EN

Q25 Hemispheric

Security-Vision-Systems MOBOTIX

Allround Easy. Allround Secure.

High-resolution widescreen panorama
from wall to wall, ideal for access control

Integrated DVR
for long-term recording without network load

Optimized image quality and reduced motion blur
even in poor lighting conditions

Digital continuous tilting, panning and zooming
without mechanically moving the camera

Microphone, speaker, MxBus
and intelligent movement sensors (MxActivitySensor)

Secure System Design
Efficient protection against theft and unauthorized access

12/14

MOBOTIX

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Panorama
LG
MOBOTIX

MOBOTIX Hemispheric Camera

Security-Vision-Systems MOBOTIX

NEXT GENERATION HEMISPHERIC TECHNOLOGY

The German company MOBOTIX AG develops and produces since 1999 complete high-resolution, network-based video systems that are cutting-edge technology and used around the world.

The new MOBOTIX Q25M Hemispheric camera is the most user-friendly, most efficient and most cost-effective system solution for room surveillance without any blind spots, including video and audio.

High-Resolution 180° Panorama View

Everything in view from wall to wall without any blind spots – one single Q25M replaces several standard cameras and provides a better room overview.

5MP Images Offer More Details

One MOBOTIX camera with 5MP records around 50 times more detail than a standard analog camera. This is what makes panorama images possible in the first place.

Digital Flash Recording In The Camera

An integrated MicroSD/SD card replaces external storage devices and provides up to 80 hours continuous recording with audio – cost-efficient, reliable and safe.

Remote Camera Access Via The Internet

With MOBOTIX, a PC is not used to record, but only to view and research images in case of an event – from any location on earth with a network connection.

Complete Solution Including Software

Both the video management software and a 4 GB MicroSD card are included in the Q25M for just EUR 798* – without any hidden costs or additional license fees.

Lowest Installation Costs

MOBOTIX cameras can be quickly and easily installed by any IT technician or electrician with network experience – it's like connecting a printer to a computer network.

Reliable For Both Indoor And Outdoor Use

Thousands of MOBOTIX systems are in use successfully throughout the world. The weatherproof cameras and operate fail-safe around the clock – from -30 to +60 °C.

* BASIC model EUR 598 without recording/audio, SECURE model EUR 798 with recording/audio • Free software download • www.mobotix.com

MOBOTIX Hemispheric Camera Q25M

Complete solution including software and a 4 GB MicroSD card for just EUR 798*. Order directly at www.mobotix.com/shop or ask your electrician or IT technician.

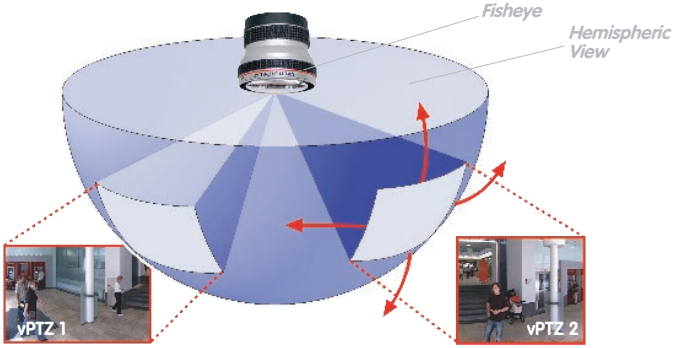
MOBOTIX Hemispheric Camera

INNOVATIVE HEMISPHERIC TECHNOLOGY

The Hemispheric Camera

The primary components of the hemispheric camera include a fisheye lens, a high-resolution image sensor and image correction software that is integrated into the camera. Using an ultra-wide angle fisheye lens, the camera captures a 180° hemispheric image of the room and projects it onto a high-resolution image sensor.

A Fisheye Perspective



When ceiling mounted, the image area of the hemispheric camera captures the entire room. The image in the hemisphere is convex, particularly near the image borders. These image sections are corrected for the viewer by the integrated distortion correction software, allowing a view of the scene from the usual perspective. The **virtual PTZ feature** allows you to enlarge or move image sections within the hemisphere, just like a PTZ camera yet, with MOBOTIX, this is achieved with no moving parts.

Handle Several Image Sections At Once

One or more image sections can be corrected for perspective in the hemispheric view, allowing you to monitor and record several diff erent areas of a room **at the same time**, something that a mechanical PTZ camera is not capable of doing.

Q25M in the In-Ceiling Set

Discreet And Low Maintenance

Hemispheric cameras are extremely discreet because they manage their task with only **one lens**, which is generally focused on an entire room and not a specific object. MOBOTIX hemispheric cameras are without mechanical moving parts and require low maintenance. In addition, they are silent when panning and focusing on a specific image area.

Q25 – The Perfect Overview

The Q25 enables a hemispheric 360° panorama view using only a single lens. One single camera can monitor all four corners of a room. The fisheye effect, which is typical for this lens, can be digitally compensated in the live image.

Less Cameras Thanks To Panoramic Views

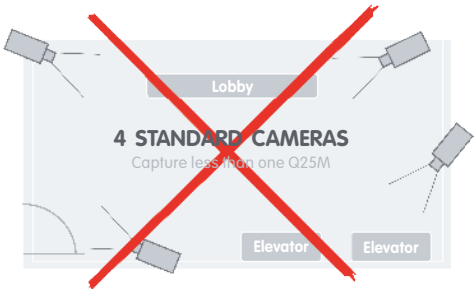
The perspective of the hemispheric image can also be transformed into an ultra-wide angle panoramic view spanning 180° if the camera is mounted on a wall, providing a wall-to-wall view of the room without any blind spots. It off ers a substantially better view of the scene, compared to other cameras, it also results in the need for fewer cameras overall. When ceiling mounted, **one** camera can also capture an entire room by two opposite panoramic views.

Original Q25M image: Wall mounted at a height of 2.3 m

Hemispheric room coverage for a wall mounting - one Q25M replaces four standard cameras

Keeping Objects In View At All Times

Using solutions featuring several individual cameras, moving objects will normally jump from one viewing area of a camera to another. This often produces a confusing situation for the viewer because objects may disappear from sight for a moment or even appear twice if the viewing areas overlap. This is not the case with hemispheric panoramic cameras. Objects remain in view at all times and the viewer can always keep good track of objects in the scene.



Everything Stored In The Recording

In contrast to a normal PTZ camera, which is always focused on one section of a room and only records that section, the virtual PTZ also allows you to pan to other areas at a later stage in the recording as the **entire room** can be recorded as a hemispheric image

Integrated MicroSD card (up to 64 GB)

Technology Leader Of Network Cameras

MOBOTIX ranks as the global market leader in high-resolution video systems. Each camera includes a high-speed processor and digital memory (SD Card) for long-term recording (decentralized MOBOTIX concept).

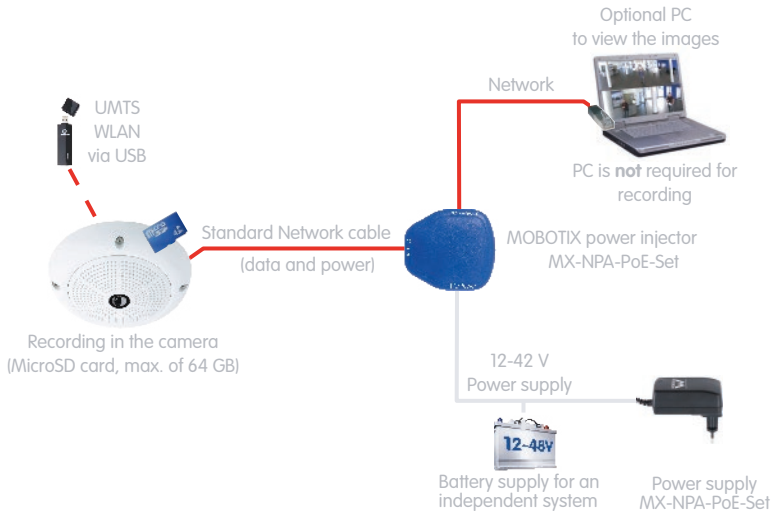
MOBOTIX Hemispheric Camera

MINIMUM COST, MAXIMUM BENEFIT

Technology Made In Germany

MOBOTIX has been developing and producing complete, high-resolution, digital video systems in Germany for a number of years now. Thanks to the superior, decentralized MOBOTIX HiRes technology with camera-integrated storage and the absence of mechanical moving parts, it is now possible to monitor a room without any blind spots for less than EUR 800 using only one single hemispheric camera.

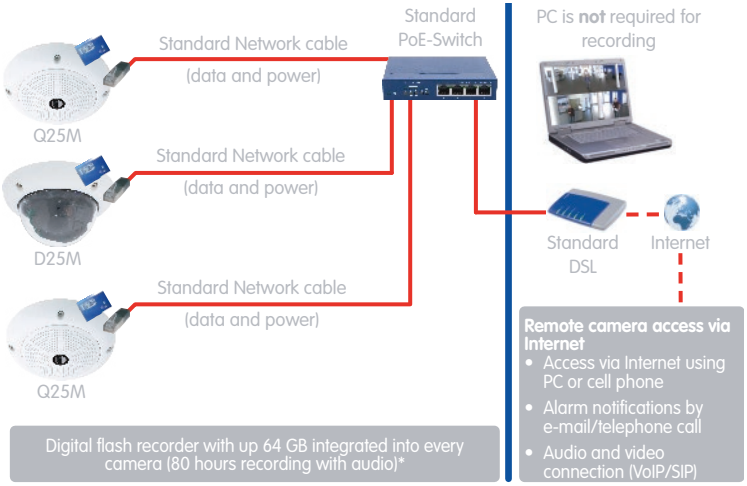
Sample Installation
With One Single Camera



Sample Installation with One Camera: *Power is supplied via a standard Ethernet cable using the MX-NPA-PoE set or using a battery (mobile surveillance solution).*

No PC/DVR Required For Recording

Advanced flash memory (such as a MicroSD card) is integrated in the camera and replaces maintenance-intensive and expensive main memory (PC/digital video recorder). Because everything is processed within the camera itself, the high-resolution images do not have to be constantly transported via the network for evaluation, which minimizes the required bandwidth and considerably reduces system costs. If necessary, the camera can also store data externally on a ring buffer on a server/PC.



Sample installation with several cameras

Remote access also via cell phone

Sample installation with several cameras: *A PoE switch is used for power supply and integration. A standard DSL router is connected to this switch for alarm notifications or remote camera access (DynDNS) via the Internet.*

Fewer Cameras And System Components

Due to improved image detail and wide angle images through megapixel technology, MOBOTIX video solutions require considerably less cameras than those of their competitors. Less cabling is required thanks to the cameras' PoE power supply via the network cable and a PoE input on the switch. This enables the uninterruptible power supply (UPS) of all cameras by buffering the PoE switch in the control center.

Simple UPS concept

Simple Installation And Connection

Instead of using a specialist security company, any electrician with network experience can install and connect the cameras, even wirelessly – simply, quickly and cost-effectively. The entire system can be easily expanded at any time. A WLAN connection is also possible without difficulty. Direct encryption-based and secured access to the camera images and alarm messages over the Internet, also to a mobile phone, replace the need to use a feebased call center. The free of charge MxEasy software automatically finds and integrates up to 16 MOBOTIX cameras into the network in a matter of seconds.

Ask your electrician or IT technician

MxEasy: Configured witha push of a button

** 4 GB memory card included as standard*

Software Included

With MOBOTIX, the software for controlling the camera and searching data can be used at no charge. You can easily control the video system from any standard PC. This even works worldwide via a DSL Internet connection.

MOBOTIX Hemispheric Camera

INNOVATIVE TECHNOLOGY

MOBOTIX Storage Concept Without Bottlenecks

These days, video data is normally pre-processed and stored centrally on a PC or digital video recorder (DVR) using video management software. Video and audio streams from all installed cameras are directed to this central device. In this case, using high-resolution cameras often results in data jam. Above all, storage is inefficient, because if the PC has limited computing power, the high-resolution video with a high frame rate must be sent directly to a storage device before it can be processed.

Standard system requires an extra PC including software for analysis and storage

If, like with MOBOTIX cameras, the camera adjusts the image format and the frame rate to the correct values for the specific application (at a gas station, two frames per second are enough for the recording), it relieves the load both of the network and of the recording device (PC, server). MOBOTIX cameras can of course also minimize the recording independent of the live video, and the sound channel is recorded even with video recordings of two frames per second.

No Storage Limit

The decentralized MOBOTIX concept enables the user to save around 10 times the number of cameras on a single storage device because the camera manages the recording itself (on a PC, server, NAS), thus reducing load on the device. For this reason, practically speaking, there is no memory limit for the entire system because theoretically, each camera is able to manage its own terabyte-sized storage device via the network. Another benefit of this concept is the use of affordable, reliable NAS drives that do not require any special software.

Choose Your Storage Location

Every single MOBOTIX camera can be configured to record internally or externally via the network. If necessary, a USB stick can be connected by cable directly to the camera, but on the other side of the wall, where it cannot be stolen.

SD Card Memory Reduces Storage Costs

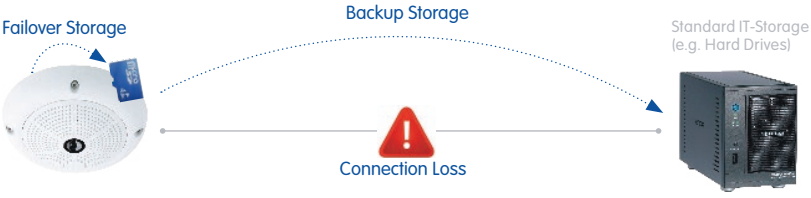
MOBOTIX cameras are also able to store up to 64 GB of video in their integrated memory. Thanks to this high storage capacity and the option of recording only the sequences in which an event occurs, external storage devices such as hard drives are rarely required. This saves on storage devices and network infrastructure and reduces the maintenance cost of mechanical components such as hard drives or fans. The internal SD cards (flash memory) are digital and since they do not have mechanical components, they are maintenance-free.

A single 64 GB SD card has space for:

- 2 week of continuous recording from four gas station lanes
- 4 days of video in TV quality
- 200,000 clips of 10 s each in high-resolution
- 2 million images

Ideal For Difficult Network Conditions Or WLAN

MOBOTIX cameras are ideal for difficult network conditions or WLAN connections because the internal flash storage bridges network failures or bandwidth fluctuations and synchronizes data when a connection is re-established with the external storage device.



MOBOTIX systems are decentralized and secure, even without a PC for storage

The option of backing up the internal memory at preset times (for example, at night) reduces the load on the network and, in many cases, enables shared use of the existing network infrastructure (available soon via software update).

MOBOTIX Saves Only What Is Necessary

Only relevant image detail (fading out sky, ceiling etc.); only relevant events (e.g. movement in the image); long-term recording only with temporarily increased frame rate during event, but no storage limitations in the MOBOTIX system thanks to modern NAS storage technology.

MOBOTIX Hemispheric Camera

INNOVATIVE HEMISPHERIC TECHNOLOGY

Perfect Room Overview

With the innovative MOBOTIX Hemispheric Technology, an entire room can be ideally monitored. For instance, one single, and particularly elegant and discreet Q25 hemispheric camera replaces the time-consuming and expensive installation of several standard cameras. This camera, a world first, is evidence of the MOBOTIX commitment to innovation as the global leader in megapixel video security systems.

High-Resolution 180° Panorama

When several cameras are monitoring a single room, it is difficult to understand the room layout due to the different viewing directions of each camera. This makes it hard to comprehend the overall setting. **The new panorama function of the Q25 delivers a widescreen image of a high-resolution 180°** allround view. High image quality is achieved through the use of a 5 megapixel sensor and the new hemispheric lens of the Q25.

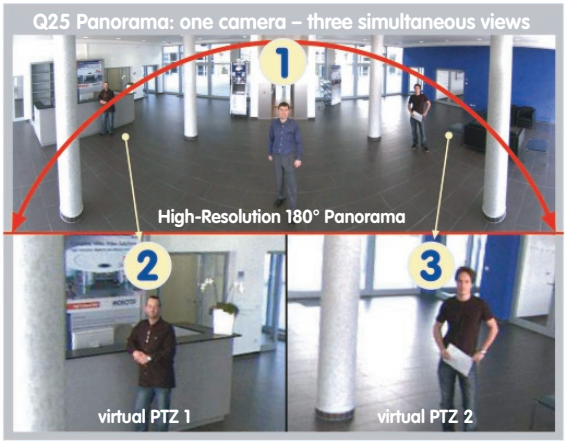
- **No blind spots** from wall to wall and from floor to ceiling
- Ideal for securing **a room** or entrance area **with only one camera**
- The hemispheric camera also delivers two (opposite) double panorama images
- **Fewer cameras, less cabling, lower costs and more discretion**
- **All objects in view of the observer** – in contrast to a conventional solution with multiple cameras
- High image quality thanks to **the high-resolution megapixel sensor (5 megapixel color sensor** or **highly-sensitive megapixel black and white sensor** for low-light conditions)

Very Simple Installation

Just install the camera on the ceiling, wall or pole, connect the network cable or wireless module, and you're done! Probably no other camera can be connected more quickly or easily than a MOBOTIX camera. And because fewer cameras are needed, the installation costs drop even further.

Panorama Focus – One Camera, Three Views (Wall-Mounted)

Maximum room overview while simultaneously viewing detail in a single image: the Q25M is capable of providing two more views at the same time with the 180° panorama, allowing you to focus on two scenes in parallel ("Panorama Focus" display mode).



Panorama Focus:
Original Q25M image

Original full image

Double Panorama For A Simultaneous View In Two Directions (Ceiling-Mounted)

When the camera is mounted in the center of the ceiling of a room, "Double Panorama" display mode provides a corrected panorama image of both halves of the room. It corresponds roughly with the situation of personally standing in the middle of the room and being able to look both forwards and backwards at the same time. A superb overview for the user – provided by a single Q25M camera alone.

Double Panorama:
Original Q25M image

Original full image

MOBOTIX Hemispheric Camera

Full Image And Normal View

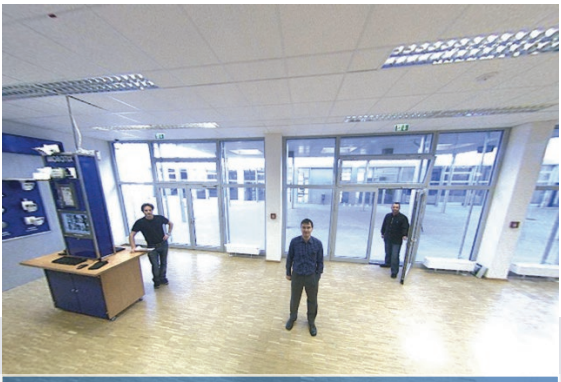
With innovative MOBOTIX Hemispheric Technology, an entire room can be ideally monitored. For instance, one single, particularly elegant and discreet, Q25M replaces the time-consuming and expensive installation of several standard cameras. The overview image provided by a single Q25M, which may be tailored in a number of ways according to specific user requirements, not only reduces the number of required cameras, but also minimizes the system costs by reducing the wiring complexity, emergency power requirements and number of recording devices required.

In addition to Panorama, Double Panorama and Panorama Focus views, the Q25M image may be displayed on a monitor in the original fisheye version ("Full Image" display mode), the camera-corrected full image ("Normal" display mode) or in a quad view of all four directions ("Surround" display mode). Switching to a different display mode is possible at any time within seconds.

The large full image, which can be up to 5MP, is generated by a special L12 lens. (Perspective horizontal/ vertical: 180°/160°)

Fisheye Original Image: Full image

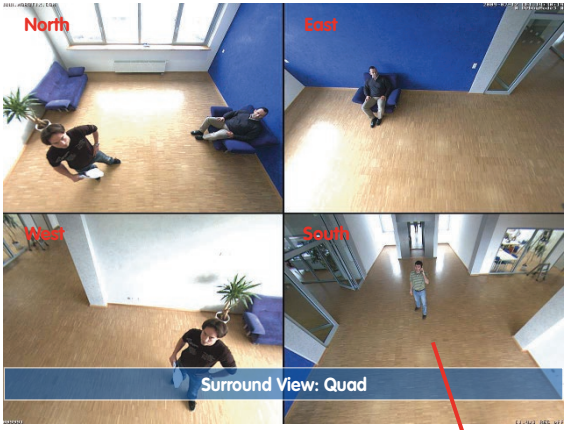
The enhancement and correction of the live image take place in the camera itself and do not burden the PC or the network



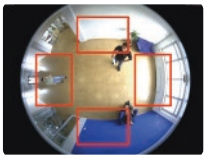
Corrected Image Section: Normal

Surround View (Quad View), Based On The Correct Full Image

The Q25 "Surround" display mode replaces (when ceiling mounted) four cameras, and shows four directions simultaneously on the monitor in a quad view. The preset North position can be moved to any direction in the image; the camera generates the other three directions (East, South, West) automatically and stores them as separate views.



Original Q25M image: Each of the 4 views can be individually modified



Original full image

Each of the four views features a software-controlled pan/tilt/zoom function (virtual PTZ), allowing it to be customized as necessary.

In order to reduce user workload, the Q25M can store in addition to the North, East, South and West standard views, a total of **256 user-defined camera views using the vPTZ function**, which can easily be brought up using joystick keys or softbuttons. Besides being able to manually bring up specific camera views, the camera can also show them automatically by moving through the North, East, South and West views or by showing the first 16 saved camera views (one after the other like in a slide show).

Robust, No-Maintenance Technology

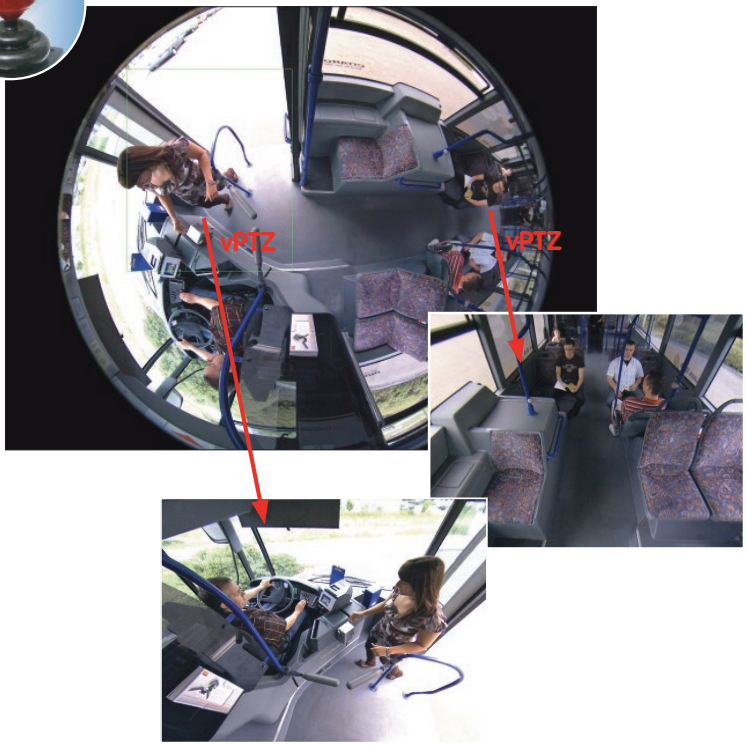
MOBOTIX cameras basically have no mechanical moving parts. This makes the camerasvery resistant to wear and tear and reduces both maintenance costs and powerconsumption.

MOBOTIX Hemispheric Camera

Virtual PTZ (vPTZ) – No Motor Required

The Q25M can zoom in on detail as well. These vPTZ functions are a standard feature in the integrated Q25M camera software. The image from the hemispheric camera can be enlarged using e.g. the mouse wheel, a joystick or a software-controlled PTZ panel, and you can "move" the view to any section of the image. This provides the features of a mechanical PTZ camera without the disadvantages of maintenance and wear.

Quick and easy navigation with a USB joystick



The vPTZ functionality works differently depending on the camera operation platform (**web browser, MxEasy, MxControlCenter**). Virtual zoom, pan and tilt using MxEasy and MxControlCenter is very simple thanks to special software tools and the use of an optional joystick. However, a joystick may also be used even with pure browser-based operation from Internet Explorer (together with an ActiveX plug-in).

Operation Using The Mouse And Joystick

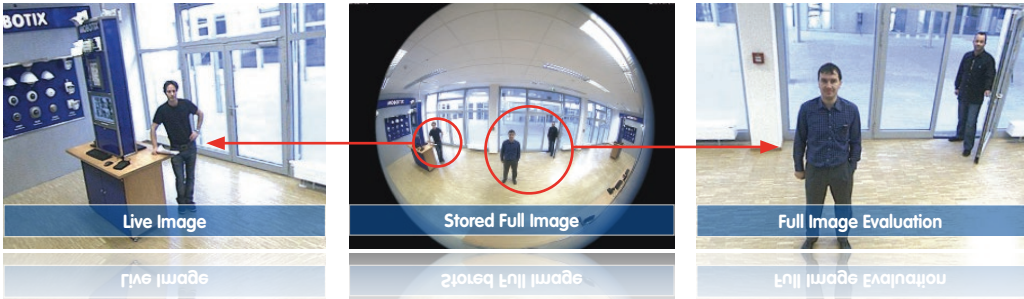
The virtual PTZ function (vPTZ) allows you to use a mouse or joystick to continuously zoom in on images from the selected video source and "virtually" move the enlarged image section within the entire image sensor area.

Simultaneous Corrected Live Image And Full Image Recording

All conventional, motorized PTZ cameras only store the image that is currently viewed as the live image (**live image recording**). This has one serious disadvantage as the recording can only show what has happened in the "visible" portion of the image; the rest is lost and cannot be examined later on. For this reason, MOBOTIX has added the new **full image recording** feature to the Q25M. This will not store the currently viewed image that reflects the pan/tilt position and the zoom setting chosen by the user, but the full sensor image – without vPTZ settings or image correction. When examining the recorded images at a later point in time, the vPTZ features again come into play, as they allow zooming the visible image and use the pan/tilt features to examine every corner of the recorded full image.

Example: The people marked by the large circle in the middle area of the image would not have been recorded by a regular PTZ camera in the PTZ setting shown in the live image; the full image recording of the Q25M in this example allows you to determine at a later stage the exact time at which the people entered the image area recorded by the camera. **A browser** (Internet Explorer with MxPEG ActiveX plug-in), **MxControlCenter** or **MxEasy** can be used to examine the recorded sequences.

Integrated vPTZ functions allow "analysis" of the complete saved full image at a later point in time (in MxEasy and MxControlCenter)



MOBOTIX Full Image Storage

It is possible to always store a **full image (fisheye)**, regardless of the live image stream that is being displayed. As a result, the recording always contains the full image, even though the viewer may have used the vPTZ features to zoom into the image in order to examine a specific detail.

MOBOTIX Hemispheric Camera

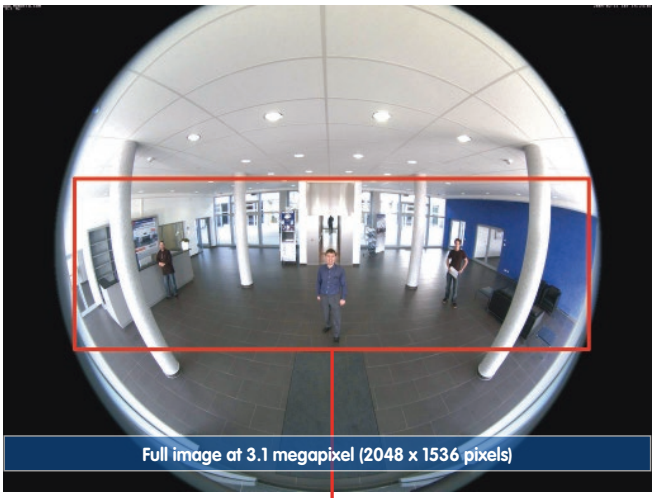
The camera software is responsible for image correction, reducing load on the user PC

Maximum Ease Of Use

The full image generated by the hemispherical lens (fisheye) can be difficult to evaluate. MOBOTIX solves this problem with image distortion correction in the camera software that displays perfectly corrected live images. The user PC does not experience any additional load through this process, as image correction and generation of all desired image views takes place in the camera itself. The result is that a large number of panoramic cameras may be displayed simultaneously on a single PC.

Highly Efficient, Application-Oriented Image Transfer

While other camera systems must transport the full image over the network for further processing, a MOBOTIX camera will only transmit the desired image sections. This means that a Q25M panorama image will only require a small part of the usual data and bandwidth. Data from up to six times as many MOBOTIX cameras may be transported over the same network compared to "standard" cameras.



Corrected image after panorama correction

Economical bandwidth usage due to smaller, in-camera corrected images (no loss of image information)

Internal DVR With 64 GB

The Q25M saves up to 800,000 panorama images or 66 hours of high-resolution video with sound directly to the integrated fl ash memory, without requiring an external storage device or PC, therefore using no additional network load.

Internal DVR

The Q25M Secure model features **direct recording to integrated MicroSD cards**, which makes the camera fully independent of any external storage media, even for longer periods of time. The camera internally saves high-resolution video and audio, without requiring an external storage device or PC or overloading the network whatsoever. Old recordings may be overwritten automatically or deleted automatically after a specified period of time. A 64 GB MicroSD card, for example, allows the camera to store more than two million event images in VGA format (640 x 480). For security reasons, the camera can even encrypt the stored data.

4 GB MicroSD card preinstalled in the camera (Q25M-Secure)

Power failures are not an issue, as the video and image sequences remain safely stored on the MicroSD card. Access to stored video sequences is possible at any time from the camera user interface in the browser, MxControlCenter or MxEasy. If you would like to archive sequences, you can store all of the data or only certain parts to a computer or external hard disk.

High Frame Rates Of Up To 30 fps

Like all other MOBOTIX cameras, the Q25M models can generate live video streams with high frame rates and high image resolution (5MP with 2592 x 1944 pixels). Up to 30 fps are generated at a megapixel resolution of 1280 x 960 pixels. Even at QXGA, the camera will still generate up to 15 fps! And the audio playback is always lip-synchronous.

Robust And Maintenance-Free

Thanks to its low power consumption of approximately 4,5 watts and the total absence of mechanical moving parts, the Q25M models feature the highest operating temperature range from -30 to +60 °C. Both Q25M models (Basic & Secure) are absolutely dust proof to IP54, with the Secure model being resistant against water jets (IP65) also. Since the cameras neither fog up nor require heating, power can be supplied all-year round via the Ethernet cabling using standard PoE products.

Camera Design Creates New Applications

Some application scenarios benefit from a surveillance camera that is present, but doesn't attract attention. The low-key elegance of the camera's design, especially when installed with the In-Ceiling set, makes the Q25M the ideal solution for the intersection of discreet design and inconspicuous look. For example, hotels and restaurants – not to mention installations in public buildings, waiting rooms, and showrooms – present a suitable backdrop for this type of equipment.

MOBOTIX Saves Securely

Due to its lack of any moving parts, flash memory is particularly reliable and secure. The MOBOTIX flash file system (MxFFS) means that data stored internally cannot be read or transferred by unauthorized third parties, even if the card is stolen.

MOBOTIX Hemispheric Camera

The integrated DVR functionality with long-term storage on a MicroSD card also makes the camera an ideal solution for **mobile applications** since it only requires a power supply via the network cable (standard PoE) for full event-driven recording with video and audio, thus delivering a complete **standalone product**. Application examples in this context are installations in public transportation such as busses, trains, aboard ships, airplanes, etc.

Q25M in the In-Ceiling Set (local public transport bus)

Q25M in the In-Ceiling Set with stainless steel ring (elevator)

MxEasy™ – Intuitive Application For Controlling Up To 16 MOBOTIX Cameras

MOBOTIX 100% FREE SOFTWARE

MxEasy aims at easy operation of th most important camera functions through its intuitive user interface, thus creating a new experience when viewing and controlling MOBOTIX cameras. The clear design allows up to 16 cameras to be managed, and the application can show up to four cameras at the same time.

All settings selected in MxEasy (e.g., virtual camera position, zoom, brightness, volume, microphone sensitivity, image storage and signal outputs) are usable immediately and are stored instantly in the configuration of the corresponding camera. The calendar functions integrated in the Alarm Planner provide an innovative tool for the scheduled settings of one or more cameras. This tool not only controls video and sound recording based on specified time and date information, but it also offers features like motion detection, image brightness and the microphone to be activated/deactivated based on a date and time schedule.

- Cameras can be installed without any knowledge of networks
- Supports up to 16 MOBOTIX cameras
- Time- or event-controlled recording
- Configurable motion detection, image brightness and microphone
- For Microsoft Windows and Mac OS X

MxEasy – Also Ideal As An Entry-Level Video Technology System

This program finds all existing MOBOTIX cameras and automatically conducts the initial configuration of the devices. You do not require in-depth knowledge of network technology to connect or operate your MOBOTIX cameras.

MOBOTIX Hemispheric Camera

MxControlCenter™ – Professional Video Management

The MxControlCenter video management software can be used to combine any number of cameras at any locations into a well-structured and powerful video security system with centralized or local access-protected operation and analysis.

The state-of-the-art software, specifically tailored to support high-resolution MOBOTIX network cameras, provides a user-friendly interface and camera image display, convenient video search functions, effective alarm handling, automatic camera integration, video storage on file servers, as well as useful configuration and update wizards.

- Proven a thousand times worldwide in the most demanding video applications
- Unlimited number of users and cameras
- No license fees
- Individual user interface, adaptable to each individual user
- Simple installation and complete use on any standard PC
- Convenient layout editor for integrating building plans
- Integration of conventional network and analog cameras as well
- For Microsoft Windows

MOBOTIX Software Free-Of-Charge

The entire camera setup and operating software are either integrated directly into the camera (web browser-controlled camera software) or can be downloaded from the MOBOTIX website free of charge (www.mobotix.com > Support).

The Mobile Remote Station For Your MOBOTIX HiRes Video System

MOBOTIX offers high-resolution, network-based video security systems that meet the highest quality standards – with user-friendly hardware and software from a single source. The new, multifunctional App allows you to stay in contact with your MOBOTIX cameras from anywhere in the world. The App is available free of charge on the App Store for the iPad, iPhone and iPod touch.

- Mobile remote station for MOBOTIX cameras and Door Stations
- Bandwidth-optimized remote access
- Live images and recordings in the highest MOBOTIX HiRes quality
- Two-way communication intercom, door opening and video mailbox access
- Direct playback of camera recordings without buffering
- Doorbell and alarm notifications, "privacy" configuration mode
- Convenient search functions, viewer for external MxPEG videos
- Grouping of cameras and filtering of events

Integrated Bandwidth Optimization Available With The App

Remote bandwidth optimization adjusts the image size and frame rate to the available bandwidth. This not only applies to the live camera feed but also to recordings and image sections.

MOBOTIX Hemispheric Camera

MxActivitySensor is available for all MOBOTIX video systems incl. Door Station

Revolutionary, Camera-Integrated Video Motion Analysis

The biggest issue of motion detection software on the market today is that they generate a vast number of false alarms. In answer to this problem, MOBOTIX developed MxActivitySensor, an extremely reliable analysis tool unique on the market. MxActivitySensor is a software-based analysis tool for detecting movement of people and objects in an image area (full image or custom-defined area). MxActivitySensor delivers reliable results even in applications where a lot of external interference is present, in contrast to the still available video motion that registers all image changes in defined video motion windows. For example, the camera distinguishes between movements of vehicles, people or objects that trigger an alarm and movements that are not relevant for alarms, such as changes in illumination, heavy rain or trees swaying in the wind.

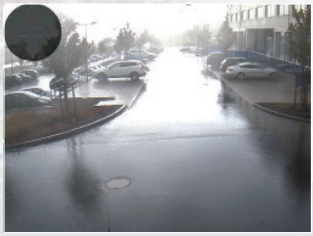
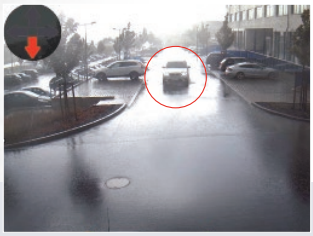
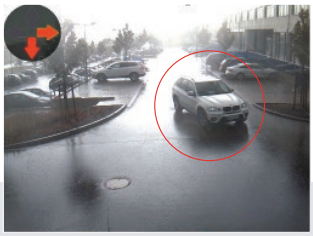
What Is Detected?

The sensor detects objects or people crossing the defined image area or continuously moving toward or away from the camera. MxActivitySensor works so reliably that it only detects people who enter or leave a room, while ignoring those who just stand up from sitting, turn around, etc.

MxActivitySensor also offers the option of setting specific directions of movement (up/down/left/right) as relevant events that trigger an alarm. This way, it is possible to capture movements going against the direction of traffic on a one way street, for example.

- Detect the movement of people and objects
- Filter according to directions of movement
- Fast, simple configuration
- Reliable even when interference (e.g., weather) is present
- Reduces the rate of false alarms by up to 90%, thus greatly freeing up system resources in terms of bandwidth and storage capacity
- Integrated into all MOBOTIX Secure cameras

In this sequence, only the movements of the white vehicle were registered, while the trees swaying in the storm were ignored. This intelligent technology thus drastically reduces the number of false alarms

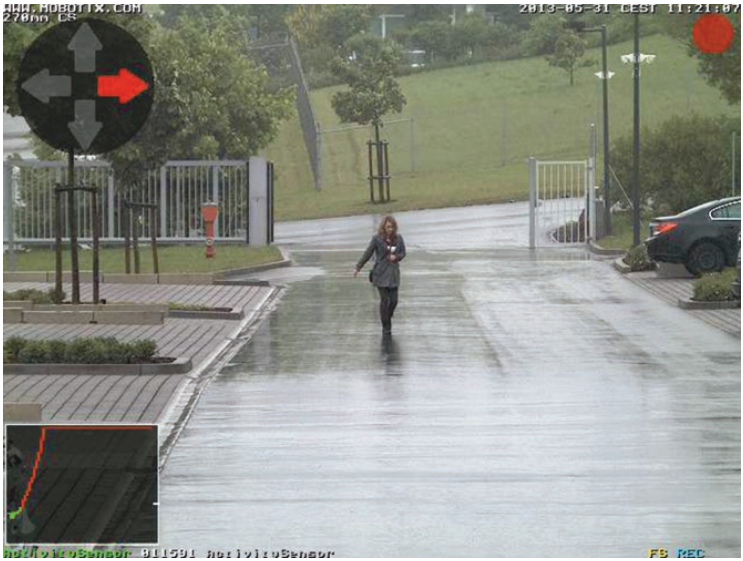




What Happens When MxActivitySensor Is Triggered?

MxActivitySensor is a sensor built into the camera, just as the microphone or brightness sensor, and users can individually configure what actions take place when the sensor triggers. When MxActivitySensor detects motion, the range of possible actions the camera can take includes storing the evidence video, playing audio messages via a speaker, executing an alarm telephone call or delivering images via FTP or e-mail. In addition, the MOBOTIX App for mobile iOS devices can provide an acoustic or visual alarm, grant access to the live image of the camera and offer the option of two-way communication over the Internet from anywhere in the world.

Configured In Just A Few Moments

The standard configuration of MxActivitySensor already provides better results in most situations than customary video motion detection applications. The software is so easy to use that even installation, maintenance and analysis can be performed by anybody. In principle, it is only necessary to define the desired image areas and the directions of movement that trigger an alarm.



MxActivitySensor is triggered by significant movements of objects and persons and indicates the direction of motion (red arrow)

The diagram box at the bottom left shows the current motion activity and the configured trigger threshold (in this case: lower third). The higher the deflection level, the more activity

Compact Guide: MxActivitySensor

You can find all relevant information on the options for configuring/controlling the MxActivitySensor on the MOBOTIX website (www.mobotix.com) in the Support > Media Library > Compact Guides section.

MOBOTIX Hemispheric Camera

Q25M with
In-Ceiling Set

SIMPLE AND FLEXIBLE INSTALLATION

The Q25M, being an overview camera, is primarily designed for installation on walls or ceilings. The supplied hemispheric L12 180° lens captures the entire room, practically from wall to wall and from the floor to the ceiling.

Multiple Installation Options

MOBOTIX cameras can be used under almost all weather and temperature conditions and they also offer suitable installation materials from a wide range of accessories for any conceivable application and installation scenario.

The Q25M is available in **Secure and Basic models**, which come with different features. Both models can also be ordered with an L25 Super Wide-Angle lens with a horizontal image angle of 82°. It is also possible to install the camera without any special accessories.

The In-Ceiling Set offers the most stylish installation option for the Q25M and can also be used to mount the camera on a wall. When properly installed, the only visible component is a particularly sleek and discreet hemispheric camera, while most of the remaining components are concealed inside the ceiling.

Network Connection And PoE Power Supply

In the Q25M, the same network cable is used for both the network connection and the PoE power supply. The pre-installed patch cable attached to the camera is connected with the (Cat. 5) on-site network cable. The PoE current is simply fed into the network cable using a PoE switch or the convenient MOBOTIX NPA-PoE set.

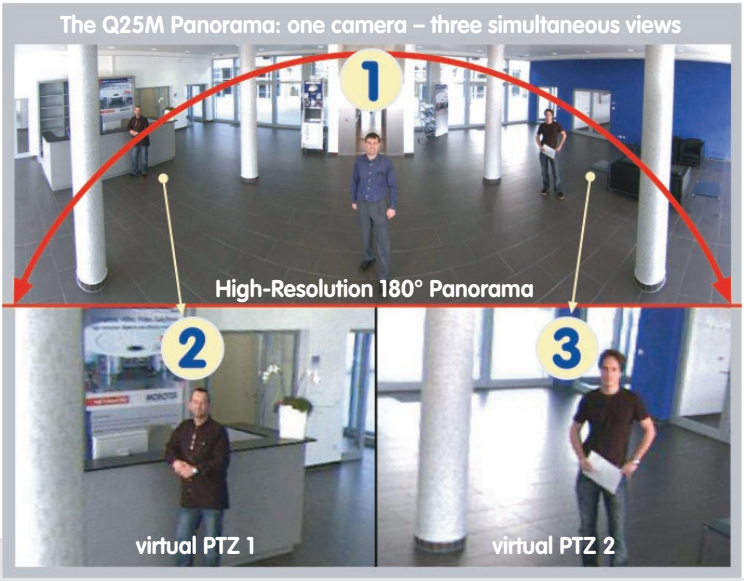
Wall installation with
10° On-Wall Set

Wall-Mounted

To make optimal use of the high-resolution 180° panorama functionality of the Q25M, the camera must be mounted on an internal or external wall. The entire hemisphere of the room directly in front of the camera is then effectively monitored, from the wall on the left of the camera to the wall on the right. Corresponding fine-tuning in the user interface software allows the displayed panorama image to be adjusted to different practical applications.

Wall installation with 10° On-Wall Set

The camera should preferably be mounted in the middle of the room to be monitored using the 10° On-Wall Set

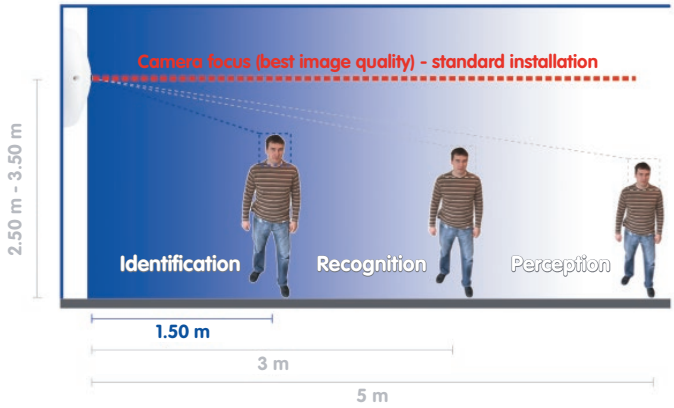


Original image from the camera shown above using the 10° On-Wall Set (Panorama Focus View)

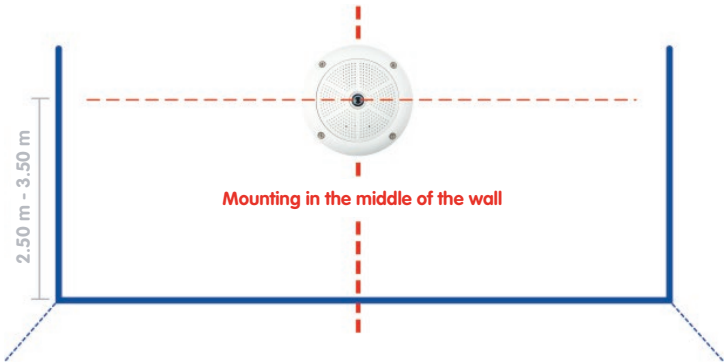
MOBOTIX Hemispheric Camera

Selecting An Appropriate Camera Position

The Q25M is primarily suited to providing an excellent overview, and less suitable for more exact details. For active operation, the camera should be mounted at a (out of direct reach) height ranging from 2.5 to 3.5 m People, for example, may be identified very well at distances of up to 1.5 m, and with sufficient detail at up to 3 m. Objects can be recognized even at distances of 5 m and more from the camera. During installation, ensure that the camera is focused on the most important areas of the room as directly as possible, in order to provide the desired level of detail recognition. For wall installation, use of the 10° On-Wall Set is ideal in many cases.



Recommendation:
Mounting the camera in the middle of the wall.

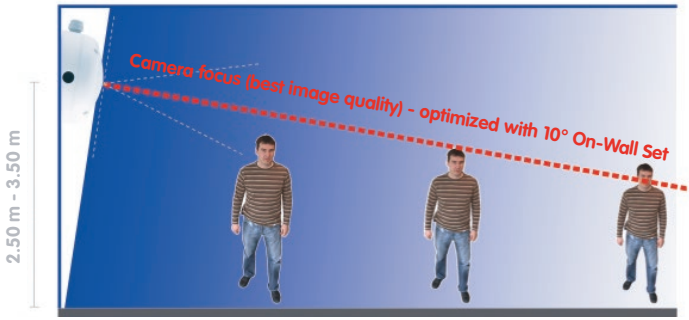


Lowest Installation Costs

Any electrician with network experience can connect MOBOTIX cameras to a computer network using inexpensive standard IT components (just like connecting a printer).

Wall Installation With The 10° On-Wall Set For Image Optimization

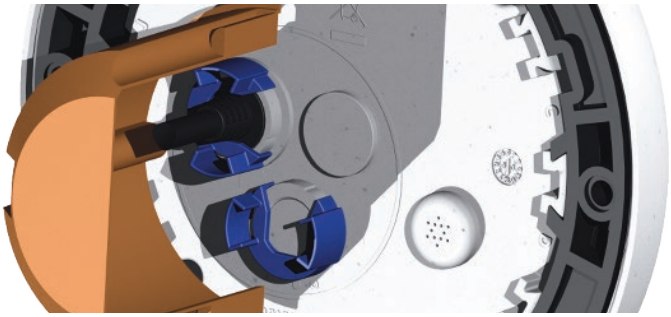
An on-wall set, available as an accessory in 0° and 10° inclinations, may also be used for installation. While the 0° set primarily off ers easier installation and more storage space for cables and add-on modules (WLAN, connectors, etc.), the 10° set may also increase the image quality in certain cases. In particular for wall installations which must be carried out at greater heights for technical or other reasons (over doors, windows, etc.,) adding a slight tilt to the camera, and thus also the lens, will return better results, as the center of the lens is then focused more directly on the center of activity in the room (optimal utilization of lens capabilities).



Optimized image quality through wall installation with On-Wall Set 10°

Wall Mounting Over A Wall Outlet

Professional wall or ceiling installation of a Q25M is generally possible without accessories. However, due to elevation of the rear casing of the camera caused by connections and holders, a wall outlet should be installed prior to camera installation (see drilling template Q25M). This provides perfect protection to the cabling, ensuring that it cannot be seen or damaged from outside.



Lowest Maintenance Costs

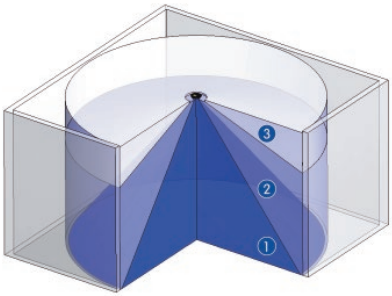
Fiberglass-reinforced, robust housing with fully concealed cabling and no moving parts guarantees long product life without the need for maintenance.

MOBOTIX Hemispheric Camera

Ceiling-Mounted

Discreet ceiling installation using the In-Ceiling Set

Thanks to its hemispherical lens, a single Q25M can monitor an entire room right into each of the four corners (360° Panorama View). The camera's should ideally be positioned on the ceiling in the center of the room. Due to its inherent physical and optical properties, the precision of the lens decreases as the distance from the lens grows. This means that the maximum usable image area varies greatly depending on the intended purpose of the camera. Rooms with a square floor area of up to approx. 40 m² in general allow recognizing details even at the borders of the full image. If you would only like to know if persons enter a room, or to monitor specific objects, rooms of up to 100 m² floor area can be monitored using a single Q25M.



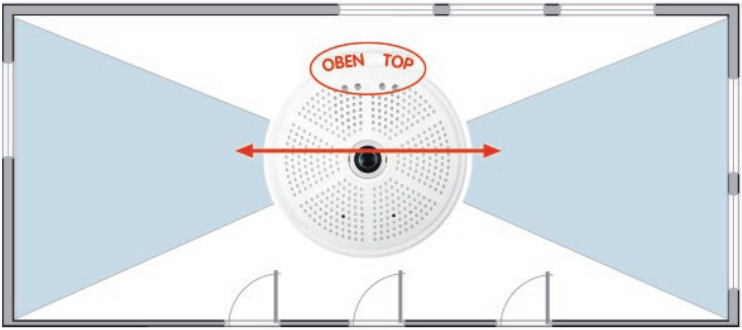
The image quality (precision) diminishes as the distance of an object to the camera focus point increases: 1 very good, 2 good, 3 satisfactory

Wall Mount (MX-OPT-WH)

Outdoors, the Q25M is usually mounted on a building wall, corner or pole instead of the ceiling. For this situation, we recommend the use of the practical wall mount from the range of accessory products or an extension.

Non-Square Rooms

When viewing a 360° (full) image in the browser, you will notice that the top and bottom of the image is not fully visible, i.e. some image information has been clipped. This is not a fault of the camera, but intended behavior that aims at achieving the best possible utilization of the image sensor by the camera software. Bearing this in mind, it is advisable to install the Q25M in rectangular room ceilings so that the arrow marked OBEN / TOP points towards one of the longer walls of the room as shown in the figure.



Original full image from the Q25M (ceiling installation in a rectangular room)

MOBOTIX Hemispheric Camera

CAMERA HOUSING AND CONNECTORS

The MOBOTIX Q25M consists of the camera housing (motherboard and lens), the outer shell and the mounting ring.

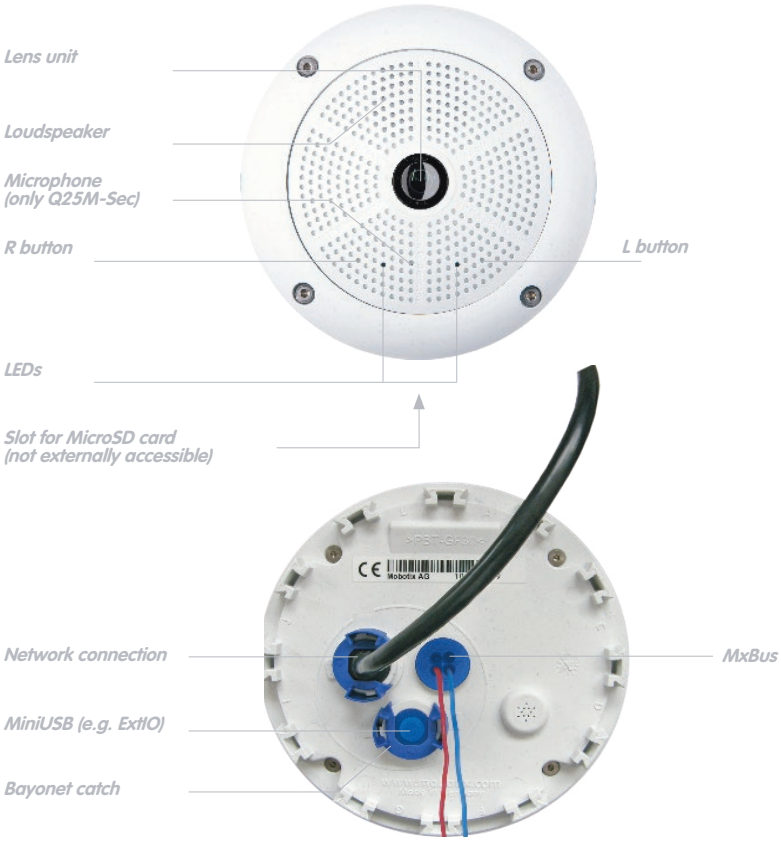
Connectors

- Network (Ethernet network incl. PoE power supply)
- MiniUSB (e.g. for ExtIO)
- MxBus for MOBOTIX additional devices
- Slot for MicroSD card

The camera can be connected by network cable.

A MiniUSB is provided for extensions such as ExtIO.

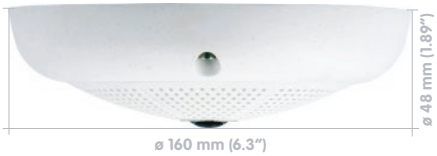
The connection cables are connected directly in the rear casing of the camera using special, securely sealed MOBOTIX connectors.



Maximum Reliability

Over 100,000 MOBOTIX systems are in use successfully throughout the world. These cameras operate resiliently around the clock.

Camera Dimensions



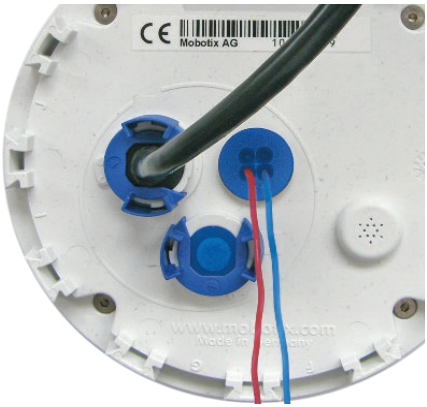
The discrete camera with its compact dimensions is not much bigger than a smoke detector

Weatherproofed Cabling (IP65) - Patented By MOBOTIX

MOBOTIX cables passing into the back of the camera (patch cable for the Ethernet connection and ExtIO cable) are secured using a special waterproof cable retainer with bayonet catch (IP65).

When replacing this cable, ensure that the cable is properly seated in the port and that the retainer with the blue bayonet catch is locked (short clockwise turn until it clicks into place).

Open the cable retainer by rotating the bayonet catch to the marked position



Bayonet catch closed

Bayonet catch open

Only use **original MOBOTIX cables** to connect the camera. Standard cables purchased from other suppliers do not meet the necessary specifi cations for proper retention (no IP54 and IP65 weather protection

Ethernet patch cable (left) and Mini USB (right) with washer

Weatherproof (IP65)

The robust and weatherproof MOBOTIX cameras work without mechanical moving parts virtually maintenance free and without wear and tear.

MOBOTIX Hemispheric Camera

AVAILABLE Q25M ACCESSORIES

On-Wall Set (MX-OPT-AP)
Consists of On-Wall Mount and mounting supplies. Conforms to U.S. installation standards. Reliably protects the cabling and allows integrating additional modules within the On-Wall Mount (WLAN, battery, ...).


ø 160 x 85 mm

10° On-Wall Set (MX-OPT-AP-10DEG)
Consists of On-Wall mount and mounting supplies for inclined installation (10°) of a camera. Conforms to U.S. installation standards. Reliably protects the cabling and allows integrating additional modules within the On-Wall Mount (WLAN, battery, ...).


ø 166 x 74 mm

Vandalism Set (MX-Q24M-Vandal-ESPO)
Consists of polished stainless steel housing, lens protector and security screws. Ideally suited for surveillance at critical locations.


ø 160 mm

Vandalism Set (MX-Q24M-Vandal-ESMA)
Alternative design featuring matt stainless steel housing. Same as above plus lens protector and security screws.


ø 160 mm

Consulting And Installation

Interested parties should contact an electrician or IT technician. You can also contact us at support@mobotix.com or by telephone at +49 6302 9816-0.

In-Ceiling Set (MX-OPT-IC)
Simple installation from the front. Suitable for discreet surveillance. Optionally available with a stainless steel ring.

Also suitable for mounting to drywall

In-Ceiling Set (MX-OPT-IC-BL)
Simple installation from the front. Suitable for discreet surveillance (black/metallic look).

Also suitable for mounting to drywall

Outdoor Wall Mount (MX-OPT-WH)
Consists of Outdoor Wall Mount and mounting supplies. Covers RJ45 wall outlets. Space for expansion modules (battery, UMTS, WLAN, etc.). Easily mounted to poles using Pole Mount. Weatherproof IP65.

Corner And Pole Mount (MX-OPT-MH)
Flange for Outdoor Wall Mount. Can be mounted to wall corners or poles. 3 mm stainless steel, white. Wall Mount may be ordered separately or as a set.

Network Power Adapter Set (MX-NPA-PoE-Set*)
The Network Power Adapter Set is a remote power supply for the MOBOTIX Q25M into the network cable. This makes it possible to use the network cable to supply power up to 100 m. The MOBOTIX Network Power Adapter Set including power supply with RJ45 connector is required if you do not use a PoE compatible switch or router to supply power to the MOBOTIX camera.

* Country-specific versions of the set are available from MOBOTIX (DE, US, GB, AUS, JP)

Order Directly: www.mobotix.com/shop

Order directly using the web shop. 24 hours a day for total convenience. Both private and commercial customers can use this service.

MOBOTIX Hemispheric Camera

	Hemispheric			L25-82°		
	Q25Mi-Basic D12 *MX-Q25Mi-Basic-D12*	**Q25M-Secure D12** *MX-Q25M-Sec-D12*	**Q25M-Secure N12** *MX-Q25M-Sec-N12*	**Q25Mi-Basic D25** *MX-Q25Mi-Basic-D25*	**Q25M-Secure D25** *MX-Q25M-Sec-D25*	**Q25M-Secure N25** *MX-Q25M-Sec-N25*
Q25M Hardware Features						
Q25M Hardware Features	IP54	IP65	IP65	IP54	IP65	IP65
Ethernet/USB*/MxBus	•/-/-	• / • / •	•/ •/ •	•/-/-	•/ •/ •	•/ •/ •
MicroSD slots	-	1	1	-	1	1
Integrated microphone/speaker	-/ •	•/ •	•/ •	-/ •	•/ •	•/ •
Mono (M)/Dual (D)	M	M	M	M	M	M
Image Sensor	Colour	Colour	B/W	Colour	Colour	B/W
Lens	L12	L12	L12	L25	L25	L25
Max. image format	HD	5MP	5MP	HD	5MP	5MP
Resolution horizontal x vertical	1280x720	2592x1944	2592x1944	1280x720	2592x1944	2592x1944
Max. frame rate (fps): HD/QXGA/5MP	30/-/-	30/15/10	30/15/10	30/-/-	30/15/10	30/15/10
Sensitivity at 1/60 second (lux)	1	1	0,1	1	1	0,1
Sensitivity at 1 second (lux)	0,05	0,05	0,005	0,05	0,05	0,005
RAM Storage (MB)	64	128	128	64	128	128
Temp. video storage, ring buffer (MB)	2	64	64	2	64	64
Internal DVR (MicroSD card), ring buffer (GB)**	-	up to 64	up to 64	-	up to 64	up to 64
CIF images (for 4 GB int. DVR), approx.	-	250.000	250.000	-	250.000	250.000
VGA images (for 4 GB int. DVR), approx.	-	125.000	125.000	-	125.000	125.000
HD images (for 4 GB int. DVR), approx.	-	40.000	40.000	-	40.000	40.000
QXGA images (4 GB int. DVR), approx.	-	20.000	20.000	-	20.000	20.000
5MP images (4 GB int. DVR), approx.	-	12.500	12.500	-	12.500	12.500
External audio (Line-In/Out)	-	-	-	-	-	-
Signal Input pins via	-	MX-232-IO-Box	MX-232-IO-Box	-	MX-232-IO-Box	MX-232-IO-Box
Signal outputs via	-	MX-232-IO-Box	MX-232-IO-Box	-	MX-232-IO-Box	MX-232-IO-Box
Concealed cabling	•	•	•	•	•	•
Q25M Hardware Features						
Digital zoom (continuous) with panning	•	•	•	-	•	•
Panorama and surround views	•	•	•	-	-	•
MxActivitySensor	-	•	•	-	•	•
Full image recording	-	•	•	-	•	•

*Special MiniUSB adaptor cable available as an accessory.

**A 4 GB MicroSD card is included with all Q25M Secure models, MicroSD cards of up to 64 GB may be used (SDHC).

• Available ex works
- not available

	Hemispheric	L25-82°
Lens Table	**L12**	**L25**
Original images		
35 mm equivalent focal length	12 mm	25 mm
Actual focal length	1,8 mm	4 mm
Aperture	2,0	2,0
Horizontal image angle	180°	82°
Vertical image angle	160°	61°
Distance 1 m:	**m**	**m**
Image width	Infinite	1,7
Image height	11,3	1,2
Distance 5 m:	**m**	**m**
Image width	Infinite	8,7
Image height	56,7	5,9
Distance 10 m:	**m**	**m**
Image width	Infinite	17,4
Image height	113,4	11,9
Distance 20 m:	**m**	**m**
Image width	Infinite	34,7
Image height	226,9	23,7

L25 design for high-resolution 82° image angle for monitoring a room from a corner.

Notes

The specified focal lengths of MOBOTIX lenses do not reflect the actual focal length of the lenses, but the focal length (Lxx mm) converted to 35 mm camera format. For example, the MOBOTIX Super Wide-Angle lens has an actual focal length of 4 mm. This would be the equivalent of 25 mm on a 35 mm camera. This lens is thus called L25.

Stated focal lengths of MOBOTIX camer-asare given with refer-ence to a 35 mm camera

MxLEO: Pure Light

The new 5-megapixel image sensor and the new MxLEO exposure control make short exposure times and sharp images possible, even in poor lighting conditions (1 lux). The new hardware-based real-time noise filter significantly improves image quality in dark settings.

MOBOTIX Hemispheric Camera

THE MOST IMPORTANT COST BENEFITS

1. **Increased Resolution Reduces Amount Of Cameras Needed**
   1536 lines, high-resolution sensors give a better overview and allow monitoring an entire room with just one camera.

2. **Reduced Installation Costs At Any Distance**
   Standard Ethernet connection enables the use of common network components such as fiber, copper and wireless (WLAN).

3. **Intelligent Cameras Reduce The Number Of Storage Devices**
   The decentralized MOBOTIX concept enables the user to save around 10 times the standard number of cameras using just one storage device.

4. **Event-Controlled Image Format Minimizes Storage Costs**
   Automatic image adjustment (frame rate, size) in the case of movement, noises or sensor action reduces bandwidth and storage requirements.

5. **Low Power Costs, No Extra Heating**
   Anti-fogging without heating allows the system to be powered throughout the year using network cable or two wires (PoE standard) and saves on the cost of power cabling.

6. **Backup Power Supply Costs Reduced By 80%**
   Low power consumption, approx. 4 watts, enables year-round PoE (no heating required) with one centralized UPS from the installation room using network cable.

7. **Robust And Practically Maintenance-Free**
   Fiberglass-reinforced composite housing with built-in cable protection and no mechanical moving parts (no auto iris) guarantees longevity.

8. **Software For A Thousand Cameras & Storage Devices Included**
   The right premium operating software for every application: MxEasy for compact video solutions, MxControlCenter for the professional control center.

9. **Unlimited Scalability And High Return On Investment**
   More cameras and storage can be added at any time – even while the system is in use; image format, frame rate and recording parameters can be camera-specific.

10. **Additional Functions And Other Extras Included**
    Sound support, lens, wall mount and weatherproof housing -30 to +60 °C are included in the camera delivery; microphone and speakers available for most models.

THE MOST IMPORTANT TECHNICAL ADVANTAGES

High-Resolution Digital Image Instead Of TV Quality 1
Megapixel sensor and image processing inside the camera generate sharp images with a higher resolution than HDTV, allowing them to be recognized as evidence in a court of law.

Hemispheric Technology For An Overview With No Blind Spots 2
360° allround view or 180° widescreen image, corrected for perspective; only one camera is needed to view the entire room or train platform without any blind spots.

Bridging Of Recording During Network Failures 3
In-camera data storage (up to 64 GB) can even bridge longer network failures or bandwidth fluctuations (for example with wireless networks).

Professional Software For Systems Of Any Size 4
This control center and recording software, which is free of charge and used in tens of thousands of systems around the world, sets no limits on the number of users, cameras or servers.

Very Low Network Load 5
Efficient video codecs, motion detection and data storage of up to 64 GB in the camera guarantee a very low network load.

No Storage Limit 6
There is no storage limit for the entire system because each camera is able to manage its own terabyte-sized storage device (NAS) via the network.

Sun And Backlight Compensation 7
CMOS-sensor without auto iris, digital contrast enhancement and configurable exposure measurement zones guarantee optimum exposure control.

Day & Night Maintenance-Free 8
MOBOTIX dual cameras with two sensors and digital switching between day and night modes operate reliably with no mechanical components in all lighting conditions.

Simultaneous Recording, Event Search And Live Viewing 9
Live video for multiple users, simultaneous recording and event search possible in seconds from anywhere in the world via a network connection.

Sound And SIP Telephony 10
Lip-synchronous sound (live & recording); every camera is also a video IP telephone compliant with the SIP standard, featuring camera control and automatic alarm calls.

MOBOTIX Hemispheric Camera

HiRes Video Innovations

The German company MOBOTIX AG is known as the leading pioneer in network camera technology since its founding in 1999, and its **decentralized concept has made high resolution video systems cost efficient**. Whether in embassies, airports, railway stations, ports, gas stations, hotels or highways, MOBOTIX video systems have been in operation on every continent for years.

Technology Leader Of Network Cameras

In just a short time, MOBOTIX has climbed to the second place in European market share and fourth place worldwide in terms of market share. MOBOTIX has exclusively produced megapixel cameras for years and is the **technology leader for high-resolution video systems**. The **decentralized MOBOTIX concept** is characterized by the fact that a high-speed processor is built into every camera and, if required, a digital memory (MicroSD card) can also be integrated for long-term recording.

MOBOTIX cameras can make event-driven recordings even without a central PC or DVR and can digitally store videos long term with sound. This is why MOBOTIX solutions represent an unbeatably good value with their excellent image quality, even for small-scale installations.

Free Consulting Service

Simply call us or send us an e-mail. We will get in touch with you promptly.

With MOBOTIX, you're in the best hands right from the start. Both our internal project managers and our experienced, highly specialized partners make sure that every system is planned and installed optimally. Our support specialists can help you with any technical questions you may have.

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Secure System Design
Efficient protection against theft and unauthorized access

12/14

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