

System for measuring the alignment of rails

- **Measurement of the profile of the rail in a horizontal and vertical direction**
 - **Storing of measurement data as a data file in the PC memory.**
 - **Graphical presentation of measurement results on the PC monitor as a distance based profile of the rail.**
 - **Easy to handle and operate**
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RAILTRACER is a measurement system for rail machinery. It has been especially developed for use with tamping machines for measuring the alignment of rails in accordance with specific guidelines, but it is also used with coaches, cranes and lightweight trolleys to measure the vertical and horizontal position of the rails.

The system employs the PSM-200 laser position measurement device to access the position of the

rail in the horizontal and vertical planes using a receiver connected to a part of the vehicle, which is in direct contact with the rail. The system can be installed to many types of machinery and does not require additional automation.

The system can be used during the rehabilitation operation or to measure the rail position in order to plan operations in advance or inspect the result of the work afterwards.



PSM-200 displacement measurement unit

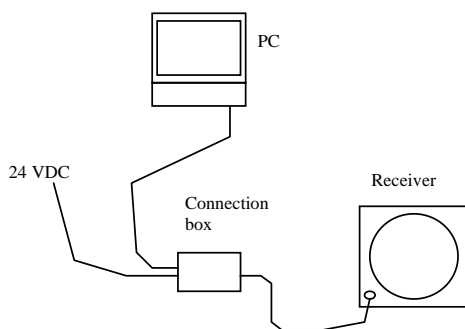
The PSM-200 displacement and alignment measurement system measures the track alignment accurately over long distances. The units are weather proof and can be used in harsh environments, where high vibrations and shocks are present. With millimeter level accuracy the unit gives reliable results for the track maintenance work.



MEASUREMENT DEVICE

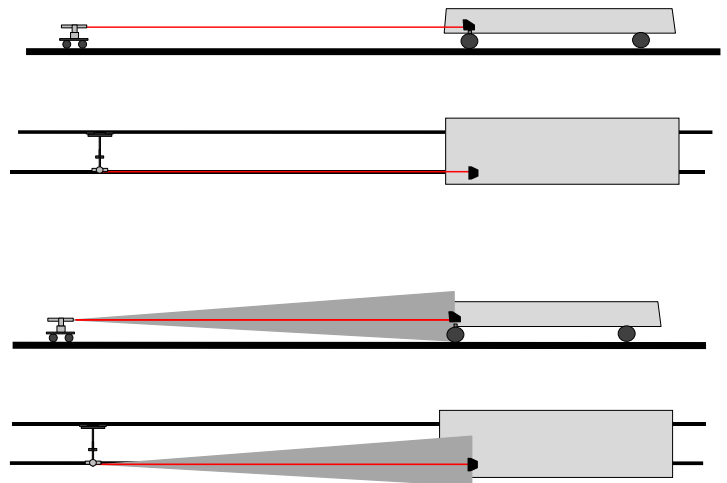
The PSM-200 measuring device has been developed especially for measuring the position of a working machine. It is based on a laser transmitter and an optoelectronic receiver connected to the object. The operator directs a safe, visible laser beam at the receiver and locks it in a steady position. The receiver recognizes the beam on the optical target and measures its position accurately up to 100 times a second.

The very good environmental durability of the equipment is achieved mainly by proper modulation of the laser beam and optics and the detection technology employed in the receiver, which will eliminate the influence of sunlight, temperature, fog, rain, snow etc. on the accuracy over a wide measurement range. The transmitter can be at a distance up to 350 meters from the receiver, depending on the environmental conditions.



INSTALLATIONS

Measurement is time based using PSM-software. System measures the alignment of the line rail at front bogie and gives the operator information about the position of the rail for the performing of control operations.



APPLICATIONS

- Measurement device for tamping machines and measurement coaches
- Measurement of crane rails
- Measurement of welded joints
- Measurement of rail profile

PSM-200 TYPICAL CHARACTERISTICS

- Resolution of the receiver < 1 mm
- Measuring distance up to 350 m
- Measuring speed up to 500 meas/sec.
- Serial or analogue interface

RAILTRACER SYSTEM CHARACTERISTICS

- Rail longitudinal alignment measurement
- Rail inspection before the maintenance
- Rail inspection after the maintenance
- Real time measurement during the maintenance
- Reference measurement for the rail machinery