MX2M

visual engineering
LIGHTWARE

Series Modular HDMI 2.0 Matrix Switcher

MX2M-FR24R-FP

Part No.: 9111 0025

MX2M-FR24R-FP is a member of the Lightware MX2 modular matrix switcher series, supporting uncompromised 4K UHD resolution at 60Hz with RGB 4:4:4 colorspace. Equipped with **one single PSU** to provide power supply for the frame as well as **remote power via PoE**.

MX2M-FR24R-FP is a member of the **Lightware MX2 modular matrix switcher series**, supporting uncompromised **4K UHD resolution at 60Hz with 4:4:4** sampling pattern and with downconversion capabilities to 4:2:2, supporting **HDCP 2.3 and 1.x, 3D, Dolby TrueHD and DTS-HD Master Audio**. The non-blocking matrix architecture distributes and switches 24 video signals to 24 outputs, distributed along six 4-port boards respectively per direction.

This versatile and **customizable device is suitable for various types of applications**, the actual application determining the choice of input and output boards to be included in the frame. It is a perfect choice for installations where a huge number of HDMI 2.0 compliant and other types of input and output video ports are required, **including HDMI 2.0, DisplayPort 1.2, HDBaseT™ and compressed AV-Over-IP standards**, as well as extension through fibre.

Besides the six 4-port input and six 4-port output video boards, there are four low speed **installable slots for Dante, ADC and DAC audio input and output boards, GPIO, USB and other connectivity options**.

Control for connected extenders is served **by Ethernet layer**. The Ethernet layer can also be used for IP extension, as well as for command injection for IR and serial control by third party devices.

For operation **safety power redundancy is available**, and PSU drawers are field-exchangeable for ease of maintenance. The device also supports various **IT security standards**.

Upon installing a second power supply unit for the MX2M-FR24R-FP matrix frame, in order to unlock the possibility for **redundant operation** users need to **upgrade the device's firmware by purchasing** the Redundancy Upgrade.

For users who purchased their device with two PSU drawers and only looking to get additional PSU drawers as a spare or backup **do not need to perform the firmware upgrade** as their device is fully power redundancy capable by default.





Features

- Non-blocking matrix architecture to distribute and switch 24 uncompressed 4K@60Hz 4:4:4 input video signals to 24 outputs
- HDCP 1.4 and 2.3 support
- Flexible design with support for hot-swappable I/O boards
- Six slots for 4-port video input boards, six slots for 4-port video output boards and additional four slots for I/O boards audio and GPIO connectors
- Audio layer for independent audio routing of uncompressed (e.g. 7.1 LPCM) and compressed audio
- Audio signals received and extracted by the video I/O boards or via audio I/O boards
- Ethernet layer for IP extension to extenders
- Command injection for IR and serial control of third-party devices
- Low-speed I/O boards can be placed in video input and output slots
- Front to back cooling
- LCD, jog dial, and push buttons for front panel operation
- Internal power distribution system for video I/O boards with PoE PSE feature and for future high power consumption I/O boards
- Optional AC line redundancy for protection against AC line power outage
- Field replaceable PSU drawers for ease of maintenance
- IT security features e.g. LDAP and AD integration, SSH, HTTPS for control, etc.
- Embedded web and Lightware Device Controller support for control
- Open LW3 control API for integration with third-party controller systems
- Connectivity for breakout boxes that can accommodate additional low-speed I/O boards

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Specifications

Video	Number of input slots		6
	Number of output slots		6
	Crosspoint		24 x 24 non-blocking
	Maximum data rate per video channel		18 Gbps
	Maximum pixel clock		600 MHz
Audio	Number of dedicated IO slots		4
	Crosspoint		88 x 88 non-blocking
	Maximum net data rate per audio stream		36.86 Mbps
Control	Ethernet	Control	1x 100Base-T via EtherCON for direct control
		User Data	1x 1000Base-T via EtherCON for user data pass-through
		Mixed	1x 1000Base-T via EtherCON for control or user data passthrough
	RS-232	Connector	1x Dsub 9
		Symbol rate	between 200 and 115200 baud
		Configuration	8N1
	USB	Connector	1x mini USB Type B for LDC control
	Front panel crosspoint control		24 + 24 + 2 + 3 keys for crosspoint and preset control
	Front panel LCD		2.2" 240x320 TFT LCD Display with rotary switch
General	PSU drawer	Standrad configuration	1x PSU drawer with IEC connector (90-240 VAC, 50-60 Hz, max 13,5 A)
		Redundant configuration	2x PSU drawers with 1x IEC connector per drawer (90-240 VAC, 50-60 Hz, max 13,5 A)
	AC line power redundancy		1+1 up to 500 W frame powering, 1+1 up to 600 W PoE powering
	Power consumption (max)		500 W
	PoE powering	Standard configuration	up to 600 W
		Redundant configuration	up to 1200 W (with redundant operation up to 600 W)
	Maximum PoE powering per endpoint		100 W
	Thermal dissipation (max)	Without PoE	1706 BTU per hour
		With PoE in a Redundant configuration and maximum PoE powering	2730 BTU per hour
	Cooling		front-to-back
	Mounting	Rack mounting	Yes
	Dimensions	Without protruding parts (Chassis handle, PSU drawer handle, mountic bracket)	354.8 mm H x 447 mm W x 400 mm D
		With protruding parts (Chassis handle, PSU drawer handle, mountic bracket)	354.8 mm H x 483 mm W x 473 mm D
	Weight		TBD
	Operating conditions	Ambient temperature	0-50°C
		Relative humidity	0-90% (non-condensing)
	Transportation conditions	Ambient temperature	-20-70°C
		Relative humidity	0-95% (non-condensing)
	Complience		EN 55032:2015 IEC 61000-3-3:2013+AMD1:2017 IEC 61000-3-2:2018 FCC CFR Title 47, Part 15, Subpart B UL
	Warranty		3 years

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