

# Vortok

# Suppressor Magnet

ENGINEERING SOLUTIONS FOR RAILWAY MAINTENANCE



## Background

UK's AWS system is specified in Group Standard GE/RT8035. It prescribes the magnetic field strengths of all AWS magnets. Standard and extra strength AWS magnets are installed in track and are used to inform the driver of approaching signals. In busy or bi-directional track, where many signals are encountered, switchable, suppressor magnets are used which do not alert the driver.

## Technology

Traditional magnets use ferrite. Ferrites suffer from loss of magnetic strength over time due to external interference. Existing suppressor magnets are bulky, heavy and require frequent maintenance or rebuilding. Vortok employs modern Rare Earth Magnets (Ne - FE - Bo) with an opposing coil and digital control electronics.

## Design

Vortok's designs comprise an adaptor plate and magnet / coil assembly. The two products are based on the same hardware but with different magnet, electronic and coil modules. The cover on the standard strength unit is yellow, the extra strength, green. It is mounted on standard Network Rail fixing plates on the sleepers and using spacers, is adjusted so the top and rail head is coplanar.

## Vortok's Suppressor Magnets are:

- ▶ Smaller
- ▶ 91kg Weight
- ▶ Have no crib intrusion
- ▶ Are suitable for Network Rail's latest sleeper spacing (600mm)
- ▶ IP67 sealed
- ▶ Suffer no magnetic deterioration
- ▶ Fully compliant to GE/RT8035



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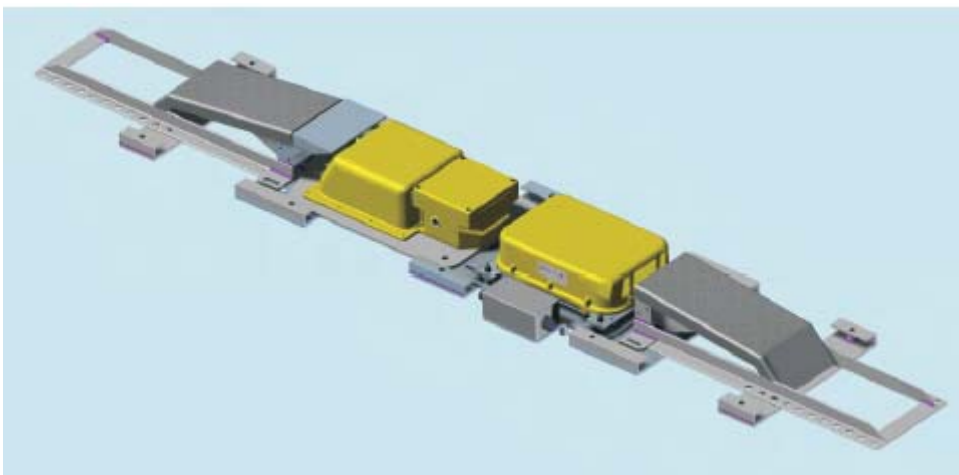
Website: [www.vortok.co.uk](http://www.vortok.co.uk)

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In Track



The system requirements are defined in Railway Group Standard GE/RT8035 Automatic Warning System (AWS) issue 1, October 2001

## Specifications

	Max flux density (milliTesla)	Min flux density (milliTesla)
Standard strength when suppressed	18 @ 115mm above rail 0.7 @ 115mm above rail	3.5 @ 115mm above rail
Extra strength when suppressed	20 @ 193mm above rail 1.2 @ 115mm above rail	4.1 @ 193mm above rail

## Power Requirements

The standard strength magnet uses 24V DC and 3 amps; the extra strength 110V AC 4 amps. Vortok's Suppressor magnets perform within these limits between -20C and +60C.



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