

# MDS DRILLING SYSTEMS

## FOR BLASTING OPERATIONS

Precisely positioned boreholes with uniform depth, angle, and alignment – no manual measurements required. Save time, reduce effort, and increase efficiency right from the start.



## CHALLENGES In Drilling Technology

The precise placement of boreholes is essential for efficient and safe blasting. Without reliable drilling technology, not only does the quality of material fragmentation suffer – unnecessary costs, delays, and safety hazards also arise.







Manual measurement and machine alignment are time-consuming, error-prone, and difficult to reproduce – especially when angle and depth must be consistent across multiple boreholes. With drilling systems like the MDS-1100 and MDS-2000, boreholes can be placed with millimeter precision, consistent repeatability, and in the exact desired depth, angle, and alignment.

### SYSTEM ADVANTAGES



#### Higher precision

Accurate drilling according to specifications – for optimal fragmentation and minimal material loss.



#### Less rework

Clean drilling results in better blast performance – eliminating the need for timeconsuming corrections.



#### Future-proof & connected

Data-based planning, digital documentation, and remote access from the office (with MDS-2000).





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#### **Versatile application** Flexible integration into various drill rigs and operations – from surface quarries to underground mines.

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The MDS-1100 drilling system is the ideal solution for precise deep drilling, especially in quarries and solar fields. Quick and easy to install, the system combines advanced technologies with a user-friendly design to make drilling processes more efficient and safer. Precise depth measurement in real time, automatic drill stop and safety features such as person recognition make drilling operations simpler and safer. The system's new, intuitive color display, GDT-070, also provides clear visualization and simplified operation.

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## FEATURES

- **Easy Installation:** Only three components required: inclination sensor, depth sensor, and touch display.
- Real-Time Drill Data Visualization: Clear display of drilling depth, feed rate, and actual vs. target inclination. Includes bore meter counter.
- Automatic Drill Stop: Ensures process control for precise and safe operation.
- Intuitive Touch Display: Rugged 7-inch color display (800 × 480 px) with simple menu navigation and excellent readability
- Integrated Safety Functions: Audio-visual alerts increase operational safety.

- Customizable Menu Design: Multilingual user interface, customizable layout, and expandable via CODESYS – adaptable to project and machine requirements.
- Drill Data Documentation: Stores bore data directly via the display or USB stick.
- Camera Integration: Supports rear and environmental cameras for better visibility and safety.
- Automatic Rod Counting: Detects rod changes and calculates drill depth automatically

   no manual measuring required.

### COMPONENTS



#### **INCLINATION SENSOR**

- 2-axis sensor
- Measuring range: ±60°
- Zero-point adjustment via infrared interface
- CAN interface



#### DEPTH GAUGE

- Rotary encoder
- Measuring range 360°
- CAN-Encoder
- IP6-certified



# **APPLICATION DETAILS**



**DRILLING MENU** 



DRILLING MENU ROD CHANGE



TROUBLESHOOTING

# MDS-2000

The MDS-2000 is designed for demanding drilling operations in quarries and mining environments. Equipped with intelligent sensors, the system continuously records all key drilling and machine parameters – including oil pressure, acceleration, and temperature – in real time. Thanks to the integrated telemetry module with cloud connectivity, all data is seamlessly transferred from the machine to the office, enabling predictive maintenance and minimizing downtime.

Beyond data acquisition, the system also improves on-site visibility and control. A built-in GNSS antenna and Wi-Fi gateway allow precise machine tracking, seamless documentation, and efficient fleet management. The direct QUARRY interface supports 3D terrain model import for better planning and visualization.

## **FEATURES**

- Real-Time Visualization: Live capture and display of all drilling and machine data. Cloud Connectivity: Secure, real-time data transmission from the field.
- Maintenance and Service Statistics: Automated evaluations support predictive maintenance.
- Data Import & 3D Support: Import Excel files and 3D terrain models from QUARRY directly into the system.
- Data Download to Devices: Transfer all information to PCs or mobile devices with ease.

 Machine Positioning & Fleet Management: GNSS positioning and Wi-Fi enable precise machine tracking and efficient fleet coordination.

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- Teleservice & Remote Access: Remote support and system access no on-site presence required.
- Customizable Display: Programmable display tailored to individual project requirements.
- Automatic Rod Counting: Rod changes are detected, and drill depth is calculated automatically – no manual measuring needed.

## MDS SYSTEM Comparison





Feature list	MDS-1100	MDS-2000
Parallelism correction	×	$\checkmark$
Angular alignment	$\checkmark$	$\checkmark$
Depth control (drill stop)	$\checkmark$	$\checkmark$
Rod change	$\checkmark$	$\checkmark$
Telescope (direction finding)	×	$\checkmark$
Machine data acquisition	×	$\checkmark$
Drill protocol	$\checkmark$	$\checkmark$
GNSS compass (direction finding)	×	$\checkmark$
Laser reference for depth control	×	$\checkmark$
Telemetry	×	$\checkmark$
Output signal	×	$\checkmark$

## NOW BIM-READY WITH 3D

- Import 3D models from Quarry X into the system for even more precise work
- The 3D model is displayed on the system, every angle, depth and position of the hole is automatically saved in the system
- The operator only has to position the machine as shown, adjust the orientation of the mast and start drilling



## MOBA GROUP

The MOBA Group has been an established name in mobile automation for more than 50 years. Our know-how and many years of experience in automation technology distinguish us as globally recognized experts. We develop and produce innovative machine control systems, identification and mobile weighing technologies as well as flexible software solutions. But MOBA components and systems are also used in other areas where robust and reliable sensors, controllers and operating units are required.

First Choice In Mobile Automation - that's what MOBA has stood for for more than 50 years!







