



Condition Monitoring Application Guide

Track Circuits

System Overview

TrackSense is designed with your organisation in mind. Unlike expensive, rigid systems, it offers an affordable and modular solution with ongoing support to future-proof your investment. With powerful analytics, an intuitive interface for streamlined task management and compatibility with off-the-shelf sensors, TrackSense adapts to deliver the ideal solution for your requirements. TrackSense can monitor key performance data for any rail asset, including:

 Point Machines	 Power Supplies	 Battery Banks	 Axle Counting	 Level Crossings	 Safety Signals	 Track	 Track Circuits
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Track Circuit Monitoring

Monitoring track circuits is most effectively done by measuring the voltage on the track circuit's output. This generates a waveform that gives insight into the circuit's integrity and performance.

Changes in the waveform may signal issues such as track circuit failure, loose connections, or short circuits. These variations can also indicate track occupation anomalies or damage to the rails, allowing for prompt intervention before service disruptions occur.

Optional Additional Sensors

- Monitoring can be further improved with the addition of any of the following sensors:
- Earth Leakage Detector Module (monitors busbar voltage, insulation and earth quality)

Minimum Requirements

- 1x TS Logger Module
 - Collects data for analysis
- 1x TS Analog Module
 - 6 analog input channels
- 1x 4-20mA Voltage Sensor

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Wiring Block

Below is an example wiring block. Wiring in practice may vary depending on requirements.

