FARO®

Focus Premium

On-Scene Digital Documentation with Global Reach

Premium Preview: The Ultimate in 3D Data Capture

Building on our history of accuracy and reliability, the new FARO® Focus Premium Laser Scanner is the fastest, most accurate and connected scanner on the market to date, featuring entirely new components with a proven design.

Up to 50% Faster Scan Times

Complete scans faster using your regular settings, even in color.

Super-High Color Resolution

The latest color camera technology enables the Focus Premium to capture scans with up to 266 megapixel color information.

Two-Year Warranty

An extended standard service window means maximizing the life of this product while reducing the total cost of ownership throughout the device's lifespan. Two years allows for maximum flexibility and the peace of mind knowing that any repairs or defective parts will be replaced.

A 'Focused' Look

The Focus Premium provides exceptional capturing efficiency, data quality and accuracy for public safety professionals while offering data quality at faster scan speeds. It is capable of reducing on-scene scanning time by up to 50% using your regular settings. Meanwhile, faster loading and system response yields greater data management efficiency when paired with the new FARO Stream mobile app, a solution Focus Premium operators can use on-scene to take pre-registration scans.

Focus Premium Features:

- Up to 350m scanning range, leading to superior area coverage per scan position
- Smartphone-enabled remote control capabilities, limited only by the range of a Wi-Fi network
- Improved wireless workflow with more stable and faster Wi-Fi operation
- On-site registration, the process of combining multiple scans using common overlap, means faster project completion and real-time awareness of scan errors or missing data — know before leaving the scene if there are data gaps
- Scanner control can be executed on either the app or on the on-board user interface
- Users have easy access to create projects, change scanner settings, manage image resolution, opt for color or black and white scans, group scans through clustering, and add annotations
- Rugged construction and housing can withstand tough day-to-day work
- Integrated high-speed SSD data storage for maximum scan capacity and lighting fast scan processing, plus reliable standard SD card storage

Focus Premium Specifications

Performance Specifications			
Range Option	**Focus Premium 350**	**Focus Premium 150**	**Focus Premium 70**
Unambiguity Interval	614 m for up to 0.5 MPts/sec 307 m at 1 MPts/sec 153 m at 2 MPts/sec	614 m for up to 0.5 MPts/sec 307 m at 1 MPts/sec 153 m at 2 MPts/sec	614 m for up to 0.5 MPts/sec 307 m at 1 MPts/sec 153 m at 2 MPts/sec
Range			
White, 90% Reflectivity	0.5 – 350 m	0.5 – 150 m	0.5 – 70 m
Dark-grey, 10% Reflectivity	0.5 – 150 m	0.5 – 150 m	0.5 – 70 m
Black, 2% Reflectivity	0.5 – 50 m	0.5 – 50 m	0.5 – 50 m
Range Noise[1,2]			
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[3]	2 mm @ 10 m, 3.5 mm @ 25 m		
Ranging Error[4]	±1 mm		
Angular Accuracy[5]	19 arcsec		
LaserHDR	Yes		
Temperature Range[6]	Operating: +5 ° to +40 °C, Extended Operating: -20 ° to +55 °C, Storage: -10 ° to +60 °C		

Additional Performance Specifications	
Color Unit	
Color Resolution	Up to 266 MPx color
Raw Color Resolution	867 MPx
HDR Camera	13 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 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
On-Site Compensation	Creates current quality report and improves compensation automatically
Accessory Bay	The accessory bay connects versatile accessories to the scanner
Inverse Mounting	Yes
Real-time, On-site Registration	Stream App real-time scan streaming, registration, overview map and Sphere cloud upload
Electronic Automation Interface	Available as option, only at point of sale
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 | **2.** Some surfaces can lead to additional noise | **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 |**6.** 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.

A Productivity Workflow Solution

The new FARO Stream mobile app makes the amount of time law enforcement must remain on-scene more productive and safer for everyone. This app gives public safety professionals a new unique capability: the ability to pre-register scans on-site. Once they've taken the scan, they can see the scan outlines in real-time and make positional adjustments to ensure all the evidence is accurately captured the first time. It also eliminates the need for an on-scene laptop or return trips. Investigators can also include complementary data like field annotations and photographic images after a scan is complete.

Snap-In Success

The new Focus Premium is also designed to work seamlessly with the FARO Freestyle 2 Handheld Scanner, thanks to its "Snap-In" feature. Save the time that is required for multiple scanner positions when it comes to scanning complex scenes with multiple pieces of evidence. Snap-In enables the user to seamlessly add data starting from a Focus Laser Scanner point cloud by using it as a reference for missing data from such hard-to-scan locations, including areas in shadow and objects with irregular shapes and sizes.

The two point clouds are then pre-registered in the same project. Together Focus Premium and Freestyle 2 achieve what neither tool can do alone — provide both the speed and granularity of data capture to ensure that no on-scene detail is missed.

Streamline Digital Workflows

Whether it's for crime scene analysts, crash reconstructionists, forensic investigators, or for courtroom testimony and 3D photorealistic visual representations, the new Focus Premium Laser Scanner, paired with Stream, enables enhanced workflow efficiencies that will help public safety professionals provide the closure and answers all parties seek.

With the Focus Premium and Stream, users can gather data faster and be more confident in the on-scene data evidence they collect. **Contact your local sales representative or visit FARO.com to learn more.**

Local Offices in over 25 countries around the world. Go to **www.faro.com** to learn more.

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