PARTNERED PRODUCTS

SingularPad
Field Surveying Software

- Full Work Modes Support
- Various Survey & Stakeout Methods
- Bluetooth & Wi-Fi Interaction
- Abundant Data Formats
- Visual & Laser Survey Support
- GNSS Receiver & Total Station

Point Survey	Point Stakeout	CAD Mapping	DSM Stakeout	Stake Road	Volume Calculation	Perimeter and Area	Localization	Survey Range Settings

SC200 DATA COLLECTOR

Powered by Android 11 OS

IP67
IP67 & 1.5m Anti-drop

4G/WiFi/Bluetooth Communication

5.5 inch
5.5" Sunlight-readable Touch Screen

12h
7700mAh Battery for 12h Operating

TF
4GB RAM + 64GB ROM + Extend TF

SATELLITES TRACKING

Channels	1408
BDS	B1I, B2I, B3I, B1C, B2a, B2b
GPS	L1C/A, L1C, L2C, L2P(Y), L5
GLONASS	G1, G2, G3
Galileo	E1, E5a, E5b, E6
QZSS	L1C/A, L1C, L2C, L5
NavIC	L5
SBAS	WAAS, EGNOS, SDCM, BDSBAS, GAGAN
L-Band	Support
Cold start	<30s
RTK Initialization Time	<5s(typical)
RTK initialization reliability	>99.9%
Re-acquisition	<1s

ACCURACY

Standalone	1.5m Horizontally / 2.5m Vertically
DGPS	0.4m Horizontally / 0.8m Vertically
Static Post-processing	2.5mm+0.5ppm Horizontally / 5mm+0.5ppm Vertically
RTK	8mm+1ppm Horizontally / 15mm+1ppm Vertically
PPP	5cm Horizontally / 10cm Vertically
SBAS	< 1.0 m 3D RMS
Time Accuracy	20ns
Tilt Surveying	< ±2.5cm, within 60° Tilt Range
AR Stakeout	8mm+1ppm Horizontally / 15mm+1ppm Vertically
Laser Tilt Measurement	≤5.5cm (5m Range, ≤60°Tilt in Laser Mode)

DATA FORMAT

Data Output Format	- NMEA-0183 / - RINEX 3.02/3.04 / - Binary Format *.xyz
Data Update Rate	1～50Hz Selectable
Correction Data Format	- RTCM v3.3/3.2/3.1/3.0
Supported Protocols	Ntrip client, Ntrip Server, Ntrip Caster, TCP, UDP

COMMUNICATION

UHF Modem[1]	- Working Range: 5km – 15km,[2] in Ideal Environments / - Frequency Range: 410-470MHz / - Protocol (TX & RX): LoRa / - Protocol (RX): TRIMATLK, SATEL, TRANSEOT, TRIMMARK3, etc. / - Channel Spacing: 25KHz / - Transmit Power: 0.5W~2W Selectable
Bluetooth	BT4.0 Dual Mode

All specifications are subject to change without notice.

NFC	Support NFC Connection
WiFi	802.11 a/b/g/n/ac
Interface	- 1 Type-C Interface for Data Transmission and Charging / - 1 SMA Connector for UHF Antenna

VISUAL SENSOR

Sensor Type	Camera
Pixel	Global Shutter with 2 MP
Frame	30 fps
FOV	75°
Feature	Starlight-grade Camera, HD Capture in Weak Light Environment

LASER SENSOR

Range	10m
Accuracy	(3-5)mm + 1ppm
Measuring Frequency	2Hz
Laser Injection Power	2mW~3mW
Laser Tilt Measurement	≤5.5cm (5m Range, ≤60°Tilt in Laser Mode)

USER INTERACTION

Front panel	- 3 LED indicators indicating satellite tracking, differential data transmission and power / - 1 button for power on/off
WebUI	- Accessible via Wi-Fi / - Support Configuration, Status Checking, Data Transfer, Data Storage and System Upgrade

ELECTRICAL

Power Consumption	1.8 W[3]
Input Voltage	DC 5-15V
Battery	- 4200 mAh, up to 12 Hours Working Time / - Fast Charge of 3 Hours Charging Time

PHYSICAL

Size	Φ107 mm × 58.7 mm
Weight	547 g
Storage	8 GB[4]
Housing Material	Magnesium-aluminum Alloy

ENVIRONMENTAL

Working Temperature	-40℃ to + 65℃
Storage Temperature	-55℃ to + 85℃
Humidity	100% Non-condensing
Waterproof & Dustproof	IP67
Drop	Designed to Survive a 2m Drop onto Concrete

1. The enhanced UHF base is not compatible with normal UHF rovers on the market. For different user needs, SingularXYZ also provides normal UHF as an option compatible with UHF of other brands. Please clarify your requirements when placing the order.
2. The maximum working range of the enhanced UHF modem is 15km in ideal environments.
3. The power consumption varies with the different work modes.
4. Storage can be expanded to 32GB according to user demands.

Orion ONE
VISUAL & LASER GNSS RECEIVER
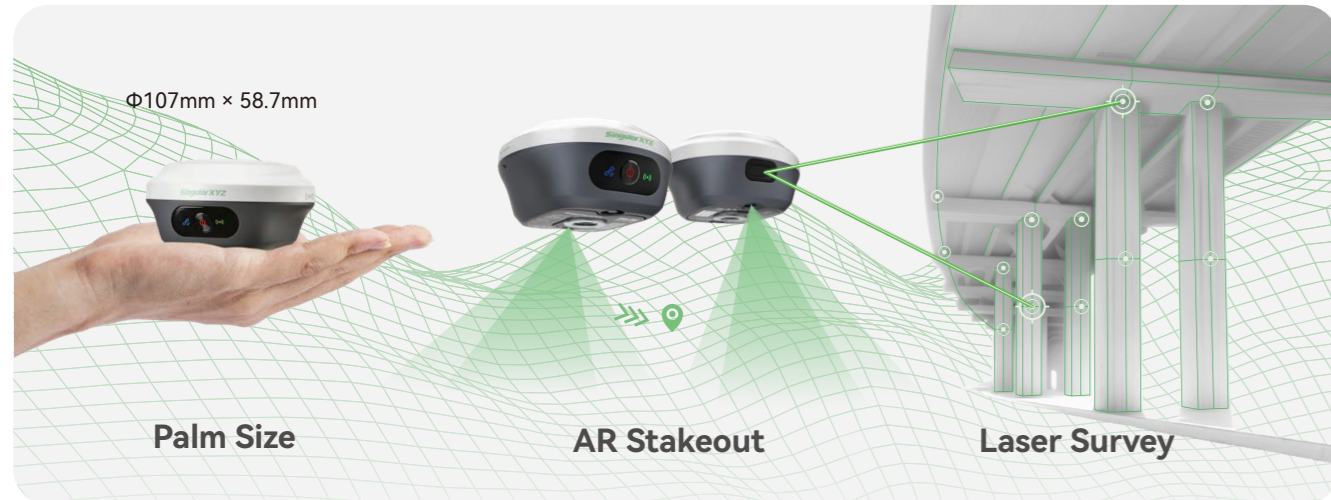
Visual, Laser, IMU – Never Just Surveying

Singular XYZ ®

ORION ONE VISUAL & LASER RTK

To make surveying smarter, SingularXYZ has added a starlight-grade camera and a precise laser module to the Orion ONE GNSS receiver, achieving deep fusion of multiple sensors.

While shrinking the device to the palm size, Orion ONE provides an advanced GNSS engine, immersive AR stakeout, non-contact laser surveying, 60° tilt IMU, 15km enhanced UHF, and rich features to empower your tasks.

Φ107mm × 58.7mm

Palm Size   **AR Stakeout**   **Laser Survey**

Full-Constellation

Web UI Access

60° Tilt IMU

Multi-Sensor

IP67 Protection

12Hrs Battery Life

NFC/Bluetooth/WiFi

Large UHF Coverage

DEEP FUSION OF GNSS, VISUAL, LASER & IMU

INTUITIVE AR VISUAL STAKEOUT

Immersive AR Stakeout
Seamlessly integrates visual AR technology for an immersive experience.

Starlight-Grade Camera
Captures high-quality visuals in low-light or challenging conditions.

Over 50% Efficiency Up
Precise and effortless compared to traditional stakeout methods.

Intuitive & Precise Visual Guidance
Advanced algorithms ensure clear & accurate visual guidance for stakeout.

NON-CONTACT LASER SURVEY
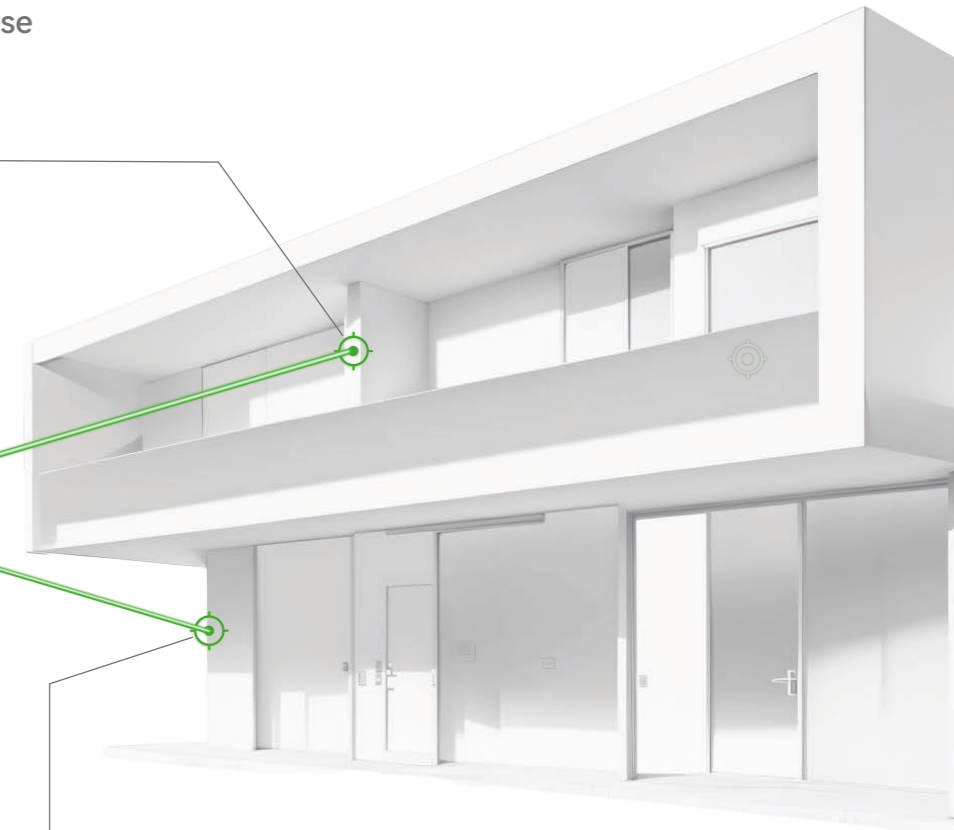### Stay in Place and Measure with Ease

For Difficult-to-Access Points
Enables secure and effective surveying, overcoming physical barriers.

10 m Measure Range   **60°** Tilt Range

For Areas Lack of Satellite Signals
Extends GNSS measurement range using laser in signal-blocked areas.

MORE SURVEYING POSSIBILITIES

Hazardous Points
Busy roadways, hazardous water bodies, construction zones, etc.

Out-of-Reach Areas
Bridge piers, high building facades, elevated structures, etc.

High-Effort Spots
Staircases, steep slopes, challenging terrain, etc.

Signal-blocked Zones
Under eaves, inside buildings, dense foliage, etc.