HDMI-OPT-TX100, -TX100S,-TX100R, -TX200R
HDMI-OPT-RX100, -RX100S, -RX100R, -RX200R

visual engineering LIGHTWARE

Single Fiber HDMI 1.3 and bi-directional RS-232 extenders over multimode fiber optical cable

Part No: see below

Highlight features

- Single fiber HDMI 1.3a and RS-232 extension*
- Advanced EDID Management
- Pixel Accurate Reclocking
- Dual output with built-in distribution amplifier*
- Up to 1920 x 1200 or 2048 x 1080 resolution with 36 bits deep color and embedded audio

HDMI-OPT-series are **optical extenders transferring HDMI 1.3 with embedded audio**, DVI 1.0, HDCP and **bi-directional RS-232** signals over **one multi-mode fiber** to a **range of up to 2500 meters**.

The **'S' versions** of these devices feature a built-in **data diode** that ensure maximum data security by only allowing information to flow in **one direction**, making this device particularly suitable for applications in the field of Defense & Intelligence, or where different security levels across various networks require such measures.

All transmitters feature **proprietary Advanced EDID Management** with a memory of 100 EDIDs, 50 of which are user programmable. Using the factory, custom or transparent EDID emulation, the user can fix and lock EDID data on the transmitter's input connector.

Pixel Accurate Reclocking is included in all transmitters and receivers: a Lightware technology **to eliminate jitter and skew** generated by low quality sources and multiple daisy-chained devices.

Single Fiber Technology makes these units f**ully HDMI 1.3 and HDCP 1.1 compliant** without the need for a second fiber cable or copper connections. To simplify cabling, the bi-directional communication – which is necessary for HDCP handshaking – is performed on the same fiber core that transmits the video signal.

Bi-directional RS-232 extension is available on 'R' versions for remote device control over the same fiber core.*

Galvanic isolation between source and display helps avoid ground loops and hum effects. No delay occurs in the signal during optical conversion, the video image is transported without any frame latency. This feature is crucial in 3D applications and systems where audio is processed separately.

There is **cross-compatibility** between devices in Lightware's fiber optical product line, it is possible to **connect these devices directly to an MX modular matrix router** using MX-HDMI-OPT series input or output optical boards.

Option

1U rack shelf

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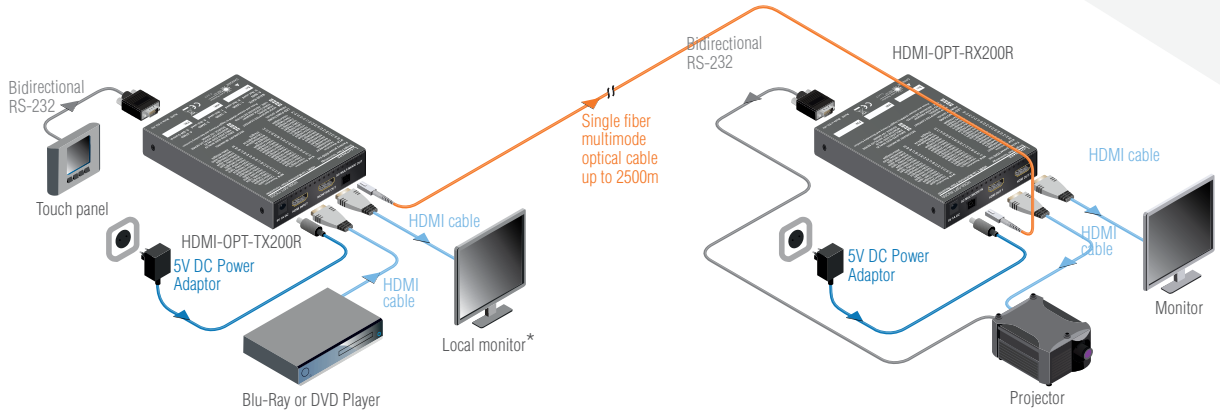
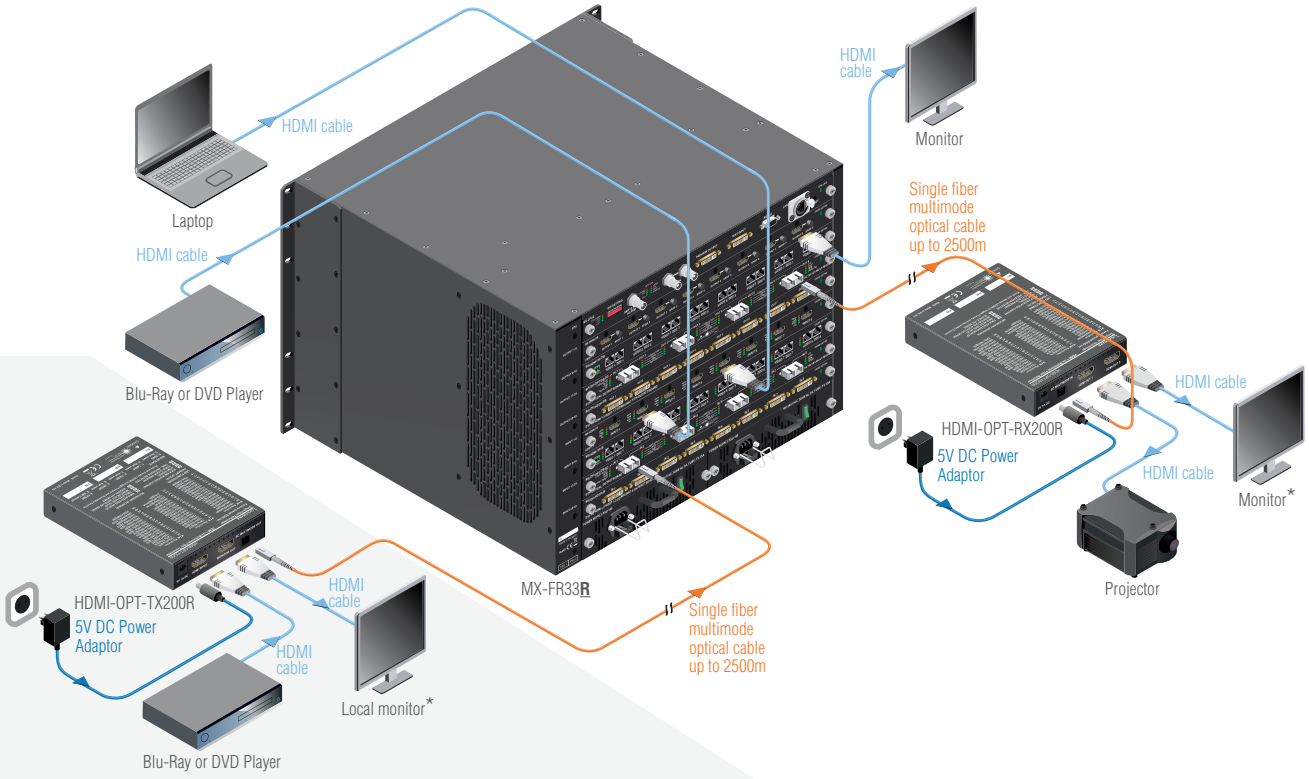
Stand alone diagram



Cross compatibility between every device in Lightware's fiber optical product portfolio is ensured thanks to our attentive design. In a standalone application HDMI-OPT-TX200R and HDMI-OPT-RX200R can work together simply, but with Lightware's Hybrid Modular matrix concept, it is even possible to connect these extender boxes directly to the matrix router using an MX-HDMI-OPT series input or output optical boards. This integrated solution simplifies installation and helps reducing system costs as well.

Hybrid router application



*This feature is available in specific product types. Please refer to the Product series comparison.

Applications

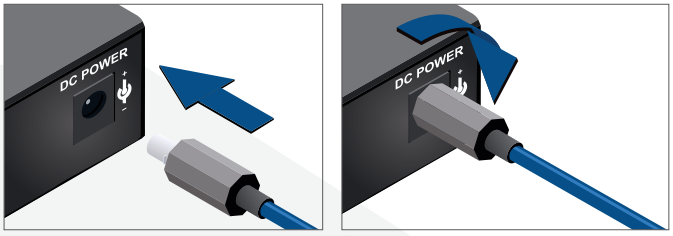
- Long distance lossless HDMI or DVI signal transmission
- Ground loop isolation
- Multiroom video and audio control
- Professional AV systems, conference rooms
- High End home cinema
- Yacht installations

Features

- Single Fiber Technology
- Built-in data diode for enhanced security
- Extends DVI or HDMI signals over one multimode fiber core
- HDMI to DVI conversion (when using DVI monitor)
- 1920 x 1200 or 2048 x 1080 maximal resolutions
- RS-232 pass through and remote control over fiber*
- HDCP 1.1 compliant
- Pixel Accurate Reclocking
- Zero frame latency, no delay
- No compression
- SC fiber optical connectors
- Cross compatibility with any Lightware Fiber device
- Advanced EDID Management in both transmitter and receiver
- Twist and lock DC power plug
- Several status LEDs: source, display, signal, HDCP and laser detection, EDID validity
- Local monitor buffered loop output at transmitter*
- Two identical HDMI outputs at receiver*
- Robust metal housing
- Rack mountable

* This feature is available in specific product types. Please refer to the Product series comparison.

Locking DC plug



Twist 90° clockwise to lock

Specifications

Data rate:	2.25 Gbps per color
Resolution:	1920 x 1200 or 2048 x 1080 pixels
Color depth:	24, 30 or 36 bits deep color
Video delay:	0 frames
HDCP pass through:	Yes
EDID emulation:	Yes, Advanced EDID Management
EDID memory:	50 factory preset, 50 user programmable EDIDs
EDID support:	256 byte extended EDID v1.3
Front panel control:	EDID selector switch, learn button
LED indicators (-TX200R):	HDCP content, HDMI signal, Video clock, Fiber link detect, EDID validity, Monitor & source detect
RS-232 pass through:	Yes, bi-directional* 9.6, 14.4, 19.2, 38.4, 57.6 kBauds
Fiber:	50/125 SC Multimode (preferred) 62.5 / 125 SC Multimode
Laser wavelengths:	6 ch. CWDM: 778; 800; 825; 850 nm (high speed), 911; 980 nm (low speed)
Laser class specification:	Class 3R
Transmitter output OMA*:	-6.25 dBm (worst case)
Receiver OMA* sensitivity:	-14.25 dBm (worst case)
Optical loss budget:	8 dB (worst case)
Transmission distance:	2500 meters (using OM4 type fiber)
Power supply:	External power adaptor (100 to 240 V AC, 50/60 Hz)(5V DC, 1A)
Power cons. (-TX200R):	4 W (typ) 6 W (max)
Power cons. (-RX200R):	4 W (typ) 9 W (max)
Enclosure:	1mm metal
Dimensions (all products):	100.4 W x 131.9 D x 26 H mm
Weight*:	See in Comparison chart
Compliance:	CE
Warranty:	3 years
OMA*:Optical Modulation Amplitude	

Connectors

Power:	Locking DC connector (2.5 / 5.5 mm)
HDMI:	HDMI connectors
Fiber:	SC receptacle

Maximum extension distances

	OM1 (62,5/125)	OM2 (50/125)	OM3 (50/125)	OM4 (50/125)
1080p@60Hz 24 bpp	250 m	600 m	1200 m	2500 m
1080p@60Hz 36 bpp	150 m	400 m	800 m	1300 m

Product series comparison

Product:	RS-232 pass through:	Dual output:	Weight:	Part number:
HDMI-OPT-TX200R	✓	✓	410 g	9151 0013
HDMI-OPT-RX200R	✓	✓	410 g	9151 0014
HDMI-OPT-TX100R	✓	No	400 g	9151 0011
HDMI-OPT-RX100R	✓	No	400 g	9151 0012
HDMI-OPT-TX100S	No	No	400 g	9151 0031
HDMI-OPT-RX100S	No	No	400 g	9151 0032
HDMI-OPT-TX100	No	No	400 g	9151 0009
HDMI-OPT-RX100	No	No	400 g	9151 0010

Transmitters and receivers front and back view

HDMI-OPT-TX200R | HDMI-OPT-TX100R | HDMI-OPT-TX100 and HDMI-OPT-TX100S

HDMI-OPT-RX200R | HDMI-OPT-RX100R | HDMI-OPT-RX100 and HDMI-OPT-RX100S

Supplied accessory

PSU-5VU Universal DC adaptor
(Part No: 1180 0049)
Wall power adaptor with interchangeable plug for international use.
Universal input: 100-240 V AC, 50-60 Hz.

Optional accessories

Under desk mounting kit
(Part No: 5240 0275)
The UD-kit makes easy to mount a single device on any flat surface (e.g. furniture).

Under desk mounting kit double
(Part No: 5240 0276)
The UD-kit double makes it easy to mount multiple devices on any flat surface (e.g. furniture).

Rack shelf (Part No: 5240 0269)
The 1U high rack shelf provides mounting holes for fastening two half-rack or four quarter-rack sized units.

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