Pantograph Condition Monitoring System
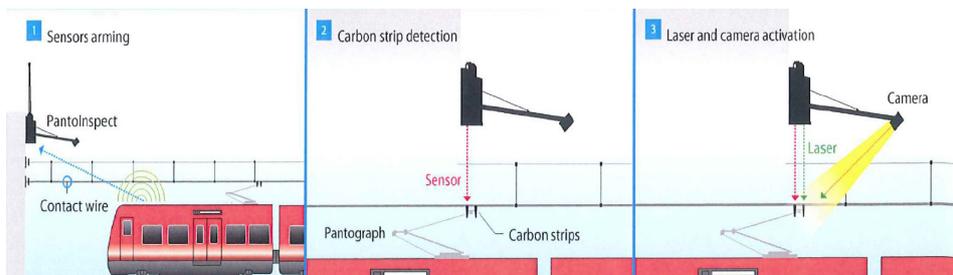
- As trains pass underneath, the system captures,measures and reports on the condition of each carbon strip. (Measures: carbon thickness, carbon angle, horn alignment, uplift pressure and train speed)

- The system operates at speeds of up to 180km/hr in all weather conditions

- Reduces maintenance cost through better planning and use of automated inspection

- Exception reports sent by e-mail and direct SMS alarms

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COMPLETE RAIL SOLUTIONS

Australian Rail Technology

PantoInspect conducts automatic quality control inspections of pantographs on electrified trains in motion which enables the operator to monitor the fleet and respond to issues.

With this system, real-time measurements on the condition of pantographs are made by lasers at speeds of up to 180 km/h.

Carbon wear and other pantograph defects are detected and reported via the PantoInspect data processing system. The operator is then promptly alerted to any potential problems which gives a vital opportunity to take corrective action.

Preventing carbon failure is a key maintenance concern in terms of revenue and availability. Timetable delays, outages, and train recovery is costly. If left unattended, pantograph defects could eventually cause tear-down of the overhead wire which is not only inconvenient and very costly, it is dangerous to passengers and personnel. By detecting serious conditions of pantographs before it is too late. The PantoInspect system can prevent considerable damage and repair costs can be avoided. Detecting wear and smaller defects will also allow for a more effective maintenance scheme.

PantoInspect works on operational trains so there is no need to move vehicles to service sheds for manual inspection. The PantoInspect solution is an obvious choice for rail operators that want to proactively manage and reduce the number of delays and accidents.

The PantoInspect system is unique because it is an all-weather outdoor system with a high level of accuracy and automation. It measure thickness, detects cracks and tearing of carbon strips. It also allows for constant inspection of horns, uplift pressure and train speed, as well as working bi-directionally and independent of the type of the train.

The PantoServer analyses high speed data and issues alerts and alarms when deemed necessary. Depots and Operations can be separately informed of information and unique identifiers means that data is ring-fenced and secure to the asset owner/maintainers. This information can also serve as the basis for on-charging on a user pays analysis basis*.

*future release of server application

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