

## TY287 AWS Tester



This equipment has been manufactured by STS Signals Limited to specifications and requirements provided by the railway industry.

The purpose of the AWS Test equipment is to test AWS receivers in situ. It can identify the sensitivity of the receiver and also confirm its correct operation.

The AWS Tester can be used either as a diagnostic tool to establish faults or as a means of confirming the sensitivity of fitted receivers. Use of this equipment will significantly reduce the costs currently being incurred.

It must be recognized that the AWS system does have tolerance from both an infrastructure and train borne perspective, with the trackside equipment generally providing higher fields than the minimum required by the specification or simulated by the AWS Tester. Therefore, under normal circumstances, the train borne equipment could be less sensitive and still appear to operate,

Under normal circumstances the AWS Tester would be used for investigating reported AWS receiver faults. It may be used as a maintenance tool but this is at the discretion of the maintenance authority.

The test equipment can be used in a maintenance depot, with a vehicle standing over a pit or on a ballasted track, without the vehicle actually moving. It can as far as is practical accurately simulate service conditions for AWS track mounted equipment.

Unlike the hand held magnet that it replaces, it is capable of providing repeatable testing of the train borne AWS system, using test criteria determined by the tester.

The equipment produces a magnetic field equal to the minimum strength specified in the Railway Group Standards for the AWS permanent and electro-magnetic track magnets, with due allowance for the maximum distance of the receiver from the track magnet position when correctly installed in track. It is:-

- Robust suitable for a workshop environment
- Adaptable for use with all types of AWS receivers
- Portable, suitable for one man operation
- Capable of maintenance calibration
- Easy to use by Depot staff
- Self powered
- Maintainable by the user



The design is sufficiently flexible to accommodate the simulation of the vehicle travelling at all speeds within its range over a sequence of north then south magnetic fields, the fields simulating the appropriate distance/time spacing present on the rail network.

## Principle Components

Flux Generator – this is mounted on a lightweight frame and positioned under the vehicle's AWS receiver.

Equipment case – This is a robust enclosure which facilitates ease of handling and is suitable for indoor and outdoor locations. Along with the handset and connecting cables it houses the re-chargeable sealed lead acid battery and electronics, which generates the appropriate flux to the flux generator.

Handset – a rugged hand held unit with an LED alphanumeric display and control pushbuttons connected to the equipment case. It can operated from within the vehicle's cab.

## Technical Specification

1) Either Standard and Extra Strength track magnets can be selected

2) The equipment can replicate the following track magnet scenarios: -

- **separate South** Approaching a signal at caution giving a horn signal
- **separate North** New AWS track equipment laid in, but not in use and traction cables, which can result in fields comparable with legitimate fields.
- **separate South North** Approaching a clear signal giving a bell signal
- **separate North South** Occurring in bi-directional sites where the train is proceeding towards a signal at caution. The train equipment should respond with a horn + brake. It will also occur on simplified bi-directional lines, when there is a line side AWS cancelling indicator provided
- **separate North South North** Track fault on bi-directional sites

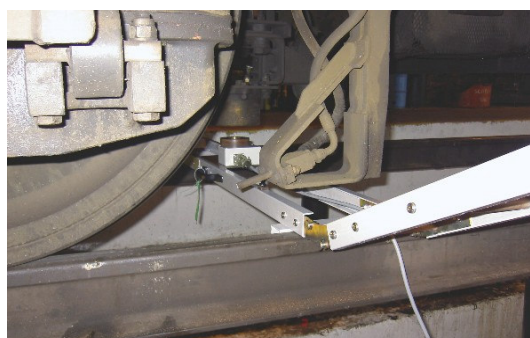
- 1) It is possible to carrying out tests at higher or lower magnetic field strengths for comparative testing. Power levels are based on RGS minimum values at 100%. The selectable power levels are:-  
For Standard Magnets; 50%, 70%, 80%, 90%, 100%, 110%, 120%, 130%, 140%, 150%, 200%  
For Extra Strength Magnets; 70%, 80%,90%, 95%, 100%, 105%, 110%

- 1) The available speed ranges are:-

For Standard Magnets; 20, 40, 60, 80, 90, 100, 110, 125mph  
For Extra Strength Magnets; 20, 40, 60, 80, 90, 100mph

All four parameters can be changed independently using the handset buttons

The IPR of the equipment and its associated documentation is the property of RSSB who have granted a license to STS Signals for its manufacture and distribution. The equipment has been endorsed for use by the Vehicle/Train Control, System Interface Committee for use by the Rail Industry.



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STS/287-01/A