

Essential collection

Idris axle-classification systems have been providing supreme accuracy, low maintenance and versatility with inductive axle loops for several years. Now, though, sites utilizing piezo-based sensors can also reap the same rewards

One card fits all is the message behind Nortech International's development of a new piezo-based axle-detection card – an advancement that allows Idris technology to utilize alternative sensors for data-collection applications. As a result, users can benefit from the accuracy of Idris axle-classification products at existing piezo sites.

As well as being an Idris Certified Licensee Company (ICLC), Nortech is a manufacturer of Idris-enhanced hardware. In cooperation with Diamond Consulting Services Ltd (DCS), the company has been working to develop improved hardware suitable for Idris-enhanced applications. The aim is simple: to provide the best automatic vehicle classification (AVC) hardware possible for today's ITS and this latest creation, the AX014 piezo-based axle card, is no exception to the rule.

RECOGNITION IN THE INDUSTRY

Idris is well known for its vehicle detection, classification and axle-recognition accuracy. Traditionally, however, axle data is collected from Idris-patented inductive axle loops. Nortech's AX014 card has been successfully designed to appear exactly like an axle



⤿ Nortech's new AX014 axle card slots straight into existing Idris hardware products

detector to Idris, so has been designed to facilitate an easy integration into existing sites and provide a reliable interface for most piezo cable installations. The AX014 provides Idris with an output that allows the existing Idris algorithm to collect axle information and provide the high levels of accuracy that customers expect.

The axle card acts very much like a normal inductive loop detector card and plugs directly into any free card slot in an Idris installation, while selective gain and sensitivity allow it to be customized to site

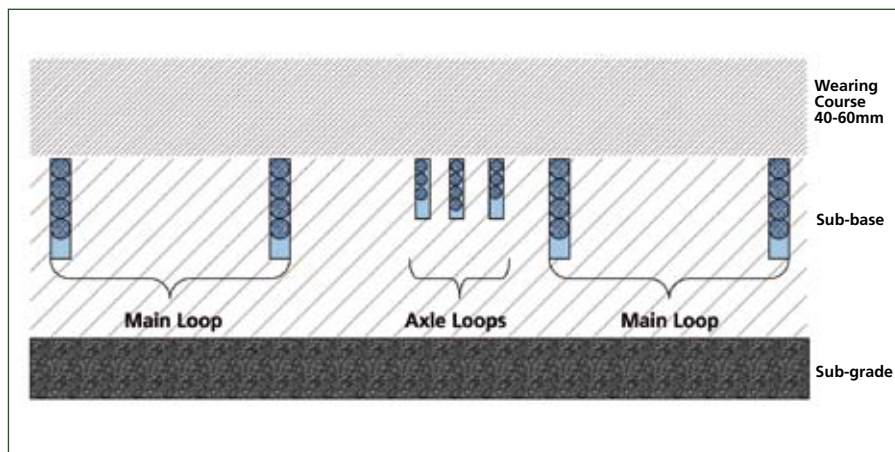
requirements. The hardware is currently being tested and qualified by DCS for use within Idris data-recording products. The DR320 (an axle-based freeflow data recorder) and the DR420 (an axle-based data recorder with congestion-handling capabilities) are just two of the products currently available with either a piezo or a loop sensor option.

DELVING DEEPER

Another recent announcement from Idris was the news that axle-based data collection is being offered with >95% vehicle classification accuracy using sub-base inductive loops. Installing loops below the wearing course enables the milling of road surfaces without damaging loop arrays. These enhanced deep-loop products eliminate the expense of axle detection replacement (loop or piezo), thereby further reducing the already low maintenance costs and increasing a system's overall lifespan.

Until recently, the inductive axle loops used by Idris have needed to be placed close to the road surface. In some environments, though – for example where regular road milling is a necessity – this has meant replacing axle loop arrays or piezo sensors. A method has therefore been developed that enables inductive loops to be sited deeper into the road surface. Enhanced loop detectors are used to obtain high levels of classification accuracy. Refining the sensitivity of Idris's enhanced detectors has enabled both the main and axle loops to be placed 50mm or more below the surface of the road (previous depths for axle loops were 20mm). Two types of detector have been tested and Idris-qualified to be used with deep axle loops – the TD724ID, supplied by Nortech International, and the Group 7 224 supplied by Quixote Transportation Technologies. ■

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⤿ The above is a cross-sectional view showing the Idris deep loop data collection