PHEREFIX

SP30Pro

GNSS RTK SYSTEM

SP30Pro GNSS Receiver

SP30Pro is a multi-functional GNSS receiver that integrates AR and Image Surveying (IS) modules. It has a built-in high-precision positioning module, which supports the tracking of satellite signals at all frequency points. The device is completely equipped with 4G Full-netcom, Bluetooth, WIFI, and a built-in 5W data transmission radio. Its high-precision inertial navigation module integrates IS and AR real scene stakeout, greatly expanding the boundaries of surveying & mapping.

HEIGHT	DIAMETER	WEIGHT
86.6mm	145.7mm	1000g

Receive all satellite signals

SP30Pro 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.

Image surveying

SP30Pro is equipped with a 1/2.6-inch high-definition wide-angle camera, integrated with high-precision inertial navigation algorithms, and combined with a high-performance Android controller to achieve high-precision image surveying.

Ultra-long endurance

The built-in large-capacity battery ensures continuous operation 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
- IMU60°, positioning accuracy of less than 2cm

- High-capacity lithium battery
- Ultra long battery endurance

- Solid *magnesium alloy* shell
- In line with *IP68* design requirements, safe and reliable

- Support AR high-definition real scene stakeout
- Support high-definition image surveying

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	
OS		Linux	
GNSS	GPS	L1C/A, L1C,L2P(Y), L2C,L5	
	GLONASS	L1, L2, L3	
	BDS	B1I, B2I, B3I, B1C, B2a, B2b	Support PPP-B2b
	GALILEO	E1, E5a, E5b, E6	Support PPP-E6
	QZSS	L1, L2, L5	Support SBAS
	SBAS	L1	
	NavIC(IRNSS)*	L5*	Requires latest firmware support
	Channel	1408 Channels	
	Data format	NMEA-0183	
	Correction I / O Protocol	RTCM3.X	
	Data update frequency	20Hz	
	Recapture Time	<1s	
	Cold Boot	<40s	
POSITIONING ACCURACY	Single(RMS)	Horizontal: 1.5m; Vertical: 2.5m	
	DGPS(RMS)	Horizontal: 0.4m; Vertical: 0.8m	
	RTK(RMS)	Horizontal: ±(8mm+1ppm); Vertical: ±(15mm+1ppm)	
	Time Accuracy(RMS)	20ns	
	Static Accuracy(RMS)	Horizontal: ±(2.5mm+1ppm); Vertical: ±(5mm+1ppm)	
	Speed Accuracy(RMS)	0.03m/s	
	Tilt compensation Accuracy (within 60°)	<2cm	
SYSTEM	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	
	Data Radio	Transceiver station Frequency: 410~470MHz Power: 1W/2W/5W Air baud rate: 9600, 19200bps Protocol: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT	
	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%	
	IS Camera	Support Image Surveying Sensor Size: 1/2.6 inch Focal Distance: 3.27mm Aperture: f/2.8 Pixel: 1920*1080px Angle of view: D: 51.8° H: 42.4° V: 32.4° Distortion: <0.5%	
INDICATOR	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	
BATTERY	Battery	7.4V,10000mAh	TBD
	Battery Endurance	More than 24 hours (In Phone network data link mode)	TBD
	Charge	Support USB PD 12V/2A, USB DCP 5V/3A Support external power supply 9~24VDC	
ENVIRONMENT	Working Temperature	-20℃~+60℃	
	Storage Temperature	-20℃~+70℃	
	Anti-vibration	Resistant to 1.5m drop with pole at room temperature	
	Protection	IP68	
PHYSICAL	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.

PHEREFIX

FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception,
which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC’s RF Exposure guidelines, This equipment should be installed and operated with minimum 20cm distance between the radiator and your body: Use only the supplied antenna.