

Product User Guide

MOBOTIX 2MP Vandal Analytics Fixed Dome Camera

Mx-VD2A-2-IR-VA

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BeyondHumanVision

 HEVC Advance™
MOBOTIX

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Table of Contents

Table of Contents	2
Before You Start	3
Support	4
Safety Warnings	4
Legal Notes	5
Overview	7
Features	8
Package Contents	9
Dimensions	10
Connectors	10
Connecting	13
Camera Cabling	14
Connect Power	14
Connect Ethernet Cable	14
Connect Alarm I/O	15
Camera Installation	15
Configuration	17
System Requirements	18
Access Camera	18
Camera Login	19
Setup Video Resolution	20
Configuration Files Export / Import	21
Tech Support Information	23
Delete the Existing Viewer	24
Setup Internet Security	24

Before You Start

This chapter contains the following information:

Support	4
Safety Warnings	4
Legal Notes	5

Support

If you need technical support, please contact your MOBOTIX dealer. If your dealer cannot help you, he will contact the support channel to get an answer for you as quickly as possible.

If you have internet access, you can open the MOBOTIX help desk to find additional information and software updates. Please visit:

www.mobotix.com > Support > Help Desk



Safety Warnings

- This product must not be used in locations exposed to the dangers of explosion.
- Electrical systems and equipment may only be installed, modified and maintained by a qualified electrician or under the direction and supervision of a qualified electrician in accordance with the applicable electrical guidelines. Make sure to properly set up all electrical connections.
- Make sure to install this product in a well-ventilated spot and do not close off any vent openings.
- Do not use this product in a dusty environment.
- Protect this product from moisture or water entering the housing.
- Make sure that you install this product as outlined in this document. A faulty installation can damage the product!
- Do not replace batteries of the product. Batteries can explode if they are replaced by an incorrect type.
- This equipment is not suitable for use in locations where children are likely to be present.
- This equipment is to be connected only to PoE networks without routing to other networks.
- If using a Class I adapter, the power cord shall be connected to a socket-outlet with proper ground connection.
- To comply with the requirements of EN 50130-4 regarding the power supply of alarm systems for 24/7 operation, it is highly recommended to use an uninterruptible power supply (UPS) for powering the product.

Legal Notes

Legal Aspects of Video and Sound Recording

You must comply with all data protection regulations for video and sound monitoring when using MOBOTIX AG products. Depending on national laws and the installation location of the 2MP Vandal Analytics Fixed Dome Camera, the recording of video and sound data may be subject to special documentation or it may be prohibited. All users of MOBOTIX products are therefore required to familiarize themselves with all applicable regulations and to comply with these laws. MOBOTIX AG is not liable for any illegal use of its products.

Declaration of Conformity

The products of MOBOTIX AG are certified according to the applicable regulations of the EC and other countries. You can find the declarations of conformity for the products of MOBOTIX AG on www.mobotix.com under Support > Download Center > Certificates & Declarations of Conformity.

RoHS Declaration

The products of MOBOTIX AG are in full compliance with European Unions Restrictions of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS Directive 2011/65/EC) as far as they are subject to these regulations (for the RoHS Declaration of MOBOTIX, please see www.mobotix.com, Support > Download Center > Documentation > Brochures & Guides > Certificates).

Disposal

Electrical and electronic products contain many valuable materials. For this reason, we recommend that you dispose of MOBOTIX products at the end of their service life in accordance with all legal requirements and regulations (or deposit these products at a municipal collection center). MOBOTIX products must not be disposed of in household waste! If the product contains a battery, please dispose of the battery separately (the corresponding product manuals contain specific directions if the product contains a battery).

Disclaimer

MOBOTIX AG does not assume any responsibility for damages, which are the result of improper use or failure to comply to the manuals or the applicable rules and regulations. Our General Terms and Conditions apply. You can download the current version of the **General Terms and Conditions** from our website at www.mobotix.com by clicking on the corresponding link at the bottom of every page.

Overview

The 2 MP Series is capable of supporting up to WDR 2 MP @ 30 fps / 720p @ 30 fps (WDR off 2 MP @ 60 fps / 720p @ 60 fps) video streaming. Moreover, combined with the latest WDR technology and low-light technology, the 2 MP Series is able to deliver high quality images in the dark, low light condition.

2 MP H.265 IR Rugged Dome Camera is designed to withstand ever-changing outdoor environment and is compliant with IP66 and IK10 standard. It is equipped with IR LED with an effective distance of up to 40 meters to ensure its usability under poor lighting condition. The camera operating temperature ranges from -55 °C to 55 °C.

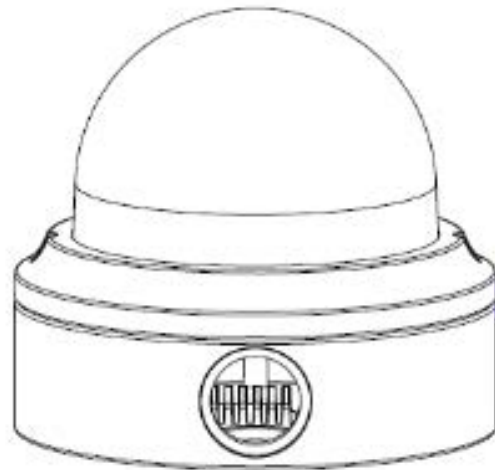
Features

- Multiple Progressive Scan CMOS Sensor support up to 2 MP Resolution
- Multi Exposure line-interleaved WDR
- Multi Codec support (H.265/ H.264/ MJPEG)
- Low Latency Streaming
- Quad Streams support
- True Day/Night function (ICR)
- IR LED (working distance up to 40m)
- 3D Motion Compensated Noise Reduction (MCTF)
- Smart Event Functions:
 - External Input/Motion Detection/Network Failure Detection
 - Tampering Alarm/Periodical Event/Manual Trigger/Audio Detection
- Text Overlay and Privacy Masks
- Micro SD/ SDHC/ SDXC Card support
- ONVIF Profile S/G/Q/T Support
- Smart Low Bitrate control
- Weatherproof (IP66)
- Vandal Proof (IK10 Rating)
- Zero-Down-Time(ZDT) Power Switching

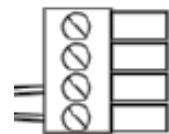
Package Contents

Check the package for the items listed below.

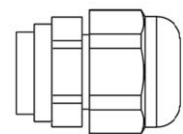
- Quick Guide
- 2 MP H.265
IR Rugged Dome Camera



- 4-Pin Power Terminal Block



- Cable Gland



- Self-Tapping Screws (x2)



- Plastic Dowel



- (x2) Security Torx



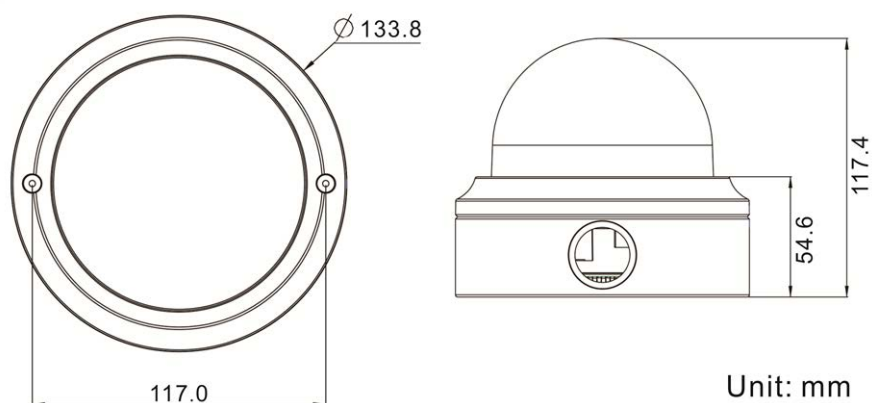
NOTE! To use an external power supply, please contact the camera manufacturer to confirm that the power supply complies with the LPS requirements and shares the same power specifications with the camera.

NOTE! Users **MUST** pre-drill and use plastic anchors before fastening the supplied self-tapping screws on the wall

CAUTION! Do not replace batteries of the camera. Risk of explosion may occur if the battery is replaced by an incorrect type.

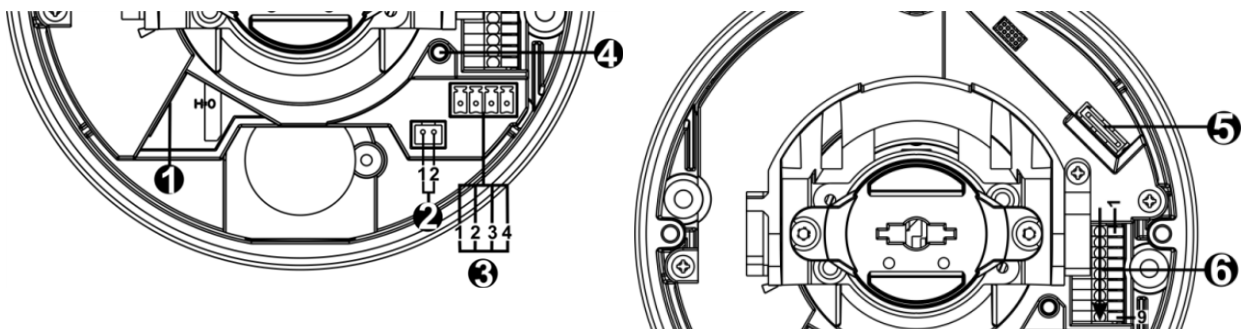
Dimensions

The dimensions of the camera are shown below.



Connectors

The diagram below shows the default button and various connectors of the camera. Definition for each connector is given as follows.



No.	Connector	Pin	Definition	Remarks
1	RJ-45	-	For network and PoE connections	
2	BNC*	1	BNC	For analog video output
		2	GND	
3	Power (DC 12V / AC 24V)	1	AC 24V 1	Power connection
		2	AC 24V 2	
		3	DC 12V 1	
		4	DC 12V 2	
4	Default Button	-	Press the default button with a proper tool for at least 20 seconds to restore the camera.	
5	microSD Card Slot	-	Insert the microSD card into the card slot to store videos and snapshots. Do not remove the microSD card when the camera is powered on.	
6	Alarm & Audio I/O	1	Audio In L	Audio In (Line In)
		2	Audio In R	
		3	GND	Ground connection
		4	Audio Out L	Audio Out (Line Out)
		5	Audio Out R	
		6	Alarm Out +	Alarm connection>
		7	Alarm Out -	#Do NOT connect external power supply to the alarm I/O connector of the IP camera.
		8	Alarm In +	
		9	Alarm In -	

*Contact the manufacturer for the compatible BNC cable.

NOTE! It is not recommended to record with the microSD card for 24/7 continuously, as it may not be able to support long term continuous data read / write. Please contact the manufacturer of the microSD card for information regarding the reliability and life expectancy of the product.

Connecting

This chapter contains the following information:

Camera Cabling	14
Connect Power	14
Connect Ethernet Cable	14
Connect Alarm I/O	15
Camera Installation	15

Camera Cabling

Before users connect cables, make sure that all cables and the power adapter are placed in dry and well-waterproofed environments, e.g. waterproof boxes. The purpose is to prevent moisture accumulation inside the camera and moisture penetration into cables, which might lead to device breakdown. Please refer to the following sections for camera connection.

NOTE! This camera must be installed by qualified personnel and the installation should conform to all local codes.

Connect Power

For power connection, refer to section [Connectors, p. 10](#). Alternatively, users can power the camera by PoE if a Power Sourcing Equipment (PSE) switch is available. Refer to the section below for Ethernet cable connection.

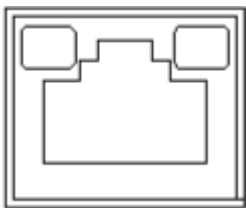
NOTE! If the device is powered over Ethernet, make sure the PSE is connected to the network.

Connect Ethernet Cable

To have best transmission quality, cable length shall not exceed 100 meters. Connect one end of the Ethernet Cable to the RJ-45 connector of the camera, and plug the other end of the cable to the network switch or PC.

NOTE! In some cases, Ethernet crossover cable might be needed when connecting the IP camera directly to PC.

- Check the status of the link indicator and activity indicator LEDs. If the LEDs are unlit, please check the LAN connection.

	<ul style="list-style-type: none">■ Green Link Light indicates good network connection.■ Orange Activity Light flashes for network activity indication.
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Connect Alarm I/O

The camera supports one alarm input and one relay output for alarm application. Refer to section [Connectors, p. 10](#) for pin definitions.

NOTE! Do **NOT** connect external power supply to the alarm I/O connector of the IP camera.

Camera Installation

The following description demonstrates how to directly install the camera to the ceiling or to the wall.

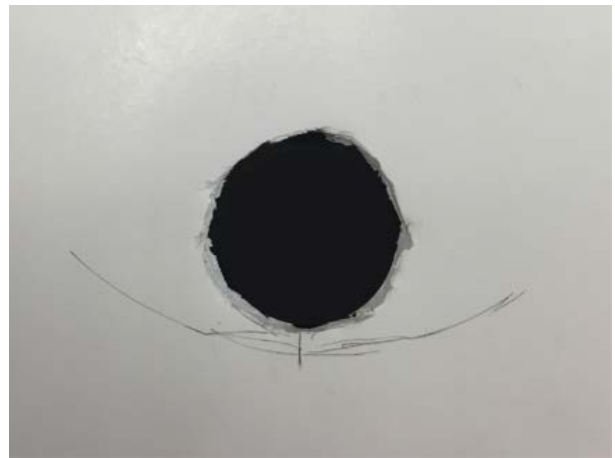
1. Loosen the two security screws on the camera with the supplied security torx and open the dome cover.
2. Open the back conduit entry block using a coin and place it to the side conduit entry.



3. Place the camera at the installation location. Mark the position of the two screw holes and the back conduit entry (for cable entry use) indicated in the right figure on the ceiling or wall.



4. On the ceiling or wall, drill the cable entry hole (back conduit entry).



5. Drill a hole slightly smaller than the supplied plastic dowel on each marked screw hole. Then insert the plastic dowels into the drilled holes.
6. Thread the cables through the cable entry hole. Match the two screw holes on the camera with the plastic dowels at the installation location. Fasten the camera with the supplied self-tapping screws.
7. Attach the dome cover to the camera and fasten the two security screws.

Configuration

This chapter contains the following information:

System Requirements	18
Access Camera	18
Setup Video Resolution	20
Configuration Files Export / Import	21

System Requirements

To perform the IP camera via web browser, please ensure the PC is in good network connection, and meet system requirements as described below.

Items	System Requirement
Personal Computer	<div>Minimum :</div> <ul style="list-style-type: none">■ Intel® Core™ i5-2430M @ 2.4 GHz■ 4 GB RAM> <div>Recommended :</div> <ul style="list-style-type: none">■ Intel® Core™ i7-870 @ 2.93 GHz■ 8 GB RAM
Operating System	Windows 7 or later operating system
Web Browser	Microsoft Internet Explorer 11.0 (recommended)> Chrome Firefox Safari
Network Card	10Base-T (10 Mbps), 100Base-TX (100 Mbps) or 1000Base-T (1000 Mbps) operation
Viewer	ActiveX control plug-in for Microsoft IE

NOTE! The ITE is to be connected only to PoE networks without routing to the outside plant or equivalent description.

Access Camera

A client program will be automatically installed to the PC when connecting to the camera. Before logging in to the camera, ensure downloading the ActiveX control is allowed by either changing the ActiveX controls and plug-ins or setting Internet's security level to default.

ActiveX Controls and Plug-ins Settings

1. Start the Internet Explorer (IE).
2. Select **Tools** from the main menu of the browser. Then click on **Internet Options**.
3. Click on the **Security** tab and select **Internet**, and click on **Custom level** to change ActiveX settings.
4. Set “ActiveX controls and plug-ins” items to **Prompt** or **Enable**.

Internet Security Level settings

1. Start the Internet Explorer (IE).
2. Select **Tools** from the main menu of the browser. Then click on **Internet Options**.
3. Click on the **Security** tab and select **Internet**.
4. Down the page, click on **Default Level** and **OK** to confirm the setting. Close the browser window.

Camera Login

The default IP address of the camera is: 10.x.x.x. By default, the camera starts as DHCP client and automatically tries to get an IP address from a DHCP server.

1. Enter the camera’s IP address in the URL bar of the web browser and hit “Enter”.
2. Enter the default username (**admin**) and password (**meinsm**).

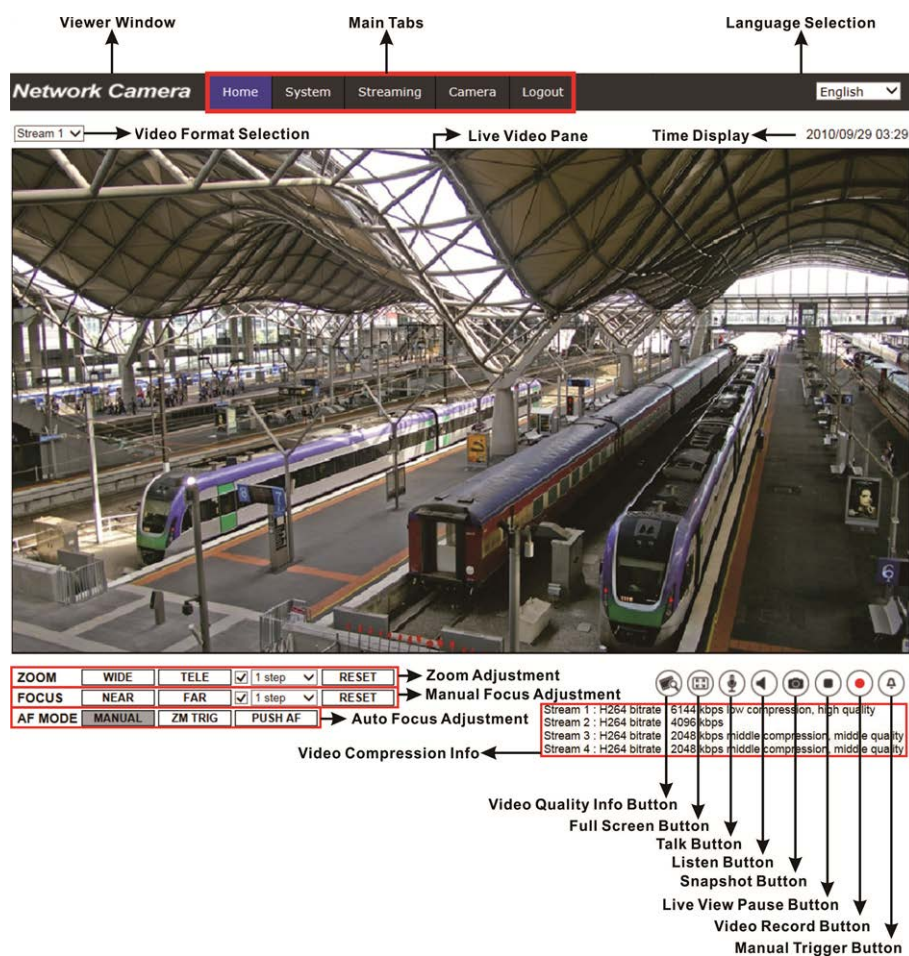
NOTE! ID and password are case sensitive.

CAUTION! It is strongly advised to change the default password. Refer to the menu tree of your 2 MP WDR IP camera for further details.

3. In the Viewer installation window, click on **Next** to start installation.
4. The status bar will show the installation progress. After the installation is completed, click on **Finish** to exit the installation process.
5. Click on **Finish** to close the Viewer installation page.

NOTE! Once the Viewer is successfully installed, the Home page of the IP camera will be displayed as the figure below.

Motorized Lens Models



Zoom and Focus Adjustment

The live image will be displayed on the Home page when the camera is successfully accessed. If zoom or focus is not at the desired position, please use the function buttons on the Home page to adjust zoom and focus.

NOTE! Refer to the menu tree of your 2 MP WDR IP camera for more button function details.

Setup Video Resolution

Users can setup video resolution on Video Configuration page of the user-friendly browser-based configuration interface.

Video Configuration can be found under: Streaming > Video Configuration.

The screenshot shows the 'Network Camera' configuration interface. The top navigation bar includes 'Home', 'System', 'Streaming' (selected), 'Camera', 'Pan Tilt', and 'Logout'. A language dropdown is set to 'English'. On the left, a sidebar lists configuration categories: 'Video Configuration' (selected), 'Video Rotation', 'Video Text Overlay', 'Video ROI', 'Video ROI Encoding', 'Video OCX Protocol', 'Video Mask', and 'Audio'. The main content area is titled 'Video Configuration' and displays settings for four video streams. Stream 1 and Stream 2 are configured with 'Encoding: Yes', 'Encode Type: H.264', 'Profile: Main profile', 'Resolution: 2688 x 1512' and '800 x 600' respectively, 'Rate Control: VBR', 'Framerate: 30', 'Bitrate: 4096', and 'GOV Length: 60'. Stream 3 and Stream 4 are set to 'Encoding: No'. A 'BNC Support' section at the bottom is set to 'No'. 'Save' and 'Reset' buttons are located at the bottom right of the configuration area.

The default values of video resolution are as below.

2 MP	H.265/H.264- 2688 × 1512 (30/25 fps) + H.265/H.264- 800 × 600 (30/25 fps)
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Configuration Files Export / Import

To export / import configuration files, users can access the Maintenance page on the user-friendly browser-based configuration interface.

The Maintenance setting can be found under this path: **System> Maintenance**.

Users can export configuration files to a specified location and retrieve data by uploading an existing configuration file to the camera. This is especially convenient to make multiple cameras having the same configuration.

Export

Users can save the system settings by exporting the configuration file (.bin) to a specified location for future use.

- Click on the **Export** button, and the popup File Download window will come out.
- Click on **Save** and specify a desired location for saving the configuration file.

Upload

To upload a configuration file to the camera, click on **Browse** to select the configuration file, and then click on the **Upload** button for uploading.

Tech Support Information

This chapter provides information on how to delete previously-installed Viewer in the PC and how to setup the Internet security.

This chapter contains the following information:

Delete the Existing Viewer	24
Setup Internet Security	24

Delete the Existing Viewer

For users who have installed the Viewer in the PC previously, please first remove the existing Viewer from the PC before accessing to the IP camera.

Deleting the Viewer

In the Windows **Start Menu**, activate **Control Panel**, and then double click on **Add or Remove Programs**. In the **Currently installed programs** list, select **Viewer** and click on the button **Remove** to uninstall the existing Viewer.

Deleting Temporary Internet Files

To improve browser performance, it is suggested to clean up all the files in the **Temporary Internet Files**. The procedure is as follows.

1. Click on the **Tools** tab on the menu bar and select **Internet Options**.
2. Click on the **Delete** button under **Browsing history** section.
3. In the appeared window, tick the box beside **Temporary Internet files** and click on **Delete** to start deleting the files.

Setup Internet Security

If ActiveX control installation is blocked, please either set Internet security level to default or change ActiveX controls and plug-ins settings.

Internet Security Level: Default

1. Start the Internet Explorer (IE).
2. Click on the **Tools** tab on the menu bar and select **Internet Options**.
3. Click on the **Security** tab, and select **Internet** zone.
4. Down the page, click on the **Default Level** button and click on **OK** to confirm the setting. Close the browser window, and restart a new one later to access the IP camera.

ActiveX Controls and Plug-ins Settings

1. Repeat **Step 1 to Step 3** of the previous section above.
2. Down the page, click on the **Custom Level** button to change ActiveX controls and plug-ins settings. The Security Settings window will pop up.
3. Under **ActiveX controls and plug-ins**, set **ALL** items (as listed below) to **Enable** or **Prompt**. Please note that the items vary by IE version.

- Binary and script behaviors.
- Download signed ActiveX controls.
- Download unsigned ActiveX controls.
- Allow previously unused ActiveX controls to run without prompt.
- Allow Scriptlets.
- Automatic prompting for ActiveX controls.
- Initialize and script ActiveX controls not marked as safe for scripting.
- Run ActiveX controls and plug-ins.
- Only allow approved domains to use ActiveX without prompt.
- Script ActiveX controls marked safe for scripting*.
- Display video and animation on a webpage that does not use external media player.

4. Click on **OK** to accept the settings. A prompt window will appear for confirming the setting changes, click **Yes(Y)** to close the Security Setting window.
5. Click on **OK** to close the Internet Options screen.
6. Close the browser window, and restart a new one later to access the IP camera.



BeyondHumanVision

This document is part of the camera manufactured by MOBOTIX AG (called manufacturer in the following); the document describes how to use and to configure the camera and its components.

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Support

See [Support](#), p. 4.