

Axis3D MLS

Surveying by the miners



Axis3D MLS saves costs: Independent surveying by the miners.

Optimized tunneling process: Easy to set up, even in tight spaces.

User-friendly: Intuitive interface and ease of use, even wearing work gloves.

Mobility: Remote control with a range of up to 200m (600ft).

Station Set-up



Axis3D MLS consists of a total station, a Wi-Fi connection box, and a fully ruggedized notebook.

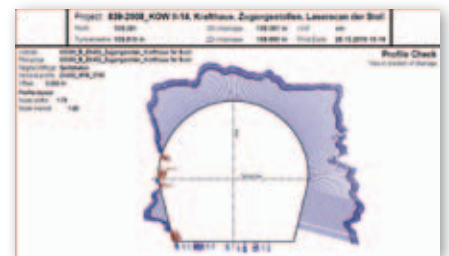
Easy stationing lets the tunneling crew set up the system **on mobile tripods** as well as on brackets. This allows the system to be used even where brackets cannot be mounted – all without a surveyor.

Stakeout



The **intuitive user guidance** supports setting out of the heading direction. Predefined functions, such as positioning of girders, setting out profiles, and configuring the drilling jumbo, **increase productivity**.

Control



Optimized **online graphics** allow the tunneling crew to **check** tunneling progress in real-time. For documentation purposes results are automatically stored as PDF files in the system.

System Informationen

Hardware

- Leica Geosystems TPS1200, Viva or Nova total station with reflectorless distance measurements and automatic target recognition (other manufacturers on request)
- Wi-Fi box with approx. 200m (600ft) remote control range, and power supply (230V/110V)
- Ruggedized notebook with touchscreen (e.g. Panasonic Toughbook)
- Optional: bracket for total station
- Optional: tripod for mobile stationing

All hardware components may be purchased through **significant software**

Software

- Axis3D MLS office software for configuration, incl. USB dongle
- Axis3D MLS tunneling software, incl. SD or PC-card dongle
- Languages: German, English; French (coming soon)
- Operating systems: Windows XP, Windows Vista, Windows 7, Windows 8 (32-bit and 64-bit, respectively)

Related Products

- Axis3D COS - Construction Surveying
- Axis3D ETU - Easy Tunnel
- Axis3D NET - Network Adjustment
- Axis3D SET - Sets of Angles

Axis3D MLS Functionality

General

- Control of multiple total stations from a single laptop
- Definition of an unlimited number of process steps
- Automatic check of available instrument functions
- Automatic orientation check
- Automatic logging of all activities
- **Optional: low-cost light edition for non-motorised totalstations**

Setting up Total Station

- Set-up on bracket with Free Station
- Alternatively: Measure a new bracket position from the previous station
- Short term tripod set-up with Free Station

Stakeout

- Unlimited number of individual points (e.g. drilling pattern, positioning lattice girders)
- User-defined continuous points along the profile (e.g. excavation profile)
- Automatic chainage interval stakeout for individual points (e.g. mountings for utility ducts)
- Include radial, horizontal, and vertical offsets
- Automatic measurement of the current tunnel face chainage

Profile Check

- Reflectorless distance measurement
- Measurement in LOCK-mode (with reflector)
- Measurement of arbitrary or pre-defined points
- Real-time measurements (e.g. while spraying shotcrete)

- Online graphics in tunnel
- PDF graphics for documentation

Drill Guidance

- Drill guidance beam for automatic drilling carriages
- Automatic measurement of the current tunnel face chainage

Umbrella Forepoling

- Automatic stakeout of unlimited number of drilling points
- Automatic positioning of drilling carriage

Automatic Deformation Measurement

- coming soon

Database

- Management of point data, control parameters, tunnel geometry, etc.
- Interfaces for data import/export
- Database synchronization
- SQLite, Oracle, Microsoft SQL-Server, Interbase

Geometry Manager (Axis3D GeoMan)

- Analytical definition of tunnel geometry as per design
- Plausibility tests and 3D visualization
- Highly accurate transformation between project and tunnel coordinate systems

Applications



Tunnel Stakeout

Drilling pattern, tunnel profile, niches, steel girders, umbrella forepoling, profile enlargement, utility ducts



Profile Check

Excavation profiles, position of lattice girders, shotcrete profile, real-time check (e.g. during spraying of shotcrete)



Machine Positioning and Control

Drilling carriage, DIBIT™ tunnel scanner

Contact Information

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