

Quick Start Guide

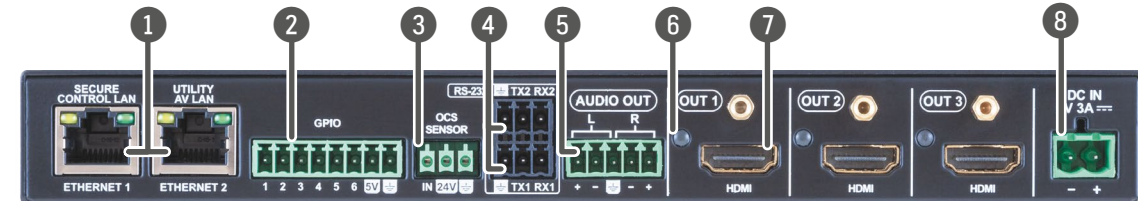
MMX2-4x1-H20
MMX2-4x3-H20

Front View (MMX2-4x3-H20)



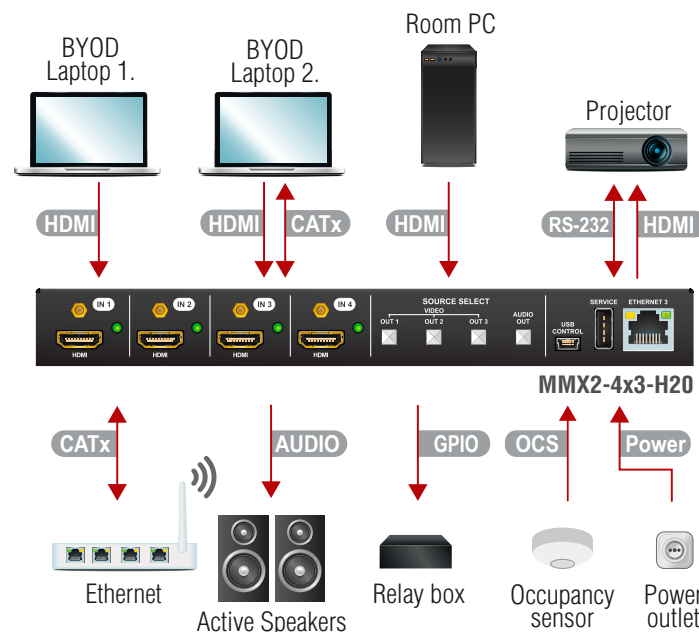
- HDMI input ports**
HDMI input ports for sources. The applied cable shall not be longer than 5m (22AWG) when signal resolution is 4K. Use cables certified for HDMI 2.0 (3x6Gbps) applications.
- Input status LED**
on: there is a valid signal on the port
blink (once): the port is selected by a button press
off: there is no valid signal on the port
- Front panel buttons**
For more details about the buttons see the **Button Functionality** section. When LEDs blink green three times after pressing the button, they show that the front panel lock is enabled.
- USB mini-B port**
Reserved for service functions.
- USB-A port**
Reserved for future developments.
- Configurable Ethernet port**
RJ45 connector for configurable 100 Base-T Ethernet communication.

Front View (MMX2-4x3-H20)



- Ethernet ports**
RJ45 connectors for 100Base-T Ethernet communication.
- GPIO port**
8-pole Phoenix® connector for configurable general purpose. Max. input/output voltage is 5V, see the details on the next page
- OCS sensor**
3-pole Phoenix® connector (male) for connecting an occupancy sensor. The port provides 24V output voltage (50mA).
- RS-232 port**
3-pole Phoenix® connector for bi-directional RS-232 communication.
- Analog audio port**
Audio output port (5-pole Phoenix) for balanced analog audio output signal. The signal is de-embedded from the selected video signal.
on: video signal is present
off: video signal is not present or muted
- Output status LED**
HDMI output ports for connecting to the sink devices.
- HDMI output port**
HDMI output ports for connecting to the sink devices.
- DC input**
The device can be powered by an external 5V power supply. Connect the output to the 2-pole Phoenix® connector.

Connecting Steps (example for MMX2-4x3-H20)



- | | |
|---------------|--|
| HDMI | Connect an HDMI source (e.g. BYOD laptop or room PC) to the HDMI input port. |
| CATx | Connect the Ethernet port to a Local Network Switch to provide Ethernet connection for device configuration and/or for a source device (only on MMX2-4x3-H20). |
| CATx | Connect the switcher to an Ethernet Ethernet port to access the local network. |
| HDMI | Connect an HDMI sink (e.g projector) to the HDMI output port. |
| RS-232 | Optionally connect a controller/controlled device (e.g. projector) to the RS-232 port. |
| Audio | Optionally connect an audio device (e.g. active speakers) to the analog audio output port by an audio cable. |
| GPIO | Optionally connect a device (e.g. Relay box) to the GPIO port. |
| OCS | Optionally connect an occupancy sensor to the OCS port. |
| Power | Connect the external power supply to the AC power socket and then to the switcher unit. |

i Powering the device is recommended as the final step.

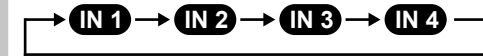
Button Functionality

MMX2-4x1-H20

Use **IN1**, **IN2**, **IN3** or **IN4** button for selecting the video source to the **HDMI output**.

MMX2-4x3-H20

Use the **OUT1**, **OUT2** or **OUT3** button for selecting the video source to the specific output. Push **OUT1** to select the video input for the HDMI **OUT1** port (**OUT2** for HDMI **OUT2** and **OUT3** for HDMI **OUT3**). The sequence of each output button is the following:



Use the **AUDIO OUT** button for switching the audio source to the analog audio output. The sequence is the same as above.

Setting a Dynamic IP Address (DHCP)

- Keep the button on the right (**AUDIO OUT** on MMX2-4x3-H20; **IN4** on MMX2-4x1-H20 model) button pressed for **5 seconds**; all front panel LEDs start to blink.
- Release the button, then press it **3 times quickly**. DHCP is now enabled.

Restore the Factory Default Settings

- Keep the **button on the right (AUDIO OUT** on MMX2-4x3-H20; **IN4** on MMX2-4x1-H20 model) pressed for **10 seconds**.
- If the LEDs blink fast, release the button, press it again for **3 times quickly**, then the device restores the factory default settings and reboots.

Lock / Unlock Buttons

Press the **left** and **right** buttons together (within 100 ms) (**IN1** and **IN4** buttons in MMX2-4x1-H20 model, **OUT1** and **AUDIO OUT** on MMX2-4x3-H20 model) to disable/enable front panel buttons; front panel LEDs blink 4 times when locking/ unlocking.

Software Control – Using Lightware Device Controller (LDC)

The device can be controlled from a computer using the Lightware Device Controller software. The application is available at www.lightware.com, install it on a Windows PC or a macOS and connect to the device via LAN.

Firmware Update

Lightware Device Updater v2 (LDU2) is an easy and comfortable way to keep your device up-to-date. Establish the connection via Ethernet. Download and install LDU2 software from www.lightware.com where you can find the latest firmware package as well.

Further Information

The document is valid with the following firmware version: 1.3.0
The User's manual of this appliance is available on www.lightware.com.
See the [Downloads](#) section on the dedicated product page.

Contact Us

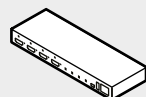
sales@lightware.com
+36 1 255 3800

support@lightware.com
+36 1 255 3810

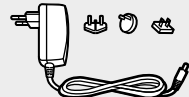
Lightware Visual Engineering LLC.
Peterdy 15, Budapest H-1071, Hungary

Doc. ver.: 1.2
19200188

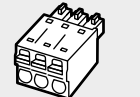
Box Contents



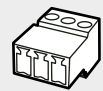
MMX2 switcher



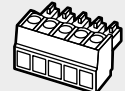
5V DC power adaptor



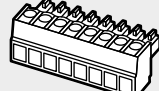
Phoenix Combicon®
3-pole flat connector *



Phoenix Combicon®
3-pole male connector



Phoenix Combicon®
5-pole connector



Phoenix Combicon®
8-pole connector



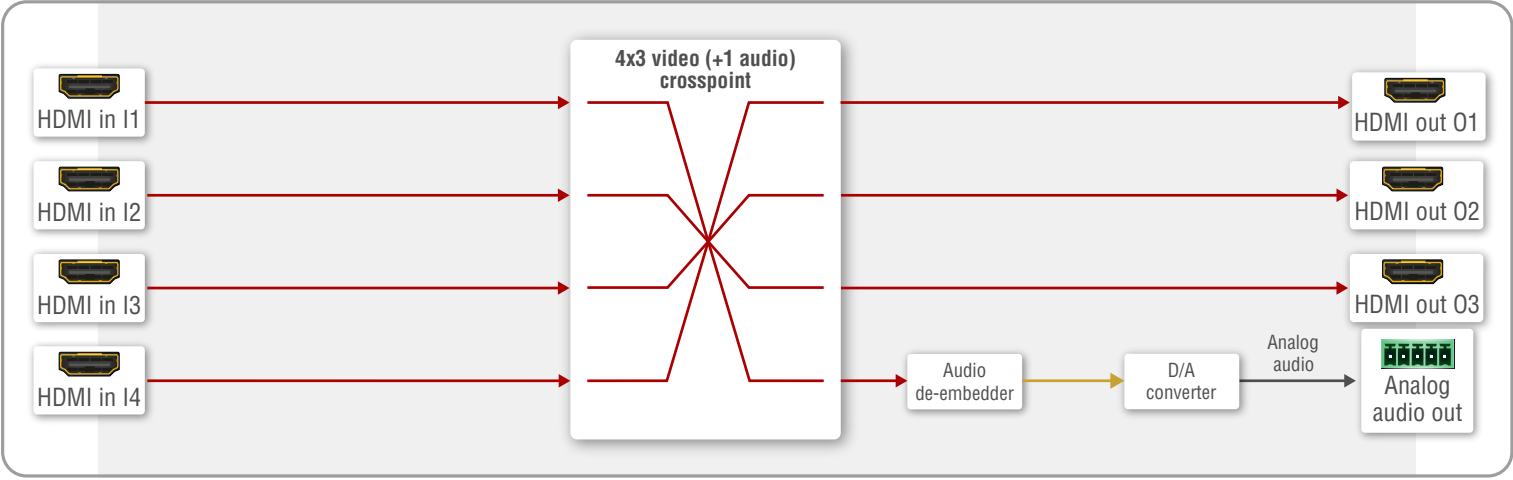
M3x6 flat head screw
for mounting (2x)



Safety and warranty info,
Quick Start Guide

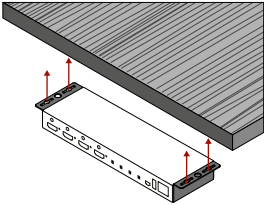
* 2 pcs. for MMX2-4x3-H20 and 1 pc. for MMX2-4x1-H20 model (for RS-232 port)

Port Diagram (MMX2-4x3-H20)



Mounting the Device (with optionally available accessory)

The below example demonstrates the application of **UD Kit double** accessory (to order mounting accessories please contact sales@lightware.com):



⚠ *Using different (e.g. longer) screws may cause damage to the device.*

📌 *The transmitter is half-rack sized.*

Factory Default Settings

The settings can be restored by front panel buttons as written at previous page or by software tools. The factory default values are the following:

IP address	Dynamic (DHCP is enabled)
Hostname	lightware-<serialno>
Video Crosspoint (MMX2-4x3-H20)	I1@O1, I2@O2, I3@O3
Video Crosspoint (MMX2-4x1-H20)	I1@O1
HDCP mode (output)	Auto
Signal type	Auto
Emulated EDID	F47 - (Universal HDMI with PCM audio)
Analog audio output	I1 is selected
Analog audio output levels	Volume (dB): 0.00; Balance: 0 (center)
Audio Autoselect	Follow video O1
RS-232 port setting	9600 BAUD, 8, N, 1
RS-232 serial over IP	Enabled
HTTP, HTTPS	Enabled
HTTP, HTTPS authentication	Disabled

OCS (Occupancy) Sensor

The switcher is supplied with a 3-pole Phoenix® connector (male) for connecting an OCS sensor.

Connector Pin Assignment

Pin nr.	Function
1	input with logic low/high level
2	24V (max 50mA)
3	ground



Signal Levels

The signal levels for the Pin 1	Input voltage (V)	Max. current (mA)
Logic low level	0 - 0.8	30
Logic high level	2 - 5	18

⚠ *Occupancy sensor connector and GPIO port are not compatible with each other because of the voltage level difference, please do not connect them directly.*

GPIO (General Purpose Input/Output Ports)

The device has seven GPIO pins which operate at TTL digital signal levels and can be set to high or low level (Push-Pull). The direction of the pins can be input or output (adjustable).

Connector Pin Assingment

Pin nr.	Function
1-6	configurable
7	5V (max. 500mA)
8	ground



Signal Levels

	Input voltage (V)	Output voltage (V)	Max. current (mA)
Logic low level	0 - 0.8	0 - 0.5	30
Logic high level	2 - 5	4.5 - 5	18

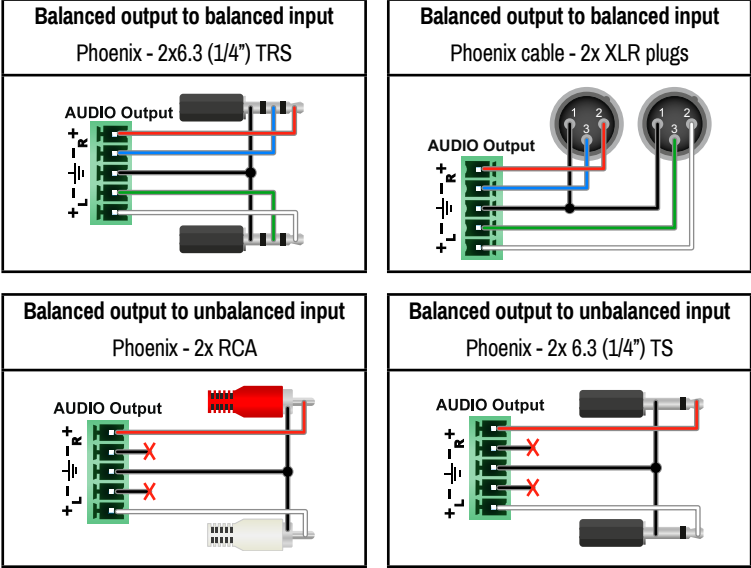
Plug pin assignment 1-6: Configurable, 7: 5V (max. 500 mA); 8: Ground

The recommended cable for the connectors is the AWG24 (0.2 mm² diameter) or the generally used 'alarm cable' with 4x0.22 mm² wires.

📌 *The maximum total current for the six GPIO pins is 180 mA, the max. supported input/output voltage is 5V.*

Audio Cable Wiring Guide

The device is built with 5-pole Phoenix output connectors. See below a few example of the most common assembling cases.



RS-232 Port

The switcher provides 3-pole Phoenix connector for bi-directional serial communication.

Connector Pin Assingment

Pin nr.	Function
1	ground
2	TX data
3	RX data



Signal Levels

	Output voltage (V)
Logic low level	3 - 15
Logic high level	-15 - 3

Typical Application Diagram

