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

SC300 DATA COLLECTOR



Android
Powered by Android 12 OS

6 inch
6" sunlight-readable touch screen

IP67
IP67 & 1.5m anti-drop

16h
7700mAh battery for 16h operating

4G
4G/WiFi/Bluetooth communication

TF
4GB RAM + 64GB ROM + Extend TF

Orion ONE Series GNSS RECEIVER

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

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	- Working range: Up to 15km with optimal conditions[1] - Frequency range: 410-470MHz - Protocol: LoRa,TRIMATLK,TRANSEOT, SATEL,TRIMMARK3, etc. - Channel spacing:25KHz - Transmit power:0.5W~2W selectable
Bluetooth	BT4.0 Dual Mode
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

(Available for Orion ONE & Orion ONE-AR)

Sensor Type	Camera
Pixel	Global Shutter with 2 MP
Frame	30 fps
FOV	75°
Feature	Starlight-grade Camera, HD Capture in Weak Light Environment
AR Stakeout	8mm+1ppm Horizontally 15mm+1ppm Vertically

LASER SENSOR

(Available for Orion ONE & Orion ONE-Laser)

Laser Class	Class 3R, avoid direct eye exposure
Laser Range	60m [2]
Measuring Frequency	2Hz
Laser Injection Power	2mW~3mW
Accuracy	3cm@10m range, within 60° tilt range

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 maximum UHF range reaches up to 15 km under optimal conditions with LoRa protocol only; other protocols typically offer shorter ranges. Actual performance may vary with environmental conditions.
2. Laser measurement is recommended within 10 m to achieve typical 3 cm accuracy. Max. range reaches up to 60 m under optimal conditions, depending on target reflectivity, ambient light, and weather conditions.
3. The power consumption varies with the different work modes.
4. Storage can be expanded to 32GB according to user demands.

All specifications are subject to change without notice.

©2026 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, USA. All other trademarks are the property of their respective owners.

راوجيوتيك(م.م.ح)الشارقة
RAO GEO TECH.Fze
Authorized Exclusive Partner in UAE of
SingularXYZ®
GIVE YOUR WALKS OF XYZ

info@raogeotech.com
www.raogeotech.com
SRTIP. Block B, Office-B27-046
+971 54 54 19822 UAE Office
+44 7778 009758 UK Office

Orion ONE Series

VISUAL & LASER GNSS RECEIVERS

Visual, Laser, IMU - Never Just Surveying

SingularXYZ®



ORION ONE SERIES VISUAL & LASER RTK

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

While shrinking the device to the palm size, Orion ONE Series 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.

MODEL COMPARISON	Orion ONE	Orion ONE-Laser	Orion ONE-AR
Basic Functionality	✓	✓	✓
Laser Surveying	✓	✓	✗
AR Stakeout (Camera)	✓	✗	✓



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.

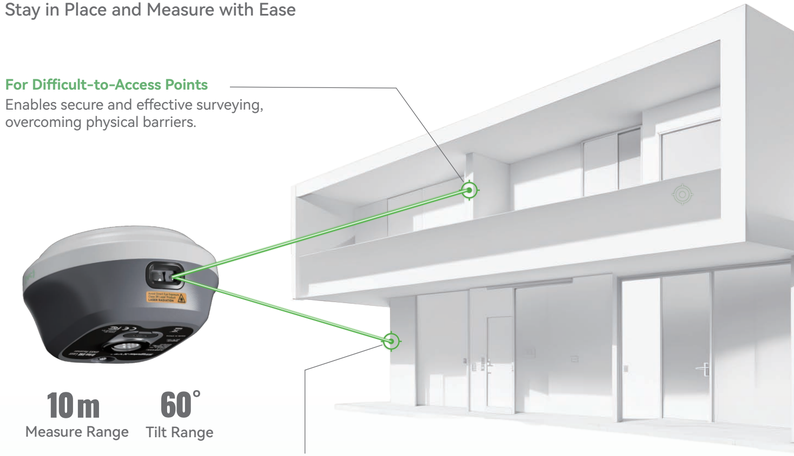
Intuitive & Precise Visual Guidance
Advanced algorithms ensure clear & accurate visual guidance for stakeout.



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

