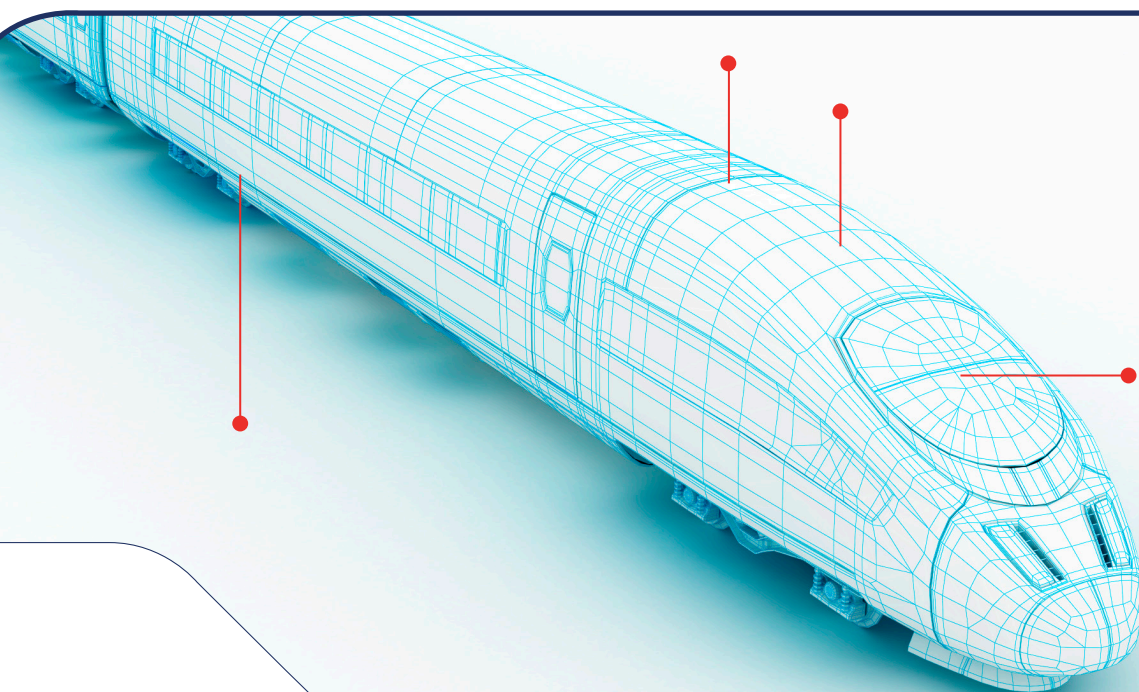




TPWS^{four}®

by Unipart Rail

New generation includes spoken warnings



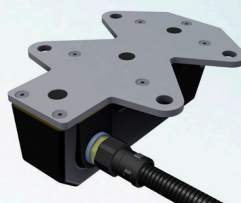
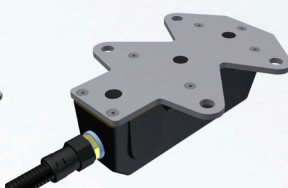
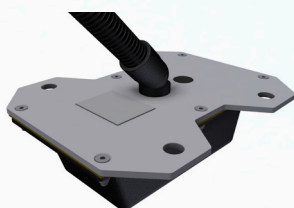
Enhanced safety and performance
on your vehicles

Track & Signalling Interface Technology

TPWS Aerial



AWS Receiver (Dual/Twin/Standard/Extra Strength)



Designed to Comply

Our engineers have designed the system to fully comply with GE/RT8030 Issue 4 and GE/RT8035 Issue 2. These updated standards require all new vehicles built or undertaking significant overhaul (after 1st December 2012) to be compliant by being fitted with TPWSfour® with its new levels of safety.

The TPWSfour® system incorporates the requirements for modification to the in-cab TPWS panel (DMI) to provide separate information on the occurrence of an AWS, OSS and SPAD TPWS intervention.

Designed to Monitor

The in-built data monitoring and recording systems ensure:

- Aerial functionality is continuously monitored
- Connection to on-train data recorder (OTMR), enabling the status of each TPWSfour® DMI function to be recorded externally
- Internal monitoring system 'remembers' its condition should the system be powered down when a brake demand is active and enables the brake demand to be resumed when power is re-applied
- Additional fault indication via separate TPWS and AWS fault indication
- Analogue output monitoring of the strength of the TPWS trackside signal which can be used to monitor trackside loop installations



AWS & TPWS Junction Boxes

*The "Optional" rack consists of the:

- AWS/TPWS Control Unit
- PSU
- Optional AWS Receiver Dual Cab Switching Unit



For a full list of materials and catalogue numbers, please visit www.unipartrail.com/TPWSfour

Supply & Control Technology

Optional TPWS 19" Rack Design Assembly*



Controller



Power Supply (PSU)



Cab Driver Interface Technology

AWS/TPWS Alarm & Speech Unit



AWS Visual Indicator "Sunflower"



AWS Isolation Switch



TPWS Temporary Isolation Switch



Acknowledge Push Button



Driver Machine Interface "DMI" Alternative: ETCS - Direct Customer Interface



Designed to Perform

We've designed TPWSfour® to integrate with both driver and machine. The system's enhanced capabilities ensure that brakes are only released after the correct delay and ensure that the likelihood of an inadvertent over-ride (reset and continue) is eliminated and to prompt the driver to contact the signaller.

The factory selected variable audibility approach ensures that the tones and voice systems are 10dBA above ambient (levels required to be confirmed by the customer), in the range of 65dBA to greater than 90dBA, avoiding driver discomfort.

The new spoken warnings are a clear and unambiguous advice to the driver to further eliminate SPAD potential.

'Antifuse Link Logic' is utilised in our system, using field programmable gate arrays. This system design principle is more inherently reliable than software based systems, reducing the potential of unexpected system functionality activation compared to software controlled systems.

Designed to Integrate

TPWSfour® control units are designed to fit in the same space envelope as the existing TPWS system - reducing the headache of finding additional space for system components.

ETCS compatibility is built into TPWSfour® to ensure future developments and upgrades can be accommodated without further system developments or performance impacts.

Integration, performance, monitoring and compliance come together in TPWSfour® to give you the system you need to enhance safety and performance on your vehicles.

Glossary of Terms:

AWS	Automatic Warning System	PSU	Power Supply Unit
AWSI	AWS Isolation	TIS	Temporary Isolation Switch
DMI	Driver Machine Interface	TSO	Train Stop Override
ETCS	European Train Control System	TSS	Train Stop Sensor
OSS	Over Speed Sensor		

About Unipart

The Unipart Group is a leading UK manufacturer, full service logistics provider and consultant in operational excellence. Operating across a range of market sectors, including automotive, manufacturing, mobile telecoms, rail, retail and technology, Unipart offers a breadth of services to a wide range of blue chip clients internationally.

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