StellarLaser GeoSync RTK RECEIVER

X5

Overall Features

Spatix: Product introduction

A global satellite-ground integrated space-time service that can provide 7x24 hours of high-precision positioning services worldwide.
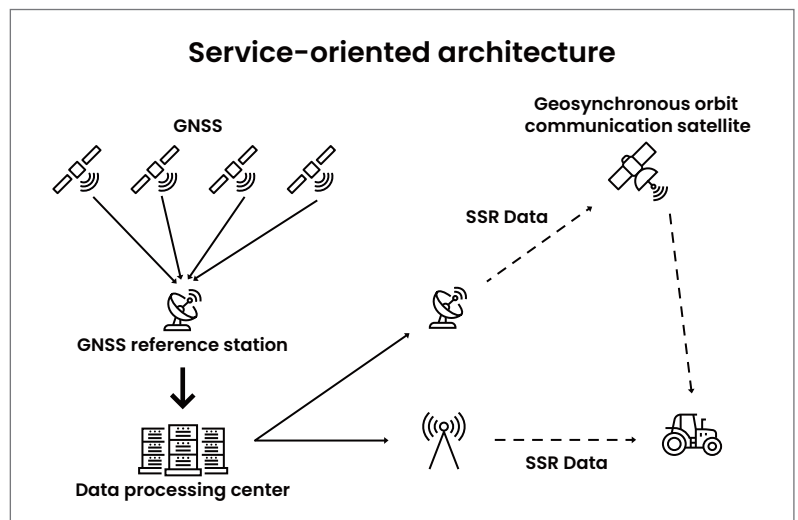
Ground-based augmentation service
Broadcast OSR data through the ground network, centimeter-level positioning,
covers major countries in Europe, Asia and Africa.

Satellite-based augmentation service
Broadcast SSR data through the satellite L-band, centimeter-level positioning,
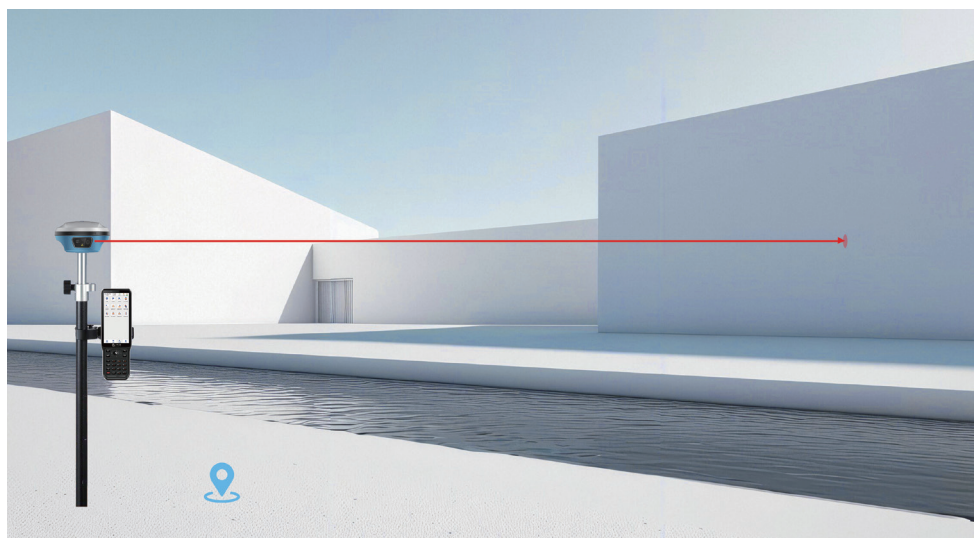covers major countries in Europe, Asia and Africa.

Network-based PPP service
Broadcast SSR data through the ground network, centimeter-level positioning, covers the world.

Service-oriented architecture

Contactless Hybird Measurement

1. Non-contact measurement with laser targeting.
2. High-power laser ensures 50m effective range.
3. Industry-leading long-focus imaging for precise targeting of small objects at distance.
4. Accuracy up to 2cm.

Overall Features

Dual-camera AR Stakeout

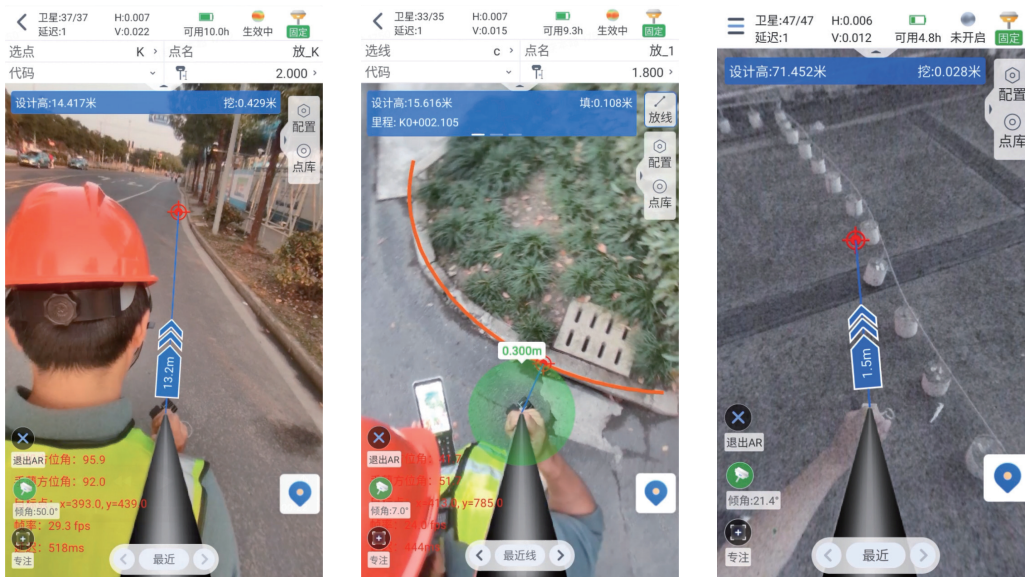**A dual-camera AR visualization solution for precise point Stakeout:**

Long-range orientation
Uses a front-facing camera to determin initial positioning and alignment.
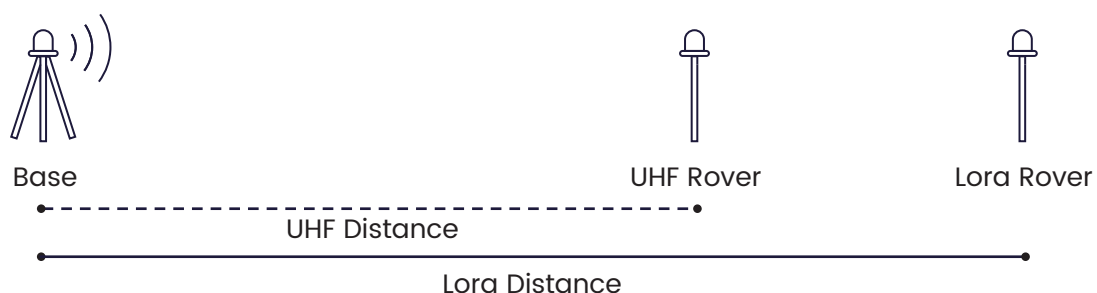
Close-range precision
Switches to a bottom camera for centimeter-level accuracy in final point placement.

Eliminates the need for manual north-seeking or instrument collimation, streamlining workflows with real-time 3D AR guidance.

LoRa-Enabled Extended Communication

Supports LoRa long-range communication protocols, extending operational range by **150% compared to traditional radios**. Maintains compatibility with standard radio protocols for seamless integration with existing GNSS equipment and field networks.

Handheld Data Controller & APP Features

HC6

HC6 is an industrial-grade rugged handbook specially designed for the surveying and mapping field.

Thin and large screen
thinnest to 1.5cm only

Powerful performance
8-core processor

Full keyborad quick input
of industrial codes

Reliable quality industrial
tri-proofing feature and
low-tem-perature battery

MetriX APP

More than 2,000 kinds of
coordinate projections worldwide

Multiple measurement methods
and commonly used tools

Supports CAD and operations
with drawings

Supports industry applications
such as roads and photovoltaics

Product Specification

GNSS①

Satellite system	
GPS	L1C, L1C/A, L2P, L2C, L5
BDS	B1I, B1C, B2a, B2b, B2I, B3I
GLONASS	L1C/A, L2C/A
Galileo	E1C/A, E5a, E5b, E5AltBoC, E6C
QZSS	L1C, L1C/A, L2C, L5
SBAS	L1C/A, L5
IRNSS	L5
MSS L-Band	QXWZ XStar
Channels	1520
Static accuracy	Horizontal: ± (2.5+0.5×10^{-6}D)mm Vertical: ± (5+0.5×10^{-6}D)mm
RTK accuracy	Horizontal: ± (8+1×10^{-6}D)mm Vertical: ± (15+1×10^{-6}D)mm
XStar accuracy	Horizontal: ± 2.5cm Vertical: ± 10cm
Initialization reliability	99.9%

Spatix Service②

NOSR	Time initialization < 5s
NSSR	Time initialization < 6min
LSSR	L-band, Time initialization < 8min

Laser Long-Distance Measurement

Operation Method	Image-assisted laser focusing, with long focal length supporting target point zoom
Effective Range	0.1m~50m
Ranging Accuracy	±1mm
Ranging Resolution	1mm
Measurement Accuracy	±2cm@5m, ±3cm@10m, ±5cm@20m, CEP95
Eye Safety Level	CLASS 2（IEC60825-1:2014）

Wireless Communication

Bluetooth/Wi-Fi	Supported
Radio mode	Built-in Rx/Tx radio
Radio type	Lora
Radio frequency band	410 MHz – 470 MHz
Radio protocol	Satel/PCC-4FSK/PCC-GMSK/TrimTalk-450s/South-9600/HITARGET-9600/HATARGET=19200/TrimMark-III/South-19200/TrimTalk-4800/GEOTALK/GEOMARK/HZSZ/Satel-ADL/PCCFST/PCCFST-ADL/PCCEOT_SATEL/LORALINK/LORA-TRANSPARENT
Number of Lenses	Supported

GNSS + IMU③

Tilt slope	0~60°
Tilt compensation accuracy	8mm+0.3mm/°tilt（accuracy < 2 cm within 30°）
IMU Rate	200Hz

User Interaction

Operating System	Linux

Buttons	Power switch
Indicators	Battery, satellite/signal integrated
Web UI	Support PC and mobile web pages

Image Stakeout

Number of Lenses	2
Stakeout Accuracy	10mm+(10mm/m)*Distance(m)
Front Lens Field of View	83.4°
Front Sensor Pixel	200W
Front Camera Focal Length	5m
Front Sensor Resolution	1920*1080
Bottom Lens Field of View	83.4°
Bottom Sensor Pixels	200W
Bottom Camera Focal Length	2m
Bottom Sensor Resolution	1920*1080

Physical

Size	Φ143 mm × 82 mm (with bottom nuts)
Material	Magnesium aluminum alloy
Ports	1 Type-C、1 TNC、1 SIM

Electrical

Battery	3.6V 13600mAh lithium-ion battery
Battery life	Internal Radio/ 4G RTK Rover: up to 14 h Lora RTK Base: up to 8 h Static: up to 15 h
External power supply	5V DC

Environmental

Operating temperature	-40℃~ +65℃
Storage temperature	-45℃~ +70℃
Waterproof and dustproof	IP68
Fall-resistance	Resistant to fall from a height of 2m

Handheld Data Controlor

Operating System	Android 9
CPU	8-core 2.0 GHz processor
Memory	3GB RAM + 32GB ROM
Network	4G Full Netcom
LCD	5-inch multi-touch capacitive screen
Battery	5200 mAh removable battery
Camera	13 Million Auto Focus Camera
Waterproof and dustproof	IP67

① Measurements were obtained in an open area with satisfactory distribution of satellites and inactive ionosphere and without radio interference, in strict compliance with the observation and data processing procedures for this kind of devices.

② For coverage of service, please visit our official website. You may choose the available term of service when purchasing the product.

③ Strong vibration may affect the accuracy of IMU.