rover station configuration linkage



Large scale basemap import and full display for survey and stakeout



Separate management of stakeout records, one click export of record reports



CAD drawing recognition, high efficiency in editing and stakeout



Select multiple points you want to use from points database



Various data formats available to export, such as csv, dxf, kml, etc

Controller

Professional Kit



Alpha Bi Technical Indicators

- OS** Android 10.0 (supports OTA upgrade)
- CPU** 8 cores 2.0Ghz
- RAM** 4G DDR4 + 64G
- SIM Card Type** NanoSIM 4G
- Screen** 5-inch, high-brightness, touchable
- Bluetooth** BT 5.0 BLE
- Battery** 5200mAh Up to 20 hours
- Keyboard** 12 buttons, backlight keyboard
- Weight** 335g

Android Phones

Install DiMap, bluetooth access operation



Professional set



Alpha 4i	×1
Radio antenna	×1
Adapter	×1
Data cable	×1
Controller	×1
Controller bracket	×1
Controller data cable	×1
Centering rob	×1
Instructions	×1
Carrying Case	×1

Technical Specification

GNSS	Channels	1408
	Signal Tracking	GPS: L1C/A, L1C, L2C, L2P, L5
		BDS: B1I, B2I, B3I, B1C, B2a, B2b
		GLONASS: G1, G2, G3
		Galileo: E1, E5a, E5b, E6
		QZSS: L1C/A, L1C, L2C, L5
SBAS: L1		
	NAVIC: L5	
High Precision Static	H: $\pm (2.5+0.5 \times 10^{-6}D)$ mm	
	V: $\pm (5+0.5 \times 10^{-6}D)$ mm	
	H: $\pm (8+1 \times 10^{-6}D)$ mm	
RTK	V: $\pm (15+1 \times 10^{-6}D)$ mm	
	Accuracy	$\pm (8+0.3TILT)$ mm
Tilt Compensation	*Angle	0~120°
	Update Rate	100Hz
	Operating System	RTOS
System Parameters	Data Record	DAT
	Bluetooth	BT5.0 Backward compatibility
	Power	1w
Radio	Frequency	410-470MHz
	Global Communication Protocol	TRIMTALK 450S、TRIMMARKIII、SOUTH9600、SOUTH19200、SATEL9600、SATEL19200、TRANS PARENT
	Operation Mode	Transceiver
	Voltage	5-12V Power Delivery
Power	Working Time	18h (Network Mode)、15h (Radio Reception)、8h (Radio Transmission)
	SMA	Connecting the radio antenna
Port Indicator	Type-C	For charging & Data connection
	Indicator Lights	satellite, datalink, bluetooth, battery light
	Dimension	98mm*53mm(Excluding 5/8 pin interface)
Physical	Weight	380g
	Operating Temperature	-30°C ~ +70°C
	Storage Temperature	-40°C ~ +80°C
Environmental	Water/Dust Proof	IP67
	Shock	Normal temperature resistance of 1.5 m drop (hard ground)
	Humidity	Up to 100%

*The above technical parameters are for your reference. The company reserves the right to change the design and planning of the product based on the actual product.

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