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KiTraffic Plus

Complete scalable WIM system for traffic monitoring or weight enforcement

Type 9843...

KiTraffic Plus is a flexible and scalable traffic monitoring system for preselection or direct enforcement of overloaded vehicles, based on Kistler WIM systems. The system can be configured to tailor it according to customers' needs.

Core system features:
- Scalable to an unlimited number of lanes
- Supporting WIM systems based on:
  - OIML R134 certified WIM 5204A and sensor layouts
  - KiTraffic Digital system 9845A and sensor layouts
- Automated vehicle identification and classification
- Machine-readable interfaces
- Flexible configuration to customers' needs
- WIM data matching with third-party components such as ANPR camera or vehicle profiling system

Optional system features
- Graphical user interfaces for real-time illustration
- Easy to install with prewired backpanel or cabinet
- Kistler enforcement software solution

Description
The KiTraffic Plus system (Type 9843) consists of Kistler WIM systems, 3rd party components, associated electronics and superior software modules.

Kistler WIM systems can be based on the WIM Data Logger (5204A) and Lineas sensors (9195G or 9196A) or KiTraffic Digital system (9845A).

WIM system converts the electric charge signals or digital information from all Lineas sensors into wheel, axle and gross vehicle weights and derives vehicle classification information.

The data matching (Data Matcher) software acquires the vehicle data records from the WIM systems and synchronizes them with the datasets from other field devices such as ANPR cameras, overview cameras or dimension profiling systems. The software pre-filters the aggregated vehicle data records and checks parameters for vehicle class-specific violations.

The system is fully compatible with Kistler's enforcement software solutions, "Kistler Checkpoint" and "Kistler Studio".

Applications
KiTraffic Plus is designed for preselection or direct enforcement of overloaded vehicles, bridge protection, toll-by-weight or industrial truck weighing.

The WIM solution can be tailored according to the customer's requirements for measurement accuracy and WIM site geometry. The hardware is optimized for quick and easy installation. All required components can be prewired on a backpanel so they can easily be mounted in a roadside cabinet.

Technical data

KiTraffic Plus System		
Number of inputs: WIM sensor		unlimited
Number of ANPR cameras		unlimited
CE conformity		yes
User Interface:		Graphical UI, REST API, Webhooks
Measuring error*– defined by WIM system and sensor layout		
Operating temperature range (inside cabinet)	°C	–20 ... +70**
Max. Humidity	%	90
Typical dimensions of the backpanel	mm	699x1096
Supply voltage	VAC	100 .. 240

* excellent road conditions and calibration mandatory
** ventilation required

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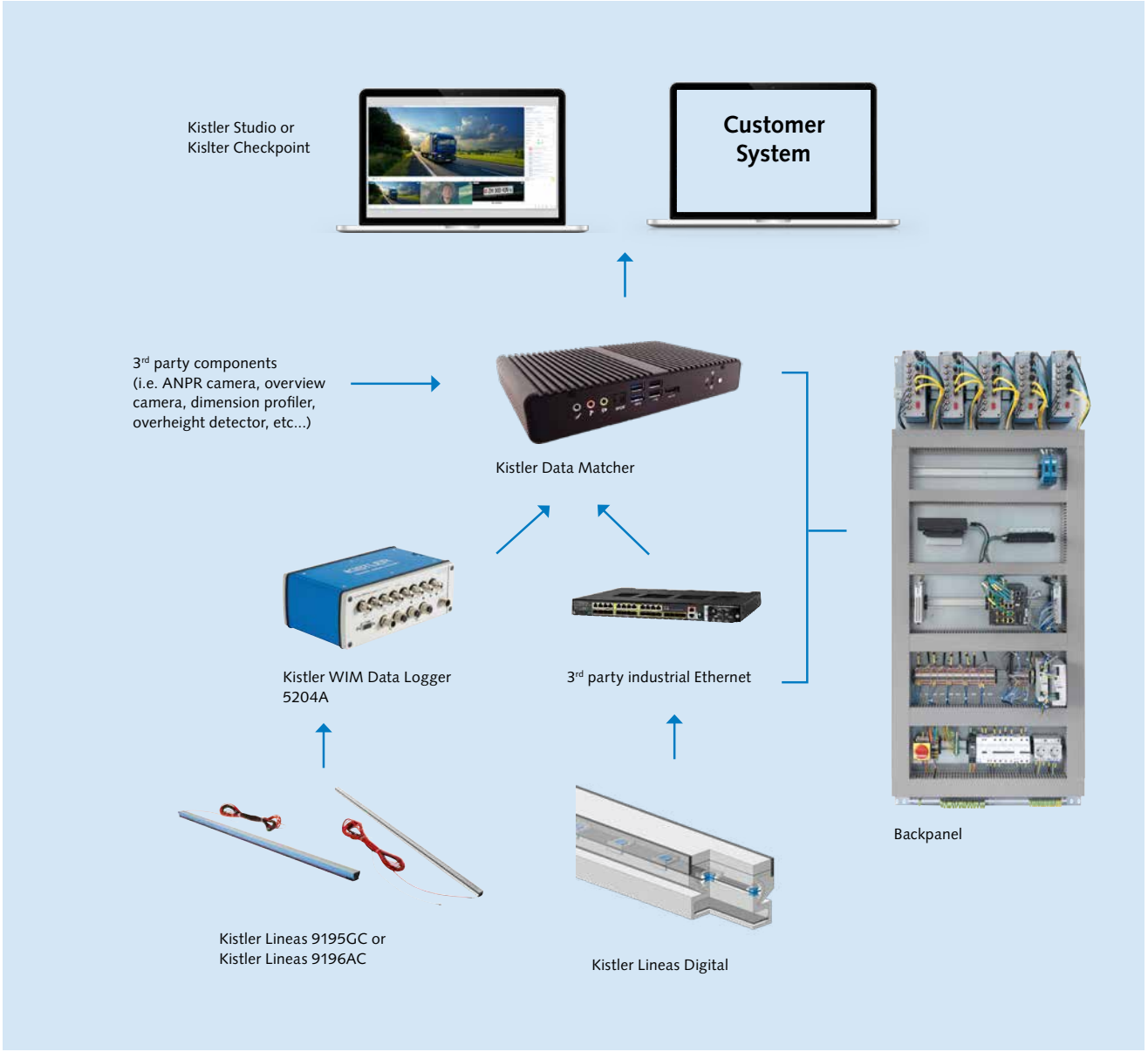
System architecture



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WIM performance parameter
The performance of a WIM system depends on many factors. To determine the appropriate accuracy level, the layout needs to be selected on the basis of the road analysis service (SRA).

Data Matcher
KiTraffic Plus is accessible through the Kistler Data Matcher software via Ethernet. A network time server (NTP) is required to synchronize all the field devices. NTP server functionality can be provided within the delivered router.

The Kistler Data Matcher software acquires all data streamed by connected subsystems, and matches the data streams to a full vehicle data record. Data Matcher runs on an industrial PC (Linux or Windows) in the roadside cabinet. It does not provide its own Graphical User Interface (GUI) but makes the data available to Kistler Studio or Checkpoint and also to higher-level systems via an API interface. Data Matcher is configured via an SQL database with support from the Kistler application specialist.

Included features:
- Acquisition of data streams from field devices
- Matching of data streams to full vehicle data record
- Storage of full vehicle data record (VDR)
- Automatic deletion of data (configurable time interval)
- Configurable pre-filtering of data (e.g. only provide VDRs for vehicles >3.5 t)
- Configurable alarm triggering (e.g. trigger an alarm if a 3-axle vehicle > 25 t)
- System logging

Kistler Studio
Kistler Studio is a full back-office solution for enforcement purposes. It provides features to manage measurement devices, evaluate acquired vehicle data records, add additional metadata to the dataset and post-process full enforcement cases. It also provides export, statistics and printing functionality and allows management of different user rights.

Fig. 1: Kistler Studio application checkpoint view

Kistler Checkpoint
Kistler Checkpoint is a user interface for vehicle preselection purposes. It displays the matched vehicle data record with the overview picture and license plate information, vehicle dimensions, etc. in real time. It indicates violations (e.g. excess weight, speed or dimensions) and provides access to historic data records of vehicles that have recently passed the preselection system. Checkpoint is available as a mobile version optimized for Android or iOS tablets, or as a desktop version for Windows computers.

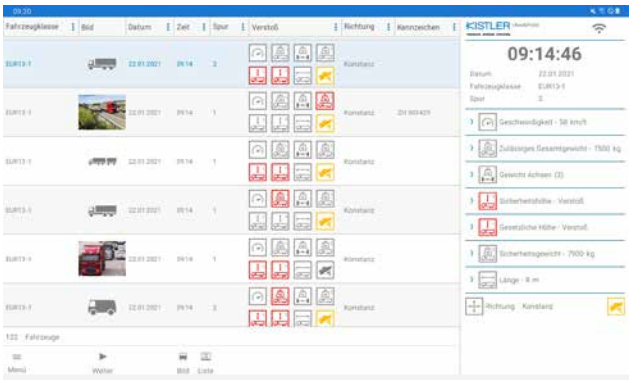

Fig. 2: Kistler Checkpoint list

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Machine readable REST API
The machine-readable interface is based on a state-of-the-art REST API interface. This allows quick and easy data communication and device control of any server in the network. This interface can be used to integrate the KiTraffic Plus system into a higher-level system. Complete documentation for the REST API can be provided upon request.

Backpanel
The pre-wirred backpanel consist of selected WIM system and eletronic components supporting easy on-site installation as well as connection of 3rd party components. The solution is accesible via Ethernet interface on the switch or router.

Kistler WIM systems
For the weight measurement the Kistler Lineas sensors are used. The sensors provide reliable weight measurement data for the WIM system. Based on the application the right selection from the following WIM systems:
- WIM Datalogger 5204A with Lineas sensors (Type 9195G)
- WIM Datalogger 5204A with Lineas compact sensors (Type 9196A)
- KiTrraffic Digital system (Type 9845A).

See datasheets 003-567e-03.21, 003-133e-02.20 , 003-075e-01.18 or 003-352e-02.19 for more information.

ANPR camera (Automatic number plate recognition)
The optional ANPR camera provides an overview picture for every measurement record. In addition to the picture, the number plate is read; the recognized number plate is then added to the vehicle data record. The camera is designed for 24/7 operation in a roadside environment.

Included accessories
- Kistler Data Matcher Software
- WIM systems based on:
  - WIM Datalogger 5204A with Lineas Sensors 9195G or Lineas Compact Sensors 9196A
  - KiTraffic Digital system (Type 9845A)

Optional accessories
- ANPR camera
- Dimension profiling system
- Pre-wired electronics on backpanel
- Cabinet

Mandatory services
- Project management
- Installation, commissioning & calibration service

Optional services
- Structural Road Analysis & site selection

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