Y1 GNSS RECEIVER

BASE STATION SOLUTION

For Your Precision Agriculture

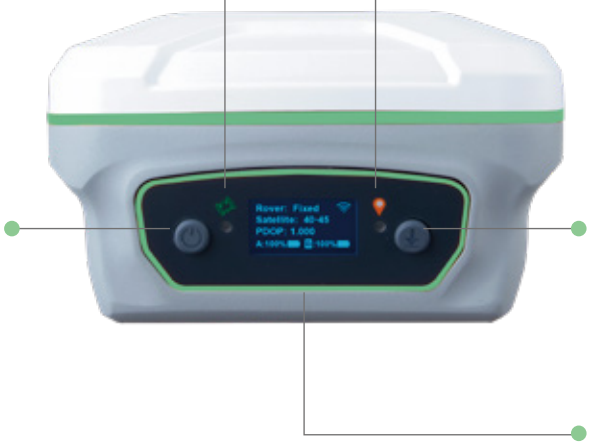
SingularXYZ®

Y1 GNSS RECEIVER BASE STATION SOLUTION

Y1 GNSS Receiver Base Station Solution is designed to deliver stable and reliable RTK correction data for your agricultural systems. With easy configuration via OLED display, large coverage of UHF/4G, rugged design for outdoor environments, this solution can satisfy most of your requirements, providing you with a cost-effective choice with first-class performance.

Satellite Tracking Indicator:
Flash N times every 5s,
N – Num of tracking satellites

Power/Configure Button:
Long press to turn on/off the receiver, short press to enter menu or configuration



Correction Data Indicator:
Flash once per second when TX/RX correction data

Switch Button: Long press to switch on/off static data recording, short press to switch options

OLED Display:
Display receiver status and configuration

Y1 GNSS Receiver can also be used to measure the AB guidance lines for auto-steering/guidance systems, without driving the tractor across the whole farm to generate guidance lines, largely saving your resources and energy.

FULL-CONSTELLATION

1598 channels for synchronously track GPS, GLONASS, BDS, Galileo, QZSS, Navic and SBAS, delivering reliable and stable GNSS correction data for your agricultural systems.

EASY CONFIGURATION

No additional configuration software and equipment required, Y1 can be easily configured through its OLED display and functional buttons, which is farmer-friendly.

LARGE COVERAGE

The enhanced UHF of Y1 can achieve up to 15km working range with 2W power, fully covering your vast farm and reducing your burden without the need of external radio.

FLEXIBLE COMMUNICATION

Integrated with 4G/UHF/WiFi/Bluetooth/USB/serial port, you can flexibly select the way you need for communication.

RUGGED HOUSING

With IP67 waterproof & dustproof design and magnesium-aluminum alloy housing, Y1 is not afraid of harsh working environments.

6600MAH BATTERIES

Hot swap batteries with 6600mAh large capacity support more than 12hrs working time and less than 3hrs charging time.

PRECISION AGRICULTURE SOLUTIONS

SAGRO100
AUTO-STEERING SYSTEM

Designed for precision agriculture, SAgro100 automated steering system delivers 2.5cm 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 20mm 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.

Y1 GNSS RECEIVER

Version 02-02-2023

SIGNAL TRACKING

Channels	1598
GPS	L1C/A, L2P, L2C, L5, L1C
BDS	B1I, B2I, B3I, B1C, B2a, B2b
GLONASS	L1, L2, L3
Galileo	E1, E5a, E5b, E6, E5 AltBoc
QZSS	L1C, L2, L5, L1C/A
Navic	L5
SBAS	WAAS, EGNOS, SDCM, BDSBAS, GAGAN

ACCURACY

RTK reliability	> 99.99%
RTK initialization	< 10s
Hot start	< 15s
Cold start	< 50s
Re-acquisition time	< 1s
Static post-processing	± 2.5mm+0.5ppm Horizontally ± 5mm+0.5ppm Vertically
RTK	± 8mm+1ppm Horizontally ± 15mm+1ppm Vertically
RTD	± 0.5 m Horizontally ± 1.0m Vertically
SBAS	< 1.0 m 3D RMS
Tilt surveying	< 2.5cm, within 60° tilt

DATA FORMAT

Data recording formats	RINEX 2.X, 3.X, binary data
Correction data formats	RTCM 2.x, 3.x, CMR, CMR+[1]
Data output formats	NMEA-0183 messages, binary data
Data output rate	1Hz, 2Hz, 5Hz, 10Hz, 20Hz
Supported protocols	VRS, FKP, MAC, Ntrip

COMMUNICATION

BT	BT4.0
Wi-Fi	IEEE 802.11 a/b/g/n 2.4G 5G, support configuration & data download via web UI
4G	FDD-LTE B1/B3/B5/B7/B8 TDD-LTE B38/B39/B40/B41 TDSCDMA B34/B39 WCDMA B1/B2/B5/B8 GSM B2/B3/B5/B8 CDMA1x/CDMA2000 BC0/BC1
UHF modem[2]	- Frequency range: 410 – 470Mhz - Channel Spacing: 250 kHz - Transmit power: 0.5W/1W/2W selectable - Working range: 5km – 15km[3]
Interface	1 7-pin lemo port for RS232 transmission and power supply 1 SIM card slot for 4G 1 TNC connector for UHF antenna

ELECTRICAL

Power	6-28V DC
Battery	2×3300mAh, 3.6V, more than 12 hours working time
Power consumption	< 2.85 W[4]

PHYSICAL

Size	12.3 × 12.3 × 7.0cm
Weight	834 g, with batteries inside
Memory	8 GB
Display	0.93” OLED display
Button	2 buttons for power/enter and function
Indicator	2 LEDs indicating satellite tracking and correction data
Housing	Magnesium-aluminum alloy
Speaker	For voice broadcast of real-time status
NFC	NFC easy connection

ENVIRONMENTAL

Working temperature	-30℃ ~ +65℃
Storage temperature	-40℃ ~ +85℃
Waterproof & dustproof	IP67
Shock and Vibration	Designed to survive a 2m drop onto concrete
Humidity	100% no condensation

Note:

1. The CMR and CMR+ formats are only for GPS.
2. The enhanced UHF modem is not compatible with the normal UHF modem 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.
3. The maximum working range of the enhanced UHF modem is 15km in ideal environments.
4. The power consumption of Y1 varies with the different work modes.

All specifications are subject to change without notice.

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

SingularXYZ®
SingularXYZ Intelligent Technology Ltd.
Floor 2, Building A, No. 599 Gaojing Road, 201702 Shanghai, China