FARO®

Orbis™ Mobile Scanner

Fast, Accurate & Smart
Advanced 3D Mobile Scanning Unleashed

Mobile and Quality Stationary Flash Scans in One Device

FARO® Orbis™: Combining Speed, Versatility and Accuracy Through One Quality Mobile and Flash Scanning Solution

Introducing FARO Orbis — the advanced mobile scanning solution for a faster and smarter understanding of the world. Designed with industry professionals in mind, the new mobile scanning solution empowers you to streamline project workflows, minimize human error and maximize productivity. Embrace the future of data acquisition with this state-of-the-art mobile scanning solution, with stationary scanning capabilities, powered by Flash Technology™, unlocking unrivaled efficiency and speed for your projects.

Streamline Project Workflows, Minimize Human Error & Maximize Productivity

Fast Mobile Scans and **Quality Flash Scans** in One Device

Orbis solves the trade-off between speed and accuracy in an all-encompassing mobile scanning solution. Featuring the latest scanning technology and integrated with FARO Flash, Orbis provides high-class precision and scan density. Capture dynamic scans by walking through your jobsite with Orbis or attach the scanner to the included monopod accessory for employing Flash scans of key areas, like complex pipework, in just 15 seconds.

10X Faster Than Other Surveying Methods

10x faster than traditional surveying methods, mobile scanning enables operators to capture entire sites at the speed of the operator. The increased speed of capture saves time and money, prevents jobsite disruption and allows for real-time decision making.

Repeatable, **Repeatable**, Repeatable

With faster data capture, mapping with Orbis streamlines the process of repeat scanning for tracking changes over time, leading to a significant reduction in downtime. The integration of optional cloud processing and 4D data comparison within FARO Sphere® XG makes progress tracking and project management seamlessly efficient.

Scanning **Made Simple**

The compact design of Orbis, combined with real time data feedback and advanced software automations, allows for effortless capture of high-quality data. It simplifies complex mapping and surveying tasks, allowing for efficient data collection in various industries like mining, construction or urban planning.

Delivering **Best-in-class** SLAM

Dynamic innovation and direct customer input from real-world applications has culminated in the cutting-edge SLAM (Simultaneous Localization and Mapping) algorithm that drives Orbis today. Powered by GeoSLAM's proprietary SLAM, Orbis provides best-in-class reliability, giving you the confidence to capture the most challenging jobsites.

Versatile Processing Options to Suit All Needs

FARO offers a complete portfolio of cloud and desktop software to process your data. Provide stakeholders with point cloud information with optional cloud-based processing and storage in FARO Sphere XG. Alternatively, locally process your point cloud data in FARO Connect. For unparalleled data quality and global accuracy, register your Flash scans using FARO SCENE and its interactive registration capabilities, mirroring the control of a terrestrial laser scanner.

Innovative Software Designed with Customers in Mind

Innovative and easy to use software packages can make the difference between good and bad data outputs. FARO collaborates with industry professionals to optimize its software solutions, ensuring expert understanding and delivering efficient, effective workflows. We provide a complete portfolio of cloud and desktop software for users to get the best results from their 3D data.

Our advanced mobile application, FARO Stream™ seamlessly integrates with Orbis to dramatically enhance and optimize your scanning experience.

Real Time Feedback
Gain immediate insights with real time feedback of your scan to ensure nothing is missed.

Reference Points and Flash Scans
Capture both reference points and Flash scans from within the Stream app, at the push of a button.

Upload Data Directly to FARO Sphere XG
Send your data from Stream to the optional FARO Sphere XG cloud-based service for immediate processing and cloud storage while you're still on the jobsite.

Integrate the FARO Sphere® XG Digital Reality platform with your workflow, enabling effortless scan uploads to the cloud environment. Conveniently access, view, measure, share and collaborate with stakeholders from anywhere, presenting a unified perspective of your project. Explore and compare all point clouds and 360° photo captures, regardless of the type of capture device, FARO or otherwise.

Capture Data — **Upload To Cloud** — **Share Data**

Discover the Power of **FARO Connect**

Your ultimate desktop solution for seamless management of point cloud and image data. Leverage our industry-leading SLAM algorithm to process and visualize point clouds and elevate your workflows through automation tools that streamline tasks. Elevate your experience with Orbis through FARO Connect, redefining how you work with precision and efficiency.

Data Processing and Ownership

Local processing in FARO Connect equals repeatable processing as often as you need, with complete ownership of the data. Alternatively, you can upload point cloud data to the optional FARO Sphere XG Cloud service for more synchronous collaboration with other stakeholders. Flexible processing and storage, without third-party ownership for secure and transparent collaboration.

Automatic Georeferencing

Incorporate reflective targets or control points into your workflow to automatically georeference point cloud data within FARO Connect. The software automatically detects surveyed reflective targets at known control and uses the target positions to localize the point cloud into a real-world location. Alternatively, place the scanner on a known control point for a brief period and the information will be stored within the point cloud.

Automatic Point Cloud Colorization

Use the integrated camera on Orbis to capture panoramic images and achieve RGB colorization of your point cloud data within Connect. With a single automated workflow, Connect will process your data, create panoramic photos, position the images over your point cloud and colorize the dataset.

Automatic Data Filtering

Connect has a range of automatic filtering tools to help you get the best results from your point cloud data. These include outlier removal, surface noise reduction and removal of transient points to improve the final data output. The filtering tools are within Connect and can be applied automatically to any dataset.

Rapid Data Collection for Frequent Analysis of Construction Projects

Step into the future of AEC (Architecture, Engineering and Construction) with Orbis. View the remarkable evolution as 3D reality capture technology reshapes project execution. Embrace streamlined workflows and real-time data integration, elevating efficiency and collaboration.

- **Progress Tracking:** Use mobile and Flash scanning to keep up to date with site progress and generate regular documentation for stakeholders.
- **Building Information Modelling:** Deliver fast and efficient scans of a construction site regularly and compare point cloud data against the planned CAD model.
- **Asset Management:** Efficiency and speed allow for better data capture of buildings, delivering a revolutionary way to perform asset management.
- **Geospatial:** Orbis delivers rapid, safe data collection for geospatial projects, enhancing workflows and allowing for capture of big sites in a shorter period.

Optimizing Mine **Surveying** and Improving **Safety**

Witness a seismic shift in efficiency, safety and accuracy as Orbis revolutionizes the mining world. From analyzing rock faces for reviewing convergence to frequent volumetric calculations of stockpiles, data capture with Orbis improves productivity, while simultaneously enhancing safety.

Convergence Analysis: Review rock deformation without disrupting production for heightened safety.

Production Progress Mapping: Ensure your mines are on track with frequent data capture.

Vertical Shaft Inspection: Use the versatility of Orbis and descend the scanner down vertical shafts with the Cradle accessory.

Stockpile Volumes: Keep on top of the volumetric data for your stockpiles with fast and repeatable scanning.

Specifications

System Overview	
FARO Orbis	Mobile scanner powered by GeoSLAM technology offering mobile and stationary Flash scanning in one device
FARO Stream	Mobile app for field operation of FARO Orbis and FARO Focus Laser Scanner
FARO Connect	Desktop processing software for FARO Orbis and legacy GeoSLAM mobile scanners
FARO Scene	Desktop registration software for all 3D reality capture data
FARO Sphere XG	Cloud-based platform for all reality capture data including FARO Orbis

Performance	
General	
Range	120m
Points Per Second	640,000
Field of View	360° x 290°
No. of LIDAR channels	32
Camera	Full 360° image of 8M pixels captured every second
Mobile Scanning	
Precision[1]	5mm
Trajectory & Mapping	Robust SLAM powered by GeoSLAM technology
Settings	Automatic Standard and Preset Processing Environments
Stationary Flash Scanning	
Precision[1]	2mm
Duration	15 sec. including color
Resolution	19M points (13mm @ 10m)
Registration	Real Time and Fully Automatic with GeoSLAM technology

General	
Environment	Indoor and Outdoor
Laser Class[2]	Class 1, Eye Safe
Weight	Scanner: 2.10kg, Datalogger: 0.95kg, Battery: 0.55kg
Transport Case Dimensions	500mm x 625mm x 250mm
Operating Temperature	0° to +40°C
Manufacturer Warranty	1 Year

[1] Given as one sigma | [2] In accordance with IEC EN60825-1 | Specifications are subject to change without prior notice

CERTIFIED ISO 9001

Operation	
Stand-alone Operation	One button to start/stop data capture; One button to capture Flash scans
Smartphone Operation	FARO Stream app (for iOS and Android): scanner control, real-time data visualization, and direct sync to cloud processing with FARO Sphere XG
Control Points Capture	Stop-and-Go, checkerboard, reflective, and spherical targets for alignment and/or georeferencing
Advanced Registration	When desired, register multiple mobile, Flash and/or FARO Focus scans
Configuration	• Handheld with Datalogger on Shoulder Strap • Monopod with Scanner and Datalogger mounted together • Accessories available: Car Mount, Backpack, Cradle
Scanner Orientation	Can be used in any orientation: upright, upside down, sideways
Battery Duration	Typical 3 hours
Internal Storage	512 GB, up to 50 hours of continuous data capture
Data Transfer	WiFi, RJ45 or directly with USB stick

Data/Processing	
Data	Point clouds with Intensity and Color, 360° Images, Trajectory
Raw Mobile Data Size	350MB/min uncompressed
Flash Scan Data Size	125MB
Desktop Processing	FARO Connect for Mobile and Flash Scans, FARO Scene for Advanced Registration
Cloud Processing	Fully automated with FARO Sphere XG
Output	Mobile scan: E57, LAS, LAZ, PLY, TXT - Flash scan: E57

Local operations around the world. Go to **FARO.com** to learn more.

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