

 **SHEREFIX**

SP30

GNSS RTK SYSTEM

● **Laser Surveying**

● **AR Real-scene Stakeout**

SP30 GNSS Receiver

SP30 is a multifunctional GNSS receiver integrating AR and laser modules. It features a built-in high-precision positioning module that supports satellite signal tracking across all frequencies. It is equipped with 4G full network access, Bluetooth, Wi-Fi, and a 5W LoRa radio. Its built-in high-precision inertial navigation module, AR real-scene staking module, and camera-assisted laser measurement module provide a premium "what you see is what you measure" measurement experience.



Receive all satellite signals



SP30 integrates high-precision positioning module, configures 1408 high-speed channels, supports BDS B1I, B2I, B3I, B1C, B2a, B2b(PPP-B2b), GPS L1C/A, L1C, L2C, L5, GLONASS L1, L2, L3, Galileo E1, E5a, E5b, E6(PPP-E6), QZSS L1, L2, L5, SBAS and NavIC(IRNSS).

AR real-scene stakeout



Professional ultra-wide-angle camera, providing high-definition real-scene staking function, and more convenient real-scene stakeout application, makes your stakeout easier and more intuitive.

Camera-assisted Laser surveying



SP30 is equipped with a high-precision millimeter-level laser ranging module equipped with photography assistance, combined with the high-precision inertial navigation, to achieve measurement anywhere and better cope with various complex environments.

Ultra-long endurance



The built-in large-capacity battery enables it to operate continuously for more than 24 hours in the Rover mode.



Characteristic



- ARM Cortex-A7
- Linux intelligent system



- BDS ,GPS ,GLONASS, Galileo ,QZSS, SBAS, NavIC
- 4G, Radio, Bluetooth, WiFi



- Centimeter level positioning
- Positioning accuracy of *less than 2cm* within the tilt range of 60°



- High-capacity lithium battery
- Ultra long battery endurance



C500 Data Controller

C500 control terminal is a new Android 12 data collector launched by Spherefix, using Qualcomm's latest industrial grade processor. Equipped with a standard all English keyboard and a 5.5-inch 500nit display screen made of Gorilla glass, it is clear and easy to read in sunlight. In addition, C500 is equipped with Bluetooth 5.0, dual band 2.4G/5G WiFi, and a 4G modem that supports global networks. The built-in 9000mAh battery provides long-lasting endurance, and IP68 protection makes C500 perform well in challenging environments, making data collection tasks easier and more efficient.



Key Features

- 5.5-inch sunlight readable HD touch screen
- 8-core 2.0GHz CPU
- Android 12 operating system
- 4GB RAM + 64GB ROM
- 13MP rear camera
- IP68 certified grade, water/shock/dust proof
- 9000mAh(Support Rapid Charing)
- Wi-Fi, Bluetooth and 4G
- Type-C (USB3.0 Supports OTG) .



ITEM	SPECIFICATION	REMARKS
HARDWARE SYSTEM	ARM Cortex-A7	
	Linux	
GNSS	GPS	L1C/A, L1C,L2P(Y), L2C,L5
	GLONASS	L1, L2, L3
	BDS	B1I, B2I, B3I, B1C, B2a, B2b
	GALILEO	E1, E5a, E5b, E6
	QZSS	L1, L2, L5
	SBAS	L1
	NavIC(IRNSS)*	L5*
	Channel	1408 channels
	Data format	NMEA-0183
	Correction I / O Protocol	RTCM3.X
POSITIONING ACCURACY	Data update frequency	20Hz
	Recapture Time	<1s
	Cold Boot	<40s
	Single(RMS)	Horizontal: 1.5m; Vertical: 2.5m
	DGPS(RMS)	Horizontal: 0.4m; Vertical: 0.8m
	RTK(RMS)	Horizontal: $\pm(8\text{mm}+1\text{ppm})$; Vertical: $\pm(15\text{mm}+1\text{ppm})$
	Time Accuracy(RMS)	20ns
SYSTEM	Static Accuracy(RMS)	Horizontal: $\pm(2.5\text{mm}+1\text{ppm})$; Vertical: $\pm(5\text{mm}+1\text{ppm})$
	Speed Accuracy(RMS)	0.03m/s
	Tilt compensation Accuracy (within 60°)	<2cm
	Laser Surveying	The three-dimensional error of laser tilt surveying within 5m distance is $\leq 2.5\text{cm}$
	Bluetooth	BR+EDR+BLE
	WIFI	802.11 b/g/n
	Network	LTE FDD: B1/2/3/4/5/7/8/18/19/20/25/26/28 LTE TDD: B38/39/40/41 WCDMA: B1/2/4/5/6/8/19 GSM: B2/3/5/8
INDICATOR	Data Radio	Transceiver station Frequency: 410~470MHz Power: 1W/2W/5W Air baud rate: 9600, 19200bps Protocol: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT, CSS-11000, CSS-12000, CSS-15000, CSS-18000 (lora)
	Storage	32GB
	AR Camera	Support AR real scene stakeout Sensor Size: 1/2.8 inch Aperture: f/2.5 Pixel: 1920*1080px Angle of view: D: 70.3° H: 62.7° V: 38.6° Distortion: <0.38%
	Laser Aiming Camera	Sensor Size: 1/3.06 inch Aperture: f/2.9 Pixel: 4224*3200px Angle of view: D: 44° H: 35° V: 26.5° Distortion: <1%
BATTERY	Power Indicator	Show power status
	Satellite Indicator	Show position status
	Bluetooth Indicator	Lights up when Bluetooth is connected
	Data link Indicator	Show differential signal status
ENVIRONMENT	Battery	7.4V,10000mAh
	Battery Endurance	More than 24 hours (In Phone network data link mode)
	Charge	Support USB PD 12V/2A, USB DCP 5V/3A Support external power supply 9~24VDC
	Working Temperature	-20°C~+60°C
PHYSICAL	Storage Temperature	-20°C~+70°C
	Anti-vibration	Resistant to 1.5m drop with pole at room temperature
	Protection	IP68
	Material	Magnesium alloy shell+ABS/PC plastic top cover
	Dimension	Φ145.7mm*93.6mm
	Weight	1000g
		TBD

► Manufacturers may update parameters at any time, please refer to the latest product information.