



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: HDMI-OPTX-TX100A

FUNCTIONAL OVERVIEW

The HDMI-OPTX-TX100A is an SDVoE-based point-to-point transmitter endpoint that extends HDMI 2.0 audio/video and control signals over a 10GbE fiber-optic (SFP+) link. It accepts an HDMI source up to 4K60 4:4:4 and transmits the stream over OPTX to a compatible receiver with ultra-low latency (under 8 ms). The unit supports analog audio de-embedding, user Ethernet connectivity via Gigabit Ethernet ports, and RS-232 transport/control integration for AV system interoperability and centralized management.

VIDEO INPUT AND OUTPUT

- Video input (HDMI)
 - 1× HDMI Type A input (HDMI 2.0 / HDMI 1.4 / DVI 1.0)
 - Supported resolutions (8-bit): up to 4096×2160@60Hz (4:4:4) or 3840×2160@60Hz (4:4:4)
 - Audio formats on HDMI input: 8 channel PCM, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS, DTS-HD Master Audio 7.1, WMA Pro
 - CEC support: Transparent
- Video output (OPTX / SDVoE)
 - SFP+ slot (OPTX output), up to 10 Gbps
 - Accepts 10G SFP+ optical transceiver modules or 10G DAC cables
 - HDCP 2.3 compliant
 - Color space: RGB, YCbCr
 - Video latency: 0 frame (five lines / under 8 ms)
 - Compression ratio: 1.4:1 (applied only when required bandwidth exceeds HDMI 1.4 limits)
 - Supported resolutions (8-bit): up to 4096×2160@60Hz (4:4:4) or 3840×2160@60Hz (4:4:4)

AUDIO CAPABILITIES

- HDMI embedded audio pass-through (over OPTX to HDMI output)
 - 8-channel PCM
 - Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos
 - DTS, DTS-HD Master Audio 7.1, WMA Pro
- Analog audio de-embedding output
 - 1× 5-pole Phoenix® analog audio output
 - 2-channel PCM, balanced
 - Sampling frequency: 48 kHz

POWERING

- Powered by external power adaptor
- 12V DC input via locking DC connector (2.1 mm pin)
- Supported AC mains for supplied adaptor: 100–240 V AC, 50/60 Hz
- Supplied DC power: 12V DC, 2A)

CONTROL

- Ethernet (1GBase-T) control/user network connectivity via RJ45 ports (not PoE-capable)
- RS-232 via 3-pole Phoenix® connector (serial settings include 9600–115200 baud; 8 data bits; parity None/Odd/Even; stop bits 1/2)
- Factory reset via rear hidden F button (restore factory defaults)
- EDID control via front-panel EDID / Video Status LED and EDID button (transparent/learned; learn via long press)
- SDVoE/BlueRiver software & API control:
 - BlueRiver AV Manager (GUI)
 - TCI API over TCP port 6970
 - REST API via HTTP port 8080

GENERAL

- Enclosure / size
 - Dimensions: 100.4 W × 151.8 D × 26 H mm (3.95 W × 6 D × 1 H in)
 - Enclosure material: 1 mm steel
- Mounting options
 - 1U High Rack Shelf (up to 4× devices)
 - UD Mounting Kit
 - UD Mounting Kit Double (up to 2× devices)
 - UD Mounting Plate F110
 - UD Mounting Plate F120 (up to 2× devices)
 - PRC-16-312 rackmount cage (up to 16× devices)
- Compliance / LVD compatibility
 - Compliance: CE, UKCA
 - Electrical safety: EN 62368-1:2024
 - RoHS: EN 63000:2018
 - Laser safety: EN 60825-1:2014+A11:2021
- Cooling
 - Passive
- Warranty
 - 3 years
- Supplied accessories
 - HDMI-OPTX series extender unit
 - Safety & Warranty Info
 - Quick Start Guide
 - 12V DC adaptor with interchangeable plugs
 - Phoenix® Combicon 3-pole connector
 - Phoenix® Combicon 5-pole connector
- Packaging: the product has full paper / green packaging

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
v1	2026-07-22	Initial version	Tamas Forgacs