Modernisation of train detection system

KiwiRail

ACS2000 and RSR180

Country
New Zealand

Segment
Main Lines

Application
Train detection

Project start
2009

CASE STUDY | EN

Requirement

The quadrupling of passenger numbers in the Auckland/New Zealand region during the past eight years meant that comprehensive modernisation of the existing train network was required. As a result of the electrification of the track, the entire signalling system and the axle counting system also needed to be modernised.

Solution

A 25 kV/50 Hz power supply was selected for electrification. The train detection system chosen was the Frauscher ACS2000 axle counting system. The combination of the wheel sensor RSR180, the evaluation board IMC006 and the axle counting board ACB119 offers the most efficient solution.

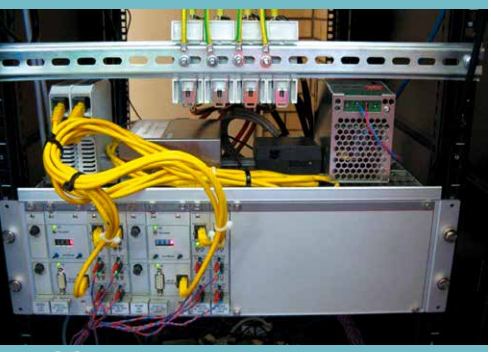
Benefit

According to KiwiRail, the potential savings in the costs of operating a track section using the ACS2000 are around 40 percent compared with track circuit technology, and around 60 percent compared with audio frequency track circuits.

FRAUSCHER
SENSOR TECHNOLOGY

Modernisation of train detection system
KiwiRail
ACS2000 and RSR180

RSR180



ACS2000

KiwiRail in Auckland

Project details

The KiwiRail Auckland electrification project forms one of the largest railway modernisation plans currently underway in the Southern hemisphere. Over the past eight years, passenger numbers in New Zealand have quadrupled, as a result of which a more efficient rail network has become necessary in the Auckland region.

In 2009, Invensys Australia won the contract to modernise the railway system. A 25 kV/50 Hz power supply was selected for electrification. In order to increase capacity, it was also necessary to modernise the entire signalling system of the rail network (160 kilometres of track).

The train detection system that was chosen was the Frauscher axle counting system ACS2000, which is now supplied and commissioned by Frauscher‘s exclusive partner in Australia and New Zealand, SELECTRAIL Australia Pty Ltd. The KiwiRail project is being implemented in five stages. To date, more than 870 counting heads have been installed for around 690 track sections.

There were a range of different challenges to overcome before the project could be implemented. In particular, the maintenance vehicles, which have a wheel diameter of only 250 mm, needed to be recognised and correctly evaluated by the axle counting system. The combination of the wheel sensor RSR180, the evaluation board IM006 and the axle counting board ACB119 offer the most efficient solution to guarantee long-term safety and availability. The operator is very pleased with the way in which the system is running.

Operator	Kiwi Rail Auckland
Partner	Invensys Australia
Scope of Supply	Trial, Components, Commissioning
Scope of Project	690 track sections, 870 counting heads
Axle Counting Sytsem	ACS2000 with ACB119 and IMC006
Wheel Sensor	RSR180

Frauscher Sensortechnik GmbH
Gewerbestr. 1 | 4774 St. Marienkirchen | AUSTRIA
T: +43 7711 2920-0 | F: +43 7711 2920-25
E: office@frauscher.com | www.frauscher.com