

GNSS Features	T14&T14lite
Channels	1698
GPS	L1, L1C, L1C/A, L2C, L2P, L5
GLONASS	L1, L2, L3
BDS	BDS-2: B1I, B2I, B3I BDS-3: B1I, B3I, B1C, B2a, B2b*
GALILEO	E1, E5A, E5B, E6, AltBOC*
SBAS	L1*
IRNSS	L5*
QZSS	L1, L2, L5*
MSS L-Band*	Reserve
Positioning output rate	1Hz~20Hz
Initialization time	< 10s
Initialization reliability	>99.99%

Positioning Precision	
Code Differential Positioning	Horizontal: 0.25 m + 1 ppm RMS Vertical: 0.50 m + 1 ppm RMS
GNSS Static	Horizontal: 2.5 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS
Static (long observation)	Horizontal: 2.5 mm + 0.1 ppm RMS Vertical: 3 mm + 0.4 ppm RMS
Rapid Static	Horizontal: 2.5 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS
PPK	Horizontal: 3 mm + 1 ppm RMS Vertical: 5 mm + 1 ppm RMS
RTK(UHF)	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS
RTK(NTRIP)	Horizontal: 8 mm + 0.5 ppm RMS Vertical: 15 mm + 0.5 ppm RMS
SBAS positioning	Typically<5m 3DRMS
RTK initialization time	2~8s
IMU tilt angle	Additional horizontal pole-tilt uncertainty typically less than 8mm+0.7mm/°tilt (0°~60°)**

Hardware performance	
Dimension	134mm(Φ)×79.1mm(H)
Weight	880g (battery included)
Material	Magnesium aluminum alloy shell
Operating temperature	-45°C~+75°C
Storage temperature	-55°C~+85°C
Humidity	100% Non-condensing
Waterproof /Dustproof	IP68 standard, protected from long time immersion to depth of 1m IP68 standard, fully protected against blowing dust Withstand 2 meters pole drop onto the cement ground naturally
Shock/Vibration	
Power supply	6-28V DC, overvoltage protection
Battery	Inbuilt 6800mAh rechargeable Lithium-ion battery
Battery life	18h (rover mode)

* Reserve for future upgrade

** Total tilt angle of 120°

Remarks: Measurement accuracy and operation range might vary due to atmospheric conditions, signal multipath, obstructions, observation time, temperature, signal geometry and number of tracked satellites. Specifications subject to change without prior notice



Communications	
I/O Port	5-PIN LEMO interface (external power port + RS232) Type-C interface (charge+OTG+Ethernet) UHF antenna interface SIM card slot (Micro SIM)
Internal UHF	2W Radio receiver and transmitter
Frequency range	410-470MHz
Communication Protocol	Farlink, Trimtalk, SOUTH, Transparent, Satel
Communication Range	Typically 8km with Farlink protocol
Cellular Mobile Network	2G / 3G / 4G
Bluetooth	Bluetooth 3.0/4.1 standard, Bluetooth 2.1+ EDR
NFC	Support
Communication Modem	802.11 a/b/g/n standard

Data Storage/Transmission	
Storage	16GB SSD internal storage Automatic cycling storage Support external USB storage (OTG) The customizable sample interval is up to 20Hz
Data Transmission	Plug and play mode of USB data transmission Supports FTP/HTTP data download Static data format: STH, Rinex2.01, Rinex3.02 and etc. Differential: RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1, RTCM 3.2, CMR/+,MSM GPS output data format: NMEA 0183, PJK plane coordinate, Binary code, Trimble GSOF Network model support: VRS, FKP, MAC, fully support NTRIP protocol
Data Format	

Sensors	
IMU	Built-in IMU module, calibration-free
Camera	Visual positioning camera: 8MP (can be used in AR stakeout, optional for T14lite) AR stakeout camera: 2MP
Electronic bubble	Controller software can display electronic bubble, checking leveling status of the carbon pole in real-time Built-in thermometer sensor, adopting intelligent temperature control technology, monitoring and adjusting the receiver temperature
Thermometer	

User Interaction	
Operating system	Linux
Buttons	Single button
Indicators	Satellites, data and power indicators With access to Web UI via WiFi or USB connection, users can monitor the receiver status and change the configurations
Web interaction	
Voice guidance	Chinese/English/Korean/Spanish/Portuguese/Russian/Turkish/French/Italian
Secondary development	Provides secondary development package, and opens the OpenSIC observation data format and interaction interface definition The powerful cloud platform provides online services like remote management, firmware updates, online registers, etc.
Cloud service	



T14/T14lite

Dual cam RTK

Visualize Scenes



□ Farlink 2.0

□ 1698 Channels

□ 4th Generation IMU

T14/T14lite

□ 3D Modeling

□ 3 Ways of Processing

□ Visual Positioning & Stakeout



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More **Versatile**
than Traditional RTK

Leveraging visual positioning, surveyors can efficiently operate in the field. Image data, stored for an extended period, is reusable at any time. These capabilities are especially well-suited for unique GNSS measurement tasks, such as documenting accident scenes and excavation sites for urban public facilities.



More **User-friendly**
than Traditional RTK

T14 visual positioning feature is labor-saving, allowing surveyors to remotely measure points up to 10 meters or more (in ideal conditions), eliminating the need to physically approach each point. This method significantly reduces physical effort in fieldwork.



More **Efficient**
than Traditional RTK

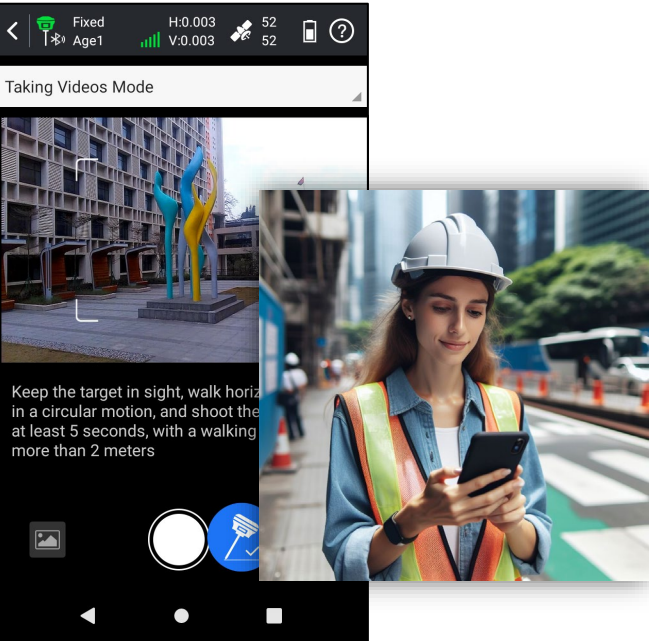
T14 processes a group of photos or a video in real-time, obtaining coordinates for hundreds of points within minutes. It outpaces traditional RTK in data acquisition speed. T14 also has a broader working range and fewer blind spots, enabling remote measurements in areas with poor GNSS signal quality. Previously challenging spots, like spaces under rooftops and areas with obstacles, are now easily measurable.

More **Safe**
than Traditional RTK

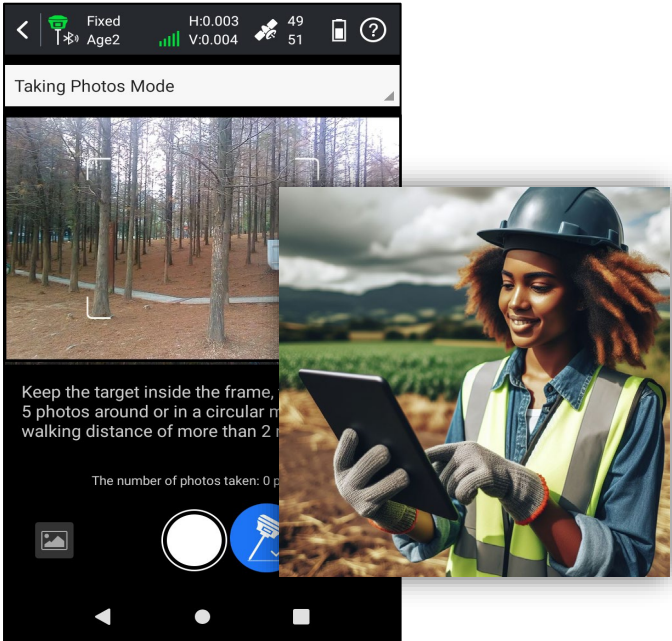
Visual positioning helps users mitigate risks when surveying near hazardous areas, such as busy roads and lakes, ensuring surveyors' safety. A secure working approach is not only a personal requirement but also essential for the well-being of your family.

Three Ways to Process--Tailored for Your Work Needs

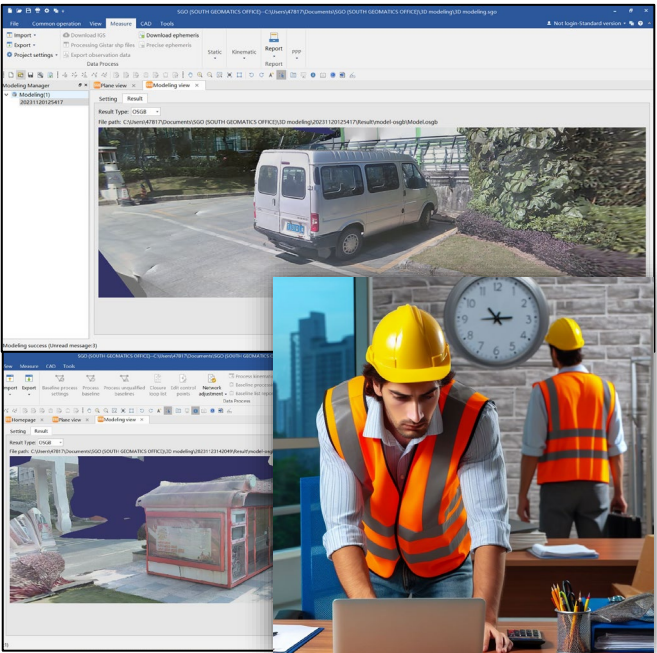
1. Cloud Server Online Processing



2. Data Controller Offline Processing



3. Desktop Software Processing



Designed for
Field Surveying

Designed for
Urban Surveying

Designed for Users with
Tight Fieldwork Schedules

3D Modeling—Original Reality Reversion



Eyes on Now, Be Prepared for Future

T14 facilitates streamlined single-user 3D modeling, visually presenting geographic information such as coordinates, areas, and volumes. Effortlessly convert model data into various formats and tailor coordinate parameters to meet the needs of different applications.



Ensuring a Seamless Path to Your Success

T14 utilizes SANDING's 3D modeling technology, integrating image measurements seamlessly with UAV data from DJI and other brands. Addressing data gaps in UAV surveys, T14 enhances survey outcomes by supplementing incomplete models with ground image data collection.



Work in the Manner that Suits You Best

Surveyors can integrate T14 data into SANDING UAV and third-party modeling software for efficient 3D modeling. Upcoming versions of SGO (PC) and ArcSurv (Android App) will incorporate 3D modeling functions, enabling users to choose the most suitable software for optimal work efficiency based on their specific scenarios and task requirements.

AR Stakeout

Stakeout **Intuitively** with Live-view Video Display

Explore T14 AR stakeout for fast and precise work. Follow real-time guidance on the data controller display, eliminating the need for constant compass checks or pole leveling. T14 broadens its applications by facilitating stakeouts of lines and curves, catering to more intricate tasks.

Farlink 2.0

Less Limitation **Better Performance**

Meet Farlink 2.0, featuring upgraded hardware and firmware for efficient data handling and stable transmission. Its communication range of 8-12km efficiently covers extensive working areas without frequent relocation.

Farlink 2.0 supports Lock Base function, effectively connecting to the correct base, even in situations with multiple bases on the same frequency.

Furthermore, each radio undergoes robust temperature-changing testing (-20°C to 60°C) to ensure device durability.

The 4th Generation IMU

Almost **All-time Usable**

The fourth-generation update eradicates IMU loss problems during direction changes or receiver adjustments, ensuring reliable usability in scenarios like AR stakeout and 3D modeling. Move at your preferred pace without concerns about IMU loss, enhancing workflow smoothness.