QBE European Operations

Property Risk Solutions

Technical guide

Detector Activated Remotely Monitored CCTV

Security should be regarded as a multi-layered defence against unauthorised entry, whether to deter theft or to avoid the threat of arson attack. Defences should therefore start with the perimeter fence and gates - but what happens if an intruder breaches this barrier and gains access to the yard? Detector activated remotely monitored CCTV with voice challenge is a proven deterrent with the advantage that it provides real-time response and the intruder is aware that he or she has been seen.

Basic Principles of CCTV Monitoring

CCTV systems are installed to meet a wide range of requirements, and are extremely effective when targeted correctly. They can, however, be ineffective when installed in unsuitable situations, or when too much is expected of them.

CCTV cameras provide images of the area that needs surveillance, and the pictures they produce are usually relayed to screens in a security lodge, manager's office or behind a reception desk. These pictures are rarely watched as staff have other duties, and research has shown that if you attempt to watch screens for long periods you will often miss activity due to 'screen blindness'. Activity can be missed through no fault of the person charged with monitoring the screen.

CCTV can be used successfully to supplement on-site security guards, giving them the means to monitor the site without leaving their secure location. This is an expensive option that is normally only entertained on sites that are perceived to be high level targets.

Images are often recorded and although this can give provide a record of what has happened it does not provide a real-time deterrent. Determined intruders will disguise themselves (wearing peaked caps, scarves or hoods) to avoid recognition.

Detector activated remotely monitored CCTV provides a proven cost-effective site monitoring facility. Cameras are installed to cover the target area. Motion detectors are located to provide coverage to the area and potential points of access. If a motion detector is activated, live CCTV images are transmitted to the remote monitoring centre and appear on the operator's screen. Pre-determined actions are then taken, with the operator able to speak to the intruder via loudspeakers at the same time as summoning assistance from the police or other resources.

Possibly the greatest deterrent comes from 'voice challenge' - the intruder is informed he or she is on private property, that assistance has been called, and that they should stay where they are until assistance arrives. He/she has been rumbled! Chances are he/she will make a speedy exit – whether the intention was a break-in to the building, theft from the yard or arson – the attack has been thwarted.

Elements of a Detector Activated Remotely Monitored CCTV system

Cameras

Can be fixed or moveable (pan tilt & zoom also known as PTZ). PTZ are often installed within smoked glass domes so it is not possible to see where the camera is pointing. Camera technology is continually improving, resulting in improved image quality and increased range, even in adverse conditions. Costs are generally reducing, though this may not be immediately obvious since camera specification improvements are likely to cancel out savings.

The number and location of cameras on a site need to be carefully determined to provide coverage of possible points of access and potential target areas, as well as general coverage. PTZ cameras can be set to patrol their area of coverage and to zoom in to particular features. They can also be pre-set to focus on the area covered by a motion detector that has activated to ensure they provide images where required.

Motion Detection

Most systems use external motion detectors mounted on buildings or posts in strategic positions around the site. These are similar to conventional PIR detectors used universally by the intruder alarm industry, but are more robust.

Detection can also be provided via the camera lens, with 'hot spots' programmed within the image acting as the trigger point.

Motion detection can be used for other purposes if required, such as activating yard lighting, sounding a local alarm or alerting staff who might be working on the site.

Lighting

Light levels will need to be considered when specifying a system. Cameras that operate at low light levels are available, including Infra-red units, but there should always be provision for sufficient lighting for clear images to be produced. Floodlights or general yard lighting can be activated if necessary.

Image Transmission

Various technologies are available for transmitting images between the protected premises and the Remote Video Response Centre including telephone lines, internet (IP) and radio transmission. Redcare is often used, but alternatives are available. The 2015 revision to BS8418 allows installers to use single path signalling, but unless there is a compelling reason to do so it is advisable to use dual path transmission to avoid losing communication if just one channel fails.

Monitoring

The most common provision is for specialist monitoring at an accredited 'Remote Video Response Centre' (RVRC), many of which are operated alongside Alarm Receiving Centres (ARC's) for intruder and fire alarms. Specialist accreditation is needed – for example through the National Security Inspectorate (NSI) ARC Gold scheme. Alternative monitoring arrangements can be used, but need to provide equivalent security including continuity of provision in the event that the RVRC is disabled for any reason.

It is worth stating that the contract is between the customer and the monitoring centre so the customer is able to specify the actions that operators will take if an incident occurs. This can include notifying designated staff, summoning a contracted security company, or calling the police (if the system is compliant with BS8418 and a Unique Reference Number has been issued). On some sites there could be genuine reasons for public access (for example a Right of Way, or customers may arrive out of opening hours), and in such cases the operators can be given discretion to provide a 'soft' message telling visitors about any restrictions on the site and reassuring them that they are being monitored for their own safety.

There is no requirement for the monitored CCTV system to be installed by the same company as the intruder alarm, or for the same RVRC / ARC to monitor both systems. However, if different service providers are used they should have mutual contact details and their standing instructions should include cross-verification if either system activates.

Voice Challenge

Loudspeakers installed in yards or other parts of the protected site enable RVRC operators to address intruders and to ensure they know they have been seen. They can be described ('Red hoodie and blue jeans' etc) so they know this isn't just a recorded message.

Operators speaking to intruders have to avoid panicking them and risking them suffering injury attempting to escape. Operators also have to remember their message could be re-played during court proceedings, so have to remain polite.

Care is needed to ensure that audio messages do not cause a nuisance to surrounding residents.

Recording

It is still advisable to record images from cameras to provide a play-back record of any incidents that might occur, and to assist general site management. The RVRC will only have recordings of events where motion detection has activated.

Mobile Solutions

In addition to fixed systems that are intended to protect a site long term, self-contained mobile systems can be installed where a temporary solution is needed. This could include a construction site, an unoccupied building, an event or any other short term activity. These units incorporate power packs, camera masts with motion detection, lighting and speakers, plus communications equipment to link to an RVRC. Units can be trailer mounted or transported on flat-bed trailers, and can be delivered to remote locations if necessary.

BS8418:2015 Installation and remote monitoring of detector activated CCTV systems

This Code of Practice has existed since 2003 and was most recently revised in 2015. It covers the design of installations, plus the positioning and configuration of detection, camera positioning, audio challenge, system performance and integrity, commissioning, setting/unsetting procedures, maintenance and the issuing of Unique Reference Numbers.

The 2015 up-date mainly addressed concerns that the original guidance set unrealistic barriers so many installations failed to fully comply. Amendments primarily address concerns regarding data transmission/signalling, tamper protection and power supplies.

Systems that comply with BS8418 and have a Unique Reference Number allocated will usually qualify for police response (subject to Force policy) based on notification of an event by the RVRC. This can be a very attractive addition to site security arrangements, often working alongside police response to intruder alarms on buildings within the monitored area. The police are particularly keen to deal with calls from RVRC's because the operators can provide a running commentary of the event while the police are travelling to the scene so they know they have a good chance of making an arrest.

Choosing an Installer and monitoring service

It is vital that installers have adequate and relevant experience in installing detector activated remotely monitored CCTV systems. Many intruder alarm installers also install CCTV, and there are companies for which CCTV is a specialism.

Only companies that are registered with an external accreditation body should be used. The most widely accepted accreditation bodies are the National Security Inspectorate (NSI) who operate the NACOSS Gold register, and the Security Systems and Alarms Inspection Board (SSAIB). These organisations can be contacted via:

www.nsi.org.uk
https://ssaib.org

The RVRC also needs to be accredited (for example by NSI or SSAIB), specifically for monitoring BS8418 compliant systems. It is advisable to request a visit to the RVRC to witness their handling of detector activated remotely monitored CCTV systems before signing contracts.

QBE Risk Managers will be pleased to offer assistance in determining the level of coverage required and the adequacy of any specifications or proposals provided by installers or monitoring centres. Insurers should always be consulted before systems are installed.

Manned Guarding v's Detector Activated Remotely Monitored CCTV

Manned guarding

Regarded in many sectors as having the greatest level of deterrence and superior levels of control. It is highly visible, and may represent a continuance of day-time security duties. However, there are significant potential weaknesses:

- A guard can only see what is within his visual range.
- Guards are vulnerable while patrolling, particularly if they are working solo.
- Patrolling patterns can be easily observed and predicted.

- Guards are susceptible to hold-up.
- Guards can be corrupted.
- Guards can become complacent and lose focus.
- Guarding is very expensive.

Detector Activated Remotely Monitored CCTV

- CCTV and motion detection can be set up to 'observe' large areas of the site including known target points.
- RVRC staff are remote from the site, protected against attack and hold-up (accredited RVRC's have to provide resilience against attack as well as staff vetting).
- The system is permanent and does not need cover for holidays or sickness.
- After initial installation costs, the on-cost is low. Typically, installation costs will be lower than one year of guarding, after which on-costs will be far lower.

Myths Exploded

Two common myths need to be addressed:

- Images from the CCTV cameras are continually displayed on monitoring centre screens, and are being reviewed by operators. The cost must therefore be considerable. **NO** – the system is passive and only displays an image when motion detectors are activated. Operators at the RVRC will run routine patrols of the site to ensure that cameras and detectors are working, also that images are being received, but otherwise the on-cost is for retaining the services of the monitoring company, with most contracts including a cost for each activation handled.
- The site is not suitable because there is regular wildlife activity during the night. **NOT A PROBLEM!** The RVRC staff might have a number of activations to deal with (and this could impact on cost to the customer) but as long as they can identify the cause of the activation, and confirm there isn't a human intruder, there isn't actually a problem.

Additional Facilities

Remotely monitored CCTV can be used to provide **lone worker protection**, allowing out-of-hours access to authorised employees, with the reassurance that their presence on site is known. Unique access codes can be assigned to employees to allow access, often including the facility for regular check calls as well as a need to sign off the site when finished.

Systems can be used to grant access to **delivery or collection** drivers, with remote gate opening by RVRC staff following authorisation. Vehicles can be logged on and off site, and drivers monitored if necessary.

Key Features

- Strong real-time deterrent that has proven its effectiveness against theft, vandalism and arson attacks.
- Cost effective alternative to manned guarding avoiding.
- Many sites will have full or partial CCTV coverage anyway so adding motion detection and remote monitoring is the next logical extension.
- Can be installed as a temporary mobile solution.
- Added benefits including out-of-hours site monitoring and access control for deliveries etc.

Finally – please inform QBE before systems are designed and before an order is placed. Our Risk Solutions Team will be pleased to advise and to help ensure that the system being installed provides optimum protection.

Additional information is available from:

The Information Commissioners Office – which controls data protection issues around CCTV systems

https://ico.org.uk/for-the-public/cctv/

For further guidance and general enquiries please contact:
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Disclaimer

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