

• Application Note • CARGO CONTROL with Strain Gauge Strip Sensors

Enhancing Cargo Control at Border Crossings with Strain Gauge Strip Sensors

Efficient cargo control and accurate weight verification are paramount for customs authorities to ensure compliance and combat illicit activities at border crossings. In 2018, Billion Prima Sdn. Bhd, a Malaysian owned company supplying x-ray cargo scanning products to ports and border crossings, approached Intercomp with the idea of integrating their cargo scanning technology and software with weight data collection.

“The Malaysian Customs have realized tangible benefits by adopting Strain Gauge Strip Sensors, including consistently accurate weight measurements and reduced operating costs, primarily attributed to the sensors’ superior calibration stability,” explains Leonardo Guerson, Intercomp’s WIM Product Manager and Application Engineer.



A truck enters the combination X-ray cargo scanner/LS-WIM weight screening at the Tanjung Kupang Site.



Strain Gauge Strip Sensors are installed in the pavement to simultaneously collect container weights as trucks drive through the cargo scanner.

Intercomp supplied Billion Prima with [Weigh-In-Motion Strain Gauge Strip Sensors](#). The integration process employed Intercomp’s API, which effectively parses the WIM data and communicates it to Billion Prima’s operating software. By combining cargo scanning with Weigh-In-Motion data collection, this innovative approach enabled customs officers to verify cargo weights accurately and detect false declarations while keeping traffic moving at busy border crossings.

At checkpoints located outside the Malaysian ports, all container trucks pass through the scanner before entering the port. A Custom Officer simultaneously receives the X-ray images and weight data of the containers as trucks drive over the strain gauge strip sensors and pass through the scanner. This information is used to verify the weight and contents as declared by the driver. If there is a significant deviation in weight or suspicious objects detected in X-ray images, the truck will be pulled over for a thorough inspection.

Intercomp Strain Gauge Strip sensors have gained worldwide recognition for their versatility and accuracy. The Strip Sensors utilize strain gauge technology which sustains calibration over time, offers lower positional sensitivity, and is robust under harsh environmental conditions. With minimal maintenance requirements and less frequent calibrations, these sensors offer a cost-efficient long-term solution for customs authorities.

The integration of Intercomp WIM Strip Sensors into the X-ray cargo scanner system offers significant advantages for cargo control. Customs officers can now verify and compare recorded weight information with declaration forms, enabling efficient analysis and detection of any false declarations. The comprehensive approach, combining X-ray images and LS-WIM weight data, improves efficiency in the high-paced environment, promoting secure and compliant international trade while improving productivity and reducing traffic congestion at busy ports.

To learn more about Billion Prima Sdn. Bhd visit:
<https://billionprima.com.my/newbillion/>

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