

TURBO

Railway Monitoring System

Wheel Force Diagnostics & Evaluation (Flat spot)



TURBO is an innovative force diagnostics system designed to assess wheel-rail forces and evaluate tread damages under operational conditions through wayside monitoring.

The system is installed in a position to monitor each wheel fully automatically via the wheel force diagnostic software during operational use. This allows the "condition-based maintenance" of your vehicles. TURBO is LGA/TUV certified and can replace manual measurements currently done in the workshop.

By utilising wayside monitoring and advanced graphical data handling, TURBO functions as a self-calibrating monitoring system. This convenient tool supports integrated quality management by enabling:

- **Statistical data collection**
- **Immediate notifications for limit breaches (e.g., flat spots)**
- **In-depth investigations of abnormal wear on wheels and bogies based on the dynamic running behaviour of vehicles.**

Moreover, TURBO provides precise measurements of wheel flat lengths and allows for the assessment of polygonisation severity (out of round) once the installation site is accurately set.

The TURBO can detect:

Flat tyre
Shelled tread
Shattered rim
Spread rim

- Fully automated, mobile, long term stability.
- All track types no modifications.
- 40km/h - 400km/h.
- Self calibrating, self updating software.
- Graphical data presentation.
- Limit value based on vehicle type (Identify vehicle types autonomously & selects all limits & values correspondingly).
- Centralised evaluation & trend observation - all data collected at a data processing centre. User define statistics supply encyclopedic information and facilitate investigations & analysis.



TECHNICAL DATA

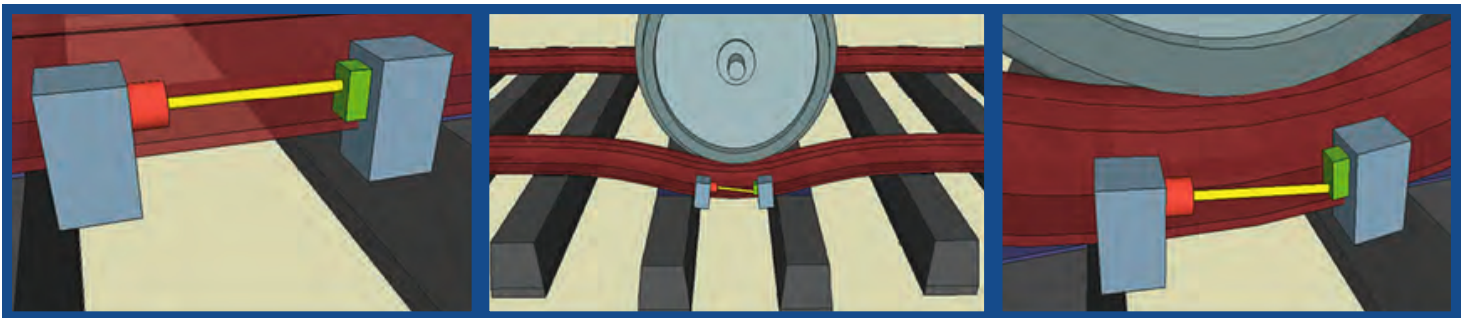
Measuring Sensor:	Laser based deformation measurement of the track
Number of measuring points:	2 x 6 clamped in sleeper compartments
Measuring distance:	ca. 4000 mm = Wheel dia. 250 mm up to 1273 mm
Range Sensor:	10kg until 100 tonne
Resolution/ division step:	10kg
Speed:	10 km/h up to 380 km/h
Temperature range track:	- 45°C up to + 70°C
Electrical connection:	230 V (AC) / 50-60 Hz, track 5 V, 12 V, 24 V (DC)
Input interfaces:	ZLV Bus, Transponder, Rail Switch, Temperature
Output interfaces:	DSL, LAN, Intranet, Internet, E-Mail, FTP, BKU, ISDN, Funk

Note: Images are for illustration purposes only. Accuracies may vary based on site conditions.

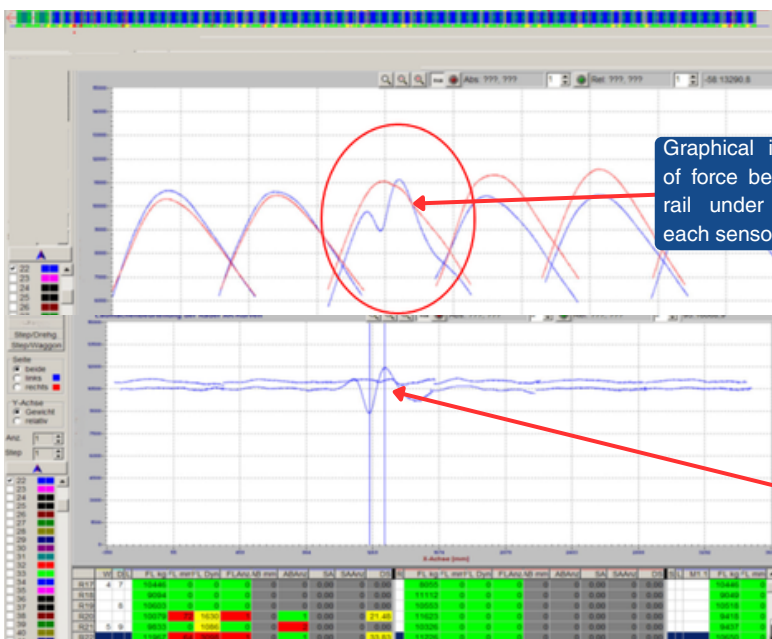
How it works?

One fixture contains a laser emitting laser ray. The ray is shielded by a flexible supported iron tube & a light spot will appear on the target contained in the second fixture.

BELOW: A passing wheel will bend the rail and displace the laser light spot downwards proportionally to the bending moment, thus the bending moment is detected with unmatched accuracy.



Flat Detection:



Graphical illustration of force bending the rail under load for each sensor.

Graphical illustration of the tread unrolling over the circumference, normalised to the static wheel load, in force and length for the evaluation of the dynamic forces per axle.



Global Sales & Service Agents

TRAK BLAZE
MINING, RAIL, ROAD & AIRCRAFT WEIGHING SYSTEMS
Over 95 Years of Innovation

T: +61 (0) 3 9318 9277

info@trakblaze.com

www.trakblaze.com

5 Mareno Road, Tullamarine,
Victoria, Australia 3043

Follow us on     