

# Wheel Slide Protection System



## APPLICATIONS

High-Speed Trains | Light Rail Vehicles | Locomotives | Metros |  
Passenger Coaches | Regional and Commuter Trains

**KNORR-BREMSE**



# WHEEL SLIDE PROTECTION SYSTEMS MGS2 / MGS3



## OPTIMIZED WSP CONTROL FOR SHORTER STOPPING DISTANCES EVEN IN EXTREME WEATHER CONDITIONS.

Decades of experience and ongoing technical improvement enable Knorr-Bremse to offer state-of-the-art wheel slide protection.

### CUSTOMER BENEFITS STANDARD MGS2

- Short braking distance
- Dramatic reduction in maintenance costs by avoiding wheel flats
- Optimized control algorithms reduce air consumption
- Wear-free rotation 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
- UIC-approved (leaflet 541-05) for maximum speeds of 405 km/h
- Modular design – servicing limited to maintenance and replacement of individual modules
- Standardized components mean low warehousing costs and rapid spare parts delivery
- Energy-saving standby mode extends vehicle battery life

### MODERN INTEGRATED SERVICE TOOL

- Provides web-based access to extended service functionality (optionally via train Wi-Fi).

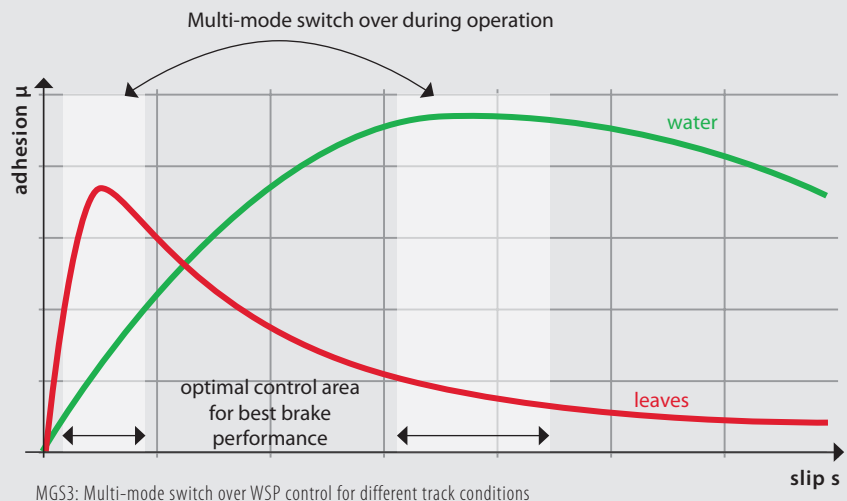


Integrated Service Tool

## WHEEL SLIDE PROTECTION SYSTEMS

### ADDITIONAL FEATURES HIGH PERFORMANCE MGS3

- Multi-mode switch over WSP control between low and extremely low adhesion for shorter stopping distances
- Higher pneumatic performance for shorter ventilation times
- One system for all markets: easier homologation of trains
- eNozzle functionality: electronic adaptation to different brake cylinder volumes for less commissioning efforts
- Improved system control and diagnostic by pressure sensor integration



Multisensor

- One multifunctional sensor for WSP and COMORAN system
- Measuring speed, acceleration and temperature
- Output signal: Rectangular current signal, polarity reversal protected, permanently shortcircuit protected
- Temperature range:  $-40\text{ °C} \leq T \leq +100\text{ °C}$  (optionally extended to cover low temperature requirements)



High Performance Anti-Skid Valve

- One valve for all market requirements
- Integrated pressure sensor
- Operating pressure: max. 6.5 bar
- Temperature range:  $-40\text{ °C} \leq T \leq +70\text{ °C}$  (optionally extended to cover low temperature requirements)



Application example: MGS3 integrated in ESRA Evolution Control Unit

- 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
- Temperature range:  $-40\text{ °C} \leq T \leq +70\text{ °C}$  (optionally extended to cover low temperature requirements)
- Additional integrated functions such as:
  - Control for electromagnetic track brake and sanding
  - Speed signal output
  - Distance counter

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