



*Variant Mx-V16B supports MOBOTIX MxBus modules

V16 Vandalism

Quick Installation



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BeyondHumanVision

MOBOTIX

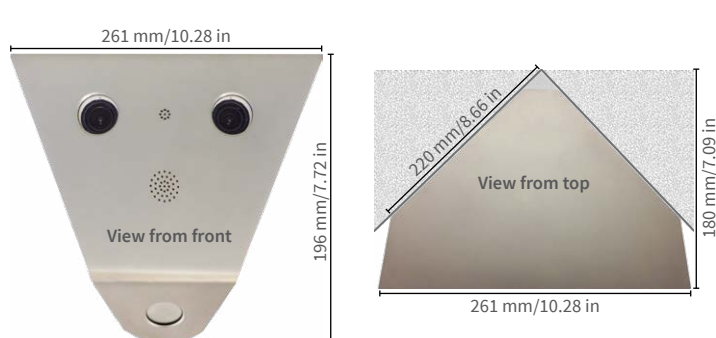
Checking the Delivered Parts



Item	Count	Part Name
1.1	1	Camera housing 3 mm stainless steel, top 5 mm stainless steel
1.2	1	Front plate 5 mm stainless steel (installed)
1.3	1	S16 (modified) with one or two sensor modules (B041/B079, day or night), installed on front plate
1.4	2	Security screw stainless steel M5x12 (one installed, one supplied additionally)
1.5	1	MicroSD card (SDHC, installed in S16)
1.6	1	Ethernet patch cable, 50 cm/19.7 in with sealings (installed)

Mounting Supplies		
M.1	1	Allen wrench 2 mm
M.2	1	Screwdriver bit for security screw M5x12
M.3	1	Multifunctional tool (lens, dome, filter insets)
M.4	1	Module wrench (for focusing the lenses)

Documentation		
D.1	1	V16 Drilling Template
D.2	1	V16 Quick Install (this document)



Unpacking the V16 and Removing the Front Plate

1. Take the V16 out of the box

Pull the top of the packaging and the V16 out of the box and place the V16 upside-down on a protected surface.

2. Remove security screw

Using the supplied screwdriver bit and a suitable bit holder (blue circle in figure), remove the security screw.

3. Remove front plate

Pull the top end of the front plate upward and forward **1**, then lift the entire front plate up and remove it from the housing **2**.

Next, place the front plate face-down on the protected surface.



Replacing the SD Card (optional)

1. Remove S16 camera module

Remove the three Allen screws (red arrows in the figure) using the supplied 2 mm Allen wrench (item M.1). When doing this, make sure that you are not damaging the two-wire microphone cable.

2. Replace SD card

Place the S16 camera module on a suitable object. Next, replace the installed SD card by a suitable MicroSD card (max. 64 GB), as described in the S15 Camera Manual, in Section 2.2.9, «Replacing the MicroSD Card».

3. Install S16 Camera Module

Place the S16 camera module in its original position, insert the Allen screws and tighten them (torque 0.85 Nm).



Do not damage microphone and speaker cables!

Installing the Housing

1. Mark the holes for drilling (if required)

Mark the holes for the dowels using the drilling template. To do so, fold the template or cut it at the dashed line. Then mark the holes at the left-hand side, turn the template over and mark the holes on the right-hand side. If you do not want to use the drilling template, you can use the housing itself to mark the holes for drilling.

If the cables are led to the camera from behind, make sure that you place the cut-out over the spot where the cables are exiting.

2. Drill the holes for the dowels (if required)

Drill the holes for the dowels with a suitable drill bit. Next, fully push the dowels into the holes you drilled.

3. Install the Housing

Make sure that you are guiding all cables to the camera module through the cut-out at the back of the housing. Properly fasten the housing using suitable screws and washers.

Make sure not to over-tighten the fastening screws since over-tightening may warp the housing!



Cables from above

Connecting the Cables*

*For additional information on attaching a network installation cable directly to an S16, see the S15 Camera Manual.

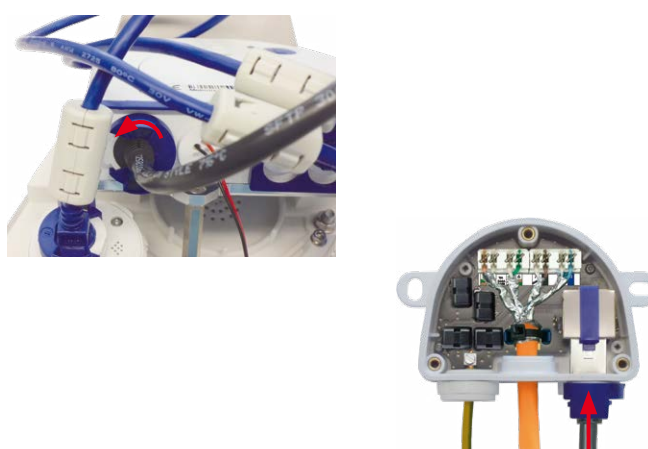
1. Replace the network cable (optional)

Turn the blue bayonet catch of the S16 to the left, then remove the catch and the installed patch cable (item 1.6). Insert the new MOBOTIX patch cable into the network socket and fasten the cable using the blue bayonet catch.

2. Connect the network cable

Guide the other end of the patch cable through the cut-out and then into a weatherproof connector (e.g. the MX-Overvoltage-Protection-Box) or into a switch.

For additional information on this topic, see the S15 Camera Manual in Section 2.5.1, «Network Cabling for S15 With Patch Cables».



Connecting the Cables (Cont.)

3. Connect additional cables (optional)

Connect additional cables (e.g. for ext. speaker/microphone, MxBus) by pushing the individual wires into the 8-wire plug (red circle in figure). For additional information on this topic, see the S15 Camera Manual in Section 2.2.8, «External Audio Support».



4. Take care when routing the cables

Make sure that all cables are routed in such a way that they are not damaged between the front plate and the housing when inserting and closing the front plate. For example, you can use a cable tie (red circle in figure) to hold the cables together.



Connections and Initial Operation of the V16

You can find detailed information on the **installation** and **connections** of the V16 in the S15 Camera Manual (PDF, available on www.mobotix.com > **Support** > **Download Center** > **Documentation** > **Manuals**).

Please note that the boot options of this camera have changed compared to its predecessor (see «Boot Options of the V16») and the camera only has one key ("L"). Regarding the rest of the **initial operation** of the V16, please see the S15 Camera Manual in Chapter 3, «Initial Operation». The first access follows the procedure described in the same manual in the section «Initial Operation of the Camera». All other tasks require access to the camera's user interface in the browser. Enter the camera's IP address into the address bar of the browser (user "admin", password "meinsm"; password must be changed upon first login – camera software V5.1.x and higher).

Boot Options of the V16

By default, the camera starts as DHCP client and automatically tries to get an IP address from a DHCP server. To start the camera in a mode different from the default mode, you can activate the boot menu of the camera.

1. Preparing the Camera

- Disconnect the camera's power supply.
- Reconnect the power supply of the camera.

2. Activating the Boot Menu

The red LED lights up 5 to 10 seconds after establishing the power supply and will stay on for 10 seconds. Briefly press the key L indicated by the red circle in the figure. The camera enters the boot menu, ready for selecting one of the boot options.



The LED now flashes once and repeats the flash signal after pausing for one second (the number of flashes indicates the current boot option). To go to the next boot option, briefly press the key again (< 1 sec). After the last boot option, the camera returns to the first option (LED flashes once).

LED flashes	Boot Option	Meaning	Audio Confirmation*
1 x	—	This option is not used on this camera model.	—
2 x	Factory Defaults	Starts the camera with factory defaults (factory default IP address, users and passwords will not be reset).	Boing
3 x	Automatic IP Address	Starts the camera as DHCP client and tries to obtain an IP address from a DHCP server. If a DHCP server cannot be found or no IP address can be obtained, the camera starts with its factory default address.	Boing Boing
4 x	Recovery System	Starts the camera with the recovery system, e.g., in order to recover from a failed update of the camera software.	Alarm Sound

*Only on cameras with audio option and installed speaker.

3. Selecting a Boot Option

Press the key longer (> 2 sec) into the hole. The camera confirms the selection by flashing rapidly three times. After 20 sec, the camera will confirm the selection by playing a sound according to the table above.

If nothing is selected, the camera will resume its normal boot process after a certain time.

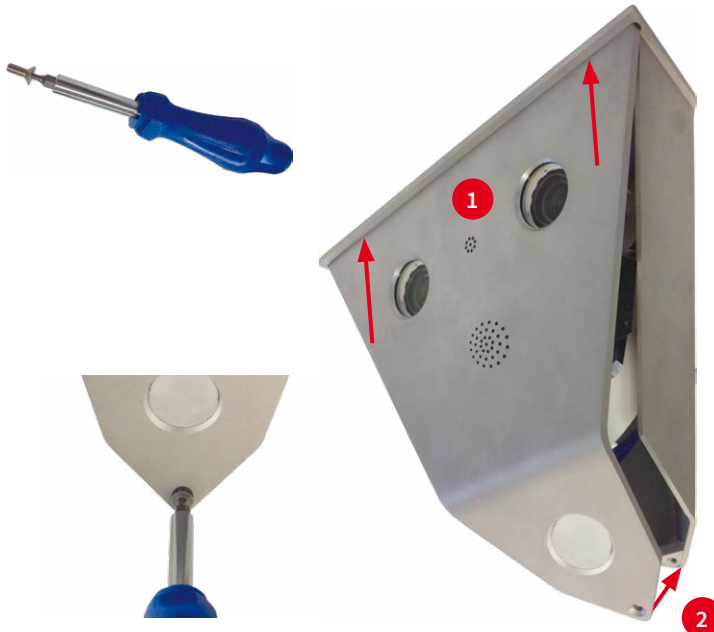
Installing the Front Plate

1. Prepare closing the front plate

Prepare this step by inserting the supplied screwdriver bit into the bit holder and placing the security screw onto the bit. Keep the bit holder and screw within reach when installing the housing.

2. Insert the front plate

Insert the front plate into the housing upward in the direction of the red arrows **1**. Push the front plate at the bottom toward the housing **2** and secure the front plate with one hand.



3. Close the front plate

Push the security screw upward into the thread and fasten the screw (torque 1 Nm).

Important Notes

Safety Warnings

Notes on Installing:

- This product must not be used in explosion-hazardous locations.
- Make sure that you install this product as outlined in Chapter 2, «Installation» of the S15 Camera Manual. A faulty installation can damage the camera!
- When installing this product, make sure that you are only using genuine MOBOTIX parts and MOBOTIX connection cables.
- Only install this product on suitable, solid materials that provide for a sturdy installation of the fixing elements used.

Electrical installation: 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 guidelines. Make sure to properly set up all electrical connections.

Electrical surges: MOBOTIX cameras are protected against the effects of small electrical surges by numerous measures. These measures, however, cannot prevent the camera from being damaged when stronger electrical surges occur. Special care should be taken when installing the camera outside of buildings to ensure proper protection against **lightning**, since this also protects the building and the whole network infrastructure.

Max. power consumption of attached extension modules: The power consumption of all attached **MxBus modules** must **not exceed 3 W**. When attaching modules to the MxBus connector **and** the USB socket, the **power consumption of all attached modules must not exceed 4 W, if the camera is powered by PoE class 3**. If **PoE class 2** is used, **the power consumption of all attached modules must not exceed 1 W!**

Never touch the lens: Due to the high performance of the V16, the area of the image sensor **can get quite hot**, especially when the ambient temperature is also high. This does not affect the proper functioning of the camera in any way. For this reason, the product must not be installed within the reach of persons without the protective lens covers.

Power off before opening the camera: Make sure the power supply to the camera is disconnected before opening the camera housing (e.g., when exchanging the SD card or connecting wires inside the housing).

Network security: MOBOTIX products include all of the necessary configuration options for operation in Ethernet networks in compliance with data protection laws. The operator is responsible for the data protection concept across the entire system. The basic settings required to prevent misuse can be configured in the software and are password-protected. This prevents unauthorized parties from accessing these settings.

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 products. Depending on national laws and the installation location of the V16, 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.

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 **COS** link at the bottom of every page.

Notes on System Security ("Cyber Security")

To protect the camera against security risks in data technology, the following measures are recommended after the installation has been completed:

- **MxManagementCenter:**
 - Menu View > Wizards & Tools > Secure System:
 - **Change camera factory default password:** ✓
 - **Enable encrypted HTTPS:** ✓
 - **Disable public access:** ✓
 - User Management (for all users):
 - **Force Complex Password:** ✓
 - **Logout on Inactivity:** After 5 min
- **User interface of the camera in the browser:**
 - Admin Menu > Network Setup > Web Server:
 - **Enable MxWeb:** –
 - **Enable intrusion detection:** ✓
 - **Notification threshold:** 10
 - **Timeout:** 60 Minutes
 - **Block IP Address:** ✓

For more information on this topic, please read the «Cyber Protection Guide» on www.mobotix.com (under **Support** > **Download Center** > **Documentation** > **Brochures & Guides** > **Cyber Security**).

Technical Specifications V16

Model Variants	Mx-V16A/B* (different combinations of day/night image sensors with the lens options listed below, as mono or dual cameras) *Variant Mx-V16B supports MOBOTIX MxBus modules
Lens options	B041 (90 deg. horizontal image angle) B079 (45 deg. horizontal image angle)
Sensitivity	Color sensor (day): 0.1 lx @ 1/60s; 0.005 lx @ 1s BW sensor (Night): 0.02 lx @ 1/60s; 0.001 lx @ 1s
Image sensor	1/1.8" CMOS, 6MP (3072x2048), Progressive Scan
Max. Image Size	6MP (3072x2048)
Image formats	Freely configurable 4:3, 8:3, 16:9 or custom formats (image cropping), e.g., 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA)
Max. frame rate	MxPEG (max.): 42@HD (1280x720), 34@Full-HD, 24@QXGA, 15@5MP, 12@6MP M-JPEG (max.): 26@HD (1280x720), 13@Full-HD, 9@QXGA, 5@5MP, 4@6MP H.264 (max.): 25@Full-HD, 20@QXGA
Video Codec	MxPEG, M-JPEG, JPEG (max. output size 6MP) H.264 (max. output size QXGA, bandwidth limitation applicable)
ONVIF	ONVIF-S (camera software V5.2.x and higher, 2 nd half of 2018)
DVR	In the camera on MicroSD card (SDXC, SDHC pre-installed) External, on USB device External, on NAS Separate live image and full image recording – MxFFS with archiving function Pre- and post-alarm images Automatic DVR monitoring with error notification
External video buffer	Directly on NAS or PC/Server, no additional recording software required
Software (included)	Video management software MxManagementCenter
Image Processing	MxLEO, backlight compensation, automatic white balance, distortion correction

PTZ	Digital pan/tilt/zoom, continuous up to 8X
Alarm/Events	Temperature sensor, shock detector (with firmware version 5.0.1 and higher), additional sensors/I/Os via MxMessageSystem, notification via e-mail, FTP, IP telephony (VoIP, SIP), visual/sound alarms, pre- and post-alarm images
Intelligent video analysis	MxActivitySensor, Video Motion Analysis
Audio	Microphone/speaker integrated, both 16bit/16kHz (HD wideband audio) Lip-synchronous audio, audio recording VoIP/SIP telephony, intercom, remote control using key codes
Interfaces	Ethernet 100Base-T (patch or installation cable), MiniUSB, MxBus*, inputs/outputs and RS232 via accessories; ext microphone and ext. speaker *Only variant Mx-V16B
Security	User/group management, HTTPS/SSL, IP address filter, IEEE 802.1x, intrusion detection, digital image signature, MxFFS
Certifications	EN 55032:2012, EN 55022:2010, EN 55024:2010, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007+A1:2011, EN 61000-6-4:2007+A1:2011, AS/NZS CISPR22:2009+A1:2010, CFR 47, FCC Part 15B
Power Supply	Power over Ethernet IEEE 802.3af
Power Consumption	Typ. 5W with 1 sensor module, 7,5W with 2 sensor modules
Power Consumption of External Devices	At MxBus: max. 3W, at USB: max. 2.5W, total max. 4W The power consumption of the camera will increase accordingly!
Protection classes	IP66, IK10+
Operating temperatures	-40 to 60 °C / -40 to 140 °F (cold start min. temp. -30 °C / -22 °F)
Dimensions/Weight	Width x height x depth: 261 x 196 x 180 mm; weight: approx. 4,680 g
Standard Delivery	Casing with 3 mm stainless steel (top and front 5 mm stainless steel), S16 with one or two 6MP sensor modules (day/night) mounted to front plate, 50 cm/19.7 in patch cable (installed), Allen wrench 2 mm, screwdriver bit for security screw, multifunctional tool, module wrench, V16 Quick Installation, Drilling Template



Further information on www.mobotix.com:

- Products > Outdoor Cameras > V16 Vandalism
- Support > Download Center > Documentation > Certificates & Declarations of Conformity

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