

Alpha3D

Mobile mapping solution

Solution Description

Alpha3D

Dominant performance to make your work more mobile

CHC Navigation offers to geospatial professionals our premium high-performance, vehicle-independent mobile mapping solution to capture mass data in continuously changing world environments on dynamics, enabling them to get work done quickly and more accurately to increase their ROI.

The Alpha3D combines state-of-the-art high-performance hardware, such as long range, ultra-high speed, precise laser scanner, high-resolution HDR panoramic camera in combination with advanced GNSS receiver and high precision IMU, in one instrument with light weight and compact but in same time rugged design. All these features keep Alpha3D as one of most innovative system in market today.

Applications



Roads & Highways



Rail & Infrastructure



Tunnels



Digital city



Infrastructure utilities



Mining



Water



Airports



Public safety

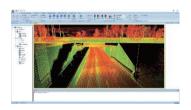
Key Features











High performance laser scanner

- Long range scanning up to 420m
- Extremely high-speed scanning of 1M points per second
- · High point cloud density even on high speed driving
- High quality of point cloud with low range noise

High resolution 360° image

- 30 MP HDR panoramic camera with superb image quality
- Fully calibrated point clouds and panorama images
- You can add additional imagery sensors to get extra information for application needs

Ready now, thinking about future

- Two RS232 ports for external device connection
- Ready to add 2nd scanner for more density of point cloud
- 2nd GNSS antenna to work on railway or water applications
- Easy-In easy-out SSD hard disc for raster data transfer

Capture and control data easily with CoCapture

- Manage the mission and automatically capture data
- BYOD, device free, any browser based operation
- WiFi or LAN cable connection
- Very simple and intuitive, user-friendly design

CoProcess software to manage scanning projects

- Intuitive user interface with rich functionality
- Semi-automated feature extractions
- Powerful engine can support massive data processing
- Easily export extracted information into CAD or GIS deliverables with our SW plugins



Whatever the task is, the Alpha3D is easily mounted on a variety of platforms, including different type of vehicles, trains, railway trolleys and boats, rapidly and efficiently collects the high density, accurate point clouds and powerful images data but also adds extra information from additional sensors, such as high-resolution camera, thermal camera, GPR, echo sounder or extra profiler.



Get new revenue and increase ROI

With Alpha3D users can collect more data faster and reducing time in the field more than 40% compared to traditional surveying instruments. By combination of point clouds and high-resolution images as well as information from additional sensors there is no need to return to site for remeasurement. With multiple type of data measurement professionals can open new industries and applications.

Specifications

Number of laser scanners Single scanner head system, future possible to add 2nd scanner head on additional platform Sypical horizontal accuracy	General sy	stem <u>pe</u>	rform <u>a</u>	nce		
Second		•				
Typical horizontal accuracy Typical vertical accuracy Accuracy conditions Without control points, open sky conditions Control unit Internal multi-core industrial PC, low power consumption Field software CoCapture, browser-based, no installation required Control interface BYOD (any tablet or laptop), WiFi or LAN cable connection Data storage Removable 2 TB SSD hard disk with USB3 interface 3rd party hardware 3rd party hardware Synchronization ports (NMEA support) Mounting Vehicle independent solution, suits for road, rail and water-based application Laser scanner Laser scanner Laser class 1 (in accordance with IEC 60825-1:2014) Measuring principle Time of flight measurement, echo signal digitization, online waveform processing Effective measurement rate ⁽¹⁾ 300 kHz 500 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m reflectivity > 80% ⁽²⁾ Maximum range, target 150 m 120 m 100 m 85 m reflectivity > 10% ⁽²⁾ Minimum range 1.2 m Accuracy ⁽³⁾ 5 mm Precision ⁽⁴⁾ 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of 51.3 × 31 × 67.2 cm instrument 19.2 kg Dimensions of optional 72 × 31 × 12 cm roof rack extension 28.34" × 12.2" × 26.37" Weight of battery Up to 52 kg (depending on cells type)	scanners	future possible to add 2nd scanner				
Typical vertical accuracy Accuracy conditions Without control points, open sky conditions Control unit Internal multi-core industrial PC, low power consumption Field software CoCapture, browser-based, no installation required Control interface BYOD (any tablet or laptop), WiFi or LAN cable connection Data storage Removable 2 TB SSD hard disk with USB3 interface 3rd party hardware 1 x synchronization port for 2nd synchronization port for 2nd synchronization ports (NMEA support) Mounting Vehicle independent solution, suits for road, rail and water-based application Laser Scanner Laser Scanner Laser li (in accordance with IEC 60825-1:2014, Measuring principle Time of flight measurement, echo signal digitization, online waveform processing Effective measurement rate ⁽¹⁾ 300 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m reflectivity > 80% ⁽²⁾ Maximum range, target 150 m 120 m 100 m 85 m reflectivity > 10% ⁽²⁾ Minimum range 1.2 m Accuracy ⁽³⁾ 5 mm Field of view 366° "full circle" Scan rate Up to 1000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of 51.3 × 31 × 67.2 cm instrument 19.2 kg Dimensions of battery Up to 52 kg (depending on cells type) Dimensions of optional 72 × 31 × 12 cm roof rack extension 28.34" × 12.2" × 4.72" Weight of optional 16.6 kg		head on a	additional	platform		
Typical vertical accuracy Accuracy conditions Without control points, open sky conditions Control unit Internal multi-core industrial PC, low power consumption Field software CoCapture, browser-based, no installation required Control interface BYOD (any tablet or laptop), WiFi or LAN cable connection Data storage Removable 2 TB SSD hard disk with USB3 interface 3rd party hardware synchronization port for 2nd synchronization port for 2nd synchronization ports (NMEA support) Mounting Vehicle independent solution, suits for road, rail and water-based application Laser scanner Laser scanner Laser class 1 (in accordance with IEC 60825-1:2014) Measuring principle Time of flight measurement, echo signal digitization, online waveform processing Effective measurement rate ⁽¹⁰⁾ 300 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m Feflectivity > 80% ⁽¹²⁾ Maximum range, target 150 m 120 m 100 m 85 m reflectivity > 10% ⁽¹²⁾ Minimum range 1.2 m Accuracy ⁽¹³⁾ Accuracy ⁽¹⁴⁾ Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of instrument 19.2 kg Dimensions of battery 42 × 31 × 12 cm point for battery Up to 52 kg (depending on cells type) Dimensions of optional 72 × 31 × 12 cm roof rack extension 28.34" × 12.2" × 4.72"	Typical horizontal accuracy	< 0.030 m	n RMS	<u>'</u>		
Accuracy conditions Open sky conditions Control unit Internal multi-core industrial PC, low power consumption Field software CoCapture, browser-based, no installation required Control interface BYOD (any tablet or laptop), WiFi or LAN cable connection Data storage Removable 2 TB SSD hard disk with USB3 interface 3rd party hardware synchronization ports (NMEA support) Mounting Vehicle independent solution, suits for road, rail and water-based application Laser scanner Laser scanner Laser class 1 (in accordance with IEC 60825-1:2014, may be signal digitization, online waveform processing Effective measurement rate(1) 300 kHz 500 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m reflectivity > 80%(3) Maximum range Accuracy(3) 5 mm Precision(4) 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of 51.3 × 31 × 67.2 cm instrument 20.08° × 12.2° × 26.37° Weight of instrument 19.2 kg Dimensions of optional 72 × 31 × 12 cm Poor rack extension 28.34" × 12.2" × 35.3 cm 28.34" × 12.2" × 4.72" Weight of optional	• •	< 0.025 m RMS				
Control unit Internal multi-core industrial PC, low power consumption Field software CoCapture, browser-based, no installation required Control interface BYOD (any tablet or laptop), WiFi or LAN cable connection Data storage Removable 2 TB SSD hard disk with USB3 interface 3rd party hardware synchronization	**					
low power consumption Field software CoCapture, browser-based, no installation required						
CoCapture, browser-based, no installation required	Control unit	Internal n	nulti-core	industrial P	C,	
installation required Control interface BYOD (any tablet or laptop), WiFi or LAN cable connection Data storage Removable 2 TB SSD hard disk with USB3 interface 3rd party hardware synchronization GNSS antenna2 x RS232 synchronization ports (NMEA support) Mounting Vehicle independent solution, suits for road, rail and water-based application Laser scanner Laser class 1 (in accordance with IEC 60825-1:2014) Measuring principle Time of flight measurement, echo signal digitization, online waveform processing Effective measurement rate(1) 300 kHz 500 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m reflectivity > 80%(2) Maximum range, target 150 m 120 m 100 m 85 m reflectivity > 10%(2) Minimum range 1.2 m Accuracy(3) 5 mm Precision(4) 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of 51.3 x 31 x 67.2 cm instrument 19.2 kg Dimensions of battery 42.9 x 49.7 x 35.3 cm 24.4" x 19.29" x 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional 72 x 31 x 12 cm roof rack extension 28.34" x 12.2" x 4.72" Weight of optional 16.6 kg		low powe	r consum	otion		
Control interface BYOD (any tablet or laptop), WiFi or LAN cable connection Data storage Removable 2 TB SSD hard disk with USB3 interface 3rd party hardware 1 x synchronization port for 2nd synchronization GNSS anterna2 x RS232 synchronization ports (NMEA support) Mounting Vehicle independent solution, suits for road, rail and water-based application Laser scanner Laser scanner </th <th>Field software</th> <th>CoCaptu</th> <th>re, browse</th> <th>r-based, n</th> <th>)</th>	Field software	CoCaptu	re, browse	r-based, n)	
or LAN cable connection Data storage Removable 2 TB SSD hard disk with USB3 interface 3rd party hardware synchronization GNSS antenna2 x RS232 synchronization ports (NMEA support) Mounting Vehicle independent solution, suits for road, rail and water-based application Laser scanuer Laser class 1 (in accordance with IEC 60825-1:2014) Measuring principle Time of flight measurement, echo signal digitization, online waveform processing Effective measurement rate(1) 300 kHz 500 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m reflectivity > 80%(2) Maximum range, target 150 m 120 m 100 m 85 m reflectivity > 10%(2) Minimum range 1.2 m Accuracy(3) 5 mm Precision(4) 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of 51.3 x 31 x 67.2 cm 10.2 cm 20.08" x 12.2" x 26.37" Weight of instrument 19.2 kg Dimensions of optional 72 x 31 x 12 cm 24.4" x 19.29" x 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional 72 x 31 x 12 cm 20.06 rack extension 28.34" x 12.2" x 4.72" Weight of optional 16.6 kg		installatio	n require	d		
Or LAN cable connection	Control interface	,				
## With USB3 interface 3rd party hardware			•			
### Accuracy** Maximum range, target reflectivity > 10%** Maximum range faction to your fell citivity > 10%** Maximum range farget reflectivity > 10%** Mointing Time of fill citicie 1.2 m	Data storage	Removab	le 2 TB SS	D hard dis	<	
3rd party hardware synchronization 1 x synchronization port for 2nd GNSS antenna2 x RS232 synchronization ports (NMEA support) Mounting Vehicle independent solution, suits for road, rail and water-based application Laser scanner Laser class 1 (in accordance with IEC 60825-1:2014) Measuring principle Time of flight measurement, echosignal digitization, online waveform processing Effective measurement rate(**) 300 kHz 500 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m reflectivity > 80%(**) Maximum range, target 150 m 120 m 100 m 85 m Precision(**) 5 mm 1.2 m 4.2 m 85 m *** Field of view 360° "full circle" *** *** *** Scan rate Up to 1 000 000 points/sec *** *** *** Scan speed (selectable) Up to 250 scans/sec *** *** *** *** Dimensions of instrument 19.2 kg *** *** *** *** *** *** *** *** *** *** ***		with USB	3 interface			
synchronization GNSS antenna2 x RS232 synchronization ports (NMEA support) Mounting Vehicle independent solution, suits for road, rail and water-based application Laser scanner Laser class 1 (in accordance with IEC 60825-1:2014) Measuring principle Time of flight measurement, echo signal digitization, online waveform processing Effective measurement rate(1) 300 kHz 500 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m reflectivity > 80%(2) Maximum range, target 150 m 120 m 100 m 85 m reflectivity > 10%(2) Minimum range 1.2 m Accuracy(3) 5 mm Precision(4) 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of 51.3 x 31 x 67.2 cm instrument 20.08" x 12.2" x 26.37" Weight of instrument 19.2 kg Dimensions of battery Op to 52 kg (depending on cells type) Dimensions of optional 72 x 31 x 12 cm roof rack extension 28.34" x 12.2" x 4.72" Weight of optional 16.6 kg	3rd party hardware					
Synchronization ports (NMEA support) Mounting	synchronization	GNSS antenna2 x RS232				
Vehicle independent solution, suits for road, rail and water-based application		synchron	ization poi	rts (NMEA :	support)	
Suits for road, rail and water-based application	Mounting					
Laser scanner Laser class 1 (in accordance with IEC 60825-1:2014) Measuring principle Time of flight measurement, echosignal digitization, online waveform processing Effective measurement rate(1) 300 kHz 500 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m reflectivity > 80%(2) Maximum range, target 150 m 120 m 100 m 85 m reflectivity > 10%(2) Minimum range 1.2 m Accuracy(3) 5 mm Precision(4) 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of 51.3 × 31 × 67.2 cm instrument 20.08" × 12.2" × 26.37" Weight of instrument 19.2 kg Dimensions of battery Up to 52 kg (depending on cells type) Dimensions of optional 72 × 31 × 12 cm roof rack extension 28.34" × 12.2" × 4.72" Weight of optional 16.6 kg		· ·				
Laser class 1 (in accordance with IEC 60825-1:2014) Measuring principle Time of flight measurement, echo signal digitization, online waveform processing Effective measurement rate(1) 300 kHz 500 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m reflectivity > 80%(2) Maximum range, target 150 m 120 m 100 m 85 m reflectivity > 10%(2) Minimum range 1.2 m Accuracy(3) 5 mm Precision(4) 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of 51.3 × 31 × 67.2 cm instrument 20.08" × 12.2" × 26.37" Weight of instrument 19.2 kg Dimensions of battery Up to 52 kg (depending on cells type) Dimensions of optional 72 × 31 × 12 cm roof rack extension 28.34" × 12.2" × 4.72" Weight of optional 16.6 kg		·				
Laser class 1 (in accordance with IEC 60825-1:2014) Measuring principle Time of flight measurement, echo signal digitization, online waveform processing Effective measurement rate ⁽¹⁾ 300 kHz 500 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m reflectivity > 80%(2) Maximum range, target 150 m 120 m 100 m 85 m reflectivity > 10%(2) Minimum range Minimum range 1.2 m Accuracy ⁽³⁾ 5 mm Precision ⁽⁴⁾ 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of instrument 51.3 × 31 × 67.2 cm 20.08" × 12.2" × 26.37" Weight of instrument 19.2 kg Dimensions of battery 62.9 × 49.7 × 35.3 cm 24.4" × 19.29" × 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional 72 × 31 × 12 cm coof rack extension 28.34" × 12.2" × 4.72"	l e					
Time of flight measurement, echo signal digitization, online waveform processing:						
Signal digitization, online waveform processing						
waveform processing Effective measurement rate ⁽⁴⁾ 300 kHz 500 kHz 750 kHz 1 MHz Maximum range, target 420 m 330 m 270 m 235 m reflectivity > 80% ⁽²⁾ Maximum range, target 150 m 120 m 100 m 85 m reflectivity > 10% ⁽²⁾ Minimum range 1.2 m	Measuring principle					
Effective measurement rate(**) 300 kHz 500 kHz 750 kHz 1 MHz Maximum range, target reflectivity > 80%(*2) 420 m 330 m 270 m 235 m Maximum range, target reflectivity > 10%(*2) 150 m 120 m 100 m 85 m Minimum range 1.2 m Accuracy(*3) 5 mm Frecision(*4) 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of instrument 20.08" × 12.2" × 26.37" Veight of instrument 19.2 kg Dimensions of battery 62.9 × 49.7 × 35.3 cm 24.4" × 19.29" × 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional 72 × 31 × 12 cm roof rack extension 28.34" × 12.2" × 4.72" Weight of optional 16.6 kg		* *				
Maximum range, target reflectivity > 80%(2) 420 m 330 m 270 m 235 m Maximum range, target reflectivity > 10%(2) 150 m 120 m 100 m 85 m Minimum range 1.2 m Accuracy(3) 5 mm Precision(4) 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of instrument 20.08" × 12.2" × 26.37" Weight of instrument 19.2 kg Dimensions of battery 62.9 × 49.7 × 35.3 cm 24.4" × 19.29" × 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional roof rack extension 72 × 31 × 12 cm Weight of optional 16.6 kg						
reflectivity > 80% ⁽²⁾ Maximum range, target reflectivity > 10% ⁽²⁾ Minimum range 1.2 m Accuracy ⁽³⁾ 5 mm Precision ⁽⁴⁾ 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of 51.3 × 31 × 67.2 cm 20.08" × 12.2" × 26.37" Weight of instrument 19.2 kg Dimensions of battery 62.9 × 49.7 × 35.3 cm 24.4" × 19.29" × 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional 72 × 31 × 12 cm 72 × 31 × 12 × 31 × 12 cm 72 × 31 × 12 × 31 × 31 × 31 × 31 × 31 × 3) 300 kHz	500 kHz	750 kHz		
Maximum range, target reflectivity > 10%(2) 150 m 120 m 100 m 85 m Minimum range 1.2 m Accuracy(3) 5 mm Formal Precision(4) 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Up to 250 scans/sec Physical Dimensions of instrument 51.3 × 31 × 67.2 cm 20.08" × 12.2" × 26.37" Veight of instrument 19.2 kg Dimensions of battery 62.9 × 49.7 × 35.3 cm 24.4" × 19.29" × 13.78" Veight of battery Up to 52 kg (depending on cells type) Dimensions of optional roof rack extension 72 × 31 × 12 cm 28.34" × 12.2" × 4.72" Weight of optional 16.6 kg		420 m	330 m	270 m	235 m	
reflectivity > 10%(²) Minimum range 1.2 m Accuracy(³) 5 mm Precision(⁴) 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of instrument 51.3 × 31 × 67.2 cm instrument 20.08" × 12.2" × 26.37" Weight of instrument 19.2 kg Dimensions of battery 62.9 × 49.7 × 35.3 cm 24.4" × 19.29" × 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional roof rack extension 72 × 31 × 12 cm Weight of optional 16.6 kg	•					
Minimum range 1.2 m Accuracy ⁽³⁾ 5 mm Precision ⁽⁴⁾ 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of instrument 51.3 × 31 × 67.2 cm 20.08 " × 12.2" × 26.37" 20.08 " × 12.2" × 26.37" Weight of instrument 19.2 kg Dimensions of battery 62.9 × 49.7 × 35.3 cm 24.4 " × 19.29" × 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional roof rack extension 72 × 31 × 12 cm Weight of optional 16.6 kg		150 m	120 m	100 m	85 m	
Accuracy ⁽³⁾ 5 mm Precision ⁽⁴⁾ 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of instrument 51.3 × 31 × 67.2 cm 20.08" × 12.2" × 26.37" Weight of instrument 19.2 kg Dimensions of battery 62.9 × 49.7 × 35.3 cm 24.4" × 19.29" × 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional roof rack extension 72 × 31 × 12 cm Weight of optional 16.6 kg	reflectivity > 10% ⁽²⁾					
Precision ⁽⁴⁾ 2 mm Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Physical Dimensions of instrument 51.3 × 31 × 67.2 cm 20.08" × 12.2" × 26.37" Weight of instrument 19.2 kg Dimensions of battery 62.9 × 49.7 × 35.3 cm 24.4" × 19.29" × 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional roof rack extension 72 × 31 × 12 cm Weight of optional 16.6 kg			1.2 m			
Field of view 360° "full circle" Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of instrument 51.3 × 31 × 67.2 cm 20.08" × 12.2" × 26.37" Weight of instrument 19.2 kg Dimensions of battery 62.9 × 49.7 × 35.3 cm 24.4" × 19.29" × 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional roof rack extension 72 × 31 × 12 cm 28.34" × 12.2" × 4.72" Weight of optional 16.6 kg	•	5 mm				
Scan rate Up to 1 000 000 points/sec Scan speed (selectable) Up to 250 scans/sec Physical Dimensions of instrument 51.3 × 31 × 67.2 cm 20.08" × 12.2" × 26.37" Weight of instrument 19.2 kg Dimensions of battery 62.9 × 49.7 × 35.3 cm 24.4" × 19.29" × 13.78" 24.4" × 19.29" × 13.78" Weight of battery Up to 52 kg (depending on cells type) Dimensions of optional roof rack extension 28.34" × 12.2" × 4.72" Weight of optional 16.6 kg						
$ \begin{array}{c c} \textbf{Scan speed (selectable)} & \textbf{Up to 250 scans/sec} \\ \hline & \textbf{Physical} \\ \hline \textbf{Dimensions of instrument} & 51.3 \times 31 \times 67.2 \text{ cm} \\ 20.08" \times 12.2" \times 26.37" \\ \hline \textbf{Weight of instrument} & 19.2 \text{ kg} \\ \hline \textbf{Dimensions of battery} & 62.9 \times 49.7 \times 35.3 \text{ cm} \\ 24.4" \times 19.29" \times 13.78" \\ \hline \textbf{Weight of battery} & \textbf{Up to 52 kg (depending on cells type)} \\ \hline \textbf{Dimensions of optional} & 72 \times 31 \times 12 \text{ cm} \\ \hline \textbf{roof rack extension} & 28.34" \times 12.2" \times 4.72" \\ \hline \textbf{Weight of optional} & 16.6 \text{ kg} \\ \hline \end{array} $		360° "full circle"				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Scan rate	Up to 1 000 000 points/sec				
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Scan speed (selectable)	Up to 250	Up to 250 scans/sec			
		Physical				
	Dimensions of	51.3 × 31	51.3 × 31 × 67.2 cm			
$ \begin{array}{lll} \textbf{Dimensions of battery} & 62.9 \times 49.7 \times 35.3 \text{ cm} \\ & 24.4" \times 19.29" \times 13.78" \\ \hline \textbf{Weight of battery} & Up to 52 kg (depending on cells type) \\ \textbf{Dimensions of optional} & 72 \times 31 \times 12 \text{ cm} \\ \textbf{roof rack extension} & 28.34" \times 12.2" \times 4.72" \\ \hline \textbf{Weight of optional} & 16.6 kg \\ \hline \end{array} $	instrument	20.08" ×				
$ \begin{array}{lll} \textbf{Dimensions of battery} & 62.9 \times 49.7 \times 35.3 \text{ cm} \\ & 24.4" \times 19.29" \times 13.78" \\ \hline \textbf{Weight of battery} & Up to 52 kg (depending on cells type) \\ \textbf{Dimensions of optional} & 72 \times 31 \times 12 \text{ cm} \\ \textbf{roof rack extension} & 28.34" \times 12.2" \times 4.72" \\ \hline \textbf{Weight of optional} & 16.6 kg \\ \hline \end{array} $	Weight of instrument	19.2 kg				
Weight of batteryUp to 52 kg (depending on cells type)Dimensions of optional72 × 31 × 12 cmroof rack extension28.34" × 12.2" × 4.72"Weight of optional16.6 kg	•					
	Weight of hattery		Up to 52 kg (depending on cells type)			
$ \begin{array}{ll} \textbf{roof rack extension} & 28.34\text{"} \times 12.2\text{"} \times 4.72\text{"} \\ \textbf{Weight of optional} & 16.6\text{ kg} \end{array} $				ang on ce	iia type)	
				72"		
		16.6 kg				

lmaging system				
Camera type	360° Spherical camera, additional adjustable			
	external cameras as option			
Number of cameras	6 sensors			
CCD size	2048 x 2448, 3.45 μm pixel size			
Lens	4.4 mm			
Resolution	30 MP (5 MP x 6 sensors), 10 FPS			
	JPEG compressed			
Coverage	90% of full sphere			
High Dynamic Range (HDR)	Cycle 4 gain and exposure presets			
Positioning and orientation system				
GNSS system	Multiple GPS, GLONASS, Galileo, BeiDou, SBAS and QZSS constellation, L-Band, single and dual antenna support			
IMU update rate	Standard 200 Hz (user selectable 1 to 1000 Hz			
Gyro bias	≤0.1 deg/hr, 1σ (max)			
instability (25°C)	\leq 0.05 deg/hr, 1 σ (typical)			
Gyro bias offset (25°C)	±2 deg/hr			
Gyro scale factor	≤200 ppm, 1σ			
Gyro range	±490 deg/sec			
Angle Random Walk	≤0.012 deg/√hr			
Accelerometer range	±10 g			
Accelerometer bias	<0.05 mg			
Accelerometer	250 ppm/°C, 1σ (max),			
scale factor	≤100 ppm/°C, 1σ (typical)			
Position accuracy NO GNSS outage	0.010 m RMS horizontal, 0.020 m RMS vertical, 0.005 degrees RMS pitch/roll, 0.017 degrees RMS heading			
Wheel sensor (DMI)	Yes, optional			
Environmental				
Operating temperature	-10 °C to +40 °C			
Storage temperature	-20 °C to +50 °C			
IP rating	IP64			
Humidity (operating)	80%, non-condensing			
Maximum vehicle speed	110 km/h (68 mph)			
for data acquisition				
Humidity (operating)	80%, non-condensing			
Electrical				
Battery type	External battery in protected case, also			
	support direct vehicle power source			
Input voltage	24 V DC			
Power consumption	Typ. 240 W			
Operating time	Up to 8 hrs			
(1) Rounded values, selectable by measu. (2) Typical values for average conditions. (3) Accuracy is the degree of conformity				

(4) Precision is the degree to which further measurements show the same results.

© 2018 Shanghai Huace Navigation Technology Ltd. All rights reserved. The CHC and CHC logo are trademarks of Shanghai Huace Navigation Technology Limited. All other trademarks are the property of their respective owners.

- Revision October 2018

Shanghai Huace Navigation Technology Ltd.

599 Gaojing Road, Building D Shanghai, 201702, China

+86 21 54260273 WWW.CHCNAV.COM









^{*}Specifications are subject to change without notice.