

FARO® Laser Scanner Focus^{3D}

The Leader in 3D Documentation

FARO



NEW – Multi-Sensor & WLAN

The integrated Compass delivers valuable information about the scan's orientation, the Height Sensor about the scan's height and the Dual Axis Compensator about the scan's level. They support automatic post processing and dramatically minimize manual efforts. All sensors are integrated in the small housing of the new Focus^{3D} multi-sensor so as not to impact the handling in any way.

Compass

The new FARO Focus^{3D} multi-sensor employs an electronic compass. Attaching orientation data to each scan is a big contribution to a successful auto-registration.

Height Sensor (Altimeter)

Each scan now receives height information. For example scanning at different floor levels in a building which then can be differentiated via the height data.

Dual Axis Compensator

All scans receive the level information which provides to be very helpful in minimizing the number of targets.

WLAN

WLAN remote control permits you to start, stop, view or download scans at a distance.

A leap in innovation & efficiency to lower your costs

The Focus^{3D} is a high-speed 3D scanner for detailed measurement and 3D Documentation. Focus^{3D} multi-sensor uses laser technology to produce incredibly detailed three-dimensional images of complex environments and geometries in only a few minutes. The Focus^{3D} multi-sensor has a touch screen to control scanning functions. The resulting image is an assembly of millions of 3D measurement points in colour which provide an exact digital reproduction of existing conditions.

The Focus^{3D} offers the most efficient method for three-dimensional documentation of building construction, excavation volumes, façade and structural deformations, crime scenes, accident details, product geometry, factories, process plants and more. Given its minimal size and weight as well as its touch interface, the Focus^{3D} is easy to work with and saves up to 50% of scan time compared to conventional scanners. Its ease of handling and use is unsurpassed.

Benefits

The new FARO Focus^{3D} multi-sensor is the leading tool for 3D Documentation. The integrated color camera delivers 70 megapixel of photorealistic color data. The Focus^{3D} sensors allow a high degree of automation in post processing. Together with the new software SCENE the Focus^{3D} multi-sensor allows even better auto registration results and speed up projects further.

Performance Specifications Focus^{3D}S

Ranging unit

Unambiguity interval:	153.49m (503.58ft)
Range Focus ^{3D} S 120 ¹ :	0,6m - 120m indoor or outdoor with low ambient light and normal incidence to a 90% reflective surface
Range Focus ^{3D} S 20:	0,6m - 20m at normal incidence on >10% matte reflective surface
Measurement speed (Pts/Sec):	122,000 / 244,000 / 488,000 / 976,000
Ranging error ² :	±2mm

Ranging noise ³	@10m	@10m - noise compressed ⁴	@25m	@25m - noise compressed ⁴
@ 90% refl.	0.6mm	0.3mm	0.95mm	0.5mm
@ 10% refl.	1.2mm	0.6mm	2.20mm	1.1mm

Colour unit

Resolution:	Up to 70 megapixel colour
Dynamic colour feature:	Automatic adaption of brightness

Deflection unit

Field of view (vertical/horizontal):	300° / 360°
Step size (vertical/horizontal):	0,009° (40,960 3D-Pixel on 360°) / 0,009° (40,960 3D-Pixel on 360°)
Max. vertical scan speed:	5,820rpm or 97Hz

Laser (Optical transmitter)

Laser power (cw Ø):	20mW (Laser class 3R)
Wavelength:	905nm
Beam divergence:	Typical 0.19mrad (0.011°)
Beam diameter at exit:	Typical 3.0mm, circular

Data handling and control

Data storage:	SD, SDHC™, SDXC™; 32GB card included
Scanner control:	Via touchscreen display and WLAN
New WLAN access:	Remote control, Scan Visualisation and download are possible on mobile devices with Flash®

Multi-Sensor

Dual axis compensator:	Levels each scan: Accuracy 0,015°; Range ± 5°
Height sensor:	Via an electronic barometer the height relative to a fixed point can be detected and added to a scan.
Compass:	The electronic compass gives the scan an orientation. A calibration feature is included.



¹ Depends on ambient light, which can act as a source of noise. Bright ambient light (e.g. sunshine) may shorten the actual range of the scanner to lesser distances. In low ambient light, the range can be more than 120m for normal incidence on high-reflective surfaces. ² Ranging error is defined as a systematic measurement error at around 10m and 25m, one sigma. ³ Ranging noise is defined as a standard deviation of values about the best-fit plane for measurement speed of 122,000 points/sec. ⁴ A noise-compression algorithm may be activated to average points in sets of 4 or 16, thereby compressing raw data noise by a factor of 2 or 4. Subject to change without prior notice.

General

Power supply voltage:	19V (external supply), 14.4V (internal battery)	Cable connector:	Located in scanner mount
Power consumption:	40W and 80W (while battery charges)	Weight:	5.0kg
Battery life:	Up to 5 hours	Size:	240 x 200 x 100mm
Ambient temperature:	5° - 40°C	Maintenance / calibration:	Annual
Humidity:	Non-condensing	Parallax-free:	Yes



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