

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



SC200 DATA COLLECTOR

Powered by  
Android 11 OS

IP67  
IP67 &  
1.5m Anti-drop

4G  
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

Orion ONE GNSS RECEIVER

Version 12-12-2024

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

DATA FORMAT

|                        |                                                           |
|------------------------|-----------------------------------------------------------|
| Data Output Format     | - NMEA-0183<br>- RINEX 3.02/3.04<br>- 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 <sup>1</sup> | - Working Range: Up to 15km with optimal conditions<br>- Frequency Range: 410-470MHz<br>- Protocol (TX & RX): LoRa<br>- Protocol (RX): TRIMATLK, SATEL, TRANSEOT, TRIMMARK3, etc.<br>- Channel Spacing: 25KHz<br>- Transmit Power: 0.5W~2W Selectable |
| Bluetooth              | BT4.0 Dual Mode                                                                                                                                                                                                                                       |

All specifications are subject to change without notice.

©2024 SingularXYZ Intelligent Technology Ltd. All rights reserved. SingularXYZ ® is the official trademark of SingularXYZ Intelligent Technology Ltd., registered in People's Republic of China, EU. All other trademarks are the property of their respective owners.

+86-21-60835489  
+86-21-60835497  
singularxyz@singularxyz.com  
www.singularxyz.com

|           |                                                                                              |
|-----------|----------------------------------------------------------------------------------------------|
| NFC       | Support NFC Connection                                                                       |
| WiFi      | 802.11 a/b/g/n/ac                                                                            |
| Interface | - 1 Type-C Interface for Data Transmission and Charging<br>- 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<br>- 1 button for power on/off |
| WebUI       | - Accessible via Wi-Fi<br>- Support Configuration, Status Checking, Data Transfer, Data Storage and System Upgrade        |

ELECTRICAL

|                   |                                                                                   |
|-------------------|-----------------------------------------------------------------------------------|
| Power Consumption | 1.8 W <sup>2</sup>                                                                |
| Input Voltage     | DC 5-15V                                                                          |
| Battery           | - 4200 mAh, up to 12 Hours Working Time<br>- Fast Charge of 3 Hours Charging Time |

PHYSICAL

|                  |                          |
|------------------|--------------------------|
| Size             | Φ107 mm × 58.7 mm        |
| Weight           | 547 g                    |
| Storage          | 8 GB <sup>3</sup>        |
| Housing Material | Magnesium-aluminum Alloy |

ENVIRONMENTAL

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

<sup>1</sup> 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.

<sup>2</sup> The power consumption varies with the different work modes.

<sup>3</sup> Storage can be expanded to 32GB according to user demands.

SingularXYZ®

SingularXYZ Intelligent Technology Ltd.

Floor 2, Building A, No. 599 Gaojing Road, 201702 Shanghai, China

Orion ONE  
VISUAL & LASER GNSS RECEIVER

Visual, Laser, IMU – Never Just Surveying



SingularXYZ®



# 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.



# INTUITIVE AR VISUAL STAKEOUT

## Immersive AR Stakeout

Seamlessly integrates visual AR technology for an immersive experience.

## Over 50% Efficiency Up

Precise and effortless compared to traditional stakeout methods.

## Starlight-Grade Camera

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

## Intuitive & Precise Visual Guidance

Advanced algorithms ensure clear & accurate visual guidance for stakeout.



# NON-CONTACT LASER SURVEY

Stay in Place and Measure with Ease

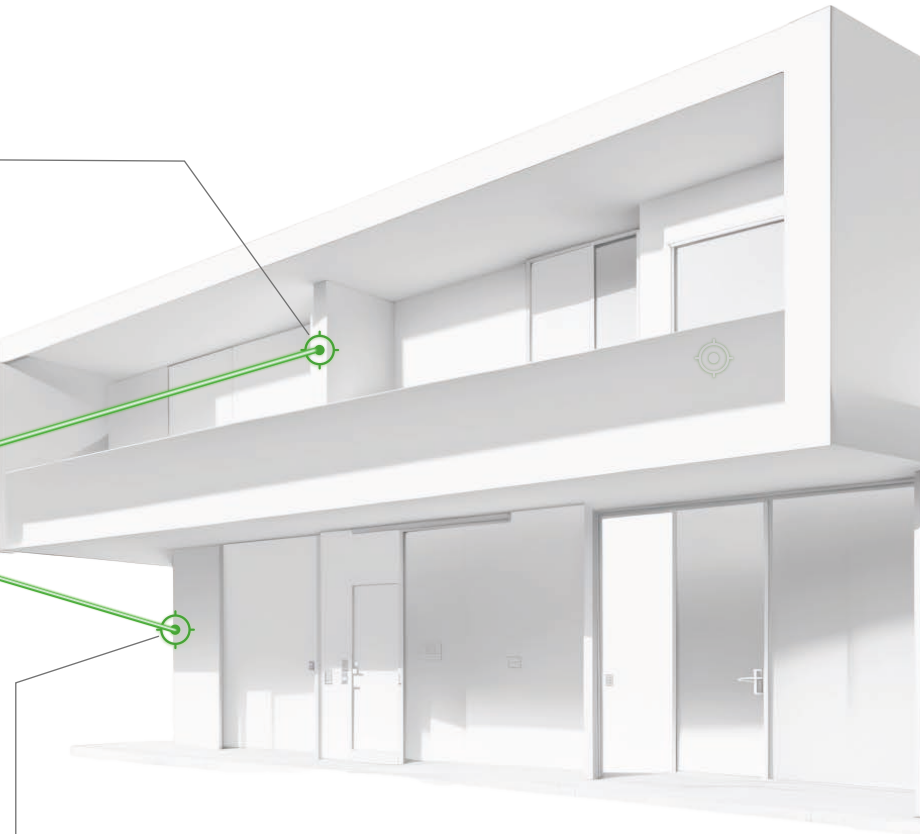
## For Difficult-to-Access Points

Enables secure and effective surveying, overcoming physical barriers.



10m  
Measure Range

60°  
Tilt Range



## For Areas Lack of Satellite Signals

Extends GNSS measurement range using laser in signal-blocked areas.

# MORE SURVEYING POSSIBILITIES

