visual engineering

LIGHTWARE

Quick Start Guide

DP-OPT-TX100
DP-OPT-RX100

Front and Rear View (Transmitter)
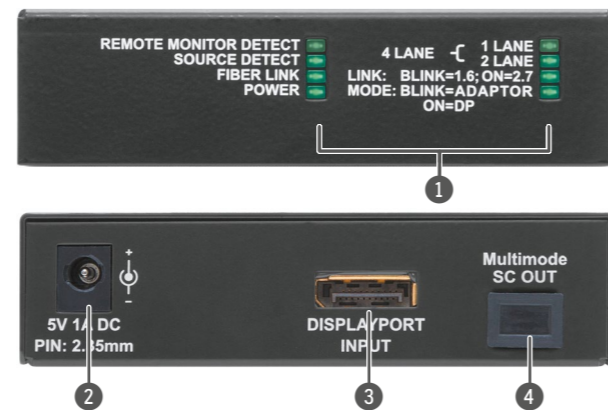
1	Status LEDs	The LEDs give feedback about the state, connections and certain settings of the unit. For details, see front panel's LEDs in the next section.
2	5V Power connector	Connect the output of the supplied 5V DC power adaptor.
3	DisplayPort Input	DisplayPort input for connecting the source and the transmitter.
4	SC Fiber Output	SC connector for multimode optical output.

Front and Rear View (Receiver)
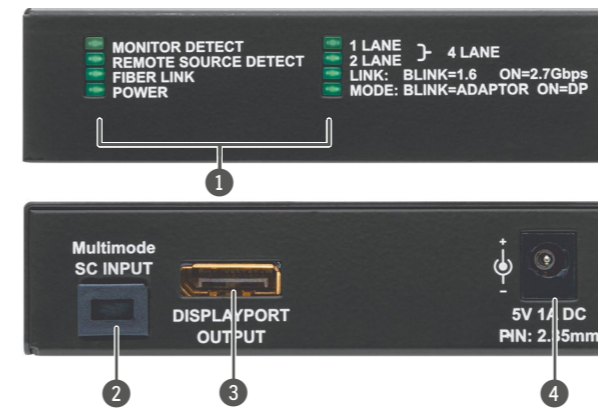
1	Status LEDs	The LEDs give feedback about the state, connections and certain settings of the unit. For details, see front panel's LEDs in the next section.
2	SC Fiber Input	SC connector for multimode optical input.
3	DisplayPort Output	DisplayPort output for connecting the sink and the receiver.
4	5V Power Connector	Connect the output of the supplied 5V DC power adaptor.

Front Panel LEDs

(REMOTE) MONITOR DETECT LEDS		
🟩	on	A powered sink is connected.*
(REMOTE) SOURCE DETECT LEDS		
🟩	on	A powered source is connected.*
FIBER LINK LED		
🟩	blinking	The optical link is active between the extenders and ready to use.
POWER LED		
⬜	off	The extender is not powered.
🟩	on	The extender is powered by a 5V DC adaptor.
1 LANE / 2 LANE / 4 LANE LEDS		
⬜	off	The extender is not in DP mode.
🟩	on	Indicates the number of used DisplayPort Main Links. When all the four lanes are used, both LEDs are ON.

* If the extenders are connected via fiber, above LED pairs show the same state.

LINK LED		
⬜	off	The extender is not in DP mode.
🟩	on	The link speed is 1.62 Gbps/lane.
🟩	blinking	The link speed is 2.7 Gbps/lane.
MODE LED		
🟩	on	DVI/HDMI monitor is connected to the receiver via an adaptor cable.
🟩	blinking	DisplayPort monitor is connected to the receiver.

Important Safety Instructions

Please read the supplied safety instruction document before using the product and keep it available for future reference.
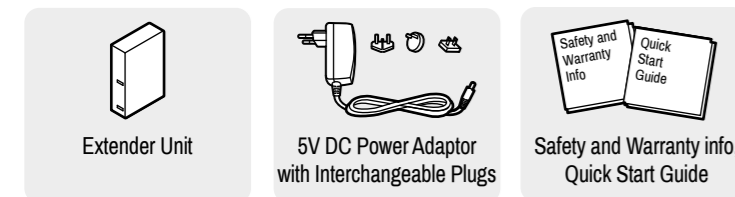
ℹ *The extenders are class 3R laser products.*

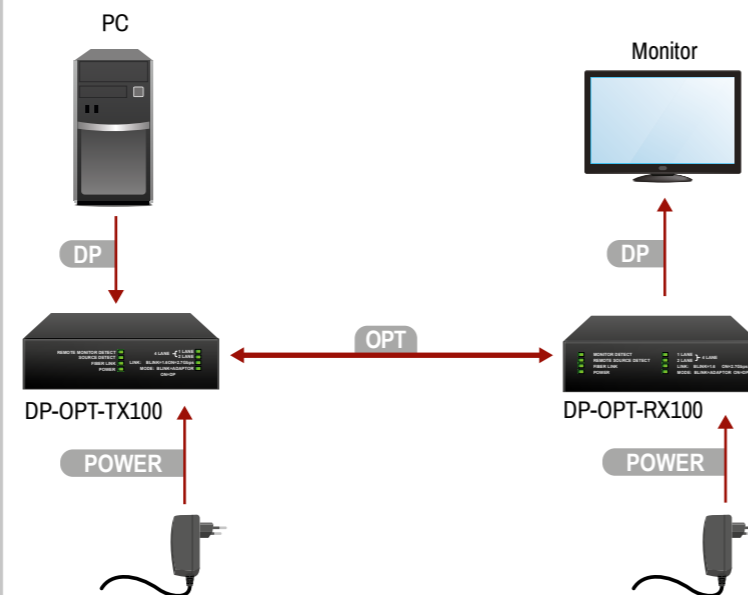⚠ *Caution! Invisible Class 3R laser radiation! Avoid eye exposure to the beam!*

Introduction

Lightware DP-OPT-TX100 and DP-OPT-RX100 devices extend Dual-Mode DisplayPort 1.1a high-resolution video and embedded audio on one multimode fiber cable up to 1100 m. Signals with HDCP 1.1 encryption are also supported. The extenders support Dual-mode port extension with adaptor cables. When connecting a DVI or HDMI display through an adaptor cable, Dual-mode DisplayPort graphic cards reconfigure their Outputs to DVI or HDMI accordingly.

Box Contents

Extender Unit	5V DC Power Adaptor with Interchangeable Plugs	Safety and Warranty info, Quick Start Guide

Connecting Steps

PC

Monitor

DP-OPT-TX100

DP-OPT-RX100

OPT	Connect the transmitter and the receiver by a single 50/125 SC multimode fiber optical cable (up to 1100m).
DP	Connect the DisplayPort source to the transmitter's DisplayPort input connector.
DP	Connect the DisplayPort or DVI/HDMI sink (monitor, projector etc.) to the receiver's DisplayPort output. For DVI and HDMI monitors the usage of adaptor cable is necessary.
POWER	Firstly connect the power adaptor to the DC input of the transmitter, then to the AC power socket.

⚠ *Warranty void if damage occurs due to use of a different power source. Always use the supplied power adaptor or Lightware's rack-mountable power supply.*

Mounting

To mount the extender Lightware supplies optional accessories for different usage. There are two kinds of mounting kits with similar fixing method. The device has two mounting holes with inner thread on the bottom side. Fasten the device by the screws enclosed with the accessory.

Under-desk double mounting kit

1U high rack shelf

The Under-desk double mounting kit makes easy to mount a single device on any flat surface, e.g. furniture. 1U high rack shelf provides mounting holes for fastening two half-rack or four quarter-rack sized units. Pocket-sized devices can also be fastened on the shelf. To order mounting accessories please contact sales@lightware.com.

⚠ *Using different (e.g. longer) screws may cause damage to the device.*

ℹ *The extender is quarter-rack sized.*

Locking DC plug

Twist 90° clockwise to lock.
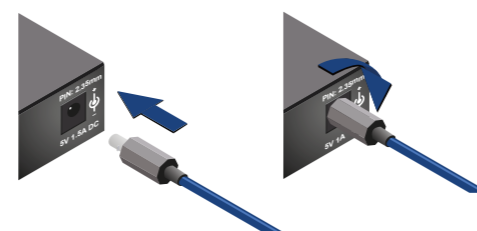
Maximum Extension Distances

	OM1 (62,5/125)	OM2 (50/125)	OM3 (50/125)	OM4 (50/125)
2560x1600@60Hz 24bpp	150 m	350 m	800 m	1100 m

Further Information

The Product brief and further information of this appliance is available at www.lightware.com. See the Downloads section on the dedicated product page.

Contact Us

sales@lightware.com
+36 1 255 3800

support@lightware.com
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Typical Applications - DP Monitor Connected to the Receiver
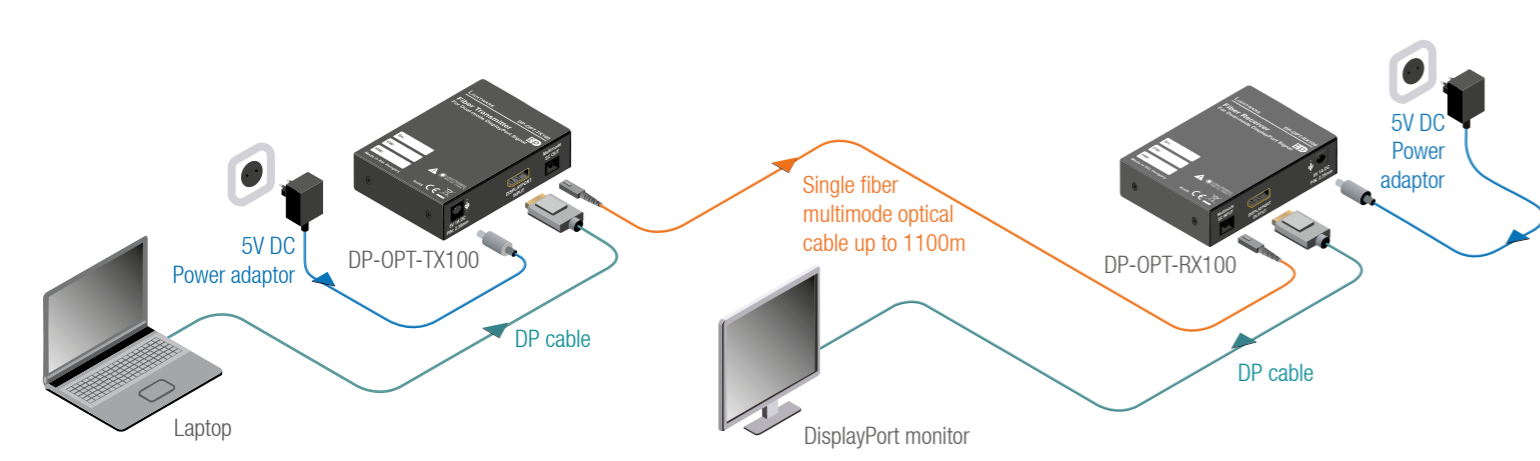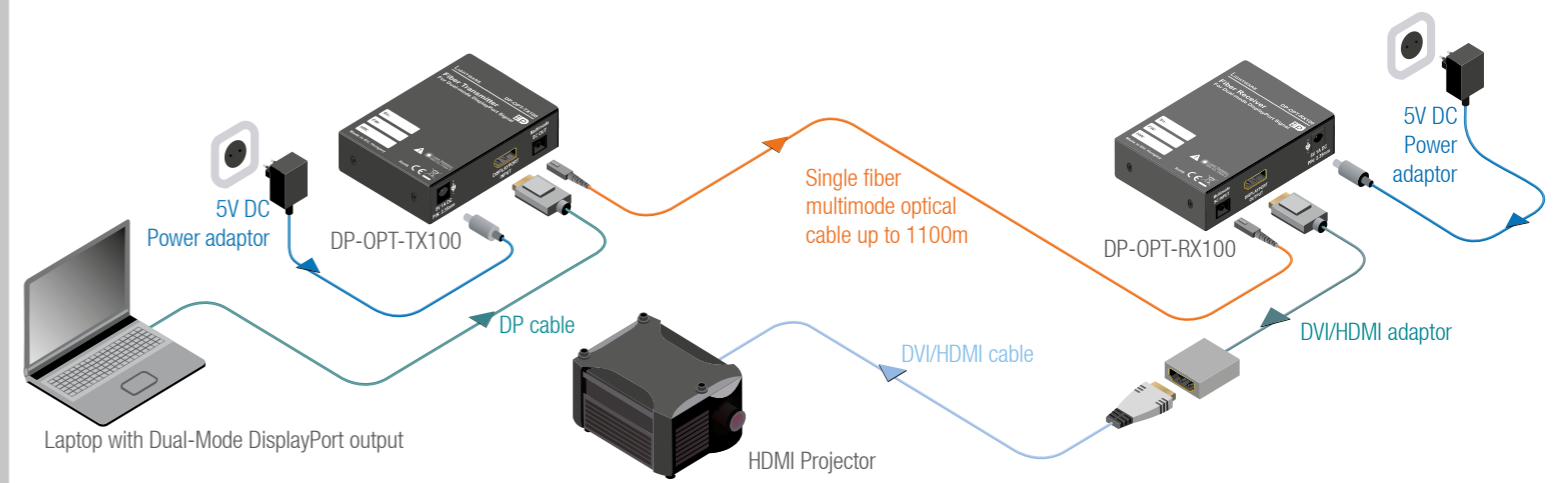

5V DC Power adaptor
DP-OPT-TX100
Laptop
DP cable
Single fiber multimode optical cable up to 1100m
DP-OPT-RX100
DP cable
DisplayPort monitor
5V DC Power adaptor

Typical Applications - HDMI Monitor Connected to the Receiver

5V DC Power adaptor
DP-OPT-TX100
Laptop with Dual-Mode DisplayPort output
DP cable
Single fiber multimode optical cable up to 1100m
DP-OPT-RX100
DVI/HDMI cable
DVI/HDMI adaptor
HDMI Projector
5V DC Power adaptor

Specifications

General

Compliance ....CE
Electrical safety... IEC/EN 62368-1:2014
EMC (emission) .... IEC/EN 55032:2015
EMC (immunity).. IEC/EN 55035:2017
RoHS ....EN 63000:2018
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 .... Power adaptor
Supported power source ....100-240 V AC; 50/60 Hz
Power consumption... 3 W (min) / 5 W (max)
Heat dissipation .... 10 BTU/h (min) / 17 BTU/h (max)

Power adaptor

Supported power source ....100-240 V AC; 50/60 Hz
Supplied power..5V DC, 1A

AC power plug .... Interchangable (EU, UK, JP/US, AUS/NZ)
DC power plug... Locking DC connector (2.5/5.5 mm pin)

Enclosure

Enclosure material .... 1 mm steel
Dimensions in mm .... 100.4 W x 67.6 D x 26 H
Dimensions in inch .... 4 W x 2.7 D x 1.1 H
Weight (DP-OPT-TX100)..200 g (0.45 lb)
Weight (DP-OPT-RX100) ....205 g (0.46 lb)

Video Input (TX)

Connector type .... 20-pole DisplayPort receptacle
A/V standard ....DP 1.1a
HDCP compliance ....HDCP 1.4
Video delay ....0 frame
Supported resolutions at 8 bits/color...
.... up to 4096x2160 30 Hz, up to 3840x2160 30Hz, up to 1920x1080@120 Hz
Deep color support .... yes

Video Output (RX)

The specifications of the output port are the same as in case of the input port.

Connectors

DP-OPT-TX100 input / DP-OPT-RX100 output .... DisplayPort
DP-OPT-TX100 output / DP-OPT-RX100 input ....SC simplex

Fiber Optical Port

Connector type ....SC
Fiber type .... 50/125 SC Multimode preferred or 62.5/125 SC Multimode
Laser class specification...Class 3R
Laser wavelengths (high speed channels)................................ 778; 800; 825; 850 nm
Laser wavelengths (low speed channels) ....911; 980 nm
Transmitter output OMA * .... -6.25 dBm (worst case)
Receiver OMA * sensitivity .... -14.25 dBm (worst case)
Optical loss budget ....8 dBm (worst case)
Transmission distance...1100 meters (using OM4 type fiber)
* OMA: Optical Modulation Amplitude...