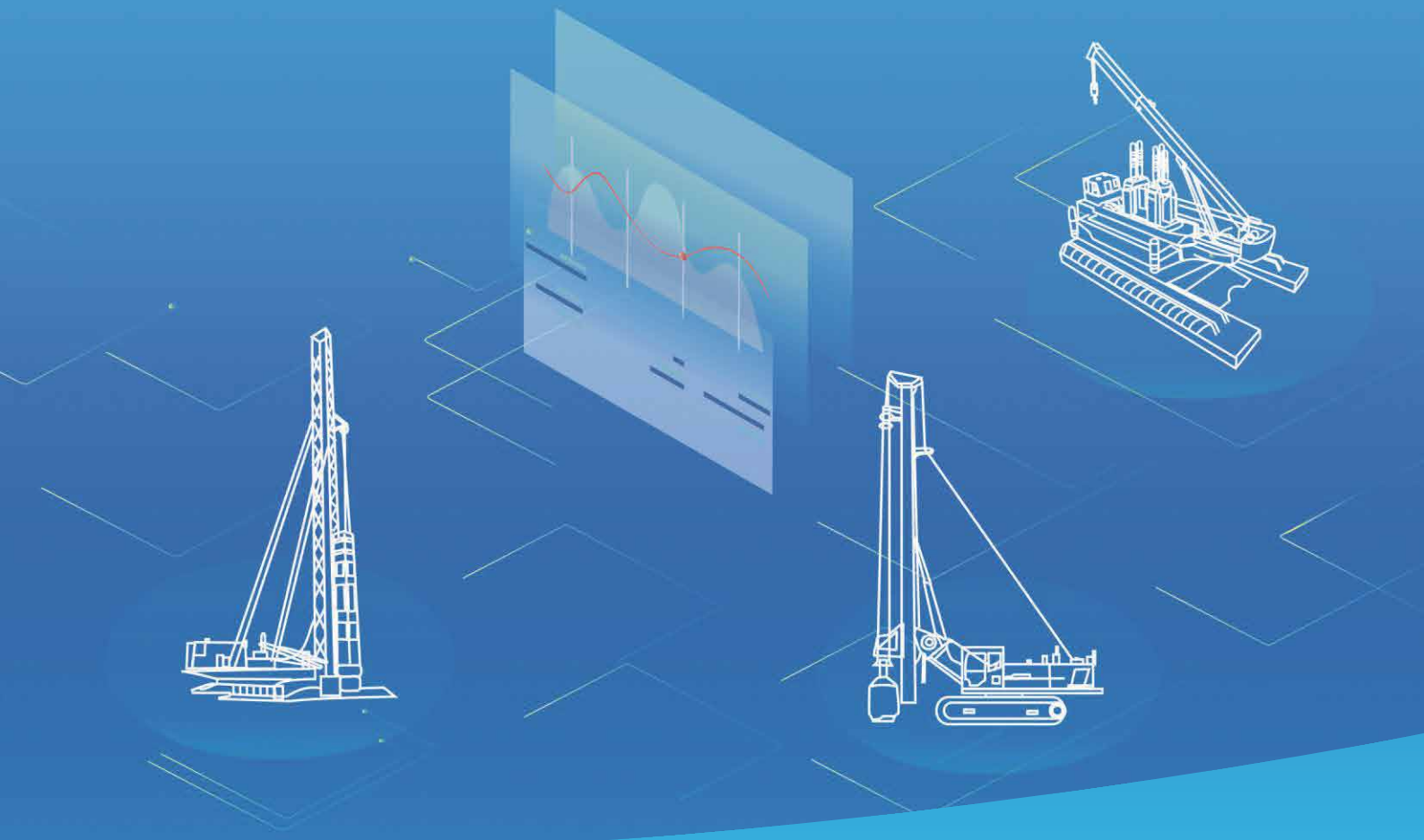
Jingyan Smart Piling
Empowering Intelligent Construction



GZJOYAIOT
精研智联

M101 High-Precision Integrated Rover Station

The M101 high-precision integrated rover station is an industrial-grade high-precision operating terminal integrating BeiDou high-precision positioning and heading functions with a tablet PC. It is widely used in machinery control industries such as piling machinery, mining machinery, earthmoving machinery, port machinery and agricultural machinery.



Product Advantages

High-Precision Positioning

Built-in BeiDou high-precision positioning and heading mainboard supports full-constellation signal reception of BDS, GPS and GLONASS, realizing centimeter-level high-precision positioning.

Powerful and Stable Industrial Processor

Equipped with quad-core industrial-grade processor and GPU, it maintains stable continuous operation at temperatures ranging from -30°C to 70°C.

Harsh Environment Adaptability

Built to IP65 protection standards and passed multiple vibration resistance tests, it adapts to various complex working conditions for construction and agricultural equipment.

Comprehensive Application Interfaces

The tablet supports RS232, RS485, CAN, Ethernet, 4-channel cameras, 4G, Wi-Fi, Bluetooth and GPIO with 12V external power output, covering interface demands of all mainstream applications.

Automotive-Grade High Luminance Display

It adopts 750 nits automotive-grade multi-touch high-brightness screen, ensuring clear operation visibility under strong sunlight.

JD61 GNSS Receiver

The JD61 GNSS Receiver is a multi-functional BeiDou/GNSS positioning and heading receiver with multi-mode communication .
It is equipped with high-precision BeiDou/GNSS board, 4G full-network module, Bluetooth module and radio module.
It is the ideal solution for positioning and heading services on moving carriers including construction machinery, special loading & unloading vehicles, precision agriculture equipment, unmanned systems, vessels and port machinery.



Product Advantages

High-Precision Positioning

Adopting multi-constellation and multi-frequency receiving technology, it supports all existing and future GNSS satellite signals, specially BeiDou tri-band B1/B2/B3, and supports independent single BeiDou positioning.

Efficient and Stable

Built-in integrated frequency-hopping wireless transceiver module with maximum 1W transmit power, supporting data transmission within 1 to 4 kilometers.

Versatile Standard Interfaces

Standard Ethernet interface enables high-speed data transmission. The built-in Bluetooth module is compatible with Bluetooth V2.0 and V4.0.

One-Click Parameter Configuration

The built-in Bluetooth module allows receiver configuration and control via mobile APP commands. The APP integrates NTRIP protocol and supports one-click setup for network adapters, radios, main boards, remote access and network base stations.

On-board Terminal Software



Features

Paperless Operation

Import piling coordinates into the on-board software, which displays pile positions on the work interface and guides operators through construction operations.

Intelligent Operation

Features an intelligent operation workflow with color-coded pile points that clearly indicate completed, pending and ongoing piling statuses.

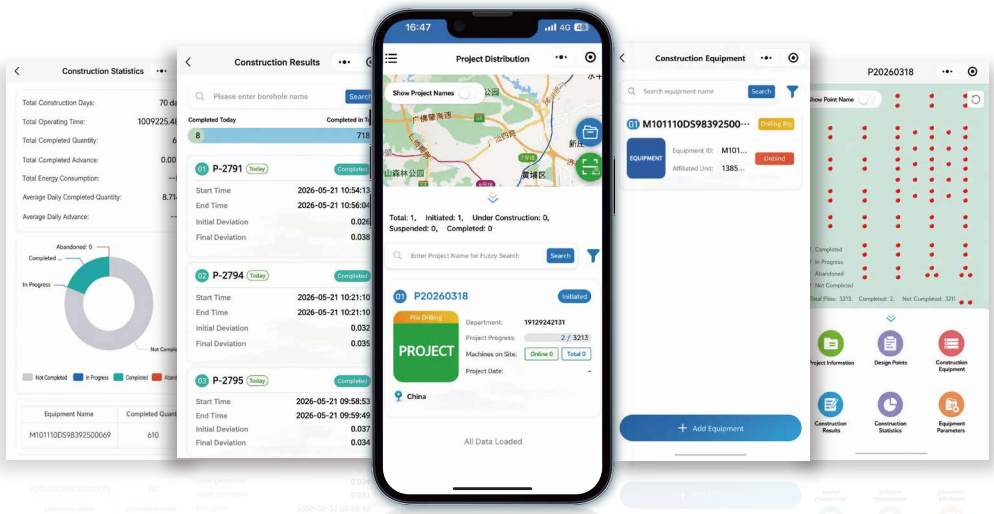
User-Friendly Operation

Clean and intuitive software interface with clear function display, easy operation and real-time voice prompts for worry-free on-site work.

Real-Time Construction Monitoring

Enables real-time monitoring of key quality indicators including position, depth, verticality and material consumption, with customizable monitoring solutions for all types of pile drivers.

Construction Cloud Manager APP



Features

Handle pending tasks anytime and anywhere with just a mobile phone, and gain real-time visibility into project site and equipment status.

Powerful and flexible functions help enterprises significantly improve management efficiency.

Clean and intuitive user interface for effortless operation with minimal training.

Digital Construction Cloud Platform - Web Portal



System Functions

Progress Management

Intelligent statistics and visualization of construction progress; intelligent comparison and analysis against design progress with actionable improvement recommendations.

Intelligent Alerting

Automatically triggers intelligent alerts when deviations from design requirements or non-compliance are detected, ensuring construction quality.

Quality Management

Real-time monitoring of key indicators including pile position, depth and material consumption; supports query and playback of construction data.

Equipment Management

Real-time monitoring, statistics and evaluation of equipment scheduling, leased equipment management, and equipment maintenance and repair.

System Advantages

Information Visualization

Visualized display of construction data to support decision-making, reduce risks and maximize data value.

Optimized Efficiency & Benefits

Goal-driven approach improves individual and organizational efficiency, accelerating enterprise development.

Standardized Management

Eliminates reliance on experience-based and subjective management practices, driving standardization and normalization of management processes.

Piling Machinery Applications



Hydraulic Static Pile Driver



Hydraulic Impact Hammer



Long Auger Drill



Rotary Drilling Rig



Pile Driver & Extractor



Gravel Pile Machine

Field Application Cases



Rotary Drilling Rig



Hydraulic Impact Hammer



Long Auger Drill



Hydraulic Static Pile Driver



Pile Driver & Extractor



Gravel Pile Machine

BeiDou +IoT +GIS Digital Twin.

Digital Construction-Safety Monitoring-BeiDou Applications



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