



# Discreet. Flexible. High Resolution.

## **Modular, Individually Configurable Video System**

Maximum range of lenses from telephoto lens to Hemispheric

## **Discreet 5 Megapixel Sensor Modules Including Microphone**

Mountable up to two meters away from the camera housing

## **Double Hemispheric Camera**

Overview in two separate rooms at the same time with no blind spots

## **Weatherproof, Low-maintenance Professional Solution (IP65)**

Digital technology without any moving parts, excellent image quality during the day and at night

## **Mobile-Ready (DIN EN 50155)**

Certified for mobile use, for example, on buses and trains

## **Decentralized MOBOTIX Complete Solution**

Integrated software, long-term storage and image processing



# S15D

Dual camera system  
with two flexible 5 megapixel sensor  
modules

5MP  
Sensor

MxLEO



# S15M

Mono camera system with  
integrated lens



# MOBOTIX



## 5MP Sensor

High-resolution 5-megapixel image sensor technology delivers outstanding image quality



## MxLEO

Lowlight Exposure Optimization – Optimized exposure and reduced noise



## MxActivitySensor

Camera-integrated motion analysis for reliable results, even in the event of external interference



## App

Compatible with the MOBOTIX App



## Door Station Functionality

Can be used as a door camera, connection of Door Station modules possible



## Two Image Sensors (only S15D)

Dual lens camera with two integrated high-resolution image sensors



## Virtual PTZ (Pan/Tilt/Zoom)

Purely digital, no wear and tear, no maintenance



## High Framerate

Smooth megapixel video streams with up to 30 frames per second – live and in recordings



## Day & Night (only S15D)

As a dual camera with a day and night sensor each, automatic sensor switch



## 2 x 2 Meter Sensor Cable (only S15D)

Up to two cables, each two meters long, for connecting the sensor modules



## External Temperature

Integrated sensor for measuring the ambient temperature



## Microphone (S15D sensor modules)

Integrated microphone for recording sound and for two-way communication



## MxBus

MOBOTIX two-wire system for connecting and powering additional devices



## USB

Interface for external USB accessories



## IP66 (S15D sensor modules)

Protection class IP 66: dust-proof, resistant to strong water jets



## 360°

Hemispheric technology for complete room monitoring, can be displayed as a 180° panorama image



## -30 bis +60 °C (-22 to 140 °F)

Wide operating temperature range without heater or fan



## GreenIP

Low energy consumption, robust premium quality with a nearly unlimited service life

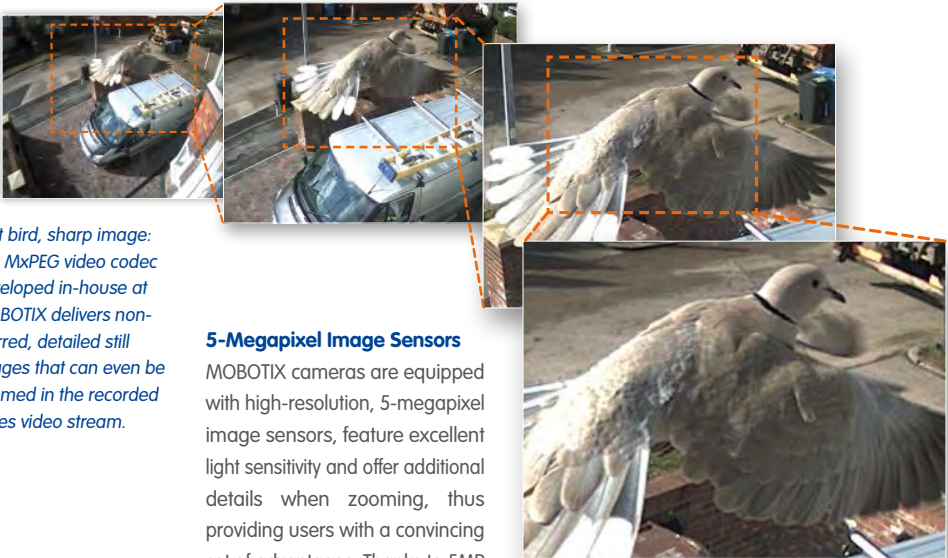
## Product Advantages For You

As decentralized complete video systems, MOBOTIX cameras have much more to offer than conventional solutions: modern, network-based video security technology that improves efficiency and daily usefulness. The icons illustrate the most prominent features of our products.

## 5MP Sensor

### CONCEPT

Image quality is the all-deciding factor for a security camera. As the decentralized MOBOTIX systems perform video analysis and data storage functions internally, they are not dependent on the available network bandwidth and possible bottlenecks; for this reason, maximum-resolution video streams from any number of cameras can be stored and managed efficiently and cost-effectively.



*Fast bird, sharp image: The MxPEG video codec developed in-house at MOBOTIX delivers non-blurred, detailed still images that can even be zoomed in the recorded HiRes video stream.*

### 5-Megapixel Image Sensors

MOBOTIX cameras are equipped with high-resolution, 5-megapixel image sensors, feature excellent light sensitivity and offer additional details when zooming, thus providing users with a convincing set of advantages. Thanks to 5MP technology in color and b/w

sensors, MOBOTIX cameras convince even in bad weather or in low-light conditions by delivering highly detailed images of amazing quality. Another key advantage is that video stream frame rates of up to 30 frames per second are achieved because image data is preprocessed directly in the camera.

### QXGA Image Format 2.5 Times Larger Than Full HD

The day and night sensors feature a resolution of 5MP, which corresponds to 2592 x 1944 pixels. The image information is usable 100%, for example, when using the live zoom function. The maximum image size of a sensor is set to the more convenient QXGA format.

### MxLEO: Optimized Exposure And Reduced Image Noise

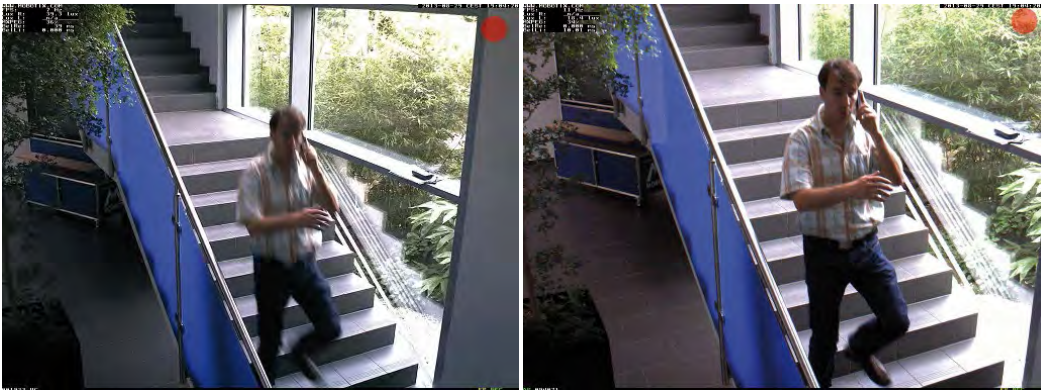
MxLEO raises digital image optimization to a whole new level: MOBOTIX Lowlight Exposure Optimization – an innovative technology integrated into all cameras from firmware version 4.1.9 onwards. The improved light sensitivity of the new MOBOTIX 5-megapixel sensors enables shorter exposure times. The MxLEO exposure and image optimization program developed specifically for this purpose delivers greatly improved images, in particular in poor light conditions below 25 lux. Such conditions are, for instance, present in parking lots illuminated by a simple outdoor light source (approx. 10 to 25 lux). Another example would be a building where the emergency light is the only source of illumination after hours (around 5 lux). The motion blurring that is usually caused by longer exposure times needed in the dark is significantly reduced, and image details such as faces and license plates are thus easier to identify.



### MOBOTIX Image Quality – Key Benefits:

- Higher quality and usability thanks to detailed high-resolution camera images
- Additional recording of lip-synchronous audio increases the chance of identification
- High resolution enables enlargement of details even in the recorded video stream
- Reduced motion blur, less image noise, lower storage and bandwidth requirements
- The MxPEG video codec that is only available with MOBOTIX systems is the only image codec specifically designed for security cameras

*The optimized MxLEO exposure program reliably prevents motion blur commonly present in images taken under low-light conditions.*

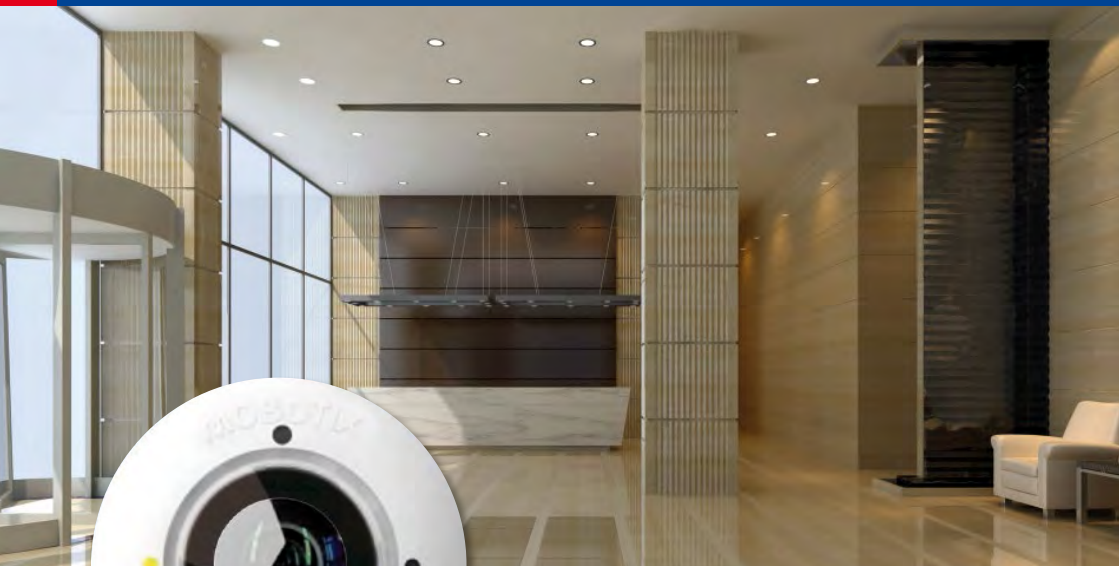


Stairway, light intensity: approx. 20 lux, 3MP sensor without MxLEO    Stairway, light intensity: approx. 20 lux, 5MP sensor with MxLEO

### MOBOTIX Saves Only What Is Necessary

MOBOTIX offers three important additional features to save storage space: Recording only relevant image sections (sky or ceiling, etc. is removed), recording only when relevant events occur (such as movement in the image) and continuous recording with increased frame rate only when events occur.





## A CAMERA CAN BE THIS DISCREET

In some application scenarios it is best if a surveillance camera is present but not visible. With the S15 FlexMount, MOBOTIX presents an IP video system with an especially discreet appearance, enabling a flexible range of applications. The inconspicuous appearance of this digital network camera makes it an ideal solution when unobtrusive design and appearance are important.

*Image is  
actual size,  
diam. 50 mm*

When in use, the S15 also remains inconspicuous as its lenses usually have a stationary focus that captures an entire room rather than following individual objects. Cameras without mechanical moving parts require low maintenance. In addition, they are silent when digitally panning and focusing on a specific image area.

Typical application scenarios for an S15 FlexMount are in hotels and restaurants, installations in public buildings, waiting rooms, sales rooms, parking garages, warehouses and exhibition booths, but also the installation in machines or devices such as ATMs is possible.

### Discreet Security

The S15D FlexMount features miniature sensor modules and allows a huge range of application scenarios. Another advantage of the S15D is the option of using two hemispheric sensor modules simultaneously.

### High-Performance HiRes System With Mono Or Dual Lens System

The single lens version of this camera is the S15M model (M = mono) with the lens directly screwed into the camera housing. The camera features a high-resolution 5 megapixel color sensor for daylight or a black-and-white sensor for locations with low lighting. If needed, microphone and/or speaker units can be directly connected to the camera via suitable terminal connectors.



S15M FlexMount with an integrated hemispheric image sensor (day or night)

The dual lens version is the S15D (D = dual). One or two compact sensor modules (with a diameter of just 50 mm on the front) with integrated microphones are connected to the camera housing with a connector cable up to two meters in length.



S15D FlexMount with two sensor modules (max. cable length of 2 m per cable)

### Decentralized Network Video

MOBOTIX has redefined video. Whether on the Internet, in traffic management, building surveillance or banking environments, the MOBOTIX camera is connected to the network like a printer and live and recorded images can then be retrieved from any PC without installing any software.

# Flexible System

Concealed camera housing



Two 2-meter long cables



Integrated microphone

Integrated microphone

## Concealed Camera Housing

The flat housing of the S15D FlexMount, including longterm flash memory (MicroSD card up to 64 GB) and all internal and external connectors (Ethernet, MiniUSB, MxBus, microphone, speaker), can be installed discreetly and with optimal protection behind a wall or ceiling panel so that only the lens units in their protective housings are visible in the room

## Freely Select The Sensor Modules

The sensor modules with integrated lens, 5 MP image sensor and microphone are shipped pre-assembled from the factory as a ceiling or wall-mounting set that is easily connected to the camera housing by a quick connection plug. The color of the visible external part is either black or white, which makes it an outstanding fit within a broad range of installation environments, whether indoors or outdoors. The sensor modules are available in two exterior colors, with day or night sensor and six different focal lengths each.



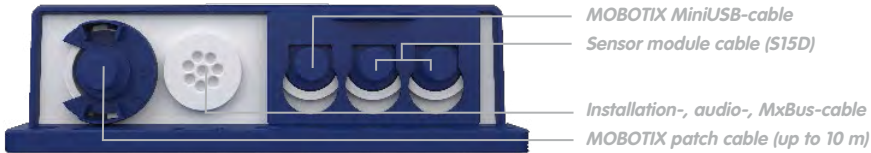
## Lowest Maintenance Costs

Fiberglass-reinforced, robust housing with fully concealed cabling and no mechanical moving parts guarantee long product life with virtually no need for maintenance.



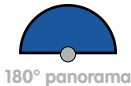
### Network Connection Via Patch Or Installation Cable

Network connection is easy thanks to an up to ten-meter MOBOTIX patch cable that plugs directly into the housing. Alternatively, the eight individual strands of a standard installation cable (such as Cat5) can be attached to the LSA terminal integrated into the housing.



### Easy Replacement Of S15D Sensor Modules

All sensor modules from the entire range (day or night, lens image angle 13° to 180°) can be freely combined, allowing users to build a camera system ideally suited to any task at hand.



180° panorama



55° wide-angle



15° tele

Replacing the sensor modules at a later stage to change the focal lengths or upgrading from one to two sensor modules (mono/dual operation) is quick and easy because the camera software automatically recognizes the connected modules.

### One Camera For Different Light Conditions

Day and night versions are available for all sensor modules. If fitted with one day sensor and one night sensor, the S15D can simultaneously monitor a permanently light area (for example, hotel reception area) and a permanently dark area nearby (for example, storage room). Alternatively, it can monitor the same area during the day and at night.

### Lowest Installation Costs

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



## Flexible System

The separation of housing and sensor modules means the technology is barely visible in the room, making the S15D suitable for installations where maximum discretion and a harmonious design are paramount. Of course, the MOBOTIX S15 system is just as suitable for weatherproof installation in all kinds of devices such as automated bank tellers, a modern door spy hole, an animal observation and research camera and in many other scenarios. There are virtually no limits to your ideas.

## Vandalism Protection

The MOBOTIX S15D also demonstrates its advantages in more critical environments. The inconspicuous appearance and low-visibility contact surfaces of the sensor modules, combined with the inaccessible camera housing and connectors mounted behind a wall or cover panel, make acts of vandalism significantly more difficult than with conventional cameras.

## Low Power Costs, No Extra Heating

Anti-fogging without heating allows year-round usage of standard PoE technology to power the system via Ethernet or two-wire cable and saves the costs of power cabling (power consumption under 5 W).

### Hard To Be Seen, But Sees Everything: S15M

Unlike the S15D dual camera version, the S15M has just one lens, which is directly connected to the camera housing without a sensor cable. However, the S15M has a special advantage compared with conventional mono cameras:

The camera housing can be mounted completely out of view behind a wall up to 6 mm thick (wood paneling, stainless steel panel, etc.) with a small round opening measuring just 34 mm. The S15M can be simply adhered behind the wall, leaving only the tiny exposure area of the hemispheric lens visible.



*MOBOTIX recommends the self-adhesive AudioMount with microphone and speaker (S15M accessory; stainless steel panel is not included in the delivery) for easy installation behind stainless steel panels.*

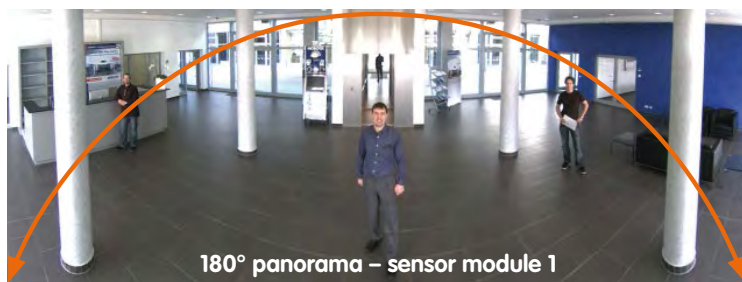
### This allows the following installation options:

- Wall- or ceiling-mounting behind correspondingly thin or countersunk panels/cover plates
- Individual mounting solutions such as installation in industrial equipment, paneling, air ducts, mail boxes, homemade mounts, etc.

### S15M With AudioMount As A Door Station Camera

The AudioMount has a pre-installed speaker and microphone, thus ensuring full intercom capabilities of the S15M. It can also be utilized as a concealed Door Station in combination with other MOBOTIX accessories (e.g. BellRFID, MX-DoorMaster).

# Hemispheric Dual Camera



## Double Hemispheric Camera Captures Two Areas With No Blind Spots

As a unique feature, the S15D provides the option of using two hemispheric sensor modules within a single camera, featuring L12 fisheye lenses and a horizontal image angle of 180°. This means that the entire hemispheric area in front of each lens is captured, with no blind spots from wall to wall and floor to ceiling. Within fractions of a second, the microprocessor of the camera transforms the hemispheric image into an undistorted, wide-angle 180° panorama image.

Two entirely separate rooms – next to or on top of each other, indoors or outdoors – can be captured simultaneously using the S15D with two hemispheric sensor modules.

## Virtual PTZ – No Motor, No Wear-And-Tear



The virtual PTZ feature allows you to move image sections within the hemisphere just like with a camera, yet without the need for mechanical moving parts. The live image from the camera can be continuously enlarged, while allowing users to zoom in on any section of the image using the mouse or a joystick. This provides the features of a mechanical PTZ camera without the disadvantages of maintenance and wear.

Mechanical PTZ works by focusing on a section of the monitored space and recording this section only. When using the virtual MOBOTIX PTZ, however, users benefit from being able to pan to any section of the recording in retrospect (post PTZ) as the entire room is captured if full-image storage has been enabled.



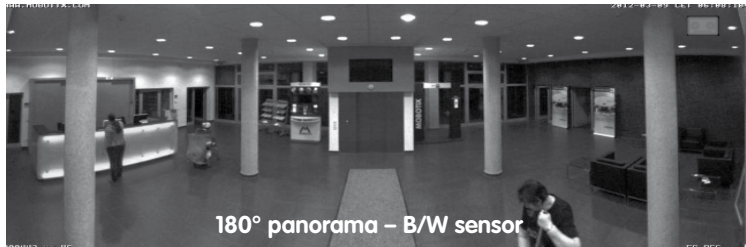
From top to bottom: Stored full image, live image, zooming into a section in the stored full image



180°-panorama – sensor module 2

**Automatic Adjustment For Changing Light Conditions**

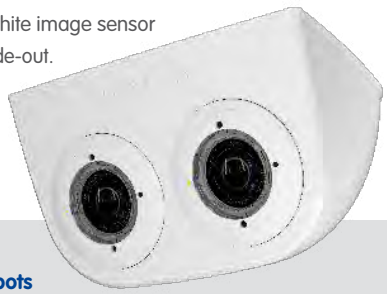
The S15D can also be used as a hemispheric day/night camera. The black-and-white and color sensor modules are mounted directly next to each other so they cover the same area. The camera automatically chooses the best available mode depending on the lighting conditions: either the color sensor with daylight lens, or the black-and-white image sensor with infrared lens. The dual sensor system provides excellent colors in daylight and at dusk as well as higher light sensitivity in dark environments.



180° panorama – B/W sensor

*DualMount:  
Mount accessory for  
daytime and nighttime use*

The difference between a MOBOTIX day-and-night camera and the standard versions is primarily that the MOBOTIX camera continuously uses two sensor modules rather than relying on a mechanical filter switch. In low light conditions, the hardware ensures an inherently better image quality, as a true infrared black-and-white image sensor is used instead of the usual color sensor with electronic color fade-out.



**Hemispheric Technology For An Overview With No Blind Spots**

360° panorama view or 180° widescreen image with perspective correction; a single hemispheric sensor module (day or night version) can monitor an entire room or area without any blind spots.

## S15M Lens

The S15M is available with an L12 lens and either a day sensor or night sensor.

## Sensor Modules S15D

The S15D is available with day or night sensor modules, each of which features a hemispheric L12 lens and any of the MOBOTIX L25 to L160 lenses (including a non-reflective protection layer made of tempered glass). All S15D sensor modules can be freely interchanged with each other.

All S15D sensor modules can be used with the M15D AllroundDual camera platform (and vice versa).

All night sensor modules can be ordered as LPF versions as an option (with long pass filter).

Lenses	L12	L25	L38	L51	L76	L160
Original image						
Equivalent focal length	12 mm	25 mm	38 mm	51 mm	76 mm	160 mm
Nominal focal length	1.8 mm	4 mm	6 mm	8 mm	12 mm	25 mm
Aperture	2.0	2.0	2.0	2.0	2.0	2.5
Horizontal image angle	180°	82°	55°	40°	27°	13°
Vertical image angle	160°	61°	41°	30°	20°	10°
Distance 1 m						
Image width	infinite	1.7	1.0	0.7	0.5	0.2
Image height	11.3	1.2	0.7	0.5	0.4	0.2
Distance 5 m						
Image width	infinite	8.7	5.2	3.6	2.4	1.1
Image height	56.7	5.9	3.7	2.7	1.8	0.9
Distance 10 m						
Image width	infinite	17.4	10.3	7.2	4.9	2.3
Image height	113.4	11.9	7.5	5.4	3.6	1.7
Distance 20 m						
Image width	infinite	34.7	20.6	14.5	9.7	4.6
Image height	226.9	23.7	14.9	10.8	7.2	3.4
Distance 50 m						
Image width	infinite	86.8	51.5	36.2	24.3	11.4
Image height	567.1	59.3	37.3	27.0	18.0	8.6

## Full Image Recording During vPTZ Commands (Virtual Pan/Tilt/Zoom)

It is always possible to record a full image, regardless of the live image stream that is being displayed. As a result, the recording always contains the full image, even if, for example, digital zooming is performed and the visible section is very small.



### Polarization Filter (MOBOTIX Accessories)

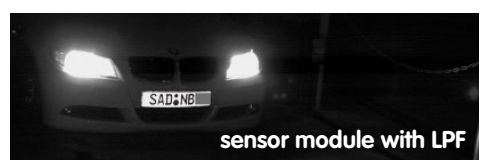
The non-hemispheric L25 to L160 sensor modules allow for replacing the lens protection glass with a polarization filter. Example: Identifying persons through the windshield of a car – the filter reduces reflections on the windshield’s surface.



### Night Sensor Modules With Long-Pass Filter (LPF)

All white night sensor modules (N12 to N160) can optionally be ordered with an LPF (long pass filter) special lens that features an infrared sensor for ideal license plate identification in any lighting condition. All LPF sensor modules (except Hemispheric) can be equipped with an additional polarization filter.

The LPF camera provides a high-resolution image of the scene that can be used for evidential purposes (e.g., driver identification) using a second, regular B/W sensor module, in addition to the image provided for analysis purposes.



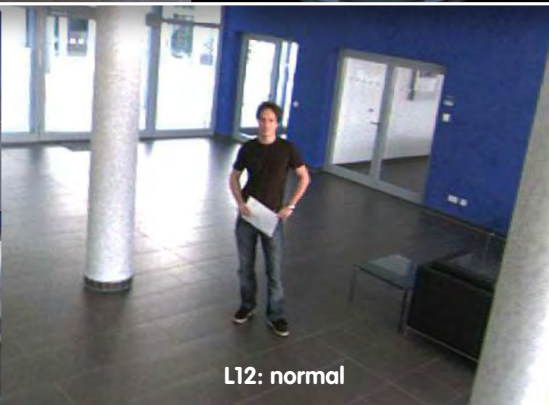
L12: 180° panorama



L12: full image



L12: panorama focus



L12: normal

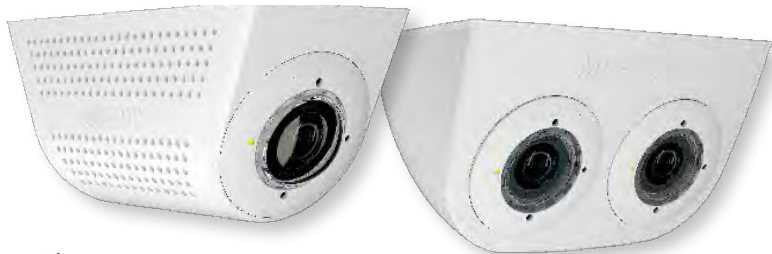
## Interface Boxes

The weatherproof MOBOTIX interface boxes (Protection Class IP65, -30°C to +60°C/-22°F to +140°F) are only about 80 mm wide, increase the utility of an entire video system and are easy to install. The **MX-Overvoltage-Protection-Box** with integrated surge protection connects the camera patch cable to the 8-wire network installation cable. The **MX-GPS-Box** provides the exterior temperature and light intensity, the precise system time for one or more cameras, and an alarm if its position changes. The **MX-NPA-Box** provides a PoE power supply for an outdoor camera. An **MX-232-IO-Box** with 12 V power outputs switches relays without an external power supply to control lights and electronic gates using the camera software.



## SurroundMount

The SurroundMount is designed to monitor long, narrow spaces (hotel corridor, bus, train, etc.) by elegantly and simply accommodating two sensor modules pointing in opposite directions. Owing to a 25° lens swivel range, two hemispheric sensor modules can even cover the entire area directly below the SurroundMount.



## DualMount

The DualMount (shown on the right) is also perfectly suited for aligning two sensor modules towards the same area when using the S15D as a highly discreet day and night camera. The lenses can be tilted downwards to avoid covering irrelevant areas such as ceilings or the sky. Outdoor ceiling mounting is possible beneath eaves, protruding construction elements, bridges or arches.

## Weatherproof, Protected Camera Connections Of The S15 FlexMount (IP65)

It is possible to use extension devices with the S15 by connecting them directly to the camera housing via two-wire connection or MiniUSB connector (for example, interface boxes).

### HaloMount

Design-oriented camera installation in or at suspended ceilings or walls: The stylish high-quality metal mounting bracket comes in five different versions (matt chrome, glossy chrome, brushed nickel, white or black), is easy to set up and supports single sensor modules or illuminants. Sensor modules placed into the HaloMount can be tilted up to 20°, allowing perfect capture of the desired area.



### SpeakerMount

The SpeakerMount, available in white or matt chrome, can be directly connected to the camera housing using a two-wire cable (no external power unit required) and makes the S15D capable of two-way communication when used in conjunction with the microphone integrated in the sensor module. The flexibly suspended speaker is already integrated in the HaloMount and can also be installed easily (protection class IP20).



### AudioMount

A handy installation option for the S15M mono camera featuring a self-adhesive foil that can be attached to the back of thin and smooth surfaces (e.g., stainless steel plate, mailbox, etc.). The AudioMount has a pre-installed speaker and microphone, thus ensuring the full intercom capabilities of the camera. S15M can also be utilized as a Door Station in combination with the AudioMount and other accessories (bell button, electronic door opener, remote station).



### Detailed Information And Video Tutorials

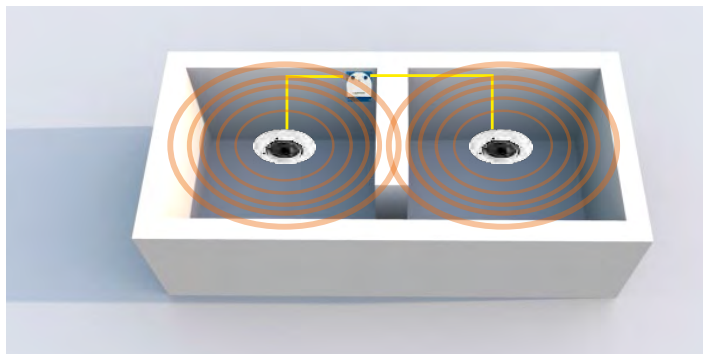
on the FlexMount cameras and the complete range of accessory products are available on the MOBOTIX website at [www.mobotix.com](http://www.mobotix.com) under Products > FlexMount S15.



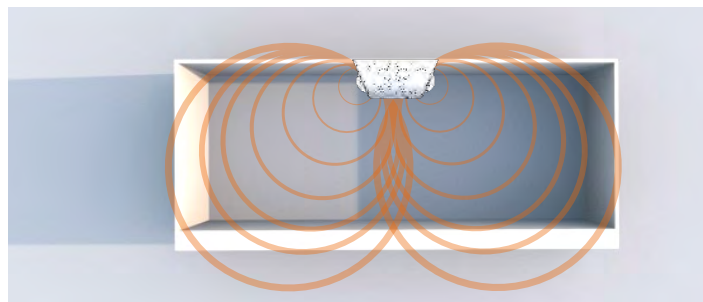
## Ceiling Installation

Indoor installation is mostly on suspended ceilings. The maximum distance between the two sensor modules of an S15D is four meters with the camera housing placed at the center. Such flexible installation options open up new application scenarios:

- Two adjacent areas separated by walls, shelves, floor or other form of screen can be captured with no blind spots using the two sensor modules of one S15D.



- In rooms that are especially long and narrow, installing two Hemispheric sensor modules at the center directly next to each other, but facing in opposite directions, produces a high-resolution dual image without any blind spots at all.



*SurroundMount  
mounting aid  
(Accessories)*

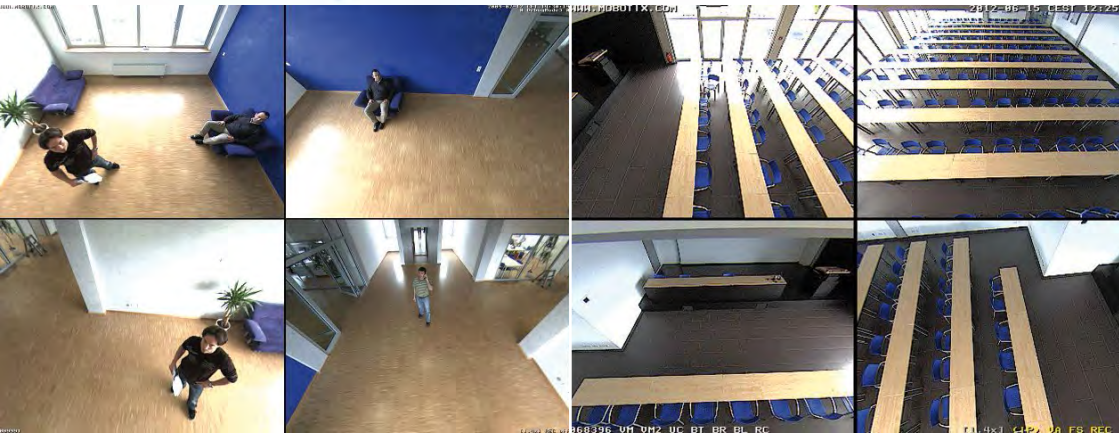
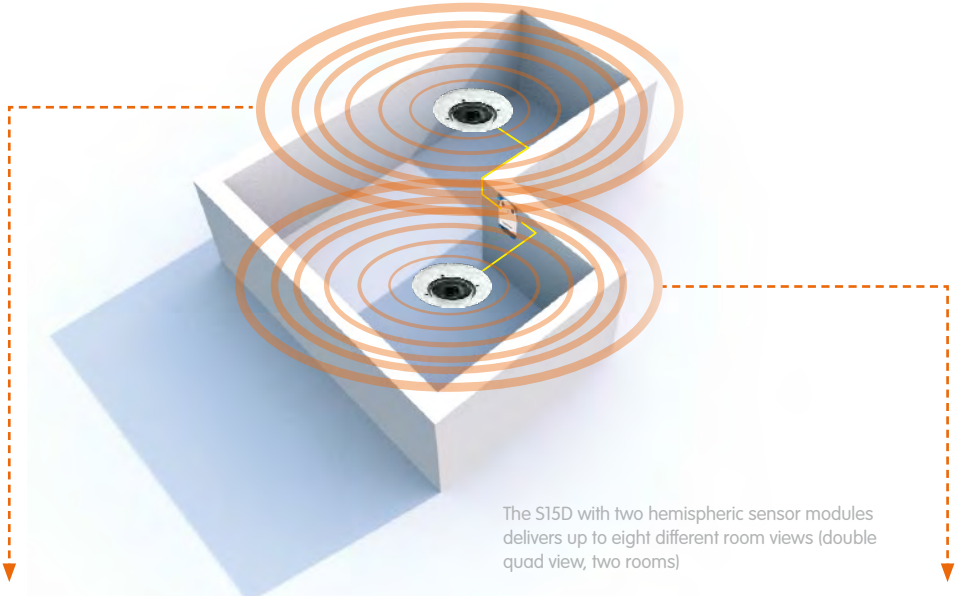


## Simple, Cost-Effective Installation

Screw in sensor module. Connect to housing. Plug in network cable or wireless module, done! It doesn't get much faster and easier than that. Because fewer cameras are needed, the installation costs drop even further.



- The two sensor modules are simply positioned at a right angle on the center corner in L-shaped rooms, again enabling the S15D to capture the entire room without any blind spots.

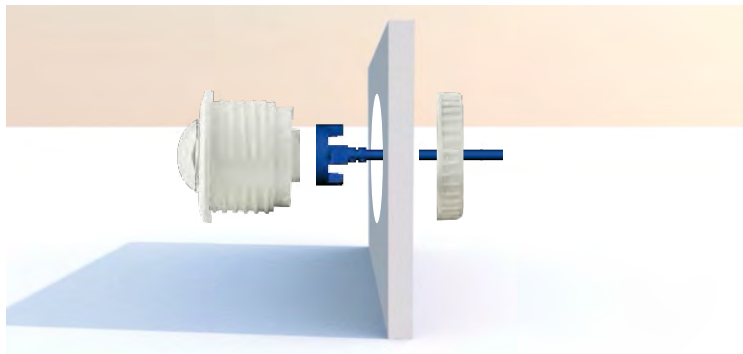


### User-friendly Manual

For every camera, MOBOTIX offers an extensively illustrated manual that explains every single mounting and installation step in an easy way ([www.mobotix.com](http://www.mobotix.com) > Support > Manuals).

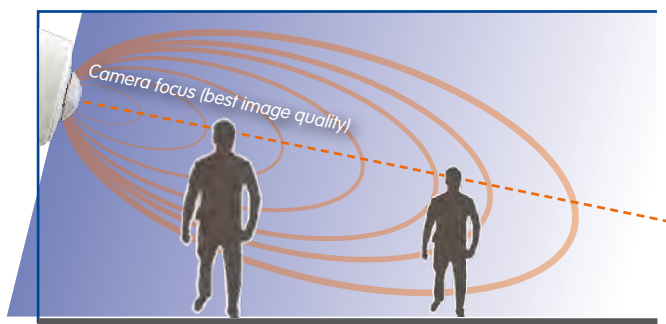
## Wall Installation

Installing an S15D sensor module on a wall, for example, on simple partition walls or fake walls (minimum thickness of 15 mm), is just as easy as an installation on a ceiling. Drill a hole, insert the sensor module, fix from behind (in cavities behind the wall covering) with a locknut and connect to the camera housing. Depending on the installation height and the required camera focus, the camera can be installed with or without the additional sensor module mount (SlopeMount, HaloMount, DualMount).



*SlopeMount 15°  
mounting aid  
(Accessories)*

The sensor modules are often mounted at a height of over 2.5 m so they are out of direct reach. The quality of the image and precision of the lens decreases as the distance from the camera focus (image center) becomes greater. We therefore recommend 15° inclined wall mounting to orient the camera focus on the center of activity in the room, which can be achieved with the mount accessories.



## Mounting On A Door

A sensor module on a door should always be fitted with SlopeMount. By tilting the lens at an angle of 15°, the emphasis on areas such as the ceiling or sky is reduced and activities taking place at areas in front of the door can be captured with optimized sharpness.



MOBOTIX also offers the appropriate installation accessories for mounting the sensor module on thicker walls. Longer “tunnel holes” through a wall can also be bridged using several extension pieces (each approx. 40 mm). The maximum wall thickness is therefore only limited by the length of the sensor cable in relation to the installation position of the camera housing.



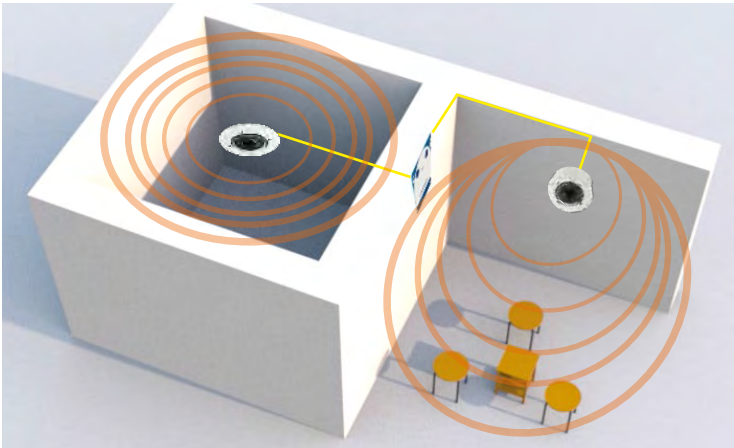
40 mm extension piece

### Mixed Ceiling And Wall Installation

By installing a sensor module on the ceiling of a room and at the same time attaching the second sensor module to an outside wall of the same room, both the inside and outside area can be captured with one single S15D at minimal installation cost.

### Example: Kiosk

Simultaneous capture of the entire sales floor and the area outside the entrance with stand-up cocktail tables.



### Practical Down To The Last Detail

When developing a new product, we ask our partners what they expect from it and what their end customers require in order to install and use it most effectively.



## Security Is A Competitive Advantage

More than ever, operators of public and private transportation or commercial transport trucks must act on vandalism, theft and violence within and against their vehicles. This ensures their guests feel safe and that business remains viable in the long term. MOBOTIX' decentralized, high-resolution video security technology is perfect for these requirements. With the help of detailed wall-to-wall HiRes and Hemispheric recordings, offenders can be identified faster and more reliably than with conventional video systems.

"Video Surveillance by MOBOTIX" discourages offenders, and has been proven to increase the safety of passengers and staff alike. For a good number of years now, security technicians from all over the world have been most enthusiastic about the effectiveness and the outstanding image quality delivered by the MOBOTIX systems.

## Fully Suited To Mobile Use

The S15D and S15M models have been subjected to rigorous certification tests (DIN EN 50155), ensuring that even under the most challenging environmental conditions for mobile use, complete reliability is granted at all times.

## The S15 System Is Also A Convincing Solution In Vehicles

- Easy installation, very little space required
- Low material costs and no need for expensive, fragile recording devices
- Camera housing with integrated flash memory can be securely mounted out of sight
- Resistant to continuous vibration
- Resistant to temperature and humidity fluctuations
- Cost-efficient replacement of parts that are visible/subject to vandalism – only the sensor module needs to be replaced, not the entire camera; no recordings are lost
- Custom-tailored accessories for enhanced usage options

## Mobile PoE Power Supply And Camera Data

MOBOTIX offers the MX-NPA-Box, an appropriate functional box, to connect an S15 to the mobile power supply (12 to 57 V) and network technology (weatherproof PoE injector and network connector). A PC is not necessary for camera operation.

## CASE STUDY FROM GERMANY

### Stadtwerke Kaiserslautern (SWK) Public Utility Uses Intelligent Technology To Improve Public Transportation Security

The Stadtwerke Kaiserslautern (SWK) public utility company makes bus transportation more secure with mobile IP video systems from MOBOTIX. An S15D connected to a monitor shows the driver what is happening in the bus. In the medium term, SWK also plans to enable remote access to the live images from the transportation service in the main office.

Previously, it was necessary to install at least three conventional cameras in order to secure every area of a bus. Equipped with two sensor modules, one single S15D covers the entire interior without any blind spots. "Thanks to the mobile video system, we can keep an eye on what is going on in the bus, allowing us to ensure the safety of our passengers and employees," says Boris Fleisch, Department Manager at SWK Verkehrs-AG. In addition, the recordings are stored and processed directly in the camera, meaning a PC is needed only for viewing the video material. It is easy to extend the entire MOBOTIX system using functional boxes. In addition to cost savings as a result of the reduced number of cameras and the decentralized storage options, the low power consumption of four to five watts protects the environment, demonstrating the company's green IT approach.



## S15D

Dimensions (values in mm)

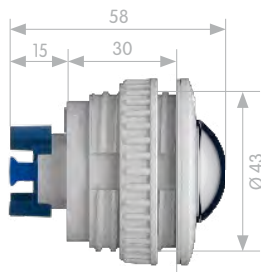


## S15M

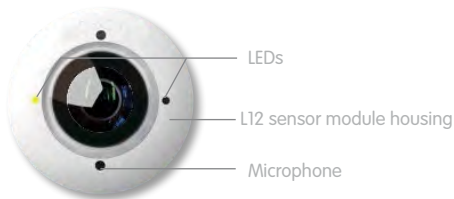
### Maximum Reliability

Hundreds of thousands of MOBOTIX systems are successfully in use throughout the world. These cameras operate resiliently around the clock.

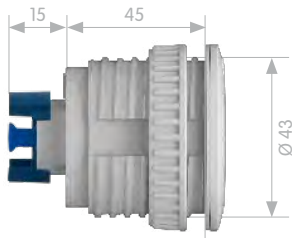
## Dimensions S15D sensor module L12 (Hemispheric)



## S15D sensor module L12 (Frontal view)



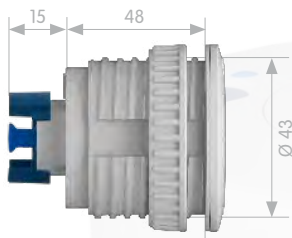
## Dimensions S15D sensor module L25, L51



## S15D sensor cable (lengths: 2 m, 1 m, 0.5 m)



## Dimensions S15D sensor module L38, L76, L160



## MOBOTIX Stores Data Reliably

The MOBOTIX FlashFile system (MxFFS) prevents unauthorized persons from reading or transferring the internally stored data, even if the card is stolen.

Technical Data S15D/S15M	
<b>Model versions</b> (can be fitted with day or night sensors)	MX-S15M-SEC (day), MX-S15M-SEC-NIGHT (night), MX-S15D-SEC (all combinations of day/night sensor modules)
<b>Sensor modules</b>	12 to 160 mm format, horizontal angle 180° to 13°
<b>Sensitivity</b>	Color sensor: 0.25 Lux at 1/60 s, 0.013 Lux at 1 s B/W sensor: 0.05 Lux at 1/60 s, 0.0025 Lux at 1/1 s MxLEO – Lowlight Exposure Optimization
<b>Image sensors</b>	2x 1/2.5" CMOS, 5 megapixels, progressive scan
<b>Max. image size</b> (per sensor)	Color: 4096x1536 (QXGA) B/W: 4096x1536 (QXGA)
<b>Image formats</b> (per sensor)	Freely selectable image format (160 x 120 up to 2048 x 1536); PTZ views: Surround (Quad), fisheye full image, normal, panorama, double panorama, panorama focus (3 views)
<b>Max. frame rate, M-JPEG (live/recording)</b>	VGA: 30 fps, MEGA/HD: 10 fps, QXGA: 4 fps, 6MEGA: 2 fps
<b>Max. video rate MxPEG (live/recording/sound)</b>	VGA: 30 fps, MEGA/HD: 30 fps, QXGA: 20 fps, 6MEGA: 8 fps
<b>Image compression</b>	MxPEG, M-JPEG, JPEG, (H.264 for SIP connections only)
<b>Internal DVR</b>	MicroSD Slot (recording inside the camera, up to 64 GB; 4-GB card preinstalled)
<b>External storage</b>	Directly on NAS and computer/server without additional recording software
<b>Software (inklusive)</b>	Video management software MxEasy, Control center software MxControlCenter, MOBOTIX App for iOS devices running on iOS 5.0 and higher
<b>Image processing</b>	Backlight compensation, automatic white balance, image distortion correction (including panorama image correction), motion detection, MxActivitySensor
<b>Virtual PTZ (vPTZ)</b>	Digital pan/tilt/zoom, continuous 8x zoom, full image recording in the background
<b>Alarm/events</b>	Video motion sensor, MxActivitySensor, external signals, temperature sensor, microphone, shock detector, notification via e-mail, FTP, IP telephony (VoIP, SIP), visual/acoustic alarm, pre- and postalarm images
<b>Microphone and speaker</b>	S15D: microphone built-in sensor modules; external microphone and external speaker can be connected S15M: external microphone und external speaker can be connected
<b>Audio</b>	lip-synchronous audio, intercom, sound recording
<b>Interfaces</b>	Ethernet 10/100 (Patch-or Installation cable, MiniUSB, MxBus, inputs/ outputs and RS232 via MX-232-IO-Box, external microphone/ speaker (AudioMount, SpeakerMount))

## Remote Camera Access Via The Internet

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



Technical Data S15D/S15M	
Video telephony	VoIP/SIP, intercom function, remote control via key code, event display
Security	User/group management, HTTPS/SSL, IP address filter, IEEE 802.1x, intrusion detection, digital image signature
Certifications	EMV (EN 55022, CISPR 22, EN 55024, EN 61000-6-1/2, FCC Part15B, CFR 47, AS/NZS 3548), EN 50155
Power supply	Year-round Power-over-Ethernet (PoE in accordance with IEEE802.3af); PoE class variable, typ. 5 watts (S15D)/4.5 watts (S15M)
Operating conditions	IP65, -30 to +60 °C (-22° to +140°F)
Dimensions/weight of S15M housing	Width x height x depth: 115 x 130 x 40 mm; Weight: approx. 457 g (incl. lens)
Dimensions/weight of S15D housing	Width x height x depth: 115 x 130 x 33 mm; Weight: approx. 444 g (without sensor modules, see below)
Dimensions/weight of sensor module (per sensor module, S15D only)	L12: Ø x height: 43 x 45 mm (installation dimension) L25, L51: Ø x height: 43 x 57 mm (Installation dimension) L38, L76, L160: Ø x height: 43 x 60 mm (installation dimension) Weight approx 91 g (incl. lens) color: white and black
Dimension/weight of connection cable 2 m (per sensor module, S15D only)	approx. 68 g
Product Contents	Housing (high-resistance composite, PBT), white, shock-resistant dome (transparent), mounting parts, Allen wrench, 50 cm patch cable, manual, software, 4 GB MicroSD card (built-in)

Technical information subject to change without notice.



*Minimal network load thanks to MicroSD card storage integrated into camera (weatherproof)*

## No Storage Limit

There is no storage limit for the system as a whole, as each camera can optionally maintain its own terabyte storage system (NAS) over the network.

# MxActivitySensor™



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

## Revolutionary, Camera-Internal 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.*

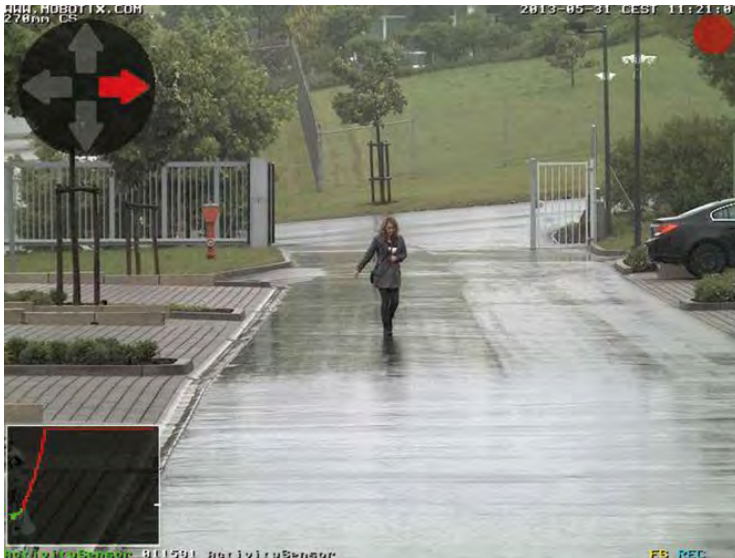


### What Happens When MxActivitySensor Is Triggered?

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](http://www.mobotix.com)) in the Support > Media Library > Compact Guides section.



## 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

## 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.

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

MxEasy aims at easy operation of the most important camera functions through its intuitive user interface, thus creating a new user 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.



### 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



















# Product Overview And Prices

Camera sets	Article number	Note	Price (€)
	S15D complete set 1, day MX-S15D-Set1	Camera housing with one L12 day sensor module, one 2 m sensor cable, one extension set, 0.5 m ETH patch cable, one replacement dome, color: white	898,-
	S15D complete set 2, day/day MX-S15D-Set2	Camera housing with two L12 day sensor modules, two 2 m sensor cables, two extension sets, 0.5 m ETH patch cable, two replacement domes, color: white	1.198,-
	S15D complete set 3, day/night MX-S15D-Set3	Like Set 2 but with one L12 day sensor and one L12 night sensor	1.198,-
Camera versions	Article number	Note	Price (€)
 S15D      S15M	S15D FlexMount (core) MX-S15D-Sec	Camera housing without sensor module	648,-
	S15M FlexMount day MX-S15M-Sec-D12	Mono camera including L12 lens and 5 megapixel (5MP) on-board color sensor	798,-
	S15M FlexMount night MX-S15M-Sec-Night-N12	Mono camera including L12 lens and 5 megapixel (5MP) on-board black/white sensor	798,-
Sensor modules S15D	Article number	Note	Price (€)
 L12	S15D L12 sensor module, day MX-SM-D12-PW, MX-SM-D12-BL	Including L12 lens and 5 MP color sensor; color: white (PW) or black (BL)	248,-
	S15D L12 sensor module, night MX-SM-N12-PW, MX-SM-N12-BL	Including L12 lens and 5 MP black/white sensor; color: white (PW) or black (BL)	248,-
 L25	S15D L25 sensor module, day MX-SM-D25-PW, MX-SM-D25-BL	Including L25 lens and 5 MP black/white sensor; color: white (PW) or black (BL)	198,-
	S15D L25 sensor module, night MX-SM-N25-PW, MX-SM-N25-BL	Including L25 lens and 5 MP black/white sensor; color: white (PW) or black (BL)	198,-
 L38	S15D L38 sensor module, day MX-SM-D38-PW, MX-SM-D38-BL	Including L38 lens and 5 MP black/white sensor; color: white (PW) or black (BL)	198,-
	S15D L38 sensor module, night MX-SM-N38-PW, MX-SM-N38-BL	Including L38 lens and 5 MP black/white sensor; color: white (PW) or black (BL)	198,-
 L51	S15D L51 sensor module, day MX-SM-D51-PW, MX-SM-D51-BL	Including L51 lens and 5 MP black/white sensor; color: white (PW) or black (BL)	198,-
	S15D L51 sensor module, night MX-SM-N51-PW, MX-SM-N51-BL	Including L51 lens and 5 MP black/white sensor; color: white (PW) or black (BL)	198,-
 L76	S15D L76 sensor module, day MX-SM-D76-PW, MX-SM-D76-BL	Including L76 lens and 5 MP black/white sensor; color: white (PW) or black (BL)	198,-
	S15D L76 sensor module, night MX-SM-N76-PW, MX-SM-N76-BL	Including L76 lens and 5 MP black/white sensor; color: white (PW) or black (BL)	198,-
 L160	S15D L160 sensor module, day MX-SM-D160-PW, MX-SM-D160-BL	Including L160 lens and 5 MP black/white sensor; color: white (PW) or black (BL)	198,-
	S15D L160 sensor module, night MX-SM-N160-PW, MX-SM-N160-BL	Including L160 lens and 5 MP black/white sensor; color: white (PW) or black (BL)	198,-
	Replacement dome, hemispheric MX-OPT-DK-L12	Protective screw-on dome for L12 lenses, suitable for S15M and S15D L12 sensor module	28,-



Mounting aids	Article number	Note	Price (€)
	40 mm extension for S15D sensor module MX-S15-OPT-MK-EX	For larger mounting depths; is directly plugged onto a sensor module or previously mounted extension	18,-
	SlopeMount 15° MX-S15-OPT-MK-CW	Complete set for mounting a sensor module to the ceiling or wall at a 15° inclination; including 40 mm extension, locknut and 15° wedges (white and black)	28,-
	SurroundMount MX-S15-OPT-SM-PW	For mounting in especially long and narrow spaces such as hallways, buses, planes or trains.	78,-
	DualMount MX-S15-OPT-FM-PW	For using the FlexMount as day and night camera (aligning the lenses on the same area).	78,-
	HaloMount	Offers the option to integrate sensor modules in a metal mounting bracket that comes in one of five different colors (matt chrome/chrome/brushed nickel/white/black).	32,-
	SpeakerMount	External speaker that can be directly connected to the S15D/S15M using a two-wire cable (no additional power supply required)	128,-
	AudioMount	Installation of an S15M behind a thin, smooth surface (e.g., stainless steel plate, mailbox, etc.). Features a pre-installed speaker and microphone, thus ensuring the full intercom capabilities of the camera.	48,-
	MX-DoorMaster MX-Door2-INT-PW	Security door opener with emergency power supply for connecting to an S15 FlexMount camera (firmware 4.1.9 or higher)	248,-
Accessories	Article number	Note	Price (€)
	S15D sensor cable MX-S15-OPT-CBL-2	Two-meter cable for weatherproof connection (IP65) of one S15D sensor module	28,-
	MiniUSB to MiniUSB cable MX-CBL-MU-STR-5	Five-meter cable for weatherproof connection (IP65) of MOBOTIX extension modules (MX-232-IO-Box, ExtIO, CamIO, two straight plugs (STR))	18,-
Accessories	Article number	Note	Price (€)
	MX-Overvoltage-Protection-Box-RJ45 and MX-Overvoltage-Protection-Box-LSA	Weatherproof interface box (IP65); connects network installation cable (LSA terminal) to MOBOTIX patch cable (for camera/PoE device) or two MOBOTIX patch cables RJ45 (for network and camera/PoE device)	48,-
	MX-NPA-Box	Weatherproof interface box (IP65); PoE injector according to IEEE 802.3af; connection screw clamp (+/-) for external power sources (12 to 57 V DC), network connection via MOBOTIX patch cable or LSA+	128,-
	MX-GPS-Box	Weatherproof interface box (IP65) for connecting to a MOBOTIX camera's MxBus interface; reports time and position; delivers GPS-based events (deviation from a fixed position, exceeding minimum/maximum speeds or temperatures)	178,-
	MX-232-IO-Box	Weatherproof interface box (IP65) for connecting to a MOBOTIX camera's MxBus or MiniUSB interface; contains two signal inputs and outputs each plus a serial RS232 interface	148,-

# A Strong Partner

## Complete HiRes Video Solutions

high-resolution, digital and cost-effective recording



### HiRes Video Innovations

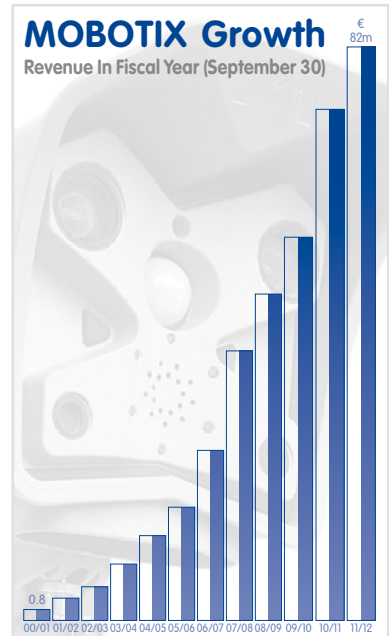
The German company MOBOTIX AG is known as the leading pioneer in network camera technology since its founding in 1999, and its **decentralized concept has made high resolution video systems** cost efficient. Whether in embassies, airports, train stations, ports, gas stations, hotels or on highways –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

### Pioneer In Network Camera Technology

In just a short time, MOBOTIX has climbed to second place in Europe and fourth place worldwide in terms of market share. MOBOTIX has been exclusively manufacturing mega-pixel cameras for many years now and is

regarded as **the global market leader in high-resolution video systems**. In the **decentralized MOBOTIX concept**, every camera has an integrated high-speed processor and, if needed, a digital memory device (MicroSD card) 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 smallscale installations.



**2011/12 Sales**  
**81.6 Million Euro**

**Sales Growth**  
**+ 12%**



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# Discreet. Flexible. High Resolution.

## **Modular, Individually Configurable Video System**

Maximum range of lenses from telephoto lens to Hemispheric

## **Discreet 5 Megapixel Sensor Modules Including Microphone**

Mountable up to two meters away from the camera housing

## **Double Hemispheric Camera**

Overview in two separate rooms at the same time with no blind spots

## **Weatherproof, Low-maintenance Professional Solution (IP65)**

Digital technology without any moving parts, excellent image quality during the day and at night

## **Mobile-Ready (DIN EN 50155)**

Certified for mobile use, for example, on buses and trains

## **Decentralized MOBOTIX Complete Solution**

Integrated software, long-term storage and image processing

