

IP-S2 VISION – MOBILE MAPPING SYSTEM



Add Value to Your GIS Database with Geo-referenced 3D Images

- Captures 360° Images with Positional Information while Driving
- Take measurements directly from images
- Create GIS Inventories
- Upgradable with scanners

It's time.

Vehicle-mounted System

Topcon's IP-S2 Vision mobile mapping system provides panoramic images for any GIS project.

The vehicle-mounted system collects Geo-referenced data for roadside feature inventories while traveling at highway speeds. The system reduces project costs while increasing operator safety and mapping personnel off the roads. The IP-S2 Vision is perfect for 3D street-level city mapping for local search applications, GIS, homeland security and disaster management.

Accurate vehicle positions are obtained by the IP-S2 by combining three different technologies: a dual frequency GNSS receiver that establishes a geospatial position; an Inertial Measurement Unit (IMU) that provides vehicle attitude, and a connection to external wheel encoders that provides odometry information. These three technologies work together to generate a precise 3D position for the vehicle even in locations where satellite signals can be blocked by obstructions such as buildings, bridges or tree lines.

Using data collected by IP-S2 Vision, street signs, trees and other roadside features can easily be mapped and measured from a GIS environment. Addition of object attributes makes an ideal basis for any asset management application.

IP-S2 Vision can be upgraded with laser scanners. This enhances the measurement accuracy and opens the field of surveying and engineering applications.

IP-S2



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IP-S2 VISION

Mobile Mapping System Captures 360° Images while Driving

Vehicle Position Metrics*

Outage Duration	System	Position error (m)		attitude Error (Degrees)		
		2D	H	Roll	Pitch	Heading
0 s	IP-S2 (AG58 - 1°/Hr)	0.015	0.025	0.020	0.020	0.040
	IP-S2 (AG60 - 3°/Hr)	0.015	0.025	0.025	0.025	0.050
15 s	IP-S2 (AG58 - 1°/Hr)	0.020	0.025	0.020	0.020	0.045
	IP-S2 (AG60 - 3°/Hr)	0.025	0.025	0.025	0.025	0.060
30 s	IP-S2 (AG58 - 1°/Hr)	0.040	0.030	0.025	0.025	0.050
	IP-S2 (AG60 - 3°/Hr)	0.055	0.030	0.030	0.030	0.075

Outage results are determined by calculating the RMS of the maximum errors for a minimum of 30 outages. Each outage was selected such that at least 100-second high-accuracy GNSS outputs (fixed ambiguities) were available before and after the outage. All results are based on a forward-and-backward smoothed solution with inertial and wheel sensor data input. Metrics were obtained using PPK (Post Processing Kinematic) solution.

* Under optimal conditions



IP-S2 Vision Sensor Unit



Portable, Easy Mounting System



Easy to use and compact

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