

LABORATORY: CNR-INO

NAME OF THE INSTRUMENT

Laser Scanner Faro Focus Premium

GENERAL DESCRIPTION:

The Faro Focus Laser Scanner instrument available in MOLAB can be used for in situ investigations as it is extremely handy (230 x 183 x 103 mm and weighs 4.4 kg), fast and completely non-invasive. It uses phase difference laser technology, (for which the distance is calculated by comparing the phase difference between the transmitted wave and the received one, thus obtaining information on the coordinates of space) with high acquisition speed, (2,000,000 points / sec) and high degree of precision.

Laser scanner technology is an extremely precise surface methodology, which allows the creation of a three-dimensional model.

The measuring range extends to 350m radius on surfaces with a reflectance coefficient of 90%. An integrated GPS receiver allows to correlate individual scans during post-processing.

3D scanning data is managed in the specific software or imported into other applications specifically made by others. Through the treatment of the point cloud it is possible to calculate distances, areas and volumes, extract sections, profiles and make 2D drawings such as plans and elevations.

TECHNICAL DETAILS:

White, 90% Reflectivity 0.1 mm @ 10 m, 0.2 mm @ 25 m

Dark-grey, 10% Reflectivity 0.3 mm @ 10 m, 0.4 mm @ 25 m

Black, 2% Reflectivity 0.7 mm @ 10 m, 1.2 mm @ 25 m

Max Speed Up to 2 MPts/sec

3D Accuracy 2 mm @ 10 m, 3.5 mm @ 25 m

Ranging Error ± 1 mm

Angular Accuracy 5 19 arcsec

Temperature Range Operating: +5 ° to +40 °C,

Extended Operating: -20 ° to +55 °C,

Storage: -10 ° to +60 °C

Color Resolution Up to 266 MPx color

Field of View 300° vertical / 360° horizontal

Max. Scan Speed 97 Hz (vertical)

Laser Class Laser Class 1

Wavelength 1553.5 nm

Beam Divergence 0.3 mrad (1/e)

Beam Diameter at Exit 2.12 mm (1/e)

Data Storage SATA 3.0 SSD 128 GB

Scanner Control Via touch screen display and WLAN connection



Figure: laser scanner system

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