

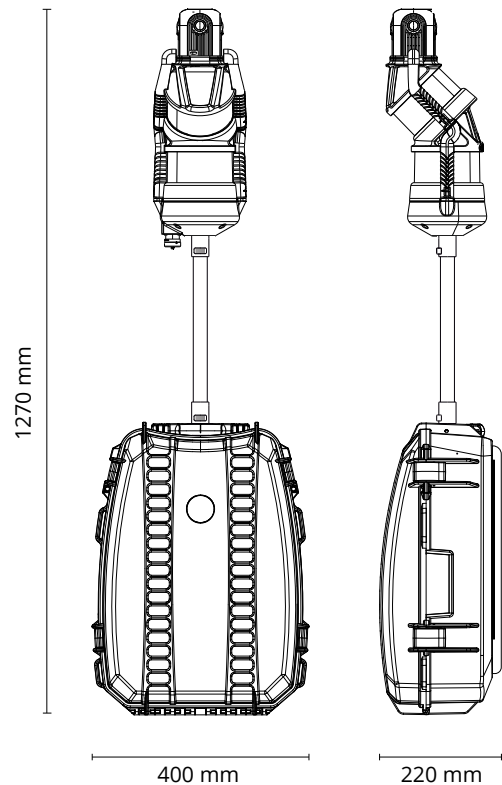
## TECH SHEET

### MAIN FEATURES

Suitable environment	indoor/outdoor
Handheld	possible <sup>(1)</sup>
Wearable	yes
Mountable on various mobile platforms (car, trolley, bike, quad, boat, robot)	yes
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	1,280,000
Local accuracy	±4 mm
Max survey resolution	1 cm
Global accuracy	±4 cm in short close rings <sup>(2)</sup>
Control points acquisition	yes
Global accuracy with control points	±2 cm
Loop closure	not mandatory
Usable in every light conditions	yes
Initialization and calibration procedures	not required
Single operator	yes
Sensors working time (in continuous acquisition)	~ 1h 15min (more with extra batteries)
Real-time visualization of RGB 8K images	yes
Change detection & Automatic self-localization	yes (optional add-on)
Operating temperature	-10° ; +45°
Storage temperature	-40° ; +60°
Rugged transport case	yes

### CAPTURE HEAD (DETACHABLE)

Weight and Dimensions	3000 g   382 x 141 x 153 mm
COMPONENTS:	
• <b>LASER SENSORS</b>	32+32 chs   Class 1 Eye Safe
Laser wavelength	905 nm
Minimum laser range	0.05 m
Maximum laser range	300 m
FOV	360° x 360° <sup>(3)</sup>
• <b>IMU</b>	yes
• <b>RGB PANO CAMERA (MG1)</b>	n. 1   4 lenses
Continuous acquisition	24 Hz   4K Ultra HD
Single shot acquisition	8K
FOV	360°
Automatic color/light balance	yes
Automatic exposure control	yes <sup>(4)</sup>



### SYSTEM CONTROLLER

Weight and Dimensions	1085 g   160 x 209 x 59 mm
Processor	Intel® 11 <sup>th</sup> Gen Core™ (4.1 GHz)
• <b>PENDRIVE</b> for data storage	USB 3.1 Gen 1
Memory size	256 GB
Max read speed	up to 300 MB/sec
Max write speed	up to 100 MB/sec
• <b>INTERNAL BATTERY</b>	Li-ion battery
Capacity	6700 mAh   80.4 Wh
Output	12 V
Working time	~ 1h 15min (more with extra "plug&go" batteries)

### PDA CONTROL UNIT

*Personal Digital Assistant*

Weight and Dimensions	560 g   167 x 81.4 x 15.5 mm
Processor	Helio G95 Octa Core 2.1 GHz
Display	6.22" LCD HD + waterdrop screen
Battery	Li-ion   6350 mAh
Battery charging	24 W Type-C fast charge
Battery working time	15 ÷ 24 h (depending on the display intensity)

## TECH SHEET

### RUGGED BACKPACK

Dimensions	540 x 400 x 220 mm
Weight	4850 g
Internally cabled	Controller and Capture Head connection
For mapping use	yes
For storage and transport use	yes

### OPTIONAL TOOLKITS

Extra batteries	standard   "plug&go"   ~ 1h 15min   445 g
	high-capacity   "plug&go"   ~ 3 h   860 g
Telescopic pole	from 560 to 1800 mm   1000 g
Centering tip	150 mm   12 g
Ring LED Light	Ø126 x 184 mm   700 g   4000 lm   36 W
Car mount	(with case) 547 x 427 x 251 mm   9000 g

### SOFTWARE EQUIPMENT

<b>Reconstructor</b>	included
<b>Reconstructor HERON add-on</b>	included
3D navigation of point clouds and images	yes
Automatic scans registration	yes
Direct data import	.laz, .e57, .fls, .zfs, .rxp, .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	.3ds, .ifc, .obj, .dxf, .stl, .txt, .wrl, .vrml, .ply, .mvx, .dae
Direct export	ReCap, Geo-Plus, Cintoo, ObitGT, 3DUserNet
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

<b>HERON Desktop</b>	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

<b>GoBlueprint</b>	free software
Volume calculation based on x-ray maps	yes
Measures on x-ray maps directly (lines, angles, areas)	yes
For any Windows-based PC and tablet (to bring your maps on-site too)	yes
Deliverables easy to manage and share	yes

<b>HERON Constraints tool</b>	included
<b>HERON Tracking add-on</b>	optional
<b>Reconstructor MINING add-on</b>	optional
<b>Reconstructor COLOR add-on</b>	optional
<b>Reconstructor 3D Viewer</b>	free tool
<b>ClearEdge3D EdgeWise</b>	optional
<b>ClearEdge3D Verity &amp; Rithm</b>	optional
<b>3DUserNet VISION</b> (discount rates available)	optional
<b>Cintoo Cloud</b>	optional

- (1) When needed, it is possible to use the capture head with telescopic poles, to easily map hidden areas such 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, such as narrow tunnels or narrow stairs, can downgrade the global accuracy to 5-10 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 global accuracy up to 2 cm. The Gexcel support team is always available to provide you with more detailed information on this topic.
- (3) Final FOV guaranteed by walking with the system.
- (4) The camera may not perform optimally in dark places. In these cases, we suggest the use of the *Ring LED Light* optional kit.

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