

TPWS^{four}
by Unipart Rail

TPWS^{four}® Development

The Challenge

Updated standards GE/RT8030 Issue 4 and GE/RT8035 Issue 2 were incorporated in to a combined AWS/TPWS standard GE/RT8075.

These standards required all new vehicles built or undertaking significant overhaul (after 1st December 2012) to be compliant by being fitted with TPWS enhanced safety system functionality. The TPWS^{four} system from Unipart Rail with its new levels of safety is compliant to the latest standards.

The Solution

Our Innovation Centre of Excellence engineers went back to basics and redesigned the system to develop its functionality. We've designed TPWS^{four}® 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.

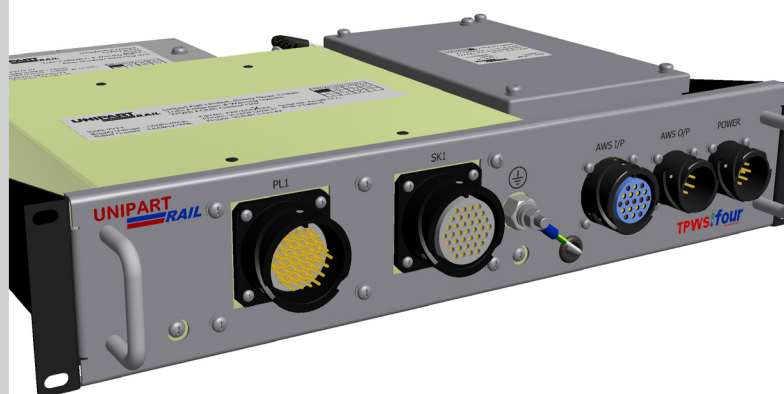
'Antifuse Link Logic' is utilised in our system, using field programmable gate arrays. This system design principle is more inherently reliable than software based systems, reducing the potential of unexpected system functionality activation compared to software controlled systems.

The TPWS^{four}® 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.



Installations

Since the launch of TPWS_{four}®, it has been installed on fleets covering Class 350-400, Class 66752 to 66772, Class 68, Class 43, MBV HOPS, Class 377-8, and Class 37..



The Result

TPWS_{four}® 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 TPWS_{four}® to ensure future developments and upgrades can be accommodated without further system developments or performance impacts.

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

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