

SMC10

Mechanical Control

Dozer Control System



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SMC10 Dozer Control System is a smart control solution that enhances dozer precision, efficiency, and safety. It integrates high-precision positioning, sensors, and computing units to provide real-time blade positioning and guidance. Using global navigation and embedded technologies, it supports real-time monitoring and remote control, improving construction quality and reducing labor intensity. It is ideal for land grading, road building, airport runway construction, and other heavy earthmoving tasks, enabling stakeless and coordinated multi-machine operations.

High Precision



It leverages high-precision GNSS positioning, integrating attitude sensing technology, model algorithms, and electro-hydraulic control to achieve centimeter-level accuracy. This integrated approach ensures precise operation of the dozer, meeting pre-defined design specifications even in complex environments.

Stakeless Operation



It offers real-time positioning and guidance by integrating with advanced algorithms with digital design blueprints. It allows operators to work without the need for physical stakes or surveyors, enabling faster land leveling and significantly reducing labor costs and increasing efficiency by up to 50%.

24/7 Continuous Operation



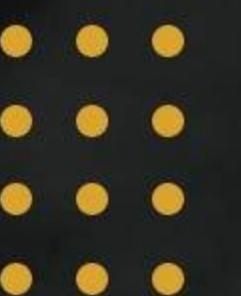
It enables round-the-clock operation, unaffected by low visibility conditions. It allows engineering teams to optimize their schedule, making the most of night-time hours to boost productivity while maintaining safety.

Real-time Monitoring & Control



It provides real-time monitoring of the blade and construction environment. It uses sensor data to adjust the blade position with precision, ensuring optimal performance at all times.

Characteristic



- It uses RTK positioning technology with the positioning accuracy of up to 2 cm.
- It uses valves to adjust the blade height based on guidance.



- It supports the import of design data for seamless conversion and integration.
- A single button press sets the elevation plane, making it simple and fast.



- It provides 3D terrain visualization to assist operators with earthmoving and route planning.



- It is easy to install and operate, allowing farmers to quickly master.
- The intuitive interface simplifies tasks for operators, reducing technical demands.

System composition



GNSS Antenna*2



High-Precision Display and Control Terminal



Gyroscope



ITEM	SPECIFICATION	REMARKS	
SATELLITE SYSTEM	GPS GLONASS BDS GALILEO QZSS IRNSS L-Band	L1, L2, L5 L1, L2, L3 B1I, B2I, B3I, B1C, B2a, B2b* E1, E5a, E5b, E6 L1, L2, L5, L6 L5	
WORKING ENVIRONMENT	Environment Vibration Standards	Operating Temperature: -40°C ~ +85°C Storage Temperature: -55°C ~ +85°C Complies with national standards GBT-3871, GBT-2423, and GBT-28046 for vehicle vibration standards.	
VEHICLE MOUNTED TABLET	Display Screen Brightness Resolution I/O Communication Operating Temperature Storage Temperature Protection Level Work Humidity Vibration standard (Operational) Impact standard (Operational) Power	10.1-inch, Support 5-point capacitive touch 750cd/m2 1024*600px RS232*2 RS485*1 CAN*1/2 4G WiFi 2.4G BT 4.2, BLE USB 2.0*1 -30°C ~ +70°C -40°C ~ +85°C IP65 Humidity 95%, non-condensing MIL-STD-810 ISO16750 5-36V DC Input ACC, State detection for ignition	
GYROSCOPE	Range Resolution Zero-drift at Rest 10s Smoothing (Zero Bias Stability) Allan Variance (Zero Bias Instability)	±400°/s 0.000055(°/s)/(LSB) ±1°/s 2.03°/h 1.80°/h	Condition: ±400°/s Condition: Horizontal Placement Condition: Horizontal Static Placement Condition: Horizontal Static Placement
HEADING ANGLE	Range Heading Accuracy Resolution	Z:±180° 0.1° 0.0055°	Condition: Horizontal Placement
MODULE	Communication Interface Output Content Output Rate Startup Time Operating Temperature Storage Temperature	4800bps ~ 230400bps Angular Velocity, Angle 0.2Hz ~ 500Hz 1000ms (Max Value) -40°C~85°C -40°C~100°C	Condition: UART Default: 115200bps Default: 10Hz
ELECTRICAL PARAMETERS	Supply Voltage Operating Current	3.3V~5.5V 9.5mA (Typical)	Typical: 5V Condition: Operating (5V)
ACCESSORIES	Tablet ECU Gyroscope Gnss antenna Main Cable Data Cable Tablet Power Cable Antenna harness Mount Screw Accessories Pack Support Rod Kit	1 Unit 1 PCS 1 PCS 2 PCS 1 PCS 1 PCS 1 PCS 2 PCS 1 PCS 1 PCS 1 PCS	

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