



## LIGHTWARE DVI-HDCP-OPTM-TX90 Multimode Fiber Transmitter/Receiver User Guide

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### LIGHTWARE DVI-HDCP-OPTM-TX90 Multimode Fiber Transmitter/Receiver User Guide



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### Important Safety Instructions

Please read the supplied safety instruction document before using the product and keep it available for future

reference.

- CLASS 1 LASER PRODUCT

**CAUTION** – The use of controls or adjustments or any performance of procedures other than those specified herein may result in hazardous radiation exposure.

## Introduction

### OPTM series

Lightware's DVI-HDCP-OPTM-TX90 and DVI-HDCP-OPTM-RX90 pair is a DVI-D fiber transmitter and receiver set for up to 240 m (in case of OM2/OM3/OM4 cable) distance transmission.

Using Single Fiber Technology the DVI-D signal with HDCP encryption is transmitted over only one multimode 50/125 (or 62.5/125) fiber core. Sources and display devices are galvanically isolated against ground loops and hum effects, and no delay occurs in the signal, the video image is transported without any frame latency

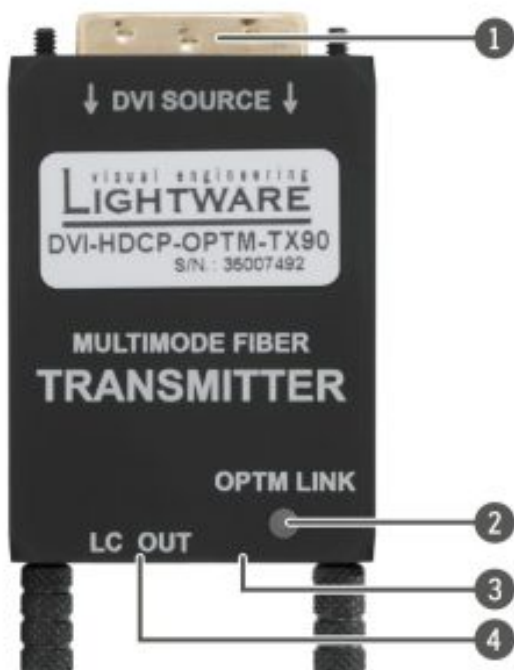
### OPTS series

The DVI-HDCP-OPTS-TX90 and DVI-HDCP-OPTS-RX90 pair is a DVI-D fiber transmitter and receiver set for up to 10 km (in case of OS2 cable) distance transmission.

Using Single Fiber Technology the DVI-D signal with HDCP encryption is transmitted over only one single mode 9/125 fiber core. Sources and display devices are galvanically isolated against ground loops and hum effects, and no delay occurs in the signal, the video image is transported without any frame latency.

## Product Overview

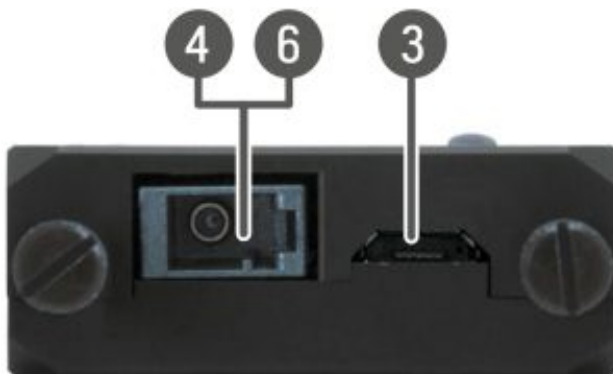
- Top View – Transmitter (TX)



- Top View – Receiver (RX)



- Rear View – Transmitter (TX) and Receiver (RX)



DVI-D input plug (transmitter)	DVI-D (single link) plug for receiving the DVI-D/HDMI input signal from the source device.
Status LED	Indicates the current status of the transmitted or received optical signal.
USB micro-B connector	USB micro-B connector is for the external powering of the extender
LC out connector (transmitter)	LC fiber optical connector for multimode fiber output.
DVI-D output plug (receiver)	DVI-D (single link) plug for transmitting the DVI-D/HDMI output signal to the sink device.
LC in connector (receiver)	LC fiber optical connector for multimode fiber input.



**FAST BLINKING:** The booting up procedure is in progress.



**SLOW BLINKING:** No fiber optical communication between TX and RX devices.





**ON:** The fiber link is established successfully between TX and RX.

## Maximum Extension Distances

	Singlemode (OPTS)		Multimode (OPTM)			
	OS1	OS2	OM1 (62.5/125)	OM2 (50/125)	OM3 (50/125)	OM4 (50/125)
For all resolution	5000 m	10000 m	Not supported	240 m		

## Important Safety Instructions

Please read and keep the information in the attached safety instructions supplied with the product before starting using the device.

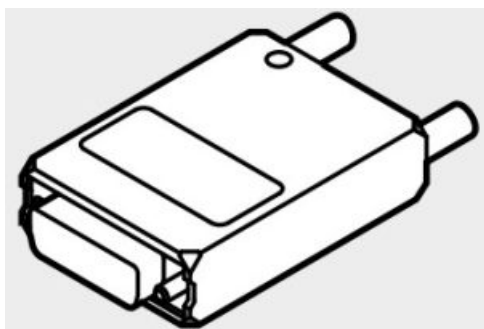
Safety Symbols Legend	
Symbol	Description
	Caution
	Laser radiation

## WARNING

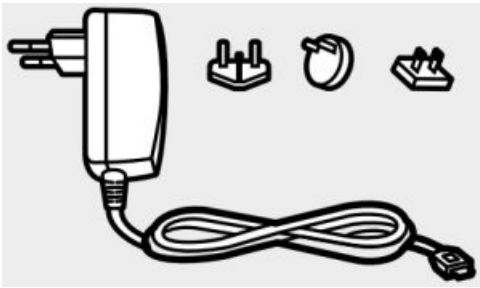
To prevent injury, the apparatus is recommended to securely attach to the floor/wall or mount in accordance with the installation instructions. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus. No naked flame sources, such as lighted candles, should be placed on the apparatus.

## Box Contents

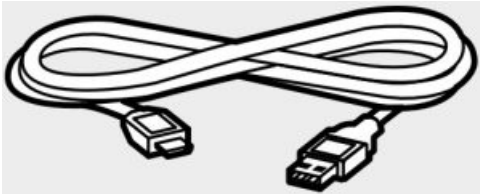
- Extender unit



- 5V DC power adaptor with interchangeable plugs



- USB cable with micro USB plug



- Safety and Warranty Info, Quick Start Guide



## Connecting Steps



### Follow the installation steps to connect the extenders between the source and sink devices:

- **OPTM** Connect the multimode (in the case of OPTM) or the singlemode (in the case of OPTS) fiber optical cable to the LC IN connector of the receiver.
- **DVI-D** : Connect the DVI-D plug of the receiver to the input port of the sink device (e.g. Projector). The extender reads the EDID from the display (projector, monitor, etc), and outputs the video signal according to the set resolution.  
Fasten the extender with the mounting screws.
- **Power**: Power on the receiver by choosing one of the powering options below:
  - Connect the USB plug of the power adaptor to the micro USB connector of the receiver.
  - Connect the provided USB-A – USB micro-B cable between the extender and the sink device.
- **OPTM** : Connect the multimode (in the case of OPTM) or the singlemode (in the case of OPTS) fiber optical cable to the LC OUT connector of the transmitter

## OPTS

- **DVI-D:** Connect the DVI-D plug of the transmitter to the output port of the source device (e.g. PC). Fasten the extender with the mounting screws.
- **Power:** Finally power on the transmitter by choosing one of the powering options below:
  - Connect the USB plug of the power adaptor to the micro USB connector of the transmitter.
  - Connect the provided USB-A – USB micro-B cable between the extender and the source device.
  - If the DVI source device is able to provide enough 5V DC current (500mA), there is no need for external 5V DC power. The extender is powered immediately when the source device is switched on.



Check the Status LED. When the connection has been made successful, the blue LEDs on the transmitter and receiver will appear solid (not blinking).



It is not recommended to power on the devices before the final step.

## Specifications

### General

- **Compliance:** CE
- **Electrical safety:** EN 62368-1:2014
- **EMC Emission:** IEC/EN 55032:2015
- **EMC Immunity:** IEC/EN 55035:2017
- **RoHS:** EN 50581:2012
- **Warranty:** 3 years
- **Operating temperature:** 0° to +50°C (+32° to +122°F)
- **Operating humidity:** 10% to 90%, non-condensing
- **Cooling:** Passive

### Power

- **Power supply option (TX):** Power adaptor / USB micro-B / DVI-D
- **Power supply option (RX):** Power adaptor / USB
- **Power consumption – TX:** 2.35 W
- **Power consumption – RX:** 1.9 W
- **Heat dissipation – TX :** 8 BTU/h
- **Heat dissipation – RX:** 7 BTU/h

### Power Adaptor

- **Supported power source :** 100-240 V AC; 50/60 Hz

- **Supplied power:** 5V DC, 2A
- **AC power plug:** Interchangeable (EU, UK, JP/US, AUS/NZ)
- **DC power plug:** Locking DC connector (1.35 / 3.5 mm pin)

## Enclosure

- **Enclosure material:** steel
- **Dimensions in mm (inc. screws and connector):** 40 W x 74 D x 15 H
- **Dimensions in inch (inc. screws and connector):** 1.5 W x 2.9 D x 0.6 H
- **Weight:** 80 g (0.17 lbs)

## Video Input/Output

- **Video connector type:** 24-pole DVI-D
- **Supported resolution:** 1920×1200 or 2048×1080 maximum resolutions
- **Video delay:** 0 frame
- **HDCP pass-through:** Yes
- **EDID emulation:** Transparent EDID

## Fiber Optical Port

- **Connector type:** LC simplex receptacle
- **Laser wavelengths (OPTM):** 850, 1310, 1550 nm
- **Laser wavelengths (OPTS):** 1490, 1310, 1550 nm
- **Optical loss budget (OPTM):** 7 dB (worst case)
- **Optical loss budget (OPTS):** 11 dB (worst case)
- **Laser class specification:** Class 1
- **Compliance:** EN 60825-1:2008

## WEEE ( Waste Electrical & Electronic Equipment )

### Correct Disposal of This Product



■ This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from, uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased, this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

## Further Information

The Product Brief of this appliance is available on [www.lightware.com](http://www.lightware.com). See the **Downloads** section on the dedicated product page.

## Contact Us

[sales@lightware.com](mailto:sales@lightware.com)

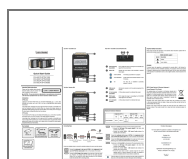
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## Documents / Resources



[LIGHTWARE DVI-HDCP-OPTM-TX90 Multimode Fiber Transmitter/Receiver](#) [pdf] User Guide  
de  
DVI-HDCP-OPTM-TX90, DVI-HDCP-OPTM-RX90, DVI-HDCP-OPTS-TX90, DVI-HDCP-OPTS-RX90, DVI-HDCP-OPTM-TX90 Multimode Fiber Transmitter Receiver, Multimode Fiber Transmitter Receiver, Transmitter Receiver, Receiver, Transmitter

## References

-  [Lightware Visual Engineering](#)

Manuals+.