Redundant Detection Point System Upgrade

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Redundant Detection Points – What, Why, Where?

What are AzLM Redundant Detection Points

Redundant Detection Points are a feature of AzLM that allows a pair of standard Detection Points (identical, standard AzLM hardware) to work together in an active/passive arrangement, meaning that a failure of the active results in an automatic switchover of control to the passive with no loss of detection in the interlocking and no intervention required by the signaller.

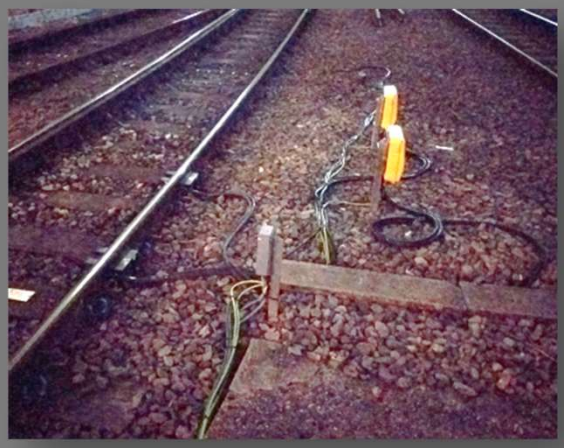

Figure 1:
Example Redundant Detection Point Installation at Birmingham New Street

Why use AzLM Redundant Detection Points

The adoption of Redundant Detection Points increases the Mean Time Between Service Affecting Failures of a Track Section from 39 years to 1,470 Years when used with our 2oo3 system and provides Network Rail with an option to remove any single point of failure from the trackside architecture.

Where to use AzLM Redundant Detection Points

It is recommended that Redundant Detection Points are installed in critical locations such as strategic S&C junctions, ACE boundaries, bottlenecks (e.g. Station approaches) and positions with poor access (e.g. tunnels and viaducts) as a Detection Point failure at any of these locations has traditionally resulted in significant negative service impact. Redundant Detection Points can also be installed in station platform areas and have been proven to protect against service disruptions caused by **"wheel rock"** phenomena.

AzLM Redundant Detection Points improve availability of the railway, reduce schedule 8 payments, improve passenger experience, and help to contribute to improved safety of maintenance staff by reducing the number of trackside interventions required during normal service hours

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What you need – Pre-requisites

- ✓ SCC Processor Installed
- ✓ Software Version 7.0.5 or higher[1]
- ✓ Spare Capacity (Serial IO & Slot) in Axle Counter Evaluator
- ✓ Spare Capacity[2] in Cables and Power Supplies

Contact us at azlm@urbanandmainlines.com and we can do a free-of-charge desktop assessment if your AzLM system is capable of accommodating Redundant Detection Points, and any system upgrade pathway required to enable this feature within your AzLM system.

1 All new DP will utilise DSL as the communications technology. AzLM must be running software version 7.0.5 or newer to activate DSL functionality. DSL can co-exist with incumbent ISDN DP in the Axle Counter Evaluator (mix and match including combination of H and K Detection Points also possible)
2 Cable to NR/L2/SIG/30060 or equivalent Telecoms Grade Twisted Pair Cable

What you need – AzLM Components

Outdoor Components QUANTITY 1 FOR EVERY REDUNDANT DETECTION POINT

- ➢ A Rail Contact (We recommend Sk30K "K-Type") with cable length to suit site conditions
- ➢ An EAK (H or K Type are both compatible with K-Type Rail Contact)
- ➢ A Pedestal or Wall Mounting Kit depending on site conditions

Indoor Components QUANTITY 1 FOR EVERY REDUNDANT DETECTION POINT

- ➢ A Power-Data Coupling Unit
- ➢ You may also require new Serial Boards and/or Detection Point Power Supplies if no sufficient spare capacity exists in the current installation

Axle Counter Data Upgrade QUANTITY 1 PER EVALUATOR REGARLESS OF NUMBER OF DETECTION POINTS

We perform the Engineering, Verification and Validation of the Site-Specific Axle Counter data changes required to activate the required Redundant Detection Points at the Axle Counter Evaluator

We will provide new configuration media free-of-charge on the basis of the recovered media being returned to us

Example Trackside Architecture

Redundant Detection Points can be installed on the same rail or on opposite rails. Some examples shown below. Speak to us about positioning requirements and we will be happy to help you provide an optimum solution