



Condition Monitoring Application Guide

Track Circuits

System Overview

TrackSense is designed with your organization in mind. Unlike expensive, rigid systems, it offers an affordable, modular solution which is compatible with off-the-shelf sensors, enabling you to select the tools that best suit your needs. With a user friendly interface that streamlines daily tasks, TrackSense promises to deliver lasting value and support long after your purchase. 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

Contact Us

+61 07 3821 5151

support@mrd.com.au

235 South Street, Cleveland 4163
Queensland, Australia

Wiring Block

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

