nissen™

ROAD SAFETY SOLUTIONS.

WE POINT THE WAY

MOBILE
CRASH PROTECTION SYSTEMS
2019

YOUR GUARANTEE OF SAFETY

Dear customers, partners and prospective customers,

Road works in traffic conditions are a road safety hazard, but absolutely necessary for maintaining infrastructure. Scientific studies have confirmed that the risk of accidents is particularly great in the case of road works of short duration and mobile works.* Mobile crash cushions (also known as truck mounted attenuators, abbreviated to TMA) offer reliable protection. These safety devices are not time-consuming or expensive to deploy and significantly reduce the risks to personnel and road users.
As a global leader in the industry, Nissen offers you two mobile crash protection systems that meet international standards and feature numerous advantages. But don't take our word for it – have a look at our solutions and benefit from an additional safety guarantee.

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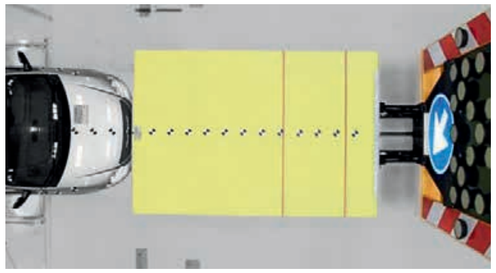
* Institute of Highway Engineering, RWTH Aachen University: Investigations on the effectiveness of Truck Mounted Attenuators (TMA)

DUAL PROTECTION IN ONE SYSTEM

Nissen's mobile crash protection systems combine two important functions: the necessary advance warning or barrier deployment for traffic lanes and protection of personnel, road users and service vehicles in the event of a rear-end collision.

Each of Nissen's crash protection systems consists of three components: a warning panel allowing of customisable configuration, a crash absorber to absorb kinetic energy, and a docking station that can be fitted to any of your service vehicles. The system is folded up out of the way during transportation. Once on site, the service vehicle is moved into the relevant position, the crash absorber is folded down via electrohydraulic action, and the warning panel is activated. Advantage: No additional personnel are needed for operation of mobile crash protection systems. In addition, Nissen's crash protection systems require very little maintenance.



The classic

RAMBO II

Proven across the world: RAMBO II incorporates the most popular approach to the design of mobile crash cushions. Its advantages have already been demonstrated in numerous rear-end collisions.

The RAMBO II crash absorber consists of a lightweight aluminium cushion incorporating internal honeycombs that yield on impact. In the event of a collision, these absorb the kinetic energy, thereby reducing the risk of injuries and damage to the service vehicle. The RAMBO II is fitted to the vehicle using a docking station plus electrohydraulic device for the folding action.
When the system is not in use, the hydraulics hold the cushion out of the way in a vertical position. For the RAMBO II, service vehicles from 7.5 tonnes upwards are recommended. In some countries, it is actually a requirement that such vehicles be used.

INDIVIDUAL CONFIGURATION

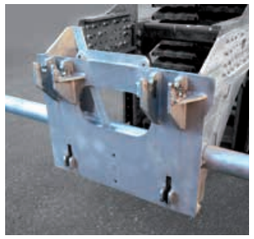
The innovative

GUARDIAN

**With the GUARDIAN, Nissen is striking out in a new direction.
Its innovative design requires less material, thus saving on weight and costs.
In addition, this system is even more compact in use.**

The Nissen GUARDIAN is a solid steel design which, in the event of a collision, absorbs kinetic energy through structural deformation. Specifically, this means that if a vehicle collides with the GUARDIAN, the square tubes are pushed into each other and are spliced apart. This system, developed exclusively by Nissen, features numerous advantages:

- Cost-saving design that is economic on material and ensures excellent safety
- Cost savings thanks to replaceable components after a collision
- Easy to handle, as no tools are needed for fitting and removal
- Reduction in clearance height thanks to compact folding design



INDIVIDUAL CONFIGURATION

PREPARED FOR EVERY EVENTUALITY

Nissen's mobile crash protection systems can be configured to suit your exact requirements. You can choose conventional warning panels with light arrows, variable message signs from Nissen's VarioSign LED System, or a combination of both. In addition, designs incorporating sliders or lift functions are also possible. For vehicles with trailers that will not use the universal coupling, Nissen offers you practical adapters.

TMA with light arrows

- Light arrow device
- Chevron patterned plates and directional arrow with microprismatic retro-reflective foil, type RA2C
- Luminous arrow system with two LED-TL advance warning beacons (WL5) and 25 separately monitored LED-TL warning beacons (WL6)
- Directional arrow with motor revolution, mechanical emergency adjustment and automatic luminous arrow adjustment

TMA with slider

- Vertically extending warning panel
- Chevron patterned plates and directional arrow with microprismatic retro-reflective foil, type RA2C
- Luminous arrow system with two LED-TL advance warning beacons (WL5) and 25 separately monitored LED-TL warning beacons (WL6)
- Directional arrow with motor revolution, mechanical emergency adjustment and automatic luminous arrow adjustment

TMA with LED variable message signs

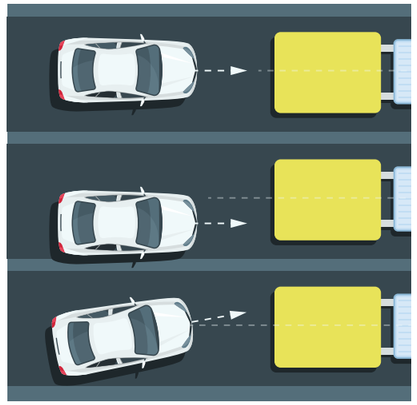
- Powder-coated aluminium profile housing (AlMg3)
- Full matrix for displaying freely programmable static or dynamic texts and symbols to animations
- Good recognizability of the signs from almost every perspective and even from long distances
- Certified in compliance with EN 2966:2005+A1:2009 CE
- Grid dimension 20 mm
- Optionally classic (4 colours) or RGB (256 colours)
- Premium quality light-emitting diodes with a long service life
- Continuous brightness adjustment, automatic or manual
- Available in different display sizes

SAFETY TO A STANDARD

Nissen's mobile crash protection systems are tested using one of the strictest standards for this type of protective device: NCHRP 350. This standard was devised in the USA, which is where most mobile crash protection systems in the world are currently used. According to current estimates of the Institute of Highway Engineering, RWTH Aachen University, this adds up to more than 10,000 individual units.

Based on NCHRP 350

Tested in all conditions



Our mobile crash protection systems meet and exceed the requirements of the four most common crash tests up to 100 km/h:
Head-on crash with vehicles of 900 and 2,000 kg in weight, respectively, offset crash and crash at an angle. In all tests, our mobile crash protection systems achieve top scores.

Test designation	Crash conditions		
	Vehicle	Nominal speed of vehicle (km/h)	Nominal angle (degrees)
3-50	900P	100	0
3-51	2000P	100	0
3-52[h]	2000P	100	0
3-53[h]	2000P	100	10

SAFETY FROM A SINGLE SOURCE

Everything under control

Our mobile crash protection systems are compatible with the Nissen operating concept. Both the RAMBO II and the GUARDIAN can be simply and conveniently operated using the Nissen Touch Remote Color and Standard or Pro Remote controls. This means you can control almost all the functions of your mobile crash protection system via a cable or wirelessly with Bluetooth. This includes raising and lowering the crash absorber, the lights on the warning panel and, of course, the signals and wording on our LED variable message signs.

A particular highlight: Both remote controls are compatible with all Nissen systems and can access up to eight devices.

Advantages at a glance

- Intuitive and safe operation
- Optional cable or wireless control
- Backlit keypad
- Uniform operating concept for all Nissen systems
- Robust and impact-resistant housing

Touch Remote Color

- Large 5,7" full color touch screen display
- Automatic day/night adaptation
- Combined cable/radio remote control
- Operation of the most important features via keypad
- Favorite combinations freely programmable via touch screen
- Functions keys freely programmable
- Useable for all Nissen systems

NiBus Baureihe NiBus Kompatibel

Dimensions (LxWxH)
211 x 141 x 39 mm

Weight
680 g

Touch Remote Color	Ref. No.
Touch Remote Color radio/cable remote control (bluetooth) with touch screen and illuminated keypad (without cable)	329 236-1

Touch Remote Color

More information
NIS-01742
To be entered on nissen-germany.com

Standard- and Pro-Remote

- Universal remote control for secure and easy operating also of complex devices via cable connection
- Large operating keys
- Illuminated keypad
- Easily readable large display with additional touch screen function

Dimensions (LxWxH)
215 x 130 x 45 mm

Weight
Standard-Remote: 480 g
Pro-Remote: 700 g

Standard- and Pro-Remote	Ref. No.
Pro-Remote II radio/cable remote control - Bluetooth touchscreen (without cable)	329 231-12
Standard-Remote cable remote control touchscreen (without cable)	329 232-2

Standard-Remote

Pro-Remote

More information
NIS-01785
To be entered on nissen-germany.com

MORE FUNCTIONS MORE ADVANTAGES

Nissen offers you an extensive choice of accessories allowing you to extend the functionality of your mobile crash protection system and customise it to your specific requirements.

Electrical equipment

Battery monitor

Ensure the long-term performance of your mobile crash protection system. The optional battery monitor sends you a warning in advance, before the capacity of your battery is too low for operation. The device also monitors the charging process and protects against overloading. This way, you can effectively prevent unforeseen breakdowns and damage to the electrical system.

Charge booster

The on-board battery of your mobile crash protection system does not get a sufficient charge from the generator of the towing vehicle. After the engine is started, the charging voltage and the charging current are regulated to protect the starter battery. Our charging boosters ensure that the battery is reliably charged, even over short distances. This increases the service life and improves the reliability of your warning trailer.

Operation

Operating hours meter

The detailed documentation of your mobile crash protection system allows you to detect wear and tear in advance and replace parts like bulbs, batteries or mechanical components before they fail. The operating hours meter also provides you with critical information to make your billing easier.

Interface package XML

This module enables secure data exchange between several devices. It makes it possible to remotely control mobile crash protection systems equipped with the XML interface package – including all functions. In addition, your warning trailer can also send data to control systems.

NiBus modem

This digital data interface lets you control and monitor our mobile crash protection systems up to safety standards, regardless of your location. In addition, the NiBus modem can also be used to integrate systems into common construction site management systems.

Equipment

Rockinger coupling

Equip your mobile crash protection system with a robust Rockinger coupling for trailers weighing up to 3.5 tonnes and increase your potential use.

Height adjustment in transport position

Our RAMBO II mobile crash protection system can be equipped with an additional hydraulic circuit allowing the system to be lowered in the transport position.
Ideal for clearing low bridges, which are common in countries like e.g. Switzerland.

CUSTOMISATION AT A GLANCE

Use the appropriate accessories to customise your mobile crash protection system to your exact requirements:

	RAMBO II	Guardian
Version for road works head location	•	•
Slider version	•	Standard
Mounting plate for attaching to the towing vehicle	•	•
Rockinger coupling	•	•
Transporter for docking station	•	•
Fork lift adapter for docking station	•	Standard
Battery box, XL	•	Standard
Battery monitor	•	•
Charger, 12 V 35 A	•	•
Power supply plug	•	•
Charging connector, 12/24 V	•	•
Cable drum	•	•
LED light module for toll recognition, Switzerland	•	•
Height adjustment in transport position	•	
Preparation, CB warning system	•	•
CB warning system	•	•
Preparation, NiBus modem	•	•
NiBus modem	•	•
Monitoring device	•	•
XML interface package	•	•
Onboard power supply, 12 V	•	•
Onboard power supply, 24 V	•	•
Onboard power supply, LED, 12/24 V	•	•
Manual control, Pro Remote	Standard	Standard
Lead/gel battery (140 Ah or 210 Ah)	•	•
Lead/acid battery (180 Ah or 230 Ah)	•	•
Foil for crash cushion, red/white	•	•
Foil for crash cushion, red/yellow (Finland)	•	•
Foil for crash cushion, red/yellow-green (Norway)	•	•
Hook-lift container for warning panel	•	

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nissen-germany.com/sales

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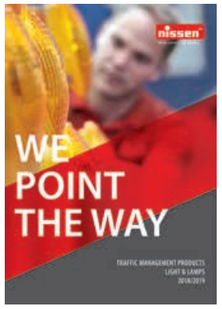
The solution for every application

Nissen is the world-leading manufacturer of solutions for mobile road safety. Order our latest catalogues now: Barriers and Lighting, Mobile Warning and Barrier Systems, VarioSign LED System and TrioSign Folding Signs: **vertrieb@nissen-germany.com**



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Disclaimer

This information is subject to technical changes and errors. Images may differ from the original product or may include accessories. All details are approximate. We supply all products without batteries or rechargeable batteries.

Important:
All products may only be installed and operated by trained personnel. Instructions for use, installation instructions and the relevant regulations must be observed strictly.

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