



## MxMultiSense MxMultiSense-Outdoor

MxBus module with four sensors:  
PIR movement sensor, temperature, illumination and sound sensor

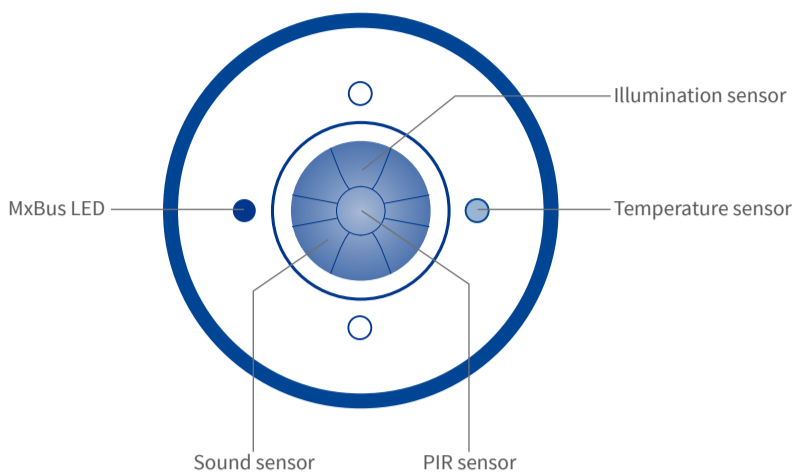
More information:  
[www.mobotix.com](http://www.mobotix.com) > Products > Home Automation > MxMultiSense

MX-MULTISENSE1/MX-MULTISENSE1-EXT  
32.812-001\_EN\_12/2016

**MOBOTIX**

- MxMultiSense MxBus module
- Plastic nut, white
- Cable plug for diameters 2 to 8 mm, white (installed)
- Single-wire plug, white

### Sensors of the MxMultiSense Module



### Special Product Features

- Four integrated sensors: PIR sensor (passive infrared), temperature, illumination and sound sensor.
- Inconspicuous look (50 mm/1.97 in outside diameter, 11 mm/0.43 in visible height).
- Power supply and encrypted communication via MxBus (max. length 100 m/330 ft) from MOBOTIX camera or MX-BPA-Box.
- One camera can take up to seven MxMultiSense modules.
- Sends data to cameras or other MxBus modules.
- Easily installed behind covers or in cavity-wall installations using supplied plastic nut.
- All mounts for S15D can be used for MxMultiSense module.
- Extremely low power consumption (typ. 0.1 W, max. 0,2 W).
- Robust and weatherproof, for indoor and outdoor applications:
  - **MxMultiSense:** Indoor, 0 to +40 °C/+32 to +104 °F, IK04
  - **MxMultiSense-Outdoor:** IP66, -30 to +60 °C/-22 to +140 °F, IK04

### Safety Warnings

- The MOBOTIX MxMultiSense module is only to be used in combination with MOBOTIX cameras to read specific sensor values.
- This product must not be used in explosion-hazardous locations.
- Make sure that you install this product as outlined in this document. A faulty installation can damage the product and the camera!
- Make sure that you respect the operating conditions of the product:
  - MxMultiSense: Indoor, 0 to +40 °C/+32 to +104 °F, IK04
  - MxMultiSense-Outdoor: IP66, -30 to +60 °C/-22 to +140 °F, IK04
- This product is only to be powered via an MxBus connection from a different MOBOTIX device (e.g., camera).
- **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.
- **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.

### Installing the MxMultiSense Module

**Caution! Before working on these tasks, make sure that the MxBus wires are not powered up. Disrupt the power supply to the camera or a MX-BPA-Box, if attached!**

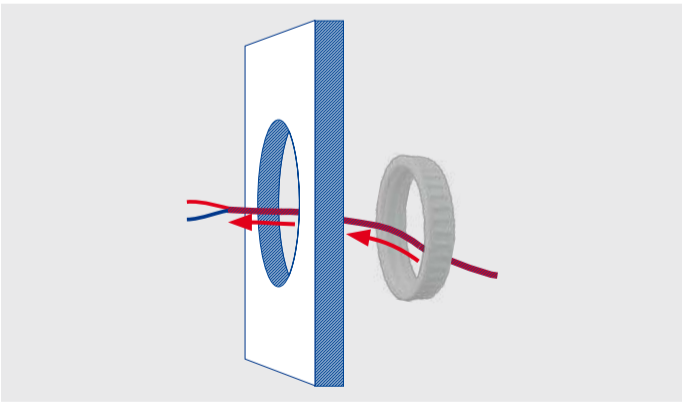
#### 1. Preparing the MxMultiSense Module

- Pull the cable plug out of the back of the MxMultiSense module.



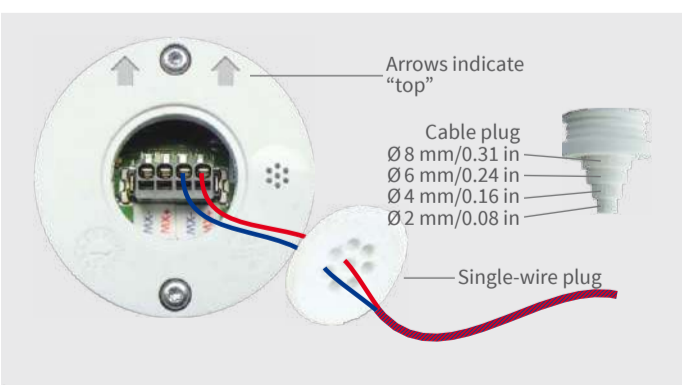
#### 2. Prepare the Hole

- Drill a hole with 43 mm diameter at the position where the MxMultiSense will be installed.



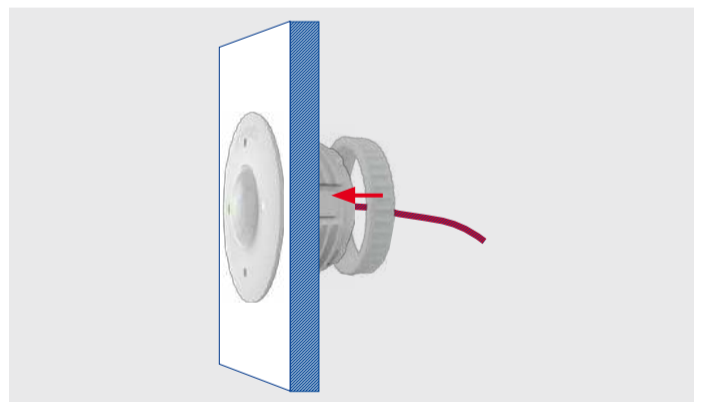
- Guide the MxBus wires from the back – first through the plastic nut, then through the drilled hole as shown.

#### 3. Connect the Module



- Next, remove the first 5 mm/0.20 in of the wire insulation.
- Apply the cable plug or the single-wire plug depending on the cable/wire types used:
  - **Cable plug:** Cut the plug according the outside diameter of the cable (e.g., Ø 4 mm – cut off section labeled **Ø4**).
  - **Single-wire plug:** Push the MxBus wires (one wire per hole) through the holes in the plug.
- Push the individual wires of the MxBus connection into the receptacles of the MxBus terminal (use a second pair of MxBus wires to connect additional MxBus modules).
- Press the plug into its seat in the back of the module and make sure that it fits snugly all around the rim.

#### 4. Installing the Module in Cavity Walls and Covers



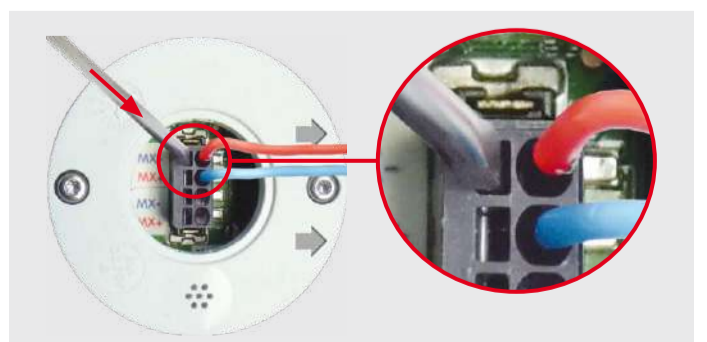
- Insert the module from the front (arrows on the back and “MOBOTIX” lettering on the front are pointing upward), then tighten the plastic nut from the rear.

#### 5. Installing the Module in MOBOTIX Mounts



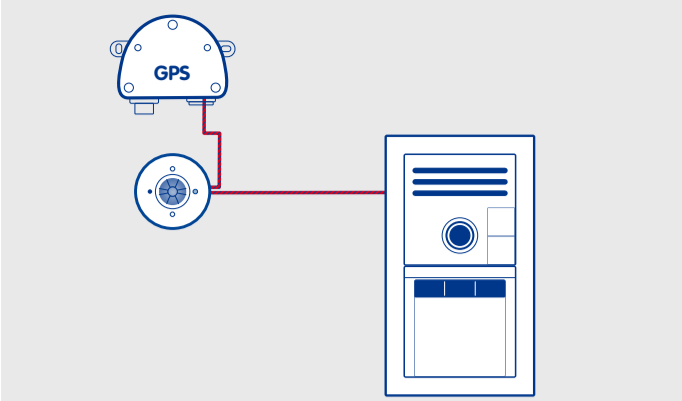
- Fasten the module as described in the product documentation of the MOBOTIX sensor module mounts.

#### 6. Removing the Module



- Remove the module.
- Pull the cable plug or the single-wire plug out of the back of the module.
- Stick a small screwdriver into the slot beneath the terminal connector as shown in figure.
- Softly push in the screwdriver as indicated by the red arrow and pull the wire from the connector.

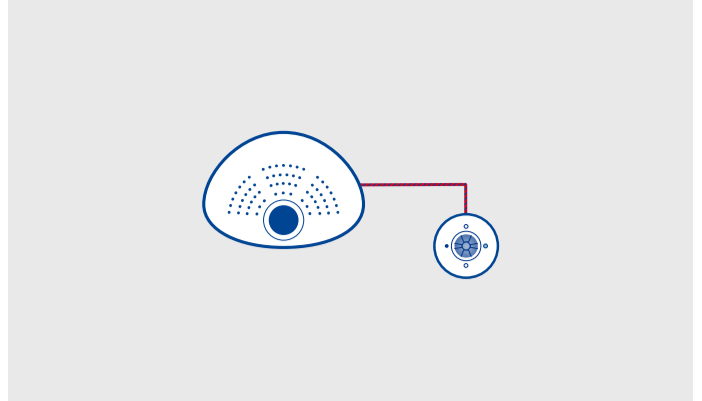
## 1. Door Station, MX-GPS-BOX and MxMultiSense



- T25 door station installed on the outside of the building.
- MxMultiSense-Outdoor attached via MxBus to T25 on the outside of the building.
- MX-GPS-BOX attached via MxBus (looped through MxMultiSense-Outdoor) and used as time server for the T25.

Using the MxMultiSense module, the door station can react to the PIR sensor, to changes in outdoor temperatures and illumination and to noises.

## 2. i25 and MxMultiSense



- i25 installed on wall for monitoring an indoor scenario.
- MxMultiSense attached via MxBus to i25 (with installed MX-Bus-IO-Module).

Using the MxMultiSense module, the camera can react to the PIR sensor, to changes in indoor temperatures and illumination and to noises (in another room, for example).

## LED of the MxMultiSense Module



LED	Meaning
	MxBus disconnected
	Regular operation
	Unencrypted communication
	No bus communication (e.g. invalid encryption)

Blinking Pattern	Meaning
	LED off
	LED permanently on
	LED flashes at regular intervals

## Initial Operation of the MxMultiSense Module

### 1. Open the MOBOTIX Camera's User Interface in the Browser

- Enter the IP address of the camera that is connected to the MxMultiSense module in the browser (admin access rights required): <http://<IP address of camera>>
- Click on the **Admin Menu** button in the Live screen of the camera.

### 2. Activate MxBus Interface

- In the **Hardware Configuration** section, click on **Manage MxBus Modules**.
- If you have not yet done so, activate the **MxBus Interface** in the **Manage MxBus Modules** dialog: Click on the **Connect** button in the **MxBus Interface** section.

After about 15 to 20 seconds, the status changes to **New device(s) available** and the **Device Type** shows the MxMultiSense with a status **Addressable** in the **Devices** section.

### 3. Activate MxMultiSense as MxBus Module

- In the **Manage MxBus Modules** dialog, **Devices** section, MxMultiSense line, click on the **Activate** button.

After about 10 to 15 seconds, the status of the MxMultiSense module changes to **Active** and the LED of the MxMultiSense module is solid green.

### 4. Configure Messages in the MxMessageSystem

The messages defined here will be sent by the MxMultiSense module if one of the sensors triggers. It is advisable to define individual messages for each sensor (maybe even several messages for different values).

In the example, the module sends messages if the measured temperatures are higher or lower than the specified temperature values or if they enter a temperature range.

- In the **Manage MxBus Modules** dialog, **Service Functions** section, click on the **MxMessageSystem Configuration** button.
- In the **Message Configuration for MxBus Modules** dialog, click on **Load configuration of connected devices**.
- Once the connected devices are displayed, click on **Edit messages**.
- For example, you could create the following messages by clicking on the **New message** button:
  - TMP\_MxMS\_under\_20 ("Send this message, if the temperature drops below 20 °C.")
  - TMP\_MxMS\_over\_30 ("Send this message, if the temperature rises above 30 °C.")
  - TMP\_MxMS\_OK ("Send this message, if the temperature is between 20 and 30 °C.")
- Click on the MxMultiSense entry.

- In the **Temperature sensor** section, add new sensor profiles by clicking on **Add** (see figure below).



- Define additional message names and sensor profiles for the other sensors of the MxMultiSense module as required.
- Next, click on **Write configuration** to store the messages and the sensor profiles in the MxMultiSense module.

### 5. Message Events for PIR Sensor, Temperature and Illumination

Using these events, the connected MOBOTIX camera can trigger an alarm if it receives one of the messages defined on the MxMultiSense module:

- In the Live screen of the camera, click on **Setup Menu > Event Control > Event Overview**.
- In the **Message Events** section, click on the **Edit** button.
- Click on **Add new profile** at the bottom of the dialog, select MxMessageSystem as **Event Sensor Type** and enter the message name (e.g., TMP\_MxMS\_under\_20).
- Continue to define the other events you need by creating individual profiles with the corresponding message names (click on **?** to see the help topic for this dialog).
- Click on **Set**, then on **Close** and permanently store the configuration.

### 6. Define Actions for the Additional Events

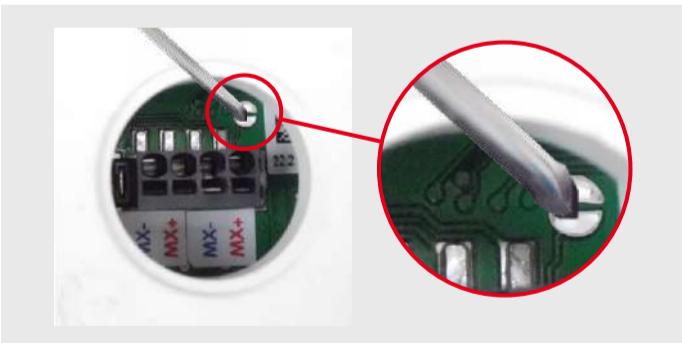
- In the Live screen of the camera, click on **Setup Menu > Event Control > Action Group Overview**.
- Click on the **Add new group** button at the bottom of the dialog.
- Enter a descriptive name for the group, then click on the **Edit** button in this line.
- Highlight the corresponding events in the **Event Selection** list and add the desired actions by clicking on **Add new action** (see help topic for this dialog by clicking on **?**).
- Click on **Set**, then on **Close** and permanently store the configuration.

### 7. Store the Camera Configuration

- In the Live screen of the camera, click on **Admin Menu > Configuration > Store** and permanently store the camera configuration (without rebooting).
- Save the camera configuration to the local computer (**Admin Menu > Configuration > Save**).

## Resetting the MxMultiSense Module

If the MxMultiSense had been connected to a different camera before and not deactivated or reset before detaching, the LED (MxBus status) may flash red after establishing the MxBus connection. In this case, you need to reset the connected and activated module to **factory defaults**.



### Resetting the Module

- Remove the plug using a small screwdriver. **Take care not to damage the terminal block within the module housing!**
- Slide the plug away from the module.
- Bridge the contact surfaces inside the MxMultiSense module (red circle in figure) using a screwdriver, for example (the LED is flashing red/blue with increasing frequency).
- **Caution: Make sure that the screwdriver only touches the two semicircular contacts and no other contact surfaces on the circuit board.**
- Only remove the screwdriver if the LED of the MxMultiSense module is flashing green on/off three times to indicate that the process has finished successfully.
- Slide the plug back to the module and press it back into its seat.
- Set up the MxMultiSense module in the camera (see «Initial Operation of the MxMultiSense Module» above).

## Technical Specifications

MxMultiSense/MxMultiSense-Outdoor	
<b>Power Supply</b>	48 V DC via MxBus
<b>Power Consumption</b>	Typ. 0.1 W, max. 0.2 W
<b>Wire diameters at the terminal block</b>	0.6 to 0.8 mm/23 AWG to 20 AWG (0.8 mm/20 AWG recommended to avoid line losses)
<b>Connections</b>	MxBus (terminal block with 2 x 2 push-in type connectors)
<b>Operating Conditions</b>	<b>MxMultiSense:</b> Indoor, 0 to +40 °C/+32 to +104 °F, IK04 <b>MxMultiSense-Outdoor:</b> IP66, -30 to +60 °C/-22 to +140 °F, IK04

MxMultiSense/MxMultiSense-Outdoor	
<b>Certifications</b>	EN55022:2010; EN55024:2010; EN50121-4:2015, EN61000-6-1:2007; EN 61000-6-2:2005; EN61000-6-3:2007+A1:2011; EN61000-6-4:2007+A1:2011 AS/NZS CISPR22:2009+A1:2010; CFR47, FCC Part 15B
<b>Dimensions</b>	Depth with single-wire plug: 41 mm/1.61 in Depth with cable plug: 55 mm/2.17 in Inside diameter: 43 mm/1.69 in Outside diameter: 50 mm/1.97 in 