

STANDARD SYSTEM PHYSICAL CHARACTERISTICS

Size	530 x 330 x 420mm
Weight	Approx 13.kg

LASER SCANNER

Effective Measurement Rate	1000 kHz
Max. Range (For Reflectivity 80%)	420 m
Minimum Range	1.2 m
Accuracy	5 mm
Repeatability	3 mm
Max Field of View	360 deg
Scanning Speed	250 lines/second
Number of Targets Per Pulse	Practically Unlimited
Eye Safety	Class 1 Eye-safe

MEMS IMU (MICRO-ELECTRO-MECHANICAL GYRO)

Position	0.05 m	Data Rate	400 Hz
Velocity	0.005 m/s	Gyro-Bias	2 deg/h
Roll/Pitch	0.01 deg	Gyro-RW	0.07 deg/sqrt(h)
True Heading	0.02 deg	Accelerometer Bias	0.1 mg

FOG IMU (FIBRE-OPTIC GYRO)

Position	<0.05 m	Data Rate	512 Hz
Velocity	0.005 m/s	Gyro-Bias	0.03 deg/h
Roll/Pitch	0.003 deg	Gyro-RW	0.005 deg/sqrt(h)
True Heading	0.007 deg	Accelerometer Bias	0.3 mg

TYPICAL INS ERROR OVER TIME WITHOUT GNSS

	30 sec	60 sec	120 sec
MEMS	0.11 m	0.12 m	0.78 m
FOG	0.01 m	0.08 m	0.09 m

LADYBUG 3

Sony icx27 4 ccdx6, 1/1.8", 4.4 μm	Sony icx655 4 ccdx6, 2/3", 3.45 μm
Global Shutter	Global Shutter
1600 x 1200 at 5fps jpg per sensor	2048 x 2448 at 5fps jpg per sensor
2.0MP per sensor	5.0MP per sensor

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AVERAGE POINT CLOUD DENSITY (pts/sqm @ 5m range)

	25 km/h	40 km/h	60 km/h	80 km/h	100 km/h
Single Scanner	4800	3000	2000	1500	1200

HARDWARE

PROTECTIVE POD

StreetMapper IV comes inside a fiberglass protective POD, making it waterproof and aerodynamic. The POD comes ready to be attached to roof bars.

Two mount options are available:

	Single	Dual
Fixed	x	x
Rotation	x	

LASER SCANNER

A lightweight, compact, high performance laser scanner is fully integrated in StreetMapper IV. Options include single or dual scanners.

NAVIGATION SYSTEM

The navigation system allows for precise positioning of the system. Components:

- Inertial Measurement Unit (IMU) to measure velocity and orientation with options:
 - Micro-electro-mechanical gyro (MEMS)
 - Fibre-optic gyro (FOG)
- Speed sensor used to prevent false movement readings when the vehicle is stationary
- Sensor Management Unit (SMU) with integrated GNSS receiver to control all the sensors

CONTROL UNIT

A compact control unit with touch screen allows for simple operation. Only one cable connection and power input are needed to operate.

CAMERA SYSTEM

An optional camera upgrade is available. Panoramic cameras are offered to support StreetMapper IV, each with a six camera input and capture rate of up to 5 frames per second.

STANDARD SYSTEMS

- Fixed Position Mount
- Laser Scanner
- MEMs IMU
- Speed Sensor
- GNSS Antenna
- TERRAcontrol System

SOFTWARE

CAPTURE SOFTWARE: DIGIVISU

Designed to make data capture as easy as possible. Operate the system via a simple touch screen interface including visual feedback of the data captured.

AUTOMATED PROCESSING

Simplify and automate your data processing workflow. MMProcess and TERRAoffice are used to export all collected GNSS and IMU data and conduct all post-processing functions automatically.

OUTPUT DATA GENERATION

Sensor data is managed and processed by MMProcess. Export geo-referenced data into a multitude of different, user-defined coordinate systems. Processing of trajectory and laser data can be automated using this, leading to reduced time and greater efficiency.

APPLICATION SOFTWARE

Output data can be visualised and used for different applications using TerraSolid and Orbit Software's.

TerraSolid's software has been designed for the post-processing and visualisation of laser, trajectory and image data. Running within Bentley Microstation, TerraSolid's applications provide versatile and capable tools for surveyors, civil engineers, designers and planners.

Orbit Mobile Mapping Asset Inventory software allows you to organise and manage all your mobile mapping content including images (panoramic or planar), point clouds and trajectories. You can visualise, inspect, check and measure. The software includes tools for rapid extraction of asset inventory data to a central database.

OPTIONAL UPGRADES

- FOG IMU (Fibre-optic gyro)
- DIA+ (GPS & GLONASS with DIA)
- Optical Odometer
- Ladybug Panoramic Camera
- Second Laser Scanner
- Second GNSS Antenna
- Rotating Mount Option (Single Scanner)