

Data Sheet : F-HDMI-4K-TX/RX



4K HDMI over fiber Transmitter and receiver with return IR or RS232 or RS485

The 4K HDMI over fiber extender is a cutting-edge device designed to extend high-definition video and audio signals over long distances using fiber optic cables. With its advanced technology, it supports a maximum resolution of 4096x2160 at 30Hz, delivering stunning 4K visual quality for an immersive viewing experience.

This extender utilizes fiber optic cables for signal transmission, which offer several advantages over traditional copper cables. Fiber optic cables provide superior signal integrity, ensuring high-quality transmission without degradation over long distances. They are also immune to electromagnetic interference, making them ideal for installations in environments with high interference.

The HDMI over fiber extender is equipped with IR (Infrared) or RS232 or RS485 control options, allowing you to remotely control the connected HDMI video source. The IR control enables you to use a remote control to manage the source device, while the RS232/RS485 control offers serial communication for more advanced control applications. This flexibility provides convenient and seamless operation, especially when the video source is not easily accessible.

This extender is highly versatile and can be used in various real-life applications. It is suitable for extending HDMI signals between different devices, such as connecting a DVD player to a television, transmitting video from a computer to a projector, or even linking gaming consoles to a monitor. Its compatibility with a wide range of HDMI video source devices makes it a valuable tool in various professional and home entertainment setups.

Setting up the HDMI over fiber extender is straightforward. Simply connect the HDMI video source to the extender unit using a standard HDMI cable, and then connect the extender to the display device using a fiber optic cable. The extender handles the signal transmission, ensuring seamless and reliable video and audio delivery between the source and display devices.

The unit is equipped with a 10Gbps SFP+ and allows for the transparent transmission of 4K video and audio without any compression or encoding between the transmitter and receiver. The transmission is nearly instantaneous, with a delay of approximately 1ms.

Features:

- Simple-to-read input and output signal indicators
- Supports HDTV resolutions up to 4096*2160@30Hz
- Supports RGB&YCBCR4:4:4, YUV4:4:4, 4:2:2, 4:2:0
- Supports DDC, CEC, and HPD signals
- Compatible with single-mode and multi-mode fibers

- Multi-mode transmission distance: 1KM

- Single-mode transmission distance: 10KM

- Delay of less than 1 ms - Uncompressed transmission.
- Supports 1 channel bidirectional full-duplex RS232 (half-duplex RS485 optional)
- Supports international standard HDMI1.4 and HDCP1.4
- Supports computer display resolution up to 4096*2160@30Hz
- Transmission distances of up to 10km possible with single-mode fiber using LC Fiber Connectors
- Easy setup with Plug and Play interfaces
- IR remote control over separate optical return path
- Bi-directional RS232 or unidirectional RS485 option (model dependent)

Model Selection:

F-HDMI-4K-TX/RX HDMI over fiber Transmitter and Receiver kit with the IR return

(AC to DC power supplies, IR Emitter and IR Detector are included)

F-HDMI-4K-TX/RX-RS232 HDMI over fiber Transmitter and Receiver kit with bidirectional RS232 option

RS232 data index 3-wire system, full duplex standard	
Baud rate	256000Hz downward compatibility
Data bits	8 bits
Physical interface	3-pin phoenix terminal

F-HDMI-4K-TX/RX-RS485 HDMI over fiber Transmitter and Receiver kit with unidirectional RS485 return

RS485 data index 2-wire system, half duplex optional	
Error rate	<10 ⁻⁹
Bit rate	0-400Kbps
Physical interface	3-pin phoenix terminal

Specifications:

Video Parameters	
• Resolutions	720p/1080i/1080p 800*600 , 1920*1200, 4096*2160@30Hz
• Interface	Supports HDMI interface with HDCP function
Audio Parameters	
	HDMI Audio - Embedded
Physical Parameters	
• Dimensions	10.8 x 8.6 x 2.2 inches.
• Power Supply	12VDC @ 1.5A
• Working Temperature	0 +50 C
• Relative Humidity	0 to 95% non-condensing
Optical Parameters	
• Optical Fiber	LC/PC simplex SFP+
• Optical Wavelength	1310 nm from TX to RX, 1550nm from RX to TX
• Rate	10Gbps SFP+
• Optical Receiver Sensitivity	-14dbm
• Output Power	- 5dbm
• Input Optical Modulation	<15 uW
• Transmission Distance	1m~1000m for multimode optical cable 1m~10km for single mode
Performance Parameters	
• Optical Fiber Mode	Single mode
• Quantity of Optical Fibers	Simplex - 1 fiber
• Optical Connector	SFP included with LC

DRAWING:

4k HDMI Forward Optical Extender Application Drawing

with IR, RS232or RS485 Return

