



\*Variant Mx-D16B supports MOBOTIX MxBus modules

## D16 DualDome

Quick Install



32.803-006\_EN\_04/2018

BeyondHumanVision

MOBOTIX

### Standard Delivery D16

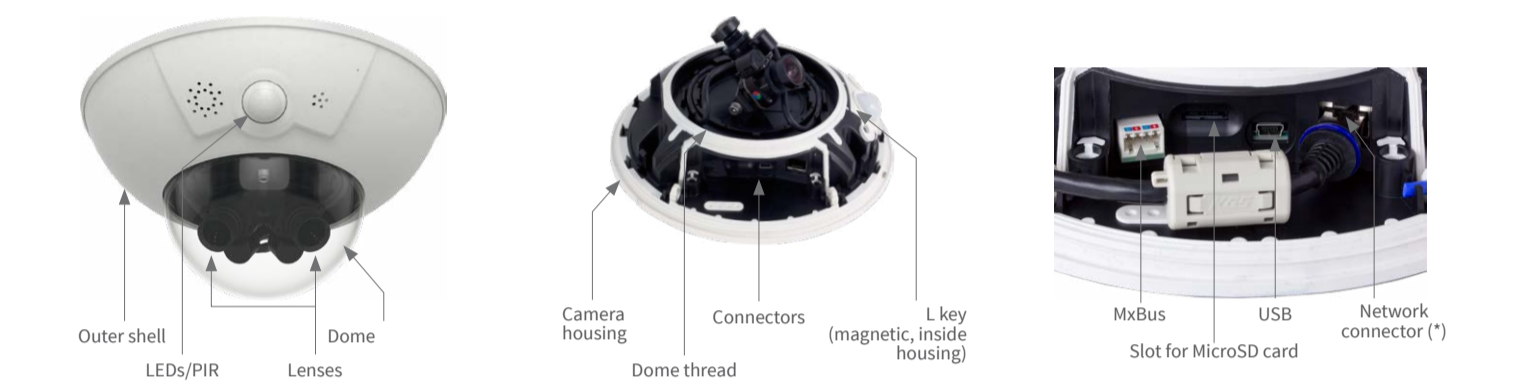


Item	Count	Part Name
1.1	1	Camera housing
1.2a	1	Lens units with lenses (freely adjustable, to be ordered separately)
1.2b	1	Pano lens bridge (for 180° Panorama, to be ordered separately, pre-installed)
1.2c	1	Fix lens bridge (for one day and one night lens, to be ordered separately, pre-installed)
1.3	1	Standard dome for D16 Body
1.4	1	Enlarged XL dome for D16 complete cameras (Pano and Fix) and part of the delivery of the Pano/Fix lens bridges
1.5	1	Cable cover
1.6	1	Ethernet cable
1.7	1	Hinged ferrite
1.8	1	MicroSD card (SDXC, SDHC pre-installed)
1.9	1	Custom tool with magnet
1.10	1	Outer shell
1.11	3	Stainless steel washers 5.3 mm dia.
1.12	3	Dowels 8 mm
1.13	3	Stainless steel wood screws 4.5x60 mm with Torx head TX20
1.14	1	Torx wrench TX20
1.15	1	Allen wrench 3 mm

### Connections and Initial Operation of the D16

You can find detailed information on the **installation** and **connections** of the D16 in the D15 Camera Manual (PDF, available on [www.mobotix.com](http://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 D16» on page 2). Regarding the rest of the **initial operation** of the D16, please see the D15 Camera Manual in Chapter 3, «Initial Operation».



\* To suppress electromagnetic interferences, attach the enclosed hinged ferrite (item 1.7) directly behind the RJ45 connector of the camera's network patch cable, see illustration.

### Preparing the D16 for Installation

To facilitate the installation of the camera, you should complete the following tasks before actually installing the camera.

#### Preparatory Steps

Make sure that the condensed water outlets are pointing downwards when planning the installation **1**.

Remove the outer shell by pressing the magnetic custom tool into the three holes of the outer shell one by one **2**. Gently lift the shell near each hole to loosen the shell from its seats.

Next, unscrew the dome **3**.



#### Insert the Individual Lens Units (1.2a)

Remove the center lock screw and the washer **1**.

Insert the lens units into the seatings **2**.

Insert the center lock screw and the washer and lightly tighten the screw to keep the lens units 1.2a in place **3**. Do not overtighten the lock screw so you can adjust the lens units later on.



#### Insert the Lens Bridge (1.2b/c)

Remove the center lock screw and the washer **1**.

Disassemble the lens bridge by removing the two Allen screws with washers **2** (Pano lens bridge 1.2b shown, similar for Fix lens bridge 1.2c).

Insert the two brackets for the lens bridge into the seatings of the camera housing **3**.

Insert the center lock screw and the washer and lightly tighten the screw to keep the brackets in place **4**.

Insert the lens bridge between the brackets **5**, insert the two Allen screws with the washers and lightly tighten the screws **6**. Do not overtighten the two screws so you can adjust the lens bridge later on.



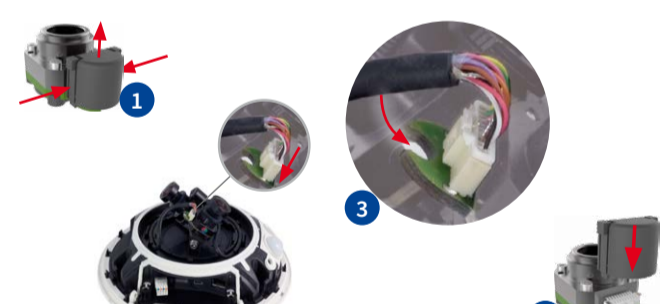
#### Connect the Sensor Cables

Remove the protective covers of the image sensor connectors **1**.

Connect the camera's sensor cables according to the color codes **2**. While doing so, avoid twisting the sensor cables as much as possible.

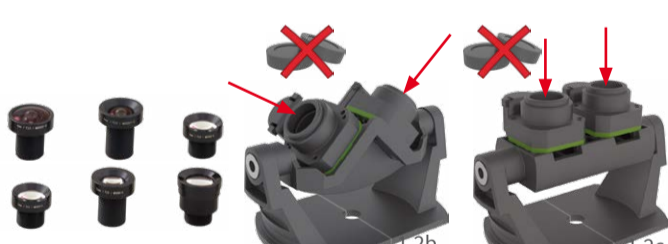
Press the cable into the groove of the board **3**. Take care that the wires are not bent sharply at the plug, but that they are running in an arc.

Press the protective covers onto the connectors until they click into place **4**.



#### Insert the Lenses (Lens Bridges Only)

Remove the protective covers of the lens mounts and screw in the lenses. Lens focus will be adjusted after installing the camera and bringing it into service (see «Initial Operation of the D16»).



### Mounting Options of the D16

#### Installation on Walls or Ceilings Without Accessories

After drilling the holes for fixtures (see «Drilling Template for Installation Without Accessories»), attach the housing of the D16 at the designated position using dowels and screws, then connect the cabling. Once the power supply has been established, you will adjust the lens units or bridges (whichever applies) and the lenses' focus (see «Initial Operation of the D16»). Finally, you will install the dome and the outer shell.



#### Installation With Outdoor Wall Mount (Accessory)

Remove the cover plate of the Outdoor Wall Mount. After drilling the holes for fixtures (see «Drilling Template for Installation Without Accessories»), attach the Outdoor Wall Mount at the designated position using dowels and screws, then lead the cabling into the mount. Next, connect the camera and install the camera on the cover plate of the Outdoor Wall Mount using the supplied screws. Then attach the cover plate with the camera to the Outdoor Wall Mount.

For more information, please see the D15 Camera Manual, Section 2.4, «Mounting the Camera with Outdoor Wall Mount».



#### Installation With Corner and Pole Mount and Outdoor Wall Mount (Accessory)

Lead the cabling from the rear through the Corner and Pole Mount and attach it at the corner of a building or a pole (using steel straps). Then attach the Outdoor Wall Mount to the Corner and Pole Mount.

The remaining installation of the D16 follows the steps under «Installation With Outdoor Wall Mount (Accessory)» above.



#### Installation of the Vandalism Set (Accessory)

Remove the outer shell and the dome (see «Preparing the D16 for Installation»). Screw in the reinforced dome and hold the stainless steel ring of the Vandalism Set in position to mark the holes for drilling (the bulge in the steel ring sets the LED/PIR dome – see red circle in figure on the right). Drill the holes for the mounting screws (or the dowels, whichever applies), then apply the stainless steel ring and fasten it using the supplied security screws.



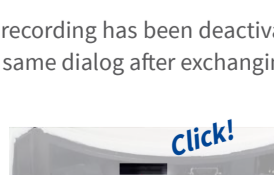
### Inserting/Exchanging the SD Card

All camera models can use the integrated MicroSD card (SDHC), to record video data. In order to exchange the MicroSD card, please proceed as outlined in the following instruction. For information on reliable SD cards, please visit the MOBOTIX website [www.mobotix.com](http://www.mobotix.com) > Support > Download Center > Documentation > White Lists in the document MicroSD Card Whitelist for MOBOTIX Cameras.

When replacing the SD card, make sure that recording has been deactivated in the browser (Admin Menu > Storage > Storage on External File Server / Flash Device; activate recording again in the same dialog after exchanging the card).

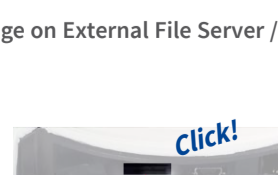
#### 1. Remove the SD Card

Remove the outer shell and the cable cover of the camera. If a MicroSD card has been installed, gently press with your finger as indicated by the arrow until you hear a **click**. Then release the SD card. The card can be easily removed.



#### 2. Insert the SD Card

Insert the MicroSD card and gently press with your finger as indicated by the arrow until you hear another **click**. Make sure that the SD card is fully inserted. Re-attach the cable cover and the outer shell of the camera.



## Initial Operation of the D16

The initial operation starts with connecting the power supply (see section «Network and Power Connection, Additional Cables» in the D15 Camera Manual). The first access follows the procedure described in the same manual in the «Initial Operation of the Camera» section. 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).

### 1. Enter Type of Lens Bridge and Lenses

Open the Admin Menu > Hardware Configuration > Image Sensor Configuration dialog and select the type of lens bridge you installed. Next, select the lenses you installed for the image sensors in Hardware Configuration > Lens Configuration. This step is required so the camera can apply the proper distortion correction methods for the installed lenses.



### 2. Adjust the Lens Focus

Remove the dome before proceeding.

Check the live image from the camera in the browser. Activate the focusing aid in the browser (**Focusing Aid** quick control, **Activated** value).



Carefully turn the lens by hand in clockwise or counter-clockwise direction until the red area of the focusing aid is as small as possible. **Except D16-Panorama/180°:** Switch to the other image sensor (**Camera Selection** quick control) and repeat the process, if required.

Once the focus is adjusted properly, deactivate the focusing aid again (**Focusing Aid** quick control, **Disabled** value).

**Note:** Due to the lens effect of the dome, the focus of the **B237 tele lens** is shifting slightly once the dome has been mounted. Before mounting the dome, the tele lens should be turned about **90° in counter-clockwise direction** (as seen from the lens' front). Make sure that you check the focus of the live image in your browser with the dome installed and re-adjust the lens, if required.



### 3. Reboot the Camera and Reset the Image Settings

Reboot the camera (**Admin Menu > General Tasks > Reboot**) and then reset the image settings and all views to the factory defaults (**Manage Settings > Load Image Factory Defaults** quick control). If required, adjust the image settings.

**Only Pano/Fix:** Adjust the dual image using the on-screen control (fig. on the right; see also D15 Camera Manual, «Adjusting the Panorama Image (D16-Pano Only)»).



### 4. Save the configuration

In the browser, select the **Manage Settings** quick control and set **Store Entire Configuration** as value. The camera stores the configuration in the permanent camera memory so that the settings will be applied at the next camera reboot.

## Boot Options of the D16

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.
- Make sure that you have the custom tool with magnet (item 1.8) at hand.
- 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 magnet of the custom tool onto the spot 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 magnet again onto the designated spot (< 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 magnet longer (> 2 sec) onto the indicated position. The camera confirms the selection by flashing rapidly three times. You can now remove the magnet. 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.

## Important Notes

### Safety Warnings

#### Notes on Installing:

- This product must not be used in locations exposed to the dangers of explosion.
- Make sure that you install this product as outlined in Chapter 2, «Installation» of the corresponding 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 electrical 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 lenses:** Due to the high performance of the D16, 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 dome.



**Power off before opening the camera:** Make sure the power supply to the camera is disconnected before opening the camera housing (e.g., when inserting or exchanging lenses, lens units and SD cards).



**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 D16, 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.

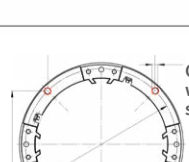
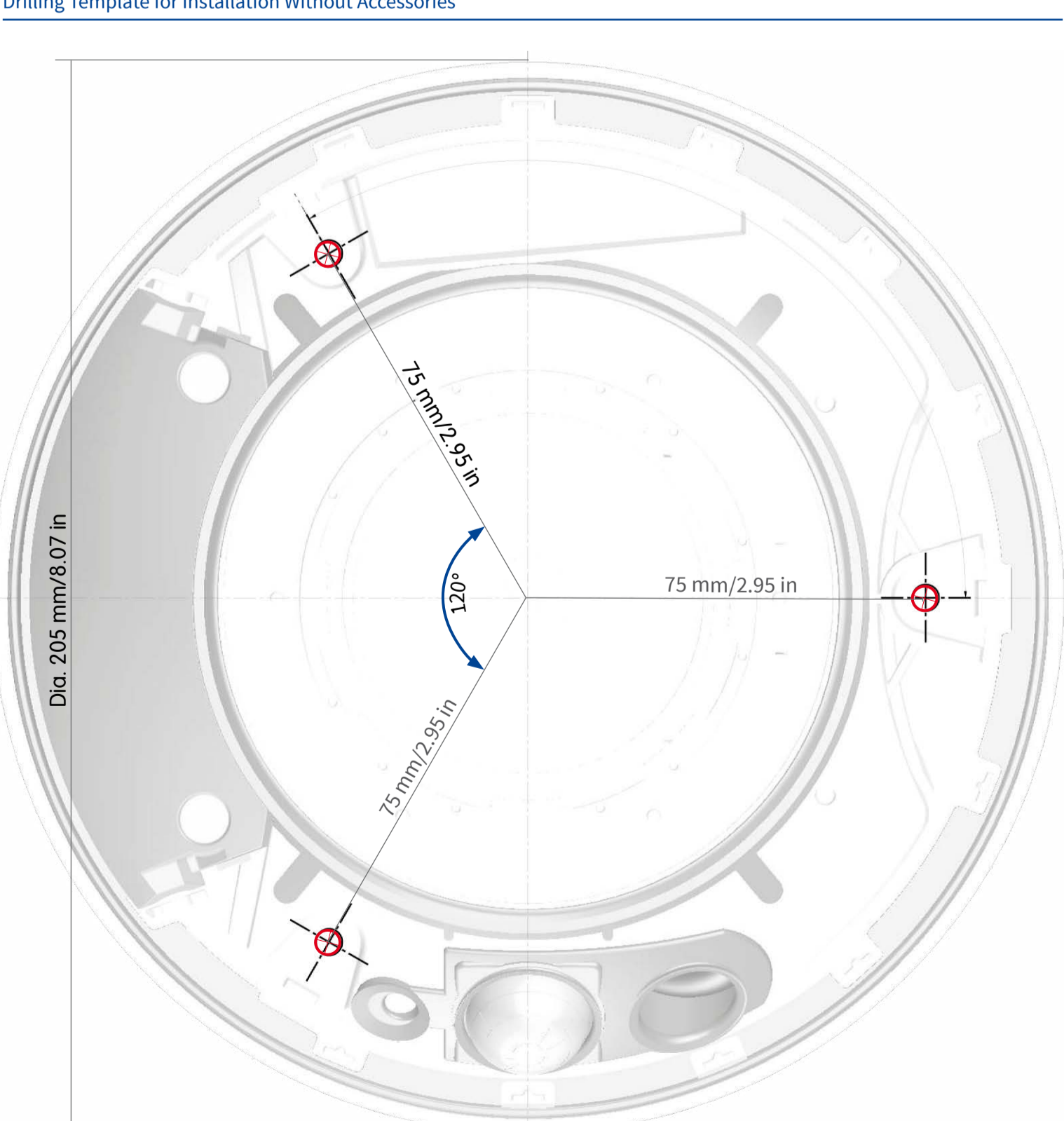


## Technical Specifications D16

Model Versions	Mx-D16A/B* (any comb. of Day/Night/LPF sensor modules) *Variant Mx-D16B supports MOBOTIX MxBus modules
Lens Options	MX-B036 to MX-B237 (20 to 135 mm in 35 mm format), 103° to 15° horizontal angle of view
Min. Illumination	Color sensor (6MP): 0.1 Lux at 1/60 s, 0.005 Lux at 1 s Black&White sensor (6MP): 0.02 Lux at 1/60 s, 0.001 Lux at 1/1 s
Image Sensor	1/1.8" CMOS, 6MP, progressive scan
Max. Image Size	Color: 3072x2048 (6MP), 6144x2048 (12MP) Black&White: 3072x2048 (6MP), 6144x2048 (12MP)
Image Formats	3072x2048 (6MP), 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA), 1280x720 (HD), 1024x768, 800x600, 768x576 (D1-PAL), 704x576 (TV-PAL), 640x480, 384x288, 320x240, 160x120, custom formats
Max. Frame Rate	MxPEG (max): 42@HD (1280x720), 34@Full-HD, 24@QXGA, 15@5MP, 12@6MP, 6@2x6MP M-JPEG (max): 26@HD (1280x720), 13@Full-HD, 9@QXGA, 5@5MP, 4@6MP, 2@2x6MP 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 <sup>nd</sup> half of 2018)
Internal DVR	MicroSD card (SDXC, SDHC pre-installed)
External Video Ring Buffer	Directly on NAS or PC/Server, no additional recording software required
Software (Included)	MxManagementCenter video management software
Image Processing	Backlight compensation, automatic white balance, image distortion correction, panorama correction, video motion detection, MxActivitySensor
Virtual PTZ	Digital pan/tilt/zoom, continuous up to 8X

Alarm/Events	Video Motion detection, MxActivitySensor, external signals, temperature sensor, PIR, microphone, shock detector (with firmware version 5.0.1 and higher), notification via e-mail, FTP, IP telephony (VoIP, SIP), visual/sound alarms, pre- and post-alarm images
Microphone and Speaker	Integrated microphone and speaker
Audio Functions	Lip-synchronous audio, two-way communication, audio recording
Interfaces	Ethernet 100Base-T, MiniUSB, MxBus*, inputs/outputs and RS232 via accessories *Only variant Mx-D16B
Video Telephony	VoIP/SIP, two-way communication, remote controlling using key codes, event notification
Security	User/group management, HTTPS/SSL, IP address filter, IEEE 802.1x, intrusion detection, digital image signature
Certifications	EN55032:2012, EN55022:2010, EN55024:2010, EN61000-6-1:2007, EN61000-6-3:2007+A1:2011, EN61000-6-4:2007+A1:2011, AS/ NZS CISPR22:2009+A1:2010
Power Supply	Year-round Power-over-Ethernet (IEEE 802.3af); PoE class variable
Power Consumption	Typ. 5 W
Power Consumption of External Devices	At MxBus: max. 3 W, at USB: max. 2.5 W, total max. 4 W The power consumption of the camera will increase accordingly!
Protection Classes	IP54 and IK10 IP65 and IK10 with Outdoor Wall Mount IP66 and IK10+ with Vandalism Set
Operating Conditions	-30 to 60 °C/-22 to 140 °F
Dimensions/Weight	Diameter x Height: 205 x 108 mm (D16), 205 x 125 mm (D16-Panorama/180°, D16-DNight); weight: approx. 750 g/1.65 lb (including lenses)
Standard Delivery	Housing (high-resistance composite, PBT-PC), white, two shock-resistant domes (transparent), mounting supplies, wrenches, 50 cm/19.69 in patch cable, software, MicroSD card (installed)

## Drilling Template for Installation Without Accessories



Manuals and drilling templates: [www.mobotix.com](http://www.mobotix.com) > Support > Download Center > Documentation > Manuals



Further information on [www.mobotix.com](http://www.mobotix.com):

- Products > Outdoor Cameras > D16 DualDome
- Support > Download Center > Documentation > Certificates & Declarations of Conformity

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