One (1) Fiber DisplayPort 1.2 Optical Detachable Extender With Copper Extension

User Manual
DPFX-700-TR

Doc No. : OE-DP220415 / V1.2

Manual Contents

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Pictorials

Welcome!

Congratulations on your purchase of the one (1) fiber DisplayPort extender with copper extension, DPFX-700-TR. This manual contains information that will assist you in installing and operating the product.

Product Description

DisplayPort 1.2 one(1) fiber optic detachable extender, DPFX-700, extends DisplayPort 1.2 signal up to 200m (656feet) and transmits 4K UHD (4096x2160) at 60Hz over one(1) LC multi-mode fiber. Cutting-edge technology of Opticis reduces limits in installation by providing an option for longer copper extension.

DPFX-700-TR transmit uncompressed and transparent data signal even when used with up to 3 m copper cable as an intermediary. This enables installation of the product in the limited spaced area in such our small module type extender cannot be used. 2m copper cable is provided in the shipping group.

Furthermore, to meet all the needs of the customers, DPFX-700-TR is fully interoperable with using DPFX-300 as a pair. Depending on the circumstances, customer can choose to use direct connection type module on one side, and copper extension type module on the other side.

DPFX-700-TR gives slim, light, and easy installation with perfect electrical isolation, but without electrical hazard and interference. It is operated external DC power adapter which is supplied in the shipping group.
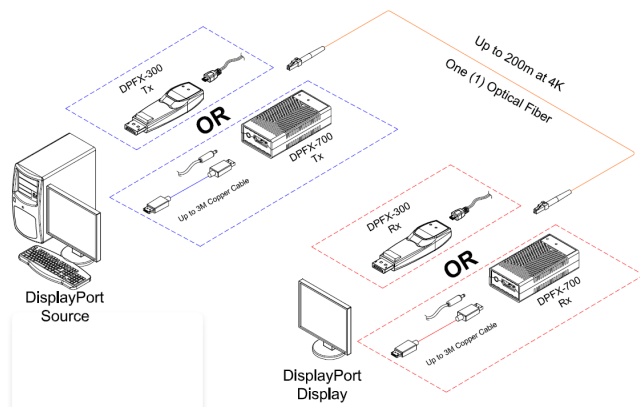

Figure 1 – Overall Connection of DPFX-700-TR

System Requirements for Setup

- ☐ **Hardware requirements**
  - ▪ You must have a DisplayPort source and display. It should support the maximum graphic resolution feature of displays to be connected.
  - ▪ No special requirements of memory size, CPU speed and chipsets, if you've already properly installed your DisplayPort systems or graphic cards.
  - ▪ Proper initial trial of the entire platform with its application using a short length copper cable is recommended prior to the installation with the optical link.

- ☐ **Software requirements**
  - ▪ No special restrictions, if you've already properly installed your DisplayPort systems.
  - ▪ FW upgradable via micro USB port: contact info@vigillink.com for the download of most recent FW version.

- ☐ **Power Technical Advisory**
  - ▪ Enclosed Power Adaptors should supply power for both Transmitter and Receiver.

- ☐ **Connection Advisory**
  - ▪ It is highly recommended that DisplayPort source is connected to DisplayPort display output via DPFX-700-TR without any connection with incompatible distributor, switcher and selector.

The Shipping Group of DPFX-700-TR;
- ☐ One (1) Transmitter (Tx) and One (1) Receiver (Rx)
- ☐ Two (2) 2m Male to Male DisplayPort copper cable
- ☐ Two (2) 5V 1A power adapter
- ☐ User Manual

※ **If the purchase was made with mixed pair of DPFX-700 and DPFX-300, the shipping group may vary.**

※ **In shipping group, two 2m copper cables are included. Contact the regional sales representative or info@vigillink.com for using 3m copper cable.**

Installation

Important: Please keep the installation procedure below. Failure in operation may result if the start-up sequence is not correctly followed.

Step 1
Carefully unpack the contents in the shipping group.

Step 2

Power on the DisplayPort source and display. The external power is recommended for the stable power supply for both the transmitter and receiver.

Step 3
The Power LED will be turned on and the Status LED will blink three (3) times. Then the Status LED will blink again when the whole connection is made. If the Status LED blinks in Green, it means that the display is not connected correctly.
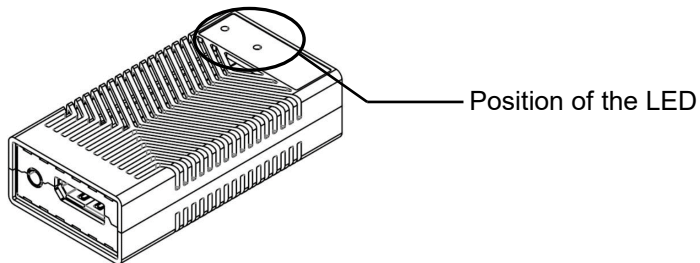

Position of the LED

Figure 2 – Position of the LED

Step 4
Connect one (1) LC optical fiber between the transmitter and the receiver. Ensure the connectors are fully engaged and then, the top LED will begin to blink regularly.

Step 5
Connect the transmitter and the receiver to the source and the display respectively via 2m copper cable provided in the shipping group.

Note: If the connectors are fully engaged, the bottom LED will turn on.

Note: If DPFX-300 module is used as its pair for DPFX-700, connect DPFX-300 module directly into the DisplayPort port on the source or display.
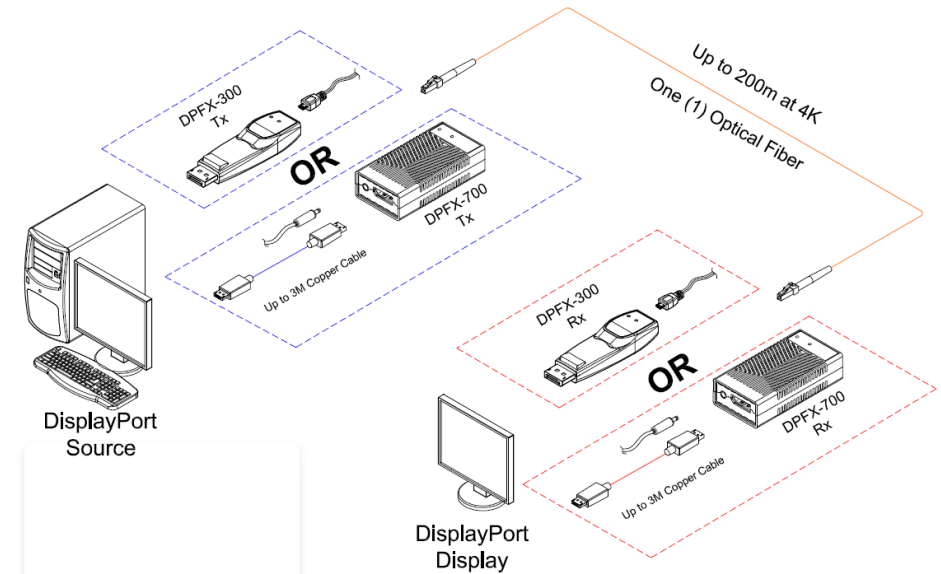

Fig Figure 3 – Connection of optical fiber

Step 6
If the system does not work properly, go to the page 1-5 for trouble shooting.

Note1: Please DO NOT look directly into the LC receptacles of the Transmitter, while it is powered on. Although this product is regulated strictly enough to operate under the LASER Class I, classified by CDRH/FDA for eye safety, it is not recommended to do so.

Note2: The maximum extension length by OM3 fiber is 200 meters (656ft.).

Note3: It is recommended NOT to use any intermediate cable or adapter that is not provided in the shipping group between the modules to avoid undesirable performance degradation.

Troubleshooting

The display shows black screen*.*
- Ensure that all the plugs and jacks used by DC power supplies are firmly connected. Ensure that the LED is ON.
- Ensure that the DisplayPort cables are firmly plugged into the DisplayPort source and display.
- Ensure that the transmitter and receiver modules are plugged correctly to the source and display, respectively.
- Check if the DisplayPort source and display are powered on and properly booted.
- Reset the system by de-plugging and re-plugging the transmitter or receiver, or by de-plugging and re-plugging the DC power adapters that are plugged to the transmitter and receiver module.
- Re-boot up the system while connecting the module.

Screen is distorted or displays noises.
- Check if the graphic resolution is properly set. Go to the display Properties and tap the Settings. Ensure that the resolution sets less than WQUXGA (3840x2400) at 60Hz refresh ratio.
- Reset the system
- Power down, disconnect and reconnect the optical system cable or DC power adaptors, and power up again.

LED Reading
You can check the status of connection through the LED light on the top side of the module. The top side is where the part name "DPFX-700-TR" is written on the label.
- The module is broke and transmission cannot be made→ TX: Red ON / RX: OFF
- The modules are properly connected with the fiber→ TX&RX: Green Blinking
- The modules are properly connected with the fiber and connection with devices are correctly made → TX&RX: Blue Blinking

Maintenance

No special maintenance is required for the optical system cables and power supplies. Ensure that the cables and power modules are stored or used in a benign environment free from the liquid or dirt contamination.
There are no user serviceable parts. Refer all service and repair issues to Opticis or its authorized distributor.

Technical Support and Service

For commercial or general product support, contact your reseller. For technical service, contact Opticis by email info@vigillink.com or visit its website at www.vigillink.com

Product Specifications

☐ **Compliance with DisplayPort standard:** supports DisplayPort 1.2

☐ **Extension limit:** 200m (656feet) for 4K (4096x2160) at 60 Hz refresh rate over one (1) **LC OM3** fiber (50/125um).

☐ **Graphic Transmission Bandwidth:** Supports total data rate 21.6Gbps (5.4Gbps per lane).

☐ **Extra Copper Extension** available up to **3m** on each side (TX/RX)

☐ Selectable Option: full interoperable with **DPFX-300-TR** as a pair**.**

☐ **Firmware upgradable** via micro USB port

☐ Support **Multi-Stream Transport**

☐ **Mechanical specifications of transmitter and receiver**
   ■ **Dimensions**(WDH)**:** 39mm x 76mm x 20mm

☐ **Environmental Specifications**
   ■ Operating temperature: 0°C to 50°C
   ■ Storage temperature: -30°C to 70°C
   ■ Humidity: 10% to 85%

AC/DC Power Adapter

☐ **Power Input:** AC 100-240V, 50/60Hz.
☐ **Power Output:** +5 V, 1A SMPS DC-power Adapter

Warranty Information

1 (One) Year Warranty

Opticis warrants this optical DP module to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchase from Opticis or its authorized resellers.

If a product does not work as warranted during the applicable warranty period, Opticis shall, at its option and expense, repair the defective product or part, deliver to customer an equivalent product or part to replace the defective item, or refund to customer the purchase price paid for the defective product.

All products that are replaced will become the property of Opticis.

Replacement products may be new or reconditioned.

Any replaced or repaired product or part has a ninety (90) day warranty or the reminder of the initial warranty period, whichever is longer.

Opticis shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to Opticis for repair under warranty or not.

Warranty Limitation and Exclusion

Opticis shall have no further obligation under the foregoing limited warranty if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or service other than by Opticis or its authorized agents, causes other than from ordinary use or failure to properly use the product in the application for which said product is intended.

Dispose of Old Electrical & Electronic Equipment

(Applicable in the European Union and other European countries with separate systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Certifications

CE / FCC, Class 1 Laser Eye Safety

Certification of Eye Safety

This laser product is inside implemented by using 780, 825, 850, 930, 960, 990nm LD Transceivers, manufactured by Opticis Co., Ltd., which are all certified by CDRH/FDA referred as classified in Laser Class 1 (IEC60825-1).

CLASS 1 LASER PRODUCT

Caution – Use of controls or adjustments or performances of procedures other than those specified herein may result in hazardous radiation exposure.

Optolinks

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For order support, please contact your Distributor or Reseller.

For technical support, check with the our website www.vigillink.com
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