SIEMENS

Sapphire JTM

Journey Time Measurement System using Bluetooth®

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Sapphire JTM

The Siemens Sapphire JTM offers a complete Journey Time Measurement System (JTMS) using Bluetooth® technology for traffic monitoring. The detectors are simple to install and compact, minimising street clutter. The system is integrated into Stratos, Siemens hosted traffic management system, providing the necessary tools for analyses and monitoring of journey times.

Using Bluetooth® technology

Bluetooth® technology is commonly found in mobile phones, aftermarket accessories, in-car communication and audio systems. Typically used for audio communication devices over a range of less than 10m, the Siemens Sapphire JTM detectors have been designed with an extended detection range of up to 100m for traffic environments.

Statistical measurement

The detectors continually communicate to Bluetooth® enabled devices, gathering all the necessary (anonymous) data to measure journey times between two defined areas and automatically filtering any static devices. As with all radio-based systems, the detection rate is subject to external influences including geographic and user behaviour.

Simple installation

Siemens Sapphire JTM detectors are strategically placed along a route to continuously search for Bluetooth® compatible devices. Once installed, equipment sensitivity is tested and adjusted using a laptop.

Cost of ownership

The initial capital investment per detector is significantly lower than that of camera-based systems, allowing a higher density of devices to be acquired for the same capital outlay. Ongoing maintenance costs are also reduced as frequent cleaning and alignments are not required.

Security matters

All data gathered by the detectors are anonymous, encrypted and securely stored in a central repository for journey time calculation and analysis purposes.

Connectivity options

There are two connectivity options available for the Siemens Sapphire JTM solution:

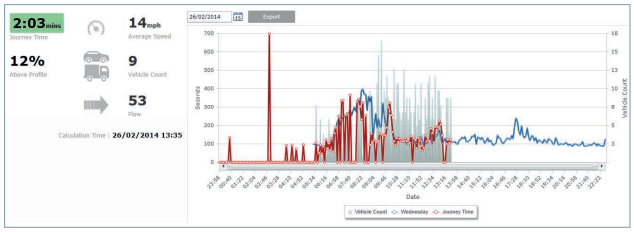
- Ethernet[1], where the detector connects to a router for transmission over ADSL or fibre networks
- Mobile communications, over a mobile telephone data network[2] (including support to GPRS or 3G networks)

[1] This connectivity module can be shared with existing UTC communications
[2] Mobile data charges may apply
[3] Bluetooth is a registered trademark owned by Bluetooth SIG, Inc.

Integration with Siemens Stratos

Real-time journey time monitoring is an essential element of any traffic management system and an invaluable tool for the traffic manager to ensure optimal network operation.

The Bluetooth® detectors are integrated to the Stratos Journey Time Monitoring module, with links to ANPR cameras and third-party systems. All inputs contribute to a rich source of information for analysis and monitoring of traffic.



With user-friendly overview dashboards and maps, Stratos shows current journey times and highlights routes that are operating outside their norms using input data from various sources, including the Bluetooth JTMS detectors.

Technical specification

General

- 9-30V AC or DC
- Antenna designed with a specific radiation pattern for detecting devices at intersections
- Compatible with the Bluetooth® versions 1.0, 2.0, 2.1, 3.0, 4.0 and 4.1

Electrical

- Supply voltage: 0.4W (60mA at 24V AC)

Environmental

- IP68 rated enclosures
- Operating temperature: -10°C to + 60°C

Dimensions

- Detector: 170mm x 150mm x 55mm

Weight

- Under 1.5kg

Data transmission

- Via Ethernet, mobile communications (GPRS, 3G) or local Bluetooth® connection

Part Numbers

Item	Part Number
Sapphire JTM (GPRS/3G)	667/7/52040/000
Sapphire JTM (Ethernet)	667/7/52040/100

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