

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
QZSS	L1, L2, L5
IRNSS	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
SBAS	< 1.0 m 3D RMS
Time Accuracy	20ns
Tilt surveying	< ±2.5cm, within 60° tilt range

SMART BASE SETTINGS

UHF default frequency	460.05 MHz
Base auto-matching range	Radius of 5 meters
Maximum base points record	30 points
Base startup mode	Automatic startup upon power-on
Base configuration interface	- Web UI via Wi-Fi connection - Supports UHF frequency configuration and base point history viewing/editing

COMMUNICATION

4G modem	Supported on X1 and X1 Pro; not available on X1 Lite
UHF modem ¹	-Working range: Up to 15km with optimal conditions - Frequency range: 410-470MHz - Protocol: 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 7-pin lemo port for RS232 transmission and power supply - 1 SIM card slot for 4G(For X1 & X1 Pro only) - 1 TNC connector for UHF antenna - 1 Type-C USB port for static data download & firmware upgrade

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 - CMR

USER INTERACTION

Indicators	4 LEDs indicating battery/charging, satellite tracking, correction data transmission, and 4G status/static recording
Display(For X1 Pro only)	1.1" OLED color display
Button	2 buttons for power and function
WebUI	- Accessible via Wi-Fi - Support configuration, status checking, data transfer, data storage and system upgrade

ELECTRICAL

Power consumption	2.0 W ²
Input voltage	DC 9~28V
Battery	- 6700 mAh

PHYSICAL

Size	Φ133.5 mm × 67 mm
Weight	870 g
Storage	8 GB ³
Housing material	Magnesium-aluminum alloy
Speaker (optional)	For voice broadcast of real-time status

ENVIRONMENTAL

Working temperature	-40 ℃ to + 65 ℃
Storage temperature	-55 ℃ to + 85 ℃
Humidity	100% non-condensing
Waterproof & dustproof	IP68
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 power consumption of X1-series varies with the different work modes.
3. Storage can be expanded to 32GB according to user demands.

All specifications are subject to change without notice.

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X1-SERIES SMART BASE

GNSS BASE SOLUTION FOR AGRICULTURE

Auto-Start, Auto-Match — Accuracy without effort



SMART BASE SOLUTION

As GNSS technology becomes more common in agriculture, more farmers are adopting autosteer systems and other GNSS solutions to boost productivity.

To make base station setup easier for farmers without GNSS experience, SingularXYZ introduces the Smart Base Solution — designed for auto-startup and seamless match history base points, simplifying daily farming operations.



Auto-Startup Base Station

Once placing the smart base at the point, you can power on the base station to startup without conducting complex configuration in the software.

Easy Checking & Editing

Accessed via WiFi, you can visit the web page of the smart base to view all history base point coordinates and edit the UHF frequency and protocol.



History Base Auto-matching

Automatically matches to a recorded base point within 5 meters. If none is found nearby, it creates a new base point and stores it for future use.



FULL-CONSTELLATION

1408 channels for synchronously track GPS, GLONASS, BDS, Galileo, QZSS, Navic and SBAS, delivering reliable and stable GNSS correction data for your agricultural systems.



RADIO COVERAGE

Achieving up to 15km working range in internal radio mode, fully covering your vast farm. You can also choose an optional external radio for larger coverage.

IP68 RUGGED HOUSING

With IP68 waterproof & dustproof design and magnesium-aluminum alloy housing, X1-Series base is not afraid of harsh working environments.



6700MAH BATTERIES

Built-in battery with 6700mAh large capacity supports your whole day farming task and 3-hour fast charging.

FAQ - Why do we need auto-matching function?

When starting the base in auto-base mode or placing it with slight offset, each startup can shift the coordinate reference — leading to misaligned AB lines. The auto-matching function ensures the base uses the same coordinates when placed within 5 meters of a previous location, keeping your AB lines stable and consistent across tasks.

PRECISION AGRICULTURE SOLUTIONS

SAGRO200 AUTOSTEER SYSTEM

Designed for precision agriculture, SAgro200 automated steering system delivers $\pm 2.5\text{cm}$ pass-to-pass auto-steering accuracy for varieties of tractor types & farm work types, aiming to improve your agricultural resource utilization and productivity.



SL100 GNSS LAND LEVELING SYSTEM

Compared with traditional laser land leveling, the GNSS-based SL100 will no longer be limited to the weather, distance or terrain, realizing 24/7 all-weather working while maintaining $\pm 20\text{mm}$ elevation accuracy, greatly improving work efficiency.

SAGRO10 GNSS GUIDANCE SYSTEM

The SAgro10 GNSS guidance system provides two positioning modes, sub-meter navigation accuracy in single-point smooth mode, and centimeter-level accuracy in RTK mode. It can easily be upgraded to an automatic steering system for your further needs.

