



# TailGUARD™

Reversing Collision Avoidance System with Active Braking



# Reversing collision avoidance system

## Safer reversing – neat trailers – undamaged infrastructure

Reversing a trailer is one of the most challenging truck operating procedures - it accounts for up to 35% of incidents involving trailer damage and up to 40% of fatal accidents\*.

TailGUARD reduces risks during reversing by detecting static and moving objects in the rear blind spot behind the trailer. It also automatically stops the trailer at a safe distance.

The system assists drivers during reversing and helps to avoid collisions with pedestrians, pallets, docking stations, gates, trees, forklifts, cars and any other object behind the trailer.

\* source: TBG (Berufsgenossenschaft Tiefbau)













## Ultrasonic sensors and integration with trailer electronic braking systems

### TailGUARD sensor



- Preventive slow-down alert at high reversing speed, object detection in the rear blind spot, automatic stopping at programmable distance
- Works with OptiLink smartphone app and cabin-mounted Trailer Remote Control as driver interface inside, and side-marker lights outside the cabin
- Variable configurations (with 2–6 ultrasonic sensors) for different logistic environments with ground and roof level monitoring
- Improved rear blind spot monitoring coverage
- Sensor enables smart integration into the trailer lighting bar

# Variable configurations for different logistic environments

	TailGUARDlight™	TailGUARD™	TailGUARDRoof™
Typical logistic environment	Large loading bays with identical layout or flat walls, no other objects or people	Multiple and unknown loading bays with flat walls, different layouts and objects, pallets, cars, traffic poles	Height-limited locations: warehouses, docking gates, trees and roof constructions
TailGUARD sensor representation			
Blind spot coverage indication (top view)			
Blind spot coverage indication (side view)			
OptiLink smartphone app and Trailer Remote Control display			
Number of sensors	2	3	5
Coverage	Basic Detection Ground Level (Ramp Approach System)	Advanced Detection Ground Level	Advanced Detection Ground & Roof Level

## OptiLink™ smartphone app and Trailer Remote Control

The OptiLink smartphone app and the Trailer Remote Control can be used as an interface for the driver.

While reversing, the green, yellow and red blocks indicate the distance between the trailer and detected objects in the rear blind spot behind the trailer, when TailGUARD is activated.



# Automatic reversing braking function for all trailer types: towards 'zero accidents'



## System activation

TailGUARD is automatically activated when the truck's gearbox is shifted into reverse gear. It works with any type of truck and trailer.

At the back of the trailer, the outline side marker lights start flashing, and an (optional) acoustic warning signal alerts traffic participants and passers-by close to the reversing vehicle.

The system can be turned to 'silent' mode for operation at night.

## Driving in reverse

TailGUARD alerts the driver to slow down when reversing speed exceeds 9 km/h by pulsing the trailer brakes.

When TailGUARD detects an object within 3,5 meters behind the trailer, the Trailer Remote Control in the cabin or the OptiLink smartphone app shows the object distance with green, yellow or red colored blocks.

Moving closer to an object, the frequency of visual and acoustic warning signals increases.

## Automatic stop

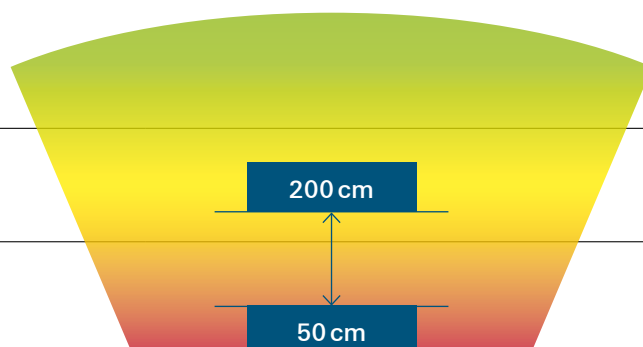
TailGUARD stops the trailer automatically at a programmable distance between 50 cm and 200 cm from detected objects.

The driver can then slowly reverse the last few centimeters to dock the trailer to the loading bay.

### Optical warning

- 350 – 300 cm
- 300 – 150 cm
- 150 – 0 cm

### Programmable braking distance



### Acoustical warning

- off
- 2 Hz
- 4 Hz
- 6 Hz

## Increased safety, reduced repair costs and downtime



Preventing even minor damage can result in a fast return on investment with the TailGUARD reversing collision avoidance system. In addition, neat trailers, undamaged infrastructure and sound cargo help to ensure good reputation of trailer brands, fleet companies and cargo shippers.

## Technical information

TailGUARD is a reversing collision avoidance system with an autonomous active braking function suitable for all trailer types and part of ZF's Intelligent Trailer Program.



- TailGUARD consists of 2 – 6 ultrasonic sensors connected to a central Electronic Control Unit (TailGUARD ECU or Electronic Extension Module, requires ELEX 5.5 or higher)
- TailGUARD requires Trailer-EBS E2 or higher to perform autonomous braking
- From iEBS Premium upwards the TailGUARD function is integrated and its sensors are directly connected, removing the need for an ECU
- Works with the OptiLink smartphone app (iEBS and T-EBS) and Trailer Remote Control (T-EBS only) as the driver interface

TailGUARD supports the driver; it does not remove their responsibility to drive carefully.

Typical repair reasons	Indicative repair time	Indicative repair cost
Repair or replacement of trailer doors	0.5 – 1 day	500 – 3.000 €
Repair of lights and outside marker lights	0.5 – 2 hours	400 – 800 €
Repair of under-run protection	1 – 3 hours	200 – 600 €
Repair of loading dock, roof, gates etc.	0.5 – 1 day	600 – 2.000 €
Downtime of trailer	0.5 – 1 day	lost income

**For further details, contact your local representative**

## About Us

ZF, which acquired WABCO Holdings Inc. on May 29, 2020, is a global technology company supplying systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility.

ZF allows vehicles to see, think and act. In the four technology domains of Vehicle Motion Control, Integrated Safety, Automated Driving, and Electric Mobility, ZF offers comprehensive product and software solutions for established vehicle manufacturers and newly emerging transport and mobility service providers.

ZF electrifies a wide range of vehicle types. With its products, the company contributes to reducing emissions, protecting the climate and enhancing safe mobility.