

FARO® Focus Laser Scanner

The Most Compact Lightweight and Intuitive Laser Scanner Product Line

FARO®



Laser Scanners for Short, Medium and Long Range Applications

FARO Focus Laser Scanners are specifically designed for both indoor and outdoor measurements in industries such as Architecture, Engineering, Construction, Public Safety and Forensics or Product Design. All devices capture real world information into the digital world to deliver information used to analyze, collaborate and execute better decisions to improve and maintain the overall project and product quality.

Easily navigate the scanner controls using the large and luminous touch-screen. All Focus^S and Focus^M scanners are equipped with recognizable features, such as Ingress Protection (IP) Rating, extended temperature range, HDR functionality all in an ultra portable size.

The Laser Scanner Focus^S Series offers more advanced functionality in addition. Besides an increased distance and angular accuracy all Focus^S scanners are equipped with an internal accessory bay and an on-site compensation function quality verification. When utilized with SCENE Software, the Focus^S supports real time, on-site registration which enables 3D scan data to be wirelessly transmitted, processed, aligned and registered directly to an on-site mobile device/PC in real time.

Focus^S Series



Accuracy

The Focus^S captures environments with increased accuracy and distance with dual-axis compensator and angular measurement.



On-Site Compensation

With the on-site compensation functionality users can verify and adjust the Focus^S compensation on-site, ensuring high quality scan data.



Accessory Bay

The accessory bay allows users to connect additional 3D laser scanning accessories to support a variety of projects.



Temperature

Extended temperature range allows scanning in challenging environments. The Focus can operate in temperatures as low as -4°F (-20°C) and up to 131°F (55°C).



IP Rating - Class 54

With the sealed design and certified with the industry standard Ingress Protection (IP) Rating, IP54, the Focus can be used in high particulate and wet weather conditions.



Compact and Portable

The Focus Laser Scanners measure at 230 x 183 x 103mm and weigh at 4.2kg making them the smallest and most light weight scanners in the market. The devices are equipped with a waterproof transport and ergonomic carrying case for maximum portability.

Benefits

- ▶ Scan in challenging environments while providing protection from dust, debris and water splashes
- ▶ The Focus^M 70 delivers full scanning capability with the quickest return on invest in the market
- ▶ Easily navigate the scanner controls using the large and luminous touch-screen
- ▶ Maintain familiar workflows through freedom of choice in processing scan data in various software packages
- ▶ Confidently scan and extract accurate deliverables by using award winning FARO quality

Performance Specifications

	Focus ^S Series S 350 S 150 S 70	Focus ^M Series
Ranging Unit		
Ambiguity Interval	614m for 122 to 488kpts/s 307m for 976 kpts/s	Not specified
Range¹		
90% Reflectivity (White)	0.6-350m 0.6-150m 0.6-70m	0.6 - 70m
10% Reflectivity (Dark-Gray)	0.6-150m 0.6-150m 0.6-70m	0.6 - 70m
2% Reflectivity (Black)	0.6- 50m 0.6- 50m 0.6-50m	0.6 - 50m
Ranging Noise ²	@ 10m @ 10 noise reduction ³ @ 25m @ 25 noise reduction ³	@ 10m @ 10 noise reduction ³ @ 25m @ 25 noise reduction ³
	in mm	
90% Reflectivity (White)	0.3 0.15 0.3 0.15	0.7 0.4 0.7 0.4
10% Reflectivity (Dark-Gray)	0.4 0.2 0.5 0.25	0.8 0.4 0.8 0.4
2% Reflectivity (Black)	1.3 0.65 2.0 1	1.5 0.8 2.1 1.1
Measurement Speed (pts/sec)	122,000 / 244,000 / 488,000 / 976,000	122,000 / 244,000 / 488,000
Ranging Error ⁴	±1mm	±3mm
Angular Accuracy ⁵	19 arcsec for vertical/horizontal angles	Not specified
3D Position Accuracy ⁶	10m: 2mm / 25m: 3.5mm	Not specified
Color Unit		
Resolution	Up to 165 megapixel color	
High Dynamic Range (HDR)	Exposure bracketing 2x, 3x, 5x	
Parallax	Minimized due to co-axial design	
Deflection Unit		
Field of View (Vertical/Horizontal)	300° / 360°	
StepSize (Vertical/Horizontal)	0.009° (40,960 3D-Pixel on 360°) / 0.009° (40,960 3D-Pixel on 360°)	
Max. Vertical Scan Speed	97Hz	
Laser (Optical Transmitter)		
Laser Class	Laser class 1	
Wavelength	1550nm	
Beam Divergence	0.3mrad (1/e)	
Beam Diameter at Exit	2.12mm (1/e)	
Data Handling and Control		
Data Storage	SD, SDHC™, SDXC™; 32GB Card	
Scanner Control	Via touchscreen display and wlan connection. Access by mobile devices HTML5	
Interface Connection		
WLAN	802.11n (150Mbit/s), as access point or client in existing networks	

	Focus ^S Series S 350 S 150 S 70	Focus ^M Series
Integrated Sensors		
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 ⁸	The electronic compass gives the scan an orientation.	
GNSS	Integrated GPS & GLONASS	
On-Site Compensation	Creates a current quality report and provides the option to improve the devices compensation automatically	—
Accessory Bay	The accessory bay is located on top of the laser scanner and is used to connect versatile accessories to the scanner	—
Real-Time, On-Site Registration in SCENE	Connects to SCENE via WiFi. Processing of scan data, registration and creation of overview map in SCENE in real-time	—
General Specifications		
Power Supply Voltage:	Up to 165 megapixel color	
Power Consumption	15W Idle, 25W Scanning, 80W Charging	
Battery Service Life	4.5 Hours	
Operating Temperature	-5° - 40°C	
Extended Operating Temperature ⁹	-20° - 55°C	
Storage Temperature	-10° - 60°C	
Ingress Protection (IP) Rating Class	IP54	
Humidity Resistance	Non-Condensing	
Weight incl. Battery:	4.2kg	
Size/Dimensions:	230 x 183 x 103mm	
Maintenance/Calibration	Annual	



1 For a Lambertian scatterer. 2 Ranging noise is defined as a standard deviation of values about the best-fit plane for measurement speed of 122,000 points/sec. 3 A noise-reduction algorithm may be activated by averaging raw data. 4 Ranging error is defined as a systematic measurement error at around 10m and 25m. 5 On-site compensation required. 6 For distances larger 25m add 0.1mm/m of uncertainty. 7 2x150°, homogenous point spacing is not guaranteed. 8 Ferromagnetic objects can disturb the earth magnetic field and lead to inaccurate measurements. 9 Low temperature operation: scanner has to be powered on while internal temperature is at or above 15°C, high temperature operation: additional accessory required, further information on request | All accuracy specifications are one sigma, after warm-up and within operating temperature range; unless otherwise noted. Subject to change without prior notice.

For more information, call 800.736.0234 or visit www.faro.com

