

A Survey REVOLution

Fast
Accurate
Proven
Efficient

Introducing the **ZEB-REVO** mobile indoor mapping system



Features

- Ultra Mobile** Weighing only 3.5kg, the handheld ZEB-REVO can be used to quickly scan multi-level environments
- Rugged** With an IP64 rating, the ZEB-REVO can withstand hazardous and harsh environments
- Simple to Use** No need for GPS or control, the one button on/off operation reduces training requirements
- Fast** Complete surveys in minutes, much faster than traditional surveys or static terrestrial laser scanning

How It Works



SCAN

Scanning is made simple with the ZEB-REVO, the revolutionary new handheld laser scanner from GeoSLAM. The 100Hz scanner and 360° field of view allows for fast, accurate and high quality data capture.



REGISTER

Automatic SLAM (Simultaneous Localisation And Mapping) cloud-to-cloud registration using either GeoSLAM Desktop processing or GeoSLAM pay-as-you-go processing.



POINT CLOUD

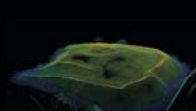
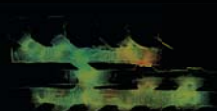
Resulting 3D point cloud produced in .laz format, as well as trajectory condition files. Extracted .las file compatible with all major industry standard post processing software.

Applications

The ZEB-REVO builds upon the success of its predecessor, the award-winning ZEB1, with a faster scanner, even simpler operation and greater versatility.

At its core is GeoSLAM's industry-leading Simultaneous Localisation And Mapping (SLAM) algorithm, which facilitates rapid mobile mapping of enclosed environments, without the need for GPS.

This versatility renders the ZEB-REVO suitable for a large variety of applications that would otherwise prove difficult or time consuming using traditional survey techniques.



Buildings | **Underground** | **Forestry** | **Marine** | **Stockpiles** | **Security**

Enhanced Performance

Extra Versatility

Due to the auto-rotation of the sensor head, the ZEB-REVO can be handheld, but also deployed on a pole, backpack, or even autonomous vehicle

Higher Resolution

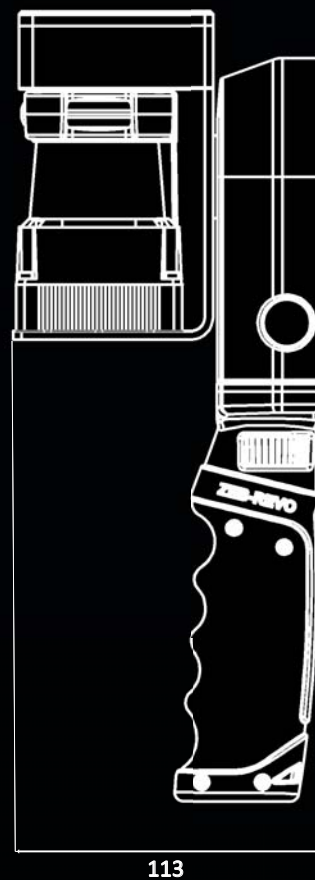
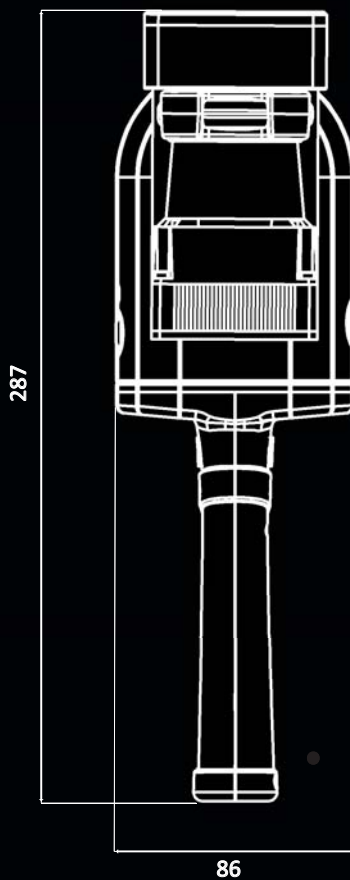
Now with a 100Hz line speed, the ZEB-REVO produces 2.5 times more scan lines than the ZEB1, and a more structured point cloud

More Discreet

No requirement to be manually nodded and with a reduced size, the ZEB-REVO provides a more subtle survey operation

Improved Accuracy

Higher resolution facilitates improved feature extraction and more accurate automatic SLAM registration with just a single closed loop



ZEB-REVO

System Features

Maximum Range	30m*
Data Acquisition Rate	43,200 points/sec
Resolution	0.625° horizontal, 1.8° vertical
Angular FOV	270° x 360°
Supply Voltage	12VDC ± 10%
Supply Current	Max 1.5A, normal 1.0A
Power Consumption	Less than 20W
Operating Temperature	0° to +50 °C
Operating Humidity	<85% RH
Mounting Operation	Removable handle provided, can also be pole or vehicle- mounted

*Maximum range to Kodak white card indoors (90% reflectivity)

Outdoors range may be reduced to 15-20m depending on environmental conditions

Sensor

Laser Safety Class	Class 1 Eye Safe
Laser Wavelength	905nm
Scanner Line Speed	100Hz
Scanner Resolution	0.625° horizontal
Rotation Speed	0.5Hz

Battery

Battery Type	Lithium Polymer (LiPo)
Capacity	8Ah +/- 5%
Nominal Voltage	12V
Battery Life	4 hours (continuous use)
Charge Time	8 – 12 hours
Battery Lifespan	300+ cycles
Chargers Supplied	UK, USA, EU & AUS
Weight	600g

Data

Data Storage Capacity	55GB
Raw data file size	~10MB for every 1 min scanning
Processed data file size	~8MB for every 1 min scanning
Default output file format	.LAZ (compressed .LAS)
Compatibility	Unzipped .LAS data compatible with all major CAD software packages

Accuracy

Relative Accuracy	2 – 3cm
Absolute Position Accuracy	3 – 30cm (10 mins scanning, 1 loop)

A number of environmental factors can influence trajectory accuracy, including:

- Extremely smooth or blank surfaces
- Moving objects (i.e. people or vehicles)
- Feature-poor environments (i.e. corridors)
- Precipitation
- Failure to close the loop

Under optimum indoor conditions, greater accuracy can be achieved than that stated above.

Casing

IP Rating	IP64 (dust-tight, splash-proof)
Cable Connectors	LEMO multi pin
Weight (scanner)	1.0kg
Weight (total system)	4.1kg
Dimensions (scanner)	86 x 113 x 287mm
Dimensions (backpack)	220 x 180 x 470mm