CHCNAV

TG63

3D GRADE CONTROL FOR MOTOR GRADERS

MACHINE CONTROL & CONSTRUCTION

CHCNAV

HIGH ACCURACY AUTOMATIC GRADER CONTROL SYSTEM

The CHCNAV TG63 Automated Grade Control System is designed to improve the quality and efficiency of grading operations. By combining advanced technologies such as high-precision dual-GNSS, IMU, GR-Tech mechanical model algorithm and intelligent hydraulic control, it provides high-precision blade control at any angle and speed.

Real-time automatic control of the blade relative to the design surface achieves finished quality accuracy in less time, increasing efficiency and productivity by eliminating the need for manual staking.

The 10.1" industrial touch screen puts system operation at the operator's fingertips. MCNAV software provides complete, easy-to-use control and displays detailed job information such as project configuration, cut and fill data and geo-fencing zones.

HIGH ACCURACY ATUOMATIC CONTROL

- Automatic control of blade up and down,Elevation accuracy better than ± 2 cm
- Same accuracy on both sides of the blade tip
- Daul GNSS+100HZ IMU + GR-Tech mechanical model algorithm ensures high accuracy in any posture
- Intelligent hydraulic control, high precision at different speeds
- Premium receiver for high precision positioning in any site

EASY TO USE

- 10.1-inch Android tablet+MCNAV software
- Only one blade sensor
- Installation in 5 hours
- Calibration in 15 minutes
- 2D/3D dual mode
- Fast disassembly and assembly from the masts
- Optional security camera

EXCELLENT COMPATIBILITY

- Suitable for all models of graders
- Supports TT450S, Transparent and Satel_3AS radio protocols
- Supports multiple coordinate calibration files such as crd, dc,cal,lok,jxl,loc
- Professional fixed or mobile base station, radio and network data transmission
- Full constellation support: GPS, GLONASS, Galileo, Beidou, and QZSS
- Support design file formats including .rodx, .dxf and .landxml
- Fast surface design in the field

SAFE AND RUGGED DESIGN

- Gauge class IMU sensor: IP67 and 50G impact resistant
- Industrial grade antenna: IP68, metal shell, anti-interference
- Rugged cables: wear resistance, adaptability to high and low temperature environments
- High protection: external protective components for sensor and harness, shockproof
- Full machine control

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Display

- 10.1" color touch screen
- Sunlight readable
- IP65 dust-and-waterproof
- CAN Bus + RS232
- MCNAV software
- GR-Tech technology

GNSS Receiver

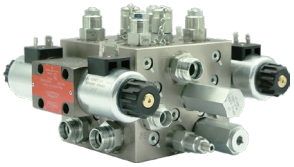
- Full GNSS constellations
- Centimeter RTK accuracy
- Dual GNSS antenna inputs
- Built-in valve control module

GNSS Antenna

- IP68 & MIL-STD 810E
- Quick release mount

IMU Sensor

- Built-in inertial navigation system
- 100 Hz update rate
- IP67 rating



Valve Module

- High dynamic response
- Pressure-compensated flow control
- Integrated pressure relief protection

SPECIFICATIONS

Display	
Size (W*L*H)	281*181*42 mm
Weight	1.5 kg
Screen	10.1" 1024*600 pixel 750 cd/m^2
System	4 Cores 1.5 GHz RAM: 2 G ROM: 16 G Android: V6.0.1
Operation temperature	-20°C ~ +70°C
Storage temperature	-40°C ~ +85°C
Ingress protection	IP65

Receiver	
Size (W*L*H)	207*136.5*61 mm
Weight	1.2 kg
External power input	7~36 V DC
Real time kinematics (RTK)	Horizontal: 10 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS
Operation temperature	-25°C ~ +75°C
Storage temperature	-30°C ~ +85°C
Ingress protection	IP65

Sensor	
Size (W*L*H)	97*72*37 mm
Weight	400 g
External power input	6 ~ 36 V DC
Static accuracy (RMS)	±0.1°
Dynamic accuracy (RMS)	±0.3°
Shock	50 g/6 ms
Vibration	5 grms,10 ~ 400 Hz, 4 H/axis
Operation temperature	-40°C ~ +85°C
Storage temperature	-50°C ~ +85°C
Ingress protection	IP67

Antenna	
Size (W*L*H)	140*140*55 mm
Weight	700 g
Power	3 ~ 6 V DC
Gain	40 ±2 dB
Noise coefficient	≤2 dB
Shock	50 g / 6 ms
Vibration	5 grms, 4 ~ 250 Hz, 0.5 H/axis
Operation temperature	-20°C ~ +70°C
Storage temperature	-50°C ~ +85°C
Ingress protection	IP68

* Specifications are subject to change without notice.

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