



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MMX2-4X1-H20

FUNCTIONAL OVERVIEW

The MMX2-4x1-H20 is a compact HDMI 2.0 matrix switcher providing four HDMI inputs and one HDMI output. It supports 4K@60Hz (4:4:4) video and HDCP 2.2, with pixel-accurate reclocking for stable signal transmission. Embedded HDMI audio can be de-embedded and routed to a balanced analog audio output with adjustable volume and balance. The unit offers multiple control options including Ethernet-based control (web interface, Lightware Device Controller, REST API, and LW3), RS-232, GPIO, and an occupancy-sensor interface.

VIDEO INPUT AND OUTPUT SPECIFICATIONS

- Inputs: 4x HDMI
 - Connector: 19-pole HDMI Type A receptacle (with screw locking option)
 - Standards: DVI 1.0, HDMI 1.4, HDMI 2.0
 - Max data rate: 18 Gbps
 - Max pixel clock: 597 MHz
 - HDCP: HDCP 1.4, HDCP 2.2
 - Color space: RGB, YCbCr
 - Max input cable length at 3840x2160@60Hz 4:4:4 (premium certified cable): 5 m
- Outputs: 1x HDMI
 - Connector: 19-pole HDMI Type A receptacle
 - Standards: DVI 1.0, HDMI 1.4, HDMI 2.0
 - HDCP: HDCP 1.4, HDCP 2.2
 - Color space: RGB, YCbCr
 - Supported resolutions: up to 4096x2048@30Hz (4:4:4); 5120x2160@30Hz (4:4:4) or 5120x2160@60Hz (4:2:0) up to 12 bits/color; up to 3840x2160@30Hz (4:4:4) or 3840x2160@60Hz (4:2:0)
 - Reclocking: Pixel Accurate Reclocking
 - 3D support: Yes
 - Video delay: 0 frame

AUDIO CAPABILITIES

- HDMI embedded audio pass-through: supports all HDMI 2.0 audio formats
- Audio de-embedding: from selected HDMI input to analog audio output
- De-embedded formats supported:
 - Uncompressed LPCM (up to 8 channels, 192 kHz, 24 bits/sample)
 - Compressed Dolby Digital, DTS; Compressed HBR; Dolby TrueHD, DTS-HD
- Analog audio output:
 - Connector: 5-pole Phoenix (balanced; unbalanced connection also supported)
 - Format: 2-ch PCM
 - Sampling frequency: 48 kHz
 - Volume range: 0 dB to -95.62 dB
 - Balance: -100 to +100 (0 = center)

POWERING (HOW THE DEVICE CAN BE POWERED)

- External power adaptor (supplied): 5V DC, 3A
- Supported mains source for supplied adaptor: 100–240 V AC, 50/60 Hz
- DC input connector on device: 2-pole Phoenix®

CONTROL (HOW THE DEVICE CAN BE CONTROLLED)

- Front-panel buttons (source selection and device functions such as DHCP enable, factory defaults, control lock)
- Ethernet control (RJ45, 10/100Base-T):
 - Built-in web interface (by IP address)
 - Lightware Device Controller (LDC)
 - Lightware REST API via HTTP/HTTPS
 - LW3 protocol via TCP and via WebSocket (WS/WSS)
- RS-232 (bi-directional) via 3-pole Phoenix connector
- GPIO control (6 configurable TTL I/O pins)
- OCS (Occupancy Sensor) input interface (24V logic input with 24V supply on connector)

GENERAL

- Dimensions (W x D x H): 221 mm x 68.3 mm x 26 mm
- Weight: 455 g

- Enclosure: 1 mm steel
- Mounting options (optional accessories):
 - 1U High Rack Shelf
 - UD Kit-double
 - H-Lock (HDMI cable lock)
- Electrical safety (LVD): EN 62368-1:2024
- Compliance: CE, UKCA; EMC emission EN 55032:2015+A1:2020; EMC immunity EN 55035:2017+A11:2020;
- RoHS EN 63000:2018
- Cooling: Passive
- Supplied accessories:
 - Switcher unit
 - 5V DC power adaptor with interchangeable plugs (EU, UK, JP/US, AUS/NZ)
 - Phoenix combicon® 3-pole flat connector (1x)
 - Phoenix combicon® 3-pole male connector
 - Phoenix combicon® 5-pole connector
 - Phoenix combicon® 8-pole connector
 - M3x6 flat head screw for mounting (2x)
 - Safety & warranty info, Quick Start Guide
- Warranty period: 3 years
- Packaging: the product has full paper / green packaging

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
Rev. 1.0	2026-07-08	Initial version	Nikolett Keindl