

FARO Laser Scanner Focus^s 150

The world's most popular terrestrial laser scanner with ultra-high accuracy and ingress protection

FARO®



Accuracy

The Focus^s now captures environments with increased accuracy regarding distance, dual-axis compensator and angular measurement.

Temperature

Extended temperature range allows scanning in challenging environments - take your Focus^s to the desert or run a project in Antarctica.

On-Site Compensation

With the on-site compensation functionality users can verify and adjust the Focus^s compensation on-site or in the office, ensuring the highest scan data quality. A comprehensive compensation document is automatically generated.

IP Rating - Class 54

With the sealed design, the Focus^s is certified with the industry standard Ingress Protection (IP) Rating and classified in class 54 against environmental influences.

HDR Photo overlay

The HDR camera captures detailed imagery easily while providing a natural color overlay to the scan data captured under extreme brightness gradients.

Accessory Bay

With this future-proof interface users can connect additional accessories to the scanner, which offers an option for user specific customization.

Laser scanner for medium-range applications

The Focus^s series is the latest addition to FARO's popular, compact, lightweight and intuitive laser scanner product line. The devices of this series are the most forward-thinking laser scanners on the market, adding several customer-centric features, such as Ingress Protection Rating (IP54), increased scanning accuracy and range, an internal accessory bay and a built-in on-site compensation routine.

The Focus^s 150 combines all benefits from FARO's well-known Focus^{3D} Laser Scanners with today's most innovative features to perform laser scanning in both indoor and outdoor environments - truly mobile, fast and reliable.

The FARO Focus^s 150 provides the next level of laser scanning for all applications in industries like Construction, BIM/CIM, Public Safety and Forensics.

Benefits

- ▶ Scanning in rough environments while providing protection from dust, debris and water splashes
- ▶ Confident data quality through the on-site compensation
- ▶ Reality-like scan data by increased distance accuracy and angular accuracy
- ▶ Future-proof investment and expandability due to the integrated accessory bay
- ▶ Easy handling of scanner control through its large and luminous touchscreen

www.faro.com/LaserScanner/sg

Performance Specifications

Ranging unit

Unambiguity interval: 614m for 122 to 488 kpts/s
307m for 976 kpts/s

Reflectivity	90% (white)	10% (dark-gray)	2% (black)	
Range ¹	0.6-150 m	0.6-150 m	0.6-50 m	
Ranging noise ²	@10m	@10m - noise reduction ³	@25m	@25m - noise reduction ³
90% reflectivity	0.3mm	0.15mm	0.3mm	0.15mm
10% reflectivity	0.4mm	0.2mm	0.5mm	0.25mm
2% reflectivity	1.3mm	0.65mm	2mm	1mm

Measurement speed (pts/sec): 122,000 / 244,000 / 488,000 / 976,000

Ranging error⁴: ±1mm

Angular accuracy⁵: 19 arcsec for vertical/horizontal angles

3D position accuracy⁶: 10m: 2mm / 25m: 3.5mm

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°

Step size (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:

Scanner control:

SD, SDHC™, SDXC™; 32GB card
Via touchscreen display and
WLAN connection. Access by
mobile devices with HTML5

Interface Connection

WLAN:

802.11n (150Mbit/s), as Access
Point or client in existing networks

Integrated Sensors

Dual axis compensator:

Performs a leveling of each scan
0.015° 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.

Compass⁸:

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 im-
prove the devices compensation
automatically.

Accessory Bay

The accessory bay is located on
top of the laser scanner and is
used to connect versatile acces-
sories to the scanner.

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.

**CLASS 1
LASER PRODUCT**

General

Power supply voltage: 19V (external supply)
14.4V (internal battery)
Power consumption: 15W idle, 25W scanning,
80W charging

Battery service life: 4.5 hours

Operating temperature: 5° - 40°C

Extended operating temperature⁹: -20° - 55°C

Storage temperature: -10° - 60°C

Ingress Protection: IP54

Humidity: Non-condensing

Weight incl. battery: 4.2kg
Size: 230 x 183 x 103mm
Maintenance / calibration: Annual



To learn more, visit: www.faro.com/LaserScanner/sg

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