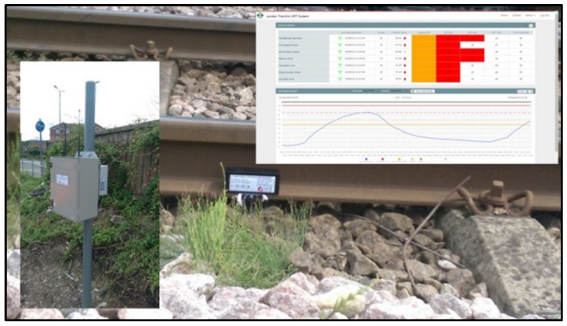
FINDLAY IRVINE

product data

Wireless Rail Temperature Monitoring



Features & Benefits

- Network Rail Approved
- Supported by Network Rails Intelligent Infrastructure & FI Management System
- No trackside cables - Wireless transmission
- Low maintenance - Five year battery life
- Integrated receiver with DCU450
- Standalone receiver compatible with DCU390x
- Up to 4 sensors per logger
- Comprehensive suite of alarms
- Tamper proof
- SMS or Email Alerts depending on management

Application

The effects of extreme weather on Rail services can be severe, yet operators across the world are under pressure to increase capacity, reduce costs and improve safety. Continuously monitoring rail temperatures gives operators' the ability to manage rail stress due to excessive temperature and take preventative actions for example by reducing line speeds in the affected areas

RailAlert Solution

RailAlert continuously measures and transmits temperature data via the DCU450 receiver unit to a central management system. Operators can quickly identify potential problems and take immediate action, alerting operational staff and minimising disruption.

Wireless Temperature Sensors

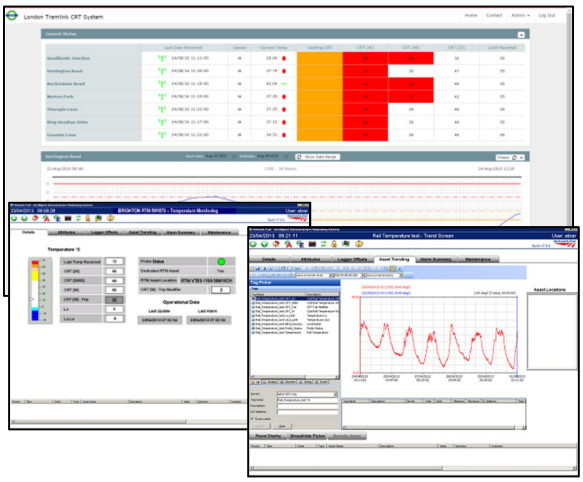
The sensor has a minimum battery life of five years, and a low battery warning. The Sensor can detect detachment from the rail and is sealed to prevent water ingress even when fully submerged.

One DCU450 logger can accept inputs from four sensors and RailAlert is approved by Network Rail for use in the UK and it is supported by Network Rails Intelligent Infrastructure program.

A standalone receiver can be used to integrate up to four sensors with a standard DCU390x logger.

Management

The sensors can be interfaced into Network Rails Intelligent infrastructure or Findlay Irvine's own management system. Findlay Irvine's own management system is accessible at any time, from any internet enabled browser which can be supplied as a managed service or hosted on a clients' server. The system provides a comprehensive suite of alarms and data management applications, which can be customised to suit specific client requirements.



Technical Specification

Wireless Temperature Sensor

Dimensions:	175 x 100 x 45mm
Weight:	330g
Power requirements:	Internal battery, 3.6V Li-SOCl2
Battery life:	5 years minimum (5 minute updates)
Environmental protection:	IP68
Operating temperature:	-40 to +70°C
RF transmit frequency:	433.92MHz, license exempt
RF power:	10mW
Transmission range maximum:	20m
Material:	Epoxy resin
Fixings:	Rail clip (BS110, UIC54, BS113, UIC60)
Temperature range:	-40 to +100°C
Accuracy:	±0.5°C from +20 to -20°C, otherwise ±1°C
Other sensors:	On-rail detection
	Test mode, activated by external magnet
Other features:	Tamper proof

DCU450 – Standalone low power logger built in receiver

Dimensions:	380mm (H) x 250mm (W) x 400mm (D)
Weight:	12kg
Power:	12Vdc (from solar, wind or mains power supply) @ 100mA max (depending on sensors attached)
Environmental protection:	IP67
Operating Temperature:	-20 to +70°C
Wireless Capability:	Radio receiver low power, 433MHz
	Radio Transceiver with Mesh capability, 868MHz
Serial interfaces:	2 x RS485 serial port
	1 x RS232 serial port
USB:	1 x USB B port
Temperature inputs:	2 x temperature inputs -50 to +150 degrees
Analogue inputs:	2 x voltage 0-1V inputs (configurable as water level inputs)
	2 x 4-20mA input
Digital inputs:	4 x volt-free contact inputs
Digital outputs:	2 x Volt-free contact outputs (NO and NC contacts available)
Remote communications:	1 X GPRS/3G modem
Communication protocol:	NR II MIMOSA Compatible
	FTP, email, SMS, web-services to any server/client
Configuration:	Laptop via USB, IPAD via Bluetooth dongle

Receiver Unit

Dimensions:	180 x 84 x 68mm, excluding mounting bracket.
Weight	0.5 kg
Power requirements:	12V, 0.3A maximum
Environmental protection:	IP67
Operating temperature:	-20 to +70°C
Transmission range minimum:	50m line of sight
Comms (to logger)	RS485

	FI Part Number	NR Catalogue Number
Wireless Rail Temperature Sensor	I993776	0094/013681
DCU450 (solar)	I990204	0094/013677
DCU450 (mains or wind)	Contact FI	
Solar panel including pole and fixing kit	I992160	0094/013678
Location case receiver	I993786	0094/013684
Location case receiver + Sensor	I993792	0094/013682

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