



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MX-4TPS2-4HDMI-OB-P

FUNCTIONAL OVERVIEW

MX-4TPS2-4HDMI-OB-P is an MX-FR series output board for Lightware modular matrix frames. It provides four TPS2 (HDBaseT-based) outputs and four HDMI outputs for distributing routed AV signals from the matrix to remote TPS endpoints and local HDMI displays. The “-P” variant supports PoE-compatible remote powering on TPS2 output ports for compatible TPS extenders (requires the external PSU supplied with the board). Output behavior such as signal mode, HDCP handling, and test pattern operation is configurable per output port via the matrix control system.

VIDEO OUTPUTS

- Outputs (per board):
 - 4 × TPS outputs (TPS output ports; HDBaseT-based operation)
 - 4 × HDMI outputs
- TPS-type output port settings (supported on this board; applies to the four TPS ports):
 - Signal mode: DVI / HDMI / Auto (Auto follows sink EDID and incoming HDCP encryption on output: Auto (encrypt only if input is encrypted) / Always (force encryption))
 - Test Pattern Generator (TPG): On/Off; outputs a solid-color test pattern (default described as solid red, 480p) and can be set to defined test resolutions
- HDMI-type output port settings (supported on this board; applies to the four HDMI ports):
 - Signal mode: DVI, HDMI (with deep color modes indicated such as 24/30/36-bit), or Auto (based on sink EDID and incoming signal)
 - Output 5V control (PWR5V mode): On / Off / Auto (Auto toggles 5V for 1 second when video timing changes to help certain sinks re-lock)

AUDIO CAPABILITIES

- HDMI input audio formats: 8 channel PCM; Dolby TrueHD, DTS-HD Master Audio 7.1
- TPS input audio formats: 8 channel PCM; Dolby TrueHD, DTS-HD Master Audio 7.1

POWERING

- Powered by the MX-FR modular matrix frame when installed (board operating power is provided by the host frame).
- PoE-compatible remote powering (TPS ports):
 - Remote powering for a connected PoE-compatible TPS extender is available on TPS2 ports.
 - External PSU supplied with the board is required to use PoE-compatible remote powering.
 - If AWG26 cable is used together with remote powering, maximum distances are 20% shorter.
 - Warning: TPS-TX/RX90 and TPS-TX/RX95 devices are stated as not PoE-standard compliant and must not be powered this way.
 - If a connected TPS device needs PoE-compatible remote powering but the board is not PoE-compliant, a TPS-PI-1P1 power injector can be installed in the TPS chain.

GENERAL

- Compliance: CE, UKCA
- EMC (emission): EN 62368-1:2024
- EMC (immunity): EN 55035:2017+A11:2020
- RoHS: EN 63000:2018
- Electrical safety: EN 60065:2002 + A1:2006 + A11:2008 + A2:2010 + A12:2011
- Laser safety: EN 60825-1:2014+A11:2021
- Warranty period: 3 years.

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
v1	2026-08-25	Initial version	Tamas Forgacs