

# A Survey REVOLUTION

Fast  
Simple  
Mobile  
Reliable

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 Cloud** 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.



## 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

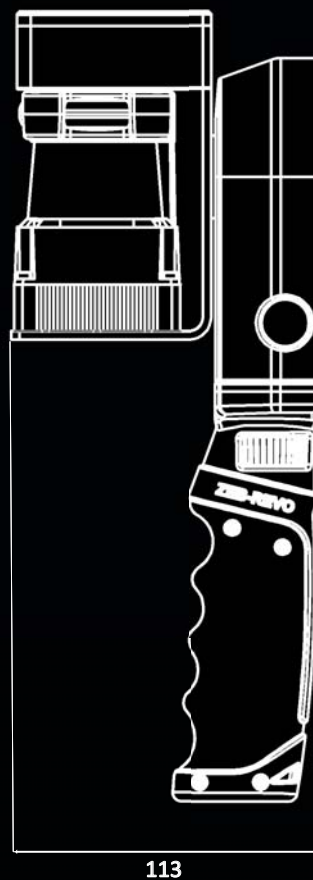
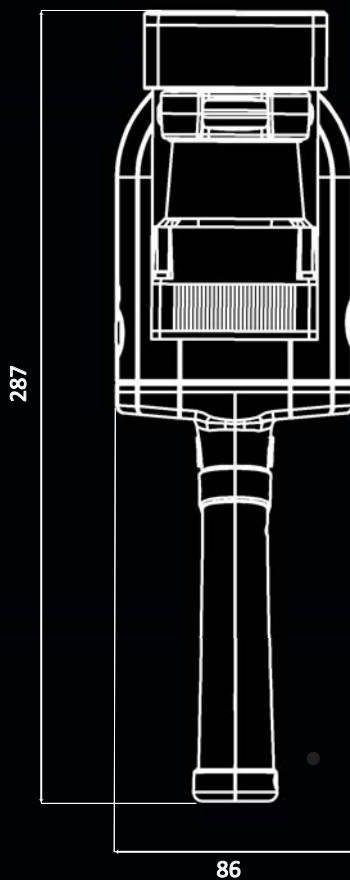
Now with a 100Hz line speed, the ZEB-REVO produces 2.5 times more scan lines than the ZEB1, and a more structured point cloud

### 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

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

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

## Battery

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

## Data

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

## Accuracy

<b>Relative Accuracy</b>	2 – 3cm
<b>Absolute Position Accuracy</b>	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

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