



SmartPK

SmartPK is a product line of electronic speed meters, which can be overt or discreet. It calculates the speed of the vehicle with high precision, using sensors fixed on the track (inductive loops or non intrusive – Doppler or Laser), and each time the established speed limit is exceeded, the apparatus registers an image of the vehicle, which may be used later as proof of the offence.

Functionalities

- Identification and registration of vehicles:
 - overspeeding;
 - moving forward the red light;
 - stopped on the pedestrian crosswalk;
 - turning in places prohibited by signs;
 - u-turning in places prohibited by signs;
 - transiting in the roadside;
 - driving on the wrong way;
 - overtaking in forbidden places;
 - transiting in places and times not allowed by regulation;
 - transiting in forbidden lanes or exclusive circulation lanes (for certain type of vehicle).
- Vehicle classification.
- Traffic count.
- Records include flow statistics and data such as speed, direction, time, type of vehicle and severity of violation.
- Optional: Information of vehicle's speed in a display.
- Optional: Automatic license plate reading.

Applications

Recommended for highways, freeways, service lanes, major and local roads. Examples: areas of intensive movement of vehicles and/or pedestrians; before dangerous curves; stretches of road with the presence of pedestrian routes; vicinity of intersection with or without traffic light.

Features

- Offers greater agility in the information collection services. The data and image transfer of the equipment may be performed by remote download, directly to the processing center.
- Features electronic magnetic vehicle profile analysis technology (exclusive for equipment provided with inductive loops): the metal mass properties are registered at each millisecond, taking up to 1,000 measurements during the vehicle's passage through the measuring point. Thus making it possible to accurately verify the speed maintained by the vehicle at the time of the infraction.
- Features vehicle location technology (exclusive for equipments with Doppler sensor): in addition to speed, the sensor detects the position of the vehicles within its beam. With this, it has redundant technologies to ensure high accuracy measurement.
- The cabinet can be fixed on a structure or pre-existing poles, such as: standard porticos and semiporticos, viaducts and walls.
- Images of the infraction with configurable tag to meet with the needs of each individual client.
- It allows to retrieve information which contributes to the road control and planning, 24/7, allowing to elaborate more detailed reports and estimates of the vehicles which drive by the monitored sections.
- The structure of the equipment varies depending on the local infrastructure, it can be overt or discreet.
- It allows to add up to 10 cameras and illuminators sets for different configurations of violations records.
- It allows greater coverage of lanes in a single camera.
- Optional: a system integrated in the equipment automatically reads the license plates, and when connected to a database, identifies vehicles sought by the police, in default (fees and taxes) and other irregular situations.
- Optional: through telemetry you can monitor the operating status of the equipment installed in the field, ensuring the proper functioning of the modules. So, you can see the need for maintenance and act quickly.

RDO – Digital Recording of Events

Is a package of digital information concentrated in a single encrypted and digitally signed file, recorded at the moment of the offense. This record contains:

- one or more images of the infracting vehicle;
- the magnetic profile (for classification of the vehicle and additional proof of the speed) - exclusive for equipment provided with inductive loops;
- one or more videos of the event (optional);
- and the information from the tag (according to the legislation).

Measurement

- Speeds:
 - Up to 250km/h
- Measurement accuracy:
 - > 99%
- Classification accuracy rating:
 - > 90%

Display

- Quantity of digits:
 - 2 digits - speed up to 99 km/h
 - 2½ digit - speed up to 199 km/h
 - 3 digits - speed up to 999 km/h

Luminous intensity:

- > 400cd*

Active elements:

- > 300

Visibility:

- Over 100m**

* Digit 8 (red) for all models; ** Under moderate fog and rain

Camera

Color management:

- Monochromatic, polychromatic or day/night

Technology:

- IP

Resolution (pixels):

- 640x480, 752x480, 800x600 or 1280x960

Form of capture

Front and/or rear

Lighting System

Infrared illuminator

Communications

- Standard data connections:
 - Ethernet and USB
- Communication Devices:
 - Standard TCP-IP*modem
- Supported Channels:
 - Telephone cable, optical fiber, radio link, satellite link, XDSL, 3G (according to the network infrastructure available on-site)

Communication protocols:

- PCCE (owner) or NTCIP

* The communication devices used are approved by Anatel

Electrical features

Cabinet

Supply voltage:

- 110 or 220 Vac

Average power:

- 110 up to 130W

Peak power:

- 155 up to 255W

Power consumption:

- 78 up to 95 kWh/month

Display

Supply voltage:

- 110 or 220 Vac

Average power:

- 50 up to 170W

Peak power:

- 110 up to 170W

Power consumption:

- 36 up to 120 kWh/month

Obs: Values per lane; vary according to the vehicle flow and settings.

Dimensions

Width:

- 0,9m

Height (with mast):

- 5m

Depth:

- 0,5m

Mass

*Without the cameras and illuminators.

- 70kg*

Magnetic profile

- Number of samples:
 - 1000 samples/s (exclusive for equipment provided with inductive loops)

Environmental conditions

-10 °C to +55 °C up to 95% RH

Regulation

- INMETRO Ordinances:
 - 1086/2013; 283/2013; 014/2014; 033/2014; 072/2014; 164/2014

Standards met:

Structural Project:

- NBR 8800; NBR 6123; NBR 14762; NBR 6355; NBR 8855; NBR 9971; NBR 5871; NBR 10062; NBR 8851; NBR 10065

Electrical Project:

- IEC 61000-4-3; IEC 61000-4-4; IEC 60068-2-30; IEC 60068-2-1; IEC 60068-2-2; NR 10; NR 18; NBR 5419

Examples of structures

