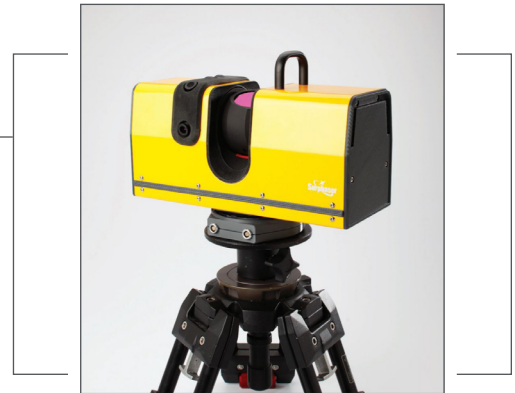


## SURPHASER MODEL 410

- High scanning speed combined with high accuracy and scan data quality
- Ultra-low noise – sub-millimeter accuracy for all models
- Light and portable
- Easy to set up and move, fits into a carry-on size case
- Unsurpassed data quality and accuracy
- Automatic target extraction and target-based scan registration



SURPHASER MODEL 410			
<b>Configuration</b> (software selectable, available on all Surphaser 410 units)	410 HQ <sup>4</sup> 208,000 pps	410 HS <sup>4</sup> 208,000 pps	410 HP <sup>4</sup> 832,000 pps
<b>Recommended Work Range (m)</b>	0.4 - 70m	0.4 - 70m	0.4 - 70m
<b>Ambiguity Range (m)</b>	180	360	180
<b>Angular Uncertainty<sup>1,3</sup>, arc sec</b>	25	25	25
<b>Range Noise<sup>1,2</sup>, mm, 90% reflectivity</b>	0.06@0.4m-30m	0.09@0.4m-30m	0.15@0.4m-30m
<b>Range Noise<sup>1,2</sup>, mm, 10% reflectivity</b>	0.15@0.4m-15m	0.15@0.4m-30m	0.30@1.0m-15m
<b>Range Uncertainty<sup>3</sup>, mm</b>	<0.7@15m	<0.9@15m	<0.9@15m
<sup>1</sup> All Noise and uncertainty figures are for 1 sigma level <sup>2</sup> Range Noise -- local (short term) range variation, Lambertian surface <sup>3</sup> Evaluated with contrast target best fit	<sup>4</sup> 410_HQ, 410_HS and 410_HP are software selectable options, all three are available on all Surphaser 410 units System parameters may be changed without notice; parameters are rated independently		

### STANDARD ACCESSORIES, MODEL 410:

1. Built-in scan controller, allows direct scanner control and data collection without a laptop
2. Wi-Fi connectivity
3. Two 5MPix built-in cameras; software for automatic color data mapping is included
4. Tilt sensor, dual axis
5. Shipping container
6. Surphaser USB 2.0 cable
7. AC Adapter 110/240 AC, 14-24V DC, 3.5A
8. Surphaser DC power cable
9. Tripod Adapter
10. Two Li-Ion 14V, 49Wh batteries, each provides 1 to 1.5 hours of operation
11. 2-bay charger
12. 1 year Limited Warranty and Basic Support contract

# SURPHASER MODEL 410

SYSTEM SPECIFICATIONS	
<b>Scanner Type - Phase Shift, Hemispherical Scanner with 360° x 270° field of view</b>	
<b>Distance Measurement Method:</b>	Phase Shift
Laser Wavelength	1550 nm
Laser Type	CW
Laser Class: (IEC EN60825-1:2007)	Class 1
Scan Rate, software selectable(points/second)	208,000 - 832,000
Internal Coordinate Representation Unit (mm)	0.001 mm
<b>Angular position data</b>	
Beam diameter at Aperture	3 mm
Internal Vertical Angular Representation Unit	1 arc sec
Internal Horizontal Angular Representation Unit	1 arc sec
<b>Scan density control: software selectable</b>	
Min. Vertical Point Density (points/degree)	12 ppd
Min. Horizontal Point Density (points/degree)	2 lpd
Max Vertical Point Density (points/degree)	360 ppd
Max Horizontal Point Density (points/degree)	78 lpd
360° Scan Time, HP mode (832,000 pps at 7200x7200 density)	1.2 minutes
360° Scan Time, HQ, HS modes (208,000 pps at 7200x7200 density)	4.5 minutes
<b>Field-of-view (per scan, software selectable)</b>	
Horizontal (maximum)	360
Vertical (maximum)	270
<b>Physical dimensions and weight</b>	
Weight (kg)	5.8
Dimensions	278mm L x 200mm H x 118mm W

**OPTIONAL ACCESSORIES**

- SMR-compatible B&W targets and target case
- External hot-swappable extended battery
- WiFi connectivity
- Tripod
- Extended Warranty contract

**HOST COMPUTER REQUIREMENTS****Optional for Model with Built-In Controller, minimum configuration**

- Processor: 1.8 GHz or greater Pentium-compatible;
- System memory RAM 2GB or greater, 4GB recommended
- OS: Windows 7, 8 or 10; 32-bit or 64-bit editions
- USB 2.0 port

**ENVIRONMENTAL**

- Calibrated Operating Temperature: 5°C to 45 °C, noncondensing humidity

**POWER REQUIREMENT**

- 14-24V DC, 40W