

## **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:

















# **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

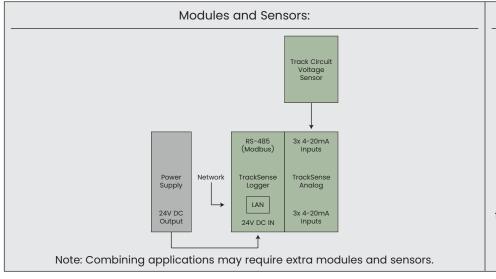
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# Wiring Block

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



#### Notes:

Modules in green are required Modules in orange are optional

Some sensors will be available with 4-20mA, Modbus, or digital outputs. You may select any option at your discretion.

For DC Machines, only one current sensor is necessary. For AC, either two current sensors OR detection relay contacts must be used to determine movement direction.