



WigWag Innovation for Increased Safety

The Challenge

The continued incidence of accidents at level crossings has led to a demand for a brighter, more visible, and more easily adjusted WigWag (Road Traffic Light Signal).

Although LEDs have been used in WigWag modules for some years, there are still many 'incandescent lamp' versions in service. Network Rail is working to both replace those which remain in service, and to upgrade to WigWags with higher luminous intensity, and tilt-and-swivel mechanisms to improve local adjustability (for areas where an approach road is on a slope, for example).

The Solution

Unipart Rail mobilised its Innovation Centres of Excellence to develop a complete new WigWag which not only had much higher luminous intensity, but also an improved 'tilt' mechanism for local adjustment.

Despite its apparent simplicity, the WigWag is a complex unit. It fulfils a critical safety function and is the subject of strict standards to ensure that any modifications do not import any risk. Because of this, a collaborative project team was set up drawing experts from both Unipart Rail and Unipart Dorman comprising Engineers, Procurement and Manufacturing colleagues to address the fundamental project requirement, as well as a lower-cost solution.

By replacing the original over-specified steel conduit and brass fittings with a lightweight UV stabilised Polyimide conduit assembly and redesigning the Wig Wag bracket and electrical connection assembly, a higher rated product was developed but significant cost reductions were still achieved. A redesign of the terminal enclosure and updates to the module casting process also both introduced time efficiencies, enabling the cost benefit to be passed on to Network Rail.

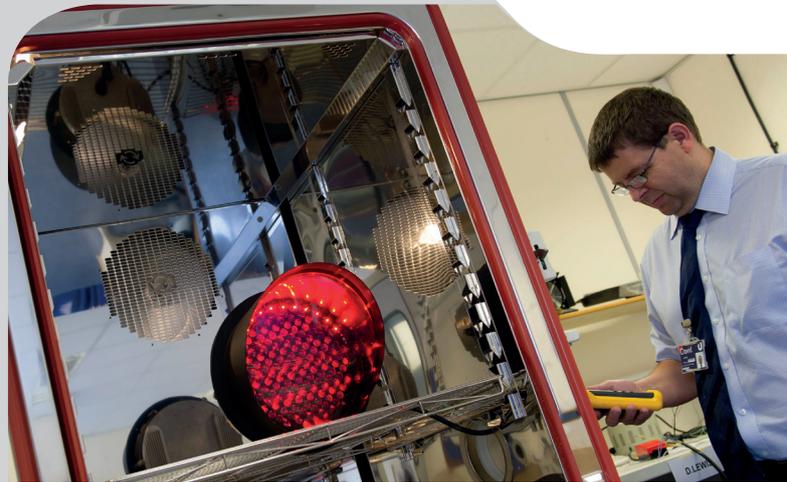
The specialised Unipart Dorman optics, LEDs and driving circuitry increased the light output to 750cd minimum - meeting the new Network Rail standard.



The Service

Pre-emptive and industry-accredited innovation. Innovation that keeps your operations working efficiently and profitably now and into the future.

From developing and trialling new products and improving existing assets to resolving obsolescence issues or responding to regulatory changes. Unipart Rail - innovative, industry leading rail technology.



The Result

With the new specification being received in August 2014, design work on integrating all the innovations commenced immediately. This resulted in Acceptance on the new MkII backboard and module assembly being issued in September. The purchase order from Network Rail was received a few weeks' later, enabling materials to be ordered and manufacturing commencing in November 2014.

The order required us to quickly increase production to ensure that 664 units were manufactured and delivered ready for fitting in a tight schedule between December 2014 and the end of April 2015, with further to follow at lower volumes.

Between the start of manufacturing of the new assembly and January 2016, more than 805 units have been ordered and despatched.

Unipart Rail (Infrastructure)

Gresty Road, Crewe,
Cheshire CW2 6EH

Tel: +44 (0)1270 847 600

Fax: +44 (0)1270 847 601

email: enquiries@unipartrail.com



Visit www.unipartrail.com for details
of our Worldwide Regional Offices