

FARO® Focus Core Laser Scanner

A cost-competitive solution for fast colorized scans that best balance speed and accuracy

The FARO® Focus Core Laser Scanner complements the company's reality-capture device portfolio. Focus Core enables fast colorized 3D scans and delivers a cost-competitive solution for construction, operations and public safety professionals eager to strike the optimal balance between scanning accuracy and speed, reducing time spent on site or on scene, while eliminating materials waste and personnel bottlenecks.



Features

Optimized scanning range

- 70-meter range with a distance accuracy of 2mm

Fast color capture

- 1-minute internal SDR per scan, or
- 2.5 min internal HDR per scan
- Even faster color capture with the optional panoramic camera add-on

Color resolution ideal for fast on-scene reality capture

- 165 megapixels

Pre-registration with Stream (optional)

- Upload on-site pre-registered scan data via the Stream Mobile App
- Share information with project stakeholders anywhere in the world via FARO Sphere

Faster loading and system response

- Greater data management efficiency
- New high performance electronics provide a smooth user experience and fluent on-site operation

Smartphone-enabled

- Remote control capabilities with the optional Stream support
- Fast Wi-Fi operation

Benefits

Multiple application use

- Construction, Public Safety and Operations offering data quality at faster scan speeds
- Ideal for public safety agencies looking to improve on-scene evidence capture quality and efficiency

Reduce Rework and Material Waste

- Know the as-built condition of your project and ensure your designs fit the first time
- Monitor construction progress regularly and frequently in 3D helps you identify issues before they become costly and delay your schedule

Eliminate error-prone traditional measurement methods

- The Focus Core allows the ability to complete on-scene (forensic investigation tasks) and on-site (jobsite) data collection, faster, and to do so with greater accuracy, confident that the data is captured correctly, and not requiring multiple site/scene visits

Confidence to leave the site with complete and useful data

- Make data accessible to project stakeholders early on with Stream option and the FARO Sphere cloud platform
- Two-year manufacturer warranty means maximizing the life of this product with servicing while reducing the total cost of ownership throughout the device's lifespan

Performance Specifications

Range	
White, 90% Reflectivity	0.5 – 70 m
Dark-grey, 10% Reflectivity	0.5 – 70 m
Black, 2% Reflectivity	0.5 – 50 m
Range Noise ^{1,2}	
White, 90% Reflectivity	0.4 mm @ 10 m, 0.5 mm @ 25 m
Dark-grey, 10% Reflectivity	1.0 mm @ 10 m, 1.5 mm @ 25 m
Black, 2% Reflectivity	3.0 mm @ 10 m, 5.0 mm @ 25 m
Max Speed	Up to 0.5 MPts/sec
3D Accuracy ³	3 mm @10m, 4 mm @25m
Ranging Error ⁴	±2 mm
Angular Accuracy ⁵	19 arcsec
LaserHDR	Yes
Temperature Range ⁶	Operating: 5° - 40° C Extended Operating: -10° - 55° C Storage: -10° - 60°C

Additional Performance Specifications

Color Unit	
Color Resolution	Up to 165 MPx color
Raw Color Resolution	527 MPx
HDR Camera	8 MPx - 2x, 3x, 5x brackets
Parallax	Minimized due to co-axial design
Deflection Unit	
Field of View	300° vertical ⁸ / 360° horizontal
Step Size	0.009° (40,960 Pts on 360°) vertical / 0.009° (40,960 Pts on 360°) horizontal
Max. Scan Speed	97 Hz (vertical)
Laser (Optical Transmitter)	
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 Handling and Control	
Data Storage	SATA 3.0 SSD 128 GB and SDXC [™] V30 64 GB SD Card; SD3.0, UHS-I / SDXC [™] / SDHC [™] , max. 512 GB
Scanner Control	Via touch screen display and WLAN connection, Control by FARO Stream (optional) App (iOS & Android) or mobile devices with HTML5
Interface Connection	
WLAN	IEEE 802.11 ac/a/b/g/n 2x2 MIMO, as access point or client in existing networks (2.4 and 5 GHz)
USB	USB 3 port

Additional Features

Dual Axis Compensator	Performs a leveling of each scan with an accuracy of 19 arcsec valid within ±2°
Height Sensor	Via an electronic barometer, the height relative to a fixed point can be detected and added to a scan
Compass ⁹	The electronic compass gives the scan an orientation
GNSS	Integrated GPS & GLONASS
Accessory Bay	The accessory bay connects versatile accessories to the scanner
Inverse Mounting	Yes
Real-time, On-site Registration	Stream App (optional) real-time scan streaming, registration, overview map and Sphere cloud upload
Digital Hash Function	Scans are cryptographically hashed and signed by the scanner
Rescanning of Distant Targets	Defined areas recaptured in higher resolution at a greater distance
Retake Photos	Select individual photographs with unwanted objects and retake them

General Specifications

Power Supply	19 V (external supply), 14.4 V (internal battery)
Typical Power Consumption	19 W idle, 32 W scanning, 72 W charging
Typical Battery Operation Time	About 4 hours
Typical Scan Time ⁷	About 1 min
Ingress Protection (IP) Rating Class	54
Humidity	Non-condensing
Weight	4.4 kg (including battery)
Size/Dimensions	230 x 183 x 103 mm
Calibration	Recommended annually
Manufacturer Warranty	2 years

**CLASS 1
LASER PRODUCT**

1. Ranging noise is defined as the variation of distance samples from repeated measurements of a single point at 122k Pts/sec | Some surfaces can lead to additional noise |
2. Ranging error is defined as a systematic measurement error at around 10 m and 25 m |
3. For distances larger 25 m add 0.1 mm/m of uncertainty |
4. Ranging error is defined as a systematic measurement error at around 10 m and 25 m |
5. It is recommended to perform on-site compensation in the event the unit is exposed to exceptional temperature or mechanical stress |
6. Low temperature operation: scanner has to be powered on while internal temperature is at or above 15° C. High temperature operation: additional accessory Thermal Cover required |
7. Accelerated Profile with PanoCam |
8. 2x150°, homogeneous point spacing is not guaranteed |
9. Ferromagnetic objects can disturb the earth magnetic field and lead to inaccurate measurements

All accuracy specifications are standard deviations, after warm-up and within operating temperature range; unless otherwise noted. Subject to change without prior notice.

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