

Condition Monitoring Application Guide

# Earth Leakage/Ground Fault



## 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:



## Earth Leakage/Ground Fault Detection Monitoring

Earth leakage monitoring is best achieved by using the TrackSense Earth Leakage Detector Module, which detects abnormal currents flowing to the ground, typically from insulation failure. The waveform produced from monitoring provides a clear indication of leakage levels and insulation health.

User-set thresholds trigger alarms when waveform values exceed safe limits, indicating insulation breakdown, moisture ingress, or wear in the electrical system. Monitoring earth leakage ensures electrical safety and prevents hazardous conditions and costly downtime.

#### **Minimum Requirements**

1x TS Logger Module - Collects data for analysis

1x TS Earth Leakage Detector - 1 busbar input channel

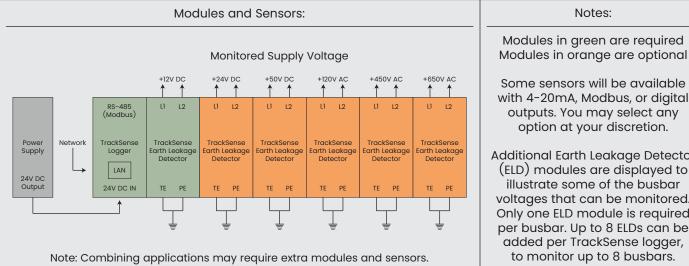
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## Wiring Block



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

### Some sensors will be available with 4-20mA, Modbus, or digital outputs. You may select any option at your discretion. Additional Earth Leakage Detector (ELD) modules are displayed to illustrate some of the busbar voltages that can be monitored.

Notes:

Only one ELD module is required per busbar. Up to 8 ELDs can be added per TrackSense logger, to monitor up to 8 busbars.