

SAG10

Precision Agriculture

Autonomous Steering System



SAG10 Autonomous Steering System

SAG10 is an autonomous steering system for agricultural machinery. It employs high-precision satellite positioning to achieve centimeter-level accuracy in vehicle location and uses advanced DC servo motor technology for steering control. It features an integrated controller that includes with 4G, IMU, UHF radio, and satellite positioning modules, ensuring high-precision autonomous operation and ease of installation and transfer across different vehicles. Suitable for agricultural tasks such as seeding, harvesting, and spraying, SAG10 enhances work efficiency and crop yield with less fuel consumption and labor costs.

Integrated Controller



It features an integrated controller that combines a 4G module, IMU sensor, UHF radio, and positioning module. The high-level integration makes it easier and faster to install and transfer the system between vehicles. The need for additional wheel angle sensors is eliminated, simplifying installation and enhancing the system's stability and reliability.

High Precision



It delivers industry-standard RTK accuracy, integrating satellite positioning with INS terrain compensation to maintain 2.5 cm pass-to-pass precision in challenging terrain. This reduces operational errors, cutting down on time and labor costs while boosting overall efficiency. Such precision is essential for key agri-tasks like plowing, planting, and harvesting.

Consistency in Operations



The intelligent tablet displays operation information in multiple dimensions, including the front, side, and top views, and shows real-time deviations of the bucket from the reference plane. Operators can solo-fill control operations by following system guidance, skipping surveying and staking. Additionally, the bucket can perform precisely even in low-visibility conditions, significantly enhancing work efficiency.

Excellent Versatility



It is fully-featured and compatible with a variety of operating modes, including AB lines, a+ lines, custom curves, and offset harrowing. It meets the precise operational requirements for different terrains and tasks. Additionally, the system supports area statistics, operation tracking, data upload and download, and shared operating modes across multiple vehicles, significantly improving usability and operational efficiency.

Characteristic



- It supports wheel angle sensor mode which is essential for specific agricultural operation.



- It supports secondary development to provide more tightly integrated components.



- It provides quick and convenient installation, allowing users to activate common functions in just a few steps.



- It features a 10.1-inch display with instant multi-touch response and is ruggedized for water, dust and shock.

System composition



Auto-Steering System



GNSS Receiver



Camera



High-Precision Intelligent Display Tablet



ITEM		SPECIFICATION	REMARKS
RECEIVER	GPS	L1, L2, L5	
	GLONASS	L1, L2	
	BDS	B1, B2, B3	
	Accuracy (RTK)	Horizontal:±8mm + 1ppm RMS Vertical: ±15mm + 1ppm RMS	
	Working temperature	-20°C ~+70°C	
	Storage temperature	-40°C ~+80°C	
	Size	159*56 mm	
	Network	2G/3G/4G	
VEHICLE MOUNTED TABLET	Dust and Waterproof	IP69K	
	Display Screen	10.1-inch, Support 5-point capacitive touch	
	Brightness	750cd/m2	
	Resolution	1024*600px	
	I/O	RS232*2 RS485*1 CAN*1/2	
	Communication	4G WiFi 2.4G BT 4.2, BLE	
	Operating Temperature	-30°C ~ +70°C	USB 2.0*1
	Storage Temperature	-40°C ~ +85°C	
	Protection Level	IP65	
	Work Humidity	Humidity 95%, non-condensing	
	Vibration standard (Operational)	MIL-STD-810	
	Impact standard (Operational)	ISO16750	
AUTO-STEERING SYSTEM	Power	5-36V DC Input ACC, State detection for ignitio	
	Rated Torque	7.5 N·m	
	Max RPM	180 RPM	
	Rated Current	15A	
	I/O	1 × CAN	
	Power	(9-32) VDC	
	Motor Dimensions	165mm × 80.5mm	
	Steering Wheel Diameter	D: 410mm	
	Operating Temperature	-20°C ~ +70°C	
	Storage Temperature	-40°C ~ +85°C	
CAMERA	Dust & Waterproof Rating	IP65	
	Power Supply	DC12V ±5%	
	Viewing Angle	120°	
	Resolution	1280(H) × 720(V)	
	Operating Temperature	-20°C ~ +70°C	
	Storage Temperature	-40°C ~ +85°C	
ACCESSORIES	Dust & Waterproof Rating	IP65	
	Receiver	1 Unit	
	Tablet	1 Unit	
	Steering Wheel	1 PCS	
	Motor and Driver	1 PCS	
	Main Cable	1 PCS	
	Tablet Power Cable	1 PCS	
	Screw Accessories Pack	1 PCS	
	Mount	1 PCS	
	Camera (Optional)	1 PCS	

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