DB Systemtechnik

Force Measurement System (FMS)

Pantograph–Overhead Line Interaction Measurement

Reliable and safe railway operations depend on the optimal interaction between the pantograph and the overhead line. Especially for vehicle approvals, new developments, modernization projects, and operational performance assessments, contact forces and dynamic interactions must be measured and analyzed with high accuracy.

With the **Force Measurement System (FMS)**, we provide a standards-compliant solution for measuring the dynamic interaction between pantograph and overhead line in accordance with EN 50317. The system records contact forces, accelerations, and other relevant parameters during normal operation, delivering reliable data for the assessment, optimization, and approval of vehicles and pantographs.

Our services

- Design and integration of customized FMS solutions
- Standards-compliant measurement of pantograph–overhead line interaction in accordance with EN 50317
- Acquisition of contact forces, accelerations, and other relevant parameters during normal operation
- Vehicle engineering, installation, and commissioning, including all required verification and documentation
- Data acquisition, analysis, and visualization for development, approval, and optimization projects
- End-to-end solution from sensor technology to result evaluation from a single source

Your advantages

- Standards-compliant and accredited measurements in accordance with EN 50317
- Accurate measurement data for vehicle approval, assessment, and optimization
- Unrestricted vehicle operation despite integrated measurement technology
- High flexibility through customized solutions
- Proven technology with decades of international operational experience

Reference projects

- In operation on the Deutsche Bahn network for more than 20 years
- International deployments across Europe, Australia, China, and Saudi Arabia

Your contact

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