



# INDUSTRIES

Auto Electrical & Mechanical Solutions



**COUPLER** *TEC*<sup>™</sup>  
ELECTRONIC RUSTPROOFING  
*ProTECtion From Rust! GUARANTEED!*



***ProTECtion From Rust! GUARANTEED!***

# How CouplerTec Works

## What Can Be Protected?

CouplerTec's Patented 'Capacitive Coupling Technology' is an Electronic corrosion control process that can be used on any mobile or fixed above ground (non-submerged) application such as; motor vehicles (cars, trucks buses), heavy machinery/equipment (tractors, forklifts, graders, loaders, dozers, excavators and cranes etc), towers, generators and sheds. Almost any above ground metal structure can be protected using CouplerTec's Patented Capacitive Coupling Technology.

## The CouplerTec Difference!

CouplerTec's Patented Capacitive Coupling Technology is demonstrably different from the more traditional forms of electronic corrosion control because it was specifically designed from the outset to operate in an open air environment, unlike Impressed Current Cathodic Protection (ICCP) which requires a relatively abundant conductive medium (moist soil or water) completely surrounding the metal object being protected.

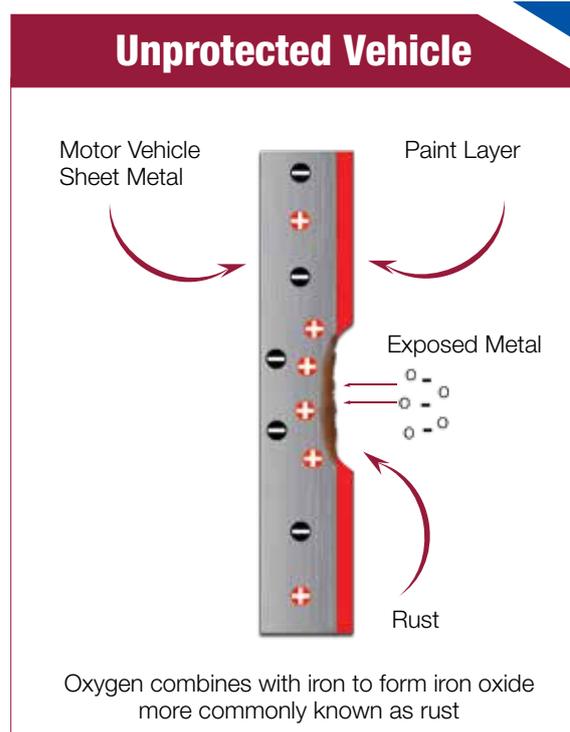
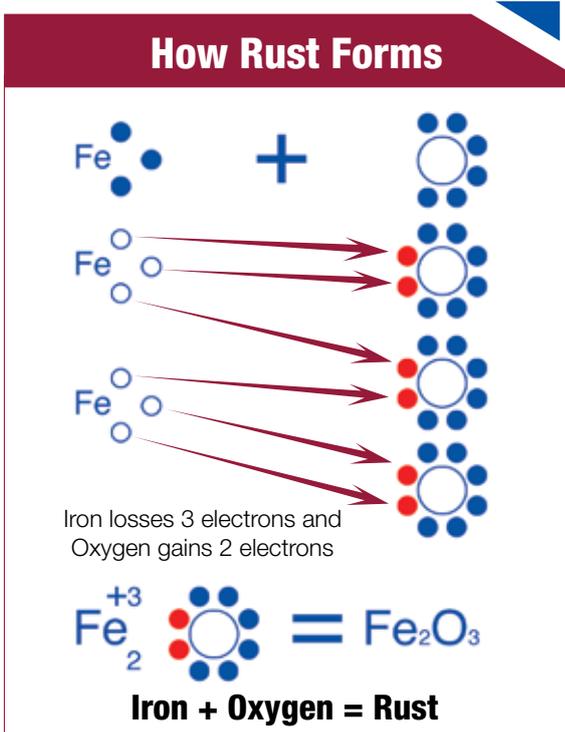
## What Is Rust?

Rust is the normal electrochemical process of metals returning to their natural unrefined state. It occurs when Iron, Oxygen and Water (air moisture) combine. The rusting process can be accelerated when Iron is subjected to nature's minerals, chemicals and temperature fluctuations.



## Why Does Rust Happen?

Iron and oxygen have opposite charges so they seek out each other to combine. When they combine, the iron loses electrons to oxygen atoms. This is called oxidation and when it happens it produces a chemical reaction forming  $Fe_2O_3$  Iron Oxide otherwise known as Ferric Oxide, or more commonly known as rust.



# How CouplerTec Works

## How CouplerTec's Capacitive Coupling Technology Works!

CouplerTec's Patented Capacitive Coupling Technology interferes with the electrical charge between Iron and Oxygen so it becomes hard for these elements to combine to form rust. In other words, the technology interferes with the metal's ability to react with Oxygen.

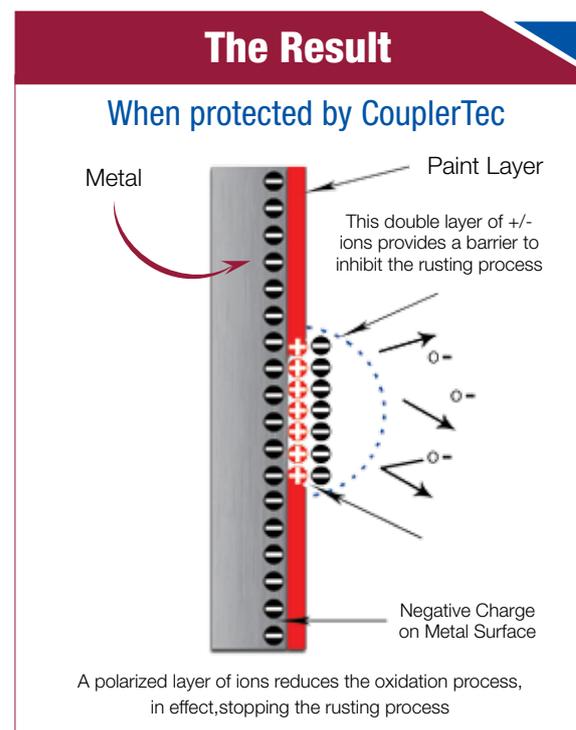
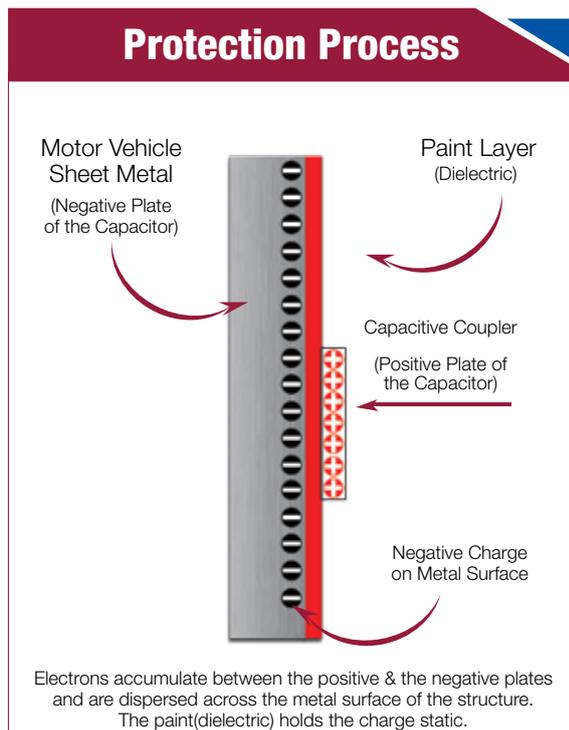
CouplerTec's Capacitive Coupling Technology achieves this by creating a negative (-) electrostatic surface charge on the metal surface of the protected structure. The (-) Oxygen atom is repelled by the (-) electrostatic surface charge.

This (-) electrostatic surface charge is created by building a Capacitor within the protected structure. A capacitor is an electrical component used to store a charge, consisting of two conducting surfaces separated by a nonconductive dielectric. The CouplerTec system consists of two components that we use to build our Capacitor within the protected structure.



CouplerTec™ Electronic Module

The first component is our CouplerTec Electronic Module which is connected to a 12V power source, either a 12V Battery or 12V power pack plugged into mains power (mainly used for static structures).



# How CouplerTec Works

The module draws a very small charge from the power source and transforms this into an output voltage of 400V (Peak) and from 200V (RMS typical), strong enough to easily be read on a volt/multi-meter.

The CouplerTec module generates frequency signals in the 200KHz range. The voltage and frequency created by the module is then transferred to the second component, which is our Capacitive Coupler.

The Capacitive Coupler is a conductive plate which is affixed directly onto the painted surface of the structure using a high bond adhesive.

The Capacitive Coupler, when charged by the voltage now acts as the positive plate' of the Capacitor that we are building.

The frequency applied to the Capacitive Coupler combined with Capacitance induces the electrostatic charge to the metal surface of the structure.

This then makes the structure act as the negative plate of the Capacitor.

Electrons are accumulated between the Positive and Negative plates of the Capacitor.

The frequency which induced the charge also disperses these electrons across the surface of the structure.

The structures paint work becomes the 'dielectric' which in turn will hold the electrons on the metal surface and stop them from flowing away.

Should a protected structure's paintwork become compromised (e.g. stone chip or scratch) resulting in exposed bare metal, then over time a very thin layer of surface rust may eventually form on the bare metal surface.

This layer of surface rust takes the place of the paint work and becomes the dielectric, which in turn holds the charge static. The surface rust will turn a dark brown colour, this is non-active ferric oxide and will not progress any further.



# Additional Product Benefits

## Greater Vehicle Re-Sale Value

Use of a CouplerTec System will help retain a greater vehicle re-sale value!



## Reduce Costs

CouplerTec Systems help reduce maintenance costs associated with rust and corrosion!



## Easily Transferable

CouplerTec Systems are easily transferred from one vehicle to another!



## Easy to Install

CouplerTec Systems are simple and easy to install!



## Prevents Rust Damage

CouplerTec Systems prevents rust damage on stone chips and scratches!



## Eliminates Static Electricity

CouplerTec Systems eliminate static electricity



## Stops Paints from Oxidising

CouplerTec Systems keep paintwork looking like new for longer. Stops paint from oxidising!



## Protects Vehicle Inside & Out

CouplerTec Systems protect the entire vehicle, inside & out!



# Automotive Systems Range

The Automotive Range of CouplerTec™ Electronic Rustproofing Systems consists of five individual Models that cater for all types of Motor Cars (hatchbacks, sedans and wagons), Vans, Four Wheel Drives (4WD) and SUV's. It's simply not possible to have one size system that suits every vehicle, because vehicles come in different sizes and condition (some already have pre-existing rust), and are exposed to diverse environmental influences for differing periods of time.

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Please note that if a vehicle has existing minor rust problems then we recommend the use of a larger system than what would normally be recommended. E.g. A 4WD that is in good condition (no existing rust) that is Frequently exposed to a highly corrosive environment would normally be fitted with a 4WD Heavy Duty System, however, if a 4WD had minor rust problems and was Frequently exposed to a highly corrosive environment then it should be fitted with a larger 4WD Extreme Heavy Duty System.



“ From the city driver to the most serious off road adventurer, there is a **CouplerTec** system to suit every car, 4WD or SUV owners requirements! ”

# Protection for Motor Cars



<b>Model:</b>	2WD Heavy Duty System
<b>Product Code:</b>	2WDHDSFK
<b>Description:</b>	CouplerTec Electronic Rustproofing System 12V - Two Capacitive Couplers

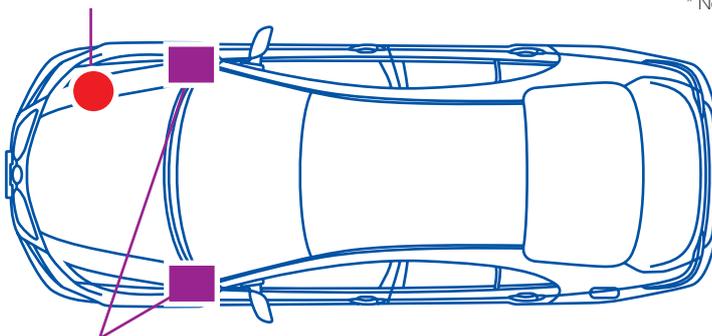
This system has been specifically designed to protect motor cars (hatchbacks, sedans, wagons and small vans\*) from rust. It will also dramatically reduce the effects of corrosion on those vehicles which are frequently exposed to use within highly corrosive environments such as; driving on salted roads. In other words, it will extend the life of these vehicles. As good as this product is, it is not a miracle cure for badly rusted vehicles, as the more rust or corrosion a vehicle has, the harder it is to stop. (\*For large Vans LWB use the larger 4WD Heavy Duty System).



## CouplerTec SYSTEM

(Located near Main Battery)

\* New car installation only



## COUPLERS - FRONT

(Located on: Fire wall/Inner guard)

# Protection for 4WD's/SUV's



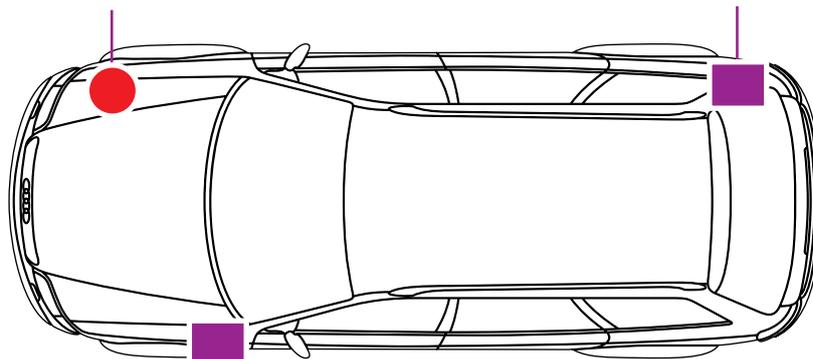
<b>Model:</b>	4WD System
<b>Product Code:</b>	4WDSFK
<b>Description:</b>	CouplerTec Electronic Rustproofing System 12V -Two Capacitive Couplers

The 4WD System has been specifically designed to protect the Four Wheel Drive or SUV vehicle from rust, even when these vehicles are exposed to \*OCCASIONAL use within highly corrosive environments such as; driving on salted roads or beaches. (\*1 day per month, alternatively, up to two weeks per year). This product is best suited to vehicles that are in reasonably good condition e.g. NO existing rust. (For older vehicles or vehicles with minor rust problems, use the larger 4WD Heavy Duty System or 4WD Extreme Heavy Duty System).



**CouplerTec SYSTEM**  
(Located near Main Battery)

**COUPLER - REAR**  
(Located on Inner guard within the Jack housing/Tail-light area)



**COUPLER - FRONT**(Located on: Fire wall/Inner guard)

# Protection for 4WD's/SUV's



**Model:** 4WD Heavy Duty System

**Product Code:** 4WDHDSFK

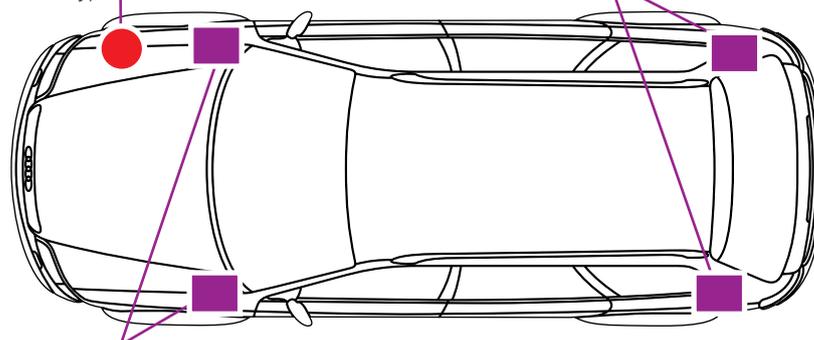
**Description:** CouplerTec Electronic Rustproofing System 12V  
- Four Capacitive Couplers

The 4WD Heavy Duty system has been specifically designed to protect the Four Wheel Drive or SUV vehicle from rust, even when these vehicles are exposed to **\*FREQUENT** use within highly corrosive environments such as; driving on salted roads or beaches. This system may also benefit older 4WD vehicles that are suffering from minor existing rust problems. But remember, as good as this product is, it is not a miracle cure for badly rusted vehicles, as the more rust a vehicle has, the harder it is to stop. (\*Weekend use)



**CouplerTec SYSTEM**  
(Located near Main Battery)

**COUPLER - REAR**  
(Located on Inner guard within the Jack housing/Tail-light area)



**COUPLERS - FRONT**  
(Located on: Fire wall/Inner guard)

# Protection for 4WD's/SUV's



<b>Model:</b>	4WD Extreme Heavy Duty System
<b>Product Code:</b>	4WDXHDSFK
<b>Description:</b>	CouplerTec Electronic Rustproofing System 12V - Six Capacitive Couplers

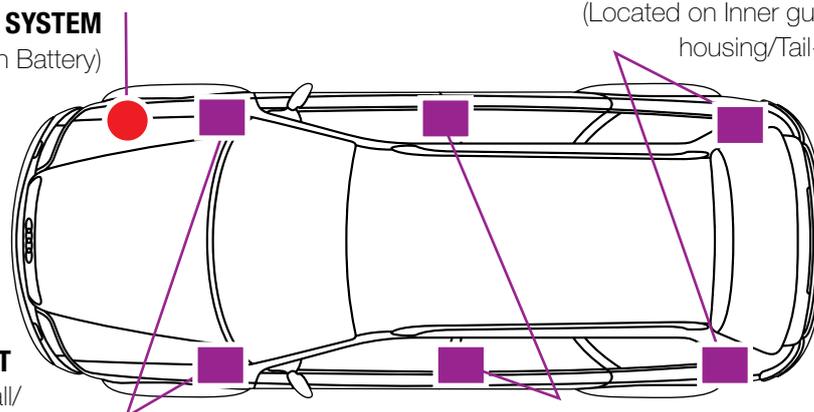
The 4WD Extreme Heavy Duty System offers the ultimate in protection. Specifically designed to protect Four Wheel Drive vehicles used by Surf Life Saving Clubs and Professional Fisherman, it will dramatically reduce corrosion on Four Wheel Drive vehicles which are exposed to **\*CONSTANT** use within highly corrosive environments such as; driving on salted roads or beaches. This system may also benefit older 4WD vehicles that are suffering from minor existing rust problems. But remember, as good as this product is, it is not a miracle cure for badly rusted vehicles, as the more rust a vehicle has, the harder it is to stop. (\*Daily use)



**CouplerTec SYSTEM**  
(Located near Main Battery)

**COUPLER - REAR**  
(Located on Inner guard within the Jack housing/Tail-light area)

**COUPLERS - FRONT**  
(Located on: Fire wall/  
Inner guard)



**COUPLERS - MIDDLE** (Located on: Body/Chassis rail)

# NB

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