DVI Extender via Duplex LC Fiber

Self-EDID programming

Up to 1500m in single mode fiber & 500m in multimode fiber

Description

APAC's **DVI05K-2LCSS** optical extenders provide a high quality and uncompressed DVI data link between PC and monitor. By introducing the optical fiber technology, this extender can extend the transmission up to **1500m in single mode fiber** and **500m in multimode fiber**. The **self-EDID programming** feature is also built in to make the field installation easy and flexible.

Features

- Long distance image transmission
- High resolution and image quality
- No RF Interference by optical fiber
- Class 1 laser product complies with EN 60825-1
- CE/ FCC certifications for EMI/RFI

Application

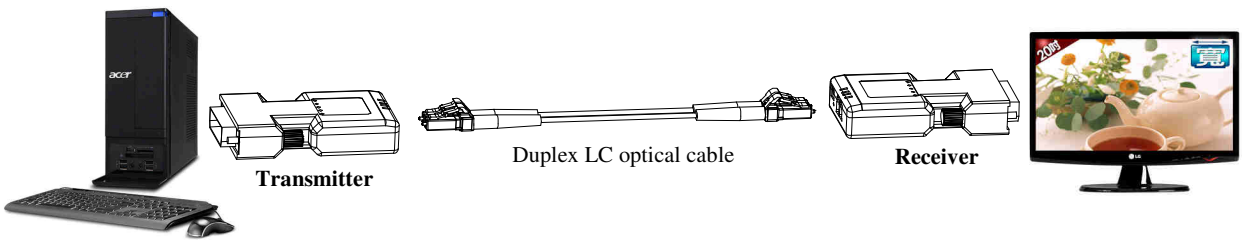
- Remote monitor for traffic, industrial, military control
- LCD, Projector, Plasma display connection
- Large video wall system
- Multi-monitor for Advertising

Ordering information

Part Number		Description	Note
DVI05K-2LCSS-T-XX		Transmitter side	
DVI05K-2LCSS-R-XX		Receiver side	
DVI05K-2LCSS-XX		Transmitter + Receiver	
	XX	Blank: All Plugs for AC adaptor 00: US Plug for AC adaptor 01: EU Plug for AC adaptor 02: BS Plug for AC adaptor	

* This product does not include optical fibers

Application



Headquarters :
3 Tzu Chiang Road, Hsinchu Industrial Park, Hukow,
Hsinchu Hsien, Taiwan 303
TEL: +886-3-5986799
FAX: +886-3-5986655
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Specification

PARAMETER	SPECIFICATION	NOTE
Maximum resolution	1920 × 1200 (16:10) 1600 × 1200 (4:3) 1920 × 1080p (16:9)	
Maximum transmission distance	1500m	9/125 um Single-mode Fiber
	500m	50/125 um Multi-mode Fiber
EDID support	Self-EDID programming	
HDCP compliant	N/A	
Operating voltage	DC 5V	
Supply current	400mA 400mA	TX module RX module
Optical connector	1 Duplex LC connectors	
Recommended fiber	9/125 um Singlemode Fiber or 50/125 um Multimode Fiber	Use 62.5/125 um multi-mode fiber may shorten the maximum transmission distance.
Operating temperature	0°C - 50°C	
Storage temperatute	-20°C - 65°C	
Dimension	TX unit : 68 x 39 x 15 RX unit : 68 x 39 x 15	L × W × H (mm)
Weight	TX unit : 98 g ; RX unit : 95 g	

Original EDID resolution setting

TIMING ITEMS	RESOLUTION
Established Timings :	720 x 400 @70Hz ; 640 x 480 @60Hz ; 640 x 480 @72Hz 640 x 480 @75Hz ; 800 x 600 @60Hz ; 800 x 600 @72Hz 800 x 600 @75Hz ; 1024 x 768 @60Hz ; 1024 x 768 @70Hz 1024 x 768 @75Hz ; 1280 x 1024 @75Hz ; 1152 x 870 @60HZ
Standard Timings : (4:3,5:4,16:9,16:10 rate)	1280 x 1024 @60Hz ; 1280 x 960 @60Hz ; 1152 x 864 @75Hz 1600 x 1200 @60Hz ; 1280 x 720 @60Hz ; 1440 x 900 @60Hz 1680 x 1050@60Hz
Detailed Timings :	1360 x 768@60Hz ; 1920 x 1080@60Hz ; 1920 x 1200@60Hz

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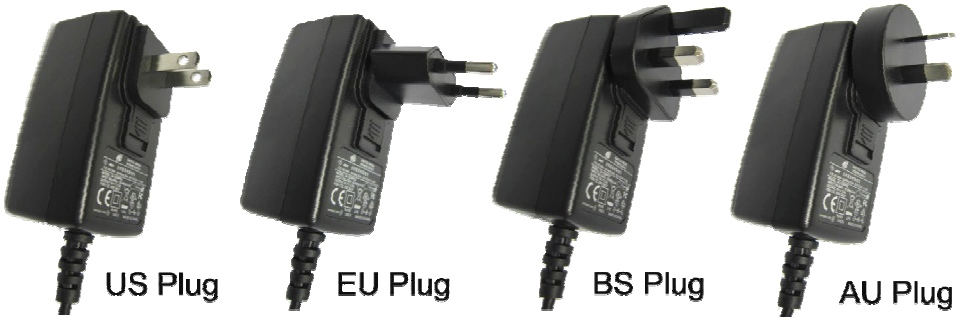
Adaptor Specification

PARAMETER	SPECIFICATION	NOTE
Input	100 VAC - 240VAC, 50 – 60Hz	
Output	DC 5V, 3A	
DC Jack	Inside 5V / Outside ground	



Requirements

- DVI PC or DVI signal source (Transmitter)
- DVI Monitor or Projector (Receiver)
- 100~240VAC, 50~60Hz, 0.2A

Self-EDID Programming Function

The EDID in a display can be read and restored by just plugging it to the display. This self-EDID Programming feature makes the installation of DVI05K-2LCSS-XX more easy and flexible at any variable resolution display systems.

Auto Source Detection and Standby Mode in Transmitter Module

The laser diodes are only turned on when +5V voltage is detected in the 14-pin of DVI connectors. By introducing this Standby Mode function, the transmitter (TX) module of DVI05K-2LCSS-XX can save power when DVI source is turning off.

Signal Detect Function in Receiver Module

There is a Signal Detect function in DVI05K-2LCSS-XX receiver module. When the receiving signal is higher than a certain power level, 4 LEDs will be lit to indicate that the receiving signals are detectable. In case of loosing optical connector or broken fibers, LEDs won't bright and someone can easily notice this abnormal.

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Hsinchu Hsien, Taiwan 303
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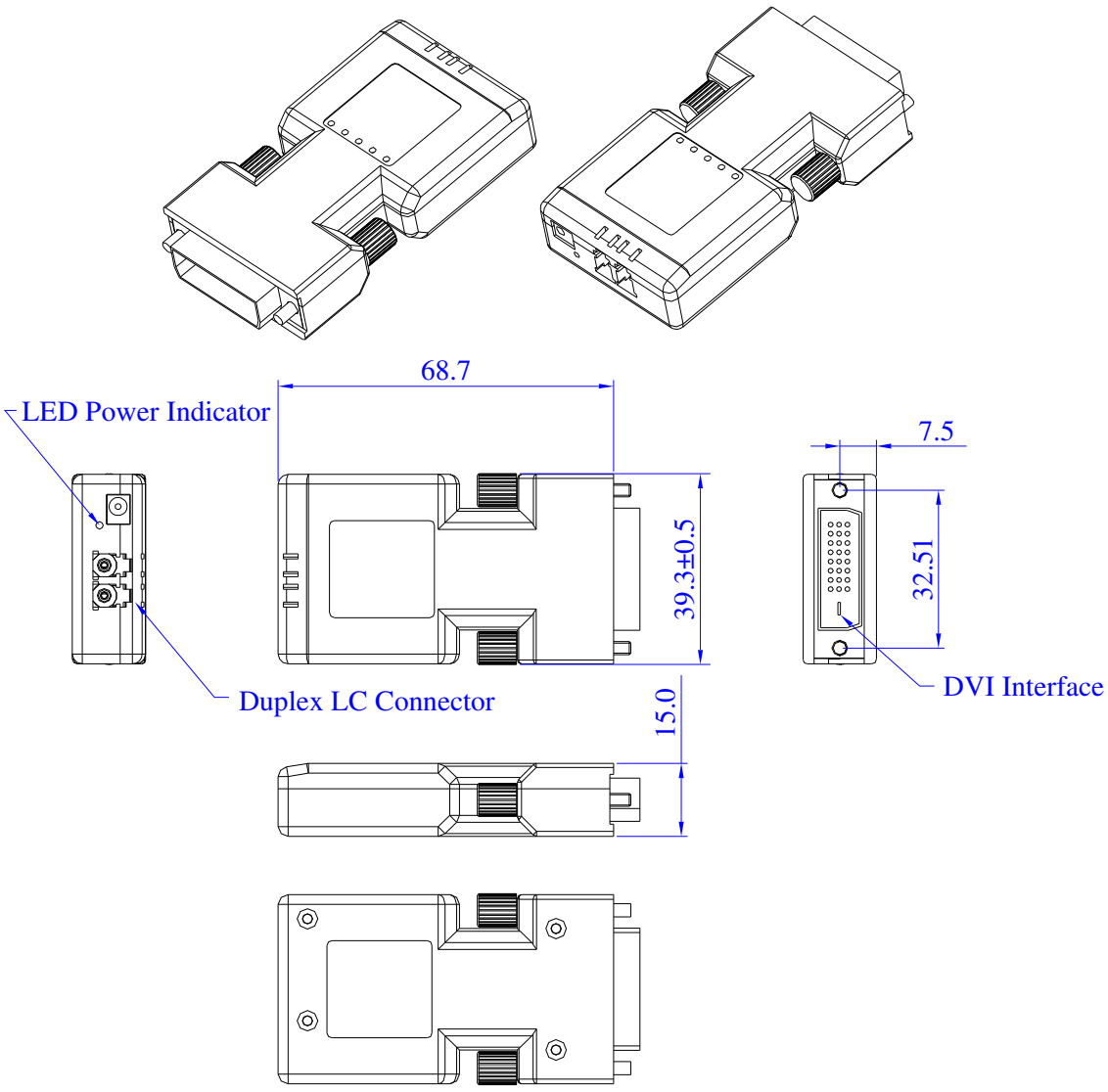
Dimensions



All dimensions all in +/- 0.3mm tolerance if no specified

Unit：mm

Safety Regulation

CE and FCC approved.

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Installation

Please follow the installation procedure below. If the sequence is not correctly followed might bring an improper or no operation result.

Step 1

Unpack the box and check the contents. You should have the following items.

- TX module × 1
- RX module × 1
- AC/DC Adaptor × 2

Step 2

Plug the 5V power adapter to the power jack of the transmitter. Ensure that the green LED beside the power jack and the "PWR" LED are turned on. (See figure 1)

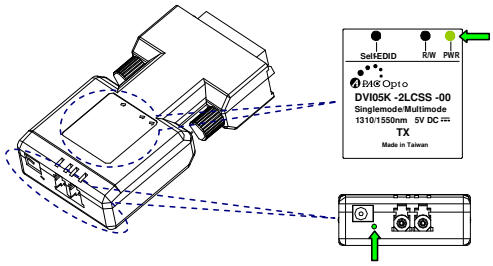

Figure 1 The LEDs denoted by arrows will be turned on in transmitter

Note: You don't need to adopt the AC/DC adapter if the graphic source provides enough power to operate the transmitter. If the green LED is dim from the normal brightness, please plug the adapter to get enough power.

Step 3

Plug the 5V power adapter to the power jack of the receiver. Ensure that the green LED beside the power jack and the "PWR" LED are turned on. (See Figure 2)

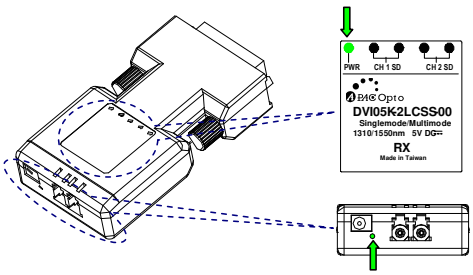

Figure 2 The LEDs denoted by arrows will be turned on in receiver

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Step 4

Plug one end of the duplex LC optical cable into the transmitter and plug in the other end into the receiver (See Figure 3).

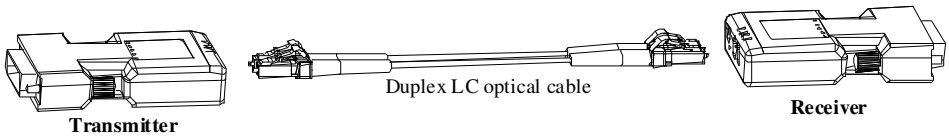

Figure 3

Note: The maximum transmitting distance in multimode fiber is 500m. In case of longer distance, the single mode fiber should be applied and the maximum distance is 1500m.

Step 5

Plug the transmitter to the DVI source such as PC.

Note: Any additional intermediate cable using between transmitter and DVI source might bring undesirable performance degradation.

Step 6

Plug the receiver to the display.

Step 7

Power the PC (DVI source) on. The 4 SD (Signal Detect) LEDs of receiver will be turned on (see Figure 4). It means that the receiver already receive the signal from transmitter. Then power on the display and you will see the video pictures. If you can't get the proper resolution on the display, please refer to **Self-EDID Programming Procedure** in page 7 and repeat the installation procedure again.

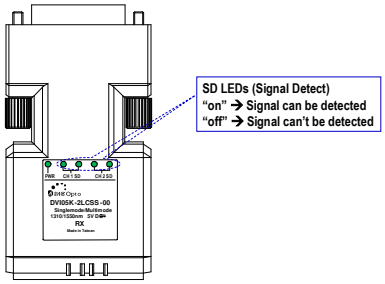

Figure 4 Signal Detect of the receiver

Note: You can replace any DVI cable by following the **Step1** to **6** while all powers of PC and display are ON.

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Self-EDID Programming Procedure

EDID contains resolution and timing information which a display can support. The graphic source equipment generally required to read the EDID from the sink equipment (display). In DVI05K-2LCSS series, there is an Original EDID Setting before shipment. Please refer to the **"Original EDID resolution setting"** table in the page 2. This setting stores in the transmitter unit to imitate as a display. Sometimes this pseudo EDID might not contain the resolutions which the display can support and result in an abnormal picture. To solve this problem, DVI05K-2LCSS series support a **Self-EDID programming function** which can copy the EDID information from the display. Please follow the steps below to copy the EDID of the display into the transmitter unit.

Step 1

Power the display on.

Step 2

Plug 5V DC power adapter into the transmitter.

Step 3

Connect the transmitter to the display, not PC.

Step 4

Push the **self-EDID** button with a narrow pin. The **R/W** LED will be blinking three times to indicate the proceeding of reading EDID information. When the LED is totally turned off, the EDID copying procedure is done. (See Figure 5)

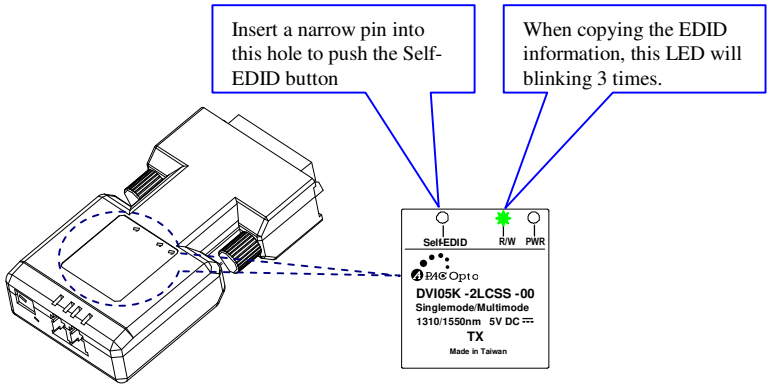

Figure 5 Location of self-EDID button

Step 5

Disconnect the transmitter from the display. Follow the **installation procedure** from **step 2 to 7** again and you will get the desired resolution and timing setting.

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Recovery of original EDID setting

Step 1

Plug 5V DC power adapter into the transmitter and disconnect all other connectors.

Step 2

Push the **self-EDID** button with a narrow pin. The **R/W** LED will be blinking six times to indicate the recovery of EDID information. When the LED is totally turned off, the recovery procedure is done. And, now, the EDID in transmitter has been recovered to the original setting.

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