



DVI Extender over single multi-mode SC Fiber TMDS video and EDID data



Model #: FO-DVI-1000X-EMIX



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Section 1: Getting Started

1.1 Important Safeguards

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
- Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
- Repair or attempted repair by anyone not authorized by us.
- Any damage of the product due to shipment.
- Removal or installation of the product.
- Causes external to the product, such as electric power fluctuation or failure.
- Use of supplies or parts not meeting our specifications.
- Normal wear and tear.
- Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

1.2 Safety Instructions

The Avenview FO-DVI-1000X-EMIX, DVI Extender over Fiber Optic has been tested for conformity to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment's, the FO-DVI-1000X-EMIX should be used with care. Read the following safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Do not dismantle the housing or modify the module.
- Dismantling the housing or modifying the module may result in electrical shock or burn.
- Refer all servicing to qualified service personnel.
- Do not attempt to service this product yourself as opening or removing housing may expose you to dangerous voltage or other hazards
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Have the module checked by a qualified service engineer before using it again.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Do not view directly into the laser module of transmitter or the end of the other side of optical cable connected to transmitter with an optical instrument.

1.3 Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

1.4 Introduction

FO-DVI-1000X-EMIX, optical DVI extension module, is designed to let digital flat panel display signal extend over 300 meters away from host based on DVI standard by optical transmission technology.

It can transmit EDID data and HDCP over fiber in real time. FO-DVI-1000X-EMIX can be used with DVI device as well as HDMI standard device such as Blu-ray player, PS-3.

- High speed and long distance transmission by 1 channel SC type multi-mode optical fiber
- Supports resolution up to HDTV / 1080P, PC / WUXGA(1920 x 1200)
- TMDS video signal and EDID data is transmitted over optical fiber
- Uses slim and light Aluminum case
- EMC & Safety : CE, FCC
- External power supply for Transmitter is (optional). Automatic power switch is included.

1.5 Package Contents

Before you start the installation of FO-DVI-1000X-EMIX, please check the package contents.

- Transmitter	x 1
- Receiver	x 1
- Power Adapter (5VDC, 2A)	x 1
User's Manual	x 1

1.6 Before Installation

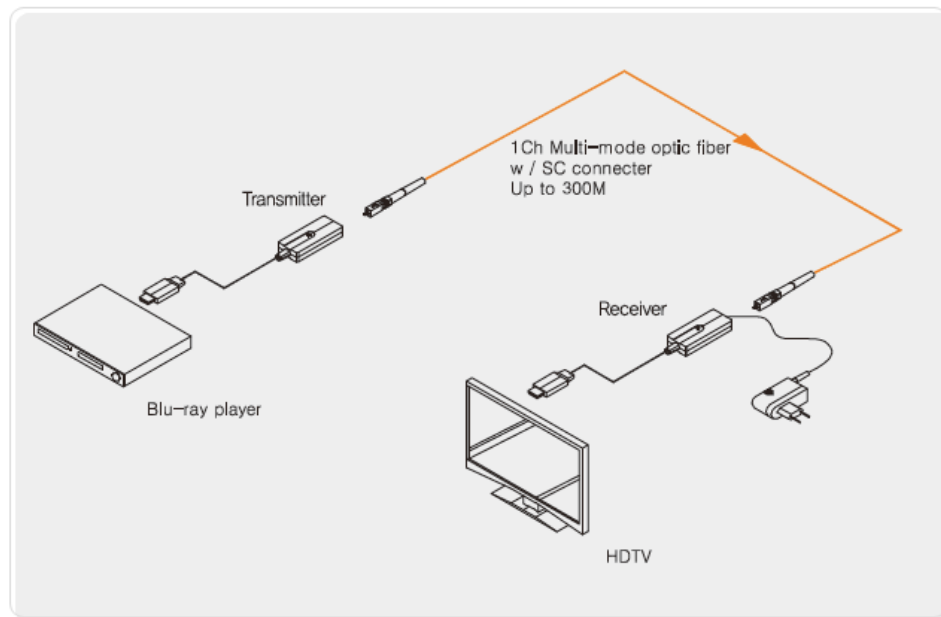
- Put the product in an even and stable location. If the product falls down or drops, it may cause an injury or malfunction.
- Don't place the product in too high temperature (over 50°C), too low temperature (under 0°C) or high humidity.
- Use the DC power adapter with correct specifications. If inappropriate power supply is used then it may cause a fire.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.



1.7 Installation

This product is composed of a Transmitter and a Receiver.

The Transmitter should be connected to the source (Computer's DVI Port) and the Receiver should be connected to the DVI Port of the digital display device (Monitor). Avenview FO-DVI-1000X-EMIX Transmitter / Receiver is designed to be used with LC type standard optical cable (Multi-Mode optical fiber: 50/125, 62.5/125um). Connect Multi-mode LC connector type 1 channel standard fiber optic cable between transmitter and receiver. Connect power adapters (or USB power cable) to both of transmitter and receiver module.



FO-DVI-1000X-EMIX TX can be supplied with [optional Power Adapter (5VDC, 2A)]

LED INDICATOR STATUS

Fast blinks

The system is booting properly.

Solid

*After plug adapter, LED will blink fast for 2~3 seconds
Communication between transmitter and receiver is established.*

Regular on/off

Ready for proper operation.

No communication between transmitter and receiver. Check for fiber connection or power adapter

1.8 Troubleshooting

General Troubleshooting	
Problem	Possible Solution
No Image	<ul style="list-style-type: none">• Check if the PC Power is on• Check if connection to the computer and the monitor are correct.• Turn the PC Power off and on again.• Please use DC adapter (5V, 2A) included in the package for Receiver. Optional power supply for Transmitter.
LCD Screen Defects Appear	<ul style="list-style-type: none">• This product supports up to WUXGA resolution.• Check the maximum resolution range of the graphics card.

1.9 Caution

1. Do not put heavy object on top of the FO-DVI-1000X-EMIX. It may cause product malfunction.
2. Put the product on even and stable location. If the product falls down or dropped, it may get damaged.
3. Keep away from high temperature (over 50°C), low temperature (under 0°C) or high humidity. It may cause a fire and injury by electrical shock.
4. Use DC power adapter with correct specification. Otherwise it may cause fire.
5. .
6. Use the multimode (50/125um) optical fiber.
7. Do not view directly laser module of transmitter or the end of the other side of optical cable connected to transmitter with optical instrument.
8. Do not twist or pull by force either ends of the optical cable. It can cause malfunction. Minimum bending diameter is 45mm (see illustration below)

Section 2: Specifications

Item	Description	
Units	(Transmitter)	(Receiver)
Unit Description	DVI Fiber Optic Transmitter	DVI Fiber Optic Receiver
Input Signal Output Signal	TMDS Signal (DVI 1.0 Standard)	TMDS Signal (DVI 1.0 Standard)
Optical Converter	850nm, 4Ch Transmit OSA 911nm, 1Ch VCSEL 980nm, 1Ch PIN P/D Diode	850nm, 4Ch Receive OSA 980nm, 1Ch VCSEL 911nm, 1Ch PIN P/D Diode
Video Bandwidth	3.5Gbps	
Supported Resolution & Distance	Up to WUXGA 1920 x 1200/60Hz @ 300 meters (1000 feet)	
DVI Connector	DVI-D Male Plug (input)	DVI-D Male Plug (input)
Optical Connector	1 SC Connector	1 SC Connector
Dimensions (L x W x H)	11.5" x 1.3" x .5"	

Environmental

Operating Temperature	32° ~ 104°F (0° to 40°C)
Storage Temperature	-4° ~ 140°F (-20° ~ 60°C)
Relative Humidity	20~90% RH (no condensation)

Optical

Optical Source	850nm VCSEL
O/E Converter	PIN Photo Diode
Fiber Type	50/125 LC Multi-Mode Fiber

Environmental

Operation	0° to 50°C Degree
Storage	-20° to 70°C Degree

RESOLUTIONS	DISTANCE
WUXGA (1920 X1200)	300M (1000FT)
1080P (1920 X 1080)	300M(1000FT)

2.1 Signal Pin Assignment

TRANSMITTER

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2 Shield	11	T.M.D.S. Data1 Shield	19	T.M.D.S. Data0 Shield
4	No Connect	12	No Connect	20	No Connect
5	No Connect	13	No Connect	21	No Connect
6	No Connect	14	+5V Power	22	T.M.D.S. Clock Shield
7	No Connect	15	Ground (for +5V)	23	T.M.D.S. Clock+
8	No Connect	16	No Connect	24	T.M.D.S. Clock-

RECEIVER

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2 Shield	11	T.M.D.S. Data1 Shield	19	T.M.D.S. Data0 Shield
4	No Connect	12	No Connect	20	No Connect
5	No Connect	13	No Connect	21	No Connect
6	No Connect	14	No Connect	22	T.M.D.S. Clock Shield
7	No Connect	15	No Connect	23	T.M.D.S. Clock+
8	No Connect	16	No Connect	24	T.M.D.S. Clock-

Fiber Type	Wavelength (nm)	Max Attenuation Coefficient (dB/km)	Bandwidth (MHz-km with overfilled launch)
50/125 (OM2)	850	3.5	500
50/125 (OM2)	1300	1.5	500
50/125 (OM3)	850	3.5	2000
50/125 (OM3)	1300	1.5	500
6.25/125 (OM1)	850	3.5	160
6.25/125 (OM1)	1300	1.5	500



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