Connecting the MX-GPS-Box

Installation Instructions

1. Find a suitable mounting position
   To guarantee optimum reception of the GPS signals by the MX-GPS-Box, you should find a spot on the outside of a building, which provides a clear view of the sky (max. 100 m/110 yd wire length between the MOBOTIX camera and the MX-GPS-Box).

2. Attach the box
   Attach the MX-GPS-Box at the mounting position with the cable ports pointing downwards. Next, remove the box cover (three screws). Do not remove the white sealing plug (left) or the temperature sensor (center)!

3. Prepare the MxBus wires
   Before proceeding, make sure there is no voltage on the MxBus wires!
   Cut the supplied or existing MxBus wires to size (2-wire, 0.6 to 0.8 mm diameter). When using wires without sheath, strip the insulation of the wires for 5 mm and push the wires through the eight-wire plug (right). When using a cable with sheath, remove the pre-installed eight-wire plug and insert the appropriate cable plug (3 or 5 mm or 5 to 7 mm). Press the rubber plug into the casing in such a way that the rims stick out equally on both sides.

4. Connect the MxBus wires to the terminal
   Connect the MxBus wires to the screw terminals using the screwdriver. Make sure to maintain the polarity (see sticker in front of the terminal). Mount the cover back onto the box (torque 0.4 Nm).

5. Connect the MxBus wires to the opposite side
   Connect the MxBus wires as described in the corresponding manual to the MOBOTIX camera or to another MxBus module connected to a camera (e.g. Keypad, Security Door Opener). Make sure not to exceed the overall length of the MxBus wiring of 100 m/110 yd.

Initial Operation of a New IP Video Door Station

When installing a new MOBOTIX IP Video Door Station for the first time, the MX-GPS-Box will be found automatically when using the Auto Configuration feature. In the process, the entire system will be set to use the box as time server (see IP Video Door Station System Manual Part 2 on www.mobotix.com).
1. Open the MOBOTIX camera's user interface in the browser:
- Under Installations of the camera that is connected to the MX-GPS Box in the browser (admin access rights required): http://<camera IP address>
- Click on the “Add new group” button.

2. Activate the MxBus interface:
- In the Hardware Configuration section, click on Manage MxBus Modules.
- If you do not see GPS, click on the MoBus interface in the Manage MxBus Modules dialog.
- Click on the Connect button in the MoBus Interface section.

3. Set up additional events for GPS position, GPS velocity, temperature and illumination:
- Using these events, the connected MOBOTIX camera can trigger an alarm if it leaves or reaches the defined position, velocity, temperature or illumination.
- In the low screen of the camera, click on Admin Menu > Camera Administration > Time & Data
- Make sure that Event Server Protocol has been set to NTP.
- Enter 180 (e.g. in an empty build) in the Time Settings > Time Server section. Do not remove the other NTP servers since they increase the redundancy that can be reached.
- Click on Set on then on Close and permanently store the configuration.

4. Set the MX-GPS-Box as time base:
- In the Manage MxBus Modules dialog, Device section, GPS Module line, click on the Activate button.
- After about 10 to 15 seconds, the status changes to Activate (no GPS available), the Device type shows GPS Module with the status Activate in the Device section.

5. Define actions for the additional events:
- Click on the Add new profile button at the bottom of the dialog, select the desired Event Server type and enter a new name for the profile (e.g. GPS Position, GPS Velocity, Temperature or NTP Time)
- For MOBOTIX cameras with MxBus connector and software version MX-V4.1.1.21 or higher.
- When defining new time or illumination events, you also need to set the Sensor Source to GPS-Box:
- Select the sensor source you need, e.g. use the current position at the MX-GPS-Box.
- Click on Close and permanently store the configuration.

6. Define actions for the additional events:
- In the low screen of the camera, click on Setup Menu > Event Control > Event Overview
- Click on the Event list and add the desired actions by clicking on Add New action (see help topic for this dialog). Add also event time to the action by clicking on Add new action (see help topic for this dialog).
- Click on Set on then on Close and permanently store the configuration.

7. Define the settings for the additional events:
- In the low screen of the camera, click on Admin Menu > Camera Configuration > Store and permanently store the configuration in the MOBOTIX Camera.
- In the Live screen of the camera, click on the “Add new group” button.
- In the Setup Menu > Event Control > Action Group Overview section, click on Add new group button on the list.
- Enter a descriptive name for the group, then click on the “Add Group” button.
- Add the selected actions by clicking on Add action (see help topic for this dialog by clicking on the button).
- Click on Close and permanently store the configuration.

8. Define the settings for the additional events:
- In the low screen of the camera, click on Admin Menu > Camera Configuration>
- Make sure that the Camera Configuration for the local computer (Admin Menu > Camera Configuration > Save) is set.

Resetting the MxBus-Box

If the MxBus-Box has been connected to different camera boxes, the left LED MxBus status may be blinking red after establishing the MxBus connection. In this case, you need to reset the connected and activated MxBus-Box to factory defaults:

- Remove the box cover (three screws).
- Bridge the contact surfaces below the Factory Reset label (red circle in figure) using a camera owner, for example both LCDs are flashing red blue with increasing frequency.
- Only release the breach of both LEDs of the MxBus-Box are flashing green or off 3 times to indicate that the process has finished successfully.
- Reinstall the box cover back onto the box (torque 1 to 1.2 Nm).
- Set-up the MxBus-Box in the camera (see Manually Initializing the MxBus-Box below).

Notes:

- The MOBOTIX MxBus-Box is to be used only for providing sensor data (GPS position, velocity, temperature, illumination) for MOBOTIX cameras in IP54 environments.
- For MOBOTIX cameras with MxBus connector and software version MX-V4.1.1.21 or higher.
- Additional events not available on MOBOTIX Web and Basic Camera model.
- The GPS precision data changes due to external factors (i.e. number of currently received satellites, weather).
- Make sure that you adhere to all relevant laws, regulations and that you fulfill all certification requirements for the intended use.
- The following MxBus settings are used:
  - Bit rate: 105,000 bps
  - Torque for all box cover screws: 0.6 to 0.8 mm
  - Diameter of the MxBus wires: 0.6 to 0.8 mm (0.8 mm are recommended to avoid line losses).
- The length of the entire MxBus wiring must not exceed 100 m/110 yd.
- The reception sensitivity: –180 dBm
- Make sure that you press the plug into the casing in such a way that the rims stick out equally on both sides.
- The GPS data's precision changes due to external factors (e.g. number of currently received satellites, weather).
- Only set GPS Position for GT at the MX-GPS-Box.
- For MOBOTIX cameras with MxBus connector and software version MX-V4.1.1.21 or higher.
- Only set GPS Position for GT at the MX-GPS-Box.
- The German company MOBOTIX AG is known as the leading pioneer in network camera technology and its decentralized concept has made high-resolution video systems cost-efficient.