

MAX·SAFE  | MAXIMUM
SAFETY
MADE BY **SGESC**  **MAX**



THE LEADERS IN COMMERCIAL VEHICLE SAFETY SYSTEMS

ENHANCING BUSINESS PERFORMANCE,
REDUCING RISK AND KEEPING PEOPLE SAFE

PRODUCT CATALOGUE



PEOPLE



SAFETY



INNOVATION



PASSION



QUALITY



“

We have used SGESCO-MAX products for over three years and have found them to be an innovative safety solution for our fleet vehicles, and effective in achieving zero incidents in trucks reversing or accidentally rolling away.

TONY RAWSON | National Fleet Category Manager
Suez Recycling and Recovery, Australia and New Zealand

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LEADING THE WAY

Our Mission is to create a safer, more efficient world, through innovation.

Since 2000, SGESCO-MAX – the home of MAX-SAFE® products – has led the way in developing advanced vehicle safety solutions for waste management, mining, transportation, and construction organisations across the Australia and Asia Pacific region.

We create both active and passive vehicle safety devices as well as warning systems to help solve our customers' complex safety challenges and are known for being a solutions driven company. Our research and development teams have created a range of innovative products, such as the first anti-rollaway braking sensors, reverse and side watch cameras, seatbelt and driver warning systems, and speed and RPM limiting control devices. We continue to be first to market and best of breed in the way we provide clever, intuitive, and automatic safety solutions.

The key benefits to our clients' organisations include enhanced people safety, reduced driver risk, reduced property damage, and reduced insurance claims. Overall, we enhance company performance and workplace health and safety.

We are driven by five key values:



PEOPLE



SAFETY



INNOVATION



PASSION



QUALITY

We use these guiding values throughout our organisation as foundations for R&D, sales, customer service, and delivery – even for individual staff KPIs.

SGESCO-MAX is a privately owned company based in Archerfield, Queensland. The organisation was established in 1962 by Albert McPherson, originally as Starter & Generator Exchange Service Company (SGESCO), and has transformed over the years to specialise in vehicle safety and monitoring solutions.

Now in 2021, Albert is still involved, with his sons now leading the business. Marc has worked at SGESCO for 35 years and is Head of Research & Development. Scott, a technology solutions architect, joined SGESCO in late 2020 as Managing Director, and is responsible for introducing the company to new markets and new users, advancing the dealer network, and enhancing the customer experience.

OUR INDUSTRY FOCUS

REDUCING RISK, AND PROTECTING PEOPLE & PROPERTY

Imagine being able to assist a driver of a company's vehicle to:

1. Stop their vehicle from accidentally rolling-away
2. Stop their vehicle from reversing into someone, or something
3. Be alerted of pedestrians and cyclists when turning left
4. Be alerted if passengers in the vehicle don't have their seatbelt on
5. Be warned if about to go over a certain speed; or
6. Have their vehicle automatically drive at a certain speed in a certain area

Through the deployment of our MAX-SAFE products, SGESCO-MAX works with leading vehicle brands, OEMs, and a network of authorised dealers to provide vehicle safety solutions for fleet owners where safety is paramount for effective company performance.

Extensive research and development has gone into our product design, testing, and vehicle fitting processes, to ensure a quality solution that stands the test of durability, performance, and various environmental conditions.

Specifically, we help the following industries with a range of vehicle safety products that reduce company risk and insurance claims, while ensuring workplace health and safety:



WASTE MANAGEMENT

For waste and recycling vehicles



MINING

For mining trucks and equipment of all sizes



ROAD CONSTRUCTION

For trucks, graders, rollers, bulldozers, and excavators



BUILDING CONSTRUCTION

For delivery vehicles, cement trucks and pumps



LOGISTICS & FREIGHT

For commercial trucks and trailers



EMERGENCY SERVICES

For Fire Engines and safety vehicles



TRANSPORTATION

For buses of all sizes



WAREHOUSE & MATERIAL HANDLING

For forklifts and onsite machinery

If your business is in these industry areas, then we have the solutions to help your company have peace of mind with respect to driver, people and equipment safety.

MAX-SAFE SAFETY ECO-SYSTEM

As we enter the 2020s, we are at the threshold of a quantum leap in technology to help improve vehicle safety systems, driven by the push for autonomous vehicles. Advancements in Radar, Ultrasonic and LiDAR technologies, coupled with developments in the field of Artificial Intelligence, promise to provide more effective safety solutions. National transport agencies and local councils are also starting to drive a harder line on safety. Industry is responding through commitments, investment, and training to create a safer world when it comes to the use of heavy vehicles on our roads and in workplaces.

And SGESCO-MAX is positioning itself at the forefront of these oncoming changes, eager for companies to embrace the **MAX-SAFE Safety Eco-System™** – Australia's most advanced safety eco-system – on par with London's Direct Vision Standard, the global standard for reducing VRU deaths.

360 DEGREE SAFETY

The **MAX-SAFE Safety Eco-System** is primarily designed to help organisations protect drivers, while preventing harm to people or damage to property.

It's a complete and active holistic solution that uses our best-in-class technology solutions and is being improved progressively by advances in technology – like radars, lidars, sensors, and software and screen integration.

Our **MAX-SAFE Safety Eco-System** aims to provide a 360-degree oversight of all sides of a vehicle, as well as any person or object within an extended field of vision. If the system detects a person or object within the detection area, it will actively brake the vehicle – within safe speed limit ranges – to prevent accidents, and warn people in the danger zone, so they too can react to protect their safety.

At SGESCO-MAX we are constantly looking at how we can evolve the **MAX-SAFE Safety Eco-System** to make it even more reliable and robust. Currently, we are working towards three design goals, centered around integration, education, and technology. Discover more on our website.





ANTI-ROLLAWAY BRAKE SYSTEM

The MAX-SAFE Anti-Rollaway Brake System™ — designed for heavy vehicles to provide insurance against driver oversight.

The **MAX-SAFE Anti-Rollaway Brake System™** provides an active safety solution in the event of a driver neglecting to fully apply the park brake before leaving their vehicle.

It's easy to forget to apply a park brake; and with the added chaos of deliveries, schedules, unfamiliar locations, darkness, and tiredness, the chance of it happening only increases. A distracted or tired driver at the end of their shift is at the highest risk of being forgetful — leading to mistakes — which can ultimately lead to injury, or even death.

The **MAX-SAFE Anti-Rollaway Brake System™** provides early pre-warnings of potential danger to the driver and any people in the vicinity of the vehicle. If the driver leaves the cabin without fully applying the parking brake, the **MAX-SAFE Anti-Rollaway Brake System™** activates immediately to prevent the vehicle from rolling away — creating a safe environment.

Warnings are provided by both audible and visual alarms, triggered to notify the driver and pedestrians of the potential danger.

The system is not designed to replace a traditional park brake, which remains the responsibility of the driver to secure before exiting, but the **MAX-SAFE Anti-Rollaway Brake System™** provides insurance against driver oversight.

Available for both pneumatic and mechanical park brake type vehicles, the **MAX-SAFE Anti-Rollaway Brake System™** is perfect for commercial vehicles of all kinds.



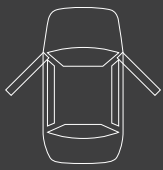
BENEFITS

- ◆ **SAFETY OF PERSONNEL** around the vehicle.
- ◆ **PROTECTION** of the vehicle and equipment.
- ◆ **INSURANCE** against driver oversight.
- ◆ **CONTINUOUS MONITORING** of multiple conditions.
- ◆ Both **VISUAL** alerts and **AUDIBLE** warnings.
- ◆ Intelligent logic with **SELF-CHECKING** to ensure system integrity.
- ◆ **ADR COMPLIANT** solution.
- ◆ **QUEENSLAND GOVERNMENT APPROVED** (TA.022 and TA.034).
- ◆ Combine with **REVERSE WATCH MODULE (RECOMMENDED)** for additional safety.
- ◆ Part of the MAX-SAFE **SAFETY ECO-SYSTEM**.

HOW THE MAX-SAFE ANTI-ROLLAWAY BRAKE SYSTEM™ WORKS

A state-of-the-art microprocessor continuously monitors multiple inputs to determine the possibility of the vehicle rolling away.

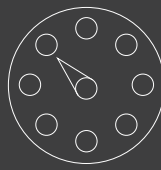
INPUTS MONITORED INCLUDE:



DOOR
POSITION
SENSOR



PARK
BRAKE
POSITION
SENSOR



VEHICLE
DATA



SEAT
SENSOR



VEHICLE
ELECTRONIC
CAN
DATA

The MAX-SAFE Anti-Rollaway Brake System™ – providing a safer work environment.

When the vehicle is at low speed, the park brake is monitored to ensure that it is FULLY applied – a dedicated lever position sensor is installed to test for this condition. With mechanical type park brake systems, the original park brake switch will activate even if the park brake lever has only just been slightly applied, delivering negligible braking effectiveness. Systems that only utilise warnings (audible/visual) to alert the driver leave the vehicle in an unsafe state.

The system monitors if the door is opened while the park brake is not applied, when someone may be exiting the vehicle. If this is detected, the park brake is not automatically applied, but the **MAX-SAFE Anti-Rollaway Brake System™** sounds a warning. If the driver then leaves their seat and exits the vehicle, the **MAX-SAFE Anti-Rollaway Brake System™** activates immediately: sounding an external horn with a solid ongoing alarm, turning the LED active on, and continuously sounding the internal buzzer – the park brakes are applied, and the vehicle is prevented from rolling away.

THE SYSTEM INCLUDES THREE TYPES OF WARNINGS:

- Visual warnings, displayed on an in-cabin LED display or LCD screen.
- An audible alarm within the vehicle.
- An external horn or siren to warn people outside the vehicle who could potentially be in harm's way.

The unit also has a built-in CAN Bus interface, allowing the system to collect relevant information from the vehicles CAN or OBD diagnostic system, to help with detecting an unsafe situation.



CASE STUDY:

RURAL FIRE SERVICE

Part of Queensland Fire and Emergency Services, Hinchinbrook Station

When you go to a fire, and your adrenaline is rushing, you need to focus on the fire and what you need to do. Worrying about whether you've left the handbrake on or not is the last thing on your mind.

LENNY TOSCANO, First Officer for the Brigade, AFSM (Australian Firefighter Service Medal Recipient), Rural Fire Service

SITUATION

The Rural Fire Service had a problem. They had recently purchased a new concept fire truck — a 7 tonne manually-geared vehicle — which was to carry around 2 tonnes of water. The manufacturer's gearbox wasn't suitable, as it wasn't robust enough for the surrounding terrain. The truck also had hydraulic brakes, which needed the driver to pull on the handbrake manually when the vehicle had come to a stop. Different drivers had different levels of pressure/strength, and if the handbrake wasn't applied with enough force, the truck would roll away. The truck had developed a few 'dings', and it was apparent there was a safety issue.

SOLUTION

The Rural Fire Service decided to replace the gearbox with an Alison (Automatic) truck box and install the MAX-SAFE automatic braking system. The design principle was to let the system do its job, and remove the potential for any error by the driver. The braking system works via three different sensors, and comes on automatically if any are triggered. The first trigger is when the door opens and it recognises that someone is exiting the vehicle. The second trigger is when the person lifts off the seat. The third trigger is if the vehicle is put into neutral (the vehicle does not have a Park position, just Neutral, Reverse and 1,2,3). The MAX-SAFE solution triggers on any of these events and engages the brakes automatically.

OUTCOME

The truck has been in operation since March 2020. There were a few minor teething issues, which have since been ironed out. It is tested weekly by the Brigade, and they are pleased to report it performs as desired in hilly terrain. The Brigade can see that if they are going to continue using automatic gear box trucks, that this solution will be rolled out further. It works well, even on steep terrain, and minimises risk, no matter who is driving. Most of all, it has given peace of mind to the Brigade that the vehicle won't roll away in an emergency situation.



REVERSE WATCH

The MAX-SAFE Reverse Watch system provides a sixth sense for drivers helping monitor the blind spot behind the vehicle for obstacles.

Reversing a commercial vehicle can be challenging, especially in unfamiliar locations, tight spaces, and/or darkness. Drivers rely on their mirrors to judge distances and identify obstacles, but their line-of-sight is often obscured, creating a blind spot behind their vehicle.

This creates an unsafe environment where property and equipment can be damaged, or worse, personal injury or even death can occur.

The **MAX-SAFE Reverse Watch®** system is a sophisticated reversing sensor system add-on that works with and engages our active braking system and audible alarm to prevent unsafe situations; helping reduce the incidence of downtime, insurance claims, and personal injury. Together, they help reduce the incidence of downtime, insurance claims, and personal injury because they don't rely on the ability of the driver to detect a hazard or a person. The system is designed to comply with Australian Design Rules (National Standards for Vehicle Safety).

The **MAX-SAFE Reverse Watch®** system is part of the **MAX-SAFE Safety Eco-System**, designed to safeguard people and property. The **MAX-SAFE Reverse Watch®** is an add-on to the **MAX-SAFE Anti-Rollaway Brake System** solution.



BENEFITS

- ◆ **ASSISTANCE** for the driver.
- ◆ **PROTECTION** of vehicle and equipment.
- ◆ **INSURANCE** against driver oversight.
- ◆ Both **VISUAL ALERTS AND AUDIBLE WARNINGS**.
- ◆ **FAULT MONITORING** and **OVER-RIDE SWITCH**.
- ◆ Programmable **DANGER ZONE**.
- ◆ Part of the **MAX-SAFE SAFETY ECO-SYSTEM**.
- ◆ Designed to comply with **ADR 38/00 CLAUSE 4.3.2**.
- ◆ Part of the MAX-SAFE **SAFETY ECO-SYSTEM**.

HOW THE MAX-SAFE REVERSE WATCH® SYSTEM WORKS

A radar unit is mounted on the rear of the vehicle and a Danger Zone is programmed to set the desired detection range. This zone typically covers the width of the vehicle, along with a distance of 2.5 to 3 metres behind the vehicle.

The **MAX-SAFE Reverse Watch**® system becomes active when the vehicle is placed into reverse, engaging the radar to actively monitor the Danger Zone for obstacles. If something is detected, the system is triggered causing the following to occur:

- The vehicle is stopped by applying the brakes.
- An alert is displayed on the drivers dashboard.
- Audible alarms are sounded from the radar display.

The system has a push button override switch, used to release the brakes after the system has triggered. An illuminated ring around the push button shows the state of the **MAX-SAFE Reverse Watch**® system – GREEN when the system is active, and RED when the system has triggered.

RADAR DISPLAY

Green Zone Light

Furthest detection zone 5

Light Green Zone Light

Detection zone 4

Yellow Zone Light

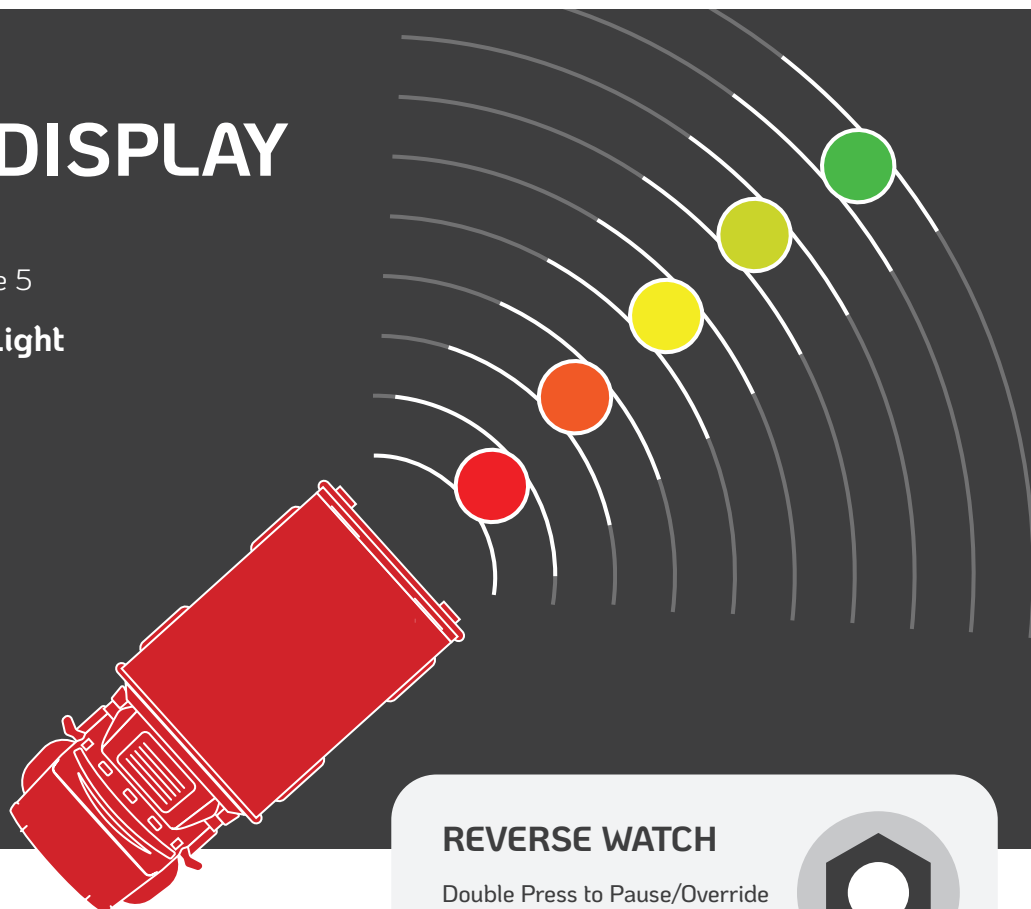
Detection zone 3

Orange Zone Light

Detection zone 2

Red Zone Light

Detection zone 1



The system has an override switch with an illuminated push button, which is used to release the brakes after the system is activated.

REVERSE WATCH

Double Press to Pause/Override

Green = Ready

Red = Activated

Red Flashing = Paused/Overridden

Red/Green Flash = System Needs Repair





HOOKLIFT OPTION

The MAX-SAFE Reverse Watch Hooklift Option™ provides a sixth sense for drivers of tip trucks.

The **MAX-SAFE Reverse Watch Hooklift Option™** is for vehicles fitted with a hooklift mechanism or a hydraulic lift hoist.

Such vehicles are very versatile and are used for a wide range of industrial purposes. Operators stay inside the vehicle to use the hook to drop off items. Steadiness is called for during operation.

The **MAX-SAFE Reverse Watch Hook-Lift Option™** overcomes unwarranted brake applications whilst reversing for loading or unloading purposes.

With the hooklift in the HOME/STOWED position and the vehicle in reverse, the **MAX-SAFE Reverse Watch®** functions as designed, braking the vehicle if an obstacle is detected in the Danger Zone. However, when the hooklift is engaged and moved from the HOME/STOWED position, the braking function of the **MAX-SAFE Reverse Watch®** is disabled, allowing the driver to reverse without the brakes being automatically applied.

The radar and in-cab display remain ACTIVE, providing audible and visual warnings of obstacles in the Detection Zone at the rear of the vehicle, helping to maintain a high level of personnel and property protection.



BENEFITS

- ◆ **ASSISTANCE** for the driver.
- ◆ **OVERCOMES UNWARRANTED BRAKE** applications.
- ◆ **PROTECTION** of vehicle and equipment.
- ◆ Both **VISUAL AND AUDIBLE WARNINGS**.
- ◆ Programmable **DANGER ZONE**.
- ◆ Designed to comply with **ADR 38/00 CLAUSE 4.3.2**.
- ◆ Part of the MAX-SAFE **SAFETY ECO-SYSTEM**.



TRAILER OPTION

The MAX-SAFE Reverse Watch Trailer Option™ helps protect people and property with radars that detect beyond the rear of trailers.

The **MAX-SAFE Reverse Watch Trailer Option™** is for large commercial vehicles wanting to hook up a trailer, and incorporates a trailer mounted radar to extend protection behind the trailer.

The following outlines how this trailer solution works with a vehicle that may or may not have **Reverse Watch** technology installed.

1. Vehicle and Trailer have Reverse Watch installed:

Once the trailer is connected to the vehicle, the vehicle's sensors are automatically disabled and the **MAX-SAFE Reverse Watch®** functionality becomes activated via the trailer mounted radar.

2. Vehicle has Reverse Watch installed and Trailer does not:

In the circumstance that a trailer is attached to a vehicle with the **MAX-SAFE Reverse Watch®** system, and the trailer does not have a radar fitted, the vehicle mounted **MAX-SAFE Reverse Watch®** system and radar display are disabled. This is because if the **Reverse Watch** system remained active, it would constantly detect the trailer.

The **MAX-SAFE Reverse Watch Hooklift Option™** is incorporated into the **MAX-SAFE Reverse Watch Trailer Option™** ensuring additional functionality and operational efficiencies during loading and unloading tasks.



BENEFITS

- ◆ **ASSISTANCE** for the driver.
- ◆ **EXTENDS** protection behind a trailer.
- ◆ **PROTECTION** of vehicle and equipment.
- ◆ Both **VISUAL AND AUDIBLE WARNINGS**.
- ◆ Programmable **DANGER ZONE**.
- ◆ Designed to comply with **ADR 38/00 CLAUSE 4.3.2**.
- ◆ Part of the MAX-SAFE **SAFETY ECO-SYSTEM**.

CASE STUDY:

SUEZ

A global leader in waste management and water solutions, SUEZ manages significant fleets of trucks and machinery within its operations. Safety of their drivers and the communities they operate within is a priority, as well as seeking innovation to create smarter, more effective ways of doing things within their business.

We have used SGESCO-MAX products for over three years, and have found them to be an innovative safety solution for our fleet vehicles and effective in achieving zero incidents in trucks reversing or accidentally rolling away.

TONY RAWSON, National Fleet Category Manager, SUEZ Recycling and Recovery, Australia and New Zealand

SITUATION

To maintain a zero-harm reputation, SUEZ prioritises the use of systems to identify risks and hazards to improve safety. Working in waste management, SUEZ operates fleets of garbage trucks for clients all over Australia. After an intensive review of past hazards, SUEZ's technical team identified two main areas of safety requirements for SUEZ's fleet operations:

1. To reduce the risk of a rollaway truck, SUEZ needed a solution to install in its vehicles so as to mitigate the risk of a driver forgetting to apply the handbrake.
2. To stop a driver accidentally reversing over a person, an animal, or property, SUEZ needed the capability for a driver to be able to see all angles behind a vehicle when reversing.

SOLUTION

SUEZ approached SGESCO-MAX to adopt its MAX-SAFE products, designed for commercial vehicles.

The **MAX-SAFE Anti-Rollaway Brake System™** – where the handbrake is automatically applied on behalf of the driver if they leave the vehicle – was specified as a safety solution to reduce garbage truck driver risk.

The **MAX-SAFE Reverse Watch®** radar system was also identified as a solution to help garbage truck drivers monitor blind spots when reversing into alleys or narrow refuse stations, where they can't fully see directly behind the vehicle.

OUTCOME

SUEZ now specifies MAX-SAFE safety products – the **Anti-Rollaway Brake System™** and **Reverse Watch®** – as standard installs on all of its new fleet purchases with its vehicle and machinery suppliers. The products are fitted by the vehicle supplier and SGESCO-MAX maintains the products under warranty.



FRONT WATCH

The MAX-SAFE Front Watch system provides critical information for drivers helping monitor the blind spot in front of their vehicle for obstacles.

The type of cab, ride height, and the seat occupied (right or left for dual controlled vehicles) can create blind spots for the driver. In addition, when a driver is focusing on performing a task, such as bin collection in a side-lift vehicle, they can be distracted from obstacles in front of their vehicles.

This creates an unsafe environment for both people and property, exposing equipment to damage, and pedestrians to personal injury, or even death.

The **MAX-SAFE Front Watch™** system provides both an audible alarm coupled with an active braking system to prevent these unsafe situations; helping reduce the incidence of vehicle downtime, insurance claims, personal injury, or death. The system is designed to comply with Australian Design Guidelines.

HOW IT WORKS

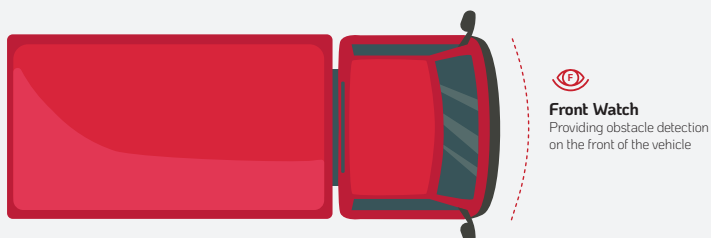
Depending on the vehicle's application, either radar or ultra-sonic technologies may be used for detection. A detection unit is mounted on the front of the vehicle, and a danger zone is programmed to set the desired detection range. This zone typically covers the width of the vehicle along with a distance of 2.5 to 3 metres in front of the vehicle.

The **MAX-SAFE Front Watch** system becomes active when the vehicle is operating in dual control mode, i.e., the driver is operating the vehicle from the left seat, and the vehicle is travelling at less than 8km/h.

The detection unit is engaged to actively monitor the Danger Zone for obstacles. If something is detected, the system is triggered causing the following to occur:

- An alert is displayed on the driver's dashboard.
- Audible alarms are sounded from the radar display.
- When used in combination with the **MAX-SAFE Anti-Rollaway Brake System™**, can be set to stop the vehicle by applying the park brakes.

The **MAX-SAFE Front Watch™** system also has a push button override switch, used to release the brakes after the system has triggered. An illuminated ring around the push button shows the state of the Front Watch system – GREEN when the system is active, and RED when the system has triggered.



BENEFITS

- ◆ **SAFETY AID** for Driver.
- ◆ **ACTIVE** Braking.
- ◆ **VISUAL ALERT** for Driver.
- ◆ **AUDIBLE ALARM** for Pedestrians.
- ◆ **PROTECTION OF VEHICLE** from damage.
- ◆ Part of MAX-SAFE **SAFETY ECO-SYSTEM**.



CORNER WATCH

The MAX-SAFE Corner Watch™ system provides valuable notification for drivers, helping monitor the blind spots on the front corner(s) of their vehicle for obstacles.

The type of cab, ride height, and the seat occupied (right or left for dual controlled vehicles) can create blind spots for drivers.

Additionally, when a driver is busy performing a task, such as garbage collection via a side-lift apparatus, they may not see obstacles or people approaching the front corners of their vehicles.

This creates an unsafe environment for both people and property, exposing people to personal injury or even death, and equipment and the vehicle to damage.

The MAX-SAFE Corner Watch™ system provides an audible alarm coupled with an active braking system to prevent these unsafe situations; helping reduce the incidence of vehicle downtime, insurance claims, personal injury, or death. The system is designed to comply with Australian Design Guidelines.

HOW IT WORKS

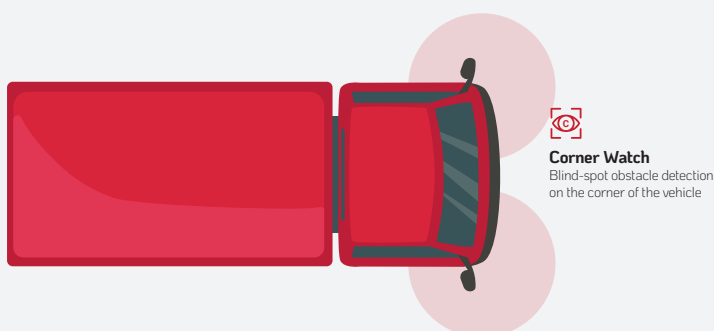
Depending on the application, either radar or ultra-sonic technologies can be used for detection.

A detection unit is mounted on the front of the vehicle and a Danger Zone is programmed to set the desired detection range. This zone typically covers a 3 meter and 110 degree arc from the front corners of the vehicle.

Our MAX-SAFE Front Watch™ system becomes active when a vehicle is operating in dual control mode, i.e., the driver is operating the vehicle from the left seat, and the vehicle is travelling at less than 8 km/h.

The detection unit is engaged to actively monitor the danger zone for obstacles. If something is detected, the system is triggered, causing the following to occur:

- An alert is displayed on the driver's dashboard.
- Audible alarms are sounded from the radar display.
- When used in conjunction with the MAX-SAFE Anti-Rollaway Brake System™, can be set to stop the vehicle by applying the brakes.



BENEFITS

- ◆ SAFETY AID for Driver.
- ◆ ACTIVE Braking.
- ◆ VISUAL ALERT for Driver.
- ◆ AUDIBLE ALARM for Pedestrians.
- ◆ PROTECTION OF VEHICLE from damage.
- ◆ Part of MAX-SAFE SAFETY ECO-SYSTEM.

SIDE WATCH

The MAX-SAFE Side Watch™ solution is designed to protect vulnerable road users (VRU) and provide a sixth sense for drivers.

The **MAX-SAFE Side Watch™** solution uses state-of-the-art radar technology to assist the right-hand side driver in left-hand turning manoeuvres.

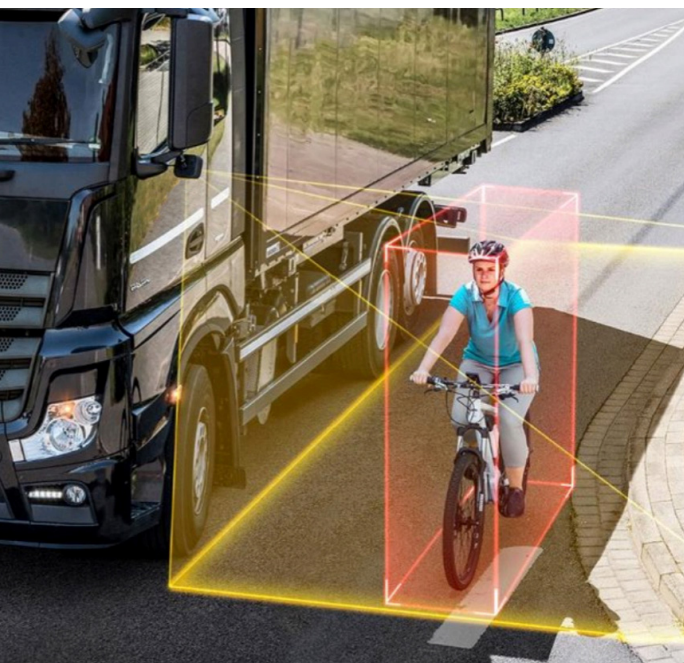
The radar utilises a special in-built VRU algorithm which can detect moving objects, and extends the driver's field of view by up to 4m to the left of the vehicle, and 14m to the rear of the vehicle.

When the system detects a person, cyclist, or motorcyclist within the Danger Zone, the driver is warned via both audible and visual alerts to take the appropriate action.

The **MAX-SAFE Side Watch** solution can be installed in new fleet builds or retrofitted to wide range of vehicles including, but not limited to, garage trucks, prime-movers, people-carriers, buses, and heavy machinery. The solution is mounted to the side mirror and adjusted as necessary.

When coupled with the **MAX-SAFE Audible Warning™** system, the solution can also warn the vulnerable road user of the potential danger.

This is achieved by broadcasting a pre-recorded announcement via a loudspeaker. Being a human voice with a focused message, it is much more effective in gaining pedestrian's attentions than a buzzer, and can also provide specific information about the risk.



BENEFITS

- ◆ **PROVIDES ASSISTANCE** to the driver.
- ◆ **EXTENDS PROTECTION** to the side of the vehicle.
- ◆ **PROVIDES PROTECTION** to pedestrians and cyclists.
- ◆ Provides both **VISUAL AND AUDIBLE WARNINGS**.
- ◆ Utilises **STATE-OF-THE-ART GERMAN TECHNOLOGY**.
- ◆ Part of the MAX-SAFE **SAFETY ECO-SYSTEM**.



SEATBELT WARNING SYSTEM

The MAX-SAFE Seatbelt Warning System™ is a commercial grade solution that is reliable and robust.

Seatbelts save lives and reduce injuries. The challenge in buses is how to know if passengers have buckled themselves in and stay buckled in for the entire journey.

When transporting the public, or a commercial workforce on a mine site, it can be difficult for the driver to check on all passengers and ensure everyone is seated and safely buckled in. The driver should instead be free to focus on the operation of the vehicle, and on safely driving from A to B.

School bus drivers need to have their eyes on the road. It is hard to check on children in the rear view mirror, and, combined with the chaos of a school bus and children being children, the chances of children being unbuckled is only amplified.

The **MAX-SAFE Seatbelt Warning System™** solves these problems. The **MAX-SAFE Seatbelt Warning System™** is designed to check and notify the driver if there are any unbuckled occupants, with an easy-to-read display that makes it quick to assess any situation.

The solution is designed to be retrofitted to bus fleets of all industries, ages, or sizes, and can be tailored to notify both the driver and passenger via audible alarms and warning lights. The system has been developed with advanced logic and inbuilt circuit redundancy measures to ensure accuracy. In an instant, the driver has the information at hand to know how many seatbelts aren't buckled in, with details of any unsafe occupants provided. The **MAX-SAFE Seatbelt Warning System** is part of the **MAX-SAFE Safety Eco-System** designed to safeguard people, vehicles and equipment.

The bus safety system can also be implemented by tourist bus operators and local council buses.

MAX-SAFE Universal Buckle

The MAX-SAFE Universal Buckle makes it easy to install the MAX-SAFE Seatbelt Warning System™ into any vehicle type. It accepts all seatbelt tongue types, and can be installed at a range of heights to suit any specific vehicle's seats.

FEATURES

- ◆ **ADR CYCLE TESTED.**
- ◆ **ROBUST** design.

BENEFITS

- ◆ Suitable for **ANY BELT TYPE.**
- ◆ **EASY TO INSTALL.**
- ◆ Meets **AUSTRALIAN STANDARDS.**
- ◆ **MORE RELIABLE** than alternate buckle styles.



BENEFITS

- ◆ **LESS DISTRACTIONS** for the driver.
- ◆ Both **VISUAL AND AUDIBLE WARNING SIGNAL** options for the driver and passengers.
- ◆ Robust commercial grade solution for **TOP PERFORMANCE.**
- ◆ Advanced logic with **SELF-TESTING ALGORITHMS** ensuring system accuracy.
- ◆ Redundancy built-in for **RELIABILITY.**
- ◆ **A SAFER JOURNEY**, peace of mind for the operator.
- ◆ Optional **AUDIO ANNOUNCER** plug-in.
- ◆ Designed, Manufactured and Supported **IN AUSTRALIA.**
- ◆ Part of the MAX-SAFE **SAFETY ECO-SYSTEM.**

HOW THE SEATBELT WARNING SYSTEM WORKS

DRIVER DISPLAY SYSTEM



UNBUCKLED PASSENGER COUNT DISPLAY makes the driver aware of how many passengers aren't buckled in, and where they are located within the vehicle.



POSITIVE SYSTEM RESULT shows all passengers are seated and buckled, so the driver know knows they can begin the route.

EXAMPLE CONFIGURATION

Seat layout with seatbelt dynamic pressure sensor and display units as indicated.



INDICATES DISPLAY LOCATION ON LOWER DASH.



INDICATES NODE LOCATION UNDER PASSENGER SEATS.



HOW IT WORKS

PASSENGERS BUCKLE IN, DRIVER WARNED OF ANY ISSUES

VEHICLE MOVING;
DRIVER AND PASSENGER
ALERTED SHOULD ANY
PASSENGER UNBUCKLE



PASSENGERS
BOARD

DRIVER CHECKS
ALL PASSENGERS
ARE SECURE

PASSENGERS
DELIVERED
SAFELY



SPEED LIMITING and LOCATION SPEED LIMITING

The MAX-SAFE Speed Limiting™ solutions provide a regulated speed for commercial vehicles, allowing the driver to be safer in all environments.

The MAX-SAFE Speed Limiting™ solutions allows for up to 8 speed settings to be preprogrammed.

MAX-SAFE Speed Limiting™ solutions can be tailored to unique applications, such as a simple rotary switch that selects the relevant pre-set speed limit, or a lockable-key switch that sets a maximum allowed speed: a perfect solution for mine sites, allowing the supervisor to remove the key once the max speed is set – meaning the vehicle cannot go over the speed limit from that point.

Another innovative application of the MAX-SAFE Speed Limiting™ solution is in tipper trucks – allowing a maximum speed to be set for when the tipper is not in the locked position, restricting the speed to 8km/h.

MAX-SAFE Speed Limiting™ solutions are suitable for a range of vehicles: including, but not limited to, prime-movers, fork-lifts, trucks, buses, 4x4s, and heavy machinery. The flexibility of the solution allows for a wide range of requirements to be met.

The MAX-SAFE Location Speed Limiting™ solutions offer intelligent ways to ensure safe speeds for vehicles based on their location.

It incorporates the use of technologies such as GPS, Wi-Fi, and/or Radio to enforce speed limits on vehicles within a certain location.

The MAX-SAFE Location Speed Limiting solutions can be applied to environments such as mine sites, industrial work sites, or warehouses, and are suitable for a range of vehicles, including, but not limited to, prime-movers, people-carriers, fork-lifts, buses, and heavy machinery. These solutions offer speed control, and an endless number of possible speed settings allow different speeds to be set while in restricted versus unrestricted locations.



BENEFITS

- ◆ SPEED LIMITING for safety and efficiency.
- ◆ LOCKABLE KEY INTERFACE for maximum speed setting.
- ◆ COMMERCIAL GRADE solution.
- ◆ Designed and manufactured IN AUSTRALIA.
- ◆ Location based SPEED CONTROL.
- ◆ Automated and manual OPTIONS AVAILABLE.
- ◆ A range of VEHICLE AND MACHINERY APPLICATIONS.
- ◆ Part of the MAX-SAFE SAFETY ECO-SYSTEM.



ENGINE RPM CONTROL

The MAX-SAFE Engine RPM Control™ solutions provide a regulated, constant engine RPM for a wide range of applications.

There are many situations where being able to maintain a low and constant engine RPM is necessary for the safe and optimal delivery of work projects.

The **MAX-SAFE Engine RPM Control™** solutions offer RPM control with a wide range of rev settings, allowing for different RPMs to be set and locked according to various activities or locations.

Example applications of the solution include:

- Integration into a fire truck for RPM control of the fire pump.
- For a cement truck that needs to maintain a constant RPM to pour cement.

MAX-SAFE Engine RPM Control™ solutions are suitable for a range of vehicles including, but not limited to, prime-movers, 4x4s, buses, trucks, and heavy machinery. In hot or cold temperatures, a solution like the **MAX-SAFE Engine RPM Control™** is ideal for maintaining air-conditioning or heating while vehicles are waiting and idling. For pumping, the solutions can be linked with a pump's control system, and can be applied to PTO RPM control, using a fixed value, a variable value, or a combination of both.



BENEFITS

- ◆ Engine RPM control for **SAFETY AND EFFICIENCY**.
- ◆ **AUTOMATED AND MANUAL** options available.
- ◆ A **RANGE OF APPLICATIONS**.
- ◆ **COMMERCIAL GRADE** solution.
- ◆ Designed and **MANUFACTURED IN AUSTRALIA**.
- ◆ Part of the MAX-SAFE **SAFETY ECO-SYSTEM**.



FORKLIFT SAFETY PRODUCTS

The MAX-SAFE Forklift Safety Products™ keep forklift operators and site workers safe, while minimising damage to forklifts and loads.

Forklifts are powerful and agile tools in many industries, however, these machines pose many potential risks when moving or stationary. In Australia, there are around 5 deaths a year from over 1000 forklift accidents, resulting in an average of \$10,000 per insurance claim per accident, with a higher claim for fatalities.

The **MAX-SAFE Forklift Safety Products™** help minimise risk to operators, site or warehouse workers, and property. They are an ideal solution for both the Warehousing & Materials Handling and the Building & Construction industries.

HOW THEY WORK

SEQUENCED SEATBELT INTERLOCK

The **MAX-SAFE Sequenced Seatbelt Interlock** system uses a seat sensor and a seatbelt buckle sensor to determine if the operator is seated and buckled (in that sequence) before it allows the vehicle to start and/or drive off.

If the operator removes the belt, the system will neutralise the drive of the forklift. In order to recommence driving, the operator must be seated and buckled.

TRANSMISSION INTERLOCK SYSTEM

Our **Forklift Speed Control** system helps ensure safety speeds are complied with on-site. The Transmission Interlock system monitors the vehicle's speed and engine RPM, and will only allow a gear selection or gear change if the speed and RPM are both below a set level. This system is guaranteed to reduce the drive tyre wear by at least 50%, in addition to protecting the transmission system. Ideal for all forklift sizes.

FORKLIFT EXCESSIVE LOAD CUT OUT SYSTEM

This system provides a lift and travel lockout if the load being lifted is over the rated capacity of the forklift, which could cause the forklift to tip.

- It can detect the load, from the initial lift attempt, through to the lift engine RPM changing from the first to second stage.
- It is calibrated to detect and react within less than a 100KG window, no matter what the work state of the forklift is.

REAR SENSOR ALERT

This sensor alerts the operator if an obstacle (person or object) is behind the forklift.

OUR DEALER NETWORK



MAX-SAFE products are available through a network of specialists dealers across Australia and New Zealand, many of which have years of experience in fitting and servicing our safety solutions with a high degree of customer satisfaction.

Our dealers are highly experienced heavy-vehicle auto-electricians that receive full training in our solutions. Customisation is directed by our head office.



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- ◆ MAX-SAFE Seatbelt Warning System™
- ◆ MAX-SAFE Forklift Safety Products™
- ◆ MAX-SAFE Speed Limiting™
- ◆ MAX-SAFE Location Speed Limiting™
- ◆ MAX-SAFE Side Watch™
- ◆ MAX-SAFE Corner Watch™
- ◆ MAX-SAFE Front Watch™
- ◆ MAX-SAFE Engine RPM Control™
- ◆ MAX-SAFE Audible Warning™