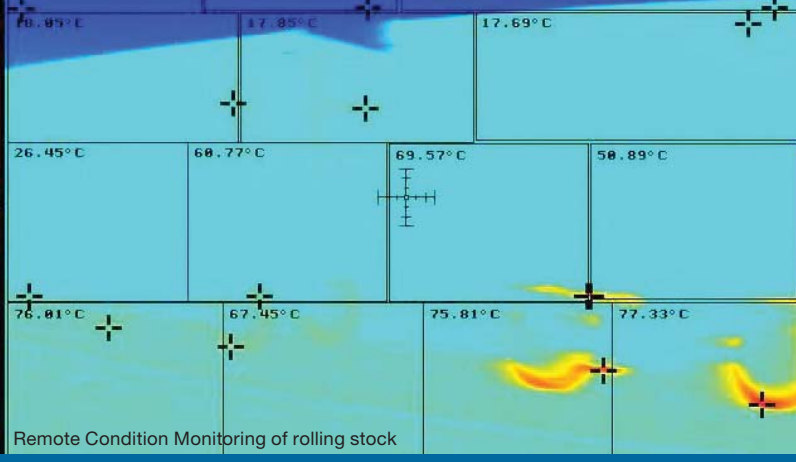
TORCH CAMERA

HIGH-RESOLUTION CAMERA FEATURES



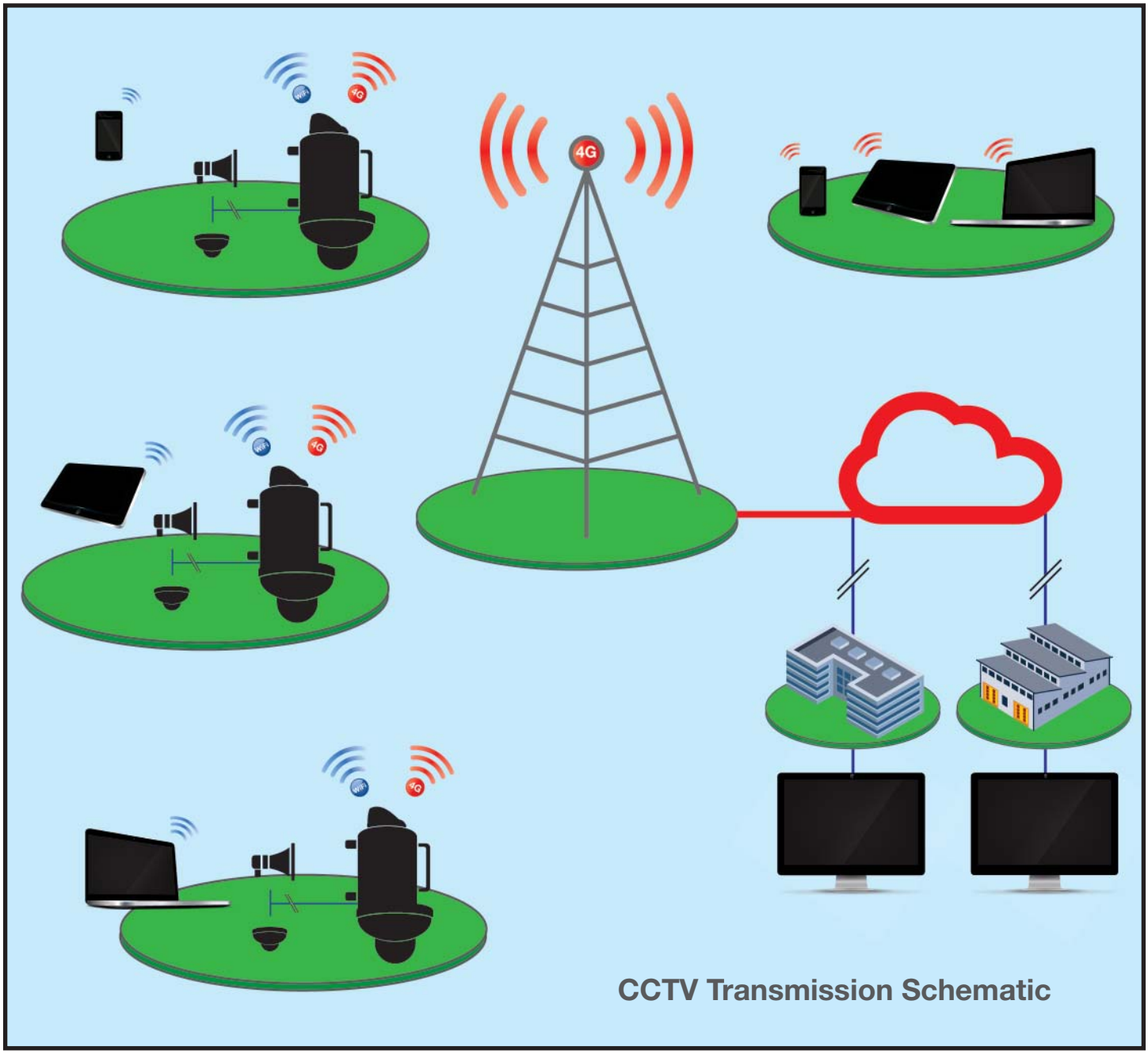
Remote Condition Monitoring of rolling stock

Optical **Thermal Radiometry**

Self-Contained Decentralised Solution

To be considered truly self-contained, the system must include everything necessary to make it a functioning system while being robust enough to withstand corrosive, and often harsh environmental elements.

Housed in an attack resistant stainless steel body, each IoT camera is a complete high-tech monitoring solution, essentially a computer with a lens. All processing is done within the camera thereby reducing data consumption (only relevant events generate data traffic) and removing the need for costly data streaming and additional server based video processing software.



CCTV Transmission Schematic

Secure by design

The security of each individual component in our complete solution goes well beyond the industry standard.

Secure Camera:

- If a camera is stolen, it is not possible for an unauthorized person to do anything with the camera or the recordings stored on it. There is no 'back door' vulnerability, only the factory can reset the customer password.
- Signed and tested camera software allows no malware attacks.

Secure Communication:

- Extra-long passwords with SHA-512 hash.
- The camera only permits access to defined IP addresses.
- Every access is logged automatically.

Secure Recording:

- 128-bit encryption is used for the recorded data.

Secure Access:

- The camera web server recognizes and prohibits the execution of external scripts.
- The scanning of network addresses is prevented by individually assigning port numbers.
- Identification and reporting of brute force attacks

Secure Video Management Software:

- The license free Video Management Software uses various security mechanisms to ensure that communication between the computer and the camera is secure.
- The software is digitally signed and tested.

Easy to configure, simple to view

Camera configuration, live stream and recorded footage can be viewed using the License-free Video Management Software (VMS) supplied with each camera or alternatively accessing the camera GUI directly through your standard web browser.

6 MP High resolution image quality

IoT cameras benefit from a perfectly coordinated combination of fixed focal length lens (HD Premium lenses), large 1/1.8" CMOS sensor and a fast dual-core image processor.

All this results in valuable benefits for you:

- Optimal image quality up to the edges thanks to HD Premium fixed focal length lenses.
- Detailed and sharp images even in poor light conditions (for example, in moonlight).
- Fast processing/analysis of data.
- Filtering out of disruptive factors such as snow, rain and wind (improves the hazard analysis).
- Up to 42 images per second in full HD resolution.
- 8x digital zoom.
- Numerous software tools, for example, intelligent motion analysis or people counting in the current series (full execution in the camera).
- Specially developed MxPEG+ video codec that also displays each individual still image without any loss of detail.

Multiple lens angle options

Interchangeable lenses with field-of-view options ranging from ultra-wide (103° x 77°) to narrow telephoto (15° x 11°) ensures the most suitable lens for optimal coverage of the surveillance area is achieved. Furthermore, re-sighting a camera with a changed view requirements requires nothing more than a simple lens swap.

Solid state technology

With no mechanical moving parts and no auto iris, the solid state design provides a robust and practically maintenance free solution with an impressive >80,000 hours mean time before failure (MTBF).

Integrated Intelligent Video Analysis

Whether for surveillance, process or health and safety purposes our video systems analyse the relevance of events. Reliably even in rain, snow, wind and poor light conditions.

Every false alarm costs you valuable resources. The IoT cameras benefit from a revolutionary movement sensor (MxActivitySensor) that reduces the number of false alarms by up to 90 percent.

The behaviour-oriented MxAnalytics software, which is based on this, also performs impressive image analysis services. And this takes place directly in the camera. This means that only the relevant events are saved and/or reported.

Benefits for you:

- Precise filtering out of sources of interference reduces the number of false alarms by up to 90 percent.
- Clear detection of the activities of people and vehicles.
- Analysis of the behaviour of moving objects (speed, change of direction).
- Counting of objects (did exactly the same number of people enter and then leave an area?).
- The MxAnalytics software runs in the camera and does therefore not generate any network load. It is also fully license-free.

Event triggers

An event is triggered by the camera whenever a certain condition is met. These conditions can be of very different nature, e.g. an environment measurement surpassing a certain threshold, a key being pressed, a certain point in time, the end of an action, etc. These events can then be used to execute actions or control image recording.

In order to filter events, the camera provides an Event Logic: This allows linking events to create logic events only if the linked events occur in a certain sequence and within the specified time frame. Another possibility to filter events is the Event Counter: It creates an event only if a certain number of events occurs within the specified time frame.

Event recording

The IoT cameras offer three different recording modes: Snap Shot Recording, Event Recording and Continuous Recording. Each recording modes can be activated by an Environmental, Image analysis, Signal or Logic-based meta event, alternatively single or multiple time-table profiles can be configured to trigger event recording.

IP notify

In the IP Notify Profiles dialog, you can configure the network messages that the camera uses in case of an alarm to send text messages to the TCP port of a computer, camera or IoT device and, thus, trigger e.g. other events (observation chain) using Raw TCP/IP, HTTP/1.0 Request or HTTP/1.0 Request + Acknowledge transfer protocols.

Internal DVR or external NAS recording

Recording directly to the microSD within the camera head uses 128-bit encryption as standard thereby ensuring peace of mind that your data is secure. The camera can self-manage up to 4TB of data.

Network storage options include 128-bit encryption and Fail Over Storage which mitigates against connection loss to the storage device, when the storage device connects to the network again, the camera identifies the missing recorded events and updates the storage device.

Email alerts

The camera can send images via email to recipients to report e.g. unauthorized access to a specific area. You may define one or multiple email profiles. Every email profile contains all the information required to send emails to one or multiple addresses. The transfer can be triggered either by a task defined in the Time Tasks dialog or by an event defined in the detail view of the Action Group Overview dialog.

Network health self-check

A camera(s) can be used to monitor its peers on a multi-camera network for a health self-check and notify on the event of a failure. Single camera health monitoring can be achieved using the license free software where a flag is raised should the camera go offline.

Low bandwidth demand on mobile networks

The highly efficient codec, and the fact all processing is done within in the camera results in very low bandwidth demand being placed on the mobile network. To further streamline bandwidth efficiency, the camera live view can be configured to match the viewing device i.e. VGA or similar, while event recordings are set to a higher resolution to ensure post event interrogation can be achieved without image quality loss.

Integration protocols

The Onvif S compatible camera includes integration protocols which allow you to configure the interfaces for integrating the camera into the third-party systems as well as the RTP server of the camera.

The interfaces allow finding and configuring the camera on the network using compatible systems of third-party manufacturers. The RTP server provides access to the camera's live image. The server can provide different types of video streams using the RTP protocol. Depending on the codec, you can provide streams with or without audio channel. In addition, you can use Multicast to distribute the stream to several cameras at once without taking too much toll on the camera performance (which would be the case if providing several Unicast streams).

Transmission Types

Unicast: Suitable for distributing one stream to single computers, since the camera generates individual streams for every recipient. The transmission data rate is a multiple of the number of recipients.

Multicast: Suitable for distribution to an unlimited number of computers. Regardless of the number of recipients, the camera only needs to create and transmit the data of one stream.

Thermal & Thermal Radiometry

Thermal

Thermal imaging has evolved past just seeing in the dark, the uses of this technology vary but can be applied to protection, warning, asset management and health in hazardous environments

By using heat signatures and applying ranges based on the environment and the application Ex certified Thermal solutions mitigate overheating, risk of fires, identify elevated temperatures and enable first line defense in complete darkness as well as during the day.

Thermal Radiometry

The Thermal Radiometry (TR) sensor will be able to generate automatic alarms, defined by temperature limits or temperature ranges, whch is vital to detect potential fire, heat sources or even cooling. Up to 20 independent temperature triggers can be easily defined with the TR image area and individually configured.

Green IP Video

Look what you could do for the environment with our cameras:

- Because our cameras consume so little power, they can be powered via renewable energy sources like solar or wind.
- Our IoT cameras process what they have seen in the camera itself. There is therefore no need for complex IT systems, which saves energy and resources.
- Our cameras are extremely robust and manage without any fans or heating in a temperature range of -30° to +60° (-22°F to +140°F). So you can cut down on energy and resources here too.
- Our cameras have a very long service life. Thanks to their mean time between failures rate of over nine years, they outperform their competitors by many years. This saves resources too.

PTZ

Thermal

Static Dome

Hemispheric

The Torch Camera is an indispensable tool for public safety and the security of communities. The versatility of the Torch Camera improves situational awareness for safety officers without placing them in harm's way.

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