Easy, reliable and cost-effective traffic and parking space monitoring
Our Sitraffic Wimag family of detectors: state-of-the-art detection and wireless technology

Our Sitraffic® Wimag family of traffic detectors scores with a range of remarkable advantages. No need for expensive construction work for burying detector loops in the pavement or installing power and data cables: The very compact detectors measure only 7.5 × 7.5 × 5.0 cm and can be installed in a matter of minutes – totally without cabling. And yet these powerful detectors collect highly precise information on current traffic volumes for transmission to the traffic controllers via their base station.

The optimum detector for every application
Collecting reliable traffic data at intersections calls for a different technology than monitoring the occupancy of HGV parking spaces. And detecting bicycle traffic is something totally different yet. Within the Sitraffic Wimag family of detectors, you will find the optimum detector designed for each of these uses. Sitraffic Wimag VD, for instance, is a traffic detector that provides accurate data of moving traffic as input for optimum green-phase switching.

The new Sitraffic Wimag PD is a parking detector that uses two different technologies for the reliable detection of cars, HGVs and motorcycles parked in the spaces equipped with the system. Sitraffic Wimag MR is a special “MicroRadar” version able to detect “small” road users such as cyclists – even those pedaling right at the edge of the lane. All three detector types can be integrated into a single system because they share the same transmission technology, including repeaters, base station and dedicated software.

Easy, cost-efficient installation – wherever needed
Components that are not needed will not entail neither installation nor maintenance efforts and costs. With Sitraffic Wimag, no cabling work is required because the detector’s operation is entirely wireless. This and the device’s remarkably compact dimensions (7.5 × 7.5 × 5.0 cm) allow for extremely fast installation. Another advantage is the complete freedom in the choice of the sensor’s position: It can be installed at any distance from the intersection controller and in any type of pavement. The site can thus be selected based purely on traffic-engineering criteria, without being restricted by cost considerations.
Via radio link, the Sitraffic Wimag VD detectors transmit the data to the base station, which forwards them per Ethernet to the traffic controller.
Outdoor parking spaces can be equipped with Sitraffic Wimag PD for the reliable detection of parked vehicles – not only cars and HGVs, but also motorcycles.
The Sitraffic Wimag family of detectors offers the optimum detector type for a whole range of uses such as recording of moving traffic, bicycle detection or parking space monitoring.

Three detectors, two detection technologies, numerous applications

**Sitraffic Wimag VD: Magnetic-field detection ensures high detection rates in moving traffic**
The use of magnetic field technology makes this traffic detector (VD) superior to most other detector types for this application. As Sitraffic Wimag VD is embedded in the tarmac right in the center of the lane, the vehicles pass directly over the sensor. Thus it is virtually impossible for the sensor to “miss” a vehicle or “detect” a non-existing one. The detector also performs substantially better than conventional overhead detectors when it comes to recording time gaps between individual vehicles, even when the time gaps occur at rather large distances from the stop line.

**Sitraffic Wimag MR: The green-phase request detector with MicroRadar for the reliable detection of bicycles**
With many detector types, the activation of the green-phase request message at the stop line is anything but a sure thing when the approaching vehicle is a bicycle. Because many systems cannot distinguish between the bicycle lane and the general traffic lane next to it. Yet for Sitraffic Wimag MR this is the easiest thing in the world! The detector uses MicroRadar (MR) technology and its detection zone can be adjusted to extend exactly to the edge of the lane. In case of changes in the lane layout, the detector zone can be readjusted even after detector installation.

**Sitraffic Wimag PD: Magnetic field technology plus MicroRadar for the cost-effective detection of parked vehicles**
A function that has long been used in parking garages is now also possible on outdoor parking spaces: individual parking space monitoring. Sitraffic Wimag PD is the cost-effective and easy-to-install solution for the reliable detection of parked vehicles. The sensor is flush-mounted in the road surface in front or behind the parking space. As it uses both magnetic-field technology and MicroRadar, it is able to reliably identify the current occupancy status in any weather and in all seasons. As for all Sitraffic Wimag detector types, installation requires no costly and time-consuming cabling work because the status messages are transmitted via mobile radio. Sitraffic Wimag PD can detect cars, HGVs and motorcycles.

This enables a number of very useful applications such as:

- Reporting vacant HGV parking spaces on motorway rest stations to traffic management and information systems
- Detection of the occupancy status of on- and off-street parking spaces
- Monitoring areas that must not be blocked by parked vehicles

The Sitraffic Wimag family of detectors offers the optimum detector type for a whole range of uses such as recording of moving traffic, bicycle detection or parking space monitoring.
### Key data at a glance

#### Technical specification

<table>
<thead>
<tr>
<th><strong>Sitraffic Wimag VD/Sitraffic Wimag PD/Sitraffic Wimag MR sensors</strong></th>
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<tbody>
<tr>
<td>Temperature range</td>
<td>–40 to +85 °C</td>
</tr>
<tr>
<td>Dimensions</td>
<td>75 × 75 × 50 mm (L × W × H)</td>
</tr>
<tr>
<td>Radio frequency</td>
<td>2.4 GHz (ISM band, no license required)</td>
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<tr>
<td>Rated life of battery</td>
<td>&gt; 10 years</td>
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<tr>
<th><strong>Sitraffic Wimag repeater</strong></th>
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<tbody>
<tr>
<td>Temperature range</td>
<td>–40 to +80 °C</td>
</tr>
<tr>
<td>Dimensions</td>
<td>134 × 106 × 135 mm (L × W × H)</td>
</tr>
<tr>
<td>Weight</td>
<td>1.8 kg</td>
</tr>
</tbody>
</table>
| Communications | • Wireless radio link with max. 10 sensors (Sitraffic Wimag VD, MR)  
• Wireless radio link with max. 80 sensors (Sitraffic Wimag PD) |
| Radio frequency | 2.4 GHz (ISM band, no license required) |
| Rated life of battery | > 2 years or > 5 years |

<table>
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<tr>
<th><strong>Sitraffic Wimag base station</strong></th>
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<tbody>
<tr>
<td>Temperature range</td>
<td>–40 to +80 °C</td>
</tr>
<tr>
<td>Dimensions</td>
<td>159 × 159 × 89 mm (L × W × H)</td>
</tr>
<tr>
<td>Weight</td>
<td>1.8 kg</td>
</tr>
<tr>
<td>Power supply</td>
<td>48 V power over Ethernet acc. to IEEE 802.3af</td>
</tr>
</tbody>
</table>
| Communications | Wireless radio link with max. 48 Wimag VD and Wimag MR  
or max. 384 Wimag PD |
| Radio frequency | 2.4 GHz (ISM band, no license required) |

Sitraffic Wimag VD measures the time gaps between vehicles with such a high degree of accuracy that optimum green-phase switching becomes possible.
Data are transmitted to SityControl 7 for forwarding to high-level management systems.

Sitraffic Wimag detectors need no power or data cabling. The sensors are protected by a completely closed housing, which is embedded in the pavement slightly lower than the surface.

1. Fastening screws
2. Name plate
3. Cover
4. Gasket
5. Support
6. Electronic assembly with magnetic and/or radar sensors, processor and radio antenna
7. Battery
8. Housing

Sitraffic Wimag PD allows the reliable detection of vehicles on outdoor parking spaces – not only cars and HGVs, but also motorcycles.
The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.