Surphaser® 75HSX 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)	Class 3R
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 ppd
Min. Horizontal Point Density (lines/degree)	4 lpd
Max Vertical Point Density (points/degree)	90 ppd
Max Horizontal Point Density (lines/degree)	78 lpd
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 75HSX

- Built-in scan controller, allows scanner control, operation, and data collection without a laptop, can be removed upon request
- Wi-Fi connectivity, can be removed upon request
- 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 case
- 1-year Limited Warranty and Basic Support contract

OPTIONAL ACCESSORIES

- One panoramic or two fully integrated cameras; software for automatic color data mapping and dynamic exposure adjustment
- Tilt sensor, dual axis
- Scanner carrying bag, size approved for most airlines' cabin requirements, weight restrictions vary, please check with airline for up-to-date regulations
- Tripod
- SMR-compatible targets and targets case
- Extended Warranty contract, includes one free annual maintenance and calibration service

HOST COMPUTER REQUIREMENTS

Optional, minimum configuration

- Processor: 2.4 GHz or greater
- System memory RAM 16GB or greater, 32GB recommended for processing
- OS: Windows 11
- USB 2.0 port or fully compliant USB 3.0 port

ENVIRONMENTAL

- Calibrated operating temperature: 5°C to 40 °C, non-condensing humidity

POWER REQUIREMENT

- 14-24V DC, 90W

Surphaser® 75HSX 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
System parameters may be changed without notice; parameters are rated independently

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