AWS System

by Unipart Rail

Designed, Innovated and Manufactured to protect trains from SPADs

UNIPART RAIL

SERVING THE WORLD'S RAILWAYS

What the AWS system does

AWS is provided to give train drivers in-cab warnings of the approach to signals, reductions in permissible speed and temporary/emergency speed restrictions, and to apply the brakes in the event that a driver does not acknowledge cautionary warnings given by the system. Unipart Rail innovated the electronic AWS receiver which has now replaced the 'Reed Relay' unit.

Driver's Visual Indicators

How it's done

An AWS system consists of track mounted and train mounted equipment. On the track the AWS "ramp" (track magnet) as the inductor is known, is placed about 185 metres (200 yards) on the approach side of the signal.

The AWS ramp is placed between the rails so that a detector (AWS Receiver) mounted on the train will pass over it and receive a signal. The ramp will thus warn the driver of the status of the signal.

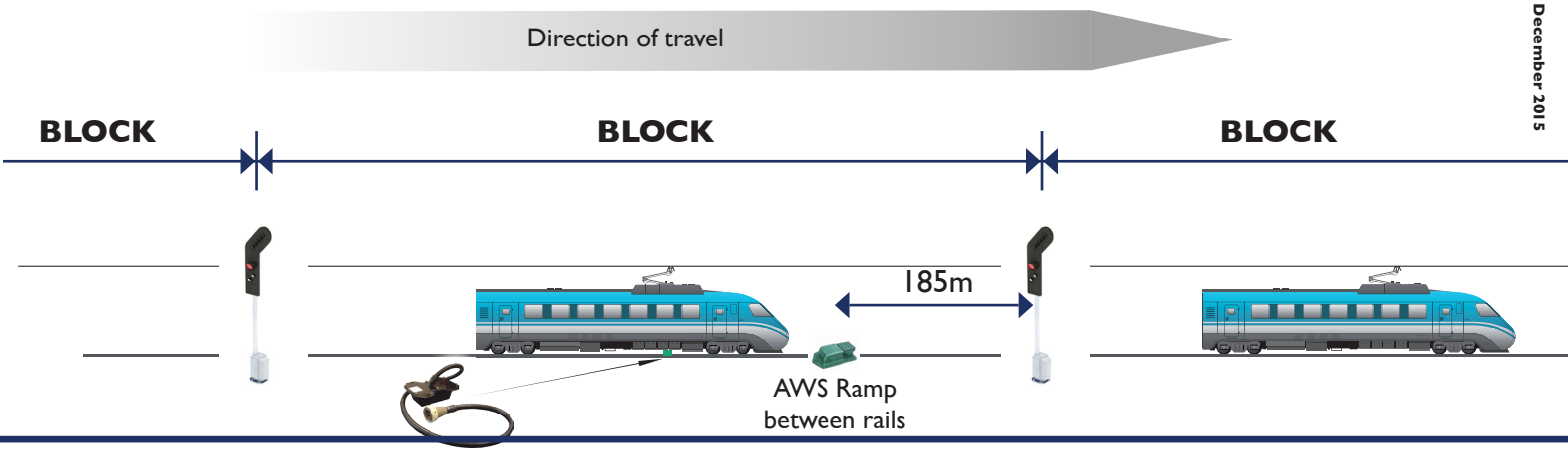
The AWS ramp contains a pair of magnets, the first permanent, the second an electro-magnet linked to the signal to provide an indication of the aspect. The ramp is placed between the rails so that a detector (AWS receiver) on the train can receive the indication data.

In operation, the train first passes over the permanent magnet and the on-board AWS receiver/control unit sets up a trigger for a brake application. Next it passes over the electro-magnet.

If the signal is green the electro-magnet is energised, the brake trigger (via control unit) is disarmed, a chime or bell rings (AWS alarm/indicator unit) in the driver's cab and a black indicator disc (AWS alarm/indicator unit) is displayed. The driver takes no action.

If the signal is yellow or red, as shown above (Fig. 2), the electro-magnet is de-energised, so a siren (AWS alarm/indicator unit) sounds in the cab and the disc (AWS alarm/indicator unit) becomes black and yellow. The driver must "cancel" the warning using the acknowledge push button , otherwise the automatic application of the train brakes is triggered. The photo (above) shows the AWS "ramp", as the equipment is called, mounted at the approach to a signal.

Notes : Unipart scope of supply for train mounted equipment is AWS Receiver, AWS Receiver/Control Unit, AWS Alarm/Indicator unit, and Acknowledge push button. Track equipment (magnets) will already be fitted to the infrastructure in MTR.



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