



DISTANCEMASTER™

*Advanced solutions for wheel
rail adhesion enhancement*

THE MOST PERFORMANT ADHESION MANAGEMENT SOLUTION AVAILABLE ON THE MARKET

A new generation WSP algorithm for higher safety, enhanced network capacity & resilience, reduced maintenance cost

Wabtec adaptive wheel slide protection features a new generation of algorithm capable of dynamic self tuning upon actual adhesion conditions, eliminating the need for setting, and reducing dramatically the braking distance elongation in degraded adhesion conditions.

DM-Control + is a deceleration compensation algorithm to optimize the use of available adhesion along the train.

It enables even shorter braking distance and better management of degraded modes (bogie isolated, slope).

Wabtec DistanceMaster™ is our answer to the Shift2Rail PINTA & PIVOT programs aiming to improve the wheel / rail adhesion, which is seen as a major limitation to the performance of railway transportation system

KEY CUSTOMER BENEFITS

Improved safety

34% (A-WSP only) to 50% (A-WSP + DM-Control +) braking distance improvement in standard degraded adhesion conditions

Improved rail transportation efficiency

Operators using variable length blocks (CBTC for metro; ETCS level 3 for main line) can benefit higher train flow thanks to guaranteed emergency braking distance

Improved rail transportation resilience to adverse conditions

Many operators are experiencing degraded operation in Autumn & winter. A-WSP is significantly improving resilience to extreme conditions in all seasons

Reduced maintenance cost

Fixed setting of actual WSP system forces to compromises. A-WSP tests shows up to 50% reduction of wheel flats

No setting cost

The Adaptive WSP doesn't require adjustment / setting campaign

Reduced air consumption

**DM ADAPTIVE-WSP + DECELERATION
COMPENSATION PERFORMANCE**

Nominal dry
stopping distance

EN15595/UIC
max extension (12 axles)

Standard
WSP AEF91

Adaptative WSP

Adaptative WSP
+ Decel. Comp

+20%
max extension (12 axles)

+12%

+8%

+6%

Benefit
34%

Benefit
50%

Low adhesion braking
distance elongation

PRODUCT SPECIFICATIONS

DM Adaptive wheel slide protection

A new generation of algorithm based on dynamic self-tuning upon actual conditions

A-WSP doesn't require initial setting, the algorithm will reach optimal braking distance from first brake application
34% performance improvement vs standard UIC approved WSP

DM-Control + brake compensation

A brake control feature to better use available adhesion along the train

Redistribution of the braking effort to reach the target deceleration, especially in case of low adhesion or of one brake equipment unavailable
Local comparison of deceleration requested and deceleration achieved, therefore each BCU can increase braking effort up to the adhesion limit.
The function is managed locally, no need for communication between BCUs
When activated, the function is fully configurable (max adhesion solicited, max BC pressure)
Brake compensation can be used in emergency brake (safety is guaranteed by the SIL4 weighted brake with Metroflexx & Regioflexx)

Adaptive wheel slide protection DM-Control + can offer up to 50% braking performance improvement vs standard UIC approved WSP system

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