



HERON[®] MS TWIN Color

HERON MS TWIN Color is a portable 3D mapping system featuring a double laser sensor for robust 3D geometry acquisition, and an RGB hi-res panoramic camera for images collection both in continuous and on-demand at 5K. It works in complex and multi-level buildings, and supports geospatial and digital twin applications. It is provided with a complete software package to manage the entire data processing workflow.



3.70 m

9.56 m



— HERON family —

INDOOR/OUTDOOR

Wearable or handheld mobile laser scanner. Versatile and suitable for any environment.

Your unmatched SLAM-based solution!

AUTOMATIC

Turn on the system and start surveying. Just walk and leave the scanner working for you.

Enjoy a professional system easy-to-use!

COMPLETE DATA

3D point clouds and 5k pano images to gather both geometry and color information at once.

The scanner you can no longer give up!

ALL-IN-ONE

Full post-processing software included. Third-party compatibility provided.

A forefront technology at your fingertips!

USABILITY

- RGB data acquisition: automatic and on-demand at 5K for very detailed images only if requested.
- Easy geo-referencing procedure.
- Loop closure and initialization procedure not required.
- Light rugged backpack usable for transportation and acquisition.
- Capture head dockable also to a pole or vehicles like cars, bikes, quads...
- Rugged touch screen Control Unit that also provides:
 - Annotations.
 - Real-time view of the point cloud generation and the acquired panoramic images.
 - Hands-free configuration.

DATA PROCESSING

- Accurate 3D colorized models also in complex environments.
- Automatic mapping of color data on 3D model.
- Very dense point cloud rendering with multiple color layers.
- Direct export of images and 3D data to ReCap Pro.
- Easy data export to third-party software (like 3DM Feature Extraction, EdgeWise, Micromine, Scene, Verity) and cloud platforms (e.g. 3DM Cloud, 3DUserNet, Cintoo Cloud, Scene Webshare) through the .e57 format.
- Advanced point cloud rendering which emphasizes features and details.
- 3D models navigation tools.
- Tracking mode for change detection applications.



APPLICATIONS

- Indoors
- Stockpiles
- BIM Models
- Tunnels
- Underground Mines
- Multi-level Buildings
- Large, Complex, Harsh Environments
- Cultural Heritage
- Geospatial
- Real Estate Assets Management
- Forests
- Urban Areas
- Outdoors (with geometry)
- Digital Twin
- Fast and sharable Plan Views
- Multi-sensor Projects
- Progress Monitoring in Construction Sites
- Forensic

INCLUDED SOFTWARE

What you need to create and navigate 3D models and share results



HERON Desktop®

Post-processing SLAM software

To manage HERON raw data and automatically get accurate 3D point cloud models using a patented SLAM algorithm; split and merge survey trajectories and filter moving objects. Advanced mode to customize SLAM parameters. Use of GNSS coordinates for geolocalization.



Reconstructor®

Advanced 3D point cloud analysis software

Complete post-processing workflow for data from HERON or tripod/handheld/mobile sensors and UAV 3D point clouds. Powerful automatic target-less scans registration. Data export in several standard formats. Full compatibility with several third-party software and cloud platforms. Point cloud editing, color camera calibration, mesh and DTM generation, volume/cut&fill volume calculations, cross-sections and profiles extraction.



GoBlueprint®

Free tool for 2.5D maps

A user-friendly viewer of X-ray 2.5D scaled images (obtained with Reconstructor), designed to quickly share models with final clients letting them easily measure distances, areas, volumes. It runs on any Windows-based tablet or pc.



HERON® MS TWIN Color

Product Specifications

MAIN FEATURES

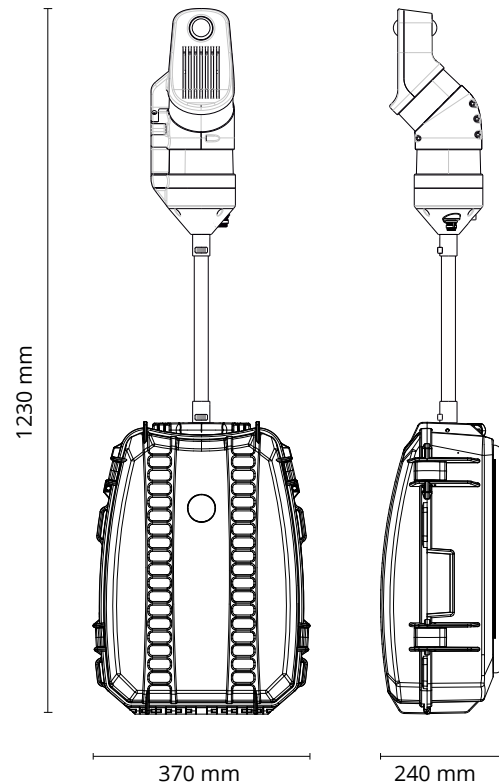
Suitable environment	indoor/outdoor
Handheld	possible ⁽¹⁾
Wearable	yes
Mountable on various mobile platforms (car, trolley, bike, quad, boat)	yes
No limits SLAM post-processing software included (HERON Desktop)	yes
Point cloud advanced processing software included (Reconstructor)	yes
Free software for x-ray maps visualization and measuring included (GoBlueprint)	yes
Output data	.e57, .las, .ply, export to ReCap
Points per second	600.000
Local accuracy	~ 3 cm
Max survey resolution	~ 2 cm
Global accuracy	~ 5 cm in short close rings ⁽²⁾
Control points	yes (optional add-on)
Global accuracy with control points	~ 3 cm
Loop closure	not mandatory
Usable in every light conditions	yes
Initialization and calibration procedures	not required
Single operator	yes
Sensors working hours (in continuous acquisition)	~ 2.5 h
Real-time 3D point cloud visualization	yes
Real-time RGB image visualization	yes
Real-time change detection & Automatic self-localization	yes (optional add-on)
Operating temperature	-10° ; +45°
Storage temperature	-40° ; +60°
Rugged transport case	yes

PANORAMIC CAMERA

Continuous 15 hz acquisition and visualization (1920x1080 pixel full HD)	yes
On demand image acquisition at 5K (5640x2820 pixel)	yes
FOV	360° x 360°
Depth of focus	from 40 cm to ∞
Focal length	35 mm ≅ 1.036 mm
Automatic color and light balance	yes
Automatic exposure control	yes

SYSTEM BATTERY

Model	TalentCell PB240A1 li-ion
Capacity and Weight	3.7V/22400mAh - 440 g
Dimension	39 x 137 x 79 mm



CAPTURE HEAD (REMOVABLE)

Laser sensors No. and type	2 Velodyne Puck LITE
Laser safety classification	class 1
Laser wave length	903 nm
FOV	360° x 360°
Panoramic camera	1
Cooling fan	yes
IMU	yes
Weight	2200 g
Dimension	410 x 140 mm

RUGGED TOUCHSCREEN CONTROL UNIT

Processor	Intel® Core™ i7
Weight	1200 g
Dimension	277 x 195 x 24 mm
Storage and Memory	256 GB
Protection index	IP65
Shoulder harness	282 g
Display	10.1" IPS TFT LCD WUXGA
Capacitive	Multi-touch screen
Sunlight readable technology	1000 nits LumiBond®
Power	Li-ion smart battery
Battery working hours	~ 1 h 30 m

HERON® MS TWIN Color

Product Specifications

RUGGED BACKPACK

Wearable	yes
Dimension	540 x 400 x 220 mm
Weight	5250 g
Wired for system connection	yes
Storage and transport case	yes

OPTIONAL TOOLKITS

Telescopic pole with cables (from 56 to 180 cm 1000 g)
Car mount
Pole with linear actuator (from 12 to 41.5 cm 410 g)
Ring LED Light (4000 lumen 36 W 700 g)
High capacity battery for Control Unit (3 hours)

SOFTWARE EQUIPMENT

Reconstructor	included
Reconstructor HERON add-on	included
3D navigation of point clouds and images	yes
Automatic scans registration	yes
Direct data import	.laz, .e57, .fls, .zfs, .rxp, .3dd, .x3s, .x3m, .clr, .cl3, .dp, .ixf, .nctri, .txt, .las, .ptx, .pts, .ptg, .asc, .ply, .csv, DEM Ascii
Point cloud filtering, managing and classifying	yes
Import .ifc BIM format	yes
Import terrestrial laser scanner data	yes
Import point clouds from UAV	yes
Import mobile mapping data	yes
CAD/Mesh models	.ifc, .obj, .dxf, .stl, .txt, .wrl, .vrml, .ply, .mvx, .dae
Export to ReCap Pro	yes
Cross sections and profiles (.dxf)	yes
Orthophotos & x-ray orthophotos (direct export to AutoCAD)	yes
Volumes and areas computation	yes
Mesh creation and manipulation	yes
Verification tool	yes

HERON Desktop	included
Drift effect reducing (global optimization)	yes
3D local maps patented algorithm	yes
Large coordinates for geolocalization	yes
Split/merge trajectories and point clouds	yes
Automatic post-processing mode	yes
Noise cleaning (attenuation)	yes
Moving objects removing	yes

GoBlueprint	free software
Volume calculation based on x-ray maps	yes
Take measures on x-ray maps directly (linear, angular, area)	yes
For any Windows-based PC and tablet (to bring your maps on-site too)	yes
Deliverables easy to manage and share	yes

HERON Constraints add-on	optional
HERON Tracking add-on	optional
Reconstructor MINING add-on	optional
Reconstructor COLOR add-on	optional
Reconstructor 3D Viewer	free tool
ClearEdge3D EdgeWise	optional
ClearEdge3D Verity & Rithm	optional
3DUserNetVISION (discount rates available)	optional
Cintoo Cloud	optional

(1) When needed, it is possible to use the capture head with the pole, to easily map hidden areas as holes, ravines, manholes, etc.

(2) The global accuracy depends on the effectiveness of the SLAM registration algorithm, which can be influenced by the geometry of the surveyed environment. Long trajectories in absence of loop closures and cross paths, as narrow tunnels or narrow stairs, can downgrade the global accuracy to 20-50 cm. The patented and unique algorithms present in HERON Desktop and the use of control points or control scans as constraints can dramatically improve the quality of the sensor accuracy up to 2cm. The Gexcel support team is always ready to provide you with more detailed information on this topic.

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