SPECIFICATION

LiDAR System			
Working Range	max. 1350 m	Max. Meas. Rate	up to 500,000 meas./sec
Field of View	0°~ 330°	Angle Resolution	0.001°
Working Speed	≤60 km/h(Automotive) ≤120 km/h(Helicopter)	Accuracy	Automotive: H:2cm/V:3cm(≤50m); Helicopter: H:15 cm/V:8 cm(500 m)
Weight	5.99 kg	Dimensions	515 x 248 x 310 mm
Input Voltage	11-32V DC	Power Consumption	85 W
Camera Resolution	22.3 MP (DSLR); 30 MP (panorama camera, see details in Part III below)		

Part I: Laser Scanner			
Laser Pluse Repetition Rate	500 kHz	Eye Safety Class	laser class 1
Accuracy / Precision	10 mm / 5 mm	Internal Memory	SSD 240 GB
Environment Protection	IP64	Temperature	operating: 0° to 45°C; storage: -20° to 50°C

Part II: POS System			
Gyro Bias Stability	0.05°per hour	Data Storage	8 to 32 GB
Processed Roll/Pitch Accuracy	0.005°	Processed Heading Accuracy	0.017°
Processed location H/V Accuracy	0.01/0.02(m)	Processed Speed H/V Accuracy	0.02/0.01(m/s)
Performance Range Data sampling rate	POS:125Hz Location:50Hz		

Part III: Panorama Camera (used with automotive mode only)	
Resolution	30 MP (6 sensors, 5 MP each)
Imaging Sensor	Sony ICX655 CCD x 6, 2/3", 3.45 µm
Partial Image Mode	pixel binning and region of interest (ROI) modes
Maximum Resolution	2448x2048 pixel (single CCD); 8000x4000 pixel (panorama)
Image Data Format	JEPG; 10 FPS JPEG compressed, 5 FPS uncompressed
Digital Interface	USB 3.0 with locking screws for secure connection
Transfer Rate	5 Gbit/s
Image Data Output	12-bit raw
Shutter	global shutter
Optics	6 high quality 4.4 mm focal length lenses
Field of View	90% of full sphere
GPIO	12-pin GPIO connector for external trigger input, strobe output, and camera power
Temperature	operating: 0° ~ 45°C; storage: -30° ~ 60°C
Dimensions	197 mm diameter, 160 mm height (with lens hoods)
Environmental Protection	IP65
Power Consumption	12-24 V, 13 W via GPIO

SOUTH
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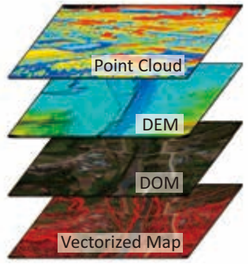
http://www.southinstrument.com

FEATURES

- Maximum working range up to 1350 m
- Automotive scanning roadway up to 600 km per day
- Airborne scanning area coverage up to 960 sq.km per day
- SUV/helicopter/All-Terrain-Vehicle/vessel multi-platforms



HARDWARE

Option A: DSLR camera (lower-altitude aerial mode)
22.3 MP, supports imaging stabilization
Option B: industrial-level metric camera (medium-altitude aerial mode)
100 MP, supports imaging stabilization

Laser Scanner
to fast obtain geo-spatial information of ground objects, **range 1350 m max.** accuracy ±20 cm, scanning **500,000 meas./sec**

Inertial Navigation System
to provide **3D high-precision** information of location, speed and orientation

Time Synchronization Module
to synchronize scanned point data with GNSS data, INS data and imagery data

SZT-R1000

GNSS antenna

Panoramic Camera (automotive mode)
5 MP x 6 CCD, resolution **30 MP** per image, to accomplish data capturing, processing, mosaicking and rectification

PACKAGE

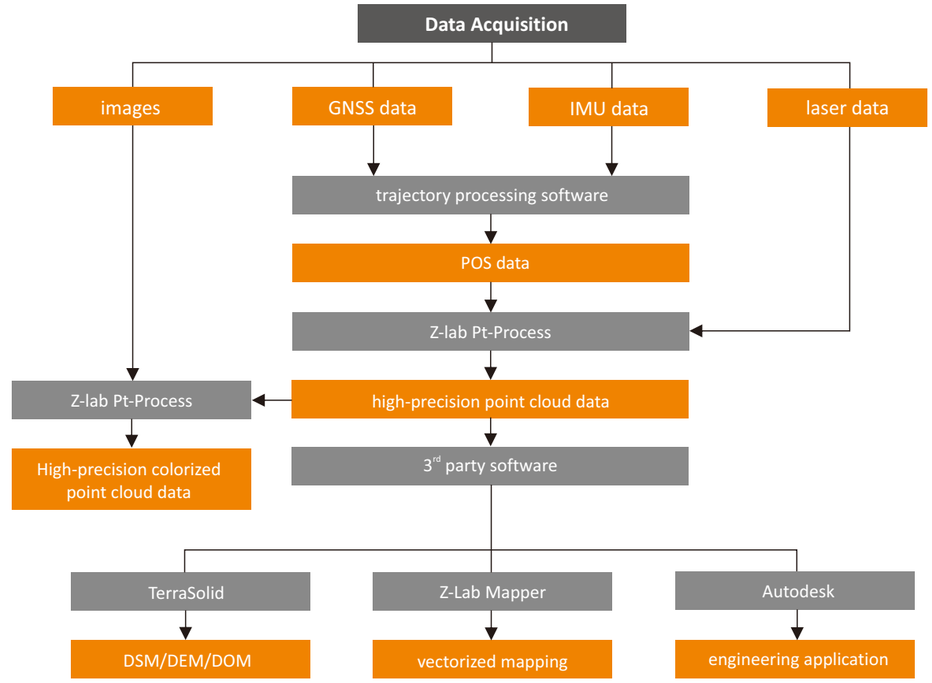
System Configuration

Component	Standard	Option
Laser Scanner	√	
IMU (INS Module)	√	
GNSS Module & Antenna	√	
Control & Storage System	√	
Panorama Camera (used with SUV/ATV/vessel)		√
DSLR Camera (used with helicopter)		√
Industrial-level Metric Camera PHASE ONE (used with helicopter)		√

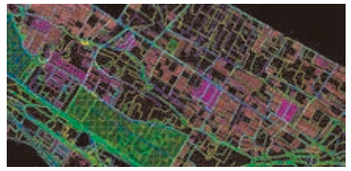
Software Kit

Related Software	Standard	Option
LiDAR-Ctrl (system control)	√	
Inertial Explorer (trajectory processing)	√	
Z-Lab Pt-process (point cloud processing)	√	
Pano-online (panorama image online publishing)		√
Z-Lab Mapper (vectorized mapping)		√

WORKFLOW



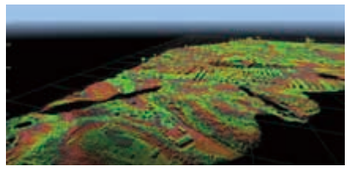
APPLICATIONS



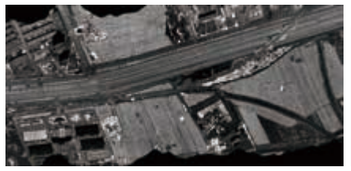
topographic & cadastral survey

electric power industry application

traffic network control



forestry investigation & planning



emergency response & monitoring

irrigation system development