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## Qianxing Robot Automatic Navigation Driving System

### Product Description

This comprehensive intelligent device navigation product integrates BDS navigation, autonomous driving, obstacle avoidance, and IoT technologies. It primarily consists of a navigation computer, obstacle avoidance radar, IoT module, and dual antennas. Its high degree of integration reduces the need for traditional navigation smart tablets, seamlessly merging with equipment to improve product reliability. The self-adaptive navigation algorithm enhances stability in challenging environments such as urban areas and farmlands. Specializing in intelligent equipment navigation, the product can be applied in agriculture, industry, and military sectors. When paired with the Shangyida BDS Intelligent Monitoring and Management Platform, it supports multi-machine formation, real-time data monitoring, big data analysis, and other features, helping customers quickly seize market opportunities and gain a competitive edge.

### Performance Characteristics

- ◆ APP intelligent operation
- ◆ One-click automatic U-turn
- ◆ View job progress in real time
- ◆ U-turn autonomous driving
- ◆ Cloud RTK high-precision navigation



### Product Features

- 1 The error of BDS RTK navigation operations is within  $\pm 2.5\text{cm}$ , ensuring more accurate trajectory maintenanc
- 2 The system can permanently store, memorize, and automatically summarize job information for later retrieval and use.
- 3 It can be applied to different terrains, various operation modes, different agricultural machinery, and diverse working environments.
- 4 Fully automatic control, precise navigation, unaffected by weather conditions, enabling uninterrupted 24-hour operation around the clock.
- 5 Convenient installation, plug and play, simple operation, intuitive and clear.
- 6 Supports remote parameter adjustment and remote control, enabling rapid response and decision-making in frontline situations.
- 7 Supports multi-vehicle formation, remote control, and big data analysis (requires installation of BDS Intelligent Monitoring Integrated Management Platform).
- 8 Upgradable online, saving manpower/effort/time/tools, allowing users to easily and quickly enjoy the latest software features and optimal services.

## Product Parameters

Project Name		Unit	Specification
Physical Dimensions & Electrical Characteristics	Dimensions	mm	200*150*80
	Weight	g	1300
	Input Voltage	V	12
	Power Consumption	W	<5
IMU Performance Specifications	Gyroscope Type	/	MEMS
	Gyroscope Range	°/s	$\pm 500$
	Gyro Bias Stability	°/h	2.5
	Accel Range	g	$\pm 8$
	Accel Bias	mg	1
Environmental Specifications	Operating Temperature	°C	-10 - + 60
	Storage Temperature	°C	-50 - + 80
	Humidity	%	95non-condensing
	Vibration	/	MIL-STD-810G (40g)
	Ingress Protection	/	IP65

GNSS Specifications	Satellite System	/	BDS: B1、B2
	GNSS Data Update Rate	Hz	5、10
	Heading Accuracy	°/m	0.2
	Integrated Nav Update	Hz	100
Communication Interface	4G, BLE, Ethernet, CAN, RS-485		

## Application Scenarios



spraying operation



inspection operation



mowing operation