

Sphere360

Real-Time Mapping LiDAR System

○ ***Livox Mid-360 LiDAR***



○ ***Fisheye Camera***

Sphere360 *Handheld LiDAR Scanner*

Sphere360 is an ultra-light handheld LiDAR system engineered for complex environments. Centered on the Livox Mid-360 sensor and a high-performance SLAM engine, it captures survey-grade 3D point clouds under the harshest conditions. Tight fusion of LiDAR, GNSS and INS, together with the PointFlow pre-processor and a post-processing platform, forms an end-to-end data acquisition and refinement solution that delivers dependable results for urban surveying, infrastructure inspection and digital-twin modelling, indoors and out.



HEIGHT	DIAMETER	WEIGHT
32.4cm	16.5*12.0*32.4cm	1.0kg

All-scene high-precision positioning



Leveraging multi-mode SLAM/RTK-SLAM/PPK-SLAM fusion, the system delivers ≤ 5 cm absolute and ≤ 3 cm relative accuracy under optimal conditions, then extends the same performance into GNSS-denied, low-light or heavily vegetated environments without external aids.

Grab-and-go LiDAR pack



At 1 kg and $16.5 \times 12 \times 32.4$ cm, the system sips 25 W and unites controller, storage and hot-swappable battery in a single palm-sized chassis—ready to scan straight out of the case.

True-colour, high-definition 3D capture



Equipped with the MID-360 LiDAR and dual ultra-wide-angle fisheye cameras, the device simultaneously captures fine geometry and authentic texture. The LiDAR streams 200k pts/s over $360^\circ \times 59^\circ$ up to 40m while dual $200^\circ \times 200^\circ$ cameras capture matched texture, delivering coloured point clouds ready for immediate 3D modelling.

Complete data processing chain



The system covers the full chain from acquisition and wireless transfer to on-device preprocessing through the bundled PointFlow software, then feeds straight into the Point Cloud Automata platform for automated classification and post-processing—forming a complete, high-efficiency path from field capture to intelligent analysis.



Characteristic



- Multiple Mapping Mode
- SLAM; RTK-SLAM; PPK-SLAM



- Livox Mid-360 LiDAR
- 40m Range (10% reflectivity)



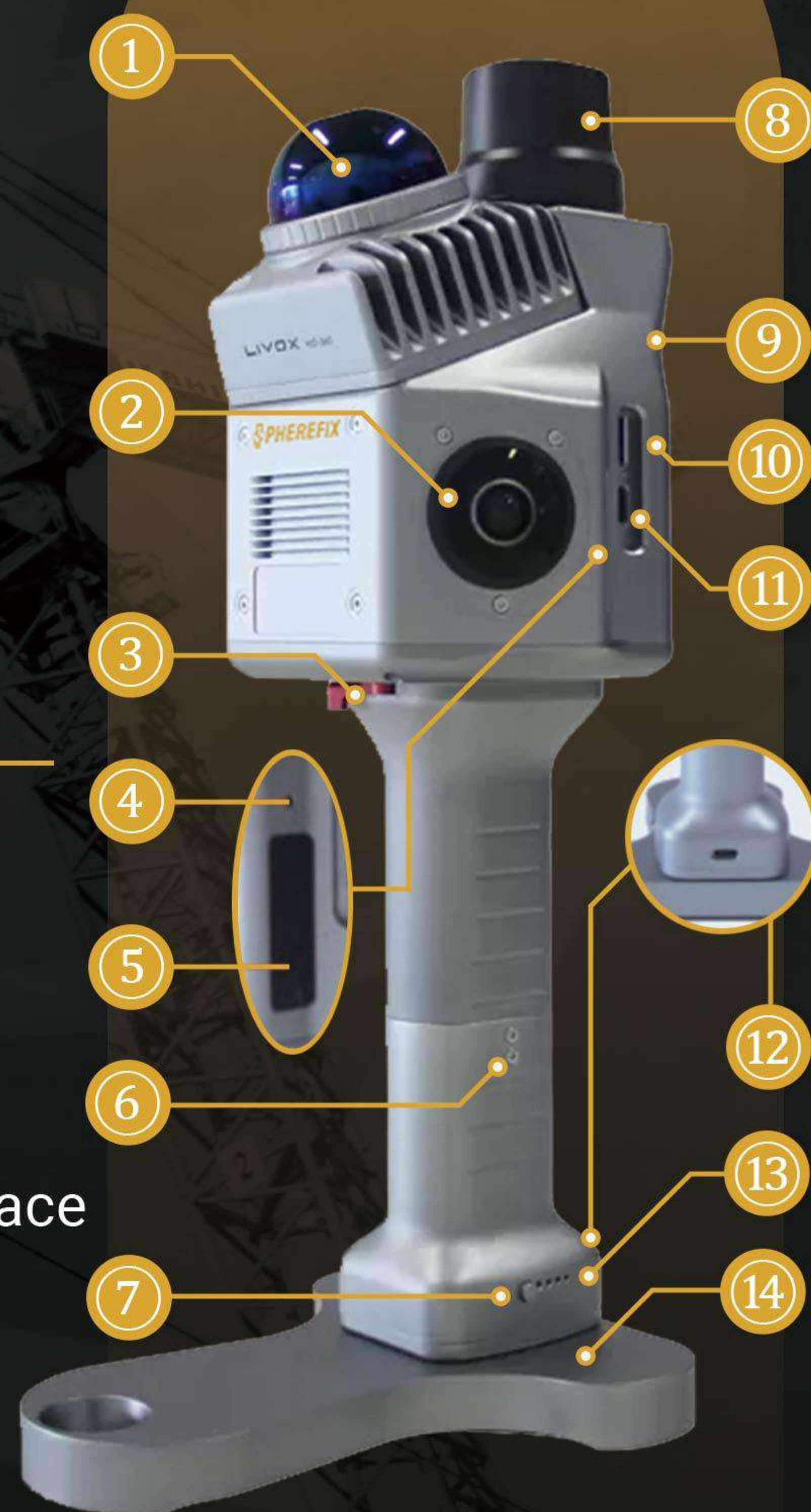
- Centimeter-level
- ≤ 5 cm absolute and ≤ 3 cm relative accuracy



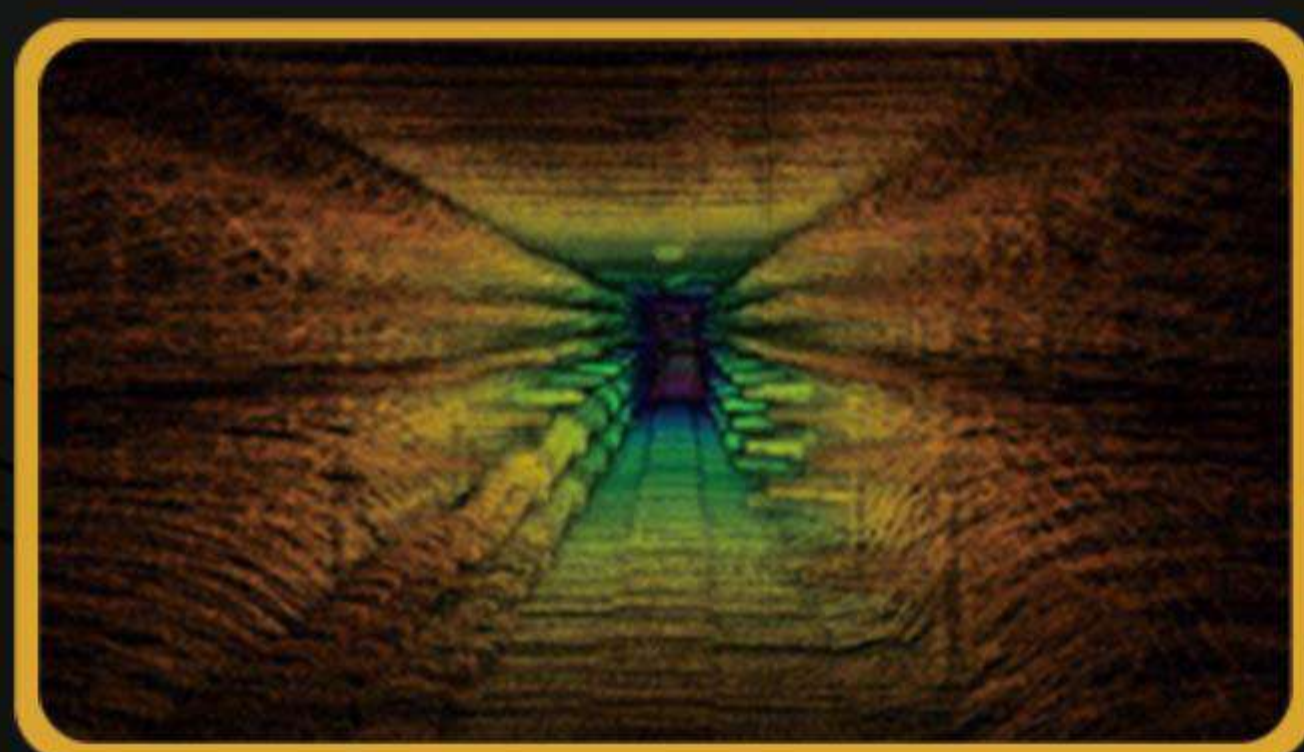
- Large storage capacity
- 64G internal flash memory; 128G MicroSD card

Structure and Parts

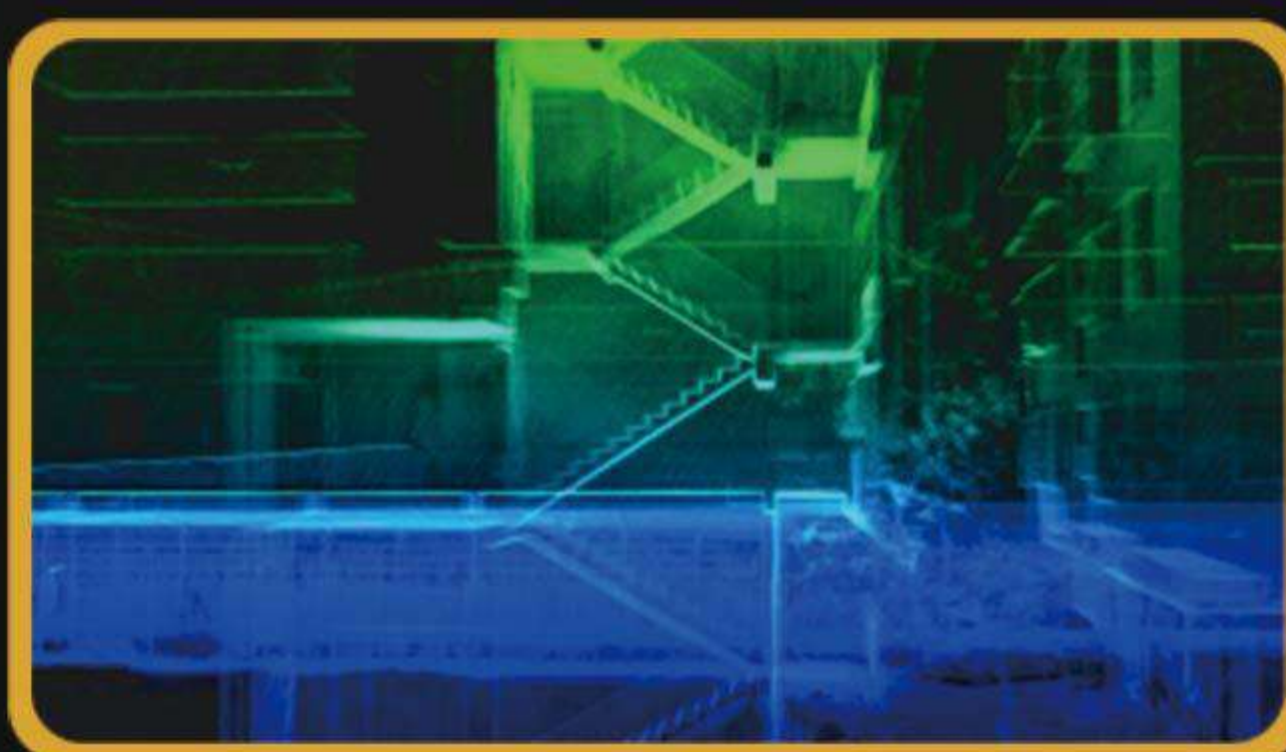
- | | |
|-----------------------------|----------------------------|
| ① Laser Sensor | ⑧ GNSS Antenna |
| ② Fisheye Camera | ⑨ Phone Holder |
| ③ Latch | ⑩ TF Card Slot |
| ④ Wi-Fi Indicator | ⑪ Type-C Interface |
| ⑤ Wi-Fi Module | ⑫ Type-C Charger Interface |
| ⑥ Handle (Built-in Battery) | ⑬ Power Indicator |
| ⑦ Power Switch | ⑭ Base Plate |



Application Scenarios



Underground



Indoor Stairs



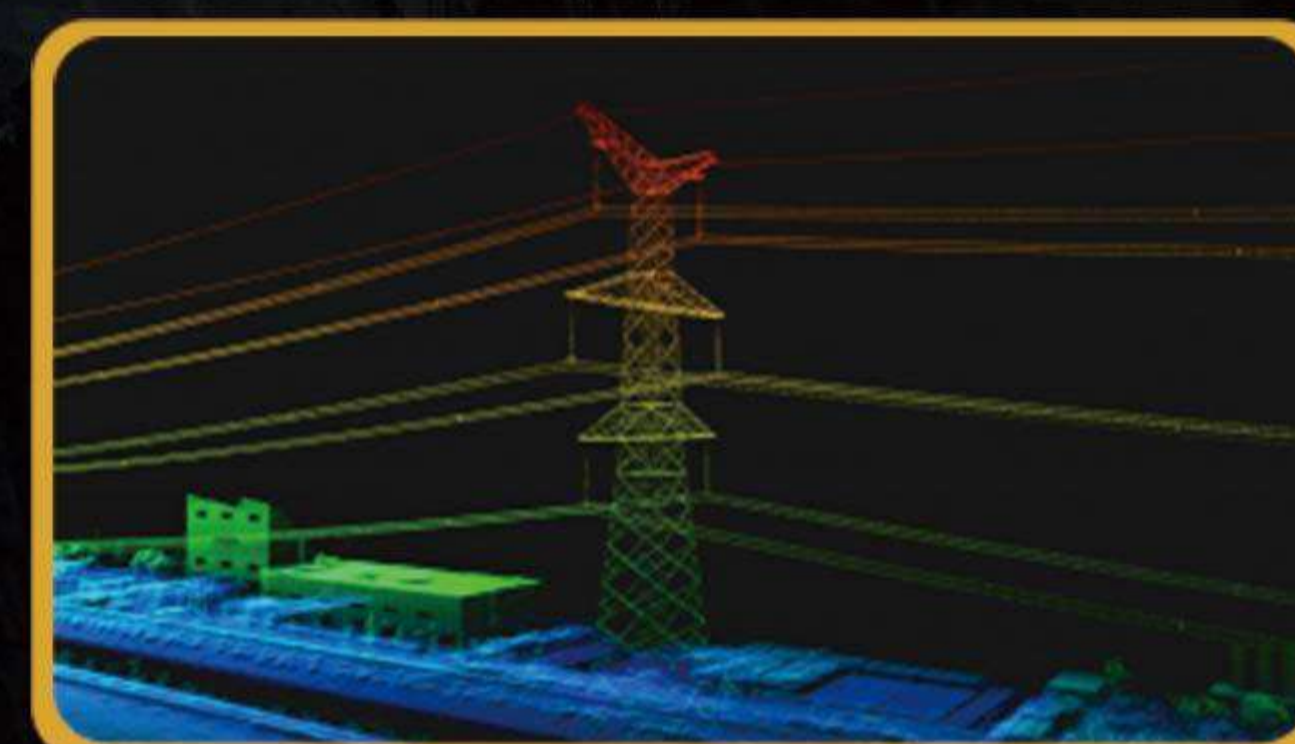
Parking Lots



Outdoor Buildings



Low-Canopy Forest



Power Line Patrol

ITEM		SPECIFICATION	REMARKS
SYSTEM SPECS	Accuracy	≤3 cm (Relative), ≤5 cm (Absolute)	
	Voltage Range	12-20V	
	Dimensions	16.5*12.0*32.4cm	
	Weight	1.0kg	
	Operating Temperature	-20℃~55℃	
	System Consumption	<25W	
	Storage	128GB MicroSD Card	
POS SPECS	Model	gSpin 210	
	POS Update Rate	200Hz	
	GNSS System	GPS L1/L2/L5; GLONASS L1/L2; GAL E1/E5a/E5b; BDS B1c/B1/B2/B2a/B2b/B3	
	Positioning Accuracy	Horizontal: ±0.02 m Vertical: ±0.03 m	
	GNSS Signal Types	GPS L1/L2; GLO L1/L2; GAL E1/E5b; BDS B1/B3/B2a (Supports BeiDou-only Mode)	
	Pitch Accuracy	0.015°	
	Heading Accuracy	0.040°	
	Roll Accuracy	0.015°	
LASER SPECS	Measuring Range	40m@10%	
	Horizontal FOV	360°	
	Wavelength	1535nm	
	Data	Single echo, 200,000Points/Sec	
	Range Accuracy	≤ 2cm@10m, ≤ 3cm@0.2m	
	Vertical FoV	-7°~52°	
	Scanning Mode	Non-repetitive Scanning	
CAMERA SPECS	Effective Pixel	2*20MP	
	Scanning Mode	Time-synchronized Scanning	
	FOV	Horizontal/Vertical FoV: 200°	
MAPPING	Mapping Mode	SLAM; RTK-SLAM; PPK-SLAM	

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