



zentrak RXM
CONNECTING
EVERYTHING

Rail Crossing Monitoring



DIGITAL PERFORMANCE ON TRACK®

DIAGNOSTIC AND MONITORING TECHNOLOGIES
FOR INFRASTRUCTURE

zentrak our intelligent diagnostic and monitoring system continuously and comprehensively records the asset condition of your infrastructure level crossings are a critical interface between the railway and the public, that require regular maintenance and testing to ensure safety. zentrak RXM monitors and records the performance of the level crossing enabling an immediate diagnosis of problems that may occur, this can shorten the response times to ensure optimum availability. With the zentrak RXM module, we enable you to detect problems that can be rectified to prevent a failure and optimize maintenance processes connected with level crossings Some rail crossings have been in service for many years where the levels of rail and road traffic are far higher than originally planned. zentrak RXM provides data that can be used to allow the implementation of proactive condition-based maintenance. That's what we stand for. For Digital Performance on Track®.

RAIL CROSSING MONITORING WITH zentrak RXM

The RXM concept is based on a modular design, which allows easy expansion to include additional monitoring as required and the integration with existing railway and IT systems. The system monitors individual components at the crossing; this data can be used to calculate timings during the operating sequence to provide performance information of level crossing equipment.

The data can be used to enable proactive maintenance, identify potential failures and reduce testing time when investigating failures, incidents and allegations.



Why use diagnostic and monitoring systems at level crossings?

- » Safety critical interface between the railway and other traffic
- » Proactive maintenance can be scheduled reducing asset failures unscheduled disruption to train and other traffic
- » Monitoring of the assets at a level crossing provide assurance the crossing is operating correctly reducing the maintenance requirements
- » Ensures optimal availability of rail crossing



ACTION /
REMEDY



FORECAST



INFORMATION



COLLECT
DATA

HOW DOES LEVEL CROSSING MONITORING WORK?

The RXM system consists of sensors to measure both physical and electrical parameters, this data is recorded by loggers at the site. The event data is transmitted to a server where it is analysed to generate alarms and alerts, as well as displaying the information on a web-based user interface. The modular design supports quick and efficient installation either inside control cabinets or equipment rooms.

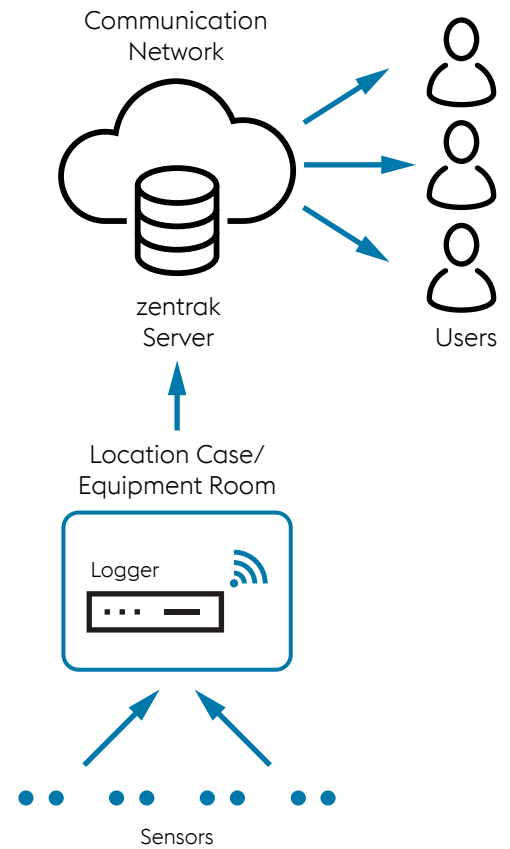
The range of sensors used by RXM monitoring are non-invasive and monitor the key controls of the crossing along with the outputs to the equipment, in addition the physical position of the barriers is recorded along with wind speed and direction

This allows the complete level crossing control sequence can be monitored.

The modular zentrak RXM can provide basic event recording through to condition monitoring including performance analysis to suit the site requirements

The Intelligent analysis of the data collected enables the system to identify deterioration in condition and allow intervention – crucially before a failure occurs.

This advance warning provides a vital timeframe in which maintenance work can be scheduled to restore normal operation.

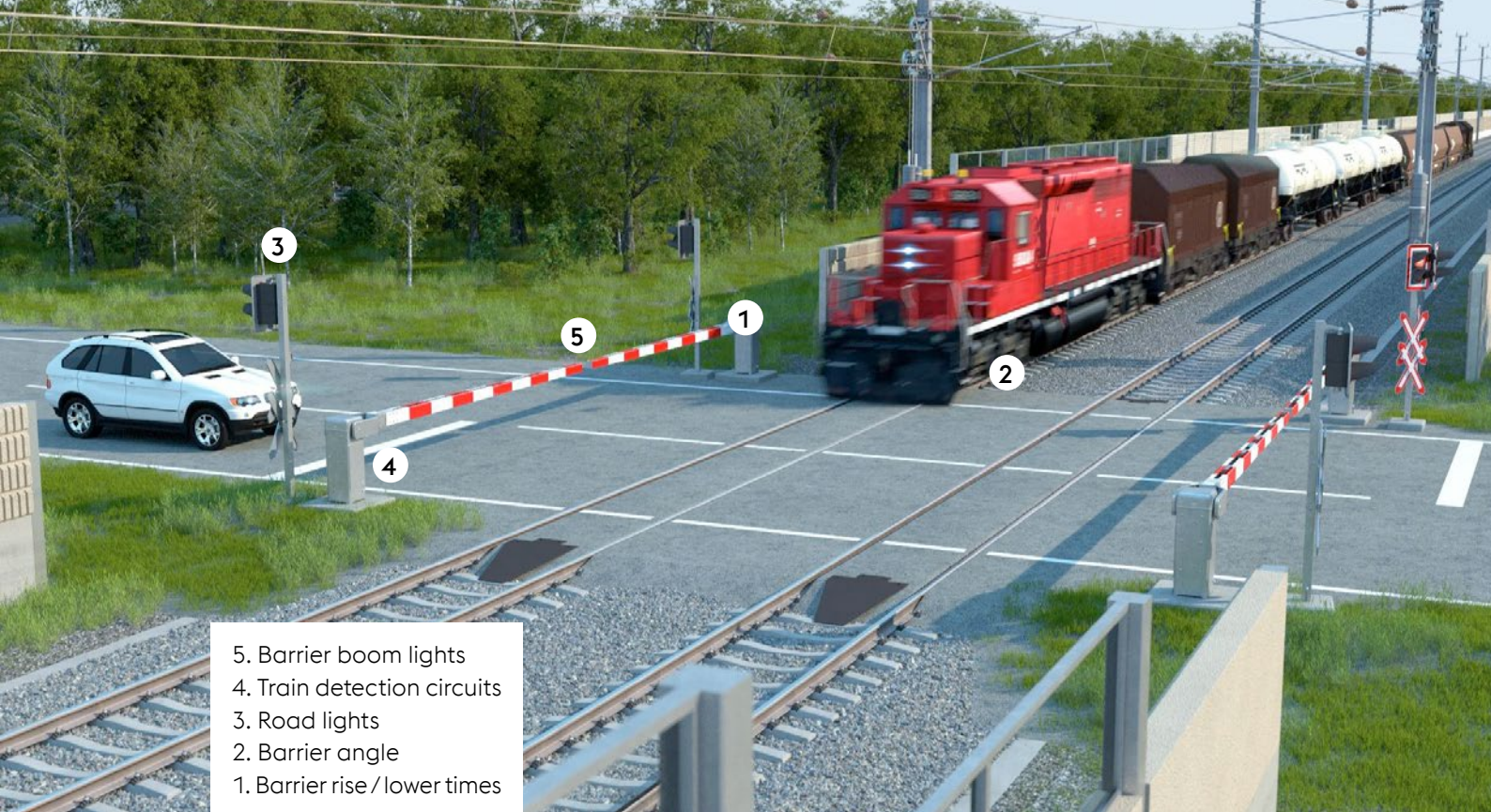


zentrak RXM Benefits

- » Remote monitoring of condition, timings and sequence on every operation
- » Enables introduction of more efficient maintenance regimes and reduces life cycle costs
- » Remote diagnosis of faults helps to avoid failures and significant disruption
- » Records operational sequencing which can be used to support incident investigations
- » Long term trending provides customizable detailed reporting of rail crossing condition
- » zentrak provides visualizations of alarms, condition and control relay sequence
- » Records both wind speed and direction that can be used to identify barrier operation issues in bad weather

Key Features

- » Modular, scalable and configurable design
- » Compact data acquisition unit, similar in size to a typical signaling relay
- » Fully isolated digital and analogue inputs
- » Integral LTE/GPRS/EDGE modem
- » Event data can be downloaded locally via USB
- » Available via laptop, PC or internet enabled mobile device



- 5. Barrier boom lights
- 4. Train detection circuits
- 3. Road lights
- 2. Barrier angle
- 1. Barrier rise / lower times

For more information please follow the QR code:



WHAT WE MONITOR

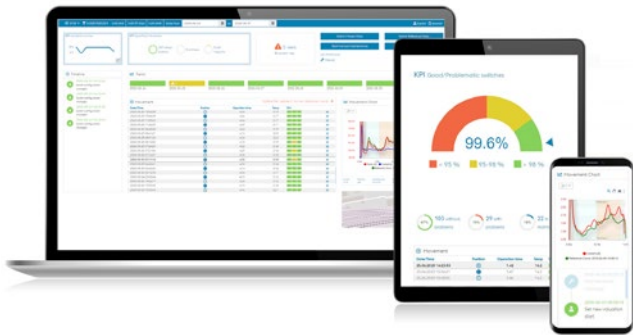
- » Event recording
- » Battery voltage & charging current
- » Road warning lights current
- » Road warning lights on and off timings (Calculated by RXM)
- » Flash frequency of road warning lights (Calculated by RXM)
- » Boom light current
- » Barrier raise and lower times (Calculated by RXM)
- » Barrier angles
- » Audible warning current
- » Barrier motor current
- » Train to operation start timings (Calculated by RXM)
- » Road closed times (Calculated by RXM)
- » Ambient temperatures
- » Wind speed and direction

HARDWARE & SOFTWARE FROM A SINGLE SOURCE

zentrak RXM provides all components, from hardware to software, as a system and complete solution. This means that you save on interfaces and get everything – from data

acquisition to data analysis – from a single source. The system versions can be configured to meet your requirements.

Overview of system elements



Sensors detect measured variables for determining the performance and condition of the level crossing system.

Data recording by using modular hardware (with flexible options), which has been developed specifically for railway applications.

Software modules analyze the acquired data to provide the user with information about the asset condition as well as performance statistics using integrated visualization software.

Integration of zentrak

Our visualization software enables easy and intuitive operation via a multilingual user interface. Seamless monitoring of the operating state is possible on any PC, tablet or common smartphone, regardless of platform, by means of web-based software. As a result, the state of the track or of fixed assets is continuously available and is comprehensively analyzed and displayed. A clearly displayed overview of the asset conditions saves time and guarantees that you can focus on the essentials.

- » Visualization of the asset condition
- » Analytics
- » Alarms
- » KPIs and reporting

zentrak RXM can operate as a stand alone system or can be integrated with other software platforms to satisfy the customers specific requirements.

Interfaces include:

- » OPC-UA
- » Web services
- » Interface development in coordination with the customer is possible

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