

Trainborne AWS/TPWS equipment from Unipart Rail

TPWS & AWS Test Equipment.

Unipart Rail provide a range of AWS and TPWS test equipment to meet customer testing requirements including: -

Mk II Diagnostic Test set

- The Diagnostic Test Set provides an in-line facility to test AWS, over-speed sensor and train stop functionality.



Mk II Diagnostic Test Set Cat N° 0062/014455

TPWS Signal Generator

- The TPWS Signal Generator simulates trackside TPWS installations to enable train stop and overspeed sensor operation to be simulated.



Hand-held Signal Generator Cat No 62/005298

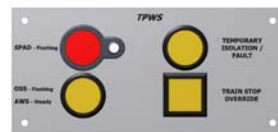
Coming Soon from Unipart Rail

The Innovation teams at Unipart Rail are currently developing the **New Generation MK2 TPWS system** that will provide a number of additional enhancements to the current robust design.

- In addition to the existing in-service TPWS aerial integrity test, the Mk. 2 TPWS system includes a continuous aerial connection check.
- The Unipart Rail Mk. 2 TPWS system includes full functionality to the ATOC Draft 'Guidance on the functional requirements of a modified Train Protection and Warning System driver machine interface for new trains' (including the spoken word) and ATOC draft 'Guidance on the functional requirements of a modified Train Protection and Warning System driver machine interface for existing trains'.



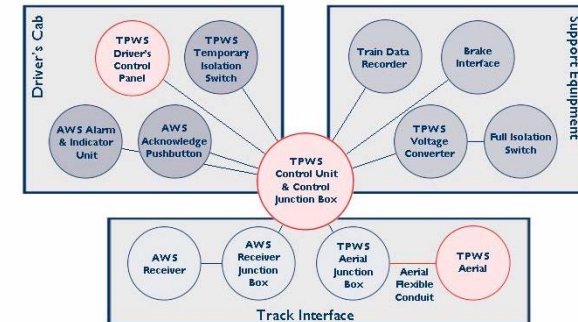
New build TPWS DMI



Retro-fit TPWS DMI

Available from:

Unipart Rail, Jupiter House, First Point, Balby Carr Bank, Doncaster, DN4 5JQ, UK
T+44 (0) 1302 731400 F+44 (0) 1302 731401



To maximise safety, Unipart Rail TPWS systems include in-service aerial integrity testing

- A safety system with trackside and trainborne equipment, Unipart Rail can supply all your TPWS needs
- TPWS Control Unit** - An FPGA based TPWS control unit with AWS, over speed sensor and train stop functions as defined in Railway Group Standards GE/RT8035 and GE/RT8030. The unit contains the interfaces necessary to drive standard AWS peripheral equipment and is designed to fit within the space envelope of the conventional AWS relay unit.
- AWS Receiver** - solid state technology replaces conventional reed relay based receivers leading to increased reliability. With a conventional mounting arrangement to facilitate installation, the lightweight design makes this an easier unit to handle.
- AWS/TPWS Voltage Converter** - designed to replace existing AWS voltage converters to ensure compatibility with combined AWS/TPWS systems. New build versions are available to meet specific vehicle requirements.
- TPWS Driver's Control Panel** - consists of LED indicators which inform the driver when the system has initiated a brake application, temporary system isolation or failures that occur in the self-test routines and an illuminated push-button used by the driver to instigate the over-ride facility for the train stop function.
- TPWS Aerial Assembly** - this aerial has been designed to detect the signals transmitted by the TPWS trackside transmission loops and is contained in a housing designed to withstand the harsh environment underneath a modern rail vehicle.



The complete solution for AWS/TPWS train-borne installations

TPWS System Components

This is a replacement for the AWS system giving AWS, over-speed sensor and train stop functionality

- FPGA technology to maximise reliability
- In-service aerial integrity testing confirms availability
- Capability to operate dual cab installations
- Wide range of junction boxes available including harsh environment versions
- Range of driver's control panels available including –
 - - horizontal mounting
 - - vertical mounting
 - - harsh environment
- Robust solid aerial assembly
- Certificate Number: ESRP/0456



Typical TPWS Driver's Control Panel Cat N° 62/014457



TPWS Control Unit Cat N° 62/014440



TPWS Driver Unit – AWS not fitted Cat N° 62/015942

Electronic AWS Receivers

The new electronic AWS receiver replaces the conventional reed relay based receivers

- Improved reliability of electronic circuitry with no relays or moving parts
- Conventional mounting arrangements retained to facilitate installation
- Available with modern Mil-C-5015 connector to increase reliability
- Lightweight design to maximise strength and reduce unsprung bogie weight
- Assortment of cable lengths and designs available
- Option to upgrade existing receiver junction box connector to MIL-C-5015 specification
- Integral cable versions available with TPWS aerial mounting plate if required
- Standard Strength, Extra strength and combined sensitivity designs available.



TPWS Aerial Cat N° 62/014443



Various Cat No's dependent on receiver style and cable length

New Generation to include Spoken Warnings

AWS/TPWS Voltage Converter

Designed and manufactured by Unipart Rail to replace existing AWS voltage converters to ensure compatibility with combined AWS/TPWS systems

- State-of-the-art technology delivers significant improvements in performance and reliability
- Fully compatible with existing AWS/TPWS installations
- Regulated output voltage ensures constant 12v and 40v supplies
- Uses existing mounting baseplate enabling simple retro-fit
- New build versions designed to meet specific vehicle requirements
- Certificate N° LD 53027001/PA001



Retro-fit version with contact plungers



Typical new build version with hard-wired electrical connections

LED AWS Alarm & Indicator Unit

Fully interchangeable with electro-mechanical units, the new version offers improved reliability using LEDs

- Interchangeable with existing units
- No extra wiring or installation expertise required
- Illuminated LED display increases visibility in poor ambient lighting conditions
- Integral memory device enables post-incident interrogation
- Internal ambient light sensor ensures correct display brightness
- Existing electro-mechanical units easily upgradeable to LED version
- Improved reliability with solid state electronics
- Certificate N° LD 53027001/PA004



Cat N° 0062/014454

New Developments from Unipart Rail

Unipart Rail has developed a range of discrete AWS cab components to enable valuable cab desk space to be maximised including an LED based 'sunflower' visual indicator and an electronic AWS audible indicator with the provision for additional alarm and speech functions



AWS Visual Indicator



AWS Audible Indicator