

RAIL MEASURING TECHNOLOGY
WHEN ACCURATE MEASUREMENTS MATTER



HS-IM High Speed Infrastructure Monitoring

Combined axle-box acceleration, microphones and high quality D-GPS railway infrastructure monitoring system. Suitable to record a wide range of parameters including rail corrugation and roughness, squats and studs, welded joint degradation and quality of the turnout components. Suitable for mounting on in-service trains.

Product description:

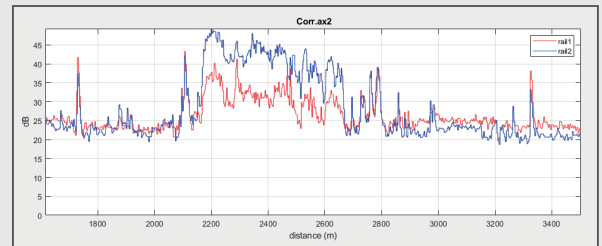
The HS-IM is a multifunctional measurement system combining up to 16 sensors: X Y Z axle box accelerometers and microphones, with accurate 10cm positioning on the rails/track. The data, simultaneous captured at 20kHz is on train processed to standard or customer defined parameters, usable, not only for track maintenance, but also W/R noise emission differences. It goes beyond the standard rail roughness (1 50cm range) towards detection of rail/track defect in an early stage. Once the fully automated system is installed, no on train manipulation is needed. The system can be accessed and followed by sending/receiving SMS messages or directly accessed by remote desktop. Data is transmitted from the train to your desktop/database by automated 4G/5G or Wi-Fi data transmission.

Applications:

- Monitoring of overall rail quality
- Rail roughness measurements (1/3 octave wavelengths 1cm - 50cm)
- Early stage detection of rail defects (squats, welds, peeling)
- Relation between rail roughness and noise emission
- Influence of track components to noise emission (quality/damping of rail pads)
- Monitoring of rail joint condition and degradation
- Monitoring of condition and degradation of components in turnouts

Main characteristics:

- Measurements that are highly accurate and repeatable
- Relatively simple installation and setup
- Fully automated data logging, processing and data transfer
- Suitable for any track gauge
- Extensive product support



TECHNICAL DATA HS IM

Sampling frequency	20kHz	24bit D7A conversion
Measuring speed	30-220kph	Higher speeds upon request
Precision of measurements	5µm 0.1mm/s ² +/-3dBh	Displacement Acceleration Noise
Frequency range	1Hz-10kHz	PSD & Wavelet analysis
Data storage requirements		3GB/day processed data
Wavelengths	10mm-500mm 30-500mm (accelerometers only)	For standard speeds 90-120kph
Quality control	Automatic wheel flat detection	

