Quick Installation

Mx-4IOA-Box

Connection of external sensors and switching of external devices via MOBOTIX cameras; connection to camera via USB cable.

- For MOBOTIX cameras with firmware MX-V7.0.0.0 or higher

- 4 inputs for connecting sensors

- 4 relay outputs

- Protection class IP66, −30 to 60 °C/−22 to 140 °F

- Remote installation (max. 5 m/16.4 ft cable length)

- Complete set including mounting supplies

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Scope of Delivery

Count	Part Name
1	Mx-4IOA-Box Order Code: Mx-F-4IOA
2	Stainless steel PZ head screws 4 x 40 mm
2	Stainless steel washers
2	Plastic dowels
1	Screwdriver, small, blue
4	Silicone rubber plugs, white
1	Silicone sealing ring for USB connector, black

Installation Instructions

NOTE!

- The MOBOTIX Mx-4IOA-Box is to be used only for providing signal inputs/outputs for MOBOTIX cameras in IP66 environments.

- For MOBOTIX cameras with software version MX-V7.0.0.0 or higher.

- Make sure that you adhere to all relevant laws, regulations and that you fulfill all certification requirements for the intended use.

- Torque for cover screws: 0.4 Nm.

- Torque for fastening screws: 0.4 Nm.

- Press the white cable plug (eight-wire plug or cable plug 3 to 5 mm or 5 to 7 mm) into the casing in such a way that the rims stick out equally on both sides.

- Cross-sectional area of the signal wires: 0.6 to 0.8 mm/AWG 26 to 20 (0.8 mm/AWG 20 recommended to reduce line losses).

Attach the box

Attach the Mx-4IOA-Box at the mounting position with the cable ports pointing downwards (max. torque 0.4 Nm). Next, remove the box cover (three screws).

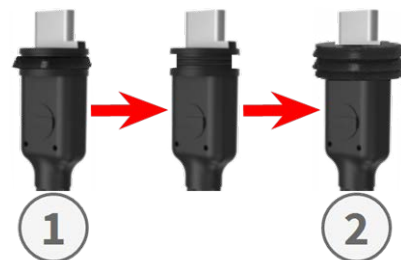**NOTE!** If you need a drilling template, please see

Connect the USB cable

Exchange sealing of USB connector

Since the opening in the Mx-4IOA-Box for the USB connector is wider than the installed sealing, you need to exchange the slim sealing ring of the connector by the supplied wider sealing ring.

1. Remove the slim sealing ring of the USB connector that will go into the Mx-4IOA-Box.

2. Pull the delivered black sealing ring over the plug, so that the smaller opening points into the same direction as the plug's contacts.

Insert USB connector into Mx-4IOA-Box

1. Remove the blue bayonet catch of the Mx-4IOA-Box and pull out the blue plug.

2. Plug the USB connector with attached sealing ring into the Mx-4IOA-Box.
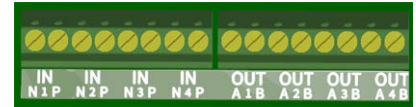
3. Secure the connector using the blue bayonet catch.

NOTE! Please refer to the corresponding *Quick Installation* guide on how to connect the USB cable to the MOBOTIX camera.

Connect the peripheral devices

Connect the other wires/cables as required and by using the cor-
responding cable plugs (inputs, outputs).

- IN (inputs 1 to 4): N = negative, P = positive

- OUT (outputs 1 to 4): wires A and B

Mount the cover

Mount the cover back onto the Mx-4IOA-Box and attach it using the cover screws (torque 0.4 Nm).

Initializing the Mx-4IOA-Box

Open the MOBOTIX camera's user interface in the browser

- Enter the IP address of the camera that is connected to the Mx-4IOA-Box in the browser (admin access rights required):

  `http://<camera IP address>`

- Click on the ≡ menu icon in the Live screen of the camera.

- Open **Admin Menu > Network Setup > Ethernet Interface**.

- If **Power Supply** has not been set to *Power over Ethernet (Class 3)*, click on the **Change** link, follow the steps of the wizard and activate *Power over Ethernet (Class 3)*.

- Open **Admin Menu > Hardware Configuration > Manage Hardware Expansions**.

- In the **USB Connector** section, click on the **Connect** button in the **Mx-4IOA-Box USB** row.

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

Configure events of the signal inputs and outputs

- Click on the ≡ menu icon in the Live screen of the camera.

- Open **Setup Menu > Event Control > Event Overview**.

- In the **Signal Events** section, click on **Edit** and set the parameters as required (open the help page for this dialog by clicking on (?)).

- You can now use the new events in the **Setup Menu > Event Control > Action Group Overview** dialog (open the help page for this dialog by clicking on (?)).

Store the camera configuration

- Click on the ≡ menu icon in the Live screen of the camera.

- Open **Admin Menu > Configuration > Store** and permanently store the camera configuration on the camera (no reboot necessary).

- Open **Admin Menu > Configuration > Save** and save the camera configuration to the local computer. This will allow you to load the configuration when replacing the camera, for example.

USB Cables

> **NOTE!**
>
> ■ Only use MOBOTIX USB cables for connecting the Mx-4IOA-Box to a MOBOTIX camera! Using cables without integrated sealing will lead to moisture damaging the attached devices!
>
> ■ USB cables are not part of the delivery and are to be ordered separately!

MX-CBL-MUC-MU-1/5	Mx-CBL-MUC-AN-MU-1/5	Mx-A-S7A-CBL01/02	Mx-A-S7A-CBL01/02-AN
USB-C straight to Mini USB straight	USB-C angled to Mini USB straight	USB-C straight to USB-C straight	USB-C straight to USB-C angled
1 or 5 m/3.3 or 16.4 ft	1 or 5 m/3.3 or 16.4 ft	1, 2, or 3 m/3.3, 6.6, or 9.9 ft	1, 2, or 3 m/3.3, 6.6, or 9.9 ft

LED Signals

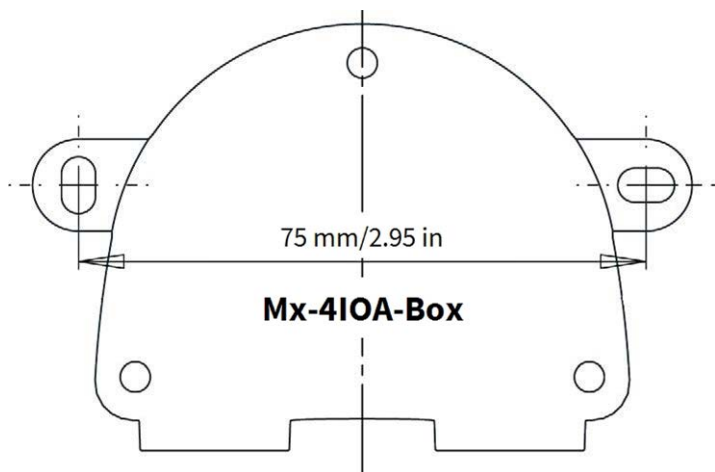| LED		Meaning
Operation (left)	○	Not connected
	🟢	Regular operation
	🔴	Communication error
I/O Status (right)	🔵	1x: Output 1 closed 2x: Output 2 closed 3x: Output 3 closed 4x: Output 4 closed
	🟢	1x: Input 1 closed 2x: Input 2 closed 3x: Input 3 closed 4x: Input 4 closed

Dimensions/Drilling Template

Fig. 1: Mx-4IOA-Box: All measurements in mm

NOTE! When printing this page at 100% of the original size (no scaling) you can use this page as drilling template.

Technical Specifications

Order Code:	Mx-F-4IOA
Inputs	4 galvanically separated inputs (AC/DC, self-powered, up to 50 V)
Outputs	4 Form C relays (AC/DC, up to 50 V/60 W/2 A)
Total Output Rating	400 mW
Wire Specifications (terminals)	Minimum: 0.14 mm² (AWG 26) Maximum: 0.5 mm² (AWG 20)
Chip set	u-blox 8 multi GNSS
Power Supply	USB-powered (by MOBOTIX camera)
Power Consumption	Typ. 1 W/200 mA
Max. Cable Length	5 m/16.4 ft
Channels	72
Sensitivity	-167 dBm
Frequency	GPS: L1, 1575.4200 MHz BEIDOU COMPASS: B1, 1561.0980 MHz GALILEO: E1, 1575.4200 MHz GLONASS: G1, 1602.5625 ~ 1615.5000 MHz
Target precisions	Position horizontal: GPS/SBAS/QZSS+GLONASS: 2.5 m CEP Time: 1 microsecond synchronized with GPS time Speed: 0.1m/s
Date	WGS-84
Protocols	NMEA-0183 V3.01 GGA, GSA, GSV, RMC, VTG
Detection rates	Cold start 26 s average Hot start 1 s average Re-Acquisition: 1 s average
Update rate	single GNSS: 18 Hz (for example GPS solo) multi GNSS: 10 Hz (for example GPS+GLONASS)

Order Code:	Mx-F-4IOA
Dynamic prerequisites	Acceleration limit: smaller than 4g Height limit: 50000 m Speed limit: 500 m/s
Protection Class	IP66
Operating temperature	−30 to 60 °C/−22 to 140 °F
Dimensions (width x height x depth)	86 x 56 x 31 mm/3.39 x 2.20 x 1.22 in (without rubber plugs)
Weight	70 g

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