

# A Survey REVOLution

Fast  
Accurate  
Proven  
Efficient

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



[www.grafinta.com](http://www.grafinta.com)

## 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

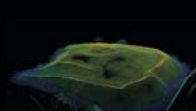
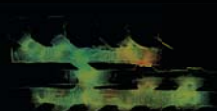
Resulting 3D point cloud produced in .laz format, as well as trajectory condition files. Extracted .las file compatible with all major industry standard post processing software.

## 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

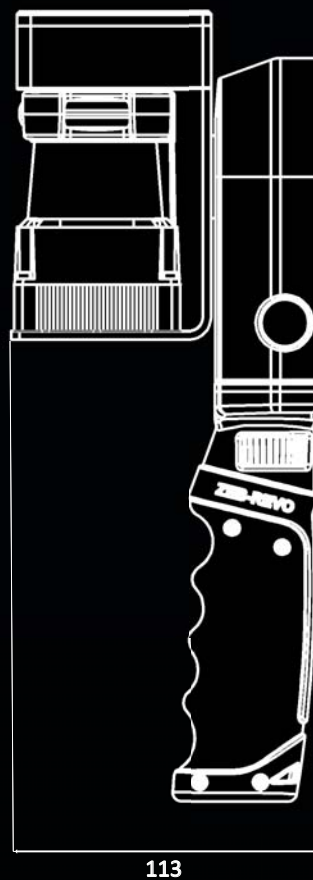
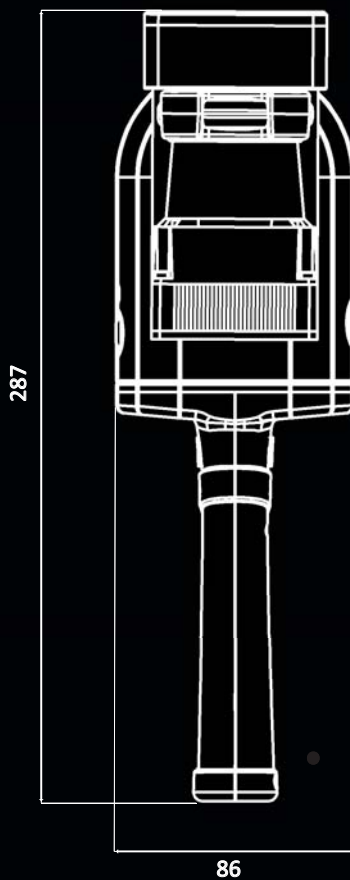
Now with a 100Hz line speed, the ZEB-REVO produces 2.5 times more scan lines than the ZEB1, and a more structured point cloud

### 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



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## 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