APT-WIM - WEIGH IN MOTION

DESCRIPTION

The APT-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 APT-WIM system provides a reliable, fast and affordable technology for the determination of the dynamic load impact.

TECHNOLOGY

Control Box

An industrial enclosure or a 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 water and wind proof construction.

All cabling runs directly from the 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.
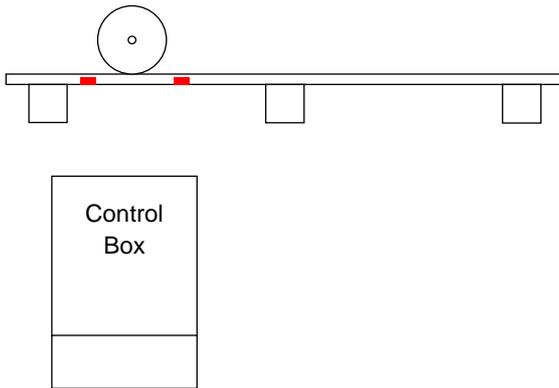
APT
Track Products and Measurement Devices

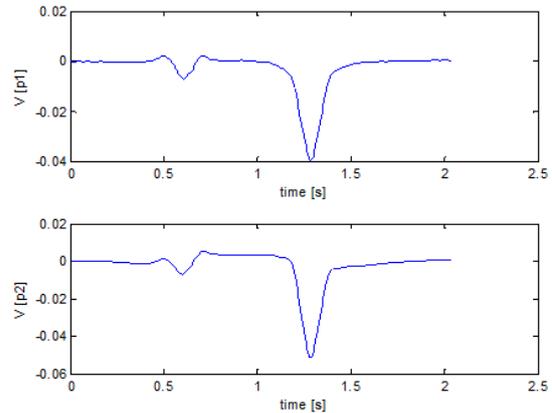## Data Acquisition

Control Box

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

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 APT servers.

WIM APT Track Products and Measurement Devices

Download complete table

Start - End	SysID	VehID	Datafile	Image	Speed	Flat	Flatlevel	Oval	Ovallevel	Peak accel	Axle load
2012-08-30 12:22:12 2012-08-30 12:22:16	A114-1	7248 Herm	0 1 2 #		11.0					89	6961
2012-08-30 12:12:54 2012-08-30 12:12:58	A114-1	7273 Herm	0 1 2 #		12.8					85	6398
2012-08-30 12:02:50 2012-08-30 12:02:54	A114-1	7239 Herm	0 1 2 #		11.9					56	6885
2012-08-30 11:53:33 2012-08-30 11:53:37	A114-1	7225 Herm	0 1 2 #		10.2					66	5969
2012-08-30 11:42:43 2012-08-30 11:42:47	A114-1	7298 Herm	0 1 2 #		13.8					70	6730
2012-08-30 11:42:43 2012-08-30 11:42:47	A114-1	7263 Herm	0 1 2 #		13.8					70	6730
2012-08-30 11:33:30 2012-08-30 11:33:33	A114-1	7240 Herm	0 1 2 #		13.7					83	6324
2012-08-30 11:23:03 2012-08-30 11:23:07	A114-1	7230 Herm	0 1 2 #		11.0					88	6438