PHEREFIX

SP35Pro

GNSS RTK SYSTEM

Photogrammetry

AR Real-scene Stakeout

SP35Pro GNSS Receiver

SP35Pro is a multi-functional GNSS receiver that integrates AR and Photogrammetry 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 1.5W LoRa radio. Its high-precision inertial navigation module integrates Photogrammetry and AR real-scene stakeout, greatly expanding the boundaries of surveying & mapping.

HEIGHT	DIAMETER	WEIGHT
86mm	134mm	770g

Receive all satellite signals

SP35Pro 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

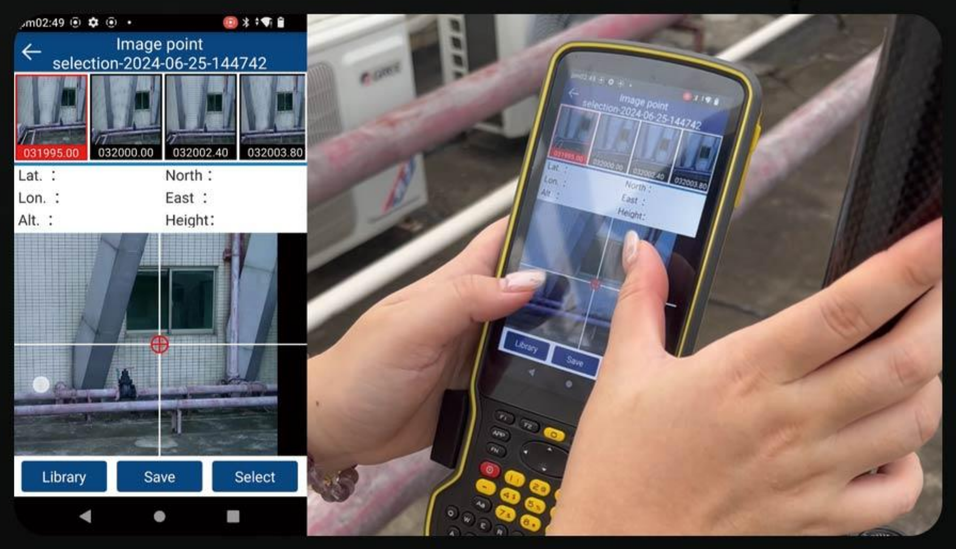
Professional ultra-wide-angle camera, providing high-definition real-scene staking function, and more convenient real-scene stakeout application, makes your stakeout easier and more intuitive.

Photogrammetry

SP35Pro 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 Photogrammetry.

Lightweight & Portable Design

Combining a magnesium alloy shell and plastic top cover with compact internal layout, SP35 achieves an ultra-light 770g weight. Engineered for field use, it maintains accuracy while enhancing field mobility.



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	
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	
	RTK Initialization Time	≤10s	
	Internal noise level	≤1mm	
	Phase Center Offset	≤2.5mm	
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	
	AR Stakeout	Horizontal: ±（8mm+1ppm） Vertical: ±（15mm+1ppm）	
	Laser Surveying	The three-dimensional error of laser tilt surveying within 5m distance is ≤2.5cm	
SYSTEM	Bluetooth	BR+EDR+BLE	
	NFC	Support	
	WIFI	802.11 b/g/n/ac	
	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: 0.5W/1.5W Air baud rate: 4800, 9600, 19200 Protocol: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT, SATEL, LORA	
	Storage	8GB	
	AR Camera	Support AR real scene stakeout Sensor Size: 1/2.8 inch Aperture: f/2.5 Pixel: 1920*1080px Field of view: 69.3°±3° Distortion: <0.38%	
	Photogrammetry Camera	Supports photogrammetry Sensor Size: 1/2.6 inch Focal length: 3.27mm Aperture: f/2.8 Pixel: 1920*1080px Angle of view: D: 83° H: 72° V: 51° Distortion: <0.5%	
BATTERY	Battery	7.4V, 6500mAh	2P2S
	Battery Endurance	More than 16 hours (Typical, Rover, GSM)	TBD
	Charge	Support USB PD 12V/2A, USB DCP 5V/3A	
ENVIRONMENT	Working Temperature	-30℃~+65℃	
	Storage Temperature	-40℃~+85℃	
	Anti-vibration	Resistant to 2m drop with pole at room temperature	
	Protection	IP68	
PHYSICAL	Material	Magnesium alloy shell+ABS/PC plastic top cover	
	Dimension	Φ134mm*86mm	
	Weight	≤0.77Kg	

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

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