Specifications

Type		HS1200
Ranging Mode		Pulse
Laser Properties		Class 1 (eye safe)
Laser Beam Divergence		0.35mrad
Echo Mode		Full waveform, multi-echo technology
Max. Range		1000m①
Min. Range		2.5m
Accuracy		5mm②
Panorama Camera Resolution		70M pixels(external camera) ③
Laser Pulse Repetition Rate PRR		Up to 500kHz④
Scan F o V	vertical	100°（-40°~+60°）
	horizontal	360°
Angle Measurement Resolution	vertical	0.001°
	horizontal	0.001°
Scan Speed	vertical	3-150scans/s
	horizontal	max.36°/s
Dual-axis tilt sensor	Range	±5°
	Resolution	0.001°
Data Storage		240GB（SSD）
Data Transmission		GigE/USB2.0
Control Panel		Full-color touch panel
Communicate Interface		GigE/USB2.0/WLAN/Camera Trigger/GPS Synchronization，etc.
Battery Life		>4H
Temperature Range		-20℃~+65℃（operation）
		-40℃~+85℃（storage）
Humidity		non condensing
Protection Class		IP64
Main Dimensions		Φ188mm×318mm
Weight		ca.10.5Kg

① 1000m@90%,100kHz;470m@20%,100kHz;445m@90%,500kHz;210m@20%,500kHz
② 5mm@40m
③ camera is not default, it's optional
④ max. 500k points/second

Typical customers

Surveying and GIS

Provincial Institute of Surveying and Mapping
Municipal Institute of Surveying and Mapping
Provincial Mineral Surveying Institute
Provincial Geological Environment Monitoring Station
……

Cultural Heritage

Provincial Museum
Provincial Institute of Archaeology
Provincial Cultural Relics Bureau
……

Research Institute

Provincial Architectural Research Institute
Provicial Academy of Forestry
……

Colleges and Universities

Several Chinese Universities
Colleges with high reputation

HS1200 high precision 3D laser scanner

Introduction

HS1200 high precision 3D laser scanner is a pulse, full waveform, high-precision and high frequency 3D laser scanner which is independently developed by HiCloud. It is equipped with the full business process 3D laser point cloud processing software which is also independently developed by HiCloud. It is designed to be widely used in digital cultural heritage, Digital city, topographic mapping, deformation monitoring, digital factory, tunnel engineering, construction BIM and other fields with high measurement accuracy, high point cloud processing efficiency and diversified application results.

Advantages:

- **High Accuracy**
  5mm
- **FullyAutonomous**
  independent intellectualproperty rights, guaranteeof upgrading
- High Frequency
  max.500k points per second
- Automation
  Intelligent target-free automatic mosaic
- **Whole process**
  equipped with a series of softwares which are independently developed
- Expendable
  Optional to be equipped with external GPS and camera

Data processing flow chart

Data Acquisition

Data Processing

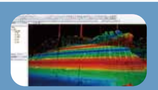
- Point Cloud Processing SW
  - Point Cloud Mapping and Database construction SW
  - Point Cloud 3D Modeling SW

Data Application


Digital Cultural Heritage


Construction Modeling


Digital Factory


Deformation Monitoring

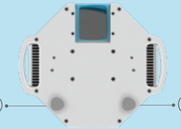

Regional Real View

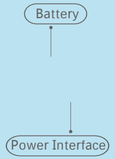

Digital Mining


Tunnel Detection


Landslide Treatment

Appearance Design

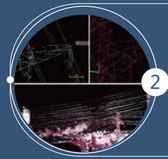




Point Cloud Processing SW

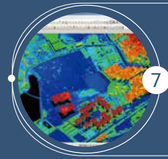

1 Support multi station massivepoint cloud visualizationbrowsing, support a variety ofview browsing methods


5 Support automatic generation of DEM/TIN 3D model data, and support model browsing, rendering, measurement, editing, volume calculation and other analysis functions


2 Support sketch mosaic, single point mosaic and other flexible mosaic methods


6 Support the registration of point cloud and image, and generate true color point cloud data with one click.


3 Provide powerful and flexible point cloud selection and editing functions, efficiently edit and select point cloud data, and extracts point cloud in regions of interest.


7 Support the seamless integration of ground, vehicle, ship and airborne point clouds, and meet the application expansion requirements based on 3D laser point cloud.


4 Support point cloud framing setting and export, meet the point cloud extraction of key points of interest.

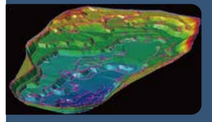

8 Support plug-in extension customized development to facilitate professional application extension.

Application Areas

- Facade

In the field of building facade measurement, the HS series scanners overcome the limitations of traditional methods, and can scan buildings without contact, with the characteristics of fast, non-contact, real-time, high precision, strong initiative, full digital and so on. Through the high-speed laser scanning measurement method, the geometric data of the building surface is obtained in the form of point cloud, and a large number of building facade information is quickly collected, which improves the efficiency for the rapid measurement of building facade.

- Mine Survey

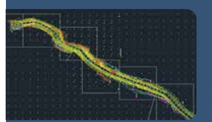


The HS series scanners provide new technical means and methods for the acquisition of 3D information of mines, and provide strong technical support for the development of digital mines. The unified expression and digital representation of the whole mine and its related applications is to store and process all the spatial data of the mine digitally, so as to provide accurate data basis for the 3D spatial information of the mine.

- 3D Modeling

The HS series scanners can quickly obtain the high-precision and high-density 3D point cloud data characteristics of the measured objects by using 3D laser in the measurement of buildings and historic sites, and provide effective and accurate original data support for the repair and protection of the internal and the appearance of buildings (ancient buildings, statues, etc.), the digitization of historical relics and historic sites, and the digitization of factory pipelines.

- Topographic survey



Topographic mapping is a comprehensive survey work. In the process of surveying, it involves various elements such as regional topography, landform,features,etc.,whichcanreflect the environmental conditionsof the measured area from different aspects. Based on the 3D data measured by HS series scanners, the size of real terrain structure is drawn to the drawing according to a certain scale, and variousstructures are represented by geometric figures. Compared with thetraditional measurement method, 3D scanning greatly improves thework efficiency and shortens the working time.

- Geological Hazard

Surface landslide is one of the most harmful natural disasters, but it is more difficult to obtain comprehensive and accurate landslide data, which can be used for landslide exploration, monitoring and prediction. HS series scanners can measure the precise point displacement and implement the 3D overall monitoring. Observing the characteristic points of the whole landslide and collecting the surface point data can be very helpful to the exploration and monitoring of the landslide.