

# SPS ZOOM 300



3D Laser Scanner

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## 3D Laser Scanner

A 3D laser scanner is a device that collects precise spatial data of objects or environments. The collected point cloud data can then be used to construct digital three dimensional models.

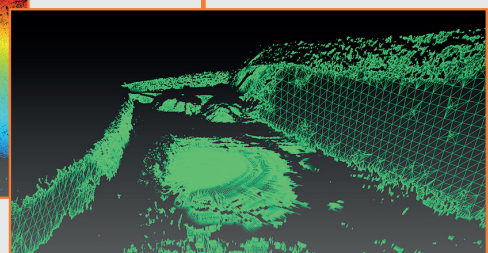
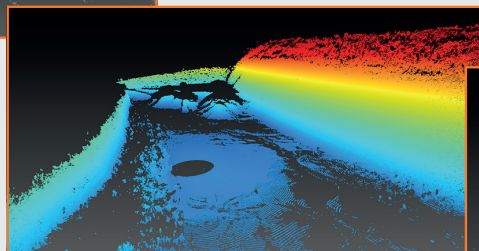
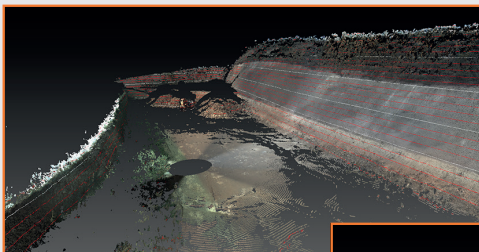
ZOOM 300 is a high performance, easy to use, complete solution for all 3D survey requirements. Manufactured to withstand adverse conditions, the design is also lightweight and portable.

## The perfect combination of robustness, performance and price

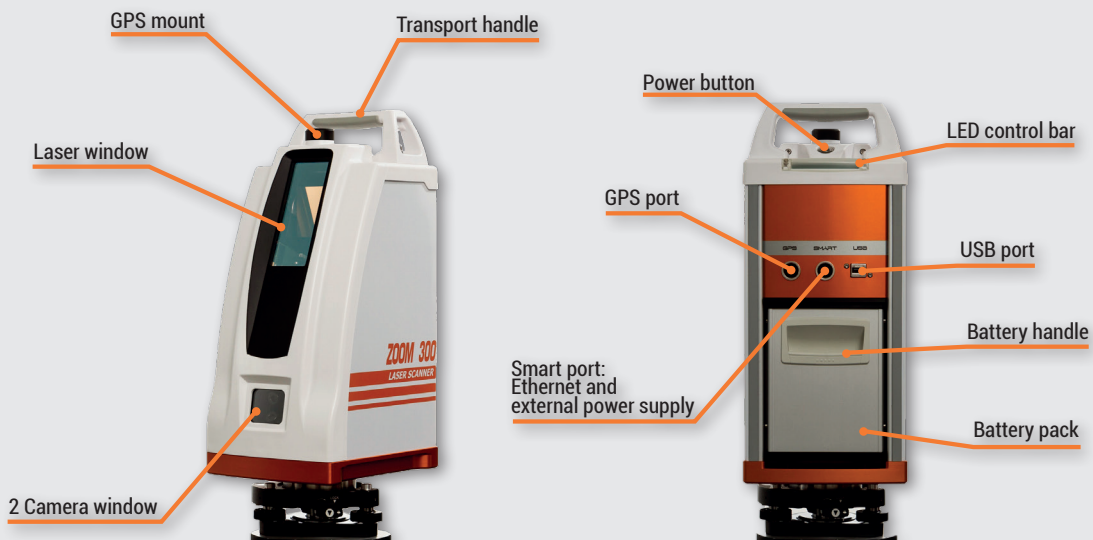
ZOOM 300 is a rugged and reliable Time of Flight Laser Scanner recommended for all working environments, especially topographic surveys.

The sealed casing protects the internal components, providing an IP65 dust and waterproof rating.

ZOOM 300 is simple to use and ready to scan at the press of a button. The scanner can be controlled and operated directly from all mobile devices with a WLAN connection. A menu driven interface makes selection straightforward.



# Features



## Principal features

- Compact Laser Scanner, everything in a single case
- Easy interface
- Ready to work in few minutes for increased productivity
- Wi-Fi functionality - operate the scanner directly from your PC or Smartphone (iOS, Android and Windows Mobile)
- 2 intergrated cameras 5+5 Mpx
- Integration of GPS data
- Laser class 1 - work safely without eye protection
- Robust but lightweight (7 kg incl battery)
- > 6 hours of continuous work with the 2 batteries provided
- Operating temperature -10° to +50°
- IP65 protection, the top of the range for a laser scanner
- The best performance/price ratio solution available on the market



# Performance

## Operational specifications

ZOOM 300 supports four scan modes at different resolutions.

Depending on the object and the area to scan, the user can define the best resolution to optimize scan time and the size of data output. The scan time varies according to the scan mode.

| Resolution      | H. res. (360°) | V. res. (90°) | Total points | Time x 360° | Columns/sec. |
|-----------------|----------------|---------------|--------------|-------------|--------------|
| <b>Fine</b>     | 16.000         | 4.000         | 64.000.000   | 1h 06m 40s  | 4            |
| <b>Standard</b> | 8.000          | 2.000         | 16.000.000   | 0h 16m 40s  | 8            |
| <b>Fast</b>     | 4.000          | 1.000         | 4.000.000    | 0h 04m 10s  | 16           |
| <b>Preview</b>  | 2.000          | 500           | 1.000.000    | 0h 01m 02s  | 32           |

Scanner resolution (\*: referred to scan time only, excluding warmup, initialization, positioning, photo capture)

| Grid step distance | 10m    | 30m    | 50m     | 100m    | 200m    |
|--------------------|--------|--------|---------|---------|---------|
| <b>Fine</b>        | 0.39cm | 1.17cm | 1.96cm  | 3.92cm  | 7.85cm  |
| <b>Standard</b>    | 0.78cm | 2.35cm | 3.92cm  | 7.85cm  | 15.90cm |
| <b>Fast</b>        | 1.57cm | 4.71cm | 7.85cm  | 15.70cm | 31.41cm |
| <b>Preview</b>     | 3.14cm | 9.42cm | 15.70cm | 31.41cm | 62.83cm |

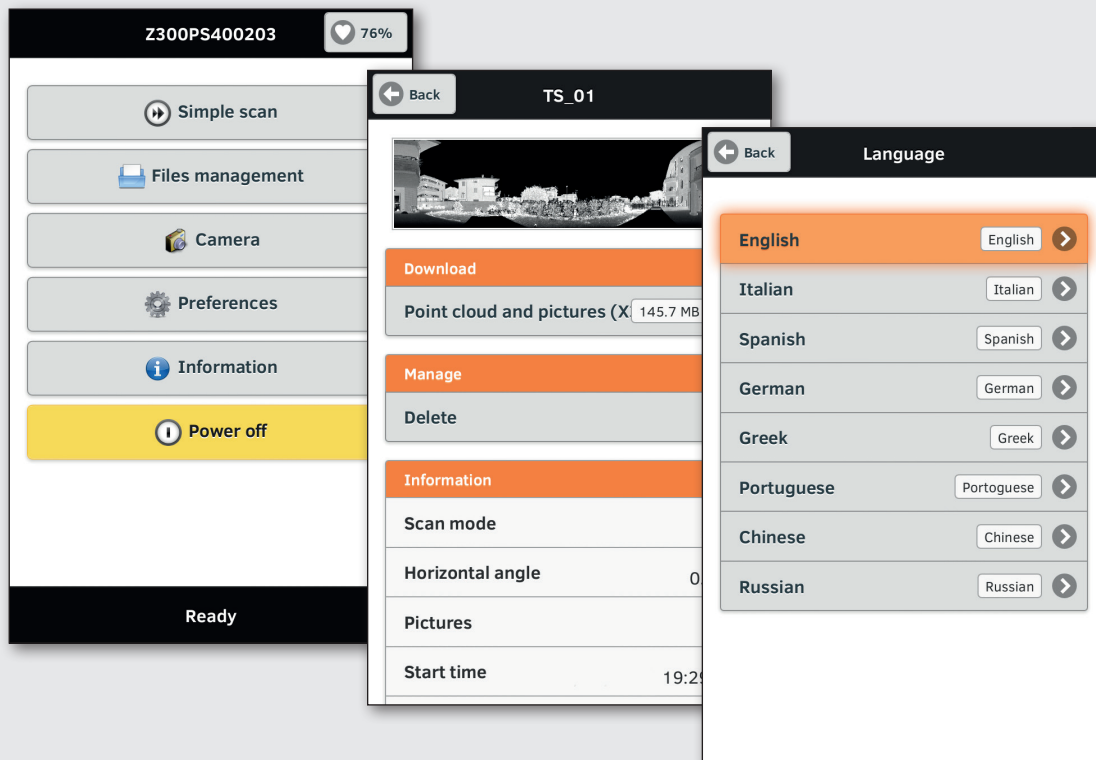
Distance reference



# Software

## Simple and intuitive interface

To operate the ZOOM 300 Laser Scanner, all you need is a PC, Tablet or Smartphone with Wi-Fi and a web browser. You do not even need to install any drivers or software, since the web interface server is built into the scanner.



## X•PAD MPS

A new concept in software for processing topographical data, capable of integrating a variety of different information, including: import of all common data formats, calculations, scan registration and management of the point clouds and photography, topographical drawing functionality.

Simplicity and interactivity all in one application!



# Operating Mode

## Georeferencing of the survey with GPS/GNSS

It is now possible to use a GPS/GNSS receiver to calculate the position of the scan and georeference the point cloud data.

A GPS/GNSS antenna can be mounted on the ZOOM 300 and orientation can be calculated from a reference target with known coordinates using a second GPS/GNSS receiver.

The equipment ensures accuracy and precision for all 3D projects using a single 3D reference system.



## Framework

Framework is a Laser Scanner support accessory particularly useful for the scanning of closed environments such as caves, architectural structures and tunnels, where ceilings are particularly high.

This accessory allows the scanner to perform a full surface scan through a rotation of 240°.



# Applications



Quarry



Landfills



Landslides



Monitoring Rock Faces



Volume Calculation



Tunnels



Survey



Collision Investigation



Structures



Architecture

# SPS ZOOM 300

## Technical data

### Technical features

|                          |   |
|--------------------------|---|
| Max Range                | 300m 100% reflectivity<br>(on white target) |
| Operating conditiions    | 250m  |
| Min Range                | 2.5m  |
| Horizontal field of view | 360°  |
| Vertical field of view   | 90° (-25° +65°)                             |
| Scan rate                | 40.000 points/sec                           |
| Laser beam divergence    | 0.37mrad                                    |
| Resolution               | 37mm x 37mm @ 100m                          |
| Accuracy                 | 6mm @ 50m<br><10mm @ 100m                   |

### Physical specifications

|                     |                       |
|---------------------|-----------------------|
| Scanner size        | 215mm x 170mm x 430mm |
| Scanner weight      | 6.15Kg                |
| Battery size        | 42m x 165mm x 120mm   |
| Battery weight      | 0.85Kg                |
| Power supply size   | 147mm x 63mm x 38mm   |
| Power supply weight | 0.2Kg                 |

### System specifications

|                              |   |
|------------------------------|---|
| Scanning optics vertically   | Rotating mirror   |
| Scanning optics horizontally | Rotating base   |
| Laser class                  | Class 1 (eye safe)  |
| Camera                       | 2 calibrated camera   |
| Resolution                   | 5 megapixel each camera   |
| Internal memory              | 32Gb  |
| Data transfer                | Wi-Fi, USB, Ethernet  |
| Software on board            | Dedicated Wi-Fi web interface for Smartphone and Tablet (Android, iOS and Windows Mobile) |

### Electrical specifications

|                   |                                      |
|-------------------|--------------------------------------|
| Power supply      | 12V (battery or external power unit) |
| Power consumption | 40W (on average)                     |
| Battery type      | Li-Poly                              |
| Operation         | >3h each battery (2 included)        |

### Enviromental specifications

|                       |                |
|-----------------------|----------------|
| Operation temperature | -10°C + 50°C   |
| Storate temperature   | -25°C + 80°C   |
| Humidity              | Non-condensing |
| Protection class      | IP65           |



### KIT standard SPS ZOOM 300

- 1 ZOOM 300 instrument unit
- 1 Rugged carrying case (Yellow)
- 2 Li-Poly battery 8200 mAH
- 1 Battery Charger
- 1 Tribrach with optical plummet



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