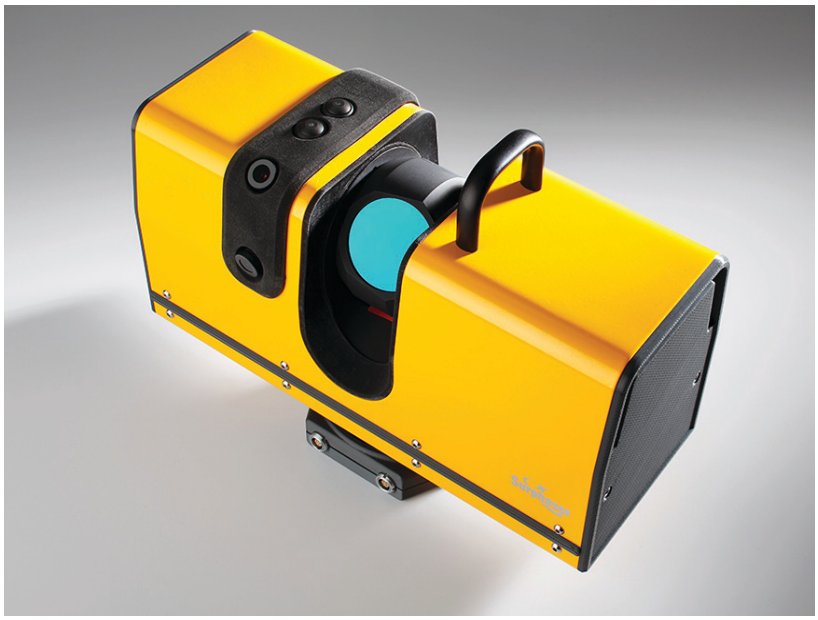
Surphaser 3D Laser Scanners

Known for its unsurpassed accuracy and scan quality, the Surphaser line of scanners offers both short range and medium range models ideal for use in reverse engineering, dimensional control, BIM, historical preservation, architecture, and forensics.

Ultra Short Range Surphaser® 75USR

- Ultra Short Range (0.25m - 2.5 m) Hemispherical Scanner with deep sub-millimeter accuracy
- Less than 5 kg (11 lb), compact and easily portable
- Built-in scan controller and battery
- Two fully integrated 5 megapixel cameras; software for automatic color data mapping and dynamic exposure adjustment is included
- WiFi connectivity
- Designed to operate in industrial and outdoors environments
- Automatic target extraction and target-based scan registration
- Rapid Preview Scan and on-screen areas of interest selection for high density scans
- Extensive set of filters to isolate areas of interest and eliminate unreliable data



Recommended Work Range (m)	0.25-2.5
Ambiguity Range (m)	180
Angular Uncertainty (arc sec)	25
Range Noise, mm; 90% reflectivity	0.025@0.3m-2m
Range Noise, mm; 10% reflectivity	0.07@0.5m-1.8m
Range Uncertainty, mm	<0.15 @1.5m

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Surphaser® 75 Ultra Short Range

Scanner Type	Phase Shift, Hemispherical Scanner with 360° x 270° field of view

SYSTEM SPECIFICATIONS

Distance Measurement Method	Phase-shift
Laser Wavelength	685 nm
Laser Type	CW
Laser Class: (IEC EN60825-1:2007)	Class3R
Scan Rate (points/second)	208,000
Internal Coordinate Representation Unit (mm)	0.001
Angular position data	
Beam diameter, mm	0.8@0.5m, 1.2@2m
Internal Vertical Angular Representation Unit	1 arc sec
Internal Horizontal Angular Representation Unit	1 arc sec
Scan density control: software selectable	
Min. Vertical Point Density (points/degree)	12
Min. Horizontal Point Density (points/degree)	2
Max Vertical Point Density (points/degree)	90
Max Horizontal Point Density (points/degree)	90
Full Volume Scan Time (minutes, at 7200x7200 density)	4.5
Field-of-view (per scan, software selectable)	
Horizontal (maximum)	360º
Vertical (maximum)	270º
Physical dimensions and weight	
Weight with battery (kg)	4.9
Dimensions 278mm L x 200mm H x 118mm W	



STANDARD ACCESSORIES, MODEL 75USR

- Built-in scan controller, allows scanner control, operation, and data collection without a laptop
- WiFi connectivity
- Two 5MPix built-in color cameras; includes software for automatic color data mapping and dynamic exposure adjustment
- Surphaser USB 2.0 cable
- AC Adapter 110/240 AC, 14-24V DC, 3.5A
- Surphaser DC power cable
- Tripod Adapter
- Two Li-Ion 14V, 49Wh batteries, each provides 1.5 to 2 hours of operation
- 2-Bay Battery Charger
- Shipping container
- 1 year Limited Warranty and Basic Support contract

OPTIONAL ACCESSORIES

- Scanner carrying bag, size approved for most domestic airlines' cabin requirements, weight restrictions vary, please check with airline(s) for up-to-date regulations
- Tripod
- SMR-compatible B&W targets and targets case
- Tilt sensor, dual axis
- Extended Warranty contract

HOST COMPUTER REQUIREMENTS
Optional, minimum configuration

- Processor: 1.8 GHz or greater Pentium–compatible;
- System memory RAM 1GB or greater, 2GB recommended
- OS: Windows XP, Vista, Windows 7, 8 or 10; 32-bit or 64-bit editions
- USB 2.0 port

ENVIRONMENTAL

- Calibrated Operating Temperature: 5°C to 40 °C, non-condensing humidity

POWER REQUIREMENT

- 14-24V DC, 30W

Surphaser® 75USR System Performance

Recommended Work Range (m)	0.25-2.5
Ambiguity Range (m)	180
Angular Uncertainty[1,3] (arc sec)	25
Range Noise[1,2], mm; 90% reflectivity	0.025@0.3m-2m
Range Noise[1,2], mm; 11% reflectivity	0.07@0.5m-1.8m
Range Uncertainty[3], mm	<0.15 @1.5m

[1] All noise and uncertainty figures are for 1 sigma level
[2] Range noise -- local (short term) range variation, Lambertian surface
[3] Evaluated with contrast target best fit at data rate of 208,000 points per sec
[4] System parameters may be changed without notice; parameters are rated independently

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