



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: HDMI-TPX-RX109AK-V2

FUNCTIONAL OVERVIEW

The HDMI-TPX-RX109AK-V2 is an SDVoE-based TPX receiver extender with HDMI output, analog audio de-embedding, and USB HID (keyboard/mouse) extension for KVM applications. It receives an HDMI 2.0 compliant AV stream and control signals over a 10GBase-T TPX (RJ45) link and outputs HDMI up to 4K60 4:4:4 with ultra-low latency (under 8 ms). The unit supports HDCP 2.3 and provides Ethernet and RS-232 interfaces for integration and control.

VIDEO INPUT AND OUTPUT

- Video input (TPX / SDVoE)
 - Connector: RJ45 female (TPX input)
 - Data rate: 10GBase-T
 - Compliance: SDVoE
 - HDCP compliance: HDCP 2.3
 - Color space: RGB, YCbCr
 - Video latency: 0 frame (five lines / under 8 ms)
 - Compression ratio: 1.4 : 1 (applied only if AV signal exceeds HDMI 1.4 bandwidth)
 - Supported resolutions at 8 bits/color: up to 4096x2160@60Hz (4:4:4) or up to 3840x2160@60Hz (4:4:4)
 - Transferred signals: Video, Audio, RS-232, Infrared, Ethernet, CEC
- Video output (HDMI)
 - Connector: 19-pole HDMI Type A receptacle
 - Standard: DVI 1.0, HDMI 1.4, HDMI 2.0
 - Supported resolutions at 8 bits/color: up to 4096x2160@60Hz (4:4:4) or up to 3840x2160@60Hz (4:4:4)
 - CEC support: Transparent

AUDIO CAPABILITIES

- HDMI embedded audio is received over TPX and output embedded on HDMI
- Analog audio de-embedding output:
 - Connector: 5-pole Phoenix® (analog audio output)
 - Audio formats: 2-channel PCM
 - Signal transmission: balanced
 - Sampling frequency: 48 kHz

POWERING

- Local power via 48V DC input (2-pole Phoenix® connector)
- Remote power over TPX via PoE PD+PSE (IEEE802.3af) (device can receive or send power to the connected remote device)

CONTROL

- Control network via 1GBase-T Ethernet ports (RJ45)
- Configuration/monitoring via BlueRiver AV Manager
- API control via TCI API (TCP/IP terminal connection) and REST API
- RS-232 control via 3-pole Phoenix® connector (bi-directional serial communication)
- Factory reset via rear F (Factory Reset) button
- USB HID extension (K series):
 - USB-A ports for HID devices (preferably keyboard and mouse)

GENERAL

- Dimensions: 100.4 W x 151.8 D x 26 H (mm)
- Mounting options compatibility (Size 2 device)
 - 1U High Rack Shelf: supported (4x)
 - UD Mounting Kit: supported
 - UD Mounting Kit Double: supported (2x)
 - UD Mounting Plate F110: supported
 - UD Mounting Plate F120: supported (2x)
 - PRC-16-312 rackmount cage: not supported
- LVD / electrical safety: EN 62368-1:2024



- Warranty period: 3 years
- Cooling: Passive
- Supplied accessories (receiver package)
 - Safety and Warranty Info; Quick Start Guide
 - TPX / OPTX series extender (device)
 - 48V DC adaptor with interchangeable plugs
 - Phoenix® Combicon 3-pole connector
 - Phoenix® Combicon 5-pole connector
 - Infrared emitter
- Packaging: the product has full paper / green packaging

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
v1	2026-07-27	Initial version	Tamas Forgacs