



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MMX2-4X3-H20

FUNCTIONAL OVERVIEW

The MMX2-4x3-H20 is a compact HDMI 2.0 matrix switcher providing four HDMI inputs and three HDMI outputs for routing 4K/60 video with HDCP support. It features Pixel Accurate Reclocking and signal analysis (Frame Detector) to improve system reliability and troubleshooting. Embedded HDMI audio can be de-embedded and routed to a balanced analog audio output with adjustable level and balance. Control is available from the front panel and via Ethernet using Lightware Device Controller or the built-in web interface, plus protocol control via REST API and LW3 (including WS/WSS).

VIDEO INPUT AND OUTPUT SPECIFICATIONS

- Matrix configuration: 4x HDMI inputs, 3x HDMI outputs
- Connector type (input): 19-pole HDMI Type A receptacle (with screw locking option)
- Connector type (output): 19-pole HDMI Type A receptacle
- AV standards: DVI 1.0, HDMI 1.4, HDMI 2.0
- Maximum data rate: 18 Gbps
- Maximum pixel clock: 597 MHz
- HDCP compliance: HDCP 1.4, HDCP 2.2
- Color space: RGB, YCbCr
- Video delay: 0 frame
- Max. input resolution: 4096x2160@60Hz RGB 4:4:4 (up to 600 MHz pixel clock); 1920x1080@120 Hz, 36 bit
- Max. input HDMI cable length (premium certified cable) at 3840x2160@60Hz 4:4:4: 5 m
- Reclocking: Pixel Accurate Reclocking
- 3D support: yes
- Output supported resolutions at 8 bits/color: up to 4096x2048@30Hz (4:4:4) or 4096x2048@60Hz (4:2:0); 5120x2160@30Hz (4:4:4) or 5120x2160@60Hz (4:2:0) up to 12 bits/color

AUDIO CAPABILITIES

- Audio de-embedding: analog audio de-embedded from selected HDMI input and routed to analog audio output
- Analog audio output connector: 5-pole Phoenix connector; balanced output,

unbalanced connection also supported

- Analog audio output format: 2-ch PCM
- Sampling frequency: 48 kHz
- Analog output volume control: 0 dB to -95.62 dB
- Balance control: -100 to +100 (0 = center)
- HDMI audio pass-through: all HDMI 2.0 audio formats (pass-through)
- Supported formats for de-embedding (from HDMI): Uncompressed
- LPCM (up to 8 channels, 192 kHz, 24 bits per sample); Compressed
- Dolby Digital, DTS; Compressed HBR; Dolby TrueHD, DTS-HD

POWERING (HOW THE DEVICE CAN BE POWERED)

- Power supply option: external power adaptor
- Supported power source: 100–240 V AC; 50/60 Hz
- Supplied power: 5 V DC, 3 A
- DC input connector: 2-pole Phoenix[®] plug

CONTROL (HOW THE DEVICE CAN BE CONTROLLED)

- Front panel control: input/output selection buttons; control lock; DHCP enable; factory default reset
- Ethernet control: configuration and control via Lightware Device Controller (LDC) and built-in web page (webLDC)
- Protocol control:
 - LW3 protocol (TCP port 6107)
 - LW3 over WebSocket (WS on port 80, WSS on port 443)
 - Lightware REST API via HTTP/HTTPS
- RS-232: bi-directional RS-232 via 3-pole Phoenix connector; Serial over IP ports 8001 and 8002
- GPIO: 6 configurable TTL GPIO pins via 8-pole Phoenix connector (direction input/output per pin; 5V on pin 7; ground on pin 8)
- OCS (Occupancy Sensor): 3-pole connector with 24V logic input and 24V output supply
- CEC: CEC command sending via HDMI outputs

GENERAL

- Dimensions (W x D x H): 221 x 68.3 x 26 mm (8.7 x 2.7 x 1.02 in)
- Weight: 465 g (1.03 lb)

- Enclosure material: 1 mm steel
- Mounting options (optional accessories):
 - 1U High Rack Shelf
 - Mounting with UD Kit-double
 - H-Lock (HDMI cable lock)
- LVD / electrical safety compatibility: 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
 - Phoenix combicon® 3-pole flat connector (2x)
 - Phoenix combicon® 3-pole male connector (1x)
 - 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