

## Application Areas

- ✓ Temporary, mobile or permanent installations
- ✓ Autonomous traffic data collection thanks to energy-efficient operation without mains power
- ✓ Individual vehicle data (count, speed, length) or aggregated interval values
- ✓ Monitoring point for early congestion detection and queue management
- ✓ Tool for planning and evaluating road construction projects
- ✓ Real-time traffic data for immediate integration into traffic control systems (via MQTT)

## Features

- ✓ Maintenance-free detection with no road surface work required
- ✓ Flexible power supply: solar, mains power, or mains with scheduled off-times (e.g. street lighting)
- ✓ Full management and data access via web browser – no special software required
- ✓ Easy integration into third-party systems via MQTT
- ✓ Reliable communication via standard cellular networks

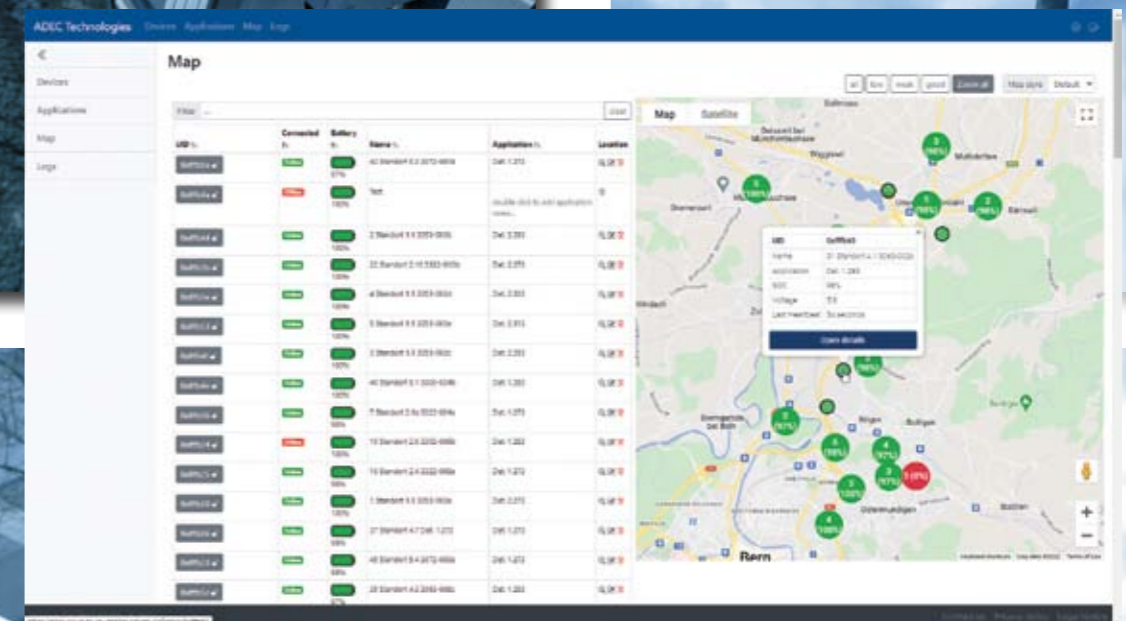
## TDC1-PIR Traffic Detector

- ✓ 5-channel PIR sensor array with additional thermal channel
- ✓ Ultra-low-power sensor design that maximizes BS2 operating time on battery power
- ✓ Designed for traffic measurement on a single lane
- ✓ Vehicle classification into three length categories
- ✓ Wide mounting range: 5.5 m to 18 m (18 to 60 ft.) from observed lane
- ✓ Supports overhead or side-mounted installation
- ✓ Wrong-way driver detection
- ✓ Maximum data quality in all weather conditions
- ✓ Proven in thousands of deployments – in use since 2011



BS2-TS30 with four TDC1-PIR and JBL3 junction box in Regensburg (Germany)

# ADEC Technologies



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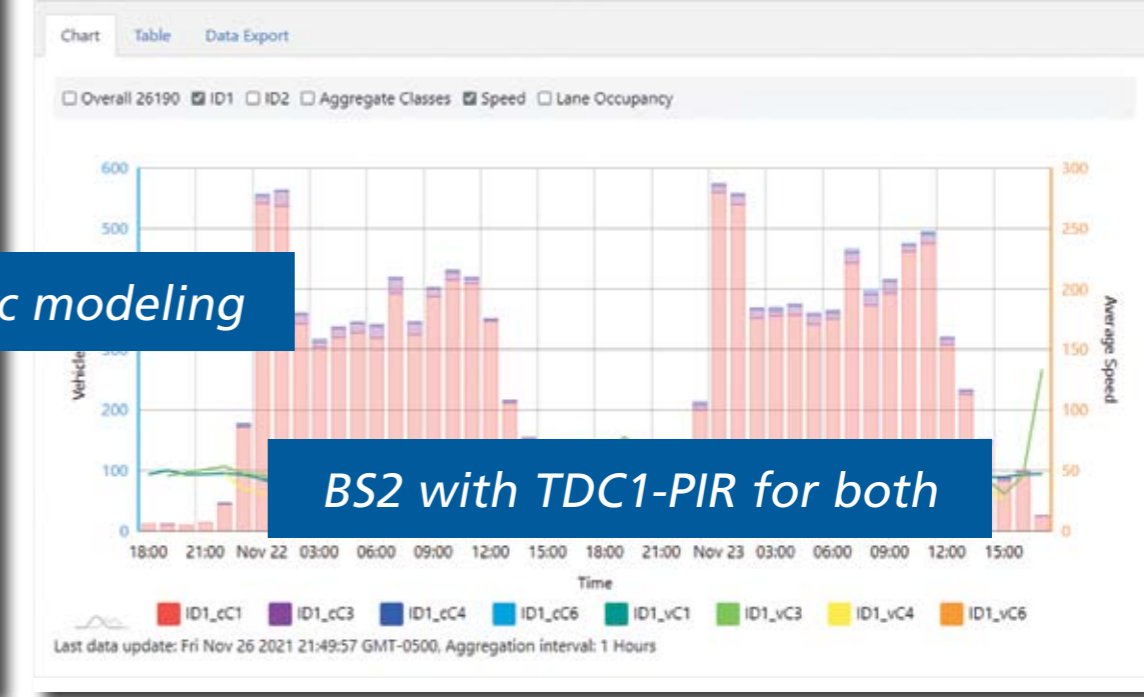
ADEC Technologies AG  
Gublenstrasse 1  
8733 Eschenbach, Switzerland  
+41-55-214-2400  
info@adec-technologies.ch • <https://adec.swiss>

## Traffic Data Collection: Empowering Smart Infrastructure

## Real-time traffic data for traffic management



## Historical data for statistics and traffic modeling



## BS2 with TDC1-PIR for both



Swiss Made



### ADEC Technologies

is a globally recognized manufacturer based in Switzerland, specializing in innovative traffic detectors. Since 2009, architects, engineers, installers, and system integrators around the world have relied on ADEC for dependable and maintenance-free detectors for their traffic management solutions.

### Autonomous Traffic Data Collection

The BS2 mobile data gateway, paired with the ultra-low-power TDC1-PIR detector, delivers real-time traffic data via its integrated 4G modem to any MQTT broker.

With flexible power options — including solar, mains, or mains with scheduled off-times (e.g., street lighting) — the BS2 can be deployed in virtually any roadside environment.

The ADEC Cloud dashboard simplifies setup, monitoring, and reporting. Real-time and aggregated long-term data support both operational optimization and informed planning, providing insights into vehicle mix, speed, occupancy, and traffic volume.

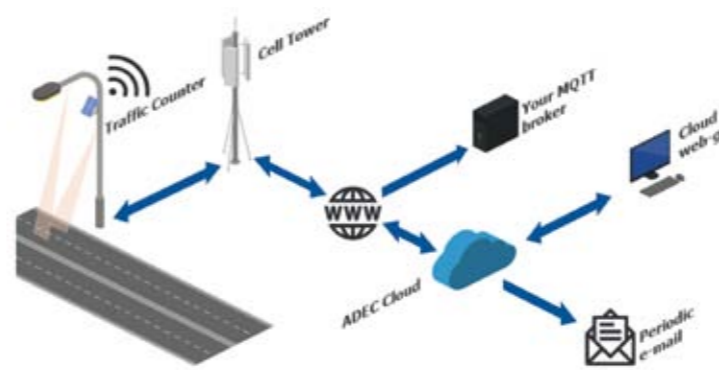
### Queue Zone Management

Queue Zone Management uses multiple BS2/TDC1 measurement points to detect queue formation along the approach to signalized intersections. Real-time traffic data is analyzed in the cloud and when defined queue criteria are met, the corresponding digital output — via ADEC Camina digital output modules or any compatible interface — is activated. This enables the traffic light controller to pinpoint precisely where a queue is forming.

This intelligent, automated approach improves traffic flow, reduces waiting times, and helps lower emissions by minimizing unnecessary idling.



### Completely Autonomous Data Collection



### BS2 - IoT Gateway

#### Connectivity and Communication

- ✓ On-board 4G/LTE-modem
- ✓ Software & firmware updates over-the-air (Ota)
- ✓ Designed to be installed and operated with your MQTT broker or with ADEC IoT Cloud (<https://adec.cloud>)

#### Power and Operation

- ✓ Integrated charging circuitry
- ✓ Solar and NiMh back-up battery options available
- ✓ Autonomous operation of two TDC1-PIR for up to five days without sun (10+ days using interval data, model BS2-TS30)

#### Performance

- ✓ Low-latency traffic data (typical latency of 1s using MQTT)

#### Design\*

- ✓ Small form factor & lightweight for minimal wind load  
255 x 355 x 90 mm @ 3.9 kg  
(10.1" x 14" x 3.5" @ 8.6 lbs)

### Data Retrieval Options

#### 1) MQTT: Directly to Your Broker

- ✓ No mandatory cloud subscription—you stay in full control of your data
- ✓ Direct data delivery from BS2 to your MQTT broker for seamless integration
- ✓ ADEC Cloud Service optional for configuration and task management (not used for data storage)
- ✓ Only minimal recurring costs: your mobile network data plan
- ✓ Real-time MQTT data stream empowers your traffic management systems to react instantly — with non-intrusive, fast-to-deploy sensing that delivers immediate operational benefits

#### 2) Using ADEC Cloud Service

- ✓ Traffic data is securely stored in the ADEC Traffic Cloud
- ✓ Browser-based dashboard for management and operational monitoring
- ✓ Ideal when direct database integration is unavailable or undesired, or during commissioning to monitor and verify data flow
- ✓ Supports BS2 management tasks end-to-end
- ✓ Enables queue management applications using the Camina cloud actuator
- ✓ Automatic daily or weekly traffic data reports
- ✓ Historical data access: view and download CSV files for external processing and long-term archiving
- ✓ Also supports direct traffic data integration via Azure Service Bus



BS2-TS

\*) For certain geographic areas, the 30W solution is recommended which is 345 x 555 x 90 mm @ 5.2 kg