

# specification >>>

## Performance specification

Satellite signals tracked simultaneously	GPS: L1 C/A, L2C, L2P/L5 GLONASS: L1, L2, L3 BEIDOU: B1, B2, B3, B1C, B2a, B2b GALILEO: E1/E5a/E5b/E6 QZSS: L1/L2/L5/L6 SBAS: WAAS, EGNOS, MSAS, GAGAN, SDCM
Channels	1720
Cold start	<60 s
Hot start	<15 s
Positioning output rate	1Hz-20Hz
Signal Reacquisition	<1s
RTK Initialization time	<5s
Initialization Reliability	>99.99%
Time accuracy	20 ns

## Positioning<sup>1</sup>

Static GNSS surveying	Horizontal: ±(2.5mm + 0.5ppm) Vertical: ±(5mm + 0.5ppm)
RTK Surveying	Horizontal: ±(8mm + 1.0ppm) Vertical: ±(15mm + 1.0ppm)

## HARDWARE

<b>PHYSICAL</b>	
Material	Magnesium alloy
Dimensions	120mm*72mm(without bottom connector 20mm)
weight	0.76kg
Operating temperature	-40°C to +75°C
Storage temperature	-55°C to +85°C
Protection IP	IP67 dust proof, protected from 30min immersion to depth of 1m
Shock	Survive 2 m drop onto the concrete
Vibration	MIL-STD-810G
Humidity	100%, condensing

<b>IMU</b>	
IMU	Supported, 4D IMU initialization in 3 seconds
IMU update rate	400Hz
IMU accuracy	<2.5cm within 30°
IMU tilt compensation	0-120°

<b>ELECTRICAL</b>	
Power	9-24V DC external power
USB Type-C fast charging	Support
Battery capacity	Internal 7000mAh lithium-ion battery
<b>Working Time</b>	
Network Mode	>24h
Radio Reception	>18h
Radio Transmission	>8h

## Communication & Data Storage

I/O interface	5pin Lemo port, TNC port
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<b>RADIO MODEM</b>	
internal radio	TX/RX internal module
internal radio frequency	410-470 MHz
Communication protocols	Alphatalk15, Transparent transmission /TT450S/SOUTH

<b>Bluetooth</b>	
Fully integrated Bluetooth V4.0, range ≤ 50m	

<b>Data format</b>	
Differential data	RTCM2.X, RTCM3.X
GPS output data format	NMEA 0183s RTK, Binary code
static data format	RINEX

<b>Storage</b>	
8GB internal memory, supports cyclic storage; with ability to collect over one year raw observation based on 5 seconds interval	

<b>Others</b>	
<b>System integration</b>	
OS system	Intelligent LINUX operating system
Supported controllers	All android devices with supported software

<b>Design</b>	
Key	one button
Indicator	Power indicator, data link indicator, satellite indicator, Bluetooth indicator

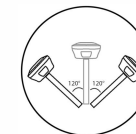


# α-GEO

## Matrix II Lite



**PRECISE** you can trust



IMU Tilt Sensor



Battery & Power



IP67