



Greensight Safety Support System

Increase safety and prevent damage

Increased safety

Improved uptime

Reduced costs

*Increased
comfort for driver
and operator*

The highest priority for modern earth moving operators is safety. This also applies to the companies that work in, for example, mining. With the large number of machines on some sites guaranteeing safety is a continuous challenge. Groeneveld's Greensight obstacle detection and camera systems offer an excellent solution for increasing safety. The main benefits at a glance:

- Ultrasonic acoustic warning system
- Improved safety around the machine
- Less chance of damage
- Increased uptime
- Fully integrated and modular system
- No information overload for the driver
- Fully adjustable to the application and the customer's wishes
- Can be enhanced with the Smart alarm

Greensight is available as an ultrasonic acoustic obstacle detection system, as a camera system and as a combination of the two.



Greensight for off-road equipment

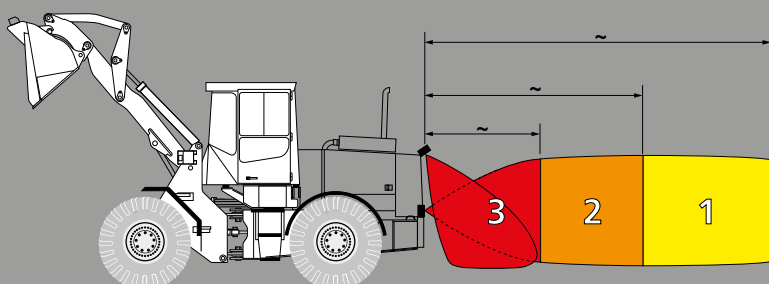
Greensight is available as an ultrasonic acoustic obstacle detection system, as a camera system and as a combination of both. Thanks to the ultrasonic operation the system will detect obstacles in the pre-set zones very accurately. The system can also be extended with sensors either on the sides or on the top of the vehicle or machine. As soon as an obstacle is detected, an acoustic signal is sounded for the operator in the cab, so he can check on the display which zone the obstacle is in. Therefore he is able to concentrate fully on his work, being warned if a person or object is located in the detection area.

Camera system

In addition to the ultrasonic detection system, Groeneveld also offers a high-quality camera system, which can improve the visibility of the operator significantly. This could be a solution for blind spots. Four cameras can be connected to the monitor, with all four of the camera images being able to be displayed on a split screen. The Groeneveld camera system can be used on its own, or in combination with the Greensight ultrasonic detection system – a combination that increases safety greatly. This also increases the comfort of the driver or operator.



The combination of sensors and camera(s) offers the operator both passive and active safety information about the free space in the surroundings of the machine.



With Groeneveld's Multipro software, these zones can be adapted entirely according to the wishes of the customer and the working conditions, even once it has been put into operation.



Modular system

The Greensight safety support system can be set up modularly. Moreover, it is an integrated solution that can be adapted to the application perfectly. A wheel loader has different requirements for a detection system than, for example, a dump truck or an excavator. The detection areas can be adjusted as desired after it has been put into operation. All of the components shown below can be connected individually on the control unit.

Control unit

The control unit is the core of each Greensight system. For smaller systems, a control unit with six connections is available. For more extensive systems, there is an control unit with 15 connections. On this basis, each system can be built up modularly.

Sensors

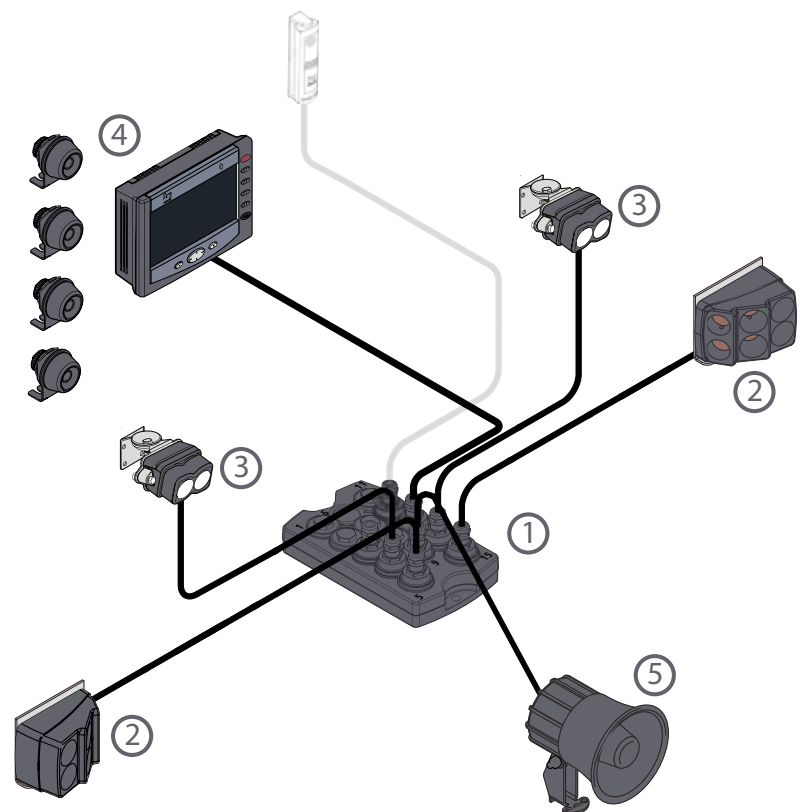
The basic components of the Greensight detection system are the two sensors on the rear of the vehicle or machine. The sensors detect objects that have a diameter larger than 75 mm. The in-cab display warns the operator by means of light and acoustic signals.

Additional sensors

To expand the obstacle detection system, sensors are available to mount on top of or on the sides of the vehicle or machine. This increases the detection area of the vehicle or machine.

Smart alarm

The Greensight ultrasonic safety support system warns the operator by means of acoustic and light signals. By expanding the system with a Smart alarm, people located near the vehicle or machine are also warned as soon as Greensight observes them or an obstacle. Only then does the smart alarm begin operating; it is not standard while reversing. Thus an acoustic signal is given only when it is necessary, warning bystanders to stay alert. The volume of the Smart alarm is automatically adjusted depending on the amount of noise in the background.



Camera system

The obstacle detection system can be expanded with the Groeneveld camera system, which can also be used as an independent system.

Unique characteristics:

- Clear and sharp images under all conditions
- No problems with condensation and frost due to automatically heated lens surface
- Shows up to four cameras
- CAN-bus preparation
- High sensitivity at 0.025 lux (good visibility with less light)
- Switches easily between different camera images

Groeneveld: A global player

Since its foundation in 1971 in Gorinchem, Groeneveld has developed into a global enterprise with approximately 600 employees. Groeneveld, part of The Timken Company, has around 30 branches, resulting in a worldwide coverage. In many countries, the company is also represented by independent distributors and dealers – all just as driven as our own organisation to offer added value to the customer's company.

Groeneveld is happy to assist you with the installation and service of your systems. Therefore it is good to know that Groeneveld has a global presence. Visit the Groeneveld website for contact details of the Groeneveld subsidiaries, distributors and service dealers.



Service is only a phone call away!



Twin

Parallel lubrication system

Twin is a dual-line lubrication system that offers the perfect solution for, e.g. large wheel loaders, dump trucks and excavators, which often have long lines. The system works with relatively low pressure, allowing the preservation of the quality and structure of the grease. Twin is also characterized by a very accurate dosing per lubrication point, regardless of the ambient temperature.



Oilmaster

Always the correct level of oil

Groeneveld's oil management system ensures that the oil level in the engine is always at an optimal level. Checking the oil level manually is a thing of the past. This doesn't only save time, but also ensures that there is never too little or too much oil in the engine, with all the costly and time-consuming consequences. The system is applied in numerous sectors throughout the world.



Speedlimiter

Restrain speed

The Speedlimiter enhances safety and contributes to the cost efficiency of the equipment. Thanks to the effective control of speed, there is a reduced chance for accidents, with all its consequences. Besides this, the application of the Speedlimiter will reduce fuel-costs and wear and tear and thus maintenance- and repair costs for motor components, tyres and brakes.