



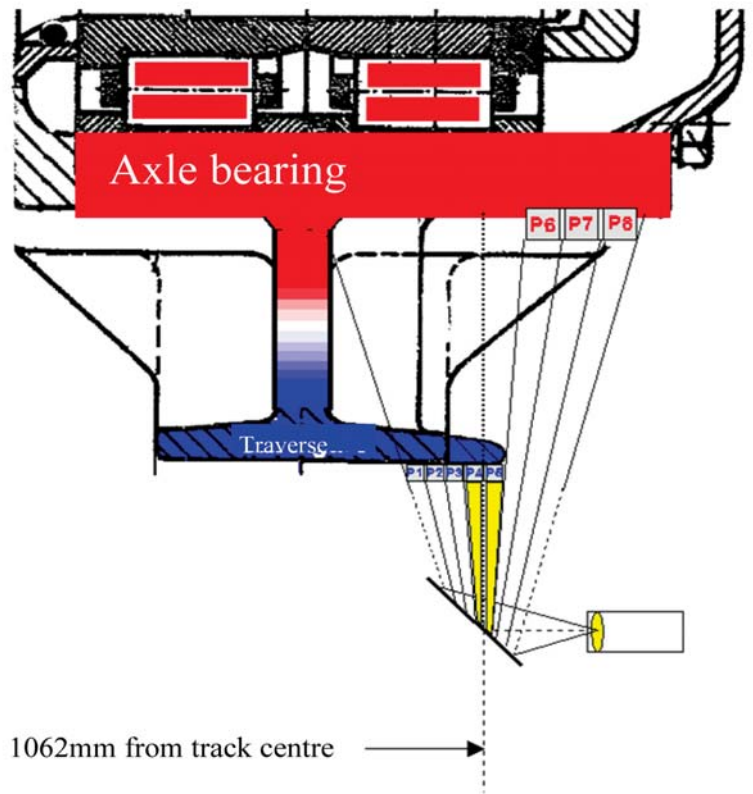
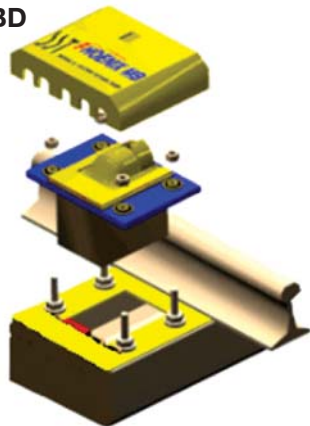
Hot Axle Box Detectors

All Hot Axle Box Detectors meet the needed requirements that are set, these are that in its **Safety** it has the ability to identify all axle bearing types this involves scanning both the brakes and the bearings **up to a width of 12cm** using a multi-element detector with 8 pixels.

All HABD are **service friendly** with frame mounted sensors that require no extra adjustments after being fitted as well as sleeper mounted sensor modules that have a quick-in, quick out system for replacing the sensors, this can be **completed in under 3 minutes**.

Economy of operation is also considered with HABD systems coming with low initial investment and low maintenance costs, thanks to a small number of electronic and mechanical components (vibration damage) reduced by factor of 10).

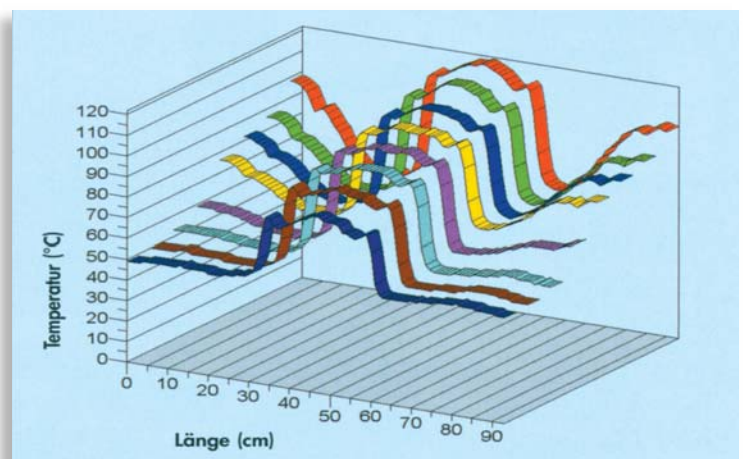
Breakdown of HABD



FHOENIX MB

High-speed analysis -

3D thermal image with 450 scanned points at 500 km/h.



Service Concept

- Modular structure
- Small amount of components
- Fast exchange
- No readjustment
- Autocalibration
- Auto self-check
- Service centre
- Remote centre

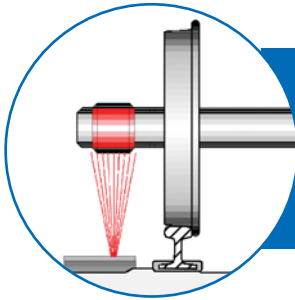
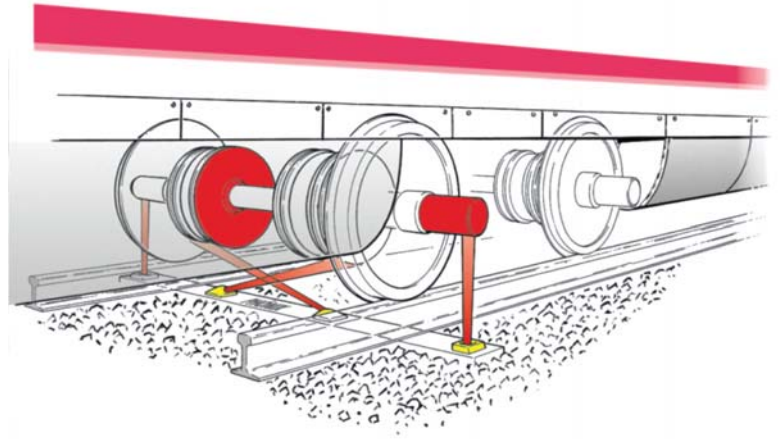


Direct Track Solutions Ltd

The Ideal Solution: Enhanced Safety due to Intelligent Axle Monitoring

HABD - are part of ever changing and developing rail lines, these are the newest innovations in enhancing safety to passengers and staff alike. They give a safe, easily serviceable option to the rail lines with a low economy cost on the operation as well.

The system can identify and reliably detect hazard conditions of all axle bearing types and rail systems used by international railways from 3 Km/h up to 500 Km/h.



The sensor modules used to analyse the thermal images of axle bearings and brakes are mounted as plug-in modules. The core component of the system is an infrared optical sensor for multi-beam scanning of the axle over a width of 12cm.

All sensor modules of the system are integrated into a sleeper. They are precisely positioned once at a time of installation, thereafter they can be fully replaced for servicing within a few minutes without distorting the optical geometry.

FHOENIX MB

