



Mechanical Control **TMC10** Dozer 3D Guidance System

Dozer 3D Guidance System

TMC10 Dozer 3D Guidance System pairs high-precision Beidou GNSS technology with construction machinery. It precisely tracks the blade's position and orientation, aligning with 3D digital plans to guide users via digital readouts or indicators. Utilizing global navigation and embedded technology, the system offers real-time control over dozing tasks, boosting accuracy, efficiency, and safety. It's ideal for road and rail grading, dam construction, riverbed leveling, and land preparation in large-scale projects and agriculture.

CHARACTERISTIC

High Precision

The system leverages GNSS positioning and sensor fusion, integrated with modeling algorithms and electro-hydraulic controls, for centimeter-accurate control, enhancing performance.

24-Hour Continuous Operation

The system supports 24-hour continuous operation and allows reliable operation at night.

Real-time Monitoring and Control

The system uses cutting-edge sensors to track the blade's status and the worksite environment continuously. This data feeds into the control system for precise blade management, keeping operations at peak efficiency.

Stakeless Operation with Increased Efficiency

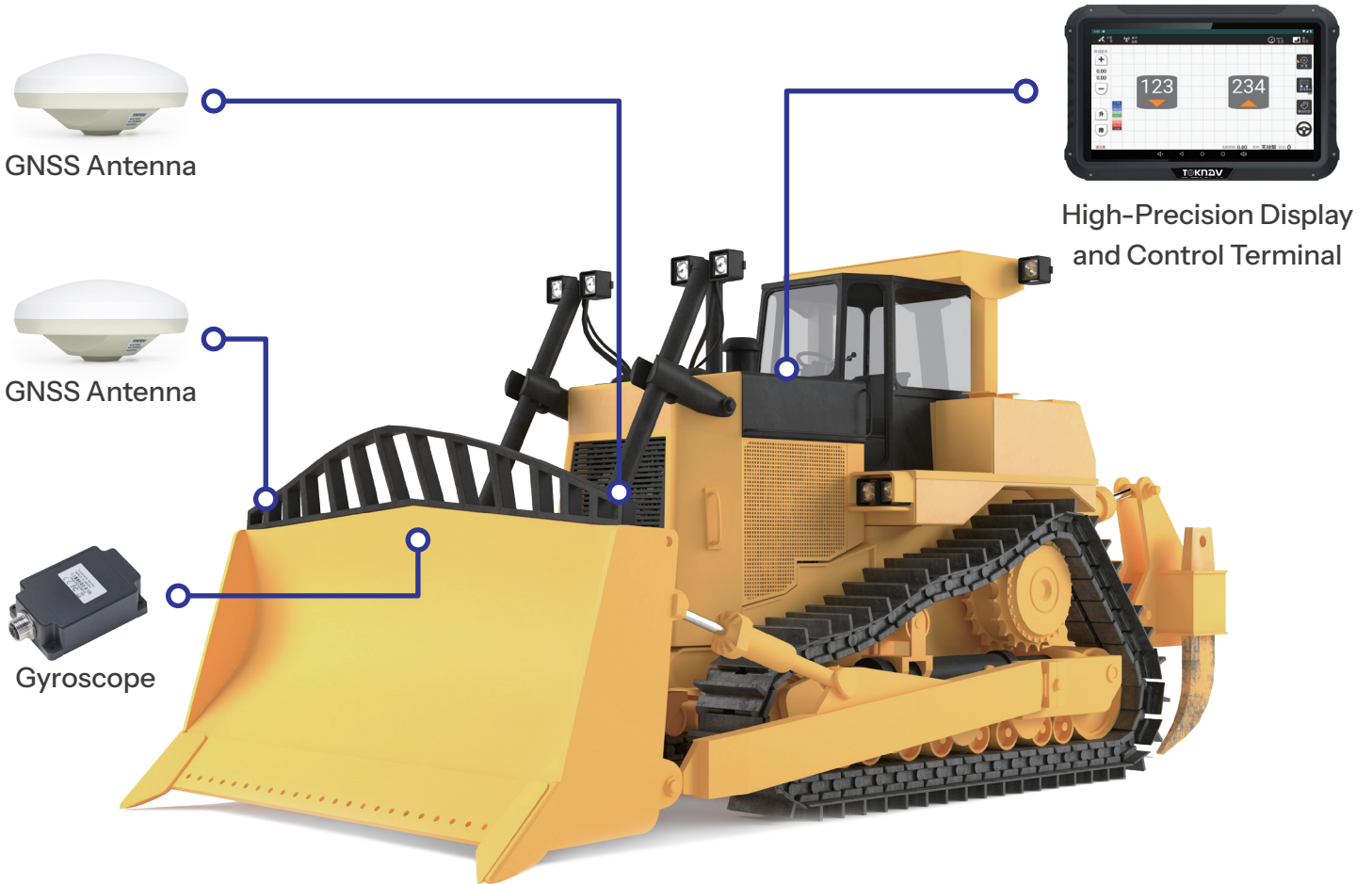
The system integrates algorithms with 3D plans for digital guidance, removing the need for professional surveyors. It enables quick bulldozer leveling, saving labor costs and boosting efficiency by over 50%.

Easy Installation and Operation

Featuring straightforward installation and intuitive operation, it's easy for users can quickly become proficient.

TMC10

Dozer 3D Guidance System



System composition



Intelligent Display Screen



Gyroscope

- Manages blade lift with solenoid valves guided by navigation data.
- Achieves 2 cm accuracy in positioning.
- Facilitates the conversion and import of design specifications.



SPECIFICATION

SATELLITE SYSTEM

BDS B1I, B2I, B3I, B1C, B2a, B2b*

GPS L1, L2, L5

GLONASS L1, L2, L3

GALILEO E1, E5a, E5b, E6

QZSS L1, L2, L5, L6

IRNSS L5

L-Band

WORKING ENVIRONMENT

Environment Operating Temperature:
-40°C ~ +85°C
Storage Temperature:
-55°C ~ +85°C

Vibration Standards Complies with national standards
GBT-3871, GBT-2423,
and GBT-28046 for vehicle
vibration standards

VEHICLE MOUNTED COMPUTER

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
USB 2.0*1

Operating Temperature -30°C ~ +70°C

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

Power 5-36V DC Input
ACC, State detection for ignition

GYROSCOPE

Range ±400°/s

Resolution 0.000055(°/s)/(LSB)
Condition: ±400°/s

Zero-drift at Rest ±1°/s
Condition: Horizontal Placement

Temperature Drift ±5 (°/s)/°C
Condition: -40°C~+85°C

10s Smoothing
(Zero Bias Stability) 2.03°/h
Condition: Horizontal Static Placement

Allan Variance
(Zero Bias Instability) 1.80°/h
Condition: Horizontal Static Placement

HEADING ANGLE

Range Z: ±180°

Heading Accuracy 0.1°

Resolution 0.0055°
Condition: Horizontal Placement

MODULE

Communication Interface 4800bps ~ 230400bps
Condition: UART Default: 115200bps

Output Content Angular Velocity, Angle

Output Rate 0.2Hz ~ 500Hz
Default: 10Hz

Stratup Time 1000ms (Max Value)

Operating Temperature -40°C~85°C

Storage Temperature -40°C~100°C

ELECTRICAL PARAMETERS

Supply Voltage 3.3V~5.5V
Typical: 5V

Operating Current 9.5mA (Typical)
Condition: Operating (5V)

ACCESSORIES

Tablet 1 Unit

ECU 1 PCS

Gyroscope 1 PCS

GNSS Antenna 2 PCS

Main Cable 1 PCS

Data Cable 1 PCS

Tablet Power Cable 1 PCS

Antenna harness 2 PCS

Mount 1 PCS

Screw Accessories Pack 1 PCS

Support Rod Kit 1 PCS

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



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