

S3AR Specifications

GNSS Performance			System	
Satellites tracking	GPS	L1CA, L2P(Y), L2C, L5	Operation system	Linux
	BDS	B1, B21, B31, B1C, B2a, B2b	Internal memory	8 GB
	GLONASS	L1, L2	TNC	Connect internal radio with antenna
	GALILEO	E1, E5a, E5b, E6	Type-c port	Charge and data transmission
	QZSS	L1,L2,L5,L6	Web UI	View status, update firmware, set upworking mode, download data, etc.
	NavIC	L5,		Intelligent voice
	SBAS	WAAS, GAGAN, MSAS, EGNOS, SDCM	MEMS	Fast initialization, dynamic tilt survey up to 60°
L-Band	B2b PPP (Only for the Asian-Pacific region)HAS			
Channels	1408			
Cold start	<30 seconds			
Warm start	<20 seconds			
Hot start	<5 seconds			
RTK signal initialization	5 seconds			
Initialization reliability	>99.9%			
Update rate	20 Hz			
High precision static	H: 2.5 mm + 0.1 ppm RMS    V: 3.5 mm + 0.4 ppm RMS			
Static and Fast Static	H: 3 mm + 0.5 ppm RMS    V: 5 mm + 0.5 ppm RMS			
RTK	H: 5 mm + 0.5 ppm RMS    V: 10 mm + 0.5 ppm RMS			
Standard point positioning	H: 1.5 m RMS    V: 2.5 m RMS			
Code differential	H: 0.4 m RMS    V: 0.8 m RMS			
SBAS	H: 0.3 m RMS    V: 0.6 m RMS			
Correction data	RTCM V3.X,RTCM2.CMR			
Data output	GGA, ZDA, GSA, GSV. GST.VTG, RMC, GLL, Binary			
Power supply				
Battery	Rechargeable			
Voltage	Built-in Lithium-ion battery x1			
	3.6V-10000 mAh			
	Support 20w fast charging			
	12v Type-C			
1: it will be supported through future firmware update.				
2: it is only available for radio protocol "satel", and the radio firmwareis later than G001.02.27.				

Physical	
Dimension	Φ120MMX71.5MM
Weight	513g
Operating temperature	-30°C~+60°C
Storage temperature	-40°C~+80°C
Water dust proof	IP68
Shock	Withstand topple over from a 2 msurvey pole onto hard surfacesSurvive a 1.2 m free drop
Vibration	Vibration resistant
Humidity	Up to 100%
Indicators	Satellites, datalink, battery
Button	Power button, short press to voicebroadcast working mode and status
Certificate	CE, FCC
Internal Radio	
Type	TX/RX Built-in 1W transmitting radio
Frequency range	410-470 MHZ
Channel spacing	6.25 KHz' / 12.5 KHz/ 25 KHZ
Protocol	Satel, PCC, TrimTalk, TrimMark III, TRANSEOT(PCC-GMSK),South, HiTargetGEOTALK, GEOMK3, HZSZ
Visual configuration	
Pixel	2 MP
Frame	25 Hz
FOV	88°
Photosensitivity	Micro-light level high sensitivity
Stakeout accuracy	3 cm





Realistic stakeout - One Step in Positioning

Satellite navigation+inertial navigation+visual fusion algorithm, not affected by electromagnetic interference, precise layout.By combining RTK with imaging, the stakeout points are marked on the spot in the image, allowing for quick point finding and one-step positioning.Dual AR for controller and receiver, immersive real scene stakeout, seamless switching, fast and accurate



As a fully functional visual stakeout inertial navigation RTK receiver,

S3 AR has a compact design and strong performance. The overall size is 120mmx71.5mm, and the weight is even lighter to 513g, making it lightweight and convenient for outdoor work.

	 S1 AR	 S3 AR	Compared to the previous generation, it has improved
Diameter (cm)	15.2	12.0	Reduce 21%
Height (cm)	9.2	7.2	Reduce 22%
Weight ( g )	900	513	Reduce 43%

Typical applications of inertial tilt measurement technology

The fourth generation inertial tilt measurement technology , is not affected by electromagnetic interference and does not require bubble centering. It can be measured with a pole and can be used for stake out by walking . 50% increase in work efficiency with a 60 degree inclination and an accuracy of 2 cm .

