KISTLER
measure. analyze. innovate.

WIM Data Logger

Type 5204A...

for Dynamic Vehicle Weighing with Lineas® Sensors

The WIM Data Logger Type 5204A... in combination with Lineas Weigh-In-Motion (WIM) sensors enable customers to monitor traffic and gather accurate vehicle data.

- High weighing accuracy
- Able to monitor up to 2 traffic lanes
- Wide speed range (1 ... 250 km/h)
- Measuring range up to 50 tons axle load
- Compact design with integrated amplifier
- Suitable for various WIM applications
- Easy to integrate into customer's overall solution
- Quick set up thanks to modern web interface

Description

The WIM Data Logger is a data processing unit specifically designed to interface with Lineas WIM sensors. It allows customers to monitor traffic real time and to gather key vehicle data.

The key is enhanced conditioning and processing of the Lineas WIM sensors signals to achieve the best weighing accuracy from low to high speeds with the highest reliability. The data logger can be easily integrated into the overall system by the system integrator, providing a customized solution according to the needs of the end user.

The Lineas WIM sensors can be directly connected to the WIM Data Logger. Additionally, there are various digital inputs and outputs to interface peripheral devices such as loop cards, beam array, traffic signals, camera triggers, barriers, etc. The WIM Data Logger is available in versions with 4 or 8 channels to monitor 1 or 2 traffic lane(s). Beside this there are two different versions with the following properties;

WIM Data Logger Type	5204AC...	5204AV...
Sensor interface	Lineas with Charge Output (9195GC)	Lineas with Voltage Output (9195GV)
Speed range	1 … 250 km/h	10 … 250 km/h
System accuracy	±5 %	±7 %
Typical applications	Toll and Industrial Can also be used for: Data Collection, Pre-Selection for Enforcement	Data Collection and Pre-Selection for Enforcement
OIML certification	Capable (in process)	Not capable

[1] in combination with Lineas WIM sensor Type 9195GC...

[2] in combination with Lineas WIM sensor Type 9195GV...

Technical Data

General Data

Accuracy class	OIML R134 certification		in process [1]
Max. measuring error with standard layout		%	±5 [1]
(4 sensors per lane), site dependent		%	±7 [2]
Weight measurement accuracy	confidence level	%	95
Measuring range (axle load)		tons	0 ... 50
Speed range		km/h	1 ... 250 [1]
		km/h	10 ... 250 [2]
Operating temperature range		°C	–20 ... 65
Degree of protection	EN60529		IP61
Mounting	EN50045	Type	TS-35 (DIN Rail)
Dimensions	WxHxD	mm	213x77x136
Weight (4/8 channels)		kg	1,5/1,65

Electrical Data

Supply voltage		VDC	10 ... 30
Current consumption (typically)	@18 V	mA	210
	@24 V	mA	150
	@30 V	mA	120
Conforming to CE and EMC standards			

Sensor Inputs

Number of channels		4/8
WIM sensor	Type	9195...

Other Interfaces

Communication ports Ethernet (TCP/IP)		2
Digital input channels		4
Digital output channels		4
Display interface Type RS-485		1

5204A_003-133e-03.14

KISTLER
measure. analyze. innovate.

Applications

Due to the high measuring accuracy over a wide speed range and the ability to interface different external devices the WIM Data Logger can be used for several applications:

- Traffic data collection (e.g. statistics)
- Enforcement (pre-selection of overloaded vehicles)
- Toll by weight (manual or automatic toll collection)
- Overload detection for bridge protection
- Weight monitoring at harbors, mining or other industrial facilities

Communication

The control unit (user interface) is usually a computer located in a remote office which is connected to the WIM Data Logger via Ethernet cable or wireless router. There are two options to communicate with the WIM Data Logger.

1 Via the Kistler web interface (by using a common web browser)
2 Via a user interface, programmed by the system integrator

1 The web interface of the Kistler WIM Data Logger allows the following tasks to be performed:

- System setup (configuration and calibration)
- Visualization of vehicle data (live and history)
- Supervision (detect violations)
- Access system information and status
- Remote support

2 If the customer needs to fully control the WIM Data Logger by his own system there is an interface (HTTP) provided. This also enables the customer to access the measured vehicle data.

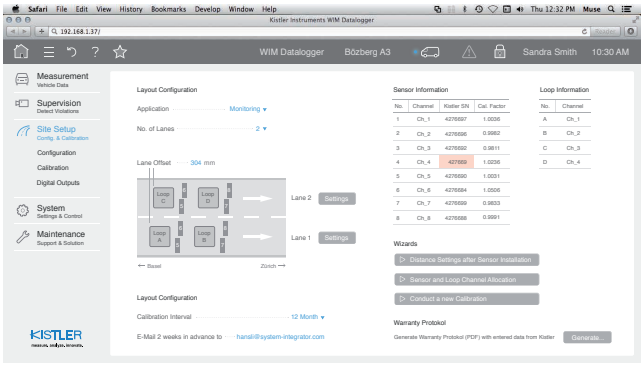


Fig. 1: Kistler web interface

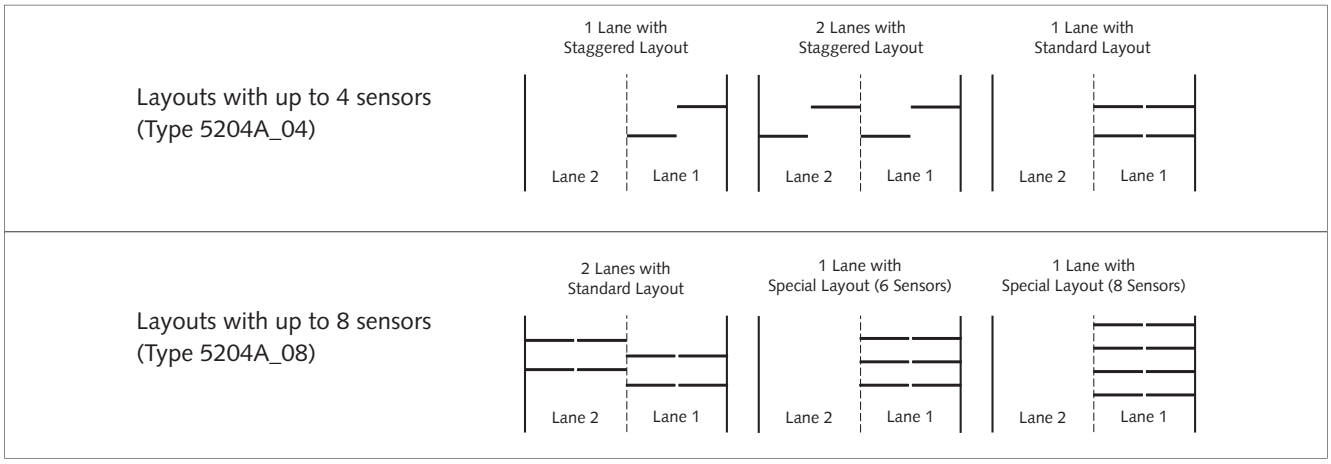
Output Data

The WIM Data Logger generates a large variety of vehicle data such as:

- Gross vehicle weight
- Axle information (wheel and axle load, axle distance, number of axles)
- Vehicle speed
- Vehicle length
- Driving direction
- Imbalance (difference left/right in %)
- Time between vehicles (traffic density)
- Violations
- Driving behavior

Typical Layouts

The layout of the Lineas sensors depends on the application and the required accuracy.



Induction loops/beam array not considered in layouts

Lineas WIM Sensor —— Middle Lane ¦ Road Side Lane |

5204A_003-133e-03.14

KISTLER
measure. analyze. innovate.

Mounting and Dimensions

The WIM Data Logger is typically mounted in a road side cabinet close to the WIM site. Inside this electrical cabinet, it can be fixed to a DIN rail with the provided adapter in three different positions.

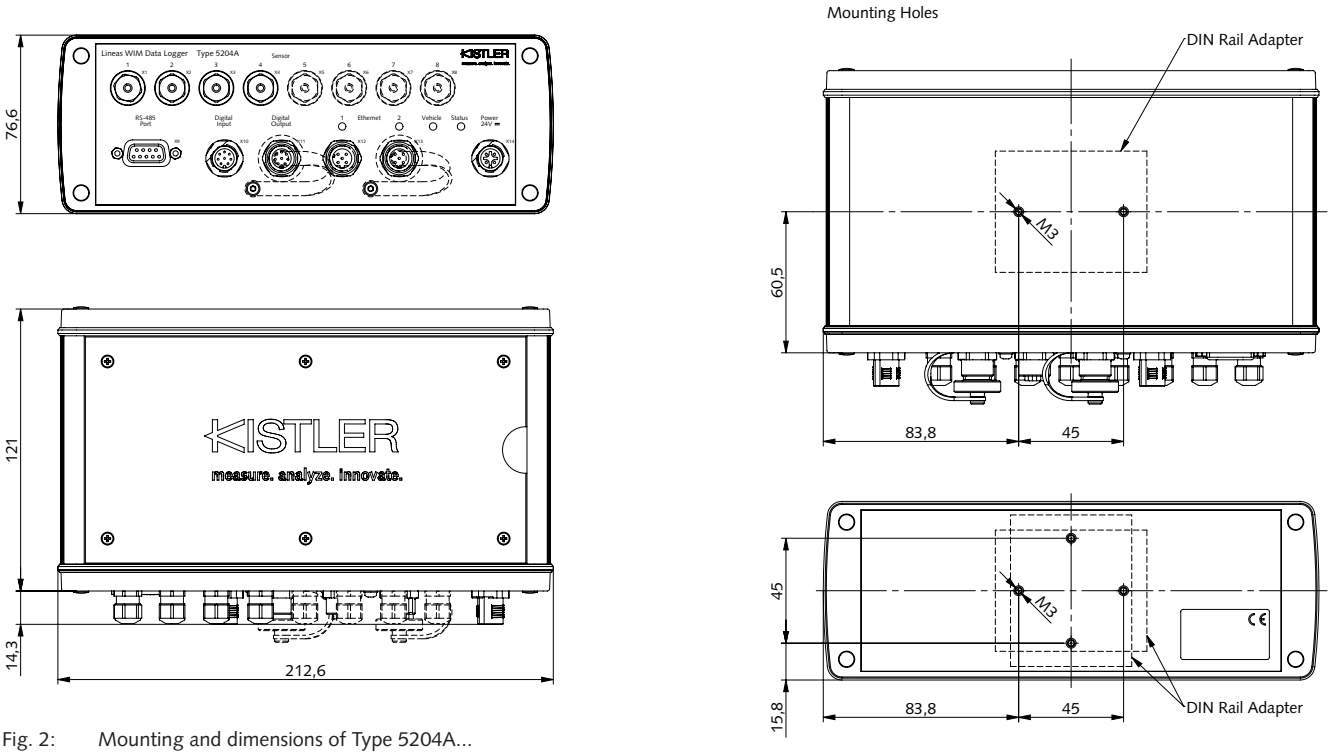


Fig. 2: Mounting and dimensions of Type 5204A...

Included Accessories	Ordering No.
• Cable for power supply (M12 – loose ending, l = 2 m)	1700A119A2
• Ethernet cable (M12 – RJ-45, l = 2 m)	1200A195A2
• Digital input cable (M12 – loose ending, l = 2 m)	1700A115A2
• DIN rail adapter	55126892
• Protection cap for D-Sub	55066918
• Protection cab for M12 (fix mounted)	65008419

Optional Accessories	
• Power supply (24 VDC)	22001830
• Loop card for 4 inductive loops (for >10 km/h)	22001832
• Beam array for vehicle separation (for <20 km/h)	22001833
• Digital output cable (M12 – loose ending, l = 2 m)	1700A117A2
• Lineas toolbox for Type 9195GC sensors	Z20015_GC
• Lineas toolbox for Type 9195GV sensors	Z20015_GV

Ordering Key

Type 5204A ☐☐

Sensor Interface

Lineas with charge output Type 9195GC...	**C**
Lineas with voltage output Type 9195GV...	**V**

Number of Sensor Inputs

4 sensors	**04**
8 sensors	**08**

Software (web user interface) is integrated in all versions.

5204A_003-133e-03.14