

Smart functions of Trailer EBS E1 improve efficiency

In addition to a faster brake response time and the driving safety functions ABS and RSS, Trailer EBS E1 is equipped with a range of performance-enhancing features that provide cost-effective functional improvements for standard and special-purpose vehicles. WABCO now has registered trademarks for functions with dynamic wheelbase control.

This market information highlights the benefits of these and other functions during driving and also explains how they work.

Optiload™

Brief description: Avoids overloading of the fifth wheel and towing vehicle if the semitrailer is loaded only in the forward section.

Function: Lifting and relieving pressure on the rear lifting axle improves the distribution of the load between the towing vehicle and the semitrailer thus avoiding overloading of the rear axle of the towing vehicle. In this case, the rear axle of the semitrailer acts as a counterweight to the load.

Benefits for you: The remaining cargo does not have to be distributed over the cargo bed.
Avoids traffic fines due to overloading of the towing vehicle.

For use with: Semitrailers with 2 or 3 axles; rear axle as a trailing or lifting axle.
Trailer EBS E1 Premium.

OptiTurn™

Brief description: Alternative to a trailing steering axle.

Function: OptiTurn is able to detect tight curves from the differing wheel speeds and correspondingly unloads the rear axle according to the specifications of the traction control system. This causes the fulcrum of the axle unit to migrate from the central axle to the front axle thus reducing the turning circle of the whole vehicle. Because the third axle is only loaded to about 30% even in a laden vehicle, this greatly reduces tyre rubbing.

Benefits for you: Reduced tyre wear in tight curves. Conserves the steering axle and its control system. Improves manoeuvrability, even when reversing.

For use with: semitrailers with 2 or 3 axles; rear axle as a trailing or lifting axle.
Trailer EBS E1 Premium.

Bounce control

Brief description: The wheel brakes are gently and briefly released to prevent axle distortion and sudden bouncing after loading or unloading

Function: The axle combination may distort during loading and unloading if the applied brake prevents compression or rebound of the axle locating rod. This can cause violent movement of the vehicle body when the brake is released. The relaxation function prevents bouncing by briefly releasing the individual brakes on the parked vehicle. The vehicle as whole remains braked.

Benefits for you: Protects the cargo and the vehicle.

For use with: All trailers with standard axles.

15.07.2009

Tilt Alert

- Brief description:** Safe unloading of tippers on sloping terrain.
- Function:** During tipping on uneven terrain the lateral inclination angle of the vehicle is monitored by RRS sensors. The driver is warned when the vehicle exhibits a tendency to overturn due to the tipper body being raised. The warning can be signalled by the SmartBoard or a connected horn or lamp.
- Benefits for you:** Reduces the risk of an accident.
- For use with:** Trailers with a tipper body.

Axle load indication

- Brief description:** The actual axle load is displayed on the SmartBoard.
- Function:** The load on the axle can be calculated by sensing the bellows pressure and parameterisation of the bellows diameter and lever ratio of the axle locating rod. This information is sent by a data link to the SmartBoard where it is displayed as required.
- Benefits for you:** Reduces the risk of a traffic fine due to overloading. Avoids damaging the vehicle.
- For use with:** All trailers.

Further functions

Trailer EBS E includes functions to control the air-suspension and lifting-axle control systems as already used in Trailer ECAS.

Further functions are available for special-purpose vehicles, e.g. finisher brake and steering axle lock.

The GIOs - the freely programmable inputs and outputs of the modulator - allow customer-specific definition of functions and automatic implementation depending on the vehicle's status.

Upgrading is worthwhile

Of course, these functions are not only available for new vehicle concepts. Retrofitting of Trailer EBS E1 is particularly suitable for replacing an older ABS system and provides not only a noticeable increase in the operational capability of the vehicle, but also significantly increases its value.