

WHEELGRIP

Wheel Slide Protection Systems

Wheel slide protection systems **WheelGrip** provide shorter stopping distances even in extreme weather conditions and enable dramatic reduction of maintenance costs by avoiding wheel flats. Decades of experience and ongoing technical improvement enable Knorr-Bremse to offer state-of-the-art wheel slide protection.

Customer benefits

- Short braking distance
- Optimized control algorithms reduce air consumption
- Wear-free rotational speed measurement
- Additional option of detection of non-rotating axles and skid protection
- Meets all relevant standards such as EN50155 and safety requirements of EN5012x
- One system for all markets: easier homologation of trains, e.g. GOST/ WSPER/UIC

Applications

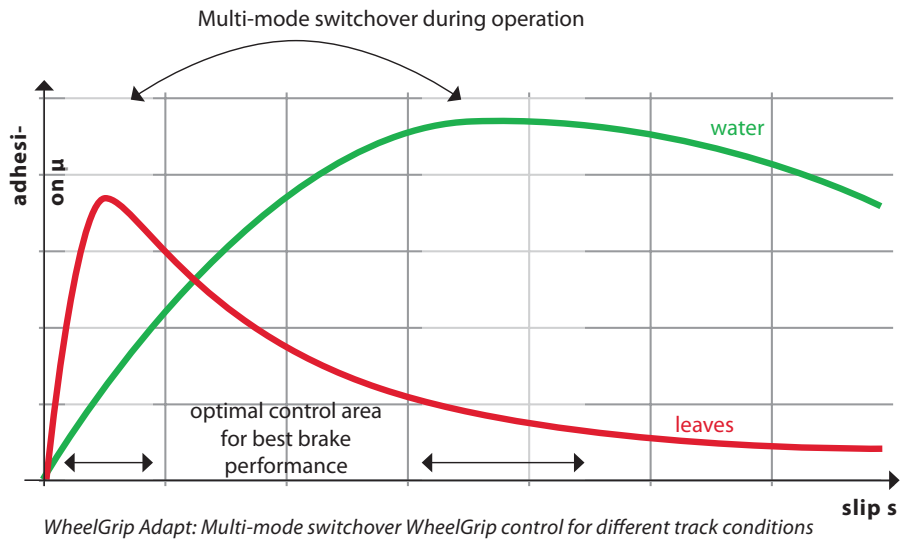
- High-speed trains
- Light rail vehicles
- Locomotives
- Metros
- Passenger coaches
- Regional & commuter trains



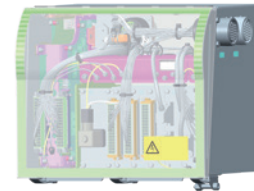
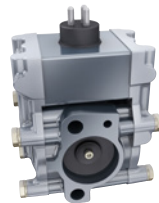
KNORR-BREMSE

Additional Features – High-performance WheelGrip Adapt

- Multi-mode switchover WheelGrip control between low and extremely low adhesion for shorter stopping distances
- The new algorithm is able to utilize friction anomalies when they occur under extreme low-adhesion conditions. Tests simulating leaves on track show significant reduction potential
- Higher pneumatic performance for shorter ventilation times
- Improved system control and diagnostics by pressure sensor integration



System Components



Sensor

- Range of single channel, dual channel and multisensors available
- Multisensor measures speed, acceleration and temperature
- Multifunctional sensor for WheelGrip and Bogie Monitoring System
- Output signal: rectangular current signal, polarity reversal protected, permanently short-circuit protected
- Versions for temperatures down to -55°C and up to 100°C available

Anti-skid Valve

- One valve for all market requirements
- Optionally integrated pressure sensor for WheelGrip Adapt
- Operating pressure: max. 6.5 bar
- Versions for temperatures down to -55°C and up to 70°C available

Integration Example of WheelGrip Electronics in Knorr-Bremse Brake Control

- Interface to typical train network systems such as MVB, CANopen, RS485
- HDLC, Ethernet protocol variants etc.
- Service and maintenance interface (Ethernet)
- Data log function with large storage volume
- Additional integrated functions such as:
 - Control for electromagnetic track brake and sanding
 - Speed signal output
 - Distance counter

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