

# REGIOFLEXX

*Advanced integrated brake control for TSI main lines*

**Performance, scalability and ease of maintenance: the best integrated brake control system for main line trains on the market**

Regioflexx features an integrated brake control with service and emergency braking, our latest suite of adhesion management solutions DistanceMaster™, communication with the train network for brake blending, and diagnostics. Developed for regional, high speed and very high-speed trains (EN16185; EN15734; LOC&PASS TSI), the system is also compliant with most national standards. Sharing the same pneumatic platform as Metroflexx, our integrated brake control for Mass.

Regioflexx is our second SIL4 development, providing the full set of braking functions required for regional and high-speed trains. It features two independent input load signals (pneumatic and electric); two independent weighed service and emergency brake channels; and SIL4 protected wheel slide protection independent per channel. This unique and patented architecture allows multiple brake control configurations within a single product. Regioflexx is natively capable to be fully Train Control Network driven: Dual Ethernet + safety loop is all you need.



## KEY CUSTOMER BENEFITS

### Safety guaranteed

Compliance assessment with TSI from DB Systemtechnik and Safety assessment of compliance with CENELEC safety standards from TÜV SÜD.

### Top performance

Fast response time, high output accuracy, and adaptive WSP for guaranteed shortest braking distance and reduced maintenance costs.

### Reduced initial costs

One system for all market segments and brake control architectures with a simple network connection. Pneumatic heavy/costly components have been replaced by SIL+ electronic HW and software.

### Lowest total cost of ownership

A simple design, smart pressure management, and extended MTBO (15 years). Plus, an embedded CBM provides fault reports, time to overhaul, and inspection flags.

### Best train availability

One single failure doesn't prevent train to operate. One single part number for the fleet. Replacement on train in less than 20 min, no special tools required.

### No special tools required

ATO-ready, high-SIL software can be upgraded over the system's lifetime to benefit from the latest innovations and updates.

### Light weight

At 10 kg per unit, this is the lightest system on the market.

**PRODUCT SPECIFICATIONS**

Dimensions	270 x 315 x 192 mm, without mating connectors
Weight	10 kg with additive manufacturing

**MAIN TECHNICAL FEATURES**

Air supply up to 10 bar (145psi)

24 to 110Vdc; power consumption < 60W

-40 to +60°C (-40 to + 140°F) operating temperature

Ethernet, CAN & MVB networks available

Service brake, emergency brake and remote release per axle

Advanced and patented remote release

Emergency brake SIL4 at train level; Service brake SIL2 at bogie level

DistanceMaster™ reduces braking distance elongation up to 50% vs traditional WSP in standard\* degraded adhesion (\*standard adhesion conditions are defined according to EN 15595 and UIC 541-05).

A Safety Supervisor board performs all brake pipe monitoring and emergency brakes according to EN 16 185 and EN 15 734, and also monitors lower SIL functions, at SIL 4 level. The Safety Supervisor board performs the following functions

- Distributor emulation
- Average load valve emulation
- Multi-stage valve emulation
- Safe holding brake
- Vehicle deceleration compensation
- Reference speed calculation, available for other safety functions
- Adaptive WSP monitoring (watchdog performed by dedicated unit)
- WSP Safety Timer compliant with EN 15595
- Smart Safety Timer
- Wheel Rotation Monitoring (WRM, also known as DNRA)
- Position recognition (a unique part # for the entire fleet)

Pneumatic input available for rescue mode without energy (dead train)

Park lock ready

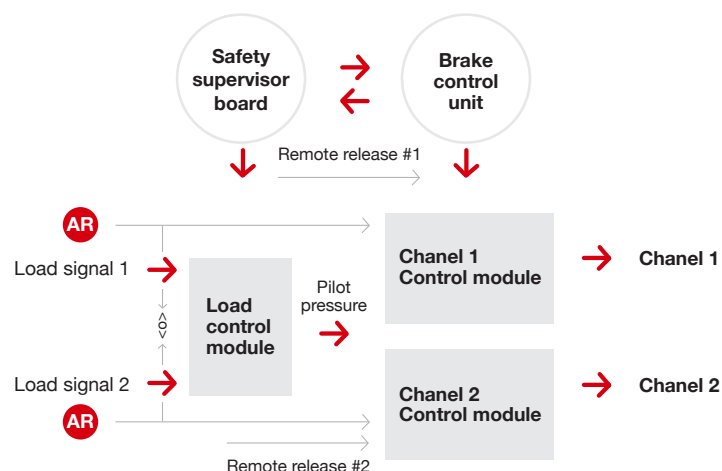
Smart safety timer allows optional time adjustment (SIL4)

Patented architecture allows multiple brake control configuration, all supported by parametric SW programming for reduced project-specific costs

Embedded CBM algorithm, providing fault report, time to overhaul and inspection flags

15 years MTBO upon service, very low maintenance cost thanks to smart valves management and very simple design

Regioflexx can safely (SIL4) monitor ED brake contribution. Therefore ED brake can be used in emergency, enabling to reduce friction brake installed in the train without compromising safety

**REGIOFLEXX DIAGRAM****CONTACT**

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