



AutoMine[®] Mapping Solution 2.0

Product Brochure

AutoMine® Mapping Solution combines advanced mapping technologies with enhanced hardware and software capabilities to deliver a state-of-the-art solution for underground mining operations.



Next generation of automation solution

Designed to maximize productivity and support safe autonomous navigation, AutoMine® Mapping Solution 2.0 utilizes accurate mapped data to enable reliable operation of automated equipment in complex underground environments.

Using **3D Mine Mapping Tool**, a light vehicle can efficiently capture the underground environment and generate detailed 3D mine maps. In version 2.0, this capability has been significantly extended with faster processing, improved usability, and the ability to map larger production areas. The mapped data is then converted into a **2D operational environment**, allowing multiple underground machine types to operate safely and consistently.

The enhanced solution also introduces advanced mine model management, enabling multiple scans to be merged, edited, and continuously updated to reflect real operating conditions. Combined with improved route planning and automation tools, this allows for more optimized and scalable autonomous operations.

As a result, **productivity and efficiency** are further increased through faster system configuration, larger mapped areas, and continuous operation of equipment within an accurate and up-to-date mapped environment.



Ease of use in underground mapping

AutoMine® Mapping Solution 2.0 is designed for easy and efficient deployment, featuring an intuitive user interface that enables quick and reliable recording during the mapping process. With enhanced performance, the solution now supports **longer continuous scans (up to 1 km)** and the creation of production areas covering **up to 4 km of tunnels on a single level**, enabling faster setup of larger autonomous mining areas. It is well suited for operations such as **open stoping and sublevel caving**, where rapid configuration of new production areas and route creation between key points is critical.

The solution provides a cost-effective and intelligent approach to generating and maintaining mapped data, supporting scalable autonomous navigation across mining operations.

AutoMine® Mapping Solution 2.0 is available for **underground Loaders, Trucks, and Drills**, with expanded machine model support and compatibility with multiple navigation technologies.

Benefits

Key benefits of the mapping solution:

- **Efficient 3D environment recording** using a light vehicle with improved hardware and faster processing
- **Accurate 3D-to-2D conversion**, enabling autonomous operation across multiple underground machine types
- **Enhanced safety**, eliminating the need for heavy machinery during mapping activities
- **Scalable mapping and operations**, supporting larger production areas and multiple machine models
- **Improved efficiency**, with reusable mapped routes and reduced need for production machines during setup
- **Advanced route planning** with optimized routes, collision awareness, and automated parameters
- **Higher productivity** through faster setup, larger mapped areas, and pre-production mapping, enabling continuous autonomous operation without tying up production equipment



Main features	
Carrying case	
Main components	AutoMine® Mapping Tool features: <ul style="list-style-type: none"> • Computer Case • LiDAR Scanner & Mounting Set • Pre-Installed Mapping Solution Software
Dimensions (LxWxD)	<ul style="list-style-type: none"> • Exterior: 66.5 x 58.4 x 39.6 cm • Interior: 54.6 x 41.7 x 31.9 cm
Housing	<ul style="list-style-type: none"> • Protector case with four press & pull latches
Colour	<ul style="list-style-type: none"> • Black
Weight	<ul style="list-style-type: none"> • When empty: 12.7 kg • With foam: 14.3 kg • Total: 31 kg (including electronics)
Operating temperature	<ul style="list-style-type: none"> • -40°C to 88°C (-40°F to 190°F)
IP Class	<ul style="list-style-type: none"> • IP67
Body material	<ul style="list-style-type: none"> • Polypropylene
Latch material	<ul style="list-style-type: none"> • ABS
Pins material	<ul style="list-style-type: none"> • Stainless steel
Power supply	<ul style="list-style-type: none"> • Voltage: 12 - 24VDC
Computer case	
Dimensions (LxWxD)	<ul style="list-style-type: none"> • 47.8 x 9.8 x 37.7 cm
Weight	<ul style="list-style-type: none"> • 6.63 kg
Top / Base Plate Material	<ul style="list-style-type: none"> • EN10130 DC01Am
Front / Back Plate Material	<ul style="list-style-type: none"> • Aluminium EN AW-1050A
Mounting	<ul style="list-style-type: none"> • Brackets at corners for securing straps etc.



Main features	
Electronics	
Connectors	Total 4
Power	1 Input M12-L Coded
Ethernet	1 Input M12-X Coded
USB	1 Output M12-A Coded
LiDAR connection	1 Input/Output Sinbon
Power supply	
Option 1. Wall socket outlet	<ul style="list-style-type: none"> • AC/DC • 85-264 VAC • 24 VDC / 9,2 A
Input	
Output	
Option 2. External battery	<ul style="list-style-type: none"> • DC/DC • Battery 12 VDC • Inside computer case 24 VDC (VSU)
Input	
Output	
Normal operating voltage	<ul style="list-style-type: none"> • 24 VDC
Power consumption	<ul style="list-style-type: none"> • Max 100W
Overvoltage protection	<ul style="list-style-type: none"> • 7,5A Fuse
Operating temperature	<ul style="list-style-type: none"> • -20 ... +50 °C
Storage temperature	<ul style="list-style-type: none"> • -20 ... +50 °C (not informed for all components)
LiDAR	<ul style="list-style-type: none"> • Class 1 eye-safe per IEC EN 60825-1:2014 • Field of view 900 • Vertical Resolution 128 channels • IP68 • Rotation Frequency 20Hz
Cables in package	<ul style="list-style-type: none"> • Power Cable 2m (UK/AUS/NEMA 5-15p) • Power Cable 2,5m (Schuko) • AC/DC Power supply • Power Cable 5m 12V/24V plug, M12-L Coded • Adapter Cable with clamps for battery usage • Ethernet Cable 5m (M12/RJ45) • Lidar Scanner Cable 10m • USB Cable (M12/USB A)
Rugged laptop	<ul style="list-style-type: none"> • Rugged laptop with software application for recording and editing production area environment models and routes for automated operation. • Software - Mine Area Tool • Ethernet Communication
Compatible loader models	<ul style="list-style-type: none"> • LH307, LH410, LH514, LH517i/ LH517iA2, LH518iB, LH621i, LH625i
Compatible truck models	<ul style="list-style-type: none"> • TH545i, TH551i, TH663i
Compatible drill models	<ul style="list-style-type: none"> • DL422i, DL432i

Compliance

2014/30/EU Electromagnetic Comptibility (EMC) Directive

For EU

- Laser Safety: IEC/EN 60825 - 1:2014 Class 1 eye safe
- Product safety: EN/IEC 62368-1

For US

- Laser Safety:
- IEC/EN 60825 - 1:2014 Class 1 eye safe
- FDA US 21CFR 1040 Laser Notice 56

Product Safety:

- UL 62368-1
- CSA 22.2 No.62368-1-19
- EMC: FCC 47CFRPart

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