CROUSE-HINDS
SERIES

Eaton brings you CCTV solutions from world class product ranges, HERNIS™ and Oxalis

E·A·T·N

Powering Business Worldwide

MEDC   Oxalis   IMCOS™   Sonix™   HERNIS™   Yuhua   FHF

PA / GA

Designed, engineered and manufactured according to individual project specifications and industry regulations. The Sonix™ system uses the latest in digital technology and can be integrated with a wide range of Eaton products to ensure the integrity of your assets in even the most demanding of environments.

CCTV

Cutting edge technology from our market leading brands of HERNIS™ and Oxalis.

With the widest range of camera stations and system solutions from a single manufacturer, we have the products and experience to meet today's demanding surveillance and security needs.

With products available that are explosion protected or weatherproof, analogue or IP, fixed, dome or PTZ, our experience and proven reliability can meet your specification requirements.

Signalling and alarms

Our MEDC and FHF product lines offer a wide range of products specifically designed for harsh environments where there is a risk of explosion for both onshore and offshore applications. This range of products including manual activation, visual and audible alarms, and loudspeakers, can be connected to IMCOS™ or Sonix™ delivering the best combination of performance and safety

IMCOS™

The only system in the world that is approved by 7 different Type Approval authorities.

IMCOS™ provides the solutions you need both Onshore and Offshore. The following applications demonstrate the ability to provide a single solution.

With IMCOS™ and our latest developments in technology, we are able to provide a single network which provides reduced cable architecture. Our LAN systems are able to share a highway of information and resources, interlinking video, voice and data with our VoIP telephones, IPTV streaming, CCTV, PA/GA and Intercom systems through one fibre or copper backbone.

Telecommunications

Whether a traditional analogue, digital, VoIP or Hybrid telephone system is what you require, we can provide the solution you need with our IMCOS™ PABX system. Together with a wide range of telephones we can provide standard, weatherproof, explosion protected and IP phones.

Mining solutions

Our FHF-BT business has over 100 years of experience in mining applications. Today the team delivers intrinsically safe turnkey automation and communications solutions on a global basis. Our solutions based offering includes shaft signalling and communications, loudspeaker and conveyer belt control, data transmission, radio systems and various automation systems.

Contents

Work with a global leader

When you work with Eaton, you're working with a global leader.

Eaton has the technology, the products and the expertise, as well as the ability to share know-how from around the world, to grow and help our customers do the same.

Eaton is a global technology leader in power management solutions that make electrical, hydraulic and mechanical power operate more efficiently, reliably, safely and sustainably. Eaton's businesses comprise five distinct segments: Electrical Products, Electrical Systems and Services, Aerospace, Hydraulics and Vehicle.

Eaton has played a vital role in powering the oil and gas industry for almost 100 years. This experience enables us to offer an enhanced level of safety in environments that demand it most.

With leading safety products, including the Crouse-Hinds family of offerings, we offer a unique combination of systems, components and services that ensure you minimise risk and optimise your investment, wherever your business takes you.

Eaton can provide all of the solutions necessary for the safety and success of your business. Make Eaton your exclusive oil and gas partner today.

Eaton's Crouse-Hinds Series

Eaton's Crouse-Hinds Series is part of the electrical business of Eaton. It integrates a comprehensive line of electrical and instrumentation products with expert support, industry insights and local availability, engineering safety and productivity in the most demanding industrial and commercial environments worldwide.

Eaton's Crouse-Hinds Series has over 100,000 products, including conduit and cable fittings; enclosures; plugs and receptacles; industrial lighting fixtures; signals and alarms; controls and electrical apparatus; commercial outlet boxes and hubs; and electronic components and protection equipment for process control branded.

Eaton's Crouse-Hinds Series products are sold worldwide and meet all local and international code requirements. They are used in general construction and in harsh and hazardous environments across the globe, performing to the highest standards of safety and reliability.

Meet extreme conditions
with customised solutions

Marine applications

Our range of advanced CCTV systems increase safety and enhance efficiency on all types of marine vessels. Typical surveillance areas include engine rooms, cargo handling & mooring, pump & compressor rooms and sub-sea mating on shuttle tankers. The HERNIS™ safety focused solutions coupled with the HERNIS™ & Oxalis lines of camera stations are designed and approved to perform in the most demanding of marine environments and operations.

Offshore applications

Our CCTV system was originally developed for the offshore market with the HERNIS™ product line. The HERNIS™ safety focused solutions and HERNIS™ & Oxalis camera stations are designed & certified to perform in the most demanding of environments and allow the end user to maximise operational and lifecycle costs. All enclosures and ancillary equipment are designed to exceed global industry standards and allow quick replacement of modules where required. Our system, excellent support and backup service makes the CCTV solutions from Eaton offer the reliable choice for offshore projects.

Onshore and industrial

The onshore CCTV system offer has been developed on the successes of the HERNIS™ offshore system. The HERNIS™ safety & security focused system solution utilises the extended range of HERNIS™ and Oxalis camera stations. Coupled with our advanced security features, global certification, flexible control system including system support & commissioning, it makes the CCTV solutions from Eaton a reliable choice for onshore multi scalable projects.

Over the history of Eaton, we have developed a network of business partners and service stations worldwide to be close to our customers. To find out more about Eaton's CCTV solutions and our sales and service network, please visit www.crouse-hinds.com/hac

Technical support

Service and support has always been an essential part of Eaton CCTV deliveries. Eaton's professional service crew provides regular advice and backup to customers and operators.

In-house services

- Specification review
- Engineering
- Documentation
- Testing and FAT
- Inhouse repair

On site services

- Site survey
- Installation supervision
- Cable termination
- Commissioning
- Training

Safeguarding people, plant and the environment

Eaton's turnkey CCTV solutions through the HERNIS™ & Oxalis product lines are designed to perform safely and reliably under the harshest & environmentally challenging conditions. This allows you to protect your assets and maximise operational and lifecycle maintenance costs. Eaton's tried and tested field proven CCTV solutions deliver high integrity process and security surveillance in order to maintain safety and incident free operations.

Rely on us as your CCTV partner

Designed for the extreme, Eaton CCTV systems perform safely and reliably all over the world meeting international certification standards.

By meeting extreme conditions with customised solutions we can help you achieve consistent operations, lower costs, and most importantly maintain the highest level of safety possible.

Eaton's team of professionals offers unique expertise in high-quality CCTV components combined with engineering excellence in system architectures and more than 30 years' experience in project supervision and development with proven results.

We are uniquely qualified to provide end-to-end surveillance solutions designed to meet the challenges in the marine and oil & gas industry.

Eaton provides integrated CCTV solutions covering all core business processes generating superior value for our customers. We offer complete CCTV packages addressing customer's every need including:

- project management
- needs based design
- engineering
- testing/FAT
- commissioning/SAT
- training
- detailed documentation
- fast and competent systems lifetime support through global service network

As part of the global power management company Eaton, we are able to provide all of the solutions necessary for the safety and success of your business.

When it comes to CCTV, our solutions have become among the most well-known and trusted in the world.

Eaton high quality CCTV systems are characterised by

- low installation costs
- low maintenance costs
- unrivalled durability

The reliable choice

Since Eaton launched its first CCTV package over 30 years ago, our globally certified range of Ex camera stations have become famous for performing impeccably year after year on oil & gas installations all over the world securing live video in the most extreme harsh and hazardous environments.

Certification

While performing safely and reliably all over the world, Eaton's equipment meets global certification standards for technical equipment at sea and on oil & gas installations.

DNV type approval

Eaton can offer a selection of CCTV systems with Type Approved according to DNV ship class rules.

The Type Approval, tested by DNV, is in addition to any Ex certification and confirms that the rules for the specific Classification of Ships, High Speed & Light Craft under Det Norske Veritas Offshore Standards 2.4 applicable to all instrumentation and automation equipment has been passed.

The standards ensure that all the issues experienced in marine traffic are covered, such as EMC (Electro Magnetic Compatibility), shock & vibration, temperature and humidity.

Ex certification

Eaton has a complete range of camera stations certified to global standards including ATEX, IECEx, INMETRO, TR CU, cLCus, CSA, CNEx, CCOE, CERTEx and UL.

Eaton can offer a selection of CCTV systems with field equipment Type Approved according to DNV ship class rules.
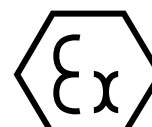
1. **Multi system access**
   Eaton's new generation modular CCTV architecture offers multi system access: The user is able to log on to their local CCTV system, but can access and control any external HERNIS™ CCTV system that they are authorised for. The user is hence able to control a virtually unlimited number of cameras spread over vast geographical areas. The solution caters for remote monitoring of comprehensive onshore and offshore installations.

2. **Camera control and video management software**
   Extensive CCTV expertise combined with the latest technology available has culminated in our highly efficient CCTV management system HERNIS™ HWIN. The interface gives preference to video management in one or multiple views by choice, and navigation is highly flexible bringing user experience to a new level. There are six HWIN versions available to suit CCTV systems of different scale and purpose.

3. **Ex certification**
   Eaton has a complete range of camera stations certified to global standards including ATEX, IECEx, INMETRO, TR CU, cLCus, CSA, CNEx, CCOE, CERTE and UL.

4. **Multi-cables**
   HERNIS™ Multi-cables supply both data, video and power in one cable. Designed to survive a lifetime in harsh environments, they enhance installation, reduce man-hour and material costs, and secure the quality required on onshore, offshore and marine installations.

CCTV

Safety. Security. Efficiency.

Camera surveillance systems provide a complete view of all areas and processes on a site. A system can be accessed and managed from one or more control stations on site or remote.

CCTV surveillance is vital for the coordination of appropriate response in critical situations.

Proactive and reactive surveillance tasks increase safety, security, and efficiency for people, facilities and the environment.

HERNIS™ CCTV systems are self contained, modular and tailor-made. This makes our solutions suitable for projects of all sizes.

Additionally, Eaton offers the option of purchasing the Oxalis line of camera stations as individual units which are compatible with most major VMS systems or ONVIF compatible for those who build their own system.

Meet extreme conditions with customised solutions

Offshore

Marine
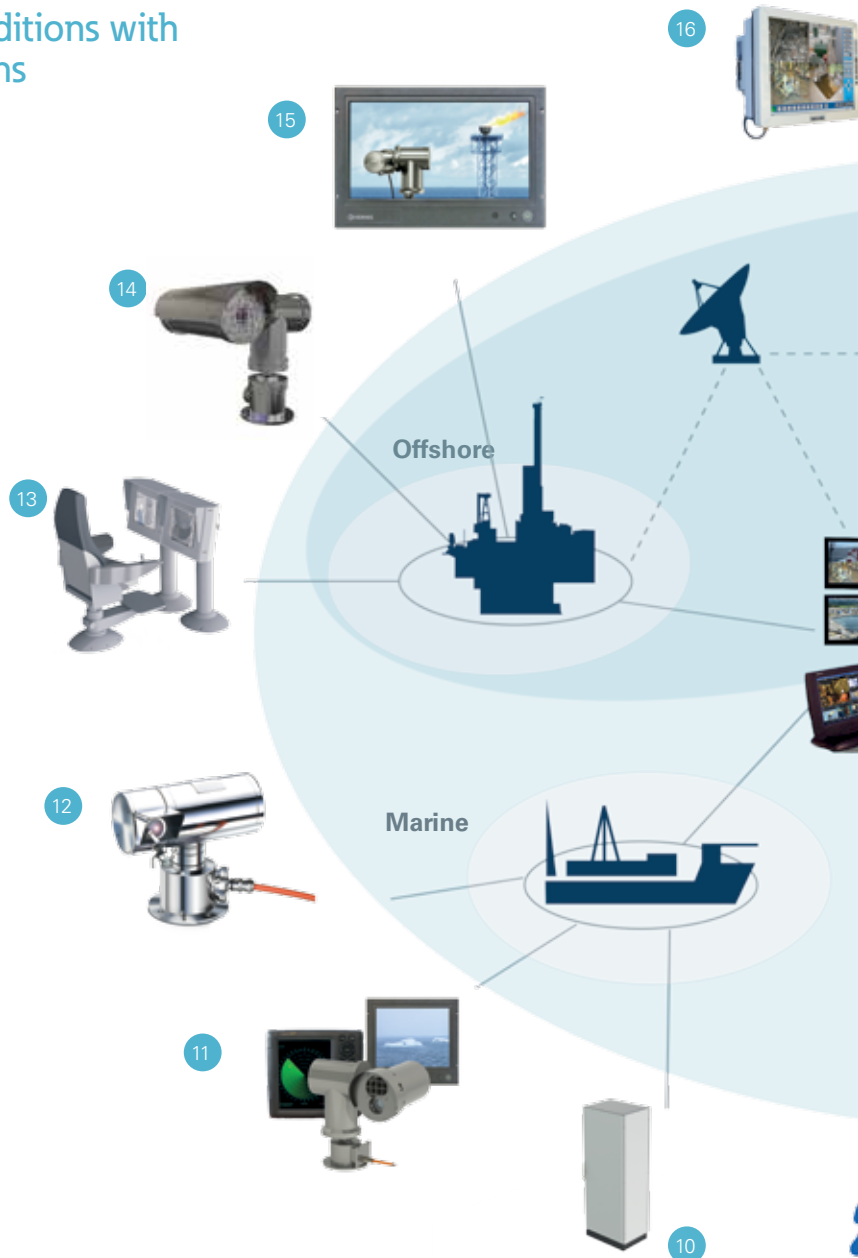
11. **Radar tracking solution**
    CCTV system allowing you to track up to 10 targets selected on your radar system for improved threat assessment ability and reduced risk. Stand-alone or integrated solution that can be supplied with a dual camera station for round the clock images.

12. **Ex proof camera stations**
    Eaton offer the HERNIS™ and Oxalis lines of camera stations designed for harsh & hazardous environments affected by heat, humidity, vibration, dust, low-light/no-light, etc. The Ex range is designed and manufactured to the strict requirements of the various global standards for both Zone & Div categorisation.

13. **Real time video**
    For operations where no latency is tolerated on the video stream, the system can incorporate an analogue subsystem for cameras.

5. HERNIS™ crane TV solutions
Preferred by crane operators worldwide, our Crane TV system can be supplied with up to 3 cameras, and provides optimal viewing during hoist operations.

6. Flexible camera connectivity
The HERNIS™ range of camera stations offer flexibility in transmission connectivity. Power and signalling flexibility ensures easy, cost saving installation utilising the power and communication infrastructure where possible.

7. Control stations
HERNIS™ CCTV systems can be controlled via a standard networked computer as long as the required software is installed and the minimum hardware requirements are met. Other control stations may include dedicated CCTV control panel, video wall, OEM HMI (e.g. drillers chair), Ex monitors, touch monitors and mobile units.

8. Control panels
In our analogue systems the control panel is the main point of access to the CCTV functionality. All controls available to the operator are done via the control panel. The HERNIS™ control panels can be flush or desk mount.

9. VMD
VMD or Video Motion Detection technology allows for early detection of movement and can be used for detection of oil spill, leakage or intruders in a targeted area.

10. Systems integration
HERNIS™ CCTV systems can be fully integrated into existing systems like management systems, distributed control systems, process control and fire, gas and intruder alarms. Full integration is normally achieved with HERNIS™ Software Development Kit, but the open REST interface can also be used to control the system, allowing for a very easy integration.

Exploration

Onshore

Pipelines
Pump stations
Jetties
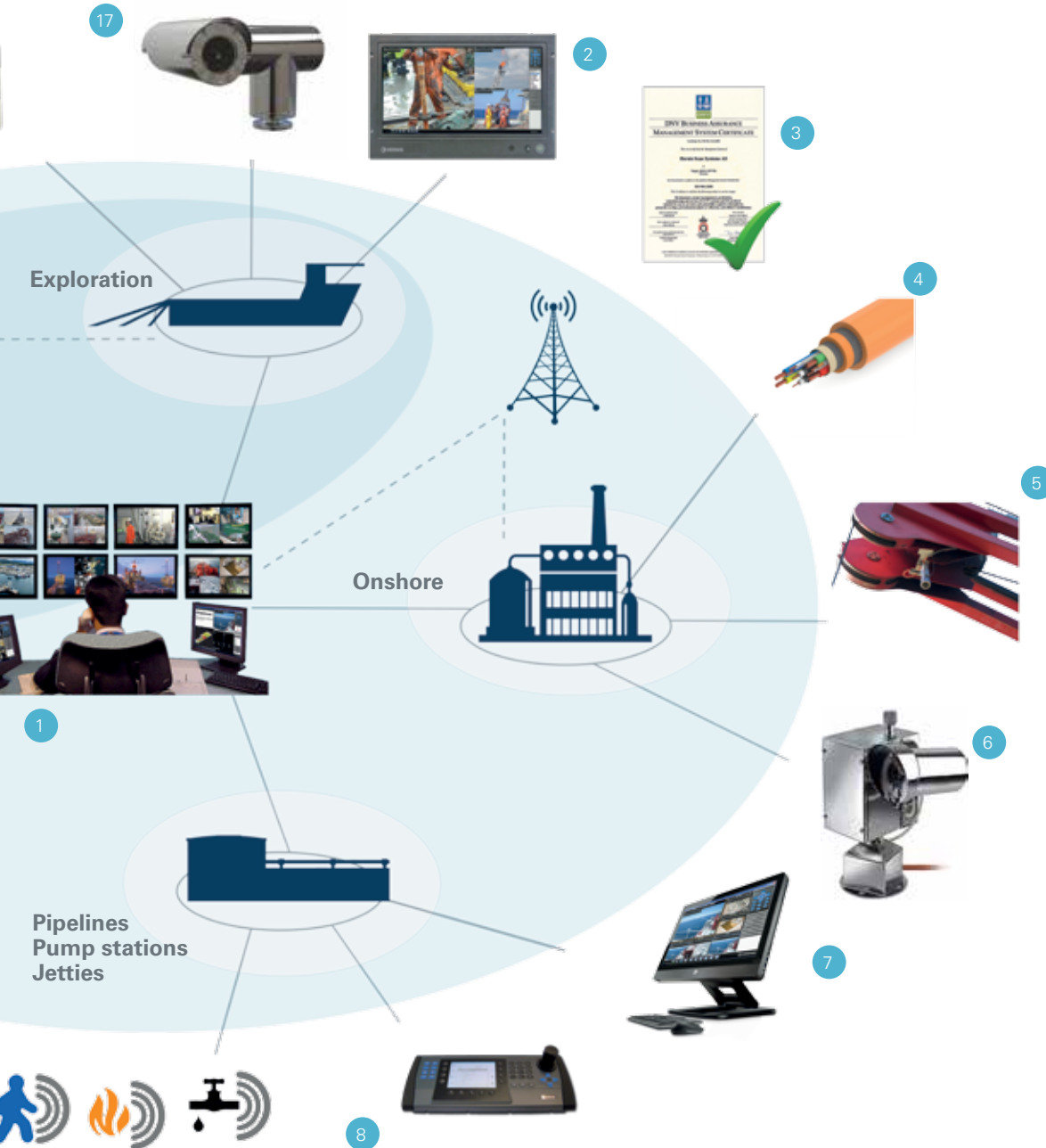
14. Thermal imaging
Eaton offers thermal camera stations fitted in both explosion proof and weather proof enclosures compatible with any of our control systems. Thermal imaging provides low-light/no-light vision, and is typically used to detect people, oil spill or gas leakages regardless of the lighting conditions in the target area.

15. Flare monitoring solutions
Provides live images of the flare to the operator through a fixed camera station connected to his control room monitor. The use of thermal sensitive camera and analysis of video detects flare absence. Delivered as a stand-alone system or an integrated part of a larger CCTV system.

16. Touch screen interface
Eaton offer fully touch-enabled applications requiring no mouse or keyboard. The touch screen interface sets a new standard for user-friendly CCTV operation. In-video pan & tilt, direct preset activation and direct quad activation makes the touch applications well suited for drilling operators.

17. Weather proof camera stations
Designed specifically to withstand the most challenging environments these camera stations are as well suited for desert areas as for the corrosive environments on marine and offshore installations.

Increase your efficiency with our easy to use CCTV management system

Add on the features you require

With 6 HWIN versions Eaton is sure to meet your specific CCTV requirement.

The HWIN Advanced supports multi-system-access, meaning from one single work station you can log onto multiple external CCTV systems on remote locations adding a whole new dimension to your CCTV architecture! This is the ultimate tool for controlling cameras in medium to large CCTV systems. Features such as layered maps with camera and alarm hotspots help you stay oriented and navigate efficiently. The advanced design provides the structure necessary to handle volumes of information without losing track.

Read more about the other HWIN versions with enhanced alarm management and touch functionality on page 19.

Highly efficient design

Extensive CCTV expertise combined with the latest technology available has culminated in a highly efficient CCTV management environment. The layout gives preference to video management in one or multiple views by choice and highly flexible navigation takes the user experience to new levels.

One foundation

HWIN Standard makes the foundation for any HERNIS™ CCTV control and is typically used to manage small to medium sized CCTV systems. State-of-the-art tools enhance the experience:
• multi video view
• drag & drop functionality
• pop-up menus & tool tips
• instant access to frequent tools
• camera browsing
• snapshot
• recordings

The intuitive environment makes it easy to set up camera sequences, multi-camera switching, and other configuration.

Top: HWIN live mode
is the normal operating mode used for all live functions such as viewing live video, controlling the cameras, using presets, maps, video splits and more.

Middle: HWIN playback
is used to access any video or images that has been stored in the HERNIS™ CCTV System.

Bottom: HWIN configuration
is used to define individual cameras, camera groups, sequences, multi switches, alarm actions and more.

The functionality you need in just one click

Navigation and control

With the latest technology available Eaton has taken navigation to a new level. With a variety of tools available every operator feels right at home in this intuitive environment.

The main navigation features are:

Drag & drop:
Drag a camera or a sequence from the menu list and drop it on a video pane to view the video.

In-video pan/tilt:
Click directly in the video view to pan & tilt the camera. The pan & tilt speed depends on your position off centre.

Maps:
Find and select cameras, alarms etc. by navigating the maps and interacting with the hotspots (graphical camera and alarm identifiers).

Dynamic context menus:
Right click on any map, map hotspot, video, camera, preset position, alarm etc. to view a context menu/tools related to the type of object you clicked.

Toolbars:
The most relevant video functionality such as sound, video quality, snapshot and local recording is easy to reach in the strategically positioned toolbars available throughout the application.

Joystick:
Control cameras and Pan/Tilt/Zoom on 3-axis joystick with fully configurable buttons (Iris, Focus, Wipe, Wash, Camera Selection, Preset selection, Next/Previous camera)

# Modular CCTV system architecture
meeting projects of any size and complexity

Eaton is an experienced provider of CCTV solutions. Over the years through the HERNIS™ line we have developed control systems suitable for all project types from small integrated systems to complex multi-site solutions.

Today we can offer fully scalable solutions based on either analogue, digital or a hybrid of both. In many cases both types of technologies are combined within one system. Our focus is to present an optimised system solution with the best image quality, ease of use, functionality and life cycle cost.

Eaton's state of the art CCTV systems, components and software are uniquely designed to assist end users meet the performance requirements of the system in any EX or harsh environment, anywhere in the world.

The HWIN layout allows for up to 18 simultaneous video feeds, and can utilise Ultra High Definition (4K) monitors for maximum display quality.
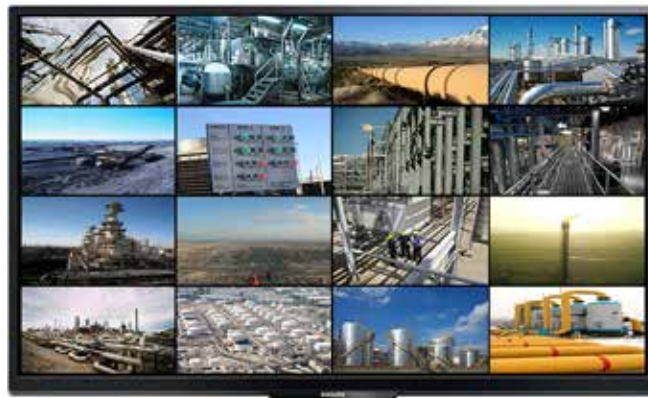
Below: The basic concept of HERNIS™ FLEX IP CCTV System
The HERNIS™ FLEX system supports distribution of video from the IP-based camera stations to the HERNIS™ CCTV operator stations leveraging the existing IP network
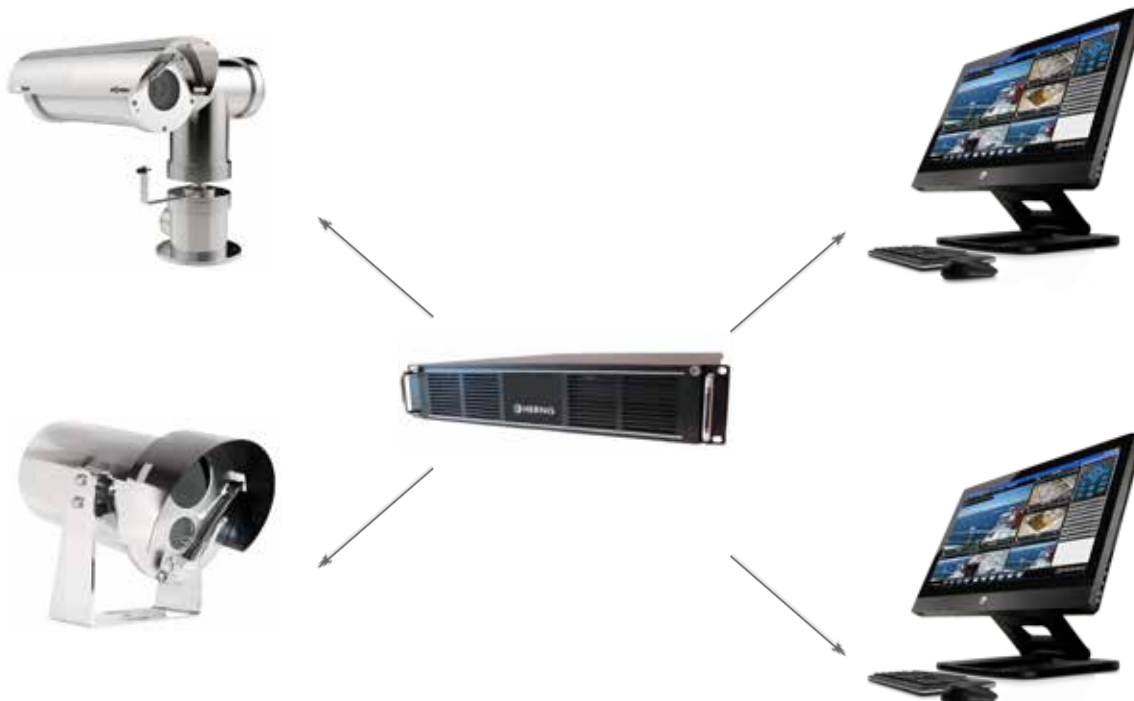
HERNIS™
FLEX system

The HERNIS™ FLEX IP CCTV system offers full flexibility and infrastructure across multiple transmission technologies, creating a sophisticated CCTV system, limited only by your creativity.

FLEX CCTV achieves a complete IP architecture or accepts analogue/serial signals if required. Systems are deliberately designed to maximise video quality and recording reliability.

CCTV Systems designed on the FLEX architecture offer full flexibility in transmission. Straight forward small systems and large complex systems alike are engineered for control and transmission remotely and locally via Local Area Networks (LAN), satellite and radio link.

The HERNIS™ FLEX CCTV architecture, including the video and alarm management applications, utilise one common infrastructure provided by an Ethernet backbone, supervised by a system server.

A complete turnkey system easily interfaces with third party telecommunications, alarms, hardware, software or DCS management and security systems. Straight forward connection to external low-voltage input/ output devices (such as visual/ audible alarms, Passive Infrared Sensors (PIR), smoke, gas, flame detectors etc.) enables FLEX CCTV system to improve operator efficiency and reduce incident response time, significantly adding to the integrity of any system and safety of any facility. FLEX CCTV Systems are designed and engineered for the following functional capabilities:

- remote and local system transmission and control via LAN, satellite and radio link

- complete system diagnostics, down to each component

- remote administration

- user friendly software that accesses many layers of information

Exploration vessels

Offshore installations

Onshore installations

Marine & offshore vessels

Pipelines, pump stations, jetties

The HERNIS™ FLEX system camera stations are connected to a camera dedicated network via an integrated transmitter/ receiver unit. The video signal from the IP camera station is encoded and streamed to a HERNIS™ Video Extender (HVE) that distributes video to a virtually unlimited number of operator stations. The FLEX CCTV architecture supports dual video streams from each camera in the system.

The two video streams are independent meaning they can be set to transmit at different rates and with different quality to serve different purposes such as viewing, recording or analysis, or adapt to hardware or network limitations dictated by the circumstances on the location.

Authorised operators are able to control cameras, and monitor live as well as recorded video from any camera at any point on the network, depending upon user profile priority.

The FLEX system is designed for robust flexibility. Uptime is maximised by employing separate communication networks, redundant system servers and power supplies in the main central equipment. The use of RAID discs for video storage assures dependable archived video without loss in case of damage to discs. Flexible recording capabilities increase the integrity of the FLEX CCTV system.

- Recordings can be generated, viewed and saved at different locations in the system

- Resolution and frame rate can be set individually for the main and sub stream from each camera

- Recording duration can be set individually for each video stream

The FLEX system has continuous self-monitoring system and component functionality. A FLEX system central cabinet is typically equipped with:

- HERNIS™ system server w/software correlating to the number of cameras connected to the system

- built in recording & IP streaming capability

- System Node with communication and integration to fire & gas and other alarm systems

- local power supply for camera stations and/or fibre optical equipment for transmission over longer distances

- LAN switches designed and dimensioned for IP traffic and optimal operation

- dual power inlet if UPS/ normal power feeds are required

The FLEX architecture uses industry standard networks and integration protocols thereby catering for easy and efficient increases in the number of cameras, control stations, system servers and geographic expansion to meet future requirements.

HERNIS™ microFLEX and miniFLEX

The scalable HERNIS™ FLEX CCTV system is now available in two new entry level versions; the microFLEX and miniFLEX.

These versions offer many of the same features and functionality as the HERNIS™ FLEX in a compressed hardware setup.

By combining the software in one single unit, most of the HWIN software functionality is available where a smaller hardware footprint is required.

Having been through extensive testing both versions are now available for both new systems and existing installations where upgrades or expansions may be required.

MicroFLEX features include:

- Up to 5 IP cameras   supported
- Up to Full HD / 1080p resolution
- Up to 5 days of recording (expandable)
- Up to 2 client workstations connected
- Utilises main and sub-streams from camera for optimal viewing and recording
- Utilises partial decoding & frame rate adjustments for optimal performance.
- Integrates with FLEX as if it was a standard full scale FLEX solution
- Different hardware options available to match specific customer needs
- DIN-Rail mount unit   available
- All-in-one unit for hazardous areas available
- Easily expandable to accommodate future needs.

MiniFLEX features include:

- Up to 16 cameras supported (analogue, IP or mix)
- Up to Full HD / 1080p resolution
- Up to 30 days of recording (expandable)
- Up to 4 client workstations connected
- Utilises main- and sub-streams from cameras for optimal viewing & recording
- Utilises partial decoding & frame rate adjustments for optimal performance
- Integrates with FLEX as if it was a standard full scale FLEX solution
- Different hardware options available to match specific customer needs
- RAID 5/6 storage options for redundancy
- HERNIS 5-bay unit with encoder card for analogue camera option
- HERNIS 10-bay unit for large scale and RAID recording
- Different cabinet sizes available

HERNIS™ 500 system

The HERNIS™ 500 digital video management system eliminates the need for a traditional analogue video matrix utilising the common infrastructure provided by an Ethernet backbone. The HERNIS™ 500 NVR encodes the video signal, which can be streamed to hard disc and/or directly to the network/backbone. The image quality from each encoder can be controlled individually and set to transmit at various rates depending on user requirements. For operations where no latency is tolerated on the video stream, the HERNIS™ 500 system can incorporate an analogue subsystem.

A HERNIS™ 500 CCTV system cabinet is normally equipped with:

- CPU with HERNIS™ CCTV server & video management software
- NVR with built in recording & IP streaming capacity

- System Node with cards for camera control, communication and integration to fire & gas alarm systems

- local power supply for camera stations and/or fibre optical equipment for transmission over longer distances

- dual power inlet if UPS/normal power feeds are used
- LAN switches
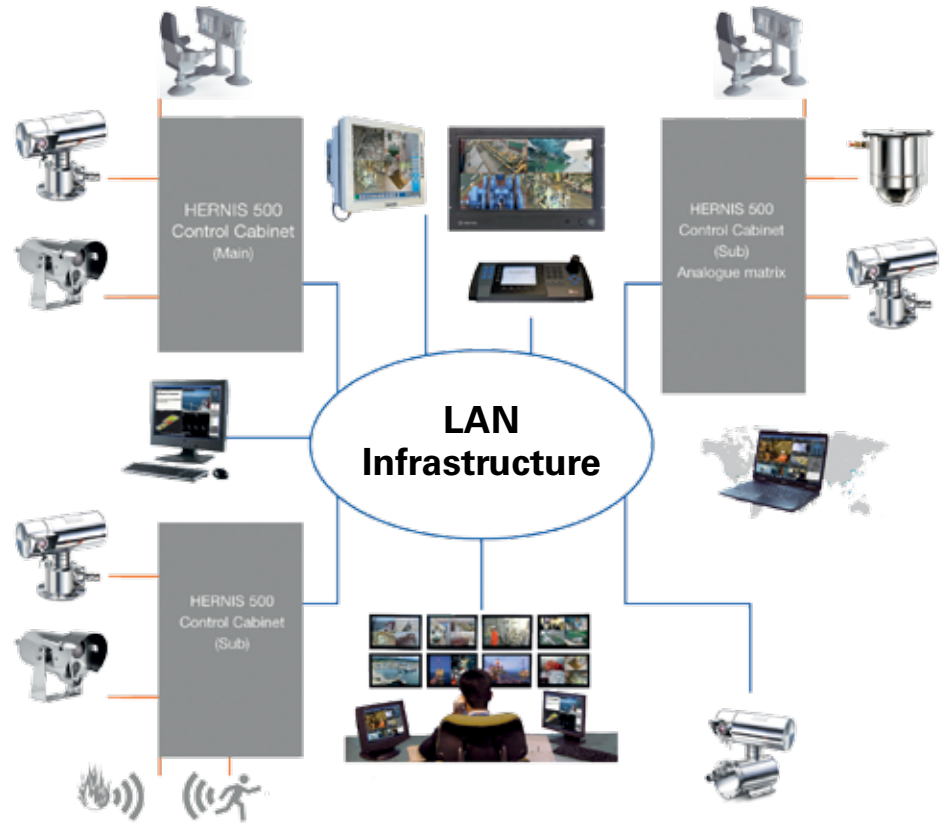
HERNIS™ 400

system

The HERNIS™ 400 CCTV system is an analogue system consisting of an analogue video matrix and a PC based system server. The internal communication of the HERNIS™ 400 system operates on a Controller Area Network (CAN) making it easy to add new communication nodes for camera stations and control panels.
The modular design enables easy and virtually limitless expansion and use of decentralised systems. Its integration capabilities to external systems such as drilling, process, automation, security and safety systems on serial, TCP/IP, I/O or relay interfaces, makes the HERNIS™ 400 a versatile system.
The 400 system can be remotely controlled (slave) constituting a part of larger CCTV systems, or it can be used to control other systems (master). A programmable text generator enables camera

names, prepositions and alarms to be shown in the video image adding to the operator's level of control.

The 400 system matrix may be equipped with audio. A redundant CPU makes the system less susceptible to hardware failures thus improving the systems overall uptime. The HERNIS™ 400 can easily be

upgraded to a hybrid system including both analogue and digital (IP based) features, by including an NVR allowing for simultaneous recording and streaming of all cameras
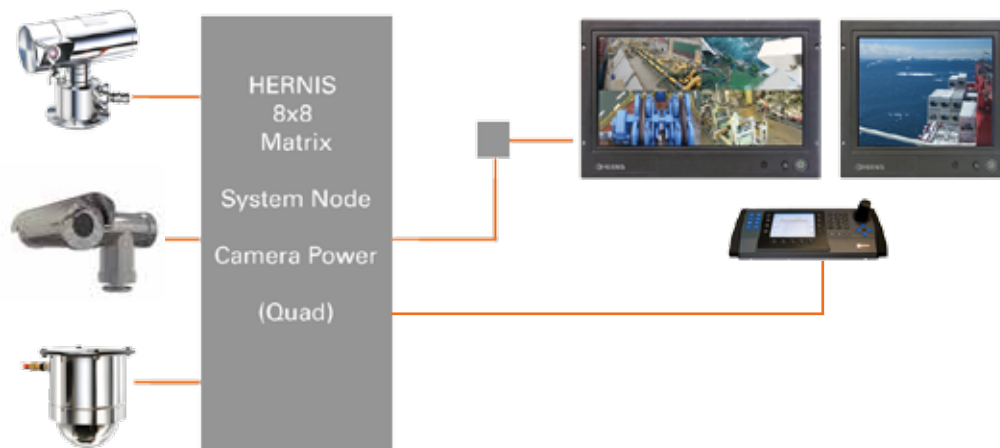
HERNIS™ 8x8

system

The HERNIS™ 8x8 CCTV system is the smallest analogue CCTV system in the product range, the primary difference is that it does not include text.

The small physical size of the video matrix is suitable for spaces of limited size, still covering the basic CCTV requirements.
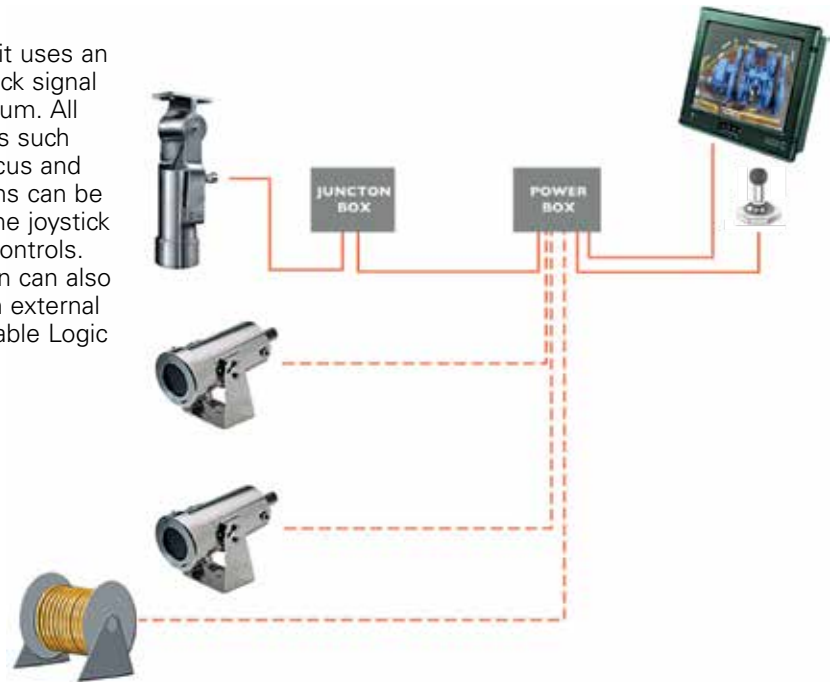
HERNIS™ crane TV system

Eaton offers a well proven range of Crane TV systems meeting the requirements of crane operators worldwide.

HERNIS™ Crane TV can be supplied with up to 3 cameras and picture in picture function. The automatic object tracking function makes operation easier as the zoom automatically follows the cargo providing optimal viewing during hoist operations. An oil damper keeps the camera housing in a stable vertical position and eliminates vibration.

The interface unit uses an analogue feedback signal from the wire drum. All camera functions such as iris, zoom, focus and camera selections can be operated from the joystick or push-button controls. Camera selection can also be done from an external PLC (Programmable Logic Controller).

HERNIS™ crane TV advanced (CT30Ex)

JB OK150 control unit
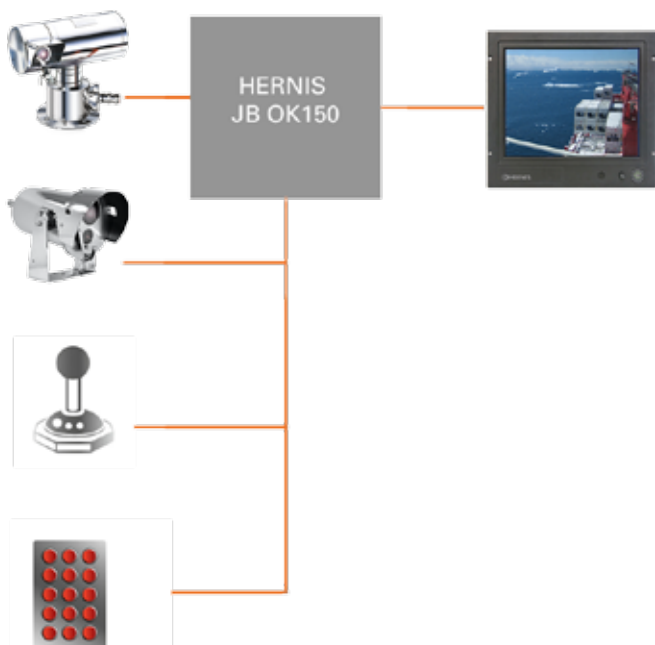
This space efficient solution is perfect where one operator needs visual through one or two camera stations to improve safety and efficiency in operations. The JB OK 150 serves as a control unit for the camera stations.

The small system can utilise two camera stations, for example accommodating for thermal and CCD images.

The system is controlled with a joystick or a control panel of the customer's own choice. The control buttons can be configured with the functionality suiting your specific needs.

Typical functions would be zoom, focus, pan, tilt, iris, wipe and wash depending on the type of camera stations deployed.

The recommended cable length is 10m between the JB OK150 control unit and

the HERNIS™ joystick or third party control panel.

The monitor and cameras are normally powered locally. Camera stations, cameras, monitors and multicables are optional from the wide range of Eaton Ex and safe area equipment.

Our experienced team will be able to recommend the perfect solution for your requirements.

Avert incidents. Maintain uptime.

Early detection with video motion detection

VMD or Video Motion Detection technology allows for early detection of movement and can be used for detection of oil spill, leakage or intruders in a target area. The same technology may also be used in reverse to detect flameouts, in which case the ceasing of movement triggers predefined actions in the CCTV system.

In the event of an incident the CCTV system can be set up to perform a number of actions to help the operator achieve efficiency and increase safety. Eaton uniquely provides a pre and post alarm recording facility that enables operators to watch recordings of events leading

up to and following an alarm. By detecting irregularities such as oil and gas leakages at a very early stage, VMD solutions on board oil & gas installations allows or fire prevention rather than the conventional fire alarm signalling.

Eaton offer VMD solutions as stand-alone systems or part of a larger CCTV solution enhancing the company's overall security system. Below are typical areas of application of video motion detection in HERNIS™ CCTV.

Flare monitoring

As an important feature to our flare surveillance systems Eaton offers intelligent flare monitoring.

The system uses an IR sensitive camera, which only reproduces rays emitted from the heat of the flare, discarding the rays of visible light, like reflections, shifting weather conditions, or the general difference between day and night time that would otherwise influence/disturb the surveillance. The video image is fed to and analysed by a PC with special software suitable for this purpose. In the event that the flare stops burning, the operators are notified by an alarm. The incident may also be recorded.

Smoke & leak detection

HERNIS™ leak detection combines remote surveillance, image analysis and digital storage in one system. Typical applications are smoke and oil leak detection, where the prevention of fire outbreaks is vital. When an irregularity is detected live video may immediately be relayed to the operator's monitor, and alarms activated. The alarm image includes the date and time the alarm was triggered, camera position and a short description of the situation. Time is a critical factor, and with HERNIS™ leak detection you can immediately examine the video image to make fast decisions and take appropriate action.

Perimeter protection

Eaton offers perimeter security for marine vessels and petroleum related installations onshore and offshore. HERNIS™ perimeter protection is customised to meet the customer's security philosophy and may be integrated into the general surveillance system at the site.
Eaton uniquely provides a pre and post alarm recording facility that enables operators to watch recordings of events leading up to and following an alarm.

Recording and decoding

Multi video recording

Eaton also provides a HERNIS™ CCTV DVR-M Multichannel digital video recorder. The HERNIS™ recording device is capable of recording up to 16 individual channels simultaneously at full frame rate. The recorder is operated via any HERNIS™ control panel and is integrated in our Control Software. Offering a wide range of hard-disk capacity HERNIS™ CCTV recording capabilities really stand out.

Multi video decoding

The HERNIS™ Multi Video Decoder for the HERNIS™ 500 system is designed to decode streamed video to composite video and represents a cost-saving means of utilising existing analogue monitors in IP systems.

The decoder provides excellent image quality with very low latency and is capable of decoding up to 16 video streams simultaneously. This makes it a low cost alternative when multiple channels are required. To illustrate its' capacity, one HERNIS™ Multi Video Decoder can replace 16 PCs with monitor applications traditionally required for analogue video outputs from a HERNIS™ 500 system. The unit thus also saves space.

Take control with HWIN

HERNIS™ HWIN

HERNIS™ HWIN is the primary application for control of HERNIS™ CCTV systems. The layout gives preference to video management and the navigation is highly flexible making every operator feel right at home.

HWIN is developed for the Microsoft .NET platform and may be run on Windows.

Some details on HWIN, it's features and user interface is found on page 10.

The HWIN application comes in 6 versions. Find out what version suits your requirement below:

HWIN standard

HWIN standard is typically used to manage small to medium sized CCTV systems. Multiple video images (up to 16) can be displayed simultaneously in split views. Flexible navigation such as drag-and-drop, pop-up menus, tool tips and easy access to favorite tools makes every operator feel right at home in this video management environment.

HWIN standard alarm

HWIN standard alarm adds enhanced alarm management capabilities to the standard CCTV control environment. Provided with an overview of the alarms in the system, the operator can easily select any camera activated by an alarm to get a close-up of the situation. Alarm acknowledgement and easy access to recordings makes this an efficient tool for the CCTV operator.

HWIN advanced

HWIN advanced is the ultimate tool for controlling cameras in medium to large CCTV systems. This solution supports multi-system-access, meaning from one work station you can log on to multiple external CCTV systems on remote locations adding a whole new dimension to your CCTV architecture.

In HWIN advanced navigation is enhanced with layered maps and camera and alarm hotspots.

The advanced design provides the structure necessary to stay oriented and navigate efficiently in medium to large CCTV systems.

HWIN advanced alarm

HWIN advanced alarm adds enhanced alarm handling capabilities to the CCTV control environment. Map navigation with camera and alarm hotspots helps operators navigate efficiently in critical situations and in volumes of information without loosing track.

With HWIN advanced alarm the operator can manage alarms in all CCTV systems connected to his system.

HWIN touch advanced

This fully touch-enabled applications requires no mouse or keyboard as the user interacts directly with the application by touching the screen to manage video and alarms.

The HWIN touch advanced is the premium CCTV management environment with all the capabilities of the HWIN advanced alarm plus its' touch-screen attribute.

HWIN touch basic

HWIN touch basic sets the standard for user-friendly operation of small CCTV systems. This is a downscaled version of the HWIN standard giving preference to video images and ease of use.

Its touch-screen attribute makes this application well suited for drilling operators.

Features like

- in-video pan & tilt
- direct preset activation and
- quad operation

contribute to intuitive and easy operation.

The application can connect to HERNIS™ systems using comport or network. This makes HWIN touch basic compatible with all our current control systems.

HERNIS™ large screen application (HLSA)

The HERNIS™ large screen application (HLSA), supplementing HWIN advanced, enables operators to control multiple videos on large screens or video walls via the HWIN user interface (large LCD/plasma/LED screen, projector or any other display that can be connected to a PC).

All the advanced control features in HWIN are compatible with the large screen controller (i.e. in-video pan/tilt, drag & drop, maps, etc.)

The HLSA supports 9 simultaneous video streams in one split view.

The application runs as a stand-alone application on a dedicated PC.

HERNIS™ system maintenance (HSM)

The HERNIS™ system maintenance application provides close supervision of the CCTV system's operating status. Operational failures anywhere in the system - be it camera stations, operating panels or computers - are detected and logged for easy reference. Having malfunctions pinpointed in such detail allows for highly effective diagnosing and problem solving decreasing the downtime normally brought on by operational failures.

The system maintenance application is further used for remote updating of software on field equipment such as camera stations and control nodes, making it perfect for unmanned systems. HERNIS™ recommends this cost–saver for the HERNIS™ 400, 500 and FLEX systems.

HERNIS™ software development kit

The HERNIS™ software development kit is software containing the information and examples you need to develop your own User Interface (UI) to the HERNIS™ CCTV System.

The kit enables implementers to control and to some extent configure the HERNIS™ system.

Each use of the developed interface requires a license.

Flexible HMI and transmission

The HERNIS™ CCTV line is tailored to the customer's requirement. Power and signalling flexibility ensures easy and cost saving installation taking advantage of the power and communication infrastructure that is available whether it is wired or wireless.

Communication can be transmitted throughout the CCTV systems using coax cables, twisted pair cables, fibre optics, digital data lines, etc. Eaton's CCTV systems are compatible with all the common communication infrastructures: SDH, Ethernet and LAN.

Displays

Eaton delivers a wide variety of high-quality monitors and display units for industrial and explosion-endangered areas, each carefully selected to meet customer requirements and the extreme performance criteria in the marine and oil & gas industry. The display units vary from small field service monitors of 5,6" and slightly larger crane cabin displays to large screens of up to 60". Resolution depends on type and performance requirements. We supply 4:3 and 16:9 formats and all units can be supplied in PAL or NTSC. Monitors can be flush mount, desk mount, wall or ceiling mount. Eaton's staff is thoroughly trained to give advice and help the customer select the correct display unit for any area of the facility.

HERNIS™ control panels

The control panel is the main point of access to the CCTV functionality. All controls available to the operator are done via the control panel.

HERNIS™ control panel OK450 comes with a joystick and can be flush or desk mounted at the customers discretion.

Above:
Control Panel OK 450.

HERNIS™ multi-cables

Enhancing installation, reducing man-hour and material costs and securing the quality required for exposed CCTV systems Eaton offer a range of CCTV multi-cables supplying both data, video and power in one cable. The multi-cables are designed specifically to survive a life time in harsh environments and meet the requirements for onshore, offshore and marine installations complying with EMC regulations.

Depending on the project nature one or several of the multi-cables can be relevant for installation purposes.

The cable is chosen for

- its ability to perform over time in the immediate physical environment that it will be exposed to
- cable length and voltage level requirements
- tensile strength requirements
- mechanical protection requirements
- camera station power and signal requirements

Our experienced team offer expert advice on the choice of multi-cable ensuring the optimal solution is found for your project.

The multi-cables most commonly used in HERNIS™ CCTV systems are listed below:

025118
Ships cable with screen

025119
Ships cable with screen and armour

025106
Offshore cable with screen

025044
Offshore cable with screen and armour

020792
Flexible CraneTV cable with screen

025108
CraneTV cable with screen

025122
Coax and power

025223
Offshore cable with power and Cat 6 with screen

025233
Power & fibre with screen

025333
Power & fiber with screen and armour

Eaton's range of camera stations

HERNIS™ range

The HERNIS™ product line of camera stations are predominantly used with the full CCTV system solution. Being of a compact and lightweight design they are particularly well suited to offshore applications or areas where space is a key consideration. The HERNIS™ range of Ex and Safe Area camera stations are offered in fixed, dome or PTZ, in optical & thermal options and can be configured in analogue, IP or hybrid encoder video modes.

Designed for harsh & hazardous environments each camera station has excellent ingress properties, are manufactured with a high quality electro polished 316L stainless steel enclosure, offering maximum resilience to exposure and direct sunlight. Internal heating elements reduces risk of icing or malfunction when operating in low temperatures.

A single cable is normally sufficient to transmit data, power and video, routed directly to the control cabinet, eliminating the need for additional junction box equipment, and allowing for ease of installation and configuration. The HERNIS™ Camera station range is also supplied with scratch resistant tempered glass and can be either Ex certified, DNV Marine approved or both.

Configurations of camera modules and function are traditionally mapped during the system design phase and in accordance with the specific operating requirements of the system function & application.

Oxalis range

The Oxalis product range of camera stations can either be installed on the HERNIS™ system or as a complete range sold as individual units. The product range is one of the most comprehensive in the industry and is offered in both Ex and Safe Area Fixed or PTZ optical, thermal & dual imaging options and can be configured in Analogue, HD 1080P or Hybrid encoder video modes with fibre optic transmission.

Designed for harsh & hazardous environments each camera station has excellent ingress properties, are manufactured with a high quality electro polished 316L stainless steel enclosure, offering maximum resilience to exposure and direct sunlight. They are a variety of mounting brackets available. A single cable is normally sufficient to transmit

data, power and video, routed directly to the control cabinet, eliminating the need for additional junction box equipment, and allowing for ease of installation and configuration.

The range is globally certified in every configuration for use in either European zone, North American zone / Div & global classifications in including ATEX, IECEx, INMETRO, TR CU, cLCus, CSA, CNEx, CCOE, CERTEx and UL.

The cameras can be specified with up to a 37X optical zoom block module with the facility for ultra low-light sensitivity, the pan and tilt units are fast and accurate with a pre-set positional accuracy of <0.1° & absolute positioning function.

All models can be specified with a wiper and optional integrated or separate washer system (not thermal), the range can be infinitely configured and customised to meet the criteria of each project and site including supply voltage, wiper, video type, IR capability, thermal core & lens options, certification, data transmission (direct fibre optic transmission for all technologies), T rating & temperature thresholds and are available with many VMS operating protocols including ONVIF compliance – plus if it's a non standard protocol you need then we are happy to develop and partner.

PTZ cameras
Explosion proof

The Eaton range of Explosion-proof camera stations offers the most flexible security solutions in the world. Multiple camera housing lengths and free space in the base combined with a large range of Exd or Exe enclosures means that almost every possible permutation of system can be catered for.

HERNIS™ EX286 PTZ's

Developed specifically for the HERNIS™ CCTV system they are available in HD IP, Hybrid or Analogue video modes.

They are made from high quality 316L Stainless Steel and have ATEX/IECEx, TR CU & INMETRO hazardous area and DNV marine certification with the capability to withstand temperatures ranging from -60°C to +60°C

The EX286's are available with a number of options including sunsheild - wiper, washer tank & pump - various wall brackets and safety wire. With the high speed continuous rotation & excellent ingress protection this lightweight compact camera station is very flexible and well suited to a wide variety of applications.

See our datasheet for technical full specifications

260mm　　　　**400mm**

Oxalis XC range

Designed for individual use or multiple CCTV systems, the XC PTZ or compact range is delivered without the main base assembly used for termination & mounting - as seen on our main XP range. They offer the user the option of a lighter weight 24v unit where only 350˚ rotation is required and a trailing lead is acceptable.

All XC PTZ's are made from high quality 316L stainless steel, they carry ATEX/IECEx, TR CU, INMETRO, CCOE, US & Canada Zone & Division hazardous area and DNV marine certification (model dependent). They are approved to withstand temperatures ranging from -60˚C to +70˚C and are available in HD IP, Hybrid or Analogue video modes.

With a number of options including washer tank & pump - various wall brackets and two sizes of enclosure 260mm and 400mm (XC26 - XC40) allowing the option to incorporate a wide variety of camera modules & protocols including ONVIF-S, make the XC series an excellent choice for a base PTZ camera station with added flexibility for VMS / CCTV applications.

See our datasheet for full technical specifications

260mm　　　　**400mm**　　　　**600mm**

Oxalis XP range

Designed for individual use or multiple CCTV systems, the XP PTZ range comes complete with an integral base unit used for power, signal and direct fibre termination, they have continuous rotation with no trailing leads.

All XP PTZ's are made from high quality 316L stainless steel and are globally certified with ATEX/IECEx, TR CU, INMETRO, CCOE, US & Canada Zone & Division hazardous area and DNV marine certification (model dependent). They are approved to withstand temperatures ranging from -60˚C to +70˚C and are available in HD IP, Hybrid or Analogue video modes to suit your preference on VMS systems.

With a number of enclosure sizes available we are able to cover almost any required configuration and with common industry protocols including ONVIF-S, the XP range allows the user to incorporate a wide variety of modules suitable for all applications.

Optical - 260mm, 400mm, 600mm (XP26, XP40, XP60)

Illumination - 260mm, 400mm, (EXIR26, EXIR40)

Fixed cameras

Explosion proof

HERNIS™ EX291 & EX292

Developed specifically for the HERNIS™ CCTV system they are available in HD IP, Hybrid or Analogue video modes.

They are made from high quality 316L Stainless Steel and have ATEX/IECEx, TR CU & Inmetro hazardous area and DNV marine certification with the capability to withstand temperatures ranging from -60˚C to +60˚C and tested to -62˚C.

The EX291 & EX292 are available with a number of options including sun sheild - wiper, washer tank & pump & various wall brackets. These lightweight compact fixed camera stations have high ingress protection and are well suited to a wide variety of applications where space and performance are key.

See our datasheet for technical full specifications

Oxalis XF range

260mm

400mm

600mm

Designed for individual use or multiple CCTV systems, the XF range comes complete with power, signal, direct fibre termination & integrated telemetry receiver.

All XF camera stations are made from high quality 316L Stainless Steel and are globally certified with ATEX/IECEx, TR CU, Inmetro, CCOE, US & Canada Zone & Division hazardous area and DNV marine certification. They are approved to withstand

temperatures ranging from -60˚C to +70˚C and are available in HD IP, Hybrid or Analogue video modes to suit your preference on VMS systems.

With a number of enclosure sizes available we are able to cover almost any bespoke configuration and with common industry protocols including ONVIF-S, the XF range allows the user to incorporate a wide variety of camera modules with multiple supply voltages and T ratings suitable for all applications.

Optical - 260mm, 400mm, 600mm (XF26, XF40, XF60)

Other options include Sunshield, wiper & washer tank with built in or separate washer pump, making the XF range the main choice of end users that require a fully flexible camera station that delivers best in class performance mapped to your VMS / CCTV system and camera unit.

See our datasheet for full technical specification

Oxalis XWP range

The XWP washer system has been designed specifically with the end user in mind. The unit can be located at a manageable level to allow purging and fills with relative ease without the need for constant topping up.

Made from high quality 316L Stainless Steel, with global Ex certification the XWP10 has a ten liter capacity, is capable of pressurising to 20m head height and can be switched directly from the camera station telemetry receiver.

Oxalis fixing brackets

All mounting brackets are made from high quality 316L Stainless Steel, they come in a variety of configurations to suit every application from fixed, wall, pole, swivel and also have a range of column spacers, all brackets are designed in accordance with the camera station safe working load and vibration handling specification.

Thermal and dome cameras
Explosion proof

Eaton offers thermal camera stations fitted in both explosion proof and weather proof enclosures compatible with any of our control systems. Thermal imaging systems render the energy of objects as different shades of infrared light, i.e. they enable us to differentiate objects in the images based on the variation of heat they generate. This type of camera is used to detect people, oil spill or gas leakages regardless of the lighting conditions.

Oxalis XF range

260mm

400mm

Designed for individual use or multiple CCTV systems, the Thermal range comes complete with power, signal & integrated telemetry receiver.

All thermal camera stations are made from high quality 316L stainless steel and are globally certified with ATEX/IECEx, TR CU, Inmetro, CCOE, US & Canada Zone & Division hazardous area and DNV marine certification (model dependent). They are approved to withstand temperatures ranging from -60°C to +70°C.

Available in enclosure sizes of 260mm and 400mm - (XF26 & XF40) with either small or large window glass to suit lens options of 19mm - 50mm or 50mm - 100mm respectively. Our Thermal range have three resolutions to choose from 324, 336, 640 available in either 8.3Hz or 25Hz options.

Our Thermal range is also available with Dual Imaging options giving the flexibility of full colour or thermal images when conditions necessitate the ability to switch between the two.

See our datasheet for full technical specifications

Thermal range

Eaton offers a range of thermal and "dual imaging" camera stations for continued monitoring in adverse weather conditions, where there is smoke or in poor light conditions. These solutions are available in fixed and PTZ formats, analogue or IP and in marine and industrial or explosion-protected models.

There is a wide choice of lens options to suit the precise requirements of individual applications per site or to perform specific functions such as flare monitoring or longer distance coverage. Dual imaging technology allows the user to view in full colour (with IR cut filter for B/W clarity in lower light conditions and then switch to a thermal image when conditions require.

HERNIS™ EX270 dome

Developed specifically for the HERNIS™ CCTV system they are made from high quality 316L Stainless Steel and have ATEX/IECEx, TR CU & Inmetro hazardous area and DNV marine certification with the capability to withstand temperatures ranging from -20°C to +45°C (certification to +70°C is pending)

Suitable for use in both Gas & Dust applications with its high speed continuous rotation & excellent ingress protection this lightweight compact dome camera station is very flexible and well suited to a wide variety of applications.

See our datasheet for technical full specifications

PTZ cameras
Weatherproof

Eatons range of weather proof PTZ camera stations are based on the same design units used in Ex / Hazardous area. Their ruggedised design with high ingress protection, built in heating, tempered glass and high quality materials enable them to operate reliably in the harshest of environmental conditions.

HERNIS™ PT9 range

Developed specifically for the HERNIS™ CCTV system they are available in HD IP, Hybrid or Analogue video modes. The PT9 combines pan/tilt, camera and junction box where a single cable is sufficient for the transmission of data, power and video, routed directly to the control cabinet and requiring minimal maintenance.

They are made from high quality 316L Stainless Steel and have DNV marine certification with the capability to withstand temperatures ranging from -50°C to +60°C.

The PT9's are available with a number of options including sun sheild - wiper, washer tank & pump - voltage, various wall brackets and safety wire. With the high speed 350° rotation & excellent ingress protection this lightweight PTZ camera station is very flexible and well suited to a wide variety of applications.

See our datasheet for technical full specifications

Oxalis SC range

Designed for individual use or multiple CCTV systems, the SC PTZ or compact range is delivered without the main base assembly used for termination & mounting - as seen on our main SP range. They offer the user the option of a lighter weight 24v unit where only 350° rotation is required and a trailing lead is acceptable.

All SC PTZ's are made from high quality 316L Stainless Steel, they carry DNV marine certification, are approved to withstand temperatures ranging from -60°C to +70°C and are available in HD IP, Hybrid or Analogue video modes.

With a number of options including washer tank & pump - various wall brackets and two sizes of enclosure 260mm and 400mm (SC26 - SC40) allowing the option to incorporate a wide variety of camera modules & protocols including ONVIF-S, make the SC series an excellent choice for a base PTZ with added flexibility for VMS / CCTV applications.

See our datasheet for full technical specifications

Oxalis SP range

Designed for individual use or multiple CCTV systems, the SP PTZ range comes complete with an integral base unit used for power, signal and direct fibre termination, they have continuous rotation with no trailing leads.

All SP PTZ's are made from high quality 316L Stainless Steel and carry DNV marine certification, they are approved to withstand temperatures ranging from -60°C to +70°C and are available in HD IP, Hybrid or Analogue video modes to suit your preference on VMS systems.

With a number of enclosure sizes available we are able to cover almost any configuration required and with common industry protocols including ONVIF-S, the SP range allows the user to incorporate a wide variety of modules suitable for all applications.

Optical - 260mm, 400mm, 600mm (SP26, SP40, SP60)

Illumination - 260mm, 400mm, (IR26, IR40)

Thermal - 260mm, 400mm (ST26, ST40)

Dual - (Optical & Thermal)- 400mm

Other options include multiple supply voltages, camera units including zoom & focus options, wiper & washer tank with built in or separate washer pump, making the SP range the main choice of end users that require a fully flexible PTZ camera station that delivers best in class performance mapped to your VMS / CCTV system.

See our datasheet for full technical specification

Fixed cameras
Weatherproof

Eaton's range of weather proof fixed camera stations are based on the same design units used in Ex / Hazardous area. Their ruggedised design with high ingress protection, built in heating, tempered glass and high quality materials enable them to operate reliably in the harshest of environmental conditions.

HERNIS™ S7, S9 & S9IR range

Developed specifically for the HERNISTM CCTV system the S9 and S9IR are available in HD IP or analogue video modes, whilst the analogue S7 is a great solution where space is limited.

They are both made from high quality 316L Stainless Steel and carry DNV marine certification with the capability to withstand temperatures ranging from -25˚C to +50˚C (S7) & -60˚C to +65˚C (S9)

The S7 & S9 are available with a number of options including sunshield and the S9 with wiper & washer and a range of camera/lens combinations. These lightweight and very compact fixed camera stations have high ingress protection and are well suited to a wide variety of applications where space and performance are key.

See our datasheet for technical full specifications

Oxalis SF range

Designed for individual use on multiple CCTV systems, the SF range comes complete with power, signal, direct fibre termination & integrated telemetry receiver.

Our SF camera stations are made from high quality 316L Stainless Steel and carry DNV marine certification. They are approved to withstand temperatures ranging from -60˚C to +70˚C and are available in HD IP, Hybrid or Analogue

video modes to suit your preference on VMS systems.

With a number of enclosure sizes available we are able to cover almost any bespoke configuration and with common industry protocols including ONVIF-S, the SF range allows the user to incorporate a wide variety of camera modules and supply voltages suitable for all applications.

Optics - 260mm, 400mm, 600mm (SF26, SF40, SF60)

Wash & wiper is available as an option, making the SF range the main choice of end users that require a fully flexible camera station that delivers best in class performance mapped to your VMS / CCTV system and camera unit.

See our datasheet for full technical specification

Oxalis washer options

Our safe area washer tank and pump combination options have been designed with the end user and application in mind.

They can be positioned in a variety of locations to ensure they are easily accessible, have high IP rating, a 6m head height and come in three different sizes 5ltr, 10ltr and 25ltr for ease of maintenance.

See our datasheet for full technical specification
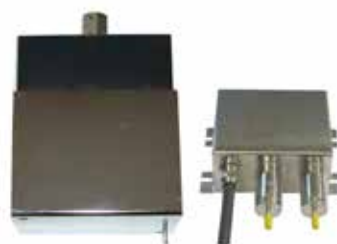
HERNIS™ wash and wipe options

Custom made for the HERNIS™ Ex and safe area camera stations, our wash and wipe solutions allow for an integrated setup which is controlled directly from within the HWIN user interface. The use of electrically actuated pumps removes the need for continuously maintaining the pressure as you would in a pressurised solution. Lifting height is up to 12 meters, which allows for placing the tank at ground level even if the camera station is placed atop a pole.

The wipe & wash mechanisms are carefully optimised to maximise the number of wash cycles on each tank before needing to refill. All pumps are enclosed in stainless steel 316L housing, whilst tanks are available in various sizes in both polyethylene and stainless steel 316L.

Tank & pump solutions are also available in special editions allowing for automatic refilling of tank when connected to pressurised water.

Thermal and dome cameras
Weatherproof

HERNIS™ S36 fixed & S36 PTZ dual (optical & thermal)

Developed specifically for the HERNIS™ CCTV system they are made from high quality 316L Stainless Steel and carry DNV marine certification with the capability to withstand temperatures ranging from -62˚C to +55˚C.

The S36 Dual is available in either fixed or PTZ configuration and can be fitted with a large spectrum of thermal lenses from 20mm to 60mm on 336 & 640 resolution.

With a number of options including sun shield - wiper, washer tank & pump & mounting bracket. These lightweight compact camera stations have high ingress protection and are well suited to a wide variety of applications where space and performance are key.

See our datasheet for technical full specifications

Oxalis SF40 & SP40 thermal camera stations

Designed for individual use on multiple CCTV systems, the Thermal range comes complete with power, signal & integrated telemetry receiver.

All Thermal camera stations are made from high quality 316L Stainless Steel carry DNV marine certification. They are approved to withstand temperatures ranging from -60˚C to +70˚C.

Available in a 400mm enclosure with either small or large window glass to suit lens

options of 19mm - 50mm or 50mm - 100mm respectively. Our Thermal range have three resolutions to choose from 324, 336, 640 available in either 8.3Hz or 25Hz.

Our Thermal range is also available with Dual Imaging options giving the flexibility of full colour or thermal images when conditions necessitate the ability to switch between the two.

See our datasheet for full technical specifications

HERNIS™ PT70 & S71 outdoor & indoor domes

Designed for individual use on multiple CCTV systems, the Dome range comes complete with power, signal & integrated telemetry receiver.

Developed specifically for the HERNIS™ CCTV system they are made from high quality 316L Stainless Steel and the PT70 carries DNV marine certification with the capability to withstand temperatures ranging from -40˚C to +55˚C.

Suitable for use in both Gas & Dust applications with its high speed continuous rotation & excellent ingress protection the PT70 compact dome camera station is very flexible and well suited to a wide variety of applications.
The PT70 domes are available in analogue and Full HD IP variants, whilst the S71 offers a great analogue solution especially indoor where fire-pots are a must to maximize safety.

See our datasheet for technical full specifications

1. Onshore drilling facilities
Land rigs

Key projects:
- NOV AC Ideal rigs
- 15 SurgutNefteGas rigs
- Marriott Drilling rig 46

Img: © HERNIS™

2. Offshore drilling facilities
Jack-ups, semi-subs, drillships, drilling barges

Key projects:
- Maersk Discoverer
- Olinda Star
- Seadrill West Auriga

Img: © Seadrill

3. Onshore production facilities
Refineries, LNG

Key projects:
- Algiers refinery
- Nyhamna
- Snøhvit

Img: © Svein Roger Ivarsen, Shell

A selection of references, Oil & Gas

Eaton works with the leading companies in the oil & gas industry worldwide.
Below are a few selected partners:

- **Cameron**
- **Diamond Offshore**
- **ExxonMobil**
- **Maersk Drilling**
- **NOV**
- **Pacific Drilling**
- **Petrobras**
- **Sakhneftegas**
- **Seadrill**
- **Statoil**
- **Total**
- **Transocean**
- **Saudi Aramco**
- **Takreer**
- **ZADCO**
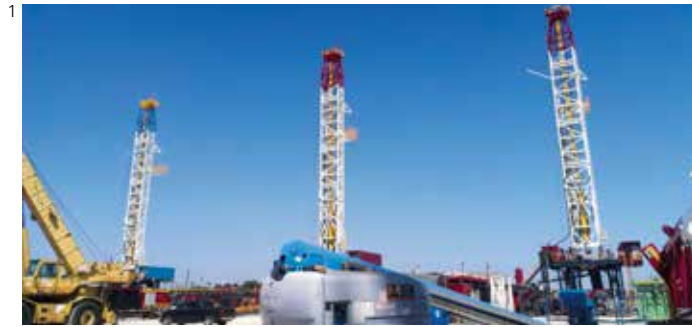
4. Offshore production/storage
Platforms, FPSOs, FSOs, FSUs, FSRUs, FLNGs

Key projects:
- Ekofisk
- Gudrun
- Arkutun-Dagi

Img: © Kjetil Alsvik/ConocoPhillips

5. Petrochemical plants
Vinyl factories

Key projects:
- JAM Petrochemical Plant
- IKRA PVC plant
- Ethydco Ethylene Plant EEP2

Img: © JAM Petrochemical Co.

6. Terminals/pipelines
Pipelines, Jettys, Offloading terminals

Key projects:
- Vankor
- Sakhalin
- Stureterminalen

Img: © Rosneft

1. **Military & navy vessels**

Key projects:
- Frigate KNM Helge Ingstad
- Knud Rasmussen
- KBV NB564

Img: © Hæren/Forsvarets mediesenter

2. **Seismic & research vessels**

Key projects:
- Ramform Challenger
- Polarcus Naila
- Geco Western Trident

Img: © Chris Howell

3. **Construction/flexlay vessels**
   Pipelay, Construction, cable lay

Key projects:
- Seven Pacific
- Normand Installer
- Deep Energy

Img: © Subsea 7

The reliable CCTV manufacturer preferred by the world's most successful shipping companies and oil & gas operators

A selection of references, Marine

Eaton works with the leading companies in the marine industry worldwide.
Below are a few selected partners:

- BW Gas
- Golar
- Hoegh
- Intership
- KOTC
- MOL
- MTU
- NYK
- PGS
- Seajacks
- Sovcomflot
- Subsea 7
- Teekay
- Unicom

4. **Offshore support vessels**
   PSV, OSV, AHTS, ROV, Subsea

Key projects:
- Maersk Logger
- Esvagt Bergen
- Far Saga

Img: © Farstad Shipping

5. **Tankers**
   LNG, LPG, product, shuttle, crude oil tankers

Key projects:
- KOTC Product Carriers
- Dynagas LNG vessels
- Teekay LNG tankers

Img: © Teekay Corporation

6. **Other marine vessels**
   RoPax, Container ships, Bulk, Dredger, Heavy Lifting

Key projects:
- Sea Installer
- Seajacks Scylla
- Nobiskrug passenger vessels

Img: © A2SEA

Public Alarm & General Systems (PAGA)

Designed to enhance modern communication philosophies, the Sonix™ PA/GA system includes a highly sophisticated yet simplified architecture that removes the need for lengthy engineering cycles, bespoke and costly software, custom field engineering or expensive onsite support. We are able to offer fully compliant communications solutions to meet the most demanding applications for onshore, offshore and industrial installations.

Closed Circuit Television Stations (CCTV)

HERNIS™, Oxalis and Yuhua lead the way in developing advanced camera-based surveillance systems for marine and oil and gas installations worldwide. Our solutions contribute to increased efficiency and provide safety for people and equipment in hazardous areas and under extreme conditions.

Loudspeakers

The MEDC and FHF's range of hazardous, heavy duty, industrial and commercial speakers are designed to meet the requirements for public address, voice alarm (evacuation) and background music.

Status lights & audible and visual combination units

For use in situations where both audible and visual awareness is required together to alert operators of a potential hazard. Customised solutions from MEDC and FHF can be designed and manufactured using our sounders and beacons to suit the specific needs of the customer.

Call points

Manual alarm call points are designed for the purpose of raising an alarm manually once verification of a fire or emergency condition exists, by operating the push button or break glass the alarm signal can be raised.

Audible alarms

MEDC and FHF's range of audible alarms are suitable for a wide array of applications, feature a variety of tone settings, and are designed to raise the alarm in dangerous situations. Traditional bells are also available.

Telephones

Gitiesse and FHF's full range of automatic and sound powered telephones suitable for any kind of application: IP and analogue, weatherproof proof and explosion protected. Supplementary audio and optical devices are also available as an option.

Visual alarms

The MEDC and FHF range offers beacons and combination units including flashing, steady-state indicators and rotating units. These may be used to warn of potential hazards or indicate the status of plant conditions, fire and gas alarms, evacuation alerts and many more.

Control and distribution

The MEDC range offers standard and bespoke control and distribution units for harsh and hazardous environments. As a leading manufacturer of explosion proof equipment, MEDC can provide hazardous and safe area control units in a range of dimensions to suit your required specification.

Hazardous Area Communications

MEDC   Oxalis   HERNIS™   Sonix™   IMCOS™   Yuhua   FHF

Hazardous Area Communications is a comprehensive equipment offering for potentially explosive atmospheres, bringing together a range of specialist systems and solutions for the fire & gas, telecoms and CCTV markets.

Our solution names of MEDC, Oxalis, Gitiesse, HERNIS™, Sonix™, Yuhua and FHF offer a specialised team of highly qualified staff to ensure all aspects of engineering, design and configuration with your project are fulfilled - from   initial stages of concept through to commissioning.

With experience dating back over 100 years, we work together with one idea in mind; to make working environments a safer, more reliable place to operate.

Hazardous Area Communications

Unit B
Sutton Parkway
Oddicroft Lane
Sutton in Ashfield
NG17 5FB
United Kingdom

Tel:+ 44 (0) 1623 444400
Fax: + 44 (0) 1623 444531

hacmarketing@eaton.com

www.crouse-hinds.com/hac

Italy Office
Via Al Ponte Polcevera 8/14
16161 Genova
Italia

T: +39 10 7416 801
F: +39 10 740 21 31

Norway Office
P.O. Box 791 Stoa
NO-4809 Arendal
Norway

T: +47 37 06 37 00
F: +47 37 06 37 06

Germany Office
FHF Funke + Huster Fernsig GmbH
Gewerbeallee 15-19
45478 Mülheim
a.d.Ruhr, Germany

T: +49 208 82 68 0
F: +49 208 82 68 286

Dubai Office
Techno Park, Jebel Ali (South)
P.O. Box 261768
Dubai,
United Arab Emirates

T: +971 4 8066100

USA Office
3413 North Sam
Houston
Parkway West
Houston, TX 77086
USA

T: +1 713 937 9772
F: +1 713 937 9773

Korea Office
7th Fl. Parkland Building
601, Eonju-ro, Gangnam-gu
Seoul
Korea

T: +82 2 6380 483
F: +82 2 3484 6778

Singapore Office
100G Pasir Panjang Road
#07-08 Interlocal Centre
Singapore 118523

T: +65 6645 9888
F: +65 6645 9811

Saudi Arabia Office
Middle East LLC - Dammam
K.S.A.
PLANT AT 2ND
Industrial City Dammam
111, Jubail Street
PO BOX: 70160
Al Khobar, Pin:31952.
Kingdom of Saudi Arabia

T: +966 3 812 2970

EAT•N
Powering Business Worldwide

Follow us on social media to get the
latest product and support information.