



WIM

WEIGH IN MOTION



DESCRIPTION

The WIM system (Weigh In Motion) is specifically developed for the determination of the dynamic load impact from the vehicle on the track.

Using on-line strain gauge technology, the WIM system provides a reliable, fast and affordable technology for the determination of the dynamic load impact.

TECHNOLOGY

Control Box

An industrial enclosure or street cabinet contains the data acquisition module and an industrial computing unit. The box is installed in the vicinity of the track up to a distance of 150 m.



The control box is of a water and wind proof construction.

All cabling runs directly from the vibration sensors to this box.

The control box is hooked up to the power grid and connected to the internet (data).

Optionally, a wireless data connection can be configured.

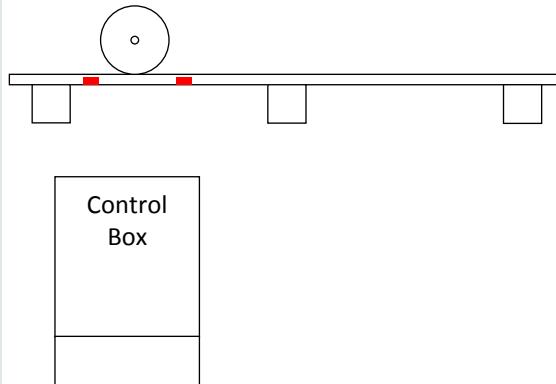
Vehicle identification

Vehicle identification is based on readings from existing vehicle identification loops or RFID tags.

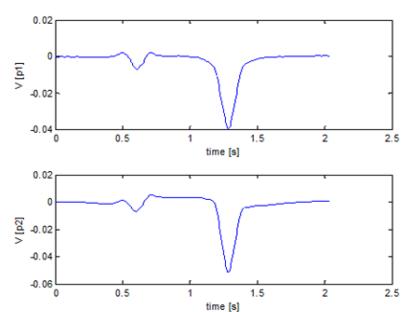
The measurements are linked with the vehicle identification so that they are assigned to a specific wheel.



Data acquisition



The system uses strain gauges that are bonded to both rails.



Data Processing

Time domain analysis is performed for each vehicle passage. The example shows the time plot (top) of a vehicle passage for a two-axle maintenance vehicle, passing at 10 km/h.

The plots show the left and right side of the vehicle.

SOFTWARE

WIM

Download complete table										
Start - End	SysID	VehID	Datafile	Image	Speed	Fls	Flatlevel	Ovallevel	Peak accel	Axle load
2012-08-30 12:22:12			7248	012						
2012-08-30 12:22:16	A114-1	Hemu	7248	012	11.0				89	6961
2012-08-30 12:12:54			7273	012						
2012-08-30 12:12:58	A114-1	Hemu	7273	012	12.8				85	6398
2012-08-30 12:02:50			7238	012						
2012-08-30 12:02:54	A114-1	Hemu	7238	012	11.9				56	6885
2012-08-30 11:51:33			7225	012						
2012-08-30 11:51:37	A114-1	Hemu	7225	012	10.2				66	5969
2012-08-30 11:42:43			7299	012						
2012-08-30 11:42:47	A114-1	Hemu	7299	012	13.8				70	6730
2012-08-30 11:42:43			7263	012						
2012-08-30 11:42:47	A114-1	Hemu	7263	012	13.8				70	6730
2012-08-30 11:33:39			7240	012						
2012-08-30 11:33:39	A114-1	Hemu	7240	012	13.7				83	6324

The standard software allows the viewing of the measurement date and time, the vehicle identity and speed, the axle loads and total weight.

The data are accessible with a browser through a standard internet connection (password-protected website).

Email or text message alerts can be configured and sent automatically to the maintenance crew/responsible.

The information can be transmitted to a remote location for integration into a maintenance vehicle database.

An automated back-up is stored on the i-moss servers.

