AXLE COUNTER

NON-INTRUSIVE COUNTING: AXLES, LIFTED AXLES, TWIN TIRES

Profiling systems

SICK

Sensor Intelligence.

With electronic toll collection systems, along with the toll route, the vehicle type is the decisive factor for calculating the toll. In addition to the vehicle size and vehicle profile, the number of axles is used as a reliable variable for accurate specification of vehicle classes.

The Axle Counter, an additional module for the TICx02 and Free Flow Profiler profiling systems from SICK, is perfectly suited to this task. It enables precise detection of numbers of vehicle axles, lifted axles and twin tires even on multilane roads and in free-flowing traffic.

Reliable toll calculation in toll collection systems

Installation example with the TIC502 profiling system

INSTALLATION AND OPERATION

➕ Detection of different vehicle axles

- Detection of axle position and number
- Each axle can be classified as
  - „Lifted" or „not lifted"
  - „Single tire" or „twin tire"

➕ Fast commissioning and operation

- Flexible mounting - on the street side or over the lane
- Due to contact-free detection, installation into the road
- surface is unnecessary
- Easy for maintenance without road work
- The browser-based user interface enables comfortable remote maintenance

➕ Simple, low cost retrofitting

- The Axle Counter is available together with profiling systems from SICK or can be added later

PERFORMANCE AND AVAILABILITY

➕ High detection rate based on Deep Learning

- Counting accuracy of more than 97 %
- Vehicle speeds up to 180 km/h
- Detection of even extra-long vehicles with the stitching-method, i.e. by putting several individual images into an overall image
- Optional second camera per lane as back-up solution

➕ High availability due to high-performance camera

- Ready for use around the clock
- Integrated infrared lighting for night operation

Vizualized axle types recorded with stitching method

Twin tire ....   Lifted axle ....   Single tire ....

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